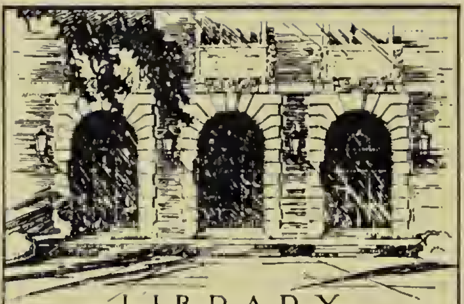

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THE JOURNAL

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BY

GEORGE H. SIMMONS, A.M., M.D.

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ORIGINAL ARTICLES.

ESCULAPIUS ON THE FIELD OF BATTLE.

Response to toast at the banquet of the Inter-State National Guard Association, held in Chicago, Dec. 14-15, 1898.

BY N. SENN, M.D., Ph.D., LL.D.
Professor of Surgery in Rush Medical College, in Affiliation with the University of Chicago; Late Lieutenant-Colonel U. S. V., Chief of the Operating Staff with the Army in the Field.
CHICAGO.

Esculapius on the field of battle! What an inspiring sentiment at this time and on this occasion! Esculapius, the fabled deity of medicine, engaged on the battlefield in directing his faithful disciples in bringing comfort to the dying and timely and efficient aid to the wounded, is indeed an idea conveying the loftiest, noblest, soul-inspiring subject. The disciples of Esculapius have followed and served every army since man has resorted to contest by force of arms to secure the real or imaginary rights of tribes and nations. Every battlefield bears testimony of their life-saving, humanitarian work. When battles were fought hand-to-hand, and by the use of the most primitive weapons of war, the Esculapians were there with their pots of boiling oil with which to stanch bleeding, with their crude instruments with which to extract arrows buried in the flesh of the wounded warriors, and with their bottles of wine and oil with which to dress the wounds. Their practice has kept more than pace with the rapid and wonderful improvements in the implements of destruction employed on the battlefield.

It is a long time since civilized nations abandoned the catapult for the cannon, and the small-caliber, repeating breech-loader has taken the place of the bow and arrow, but the disciples of Esculapius have more than counterbalanced the increased horrors of war by the marvelous advancements made in the science and art of surgery. The battlefield has witnessed many changes in the practice of military surgeons. It was on the battlefield that Ambroise Paré substituted the ligature for the cautery in arresting hemorrhage. It was on the battlefield that Hans Ryf, Baron Larrey, Pirogoff, Guthrie, Nussbaum, Langenbeck, Esmarch, Stromeyer, Billroth, and a host of other worthy priests in the temple of Esculapius, achieved lasting fame.

Conservative surgery is the pride of the modern Esculapian on the field of battle. The stacks of amputated limbs that constituted such a gruesome and constant sight after every great battle during the Civil War, will never be seen again on the field of battle where modern surgery is practiced. Aseptic surgery has driven out of our military hospitals the four greatest enemies of the wounded soldier: hospital gangrene, secondary hemorrhage, pyemia and erysipelas. The probe, an instrument of torture, danger and fallacy, has been abandoned for the X-ray in locating bullets lodged in the body. The first-aid dressing properly applied at the right time constitutes, in the vast majority of cases, almost a sure protection against infection of the wound. Under aseptic precautions penetrating gunshot wounds of the large joints heal promptly, often without serious impairment of the function of the joint. Many cases of penetrating wounds of the chest and abdomen recover without operative interference. Prophylaxis has largely taken the place of operative surgery in the field. Our recent experience in Cuba and Porto Rico has demonstrated that the small-caliber rifle is a most humane weapon. If the wounded survive the immediate effects of the injury the prospects of recovery are good. Most of the wounds of the soft parts outside the three large cavities healed, with few exceptions, under one dressing in from ten days to three weeks. What a contrast with the experience of the surgeons during the Civil War only thirty-five years ago! This wonderful improvement in military surgery has been brought about through the labors of the disciples of Esculapius during the last thirty years.

Esculapius is unselfish and impartial in his work. His deeds of mercy are dispensed alike to friend and foe. He knows no creed, no politics. He is on the side of wrong as well as justice. He is loyal to every flag hoisted on the field of battle. He rejoices with the victorious, he sympathizes with the vanquished. He loves and respects the uniform of every nation. He is not anxious for war, but when war does come he is promptly on the field and remains there as long as a single soldier requires his services. He never sleeps. His thoughts, his actions, are devoted to the welfare and usefulness of the soldier. He is the adviser of the well, the comforter and physician of the sick and the good Samaritan of the wounded. His disciples have always proved worthy of their noble profession when engaged on the field of battle. They have served on every battlefield without any prospect or expectation of achieving undying fame, or even receiving the gratitude due them from those benefited by their services. Our histories of the world bristle with accounts of heroism and daring exploits of famous generals, but how little do we find of praise of the deeds of the disciples of Esculapius who faced all the dangers incident to warfare, besides doing battle daily with the Grim Reaper behind the fighting line.

The Esculapians on the field of battle belong to a noble, unselfish, learned profession. It requires years of hard study and a small fortune to acquire the necessary knowledge to prepare them for their work. They are men who in civil life would occupy a high social position and enjoy a handsome income from the practice of their profession. But the medical profession of all countries has always been intensely patriotic in times of war. The doctors always have been and always will be the salt of the population. Their education and training are of a nature to ensure qualities necessary to citizenship of the highest type. The practice of their profession, even in times of peace, is admirably adapted to prepare them for the emergencies of war. In the exercise of their duties they encounter dangers and hardships foreign to the lives of the average citizens. They brave epidemics far worse than bullets, as far as danger to life is concerned, without fear of death. In cities devastated by the scourge of yellow fever or cholera, when everybody else that can leaves for a place of safety, the doctors remain at their posts and minister to the sick and dying without any expectation of a substantial reward, or even the gratitude of their impoverished clients. Day after day and night after night the familiar modest conveyance, with its lonely occupant, can be seen in the depopulated streets, wending its way to the hovels of the poor on its errand of mercy.

No military surgeon has ever attained the fame of the innumerable heroes who distinguished themselves on the battlefield and whose deeds have been immortalized in prose and poetry. In rank, pay and social position he has always been at a disadvantage as compared with the leaders of armies. His greatest reward always has been, and probably always will be, the consciousness of having performed his duty to his fellow-men. Will you not agree with me that the doctrines as taught by Esculapius and as practiced by his disciples are akin to the teachings of the Great Master? If you do not, let us follow for one day and one night the work of our Esculapian on the modern battlefield.

The disciple of Esculapius is on the field before the expected battle. He is a non-combatant and modestly takes his place behind the fighting line. He knows what is expected of him during the next day, and makes the necessary preparations. During the night the troops are rushed to the front and the line of battle is completed. A deadly silence attends these preliminary preparations for the next day's conflict. From the commanding general down to the private a sense of responsibility, uncertainty and suspense prevails. With the dawn of the new-born day the deadly conflict begins. The batteries furnish the prelude to the impending battle, followed by the irregular firing of the picket lines. The more regular cannonading on both sides and the volleys of musketry announce that the day's bloody work has begun in earnest. The uproar and tumult of battle has commenced. The line of battle is advancing slowly. Our Esculapian disciple is not idle for any length of time. He is near enough the fighting line to observe the movements of the troops, and within range of the fire. The singing, whizzing bullets do not disturb his calmness. Shells plow the ground around and about him, exploding with a dull but terrific noise and sending their messengers of death in all directions. He takes position in a sheltered place, where his patients will find protection from the fire of the enemy.

He is hardly ready for his day's work when the first victim arrives. He has been conveyed to the rear by friendly hands. A hasty examination shows that he has been shot through the thigh. The trousers on the injured side are soaked with blood. The garment is removed and a stream of red blood locates the bullet-wound. The patient's face presents a deadly pallor, his forehead is covered with a cold, clammy perspiration. The hands are cold and the pulse at the wrist is almost imperceptible. It is evident that the bullet has injured a large blood-vessel and that life is rapidly ebbing away from hemorrhage. The patient is conscious, but passive and listless. He does not realize his own danger. All he complains of is a torturing thirst and all he asks for is a drink of cold water. The experienced eye of the surgeon takes in the whole situation at a glance. He knows that prompt action is necessary to ward off impending death. In less time than is necessary to describe it, he applies an elastic constrictor above the wound which arrests the bleeding promptly, makes use of the first-aid package to protect the wound against infection, administers the necessary restoratives, pins the diagnosis tag to the lapel of the uniform, satisfies his thirst by administering the contents of his own canteen, and hands the patient over to the hospital-corps men, who bring him safely to the ambulance station.

Before he has disposed of his first charge his services are urgently demanded in his immediate vicinity, and he hastens to the new scene of catastrophe. A young soldier has been struck down by a fragment of a bursting shell which has almost completely severed both legs just below the knee-joint. The patient lies on the ground, motionless, with his sunken eyes directed stolidly toward the overhanging blue sky. He has lost but little blood, but his lips are pale and slightly livid, the nostrils dilated, the skin of the forehead thrown into deep folds. The hands are cold and the pulse at the wrist can not be felt. The respirations are irregular and sighing; a long and deep respiration is followed by a number of shallow, imperfect expansions of the chest. The mind is clear, but it takes repeated questions to elicit the simplest answer. The unearthly brilliancy of the otherwise expressionless, staring eyes clearly indicates the inevitable doom that awaits the wounded warrior. His life is but the flickering light of a tallow candle to be extinguished at any moment. The surgeon knows that in this case the terrible injury will result in death from shock. The patient is ignorant of the extent of the injury sustained, and if he should happen to see the cold, mangled, motionless legs, almost detached from the body, he would not realize that his life is in such immediate jeopardy. He makes no complaint and no requests. In an almost inaudible whisper he may ask for a drink of water. Home, relatives and friends have become to him but a pleasant dream. His mind is occupied by the experience of the day, his ears are filled with the din and tumult of battle, his eyes are still resting on yonder line of battle he was approaching but a few minutes ago with a firm hope of victory when he, with several comrades, was mowed down by the bursting shell.

The conscientious surgeon, recognizing the hopelessness of the case, feels that he has another mission to perform. He ascertains the name of the wounded and of the nearest relatives, and the address, and then calmly informs his patient of what awaits him. For a moment such information brings the patient's mind back to realities and, probably with a smile and look of gratitude, he responds calmly to the questions. He is made as comfortable as can be done under the circumstances, but before the setting of the sun his spirit has left the mutilated body and joined the peaceful army beyond the reach of human warfare. The next mail carries with it a letter from the surgeon, in which he details the date and cause of death of the gallant dead to his distant relatives. What such letters from the battlefield, conveying the last message of the dying soldier, mean to the relatives, can only be fully realized by those who have received them.

As the heat of battle rises the number of wounded increases rapidly. At the first dressing station they are lying, sitting, standing, walking, awaiting the first dressing. Our Esculapian is unmindful of the heat, thirst and hunger, and hastens from soldier to soldier to extend to as many as possible, and in the shortest space of time, the blessings of the modern first-aid dressing.

With the approaching twilight firing gradually ceases, without any definite decision of the fortunes of war on either side. On both sides the soldiers rest on their arms, and under the cover of darkness satisfy hunger and thirst. Tired to death from the day's conflict, sleep overtakes them and the naked earth is coveted as a luxurious couch. The work of the combatants has ceased for the day; that of the non-combatants now begins in earnest. Many of the wounded still remain on the ground, bleeding and suffering from pain and thirst. The veil of darkness is penetrated in all directions in search of them. The faint voices here and there serve a useful purpose in locating them. The dead remain where death reached them. Many a litter-bearer's steps are made uncertain by stumbling over the corpses which cover the field. The crowd of wounded behind the fighting line, at the ambulance station and in the field hospitals grows larger and larger, and the cries for surgical aid become louder and more and more imploring. Can the surgeon who has worked incessantly all day quiet his conscience and satisfy nature's demand for rest, follow the example of his combatant comrades, throw himself on the ground and seek repose by surrendering himself to the greatest of all charmers—sleep? No! As long as his brain will do its duty and as long as a single muscle will respond to his determined will power, he will serve the wounded.

There are cases in which a prompt primary operation will save life. These are the cases who receive his first attention. An operating-table is extemporized, assistants are pressed into service, and with the aid of a candle light the most difficult operations are performed in the silence of the night, broken only by the frequent moanings of the numerous wounded waiting their turn for the operating tent, mingled from time to time with the shrieks of those who have become raving maniacs, and the stertorous breathing of the dying. What an awful night for our poor Esculapian who forgets his own wants and strains every nerve to serve his fellow-men, and to do credit to his profession and the country and flag that he calls his own. Throughout the whole night he works faithfully and incessantly, and with the break of day he finds his task still unfinished, and the prospects stare him in the face of a repetition of the previous day's experience. The day work was hard and trying; the night work reached the limits of human endurance.

Can you give me a more striking example of genuine patriotism and heroism than the twenty-four hours' work performed by our disciple of Esculapius on the field of battle? If you can not, I can. It is the same Esculapian away from the bloody field in the fever camp. It requires courage to face the enemy on the field of battle. It requires courage to stand up in a rain of bullets and in an atmosphere torn asunder every few moments by shot and shell, but it requires more courage to enter the silent fever camp, with its myriads of invisible foes. The song of the bullet is sweet music compared with the silent, invisible microbes that cause yellow fever, typhoid fever, malaria, dysentery and camp diarrhea.

It is a privilege to die a glorious death on the battlefield; no such halo of glory surrounds the death-bed in the fever hospital. It is here that the greatest deeds of heroism are witnessed. It is here where the true manly courage of our Esculapian hero is put to the severest tests. Let me ask you a plain, simple question to test the correctness of the assertions I have made, a question the significance of which, I fear, is not fully understood: If left to choose for yourself, would you not be more willing to engage in a battle than to live and work in a camp filled with typhoid or yellow fever patients? It would take me or any other disciple of Esculapius not long to decide in favor of the battlefield.

During the war just ended, the disciples of Esculapius have taken an important and noble part. Cowardice is unknown in our medical department. Our surgeons have done their duty promptly and well. Esculapius has watched their conduct and their acts. On more than one occasion he shook his massive hoary head in disapproval, not because of what they did, but of what they could not do.

Esculapius has drawn his own conclusions from the lessons of the war, and now suggests to you and to the people of the United States and their representatives in Congress the absolute necessity of a complete reorganization of the Medical Department. He insists that the rank of our Surgeon-General should be that of a Major-General, that he should be clothed with more executive power, and that he should have his own commissary and quartermaster's departments. He is satisfied if these important changes in the organization of the Medical Department are made, that there will be less suffering and deaths from disease should we again be called upon to cross swords with another nation.

In conclusion, permit me to ask you to listen to the voice of Esculapius in your efforts to effect a thorough reorganization of the National Guard. The new National Guard is destined to become the bulwark of the fighting force of our country, which will never imitate, much less adopt, the militarism of the tottering monarchies of the old world.

THE SECRETS OF HOSPITAL PATIENTS.

BY EDMUND ANDREWS, M.D., LL.D.
SENIOR SURGEON OF MERCY HOSPITAL,
CHICAGO.

Is the surgeon or physician bound to preserve the secrets of his patients in hospital, as he does of those in private practice? If so, how can he give clinical instruction over them? Then again, other queries arise. If clinical interests can invade the privacy of a patient's condition and divulge his secrets before the class, how about other interests? Have patients in public hospitals no rights to privacy of any kind? For instance, a patient has entered the hospital for an injury in a railway accident, and may have claims on the road for damages. The attorney of the road asks for a statement of the injuries, without bringing any permission from the patient. In a similar way the agent of an accident insurance company wants information, and often boldly claims that the surgeon is not bound to secrecy as to anything happening in a public hospital. Finnally, newspaper reporters make the same plea, and curious neighbors and friends want to know all the particulars.

The principles which should guide us in these cases are simple, and both attorneys and eminent judges have have assured me that my understanding of the moral and legal points involved is correct. As to the clinics, the mere statement that a patient is in a public hospital considered alone does not settle the question about the obligation of secrecy; but there are two or three other things to be considered. The fully-developed modern hospital is not merely a place where the sick are treated. It consists of three things which mutually support each other; it is a school of clinical medicine for the education of young physicians; a school for training and instructing nurses, and a place of shelter and treatment of the sick. Now consider how these three departments support each other. The clinical school receives large numbers of students, who pay fees to the hospital for the privilege of attending the clinics, thus helping to pay the expenses. In order to obtain the best medical attendance for the poor, the physicians must either be paid high salaries or have some other adequate inducement laid before them to do the hospital work. Nearly every civil hospital, both here or in Europe, is served by the staff mainly for those indirect inducements. They have either a very small nominal salary or none at all. The real motive is that by the hospital appointment they become clinical instructors to medical students from adjacent medical colleges, often receiving a salary from the college. This appointment is an honor and gives them a high standing in their profession, thus drawing them many private patients who pay them good fees. The training-school for nurses is attended by selected pupils, who pay for their training and teaching by nursing the sick in the hospital. Thus the clinical school, the training-school for nurses and the hospital proper are all inseparably bound together, working for combined ends. In this way only can the charity work for the poor be kept up by hospitals not supported by taxation, since the small weekly dues paid by part of the ward patients do not cover their expenses. The clinical and training classes are necessary to the life of the institution, and the hospital publicly announces these accessories as part of its work.

Such being the case, prominent legal gentlemen inform me that patients entering the institution and receiving the benefits are morally and legally bound to submit to its regulations. As clinical lectures are an important and well-known part of the work of the combined institution, the patient on entering is necessarily and properly assumed to waive all claim to privacy so far as the purposes of clinical instruction and hospital administration are concerned, but not for any other purposes. In short, the patient waives the secrecy so far as the hospital plans and regulations require, but not for any outside purposes whatever. For instance, as I stated above, a patient in a hospital may have a claim, or perhaps a suit against a railway company for injuries received on its line. The hospital or its officers can not furnish to the railway company, or to any outside parties, any information about the injuries without the patient's consent. A patient may have syphilis, and the disease may be shown and fully explained to the clinical class, but it can not be divulged to his inquiring neighbors and friends, unless he desires it, which he probably does not. An agent of an accident insurance company often inquires about the condition of an injured patron, but it is not proper to inform him, unless the patient wishes it, and so of all other cases. The personal honor and the legal obligation of the surgeon are pledged to preserve the patient's secrets, except where necessarily waived for hospital purposes.

Can a surgeon reveal the secrets of his patients in a medical book or journal? Decidedly not without their consent, since such a publication would hardly be a truly clinical and hospital affair. However there is no real difficulty here. The scientific points of a patient's case can be stated without revealing the name, residence or in any other way disclosing his identity. As a matter of fact, most patients are very proud and happy to see their cases printed in a scientific document.

If a court demands testimony from the hospital physician or surgeon there is nothing peculiar in hospital cases. The court can compel one to testify of matters in hospital or out of it, except in those States which have laws protecting the privacy of communications from patients to their physicians.

3912 Lake Avenue.

GALL-STONES IN COMMON DUCT.

A REPORT OF TWO CASES.

BY J. B. EAGLESON, M.D.
SEATTLE, WASH.

The following cases of gall-stones in the common duct demonstrate so clearly the ball-valve action of floating stones, which has been so ably studied and described by Fenger,[1] that they are deemed worthy of being put on record:

Case 1.—C. P., aged 48 years, a native of New York, was admitted to Providence Hospital Sept. 13, 1897. He gave a history of having had a slight attack of colic as early as 1888, which recurred in 1890. These were followed by occasional mild attacks, and in 1896 he had a long siege with fever in California, which was thought to have been of malarial origin. During this illness he suffered from several severe attacks of colic, each of a few hours' duration. When admitted to the hospital he had been having chills followed by fever and sweats, occurring every two or three days, and his case was entered as malarial fever. There was no icterus, and no history of an attack of colic for several months. After being in the hospital a few days he developed a very pronounced jaundice, his stools became of a light-gray color and the urine was scanty and of a very dark-brown color, showing a sudden and complete obstruction of the common duct. The rigors continued, with an after-rise in his temperature, frequently to 103 and 103.5. It was now thought that his symptoms were produced by an impacted gall-stone in the ductus choledochus, and an operation was decided upon, which was performed September 28. The abdomen was opened by an incision commencing at the right border of the rectus muscle, at the level of the tip of the tenth rib, and extending obliquely downward and outward for about 12 cm. The gall-bladder came easily into the field of vision. It was moderately distended with bile, and two or three calculi could be readily felt through its walls. The common duct was dilated and its walls much thickened. A stone apparently about 1 cm. in diameter was discovered in it about 3 cm. above the junction with the duodenum. This was quite easily moved in the duct, and while trying to get it into a suitable location for incising the duct upon it for its removal, the stone slipped from between the fingers and could not be relocated, although a diligent search was made, both down behind the duodenum and up the hepatic duct to the liver. The question now arose as to the advisability of opening the duct and making further search with a probe for the lost stone, but owing to the possibility that the stone might have been crushed between the thumb and fingers and the resulting débris thus passed through into the intestine, it was decided that it would be best to wait for further symptoms before incising the duct. This action was approved by Dr. Fenger in a personal communication, when the circumstances of the case were related to him.

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[1] American Journal of Medical Sciences, 1896.

The gall-bladder was now opened, two medium-sized stones ere removed, and an unsuccessful attempt was made to pass probe through the cystic into the common duct. The edges the gall-bladder were then stitched to the peritoneum and a ubber drainage-tube introduced. The rest of the wound was osed. The drainage-tube, which was of large size and 15 cm. ng, was brought out through the dressings, and a 150 c.c. ottle was attached to its end so as to catch the bile as it was ischarged. The contents of the stomach showed a decided resence of bile during the vomiting following the anesthesia. his was positive proof that the obstruction in the common uct had been overcome. The recovery was uneventful. From 50 to 400 c.c. of bile was passed into the bottle through the rainage-tube every day. This proved to be an excellent plan, s the dressings were thus kept perfectly dry, and the quantity f bile which escaped could be accurately measured. The gors ceased, and there was but a slight rise of temperature ollowing the operation. After a few days the stools began to esume their normal color and the icterus slowly faded. The mount of bile passed through the drainage gradually diminhed and the tube was removed on the twelfth day. His appetite improved and he gained strength rapidly.

After about eight weeks the stools became clay-colored again, nd the icterus reappeared, indicating that the obstruction in he common duct had recurred. It was now feared that our onclusion regarding the disappearance of the stone in the duct uring the operation was erroneous, and that instead of having een crushed, it must have slipped up the hepatic duct out of each of the fingers, and that it had now returned to the ductus holedochus and was causing the obstruction. The symptoms ecoming more pronounced, another operation was decided pon, which was performed December 14. The incision was nade about 2 cm. to the left of the scar of the first operation, n order to avoid the biliary fistula, which had never entirely osed. Much difficulty was experienced in reaching the common duct on account of the very firm and extensive adhesions esulting from the former operation. The stone was discovered n the duct about 5 cm. above its duodenal end. The wall of he duct was incised over the stone, which was scooped out nd proved to be two stones, one acorn-shaped, being 1.5 cm. ng and 1 cm. in diameter, and accurately coaptated to the naller by facets, the latter being a button-shaped stone, 1 cm. n diameter. The ductus choledochus was examined both above nd below the incision by finger and probe, the latter passing eadily into the bowel, but no more stones could be found. he opening in the duct was closed by two rows of fine silk nterrupted sutures, but with much difficulty, owing to the orking space being so much limited by adhesions. A gauze rain was placed down to the duct, and the rest of the wound osed by silkworm gut sutures. There was no leakage of bile om the incision in the duct, so the drain was removed on the hird day and the wound united without suppuration.

The biliary fistula was also closed at the same time, but this nfortunately reopened at the end of ten days. His recovery as uneventful in other respects, and when last seen, five nonths after the operation, he had gained over thirty pounds n weight. His appetite was good, skin clear, and stools normal. The fistula, however, still gave him a great deal of rouble, as it would close for two or three days and then break pen again. I wanted to make an anastomosis between the all-bladder and the intestine, in order to relieve all internal ressure from the gall-bladder, and thus endeavor to assist in successful operation for closing the fistula, but he left the ospital before this could be accomplished.

Case 2—This case was referred to me by the kindness of Dr. . F. Titus. Mrs. J. F., aged 45 years. Family history was egative. She had never suffered from pelvic derangements f any kind and was still menstruating regularly. Prior to 884 she had always been perfectly well. At that time she egan to have indigestion and had occasional attacks of what he called "bilious colic," which consisted of pains in the tomach, accompanied by nausea and sometimes vomiting, and n the course of a few hours she would feel as well as ever. hese attacks seemed to have no apparent effect on her general health, but they gradually became more frequent and evere. In August, 1896, she had one much more violent than sual, lasting for several days, and followed by jaundice. Up o this time she had been quite fleshy, her usual weight being om 160 to 170 pounds, but after this she began to lose flesh. uring the next year the attacks came on about the same as efore, but the jaundice never entirely disappeared, there eing a well-marked exacerbation of the icterus following each ttack of the colic. Early in August, 1897, she began to have hills, followed by fever and sometimes profuse sweating. She as sent from her home in northern Missouri to consult a member of the faculty of one of the medical colleges in St. Louis, who informed her that she had an hepatic tumor of some kind, probably malignant, and advised her to come to the Pacific Coast, in order that the change of climate might have some beneficial effects.

I saw her, in consultation with three other physicians, Oct. 5, 1897. At this time the skin was a bright lemon color, and wrinkled from her emaciation, having lost about forty pounds from her former weight. The urine was scant and of a dark brown color, and gave a decided bile reaction. The stools were semi-solid and of a light slate color. Her appetite was very poor. She had had no attacks of colic for several months, and no tumor could be felt in the region of the gall-bladder, although the liver appeared to be slightly enlarged. Firm pressure over the gall-bladder revealed but little tenderness. She was having a well-marked rigor every second or third day, which was followed by a temperature ranging from 102 to 103.5. The diagnosis arrived at was that of a stone impacted in the common duct. An operation for its removal was advised at this time. A few days later her physician had her removed to Providence Hospital and put her on large doses of phosphate of sodium and other similar preparations, with a view of dissolving the stone. Thinking that there might also be an element of malaria in the case, from the frequent chills, large doses of quinin were exhibited for a time, but without beneficial effects. After complete rest in bed for a few weeks, she improved in color, and the character of the stools showed that some bile was passing the obstruction. She returned to her home, but as soon as she left her bed the jaundice began to increase and the stools to lose their color again. A return to bed improved the symptoms again. This was repeated two or three times, showing that the obstruction in the duct was much less in the recumbent position than when the patient was up around the house. This to my mind, even in the absence of pain, was conclusive evidence of the presence of a floating choledochus stone with ball-valve action.

An operation was finally consented to and she re-entered the hospital, where I operated on her Dec. 21, 1897, being assisted by Drs. Sharples, Dawson and Ford. Dr. Titus was also present. The abdomen was opened by an incision commencing at the right border of the rectus muscle, at the level of the tip of the tenth rib, and extending obliquely downward and outward for about 12 cm. The liver was slightly enlarged, but otherwise apparently normal. The gall-bladder contained about 15 c.c. of bile, but on careful palpation no stone could be felt through its walls. The cystic and common ducts were now carefully examined and a stone about the size of a hazel nut was located in the common duct just above its entrance into the duodenum. After loosening some adhesions, my fingers were passed behind the stone in the duct and thus held firmly while an incision was made into the duct over the stone. In doing this, the stone was crushed between the thumb and fingers. The débris was scooped out with a small spoon curette. The tip of the little finger could then be easily passed into the duct both above and below the opening, but no other stones could be found. A small quantity of bile escaped from the wound in the duct, which was caught on a gauze sponge. An ordinary sized uterine sound was passed through the duct into the bowel. The incision in the duct was closed by a double row of fine silk interrupted sutures, and was followed by no leakage of bile. A gauze drain was passed down to the ductus choledochus, and the abdominal wound was closed by silkworm gut sutures, the one at exit of drain being left untied. The gauze drain was removed on the second day, and a much smaller one inserted, which was removed on the fourth day after the operation, and the loose silkworm gut suture tied.

Her recovery was rapid and uncomplicated, except for the occurrence of two small stitch abscesses, which closed very promptly after evacuation of their contents. The appetite improved at once and she gained strength quite rapidly. The icterus gradually faded, and the skin resumed its normal elasticity. At the present time—eight months after the operation—she has a very robust appearance, and has gained nearly forty pounds in weight. She has had no recurrence of the colicky pains, but has had a few slight attacks of indigestion from a little overtaxing of the powers of the stomach.

Diet for Hyperacidity.—Soerensen and Metzger announce that persons with gastric hyperacidity tolerate fats exceptionally well, and that a diet rich in easily melting fats is indicated, such as butter, oil, and especially milk and cream. They also mention that oatmeal broth vanishes from the stomach with remarkable rapidity even in cases of great motor insufficiency, with normal increased acidity.—*Rev. de Path. Int.*, December 5.

ESSENTIAL OILS AND OTHER AGENTS.

THEIR ANTISEPTIC VALUE; ALSO THEIR IRRITATING OR NON-IRRITATING PROPERTIES.

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BY A. H. PECK, M.D., D.D.S.
PROFESSOR OF SPECIAL PATHOLOGY, MATERIA MEDICA AND THERAPEUTICS IN THE NORTHWESTERN UNIVERSITY DENTAL SCHOOL.
CHICAGO, ILL.

Very soon after assuming the duties of the chair of materia medica and therapeutics in college work, I became convinced that in our literature there was much loose statement concerning the action of the drugs we employ in dentistry. Especially did this seem true in regard to the antiseptic powers of the various agents employed as antiseptics. Further, the therapeutic action of these agents has generally not been especially considered. It seems that iodoform is still used by many as an antiseptic, though it has long been known that it has not that power. It is also known that the presence of albumin renders the ordinary solution of bichlorid of mercury inert as to antiseptic power, and prevents the effectiveness of that agent in treating suppurative surfaces, yet it is persistently used for this purpose. The essential oils, some of which have previously been shown to possess antiseptic virtues, have seemed to be looked upon as a group of antiseptics, and, as it has seemed to me, are being used without reference to their relative merits as antiseptics, or to their therapeutic effects upon the tissues to which they are applied. For these reasons I have, in my teaching in the Northwestern University Dental School, made trial of these agents in the bacteriologic laboratory, concerning their effectiveness as antiseptics, and have also, in various ways, proved their effects upon the animal tissues in order that I might speak definitely of my own knowledge of these matters. In this paper I will give briefly my observations upon a number of these agents.

To determine the antiseptic value of these agents the following experiments were conducted: Test-tubes, each containing ten cubic centimeters of sterilized mutton bouillon (which amount will hereafter be referred to as the *unit of culture media*), were used. The broth in these tubes was, for the most part, infected with saliva from various members of the class. In each set of plants made a control-tube was used i.e., a tube in which the broth was infected with saliva, but into which no antiseptic agent was placed, simply to act as a control for the results of the remaining tubes into which antiseptic agents were placed. In each instance the control-tube presented a full development of bacteria, thus proving the accuracy of each set of plants. One drop of the essential oil was first used in the tubes, and when it prevented development of bacteria, the quantity was gradually decreased in other plants, until the least amount that would prevent development was ascertained. To divide the drop I placed ten drops of alcohol in a small vial, and into this placed one drop of the oil; the alcohol disolves the oil immediately. I then used in the culture-tube such proportion of the drop of essential oil desired—one drop of the solution representing one-tenth drop of the oil. Those drugs that were found ineffective with one drop were increased in other plants until found effective, or were given up as unsuitable or worthless as antiseptics. The same dropper was used throughout. When using the same dropper it will be observed that a drop of alcohol is smaller in bulk than a drop of essential oil. Because of this difference in the size of the drops, ten drops of alcohol and one drop of an essential oil forms as nearly as can be figured a 10 per cent. solution, and one drop of this solution represents one-tenth of a drop of the oil.

An antiseptic must be regarded as a poison to the vegetable cell, and many of them act also as poisons to the animal cell. I undertook this series of experiments for the determination of these differences of poisonous effects with the idea that in selecting antiseptics for use in practice we should have special regard to the effect of the agents upon the animal tissue to which they are applied. To determine the irritating or non-irritating proportion of these oils, an extensive course of experiments with them has been conducted during the winter months, in connection with sores artificially produced on guinea-pigs, and also on my own person. To determine the effect of these agents when applied directly to soft tissue, the applications were made, in each instance, to my own person. And pardon me for saying that I have come to positive conclusions regarding some of the agents along these lines.

Oil of Cassia.—We find that three-tenths of a drop is the smallest quantity that will prevent the development of bacteria in the *unit of culture media*, and there being sixty-seven drops of oil of cassia in one cubic centimeter, this agent is effective as an antiseptic in 1 to 2233 parts; that is to say, one whole drop of oil of cassia would prevent development of bacteria in 2233 drops of infected broth. This explanation will hold good in connection with each agent we have used. Oil of cassia is undoubtedly the most potent of the essential oils as an antiseptic. I have analyzed at least a dozen samples of cassia, obtained from as many different sources, and have found them to be adulterated in each instance. One sample, especially, shipped direct from China to a dealer in Chicago, was found to contain fixed oils in considerable quantity. Others were found to contain alcohol, etc. This oil, as found in commerce to-day, is not as potent an antiseptic by about one-half as was the cassia obtained ten years ago. A reference to the work done by Dr. G. V. Black about ten years ago, along this same line, serves to prove the correctness of this statement. The samples of cassia he used at that time were potent in 1 to 4000 parts. If I could have obtained a pure, unadulterated sample of cassia, it would have certainly outclassed oil of cinnamon as an antiseptic, by a wide margin, but as it is, as to the division of a drop, they have proven exactly the same. However, you will notice when we consider that agent, that of the oil of cinnamon only sixty-three drops are required for one cubic centimeter, while of cassia sixty-seven drops are required. This simply means that one drop of the oil of cinnamon is just slightly larger in bulk than one drop of the oil of cassia, so that this discrimination in the number of drops to the centimeter, still places the oil of cassia ahead of the oil of cinnamon as an antiseptic, the potency of oil of cinnamon figuring out 1 to 2100 parts. While oil of cassia stands at the head of the essential oils as an antiseptic, it is also true that it is the most poisonous in its effects upon soft tissue. As a test of its irritating properties a pellet of cotton was saturated with it and placed in a small rubber cup, to prevent evaporation. This was applied to the surface of the skin and held there by means of a piece of court-plaster large enough to cover it and stick tightly to the surface of the skin about the edges. This was retained in place for twenty-four hours, during which time the irritation to the soft parts was by no means pleasant. At the end of this period a blister invariably formed; the inflammation in the tissues at this time is not very great. The blister occupied an area from one-half to one-third greater than that to which the oil is directly applied, and filled and refilled with serum several times before any tendency to recovery was noticed. At the end of forty-eight hours the inflammation in the parts involved was intense, and occupied an area four or five times as great as that to which the oil was directly applied. Numerous small independent blisters almost invariably formed about the circumference of the inflamed area. This condition continued for several days, and while the inflammatory process was at its height the sore was one of the ugliest and most formidable in appearance it has ever been my privilege to look upon. These sores were also very slow in healing, for it was with seeming regret on their part that the inflammation was permitted to subside, and the parts to return to a normal condition. While these sores are in every way just as bad as has been described, they are, however, fraught with no serious consequences.

To further test the irritating properties of this oil, a sore, in connection with which there was considerable inflammation, was produced on a guinea-pig and treated for a number of days with the spray, by means of an atomizer. So long as this treatment was continued the parts could not recover, the inflammation was greatly increased. Suppuration was then produced by infecting the sore with pus microbes. This in turn was treated with the spray, with the result that the germs were destroyed and the pus formation stopped, thus proving conclusively that this agent is an excellent germicide, when applied to suppurating surfaces, as well as a most potent antiseptic.

To my mind, it is clearly proven that while the antiseptic and germicidal properties of this oil are of the highest order, it is one of the most irritating, in its effects on soft tissue, of all the agents with which we have anything to do. And because of these effects, as outlined above, I feel justified in making the statement that oil of cassia should never be used as a dressing in the root canals of teeth.

There is another reason above why it should not be used, and that is, its proneness to cause discoloration of the teeth. In almost every instance in which its use is continued for a time the teeth are more or less discolored, and in some cases very considerably. This is one of the most difficult forms of discoloration to correct that we are called upon to treat.

Is it not reasonable to suppose that when cassia is used in the treatment of pulpless teeth, the above disagreeable conditions may occur in the soft tissues occupying the apical space, and the peridental membrane become involved in the inflammatory process? Have you ever thought that the excessive flow of serum which so frequently occurs from the tissues of the apical space of teeth that are being treated with this oil is nothing more or less than the discharge of actual blister as in the cases above cited? If these are reasonable suppositions, and I believe they are, is it still a source of wonder to you that teeth, under these circumstances, so suddenly develop such extreme tenderness to pressure, as they so frequently do?

Oil of cassia, however, has a place in our practice as dentists. Cassia water, sometimes, in the treatment of fistulous abscesses, is very useful. It is so stimulating to the tissues that it excites a healthy action on the part of the latter when other agents fail. Oil of cassia in the treatment of severe cases of pyorrhea, so-called, where the pockets about the teeth are deep, and considerable pus present, is exceedingly useful. In such cases it may be used in full strength by means of a drop-syringe. The oil is not permitted to remain in contact with the soft tissues a sufficient length of time to cause trouble, it is so soon diluted by the fluids of the mouth.

Oil of cinnamon of Ceylon.—We find that three-tenths of a drop prevents development of bacteria in the *unit of culture media*, and that sixty-three drops constitute one cubic centimeter, thus showing this agent effective as an antiseptic in 1 to 2100 parts. Oil of cinnamon of Ceylon is very much the same nature as oil of cassia. However, in some respects there is a marked difference between them. It has been demonstrated that oil of cinnamon is not so irritating to soft tissue as oil of cassia. An application to soft tissue, in the same manner that cassia was applied, and left for twenty-four hours, caused considerable irritation, and formation of blister. At the end of forty-eight hours the inflammation was severe; however, not so intense as that caused by cassia, and the area of tissue involved in the inflammatory process was not so great. Also, the blister that developed by the application of cinnamon was by no means so large as that from cassia, occupying the center of the inflamed area and spreading over tissue in extent equal only to that to which the agent was directly applied. The blister and inflammation were not so persistent as is the case with cassia, the former refilling with serum usually but two or three times, and the inflammation passing away quite readily.

A sore on a guinea-pig, attended with much inflammation, was treated with the spray of oil of cinnamon with the result that it was further constantly irritated and thus prevented from healing. Suppuration was then produced in the sore, and again treated with the spray of this oil, the germs being destroyed and the pus formation ceasing. The action of cinnamon was not so vigorous as that of cassia. To my mind, cinnamon is altogether too irritating for use in the treatment of pulpless teeth.

A synthetic oil of cinnamon—A sample which I secured this spring from the first lot sent to this country (it being prepared in both France and Switzerland) proved to be as potent an antiseptic as the regular oil, three-tenths of a drop preventing development of bacteria in the *unit of culture media*. Sixty-four drops of this oil constitute a cubic centimeter, thus showing it effective as an antiseptic in 1 to 2133 parts. It is, however, in its first effects, more irritating to soft tissue than the oil of cassia. An application was made to soft tissue, and at the end of fifteen hours a fully developed blister, in extent larger than the area of tissue to which the oil was applied, resulted. There was very little inflammation or discoloration of the tissues. The first effect of this oil on the soft tissue was so vigorous, very much tenderness and inflammation were confidently expected to follow. In this, however, I was disappointed. The blister continued to refill with serum several times, but no tenderness or inflammation worthy of mention developed in the surrounding parts. I can not recommend it for use in the treatment of pulpless teeth.

Beech-wood creosote.—This is the next agent, from point of potency, as an antiseptic; five-tenths of a drop prevented development of bacteria in the *unit of culture media.* There are sixty-four drops in one cubic centimeter, thus showing creosote effective as an antiseptic in 1 to 1280 parts. This agent is non-irritating to soft tissue. An application remaining for a period of thirty-six hours produced no irritation. The surface of the skin was slightly discolored and also slightly burned or seared over, but not to an extent that caused the loss of any tissue. A sore on a guinea-pig was treated with the spray with the result that the inflammation gradually subsided, and the sore healed rapidly.

Another sore in which suppuration was produced was treated in like manner, the germs being readily destroyed and the pus formation stopped. Continued treatment resulted in the gradual healing of the sore. Creosote has proven its right to stand among the first, from point of potency, as an antiseptic, and because it has been demonstrated that it is practically non-irritating to soft tissue, it is a safe agent, and in some cases a very desirable one for use in the treatment of pulpless teeth. In case of putrescent pulp, for instance, of long standing, one in which the lateral openings and also the dentinal tubuli are completely saturated with mephitic odors and gases, creosote, in my judgment, is the most effective and desirable of the available agents. It is very penetrating and one of the most persistent in its effects of all the agents at our command. I have used it to good advantage in severe cases of apical pericementitis. However, in some instances, where discoloration of the teeth has occurred, it has seemed that it was due to the action of the drug. Creosote being more or less of the nature of carbolic acid, possesses to a certain extent the properties of a local anesthetic, and because of this property it has a rather beneficial effect upon inflamed tissue.

Oil of cloves.—Six-tenths of a drop prevented growth in the *unit of culture media*; sixty-nine drops constitute one cubic centimeter, showing it effective as an antiseptic in 1 to 1150 parts. Oil of cloves is absolutely non-irritating to soft tissue. An application to the surface of the skin for thirty-six hours left no more evidence of having been confined there than so much sterilized water would have done. No irritation, no discoloration. Sores were produced on guinea-pigs and treated with the spray of oil of cloves. The inflammation subsided more rapidly than when treated with any other agent, and the sores healed as rapidly as they could. A sore in which suppuration was produced by being infected with pus microbes was treated with the spray of this oil; the germs were destroyed, and the formation of pus was stopped, simply proving beyond any possibility of doubt that, while effectively destroying microbes, the only action of the oil in contact with irritated, inflamed soft tissue is that of a quieting, soothing agent, serving to reduce the irritation and inflammation, and returning the disturbed tissue to its normal condition.

A sore on my arm, produced by an application of cassia, became infected, and pus formed. This was washed thoroughly with a 1 to 1000 solution of bichlorid of mercury every night for several times, and dressed in turn with iodoform, nosophen and aristol, with no other result than an absolute failure to stop pus formation. One night, after having washed the sore thoroughly with the bichlorid solution, I poured oil of cloves into the raw tissue. There was only a very slight smarting for a few minutes, after which its action was that of a quieting, soothing agent. The application was held in position for twenty-four hours. It was then removed; no pus was present and the little granulations could be seen all over the surface of the sore. It was immediately dressed with aristol and let alone for forty-eight hours, at the end of which time it was perfectly healed.

Another sore on the lower part of my right leg, the result of an application of formalin, was causing a great deal of trouble. The inflammation was severe, the tissues very sore, the muscles felt bound up and were painful, it being exceedingly difficult to walk. Continued treatment with ordinary remedies resulted in no relief. One morning, after having thoroughly cleansed the sore, a liberal quantity of oil of cloves was placed on it and the bandage applied. Within four hours the very disagreeable, drawn condition of the muscle passed away, the pain ceased and the foot could be moved in all directions as freely and comfortably as could the other, and could be used just as well as ever.

Oil of cloves for general use in pulpless teeth, is certainly one of the best agents at our command. It possesses the property of destroying or rendering inert infectious material. In cases of apical pericementitis it is perhaps the best agent that can be used. It possesses local anesthetic properties to a marked degree, and like some of the other agents, because of this fact serves to reduce the inflammation in the tissues in the apical space and causes them to return to a normal, healthy condition.

Oil of bay.—Seven-tenths of a drop prevented development in the *unit of culture media.* Seventy-two drops are necessary for one cubic centimeter, showing this agent effective as an antiseptic in 1 to 1028 parts. Oil of bay, to me, is a comparatively new agent, and I believe I am warranted in making the statement that it is a new agent to a vast majority of the dental profession. A year ago last winter a gentleman spoke to me about oil of bay, said he had been using it for some time in the treatment of pulpless teeth, and that, so far as his clinical exerience went, had found it to be an agreeable and efficient agent. He stated that he had not observed any bad effects along the line of producing irritation, or any thing of that sort. He requested that I test it, which I did, with the result above stated, which places this oil in the foremost ranks of the list of antiseptics. I have used it more or less since, and in one case that I have in mind thought the irritation and tenderness which was induced was directly due to the action of the oil. But in subsequent use I have observed none of these bad effects. I came to the conclusion that I was wrong, that there must have been some foreign, irritating substance present which caused the trouble. I have made two applications of the oil to soft tissue, retaining each in contact for thirty-six hours, for the purpose of observing its effect, and no irritation resulted in either case.

A sore was produced on a guinea-pig with an irritant which caused intense inflammation. This was treated with the spray of bay for several days, and the closest observation did not reveal any additional irritation, but to the contrary, the inflammation gradually subsided. However, not so rapidly or willingly as when some other agents were used. A sore in which suppuration was produced, on being treated with the spray of bay yielded very nicely, the germs being destroyed and the pus formation stopped. I think we are safe in concluding that oil of bay is a valuable addition to our list of agents for the treatment of pulpless teeth.

Oil of sassafras.—Seven-tenths of a drop prevented development of bacteria in the *unit of culture media.* Seventy drops are required for one cubic centimeter, showing it effective as an antiseptic in 1 to 1000 parts. Oil of sassafras in contact with soft tissue for thirty-six hours produced no evidence of irritation. It has proven to be a very potent antiseptic. I have treated sores in which there was marked inflammation, with the spray of sassafras, and the result was much the same as with the last previous agents; the inflammation subsiding, the irritation passing away and the sore healing. It has not exhibited the ability to destroy germs and prevent pus formation to nearly the extent that the stronger agents have. I have never used oil of sassafras in the treatment of pulpless teeth, but I certainly can see no reason why it should not be a potent and harmless agent in this connection.

Oil of peppermint.—Eight-tenths of a drop prevented development of bacteria in the *unit of culture media*; seventy-two drops are necessary for one cubic centimeter, showing this agent effective as an antiseptic in 1 to 875 parts. An application of oil of peppermint to soft tissue continued for thirty-six hours produced no irritation, no discoloration of the skin, no inflammation, thus showing conclusively that this, also, is non-irritating to soft tissue. A sore in which considerable inflammation was present was treated with the spray of this oil, with the result that the inflammation readily yielded, the irritation subsided and the sore healed. Another sore in which suppuration was produced was treated in the same way, with the result that the germs were destroyed and the pus formation stopped, which proves that this agent is not only an antiseptic, but also destroys the germs and thus prevents pus formation. This is an agent which I have rarely ever used in practice. Three years ago I used it a little in treatment cases, but discarded it simply because of its persistent, penetrating odor. Other than that, I can see no objection to its use in pulpless teeth.

Dr. Black's "1–2–3."—This is the next agent in point of potency. One and four-tenths drops prevented development in the *unit of culture media*; sixty-five drops are necessary for one cubic centimeter, showing this agent effective in 1 to 454 parts. "1–2–3," as you know, is a preparation given to the profession a number of years ago by Dr. G. V. Black, consisting—the mild solution, so-called, and this is the one used in these tests—of one part oil of cassia, two parts carbolic acid crystals and three parts gaultheria. It has always proven itself a most efficient agent in the treatment of pulpless teeth, and has been used by very many practitioners for the last ten or twelve years, possibly, more than any other agent. I have used it continuously since I have been in practice, and have never observed any bad effects from its use, no irritation of the soft parts, no tenderness of the tooth to pressure, no inflammation resulting. Possibly some of you will wonder why "1–2–3" is such an efficient and desirable agent, consisting, as it does, of cassia, carbolic acid and gaultheria; carbolic acid being not a positive persistent antiseptic, but one whose restraining effects upon the development of bacteria are only transient; oil of gaultheria being absolutely worthless as an antiseptic, and the use of cassia being so thoroughly condemned because of its extremely irritating properties. This agent depends upon the cassia for its antiseptic properties. The gaultheria is used as dilutent to the cassia. The carbolic acid was used more especially because of its anesthetic properties on soft tissue. When these three agents are properly mixed to form "1–2–3," it is the opinion of Dr. Black that there is more or less of a chemic union between them, so that the individuality of each seems to be lost, and the result is the formation of a new agent, or one with different characteristics from those possessed by the three individual agents. At any rate, it is non-irritating to soft tissue. An application left on for thirty-six hours produced no irritation whatever. There was only a slight searing and discoloration of the surface of the skin. Sores with much inflammation present were treated with the spray, which did not produce further irritation. Its action was more like that of a neutral agent (so to speak) not irritating the sore, nor, on the other hand, imparting to any appreciable extent, a soothing, quieting influence, the inflammation subsiding just about as it would if left to itself with all irritating influences removed. A sore, in which suppuration was produced, was treated with the spray of this agent. It demonstrated its right to be classed as a very potent germicide. The germs were destroyed and the pus formation ceased.

As formed with the present cassia of commerce, "1–2–3" is not so potent an antiseptic as that formed with cassia obtainable several years ago. This must be due to ths fact above stated, that cassia is so adulterated at the present time. In fact, "1–2–3" is lessened in potency in almost direct proportion to the extent of the adulteration of the cassia. Seven-tenths of a drop was effective in ten cubic centimeters of broth, as shown by experiments conducted by Dr. Black several years ago. As shown by these experiments, "1–2–3" is abundantly effective, but if cassia is continued to be adulterated, the time may come when it will not be. For general use, in the treatment of pulpless teeth, "1–2–3" is certainly an effective and excellent agent.

Carbolic acid, 95 per cent.—One and eight-tenths drops prevented development in the *unit of culture media*; sixty-one drops are required for one cubic centimeter, showing this agent effective in 1 to 338 parts. Carbolic acid is not a permanent, positive antiseptic. Its restraining power on the development of bacteria in the majority of plants one makes, is only transient. One and eight-tenths drops prevented development for three days, after which the bacteria developed in almost every instance. The restraining effect upon the development of bacteria seems to be almost in direct proportion to the quantity of the agent used in the culture-tube. The use of this agent in dentistry is so familiar I need not dwell on that point.

Oil of myrtol.—One and nine-tenths drops were necessary to prevent development of bacteria in the *unit of culture media*; sixty-eight drops constitute one cubic centimeter, showing myrtol effective as an antiseptic in 1 to 357 parts. Oil of myrtol is an agent which I have used but little in practice. In the majority of cases in which I have used it, there has been more or less tenderness of the tooth developing, so that it impressed me as being somewhat of an undesirable agent for this purpose. An application of myrtol to soft tissue for thirty-six hours produced decided irritation, and there was a strong tendency to the formation of blister. The surface of the skin was destroyed. The irritation and inflammamation present continued for two or three days, gradually abating. A sore on a guinea-pig treated with the spray showed evidence of further irritation. So long as the treatment was continued the inflammation refused to subside. A suppurating sore being treated in the same way, was certainly benefited by a consequent destruction of the germs and cessation of pus formation. There is no doubt that this agent is quite irritating and one that should not be generally used in the treatment of pulpless teeth. There are cases where I use strong myrtol water, seemingly to good advantage, and these are in connection with abscesses with fistulous openings, especially those of long standing, in which there is more or less irritation of the soft parts throughout the tract of the fistula and that uneasy, disagreeable feeling often experienced by the patient in connection with these cases.

Oil of cajuput.—Six drops are necessary to prevent development in the *unit of culture media*; seventy-two drops are necessary for one cubic centimeter, showing this agent effective in 1 to 120 parts. Cajuput is non-irritating to soft tissue. Applications of this oil to soft tissue, retained for thirty-six hours, produced no evidence of irritation; in fact, the discoloration of the skin was very slight and remained but a short time. A sore on a guinea-pig in which there was considerable inflammation, was treated with the spray of this oil and no increase of the irritation was produced. Another sore in which suppuration was produced, was treated in the same way, with the result that the germs were gradually destroyed, its action, however, not being positive, for if the treatment was discontinued for a day or two the pus formation continued as before.

At first I used oil of cajuput more or less in the treatment of pulpless teeth, but latterly I have not used it in this connection; in fact, the only use I make of it is occasionally to moisten the inner walls of the root canals previous to filling with gutta percha. For this purpose its non-irritating nature recommends it, and especially the fact that it is a solvent of gutta percha and causes the latter to adhere to the walls of the canals.

Eucalyptol (Merck's).—Six drops each of this preparation are necessary to prevent development in the *unit of culture media*; seventy drops are necessary for one cubic centimeter, showing each preparation effective as an antiseptic in 1 to 116 parts. Eucalyptol in contact with the skin for thirty-six hours produced no evidence of irritation, inflammation, discoloration, thus proving that the agent is non-irritating and harmless in contact with soft tissue. A sore in which considerable inflammation was present was treated with the spray of this agent, with the result that the inflammation readily yielded, the irritation subsided and the sore healed, thus further proving that it is non-irritating even to injured, inflamed soft tissue. A sore in which suppuration was produced was treated in the same way, with virtually the same results as with cajuput; it exhibited a restraining influence upon the development of bacteria and pus formation, but the treatment being discontinued for a while, pus formation went on as before. As an agent to place in the root canals of teeth after the removal of a pulp, following devitalization, in order to keep the parts healthy for a few days previous to root-canal filling, it is perhaps the agent that I use more than any other. It is certainly harmless, never exciting irritation. For the purpose of slightly moistening the inner walls of the root canals previous to filling, eucalyptol is the agent I nearly always use.

The oil of eucalyptus, as found in the market, only produced a restraining effect upon the development of bacteria when a saturated solution was formed with the bouillon.

Oil of gaultheria was carried in my experiments as high as eight drops, this quantity forming a saturated solution in the *unit of culture media*; that is to say, the broth had taken up or dissolved all of the oil that it could possibly retain, there being also a large number of free globules floating about in the broth, and still development of bacteria took place quite abundantly, showing that this agent is useless in restraining the development of bacteria.

Eugenol.—This agent resulted in the same way as gaultheria. Eight drops were used in the *unit of culture media*, which amount formed a saturated solution with numbers of globules of the free oil floating about, and still the bacteria developed, thus proving that eugenol, also, is useless as an antiseptic.

Formalin.—Of late the dental profession has taken up this agent for the treatment of pulpless teeth and abscesses, for devitalizing pulps, etc., and many are reporting wonderful results from its use. Not long since I read an article in one of our journals in which the writer paid a glowing tribute to this agent as a most efficient and desirable one for the treatment of almost all conditions of pulpless teeth. Having had some experience with it myself, and because of many negative results experienced, being suspicious whether it was a proper agent to be used about the mouth, I decided to investigate it as thoroughly as possible. First I tested it as to its antiseptic properties, and found it to be very powerful. Of the formalin preparation, which is a saturated solution of the gas formaldehyde in water (the latter taking up about 40 per cent. of the former), four-tenths of a drop prevents development of bacteria in the *unit of culture media*; fifty-six drops are necesssry for one cubic centimeter. This shows formalin potent as an antiseptic in 1 to 1400 parts. Somebody has been so enthusiastic over this agent as to make the statement that it is fully as potent an antiseptic as bichlorid of mercury. This is certainly a mistake. I prepared a 1 to 1000 solution of bichlorid of mercury and found that it required nine drops of this solution to prevent development of bacteria in the *unit of culture media*. I prepared a 1 to 1000 solution of pure formaldehyde, which we now have in a solid state —the gas being reduced to such by chemic processes— and of this solution found that it required forty drops to prevent development of bacteria in the *unit of culture media*, thus proving that formaldehyde is not so potent an antiseptic as bichlorid of mercury by at least one-fourth. I next resolved to determine its ability to irritate soft tissue, the same as I did with the other agents. I took a small pellet of cotton, saturated it with formalin, placed it in a small rubber cup to prevent evaporation, placed it on the surface of the skin on the lower part of my right leg and covered it over with a large piece of court-plaster stuck tightly about the edges. This was placed there March 14, 1898, at 12:30 A.M. I went to bed and went to sleep. Between 4 and 5 in the morning I was awakened by pain, and could get no rest after that. The pain was intense and of a very peculiar character. It seemed as if something were inside my leg gripping it with a vise. Then it would take a turn and twist about, as if tearing the inside out. It would stop for an instant, and then the performance would be repeated with renewed vigor. The pain continued more or less severe all day. I wished to keep the application in place for twenty-four hours, the time adopted for the other agents, but at the end of twenty hours, the pain had been so constant and the tissues began to look so ugly, that I concluded to remove it. The tissue to which it was applied and for about two inches in all directions was turned as white as pure snow, as if all the blood were driven from the parts. The pain was lessened very considerably in a short time after the application was removed. The tissue to which it was applied was perfectly anesthetized to a considerable depth. Just at the circumference of the application there was considerable tenderness. There was much swelling, which seemed to be more like that of edema than of true inflammation. In two or three days some color began to return to the parts, except those to which the agent was directly applied, which never regained normal color. In two days more a line, purple in color, began forming at the circumference of the point of application—a line of demarcation—and it became apparent that there was to be a break in the tissues. This break occurred and sloughing took place; considerable tissue was lost all over the surface of the inflamed area. The tissue in the center raised about the edges, but was very obstinate about coming away. From the time the agent was thoroughly absorbed in the tissues, physically I was not up to the standard; my appetite was more or less impaired, the digestive and eliminative organs were somewhat interfered with. These conditions continued to grow worse until the climax came in a bad case of systemic poisoning, the poisonous matter being thrown off through the medium of quite a severe diarrhea, and also much vomiting—the former continuing for a period of three days, the latter for one, following which time my physical condition rapidly improved.

Having seen a number of cases which have been treated by physicians with various percentage solutions of formalin in which more or less sloughing of the parts has resulted—one which I saw not long since in which as low as a 2 per cent. solution was used, in connection with which considerable sloughing resulted—and also because of the very vivid recollections of my own experience with it, I have come to the conclusion that we should get along without it in the treatment of diseased conditions about the mouth.

As I have devoted a paper to this agent before another society, I will not give my observations of it in more detail here. My paper is now too long for me to consider the subject of the selection of antiseptics with a view to utilizing their therapeutic effects in individual cases in connection with their antiseptic powers. but this can be fairly made out from the observations related.

Exercises for the Deaf and Dumb.—Marage proposes exercises, first music, produced by the phonograph, to accustom their ears to simple vibrations. Then the note corresponding to the sound of each syllable, using tuning-forks and sound-collectors, thus proceeding gradually to the more complicated exercise of the vowels, using at first the sound collector and finally the voice alone.—*Bulletin de l'Acad. de Méd.*, November 22.

OTITIS MEDIA, WITH TRIPLE PERSONALITY.

Read before the North Central Ohio Medical Society, Sept. 30, 1898.

BY A. J. ERWIN, M.D.

OCULIST TO THE PENNSYLVANIA CO; OCULIST TO THE U. S. PENSION BUREAU.

MANSFIELD, OHIO.

It is not the purpose of this paper to enter upon a critical discussion of otitis media, any further than seems necessary to properly bring before you the history of an unusually interesting case, which has been under my care for the last few months.

Purulent otitis media may be idiopathic, or secondary to catarrhal otitis, or to an attack of the exanthematous fevers, notably scarlet fever or measles. It consists of an acute inflammation of the lining membranes of the tympanum, which may extend to the mastoid cells, and to the eustachian tube, attended by severe pain, fever, and more or less swelling of the external auditory canal and its environments, with early spontaneous perforation of the drum-head, unless previously punctured. After the free escape of the pus, the pain, swelling and fever subside; under favorable conditions and treatment, the discharge ceases within a fortnight—it may stop in a few days, or may continue several weeks. The perforation of the drum-head generally closes, unless very large, with ultimately perfect, or nearly perfect hearing; in many cases however, the ear is left subject to frequent relapses of the disease, either on account of a constitutional dyscrasia, or because of a degree of chronic irritability remaining from the acute attack.

I will not take your time with a rehearsal of the therapeutics of purulent otitis; you will find it in full in the recent text-books on otology. I will proceed to give you an outline of the case mentioned.

Lucille, aged 8 years, has always been rather delicate in her appearance, but has had fair health; she had otorrhea more or less continuously from the age of 3 months in both ears, until three years ago. In June, 1895, she came under my care, with chronic purulent otitis media. Each drum head was perforated in the lower quadrant, the right about 3 mm. in each diameter, the left 5 to 8 mm. After four months' treatment I dismissed her apparently cured, the discharge had entirely ceased, the surfaces had become normal and the perforation in the right drum head had closed. In the early spring of 1897 she had a catarrhal attack of otitis in the left ear, lasting about one week. About May 1, 1898, she had an attack of measles, followed May 15 by a severe otitis media in the left ear, and a week later in the right ear. There was not much pain or swelling of the left ear, the drum head being open, but the right ear was very painful and considerably swollen below and in front until after perforation of the drumhead. On neither side was there at any time pain, tenderness or swelling over the mastoid, and as there was free egress of the pus through the open Eustachian tubes and large perforations in the drumheads, there did not seem to be any indication for surgical interference. There was nothing distinctive or peculiar about this attack, although she was rather slow in making a recovery. In about one month the discharge ceased, the right perforation closed and all evidence of irritation disappeared from each ear soon afterward. Since June there has not been any pain or any other evidence of disease in or about her ears. Hearing, R. 30/40, L. 9/40.

I will go back now to the very interesting part of this attack. About May 18, the third day of the disease, she began to show the following peculiar nervous phenomena: Several times a day seizures occurred which seemed to be simply a sudden suspension of respiration; she did not, apparently, breathe for the space of from one to five minutes; there were no convulsive movements; pulsation not much affected; she was conscious and rational, could not speak, but made motions with her hands, wishing to be fanned. As the seizure passed off she would whisper, "I can't see, or hear, or feel." At first these seizures occurred several times a day, but since the middle of June, they only occur once a day, when she retires at night.

These seizures are not like anything that I have ever seen—they are neither epileptic, petit mal nor syncope. As I have said, there is a sudden suspension, apparently, of the respiratory act; that is all. What breathing occurs is so slight as to cause scarcely any motion of the chest walls. But this is not her only nervous disturbance.

We will go back again. Since about June 1 she has had attacks of double and triple consciousness several times daily; for the first two months double, for the past two months triple. At first Lucile and Imme; now Lucile, Imme and Dorothy. Lucile is the normal self, intelligent, quiet, sensible, a dainty, delicate girl, well advanced in school, and who, without having taken any instructions in music, plays the piano nicely. Imme, the second personality, is a bright, more vigorous, rather boisterous girl of 4 years, which she claims to be her age, talks and acts as she did at that age, knows her parents and the family, but names them a little differently than when her normal self. For example, she at first called her mother her big sister. She has no knowledge of Dorothy, but has an indefinite acquaintance with Lucile. When spoken to about Lucile, she goes to the window to look for her; says she does not like Lucile, because Lucile does not like her; when she looks in the mirror she says, "That is Lucile; she is making faces at me;" says "Lucile is a crazy thing; I have three crazy people: Lucile and you and the man that use to come with you" (Dr. Mecklem, the family physician).

Imme has always called us the crazy men; she plays the same pieces on the piano as Lucile, is vivacious, comprehends anything quickly and gives ready answers; but as a child of 4 years, she lacks schooling; says she has never been at school; knows nothing about books, although she can read. Imme's intelligence is improving rapidly.

Dorothy, the third personality, is a child just beginning to talk; she creeps on her hands and knees; will not try to stand on her feet; cries for the nursing-bottle; calls her brother "Bud," as she did when a child; a name that has not been used in the family since her childhood. She puts everything she finds on the floor into her mouth. Childlike, calls "papa" and "mamma" and knows them, but has no knowledge of Imme or Lucile.

These three personalities are entirely separate and distinct; each has her own facial expression, language and style. The normal Lucile has no knowledge of the life of Imme or Dorothy. She has been told of them, but does not like to hear of them; thinks that she sleeps during the stages of those personalities. The rotation of these three selves is not regular: either one may follow the others. She is Lucile all night after retiring, and may continue to be Lucille well into the forenoon, or may awake in the morning as Imme or Dorothy; she changes personalities much more frequently now than at first—generally every hour, and often several times an hour. The changes are in this wise: Lucile suddenly drops into a sound, peaceful sleep for a few seconds, and then as suddenly awakens as Imme or Dorothy, with a new expression and voice. In the course of an hour she again drops asleep, so suddenly, that if standing she falls, and after a few seconds of quiet sleep, again awakens another self, with the voice, language and expression of the age she represents. Each of the personalities remembers its own acts and experiences, but never refers to, seems to have any knowledge of, nor mentions the acts of the other personalities.

Several similar cases have been studied within the past few years, and reported at length in various publications: notably the following: Louis V. reported by Dr. Voisin—a healthy boy, age 14 years, was scared by a snake and soon afterward developed five distinct alternating personalities. Felida X., an epileptic, age 14 years—reported by Dr. Azam—with double personality. Ansil Bourne, an adult with double personality—reported by Drs. James and Hodgson. The much interviewed, Mary Francher—reported by Dr. Speer, and the subject of a life history by A. H. Dailey—with five attending personalities occurring only at night; separated by epileptic seizures, the result of a severe fall on her head caused by a runaway horse, and a street-car accident. Miss Alma Z. with three personalities, supposed to be due to overstudy and general debility—reported to Dr. Osgood Mason. Madam B.—reported by Drs. Janet and Gilbert—with three personalities, caused by hypnotism. Miss Louise, with double personality caused also apparently by hypnotism—reported by Dr. Janet.

These cases you observe, are of different ages, and of each sex, and with different exciting causes; one, a fright; one, overstudy; one a fall on the head, with concussion of the brain; one, long-continued epilepsy; one, a man in good health without any known cause; and two caused apparently by hypnotism.

The etiology and the morbid anatomy of the disease are not understood, no constant brain lesion has yet been observed. There has been a good deal of speculative writing in explanation of this mental condition, under the titles of "Unconscious Cerebration;" "The Subliminal Self;" "Subconscious Personality;" and the "Secondary Self," but all have failed so far to give us a tangible etiology of the disease. The question arises: What is it? We may exclude hysteria, as the new self has no characteristics of that condition; we may exclude insanity, as the new self is strictly rational; we exclude delirium, as these new selves have neither frenzy nor hallucinations; we exclude hypnotism, for, while hypnotism may be the proximate cause of these manifestations in some cases, the will is not in abeyance or subject to the suggestions of the hypnotist; and we exclude somnambulism, which it somewhat resembles, for the somnambulist deals only with current affairs. I think we are obliged to give it an independent place among the neuroses, at least for the present; its distinctive feature seems to be simply an involuntary reversion of consciousness from the current normal, to the mental state of an earlier date in the life of the individual, striking new prints from the old negatives, long stored away in the dark-room of the brain. On one important point in the case under my care I am in doubt. Has the ear disease developed a brain lesion, or simply awakened a dormant neurosis?

A CASE OF MASTOIDITIS.

DUE TO PURULENT OTITIS, AND COMPLICATED BY SINUS THROMBOSIS AND EPIDURAL ABSCESS.

Read before the Chicago Ophthalmological and Otological Society, Nov. 8, 1898.

BY ALBERT E. BULSON, JR., B.S., M.D.
Oculist and Aurist, St. Vincent's and Allen County Orphan Asylums; Professor of Laryngology and Rhinology, Fort Wayne College of Medicine.
FORT WAYNE, IND.

A man aged 45 years, by occupation a passenger brakeman, consulted me on May 30, on account of a discharge from the left ear, attended by pain, tenderness, and swelling in the region immediately behind the auricle. The following history was obtained:

The patient had enjoyed good health and had suffered from no ear affection until about Jan. 1, 1898, when a severe cold in the head terminated in acute otitis media of both ears, with resulting suppuration of the left ear after a period of eight or nine days of intense suffering. Prior to spontaneous rupture of the membrana tympani the patient had suffered for two or three days with pain and tenderness behind the ear, but this partially subsided with the appearance of discharge, though it continued, together with the discharge, as one of the symptoms leading him to consult me for relief, five months later. For a period of two or three weeks immediately preceding the time that I first saw him, the discharge, rather more copious than usual, had been associated with an unusual amount of tenderness and pain behind the ear, the latter affecting the entire left side of the head. On the morning of the day the patient consulted me he had suffered from a slight chill, followed by a moderate rise of temperature and increase of pain on the left side of the head. Slight dizziness was complained of, but no nausea.

An examination with the speculum and reflected light revealed the existence of a thick mass of epithelium, pus and cheesy matter, which, when removed by careful syringing, disclosed a large central perforation of the membrana tympani. The posterior bony wall of the meatus appeared intensely congested and sensitive. The auricle was pushed out from the head by the mastoid integuments, which latter were markedly edematous and tender to pressure. Temperature was 99.5 degrees.

An operation was advised and consented to and four hours later a radical mastoid operation was performed at St. Joseph's Hospital. The mastoid antrum was thoroughly uncovered, about a half dram of pus evacuated, and communication between the antrum and middle ear established. The entire pneumatic structure of the mastoid process was entirely obliterated, and the sharp curette freely used until sound bone was supposedly encountered in every direction. The cavity was packed loosely with iodoform gauze and light outer dressing applied.

At the end of twelve hours the patient said that he was free from pain for the first time in many weeks. His temperature, however, was 101 and increased within forty-eight hours to 103 degrees, when the dressings were removed and considerable secretion discovered. The parts were irrigated freely with a hot antiseptic solution, the fluid being introduced through the artificial opening and allowed to pass out of the meatus. Daily irrigation and dressing became necessary and under this treatment the secretions gradually lessened and the temperature declined until at the end of eight days, when the patient was removed to his home, the wound was comparatively dry, the temperature normal, and the patient feeling well. There was, however, moderate tenderness at the temporo-sphenoidal region and there appeared to be more tenderness at the extreme tip of the mastoid process than could be accounted for by the soreness of the tissues wounded during the operation. The patient seemed to be making a speedy and satisfactory recovery, so little attention was given the matter.

At the end of three weeks he complained of a dull deep-seated pain in the mastoid region, but as no marked tenderness, tumefaction or systemic disturbance developed, no particular attention was directed to this symptom. The pain continued, however, with varying intensity, but unaccompanied by other marked symptoms, until the morning of June 25, five weeks after the mastoid operation, when he had a decided chill, followed by rise of temperature, dizziness, nausea, and severe pain throughout the entire left side of the head. The patient was not seen by me until evening when the temperature was found to be 105 degrees, and pulse 160, pupils normal, slight nausea, severe pain throughout the entire left side of the head. Marked tenderness was present over and above the apex of the mastoid process, and extending down along the line of the external jugular for a distance of two or three inches. The mastoid fistula, which, when examined several days previously, had been dry and apparently in perfect condition, was now found to be discharging foul pus. Hot antiseptic irrigations were ordered. On the following morning at 8 A.M., the temperature was 102 degrees and pulse 100. Pain and tenderness were still marked, with slight nausea and pupils normal. The patient was removed to St. Joseph's Hospital. At 7 P.M. the temperature was 101.5 degrees, pain severe over the mastoid area, extending to occiput, and down the line of the external jugular to border of the clavicle, with tenderness over the jugular and mastoid apex. The attendants reported that the patient had perspired profusely during the day.

A diagnosis of sinus thrombosis and probable complicating meningitis was made, and operation advised. On the following morning, June 27, the patient's condition continued the same as on the preceding night, with the exception of increase of temperature to 102.5 degrees. Under ether anesthesia an extensive incision, along the line of the previous incision for mastoid operation, was made, sufficient bone being uncovered to admit of operation for exposing the temporo-sphenoidal lobe, or lateral sinus. Upon uncovering the mastoid process and exploring the previously opened antrum, an extensive caries of the wall was discovered, which involved the entire tip of the mastoid, and the inner table over an irregular area fully one and one-half inches in diameter, upward and backward. A second incision, at right angles to the first and extending backward about two inches, was now made, giving two flaps which, when drawn aside, gave the necessary enlarged field for operative procedures. With the rongeur forceps the softened bone was carefully removed until about one inch of the lateral sinus was uncovered and the temporo-sphenoidal lobe exposed. The sinus throughout the extent uncovered appeared indurated, with irregular reddened surface, significant of periphlebitis, due to extension of inflammation from the carious outer cranial wall lying in immediate contact with it. Palpation failed to detect pus or evidence of a decomposing clot, though the feeling of the vessel under digital examination, coupled with the symptoms manifested, seemed to indicate the existence of a phlebitis so extensive as to not only involve the sinus walls but obstruct the lumen of the vessel as well. The exposed dura of the temporo-sphenoidal lobe appeared congested and roughened from the deposit of inflammatory material, indicating meningitis, which was thought to be circumscribed and confined to the area immediately surrounding the carious process of the cortex. As fully one inch of the lateral sinus was thoroughly uncovered, the overlying softened bone having been completely removed, thus rendering it easily accessible for operative procedures, it was thought best not to immediately open the sinus, though I felt fairly well satisfied that a thrombus existed. This course appeared justified in view of the fact that no positive evidence of fibrinous clot or pus formation within the sinus could be detected, and the carious process already relieved seemed all sufficient to produce the circumscribed meningitis and periphlebitis, the symptoms of which had led to the operation. The wound was therefore given a light dry dressing and the patient put to bed.

For three days after the operation the temperature ranged from 101 to 103.5 degrees, the patient still complaining of pain throughout the entire left side of the head, and experiencing marked tenderness along the line of the jugular nearly to the border of the clavicle. On the morning of the fourth day he had a chill, followed by vomiting and a rise of temperature to 104.5 degrees. Upon removal of the dressings, which up this time had not been disturbed, a faint suspicion of pus was found oozing from beneath the skull, in the tempero-sphenoidal fossa. A small probe was carefully pushed between the inner table and dura, upward and backward along the track of this oozing, for a distance of an inch or more. The withdrawal was followed by a few drops of pus, making it evident that a pus cavity was located in the region explored. Deeming it necessary to have the patient under general anesthesia in order to thoroughly evacuate the epidural abscess, as well as to explore for other infectious foci, it was suggested that ether be administered at once, but to this he emphatically objected, saying that he preferred to die rather than submit to further operative procedures. I then decided to enlarge the fistulous opening as much as possible by hurried but forcible pressure with blunt probe, and trust to drainage for the rest. The passage of the probe, though exceedingly painful, resulted in draining the abscess cavity of, perhaps, a dram of bloody pus. A light gauze dressing was applied. Three hours later the temperature had dropped to 101 degrees, and there was a decided lessening of pain. For two weeks following this the temperature varied between 101 and 102 degrees, with an occasional chill to break the monotony, and for fully ten days longer the temperature varied between 99 and 100 degrees. The wound was dry dressed twice daily for three or four days, and then once daily for a week, at the end of which time the parts, including the middle ear, what remained of the mastoid antrum, and exposed parts of the dura mater and lateral sinus were free from discharge. The tenderness along the line of the jugular slowly disappeared, though it could be detected as long as three and a half weeks after the second operation. A moderate amount of pain on the affected side continued for fully a month, but finally disappeared altogether.

The patient, under good nursing, stimulating and tonic treatment and careful attention to all eliminative functions, slowly recovered strength, and finally returned to work about the first of October, three and a half months after his last operation, and is now running regularly between Chicago and Fort Wayne. The wound has gradually filled with granulation tissue, though an extensive scar, with marked depression of contour of the skull exists.

The case presents many interesting features, among which are:

1. The development of a well-marked sinus phlebitis, with probable thrombosis, after apparent recovery from abscess of the mastoid antrum which had been thoroughly evacuated. I attribute this to infection arising from carious bone at the bottom and inner aspect of the large cell at the apex of the mastoid process, which was probably overlooked at the time the mastoid operation was performed. This carious process, easily overlooked in the mastoid antrum owing to the small area of presentation in that cavity, undoubtedly involved the inner table at the time of the mastoid operation, and if removed at that time would have obviated the necessity of a second operation.

2. The final disappearance of this phlebitis and probable thrombus without the development of other pyemic manifestations, such as pulmonary infarcts or abscesses in other portions of the body, or a fatal termination.

3. The development of an epidural abscess somewhat remote from the site of the carious process, and not discovered nor suspected at the time of the second operation. This was probably occasioned by the burrowing of pus from the original mastoid abscess and subsequently becoming walled off by adhesive inflammation.

4. Demonstration of the necessity of thoroughness in mastoid operations, which should not only include free opening of the mastoid antrum and obliteration of pneumatic structure, but careful search for and removal of small areas of diseased or carious bone.

55 West Wayne Street.

TOOTH FORMS IN RELATION TO JAW MOVEMENTS.

Presented to the Section on Stomatology, at the Forty-ninth Annual Meeting of the American Medical Association, held at Denver, Colo., June 7-10, 1898.

BY ALTON H. THOMPSON, D.D.S.

TOPEKA, KAS.

The writer feels like apologizing for addressing the Section upon such a simple thing as the relation of tooth forms to the movements of the jaws, and in defense makes the excuse that there is, as you well know, such a general misapprehension and lack of appreciation of many such simple principles of the profession that reiteration is never out of place. The writer has hopes to enlist the interest of the Section in the cultivation of a better appreciation of at least one of these simple principles. It is not sufficient to say that these things are found in the textbooks. The text-books are rarely studied and the living principles must be presented over and over in meetings in various forms of dress, that all kinds minds may be reached and interested and lifted up.

To be brief, therefore (in a paper which can only be suggestive), we wish to call attention first to the causes of the various forms of jaws and teeth found in the animal kingdom. In following the teachings of evolution we must understand that function is the cause of structure, and that organs are created in response to demand for performance of functions. The teeth were therefore produced for the purpose of performing a function and that function is the reduction and preparation of food for digestion. Not only were the teeth produced for this purpose primarily, but by the variations presented by different kinds of food animals came to employ, they have been infinitely modified and many various types evolved. This adaptive modification has led to the almost endless varieties of teeth and masticating apparatus found throughout the animal kingdom, all of which are adapted to the reduction of particular kinds of food. To the primary function of food reduction, there must be added the secondary offices that the teeth are often modified to perform, as tools, implements, weapons, etc.

The food-supply is one of the most potent influences in the environment of animals, and is secondary only to climatic conditions in determining the course and forms of life. The variation of the quantity or quality of the food-supply has led to the modification of all the species that have lived upon the earth. Gradual and persistent deviation has been the most potent for a change in structure, while sudden alterations in the food environment have resulted in the extinction of whole genera of mammals. The work of diferentiation and conformatory adaptation of the mas-cating apparatus and teeth has progressed onward hrough the eons until the result is an extensive and most wonderful variation. But in all the variation nd complexity of structure, we observe a remarkable daptation of means to ends, of instruments to pur-ose, of tools to material. The cause is the material, he tool is the result. The variations in the food-upply caused the variations in tooth forms.

The same law applies also to the evolution of the aws and masticating apparatus, the support and envi-onment of the teeth, which were developed by adap-ive modification for the same purpose, viz., the eduction of food preparatory to digestion. The teeth being merely the armament of the jaws, it follows hat they were developed with them for the same pur-pose. The lower jaw or mandible has been described s a lever of the third class, in which the glenoid cav-ty is the fulcrum, the muscular force the power and he resistance of food the weight. Since the co-effi-ient of muscular power is 104 pounds per square nch, it is easy to surmise that the tendency of the xertion of the great masticating muscles upon the aws and teeth must be to react powerfully upon hose structures directly subjected to the resulting train.

The principles of construction and motion of the pecialized parts devoted to mastication and the pre-ision and force with which this function is per-ormed in the majority of animals possessing vertic mandibular occlusion, are wonderfully illustrative of he capacity of the animal mechanism for the dis-play of power. The modification of the forms of the eeth and their supporting mechanism is directly due o the force of occlusion and of jaw movements. These tissues, like other parts, are disposed to develop n the line of greatest resistance in order to meet the demands of use. This is what Dr. John Ryder calls "displacement due to strain." He says, further, that "many of the parts associated in the function of mas-ication are greatly modified and brought to their present shape by the resistance incident to its per-ormance. . . . There are distinct kinds of man-dibular movement, and each kind corresponds to one very distinct type of tooth. Thus, in the carnivora, the tubercles are laterally compressed and raised nto sharp edges to form effective cutting instruments, the teeth being developed in the direction of the vertic movement of the jaws." In the opposite extreme, the herbivora, the lateral movement of the mandible causes the plication of the molar crowns n a line transversely to the direction of the strain exerted during mastication. As the excursive move-ments have increased in complexity there has been ncrease in the complexity of the enamel foldings, ridges, crests, etc. It is concluded, therefore, that the various forms of teeth and mandibular articula-tions have been molded into shape by the jaw move-ments and force of occlusion and also that they bear a direct relation to each other and exhibit associated types that are constant.

To go into some detail, we find that in the lowest and simplest form of tooth, that of the single cone, the reptilian type, it is associated with a mandibular movement that is purely vertic, mere opening and closing. This movement performs the one function of the teeth, i. e., prehension, for division and masti-cation of the food is unprovided for in these animals. There is wide opening of the jaws and after sharp closure a pulling motion is exercised. To resist these motions the teeth alternate above and below and are long, conic and sharp and slightly recurved to hold struggling prey. The teeth and jaws are well adapted to perform their functional duties together.

Among mammals, the two great extremes of types are the carnivora and herbivora, with some intermediate and composite types which subsist on an omniverous diet. The carnivora, as you will recall, are possessed of a mandibular articulation which is like a simple hinge that allows of but one movement of the jaw, i. e., opening and closing, with no lateral excursion whatever. This movement requires the long canines and the long blades of the premolars to pass close to each other in the seizing and cutting of flesh, with a shear-like motion. The condyles are also shaped to resist the strong pulling motion which the curved canines are formed to effect in tearing flesh. The blades of the premolars and molars are developed vertically in the direction of greatest force, to effect the cutting of flesh. The jaw bones are short and stout and the closing muscles strongly developed to effect strong vertic force. The *Filtdæ* present this extreme modification, but there is a general departure from this type through the hyenas, dogs, bears, and other omniverous animals which employ a mixed diet. The jaw articulation becomes more open, to allow of some lateral motion of the jaws; the teeth become modified to the tubercular form to masticate vegetable food, and the grinding teeth increase in number as the function of mastication comes more into use. In the Filidæ, the true cats, there are no tubercular teeth and no mastication, but in the more omniverous carnivora there is development of number and tubercularity of the teeth, and the jaws become longer.

In the other extreme, that of the herbivora or the plant-eaters, we have in the ungulata the best example of extreme lateral excursion of the mandible. This is due to the open temporo-maxillary articulation allowing extensive movements in various directions, but not much vertic play. There is also less density and diameter of the jaw but much lengthening. By a peculiar arrangement of the dental tissues, the wear of mastication preserves a constantly rough surface for the effective trituration of resisting vegetable fibers. The lateral movement of the jaws produces lateral extension of the teeth, in obedience to the law of development in the direction of resistance and use. The pigs show the first tendency to lateral movement and have lengthened crown crests to meet this movement in masticating. The tapir presents a little more lateral movement, and the kangaroo still more, with corresponding folding of the crown crests. The rhinoceros, the horse, and their allies, have a larger jaw excursion, and the ruminants most of all. The forms of the molar crowns follow the law of displacement due to strain, and in the latter class present many very complex patterns, as in the ox, deer, sheep, etc., owing to foldings and complications of the crown crests. The movements of the jaw are lateral, anterior-posterior, and diagonal, and in consequence the crowns of the molars are extended horizontally, with resisting ridges in every direction opposed to the horizontal movements. Other herbivora, as the rodents, have complicated molar patterns also. Some, as the beaver, have molars composed of transverse plates of enamel, which are so arranged as to resist the antero-posterior motion of the jaw, which is the main movement. This is also the main motion of the proboscidæ, the elephants, mastodon, etc., which have ridges of enamel arranged transversely to resist this main masticating movement.

In regard to man, who is a simple bunodont of primitive type, there are limited antero-posterior and lateral jaw movements with slight crown crests and cusps to oppose them. Like the bears and most omnivorous animals, the crests are weak, and tubercles for mere crushing are the most marked feature of the occluding surfaces of the molars. The dentition of man is much like early types found in the eocene geologic formations, which were much generalized and from which the later more specialized forms were developed. Both his teeth and jaws are degraded if not primitive in type.

MANAGEMENT OF PULPLESS TEETH.

Presented to the Section on Stomatology, at the Forty-ninth Annual Meeting of the American Medical Association, held at Denver, Colo., June 7-10, 1898.

BY J. TAFT, M.D.

CINCINNATI, OHIO.

Two thoughts induce us to present the following suggestions upon the subject indicated by the above title: 1, that pulpless teeth and roots are susceptible of being retained in the mouth and made serviceable and comfortable under a proper treatment, for a much longer period than is usually realized in the modes of treatment adopted; 2, faulty management is so very common that it would seem important that some effort ought to be made for a better mode of procedure in this particular of practice. It is entirely familiar to all dentists of much observation and discrimination, that by far the larger share of disease and discomfort from affected teeth occurs in cases where the pulps have been destroyed (usually the result of decay). Disease and severe pain many a time occur before devitalization of the tooth-pulp, and without some appropriate treatment, the teeth are disintegrated and destroyed.

Physiologically, teeth pulps were intended to serve a valuable purpose during the life of the organs with which they are associated. There is an important function which they should serve during this period, but unfortunately, from one cause or another, there are multitudes upon multitudes of pulpless teeth and roots. The common occasion of death of this tissue is by decay of the teeth. Subjecting the pulp to exposure, irritation, inflammation, hypertrophy, suppuration and death, this is the common result of this process. Pulps are, however, frequently devitalized in other ways. Calcific deposit in the pulp chamber or in the pulp itself, or upon the apex of the root, cutting off its vascular and nerve supply, is not an infrequent occasion of pulpless teeth. In the low state of health when the nutrient function is impaired, its tissue sometimes becomes devitalized without any apparent cause. The conservation of exposed tooth-pulp, is a mode of practice that under favorable circumstances and with proper skill is entirely practicable; in a very large percentage of exposed pulps, as they are found, it is the result of decay. The indications presented in many cases are not such as to promise much good for conservative effort and hence it occurs many times that the destruction of the pulp is a necessity, if the best results are to be attained.

The best method of accomplishing this is not always employed. Many methods have been used which we will not fully consider here. It is hardly proper to pass from these points, however, without two or three suggestions. One is that when an exposed tooth-pulp is to be devitalized and removed, its conditions should be as thoroughly understood as possible, and not only this but the peculiarities, whether normal or abnormal, should be understood. The practice of applying poisonous escharotics, as arsenious acid, for example, should always be avoided. With the appliances and facilities at the command of every dentist the use of such agents is wholly unnecessary and especially so when it is considered that most serious results follow their use in some instances, in either the immediate or remote future, and especially to those highly susceptible to the poisonous influence of arsenious acid or similar agents. Specific results in some instances occur within twenty-four hours; these results, however, may be in other cases delayed for weeks or months before manifesting any action in a very marked manner. It is better that these agents never be used for this purpose and that some methods should be employed that would not leave a sting behind. Since cocain has been used as an anesthetic, there has been no occasion for using a more violent agent, as by proper application to, or injection of the agent into the pulp it may be so anesthetized that its painless removal is an operation entirely practicable. Since the general introduction of anesthesia by cocain and the electric current (cataphoresis), it is a very simple operation to render an exposed pulp entirely oblivious to contact, when it can as easily be removed from its habitat as any other tissue of the body. This can be done by the use of the barbed broache or a sharp pulp-extractor. In the performance of this operation, the teeth should be perfectly protected by the rubber dam, from the saliva or any agent that would convey infection. The instruments employed in the operation should be absolutely aseptic and kept as nearly so as possible during the operation.

The broaches, if they are used, should be moistened during the operation with some efficient antiseptic fluid. The instruments used in cleaning out the canal should be used with the same precaution. When the pulp chamber and canal have been treated in this manner it is the best possible condition for permanent enclosure, unless there is a persistent hemorrhage or weeping of the plasm from the foramen into the canal, and that in most cases is readily arrested by some appropriate styptic or coagulent, as Lugel's solution, tannin, persulphate of iron and numerous other things that will suggest themselves to the intelligent dentist. In by far the larger portion of cases this flow will cease spontaneously in a very brief time, but if not it may be assisted as above indicated. When the pulp has been brought to this condition and thoroughly dried by a jet of warm air or by the use of a copper root-drier, it is in the best possible condition for permanent enclosure. In such cases nothing can be gained by the very common prolonged treatment preparatory to filling. The best time for closing such cases is immediately. If there is a doubt as to the entire arrest of the plasm flow through the root, it may have packed into the canal a small pledget of lint, moistened with some astringent, then fill the canal with Hill's stopping or some material that will be impervious. Twenty-four hours will be sufficient to determine whether the flow has been entirely arrested.

Before removing the temporary stopping the rubber dam should again be used, when it will be determined whether there remains any discharge; if not, the cavity may be wiped with lint moistened with a solution of salicylic acid, when the canal and pulp chamber should at once be thoroughly filled with a material that will wholly exclude moisture in any form. Care should be exercised in filling the extreme part of the canal where there is no disease in the apical space. Any treatment after the canal and pulp chamber have been brought into the condition above described is liable to be fraught with disaster.

It is a very common practice with many to persist in what is denominated "root treatment" for days, weeks and sometimes months, in just such cases as this, a practice that ought to be discarded and condemned.

In filling roots of teeth, many methods are employed. The aim in every case should be to absolutely close the extreme end of the canal, and the canal itself, in such a manner as to prevent the entrance of septic matter or anything that would convey it. Roots of teeth have been filled with lead, tin-foil, gold-foil, gold wire, gutta percha in solution and solid, Hill's stopping in solution and solid. By any of these methods in skilful hands, this work can be very perfectly and efficiently accomplished.

The late Dr. W. N. Morrison of St. Louis practiced filling roots with gold wire made as nearly the size and shape of the canal to be filled, as could be estimated, shaping the wire so that it would pass to the end of the canal, then covered the wire with a solution of gutta percha or Hill's stopping, and forced it to its position in the canal, cutting it off in the pulp chamber. The same method was adopted when lead was used instead of gold, by the late Prof. Peabody of Louisville, Ky. Shaping the lead so as to fit as closely into the canal as possible, covering the lead with a gutta purcha solution, press or drive it to its place in the canal, and cut it off in the pulp chamber.

Dr. H. J. McKellops follows practically the same method, using, however, a cone of gutta percha or Hill's stopping the size and shape of the canal, moistening with a solution and pressing it to its place. These methods or modifications are much used in filling roots of teeth.

Dr. C. R. Butler of Cleveland, Ohio, usually fills roots of teeth with tin-foil, cutting into narrow strips, packing into the canal with an appropriate filling instrument, by this means absolutely sealing it. Gold-foil used in this way has no advantage over tin. The methods of root management as above indicated are the most simple and the most successful.

In the preparation of decayed teeth with open pulp chambers, the tissue has at the present a great number of phases. The forms more simple than those described above are those cases where the pulp from exposure has become diseased and devitalized as the result, and is simply sloughed away or remains as lifeless matter in the canal, with little or no discharge from the foramen at the end of the root, and no periosteal disturbance. In these cases the requirements are, first to wash out the cavity as thoroughly as possible with a syringe with a disinfectant fluid, then with an appropriate instrument remove all débris that is not washed away, then open and shape the canal so as to readily facilitate the work to be done. Disinfection and antisepsis are always required more or less for these cases. It is well in some cases to remove more of the dentine from the walls of the canal than would be required in those from which a living pulp had been removed. This is necessary because the decomposing matter in the canal comes in contact in the mouth of the canals and vitiates their contents to a greater or less extent, according to the susceptibility of this material and the offensive condition of the contents of the pulp canal. The contents of the canals of the dentine in many cases remarkably resists the pernicious influence of the fetid matter of the pulp canal, but in other cases is greatly susceptible to its destructive influence. In the latter case it is important that the walls of the canal be cut away so as to remove this offensive material. In such a case a thorough antiseptic and disinfectant treatment should be employed. In many cases much more should be done in the way of cutting from the canal walls than is done by many. In this case sulphuric acid may be employed with very decided benefit. It readily enters the canal by dissolving its walls, is an antiseptic, and would arrest decomposition of the contents of the dentine canals, so far as it could be brought in contact with it. Care should be exercised in the use of sulphuric acid for this purpose, that it does not pass through the foramen at the end of the root, as it would there be an active irritant.

After the canal had been treated in the manner suggested, it is important to determine whether there is any discharge of any sort from the spinal foramen into the canal; if so, that condition must be changed. This can in some instances be effectually done by thoroughly filling the extreme end of the canal. This procedure is practicable in cases where the flow is not copious and consists in the main of the plasm of the blood. This arrest may in some cases be promptly accomplished by the use of a coagulant packed well into the canal and permitted to remain for a few days. This method of treatment is usually efficient where there is but little discharge, and this of a limpid and inoffensive character, and with a good constitution. In many cases, however, the discharge is so abundant that neither sealing nor the use of the coagulent will be immediately effective, but either or both together may be used, checking the flow in part at least until the disposition to discharge is relieved.

This discharge may come from a remnant of pulp in the extreme part of the canal or, in the absence of this, it may come from the irritated lining tissue just outside the apical foramen. This treatment in many cases, especially those of the more favorable kind, will be effective in arresting the discharge in twenty-four hours. Whenever this has been accomplished the canal may be promptly filled. From the pulp canals of many teeth, however, the discharge is acrid and proves a source of irritation, if promptly arrested or suddenly shocked. In such cases, disinfectant or antiseptic treatment may be used in connection with partial stopping, thus rendering the discharge less offensive and less irritating to the living tissue beyond.

Pyrozone, 3 per cent. solution, may be used in such cases daily with decided benefit. After this treatment tannin and oil of cassia may be used and placed tightly in the extreme part of the canal. Solution of salicylic acid may also be used with very decided benefit. If a remnant of the pulp is found in the canal it should always be removed before the treatment suggested. It is oftentimes the case that the sudden arrest of a discharge will prove an active irritant to the tooth at the apical space and more or less pronouncedly to the entire surrounding membrane of the root. That should in all cases where possible be avoided by the proper regulation of the treatment employed. When the discharge in such cases is arrested the canal and cavity should be properly and thoroughly filled.

I have thus far presented only the most favorable cases, in the management of pulpless teeth, emphasizing only the following points:

1. When the tooth-pulp is to be destroyed it is important to avoid any irritating or poisonous agents for this purpose. Anesthesia is in most cases required, and this is readily accomplished by injection of cocain, or by cataphoresis. In a good many cases neither of these are required, but it is insisted that all poisonous agents should be avoided.

2, The removal of débris and offensive matter from the tooth that is to be conserved should be most thorough. The utmost cleanliness and purity should be observed in every step of the work. The fluids of the mouth should be effectually excluded.

3. Excavation in the canal is made for two purposes: One to enlarge and make it more accessible in every part of the work. The other is rendered necessary where there is a decomposition taking place especially in the contents of the dentine canals. In many instances all this offensive material may in this way be removed and thus the danger of further trouble lessened.

4. The importance of arrest of the discharge that may be taking place from the pulp canal, and let it be borne in mind that this usually does not involve a prolonged treatment, the results of which are disease and oftentimes loss of the tooth. Under favorable circumstances Nature always makes rapid work in the reparation of diseased tissue. I have, however, purposely omitted the management of pulpless teeth that have involved the surrounding tissue, those in which abscesses have been formed and in which there may be diseased gums of one variety or another. These conditions may form a basis of consideration at another time.

TEMPORO-MAXILLARY ARTICULATION.

REMARKS REGARDING VARIOUS AFFECTIONS THEREOF.

Presented to the Section on Stomatology, at the Forty-ninth Annual Meeting of the American Medical Association, held at Denver, Colo., June 7-10, 1898.

BY WILLIAM KNIGHT, M.D., D.D.S.
Professor of Anatomy and Oral Surgery, Ohio College of Dental Surgery.
CINCINNATI, OHIO.

In considering the occasional remote and disastrous results of acute, sub-acute and chronic diseases of the temporo-maxillary joint, it may be well to refer briefly to the anatomy of this articulation, so as to bring plainly before us its somewhat complicated construction. The temporo-maxillary is a double arthrodial articulation, being possessed of two separate synovial membranes that normally, in very rare instances communicate with one another through an orifice in the inter-articular cartilage. Owing to this construction of the joint the movements that take place in its inferior and superior compartments are of two kinds. In its upper compartment the fibrocartilage glides forward and backward in the glenoid cavity; in the lower, the condyle rotates on a transverse axis against the fibrocartilage. When the mouth is widely opened these two movements are combined; the jaw and the fibrocartilage together move forward and rest upon the articular eminence, while at the same time the condyle revolves on the fibrocartilage. When the lower incisors are protruded beyond those of the upper jaw the movement is confined chiefly to the upper articulation; whereas the lateral or grinding movement is accomplished more largely by the lower articulation. Owing to the anatomic arrangement of this joint, we occasionally see as the result of disease in this articulation instances in which partial impairment of its movements has occurred, and in which this restricted mobility is more marked in the one than in the other of its compartments. Cases of that more distressing affection, viz., complete ankylosis of this joint, are of course much more frequently encountered by us in our practice than are those referred to above; and these would be still more frequent were it not for the anatomic construction of this joint which, by virtue of its two compartments, offers a partial barrier against its easy invasion by disease.

Any cause that may produce disease or injury in the other articulations will act with equal force upon this joint. From its more exposed position and from its occasional involvement from external ear diseases, and dental inflammations, it is more liable to be affected than are the better protected articulations. Trauma, unless it be of a slight degree, is more apt to result in complete than in partial ankylosis. Scarlet fever, diphtheria, measles, smallpox, typhoid and typhus fever, and tuberculosis are among those affections which have contributed to swell the list of cases of partial and complete ankylosis of the temporo-maxillary articulation. Rheumatic and gouty affections are much more likely to produce pain, stiffening and impairment of movement by working organic changes in one or more of the structures of the joint than to lead to complete ankylosis. Rheumatism more frequently attacks the cartilaginous and bony structures of the joint, destroying, in many instances, the fibrocartilage and frequently causing atrophy or complete absorption of the condyle and portions of the glenoid cavity. Cruveilier, who first described an example of rheumatoid arthritis of the temporo-maxillary articulation, says: "I have never seen the disease I call wearing away of the articular cartilage better marked than it was in this case. The condyle of the lower jaw did not exist. It might be supposed to have been sawn off horizontally at the line of junction of the head with the neck, and that which remained of the neck had been flattened. The articular part of the glenoid cavity was represented by a plain surface; no trace of inter-articular or cartilage of incrustation existed. Both surfaces of the altered articulation were remarkably red" (Anatom. Pathologique, liv, 9).

The opposite condition of hypertrophy as the result of rheumatism of this joint has been recorded. This hypertrophy of the condyle and neck may occur in otherwise healthy individuals and may produce sufficient displacement of the teeth so as to disarrange the normal bite. Heath, in his work on the diseases of the jaw (3d Ed., p. 420), gives an account, with illustrations, of an extreme case of this kind in which the patient had a queer, lopsided appearance of the face.

The milder result of this disease, as affecting the temporo-maxillary joint, is to produce that condition to which attention was first directed by Sir Astley

Cooper, and described by him as "sub-luxation." He held the opinion that this condition depended upon relaxation of the ligaments of the joint. Heath, however believes it is more frequently due to rheumatic changes in the articulation, and says: "the fact that these patients suffer more in damp weather and when the general health is feeble, shows that it depends upon an arthritic diathesis, and the relief that is obtained by counter-irritation and the administration of antirheumatic remedies proves that the complaint can not be due to purely mechanic causes."

Gouty affections cause more acute pain and more or less acute swelling of the joint, accompanied or preceded by gastric disturbance. Repeated attacks of this disease are apt to result in permanent impairment of this joint, by occasioning calcareous deposits among its structures, and this result is especially likely to occur in unrecognized or neglected cases of this nature.

Necrosis of the lower jaw, originating from whatever cause (with the exception of exanthematous necrosis, which is nearly always symmetric and limited to the alveolar processes), may extend from any part of the bone to the articulation and seriously interfere with its mobility or result in complete ankylosis. Other affections originating in the neighboring soft parts, as scrofulous inflammation of the face (John Howship), abscesses opening into the joint and the prolonged pressure of tumors, may each lead to partial or complete disorganization of this joint. As a case illustrating the extension of a suppurative disease of the alveolar process to the temporo-maxillary joint, I refer to the following:

On Aug. 9, 1897, I was asked by Dr. W. H. Creighton of Cincinnati to see a patient of his, Mr. B. aged 65 years, who had suffered for five months past with an affection of the left side of the lower jaw. The disease had originated in the aveolus of the first molar on the affected side, giving rise to a necrosis of this process, which had gradually extended until the entire left arch of the bone had been invaded by the disease. On several occasions during the past few months Dr. Creighton had removed a number of fragments of necrosed bone, varying in sizes. At the time I saw the patient there was considerable tumefaction of the left side of the face, which extended from the lower border of the jaw as far upward as the zygoma. The soft tissue of the neck, reaching from the mastoid process downward along the anterior border of the sternomastoid muscle, was tense from inflammatory effusion. The parts involved were exceedingly sensitive to touch. An examination of the mouth brought into view a puffy, unhealthy line of gum tissue which extended from the incisor to the post-molar region, from which pus was seen to exude from several points. A flexible silver probe was, without much difficulty, passed into one of these pus openings, upward and outward, under the massater muscle, until it reached the condyle. At various points along this sinuous course the grating sensation of disintegrating bone was plainly felt. No operation, except one to enlarge the explored sinus was recommended at this time. In addition to this, a lotion containing aconite, opium and stramonium was directed to be kept applied to the swollen cheek and neck, and the following prescription ordered:

℞	Tr. aconiti rad.	ʒss	1	9
	Potass. acetatis.	ʒii	7	75
	Tr. hyoscyami	ʒi	3	9
	Syrupi capsici	ʒiii	1	2
	Aqua q. s. ad.	℥iii	9	3

Misce ft. misturæ—Sig: Teaspoonful to be taken every two hours.

By this course of treatment the local swelling and pain of the parts was considerably relieved and a threatening abscess under the chin was averted. In the course of a few days the diffused swelling, as at first seen, had become localized to the immediate neighborhood of the temporo-maxillary joint, where some fluctuation could now be detected. This was relieved by the use of the hypodermic syringe, and a considerable amount of pus was removed from the joint by the aid of this instrument. The fear now was that the case would terminate in ankylosis, and the apprehension as to such an unfortunate result was enhanced when, a few days after the operation, a piece of cartilage the size of a small finger-nail was discharged from the sinus opening into the mouth. A careful examination of this specimen confirmed the belief that it was a fragment that had been cast off from the interarticular cartilage. From this time on the case progressed uneventfully and at the present writing, May 10, 1898, an unexpectedly good result has been attained. The movements of the joint are but slightly impaired. The mouth can be opened nearly to its full extent, but in doing this the jaw is pulled slightly to the affected side. The lateral or grinding movement is, however, more noticeably limited. The conclusion arrived at in this case is that the fragment of cartilage discharged came from the lower compartment of the joint.

The treatment of this case in addition to that given above, consisted in maintaining a free draining into the mouth and upon the surface. A wash for the mouth, containing permanganate of potash, was directed to be used frequently, and the sinuses were kept as far as possible in an aseptic condition by occasional injections of weak antiseptic solutions. His general condition was improved by the internal administration of small doses of tartrate of iron and potash, and Fowler's solution of arsenic given in alternate doses. Both of these remedies are known to have a constructive power in many vitiated conditions of the blood. The former acts by entering into the composition of some of the proximate principles of the blood. The latter remedy probably acts by modifying the vital conditions of its organized constituents. We know from clinical experience that these two remedies are of signal service in hastening, in many cases, the formation of healthy granulations around necrotic bones, reducing in this way to a minimum time the separation of the sequestrum, and aiding to bring many cases to a comparatively rapid cure. Owing to the somewhat unusual history and present termination of this case, it has been described in detail. The result so far appears to be an excellent illustration of a disease being limited to one compartment of the temporo-maxillary articulation, and although it is rather early to prognose as to the final outcome of the case, the conditions now are certainly favorable for a permanently good result.

The unhappy termination of comparatively slight injuries to the temporo-maxillary articulation in children can best be appreciated by bearing in mind the difference in the conditions of this joint in children and adults. Perhaps no writer has written more clearly and tersely upon this subject than has John Hilton, in his work on "Rest and Pain" (2d ed., p.

301), in which he says: "In adults the individual structures of a joint may be diseased and each may present its own local indications of special local symptoms. Thus, we may meet with isolated inflammations of the synovial membrane and ligaments, or a disease of the articular ends of bones in the adult. Now, although these structures are at all periods of life necessarily continuous with each other and closely allied in function, yet it is at the adult period, after the completion of their development, that each separate structure seems to have acquired, and thenceforward to manifest, both in health and disease, a structural independence which gives a character of individuality and isolation to the diseases of the different structures of the joint. In children all the structures of the joint must be formed, built up and nourished in concert and in due relation to each other. On this intimate sympathy existing between the different parts of a joint during childhood or during the period of growth, depends the tendency to diffuse disease contemporaneously in all the articular structures. Hence we see in our practice the quick propagation of inflammation from one articulation to another, and a rapidity of implication of the various structures of the joint which we do not observe at a later period of life."

This tendency to a rapid and complete involvement of an injured joint in children should be constantly borne in mind by the surgeon when treating any articular disease in the young. Especially should it be remembered that the discharge of pus from the ear in children is not unfrequently due to disease originating in the temporo-maxillary joint, and which is unfortumately, at times, not recognized until too late to prevent the disorganization of the articulation.

Affections of this articulation may occur at a very early period of life. Holt, in his work on "Infancy and Childhood," mentions a case of suppuration occurring in the temporo-maxillary joint at the early age of two weeks.

Acute arthritis in children is not a rare disease. and is a suppurating one from the outset. As late results there may be pathologic dislocation or a flat joint; occasionally ankylosis. An early evacuation of pus in these cases may aid them to terminate favorably, but in neglected cases complete destruction of the joint often occurs. If more attention were given to early manifestations of pain occurring in the temporo-maxillary articulation of infants and children, we would not be so frequently confronted by distressing cases of ankylosis of this joint.

Treatment.—The treatment of acute affections of the temporo-maxillary articulation should engage the early and watchful attention of the surgeon. All remedial means, local and constitutional, should be applied at once and persevered with until an obvious result has been obtained. Nor should his efforts be relaxed, neither should he become discouraged, even in those unpromising cases that apparently resist remedial measures, for by exercising patience he may bring to a successful termination a case that otherwise might result in complete ankylosis. There can be no doubt that the local abstraction of blood in acute inflammatory diseases of joints, especially when this condition is due to trauma, is one of our most potent means of preventing secondary changes in the structure of the articulations. This local depletion can be best accomplished by the liberal use of the leech. Six, twelve, twenty of these can be applied, according to the size of the affected joint and the amount of acute swelling present. For the temporo-maxillary articulation not more than four to eight are required. After their use bleeding should be encouraged by the use of hot fomentations. If leeches can not be secured, recourse can be had to the artificial leech or to the lancet. Internally, arterial sedatives should be administered. The tartrate of potash and antimony, the mercurial compounds and aconite are remedies of recognized value in these cases. The successful surgeon will apply the general principles of treatment to each case committed to his charge; recognizing and meeting in each instance any special condition of his patient that may, in any way, modify the local affection, whether this condition be of a temporary character or one of a constitutional nature, as a rheumatic, tubercular, malarial or a specific taint of the system. I can not refrain from again urging the decided benefits to be obtained in the cases under consideration by the local abstraction of blood in the early stages of these affections. I am confident that many joints have been preserved by this treatment that would otherwise have become useless; and I desire to enter a protest against the growing neglect of local blood-letting in acute synovitis and in other acute inflammatory affections of the articulations. In the subacute and in those cases of a more chronic nature in which complete ankylosis has not taken place, we can hope to obtain good results in most instances by the prolonged use of counter-irritants, absorbents and mechanic devices. Iodin applied externally exerts a mild counter-irritant effect and also favors absorption of fibrinous exudate. Repeated blistering is of much service in many instances.

The actual cautery, applied not directly over the joint, but in its near neighborhood, is an effective mode of treatment. Mercurial unguentums exercise a curative effect; and although they have been extensively used in chronic joint affections, they have been made of more value by the preparation of oleates of this metal, first introduced to the profession by John Marshall, surgeon of University College Hospital, London, who speaks highly of their utility in chronic inflammations when the seat of the disease is in or sufficiently near the skin. He says: "I may first mention that not only in persistent articular inflammations, but also in simple synovitis, these remedies rapidly relieve the tenderness and pain and promote the absorption of the fluid diffused into the joint. They are also of decided benefit in the rheumatic, the arthritic and the mixed forms of joint disease, but in these they do not supersede the necessity for general treatment."

He further states, that "these oleates of mercury should not be rubbed in like ordinary liniments or embrocations, but should be *merely applied with a brush or be spread lightly over the part with one finger*, otherwise they may cause cutaneous irritation or even produce a few pustules on the skin, especially in some persons." After long use of these preparations I have become more and more convinced of their great usefulness in chronic inflammations of joints.

Among the mechanic means to be employed to prevent or overcome a gradual tendency to the closure of the jaws due to disease of the temporo-maxillary joint are the various forms of shields, wedges and gags that have been from time to time devised by dental surgeons, some of which have proved of service. Among these may be specially mentioned the device of Dr. Goodwillie of New York (*Archives of Medicine*, N. Y., June 1881), who, writing of chronic cases of inflammation of the temporo-maxillary joint, says; "The method that I employ is as follows: In this case the patient is under the anesthetic effect of morphin and nitrous oxid. If there is any rigidity of the muscles, cautiously force open the mouth and take an impression of either the upper or lower teeth, and a rubber splint is made from the cast to cover all the teeth in one jaw. Upon the posterior part of this splint is made a prominence or fulcrum, so that when the mouth is closed the most posterior teeth close upon it while the anterior teeth are left free. The next step is to take a plaster of Paris impression of the chin and from this to make a splint. On each side of this splint is made a place for fastening elastic strips that pass up on each side of the head to a close-fitting skull cap. When this appliance is in place and the elastic straps tightened so as to lift the chin, then pressure is brought to bear on the fulcrum at the posterior molar tooth; and so by these means extension is made at the joint and the inflamed surfaces within the joint are relieved from pressure; then immediate relief is experienced."

This method is an admirable one and is based upon sound surgical principles, for it secures to an inflamed part, rest, which is a condition so essential to be obtained during the process of repair.

In cases which have terminated in complete ankylosis, operative treatment is the only way to insure relief. In some few cases of fibrinous ankylosis, if a diagnosis can be made, it is practical to attempt the division of the fibrinous bands, and after this to make use of mechanic appliances in the effort to restore the mobility of the joint.

Mr. Spauton of Harley (London *Lancet*, April 16, 1881) publishes two cases of fibrinous ankylosis of the temporo-maxillary articulation, in both of which he proved the correctness of his diagnosis by dividing the fibrous bands with a tenotome passed into the articulation. The patients were girls aged 9 and 10 respectively, and in both cases the disease of the temporo-maxillary joint had followed scarlet fever. Other surgeons have also reported instances of the same character.

It is difficult to make a diagnosis of fibrinous from bony ankylosis, but in a doubtful case the surgeon, before attempting a more serious operation, would be justified in using the tenotome to sever the fibrinous bands, and if successful in this to forcibly open the mouth and effect a cure by these methods. In all cases, however, of bony ankylosis the only relief to be obtained is by an operation upon the bone itself, either by resection of the condyle or by Esmarch's operation. The first operation for the removal of the condyle was by Professor Humphrey of Cambridge (*Association Medical Journal*, London, 1856), and was undertaken for chronic rheumatic arthritis. Since that time resection of the condyle has been performed by many surgeons and the operation has been generally adopted. This operation usually affords relief, provided the entering condlye be removed. A mere section of the neck or a partial removal of the condyle has proved to be inadequate. The operation is usually unattended with danger to life, but occasionally fatal results ensue, as in the following case: Miss M., at the age of 4 years, fell from a porch, striking upon her chin. Pain and some swelling of both temporo-maxillary joints occurred shortly after the accident, followed by gradual, persistent and increasing stiffness in these joints until finally, some nine months after the receipt of the injury, complete ankylosis of the jaw became established. At the age of 19 years she was brought to me by Dr C. A. Schuchardt of Cincinnati, as a patient for the Ohio College of Dental Surgery. Her appearance at this time was the usual one presented by the unfortunate subject of early and complete ankylosis of the temporo-maxillary joints. The marked dwarfishness of the chin, owing to arrested development, was as marked as in any case under my observation, but she had experienced much less pain and there was less irregularity and mal-position of the teeth then is usual in these cases. Her desire for an operation was mainly due to the fact that I had relieved a friend of hers who had been similarly afflicted from infancy and to whom I had given relief by performing a double Esmarch operation.

After an examination of the patient it was decided to resect the condyle, and she was placed in the Good Samaritan Hospital of this city, and the left condyle being the more enlarged was selected for the first operation. This condyle, which appeared to have become a part of the glenoid cavity, so firmly was it blended with the temporal bone, was removed in pieces, Three days after the operation the patient was in good condition and hopeful spirits. She said: "I felt my jaw move on the other side." On the fourth day, however, a secondary hemorrhage occurred. This was controlled by a gauze compress. Unfortunately, however, septic infection of a virulent form invaded the wound and shortly occasioned an anarteritis that extended rapidly along the external carotid artery, which probably had been injured during the operation. A malignant cellulitis of the adjoining parts occurred and death resulted on the twelfth day after the operation.

ONLY A BABY TOOTH.

Presented to the Section on Stomatology, at the Forty-ninth Annual Meeting of the American Medical Association, held at Denver, Colo., July 7-10, 1898.

BY W. H. HALL, M.D.
MANSFIELD, OHIO.

Reference is not here made to any particular baby tooth, nor to any particular baby's tooth, but only to the deciduous or temporary teeth as a class. Interest in the subject which furnishes the topic of this treatise antedates, considerably, the discovery of the *first* baby's *first* tooth by the proud new parents. Its importance does not begin nor end here, nor is it confined within the limits of baby's and childhood's tender years, as we expect to prove. An extended theoretic discussion of the proper treatment and best material for filling roots and crown of a devitalized molar would come as far short of interesting our medical brethren as would a learned paper on typhoid fever and its treatment the dental Section of this assembly, therefore, this homely topic shall be given a plain, practical but limited consideration.

"Only a baby tooth" is expressive of insignificance, but not in that sense do we use it here, now, and elsewhere never. It is sometimes given professional utterance in just that sentiment, however, but no one in this body of our professions' representatives was ever guilty. The culprit lives and practices over in the next county and never attends a meeting of the city, county, State or National Medical or Dental

Society. He stays at home, hoping to capture patients, while the up-to-date brother attends the convention feasts. He has no need of the society, and vice versa. Did you never hear of his saying: "Oh, its only a baby tooth. We'll pull it out and some day a new tooth will grow in and takes its place?" Why not say: "Only a 'kid,' and its not important what kind of treatment is given." In my imagination I can almost see the dim outlines of a gallows rising to receive such criminals in practice. Perhaps if outraged nature fails to fill the vacancy this culprit has made, he can supply the loss with a lovely glistening gold tooth, for nowadays you can get a gold tooth, whether or not you stick your tongue in the vacancy, and for five dollars too, but then Dr. R. says they are brass, and gold plated.

I would not wish to convey the idea that I think temporary teeth should never be extracted. Not extraction but *premature* extraction is the criminal act. I rather enjoyed the enviable reputation gained in my practice in Ohio, of "never extracting children's teeth." This, however, was the frequent parental decision, but in practice was not adhered to when judgment dictated otherwise. It always takes more time to explain to a parent or accompanying guardian why an aching tooth should not be at once removed, than to perform a dozen such surgical operations, with the apparent result, after all, that the effort was "Love's labor lost." The impression which prevails to a great extent among parents, that the temporary teeth have no roots, and should be extracted when they ache, because a new one will come in after a while, any how, is an error that should be corrected as speedily as possible. The mission of the physician and the dentist is not of a remedial character alone but prophylactic and educational also. The value of the temporary organ and its important offices during that comparatively short period, the few years of child-life, should be an oft-repeated lesson, until parents are impressed with their responsibility, and that the period of first dentition, the care and attention necessary for their preservation until nature's physiologic process accomplishes their removal, is one of great importance.

A neglected, abused or maltreated first dentition, often causes sad disfigurement of the permanent set. A premature removal of the temporary teeth is a more frequent cause of irregularity in the permanent set than a tardy removal. This is a valuable lesson the dental profession is teaching, and we are persuaded that it is not altogether in vain. Because a temporary tooth aches, it must not be concluded that extraction is the only treatment, nor simply because its "only a baby tooth," that it is not worth while to give it any other consideration. True, it is much easier for the operator to extract it than to give it treatment, and parents think only of such prompt and heroic measures as will end the ache at once and forever. How sad that prevention was not thought of months, yes, even years before. The family physician is often sought in such cases, and yields to the desire for extraction, thereby doing violence, perhaps, to his conscience and better judgment. The conscientious dentist (and physician) will not only protest against premature extraction, but will follow his protest with a kind and intelligent explanation of the proper treatment, with good reasons therefor, and then, if necessary, positively decline to be a party to the "slaughter of the innocents."

The preservation of the temporary teeth is important for several reasons.

1. They are needed for masticating purposes, and must be kept in good condition for the proper performance of that function. If badly decayed, mastication can not be properly performed, and indigestion and dyspepsia result, with consequent general systemic disorder.

2. They contaminate the breath, and this fetor enters the lungs; the vitiated saliva mixed with the food, passes into the stomach; such conditions we contemplate with disgust and horror.

3. Decay involves the pulp, causing pain and suffering to the child, with more or less general nervous disturbance; finally death of the pulp, resulting sooner or later in suppuration, adding another objectionable element to the contents of the stomach. The death of the pulp portends further trouble in the future because the physiologic process of resorption of the roots ceases, and these roots, minus crowns, sometimes remain for several years, deflecting the permanent teeth from their course, or crowding them from their position in the arch.

4. The temporary teeth retain the fullness of the alveolar process and maxillary development.

5. They are needed as wedges to support and retain in its own place each contiguous tooth until the approach of the teeth of replacement.

The evils of a premature extraction of the temporary teeth are; 1, a possible irregularity of the permanent teeth; 2, absorption of the alveolar process and consequent contracted condition of the maxilla by reason of arrested development, thus permitting the contiguous teeth to move toward one another, closing the space, resulting in disalignment, impaction, or prevention of eruption of the permanent tooth. Especially important is the second or posterior temporary molar in retaining the first permanent molar in its place, and also the temporary cuspids in retaining the permanent bicuspids in their places. The premature loss of the temporary cuspid is perhaps the more frequent cause of disfigurement and a more serious irregularity than any other with which the dentist has any experience. Finally, premature extraction may cause the destruction of the germ of the permanent tooth. For example, the pulps of the *first* and *second* bicuspids are formed about the fifth or sixth years, so a removal of the anterior or posterior molars, at this period, may result in the serious injury of the permanent tooth.

What, then shall be done for the children and their deciduous teeth? No single, definite plan or course can be pursued and attain the object sought, viz., the preservation of these teeth until the proper time for their removal by nature's process and with the assistance of dental science. Several things are essential, viz., to assist weak nature if her resources are impoverished, restrain her if she seems violent, and correct her if her course be erratic. Hygienic science is well recognized as an essential factor in the health of the body, and dental hygiene is the key which will unlock the door to the temple of health science for the benefit of baby's "first teeth." Without this aid, the man of dental science is waging a stubborn and endless battle in the effort to *preserve* what might have been *prevented*. It is not by good guessing that our profession has arrived at an understanding of these things, but by the sure findings of scientific investigation. Our thought is not so much of hygienic influences and the benefit of these dental organs, after their "line up" in the mouth, but of the importance and value of such treatment during the periods of gestation and lactation, and later periods of development.

It is not my purpose to consider in detail that strange and interesting operation in the human economy, the process of the development of the teeth, but when we know that the evidence of a germ, which eventually becomes a tooth, has been observed as early as the sixth week of embryonic life, with a knowledge also of the various stages and changes during the periods of development, we may reasonably expect that the influence of hygienic treatment, during those periods, will be manifested in a better quality of tooth structure. The papillæ or dental germs of the temporary teeth, appear, as reported by various authorities, about as follows: The anterior molars, sixth to seventh week of embryonic life, followed by the cuspids, incisors and posterior molars up to the tenth week. The eruption of these teeth occurs as follows, beginning with the incisors at about seven months of age, continuing with the entire set until the twenty-fourth month, when the posterior molars appear. Therefore, from the sixth week of embryonic life, when the dental germ is first discovered, until past two years of age, when the last temporary molar is in its place, embraces a period of about three years, during which time the temporary teeth are undergoing the developing and calcifying or dentinifying process. Any diseased condition of the system which disturbs nutrition, affecting or preventing the assimilation and appropriation of the lime salts, those elements which build the osseous system, will produce manifest defects in those tissues. As we nourish the bodies so we can nourish the teeth. Therefore let parents, physicians and dentists take more interest in this subject and study for the preservation of the temporary teeth by a hygienic régime, which tends toward the prevention of a low grade of tooth structure.

Here the physician's opportunity exceeds that of the dentist, but when the time and opportunity for the practice of these principles has passed, so far as benefit to the temporary teeth is concerned, then as cavities of decay appear they should be filled. It may be necessary to perform this operation as early as 2 or 3 years of age, but parents should understand the wisdom and value of this procedure. The selection of the kind of material for filling is governed by circumstances, but oxyphosphate of zinc or tin are generally preferred.

In conclusion, we hope that an appreciative public will more and more come to understand that not every practitioner of dental science and art is living simply to "pull" and "plug" teeth; and further that members of our profession will feel that dental instruction and education should not be entirely confined within the walls of our professional schools.

711 Seventeenth Street.

SOME FACIAL DEFORMITIES—PREVENTION.

Presented to the Section on Stomatology, at the Forty-ninth Annual Meeting of the American Medical Association, held at Denver, Colo., June 7-10, 1898.

BY A. E. BALDWIN, M.D., LL.B., D.D.S.

CHICAGO.

Some may think the presentation of this subject from this standpoint is emphasizing the importance of trivial things, but a few minutes spent in considering it will be minutes well spent for the integrity and symmetry in the development of the lower part of the faces of those entrusted to our care.

We seldom see a perfectly developed human frame, or a frame entirely free from deformity, and this truth is even more true of the face than of almost any other part of the frame. I have for years had a good opportunity to observe the mouth and jaws, and to some it may come as a surprise that it is a very rare thing to find a person the two sides of whose jaws, either upper or lower, are alike. We all know that in the growth or development of the child into the adult the head as a whole grows much less than the body or extremities, but the growth of the jaw in the normal person is very great, even at the age of 2 or 3 years, and with the full complement of twenty deciduous or milk teeth, the jaws are abnormally small for the proper contour of the bony lines of the face. But this lack of contour is not noticeable, for the face of the little child is, by the deposit of soft tissues, kept in the dumpling shape. As the child approaches adult life and nature enlarges the jaw, the soft tissue is resorbed and the bony outline appears more distinctly, either normal or abnormal in size, making the perfect or deformed face, as the case may be.

You are all aware that at about the sixth year the jaw is surprised by the appearance (at the rear of each of the second deciduous molars), through the gums of the largest, strongest and best-rooted teeth that are given to man, the first permanent or sixth-year molars, and coming in as they do, they act as abutments for the anterior arch in its development, as in the jaw between these two points must, in a few years (four to seven) appear ten teeth of nearly double the size of the teeth to be replaced. Speaking in a very conservative way, at least three-fifths more space is needed for the regular eruption of these ten permanent teeth than was needed by the deciduous. These abutment teeth, so deeply and strongly set in the jaw, are so placed that they can hardly be moved back by any force applied, and it is evident that nature thus wisely provided that no infringement should be made upon the space to be developed in the rear of these teeth, to be occupied by the second and third molar teeth. So you see that to provide for the occupancy in the jaw of the permanent anterior teeth, the jaw must expand; and doubtless it has been a matter of common observation to you all, that the newly erupted permanent central incisors appear surprisingly large, as compared with the old, being formed to fit the face of years to come, and as a matter of course, these teeth appear crowded and are quite irregular, often overlapping or turned edgewise.

Some notable exceptions are noticed in cases where prior to the eruption of the permanent teeth, you may notice that the deciduous teeth which previously were close together, now at the fourth, fifth or sixth year, are moving apart, so that the spaces are noticeable and marked. This, when it occurs, is the result of the new wide teeth approaching the surface directly side by side, and they are already getting in their work of spreading the arch. In these cases of the teeth coming in overlapping or crooked, you are often importuned by friends who call upon you to help the children to regular teeth by extracting the teeth on either side to allow them to come down "regularly," as they say, and but for the thoughtlessness or carelessness of many medical attendants indulging these importuning parents, this paper would hardly have been written, for following the thought of the paper you will see that in the effort to relieve the child you have curbed the expansion of the jaw by removing one of the causes. This expansion is most largely brought about by the expanding pressure of the incoming larger teeth.

Right here is as good a place to present to you a rule, almost without an exception, which is of the greatest importance to you in serving the best interests of your little patients, viz., *never extract or recommend the extraction of any deciduous tooth save to make way for the permanent tooth which is to take its place.* By closely adhering to this rule you will always utilize the forces of nature to produce the necessary expansion of the jaw to the natural conformity of the face. To illustrate this further and to further emphasize this rule, we will take a case of incoming permanent central incisors. In this illustrative case they are so crowded that they overlap very much and the thoughtless physician, in his supposed kindness to the patient has removed the deciduous laterals under the careless supposition that it was necessary. In this case the teeth will straighten very quickly, but instead of the expansion of the jaw, which would have taken place were the laterals left, the jaw will expand very little if at all, so the deformity of the face will be marked when the teeth are all erupted.

While on this subject it will not be amiss to speak, if only incidentally, of the necessity of caring for and preserving the temporary molars, not only for the purpose of preserving the space for the incoming bicuspids or premolars, by which they are replaced about the eleventh or twelfth year, but also for hygienic reasons; and notably among them may be mentioned the fact that the child, up to the eruption of the bicuspids needs a perfect masticatory apparatus, even more than the adult, for in the adult the masticatory apparatus need only be used enough to produce, for the system, pabulum enough to furnish nourishment to make up for the daily waste in the tissue, and in the child, while the waste, which is greater than in the adult, must be replaced, there must also be nourishment provided for the development or growth of all the organs of the expanding and rapidly-growing physical frame. Still another reason for bestowing much care on these teeth is that the child is forming habits for life, and if his teeth are neglected so as to become sore or painfully sensitive to mastication, the child will only masticate enough to enable him to swallow the bolus, thus so imperfectly divided, in this way way not only forming the habit (too prevalent with Americans, young and old) of "bolting" the food, but also, which is even more serious, paving the way for all the ills, nervous and otherwise, that come from an overloaded and overworked stomach.

The writer does not claim that all the deformities of the lower part of the face can thus be prevented, for there are also the very powerful factors of inheritance to be taken into account, but a proper heeding of these matters by the medical adviser will result in a great lessening of such deformities and incidentally of improving the health and nourishment of the patient while young and reaching far into age as well.

Some may say that it is improbable that such slight force as the incoming tooth may exert would produce such expansion as occurs in the bony expansion or development of the jaw. It is only necessary to say to such that in all nature it is seen that the feeble though constant force is much the most powerful source in changing from the normal to the abnormal or in the growth and development in the normal. These illustrations in nature are on every hand, and much easier understood than can be that of the elongation of the long bones of the leg, which lengthening occurs by deposit between the shaft and the articulating surfaces.

In the short time at our disposal, it is not possible to go into anything but generalities, and this short paper has subserved its purpose if it results in the medical profession guarding with much more care the temporary teeth of the little ones, as to the care to be bestowed upon them in keeping healthy and in seeing that they are retained until the new tooth which is to replace it, asks for the position.

SOCIETY PROCEEDINGS.

Chicago Medical Society.

Regular Meeting, Dec. 14, 1898.

Dr. Arthur D. Bevan, the president of the society, occupied the chair.

Dr. Robert B. Preble contributed a short paper on

AMEBIC DYSENTERY IN CHICAGO.

He said that amebic dysentery is not so very uncommon in Chicago, but the great majority of the cases are imported, so that the two following cases are of interest because they were acquired in this city. He finds by inquiry that a few physicians have observed cases acquired here, but none of the cases have been placed on record.

J. K., 30 years of age, American, resident in Chicago for nine years, for the past fourteen months has had diarrhea, with blood and mucus in the stools, moderate tenesmus, and abdominal pain. Ameba coli were found in large numbers. Improvement, but not recovery, followed colonic flushings of quinin and of silver nitrate.

Mrs. C., aged 50 years, Irish, resident in Chicago for thirty years, had diarrhea with blood, mucus and pus, during the summers of 1897 and 1898; ameba in the stools; not yet under treatment.

Dr. Henry Gradle read a paper entitled

THE OPERATION FOR ADENOID GROWTHS IN THE PHARYNX,

and exhibited a new instrument. He said that while it is generally acknowledged that the thorough removal of adenoid vegetations from the pharynx is one of the most satisfactory of surgical procedures, the technic of this operation is not as yet as satisfactory as its results. All operations, whether done with the curette, Gottstein's ring curette, forceps or snare, have some drawbacks. The most serious consideration is that it is difficult to remove the adenoid tissue radically. Undoubtedly most operators do most of their operations thoroughly, but it is impossible to be sure of this at the time of the operation. With the finger it is impossible to tell accurately whether all the lymphatic tissue has been removed. When we examine with the postnasal mirror, children who are tolerant, we find that almost as a rule remnants of the tonsil have been left and in a small minority of cases these remnants are of sufficient size to be of importance. On account of the peculiar shape of the space in which we operate, every instrument is liable to slip to some extent, leaving fragments of the tonsil. Nevertheless, most operations give satisfactory results in the end, but the more radical the extirpation, the more complete and the more prompt are its beneficial effects. Moreover, adenoid remnants may give rise to recurrences. Bliss (*N. Y. Med. Jour.*, Oct. 29, 1898) has lately called attention to the frequency of recurrences, and found that they were favored by under-development of the faucial region, vascularity of the growths and strumous condition of the patient. Dr. Gradle's own experience agrees with this. He has seen three recurrences among patients operated on by himself, and about a dozen in children previously operated upon by other competent surgeons.

All operations are apt to be bloody. When the soft vegetations can be cleaned out with a single sweep of the Gottstein curette, the bleeding is often insignificant, but if any instrument has to be reintroduced, as is almost always the case, a hemorrhage up to 100 grams or more is not uncommon. Bleeding is most copious from the use of the Trautmann sharp spoon, and least so from the cold snare. The latter instrument with straight canula, he has often used to advantage in removing remnants, especially when the mirror is tolerated. It is not very painful, but not a quick way of working. He thinks it is not commonly known that persistent hemorrhage after the operation is nearly always due to partly detached fragments of tonsillar tissue, and that the easiest way of stopping it is to search for these fragments with the finger, or by inspection with forcible elevation of the soft palate, and to remove them with forceps or snare.

Finally, it must be admitted that all the operations requiring repeated introduction of the instrument are relatively formidable without necrosis.

The instrument he presented does the operation more radically, quicker, and with less bleeding than any other which he has previously used. It is a guillotine, the fenestrum and knife of which are curved to adapt themselves to the slope of the roof and posterior wall of the pharynx. While experimenting with this mechanism he learned that the idea had previously been applied by Schuetz, to whom he accords the priority and credit, although his instrument has not received much notice in literature. In his (Dr. Gradle's) instrument, the knife is retracted by the mechanism of the Wright snare, which he finds is a distinct advantage over the straight handle and slide of the Schuetz adenotone. The cutting end is 20 mm. wide (knife 17 mm.) and the sweep of the knife is 25 mm. The instrument can be inserted in children over about three years of age, without difficulty, especially when held obliquely, on account of large faucial tonsils. The main point is that it must be well and forcibly pressed upward and backward before the knife is withdrawn. The detached tonsil usually lies in the concavity of the blade on withdrawal, or is spit out by the patient. Once he has known it to be swallowed. If the instrument is well pushed against the base of the tonsil it cuts off all the adenoid tissue in one sweep. In illustration he passed around a number of entire pharyngeal tonsils thus removed. The slip, which is apt to occur with the Gottstein curette, is prevented by the use of sufficient force with the guillotine, hence he claims for it the certainty of radical results in every case when properly used. Its use has been followed by less hemorrhage on the average than he has previously experienced in similar cases, and he has now used it some fifteen times. The speedier cessation of bleeding is undoubtedly due to the clean cut.

As the surgeon can do a quicker, neater, and he thinks he can safely say, a less painful operation by means of this guillotine than with other instruments, its use will serve to lessen the number of narcoses. An experience of nearly 800 operations, of which less than 50 were done under narcosis, has convinced him that general anesthesia is undesirable in the removal of adenoids. The bleeding is greater with the pendant head, and this, together with the possible aspiration of blood or fragments, interferes as much or more with leisurely work, as the fright and pain of the conscious child. Incomplete anesthesia and erect posture obviate these annoyances, but this is not any more humane than rational treatment of the conscious patient, besides adding some danger.

In a recent article, F. W. Hinkel (American Laryngological Association, 1898, and *N. Y. Med. Jour.*, Oct. 29, 1898) has shown that the danger of chloroform is greater statistically in this operation than in general surgery. He has collected the reports of eighteen deaths under chloroform from English and American sources since 1892. This seems truly an appalling number, especially occurring in an operation otherwise absolutely safe and with no vital indication, and particularly in children, who stand anesthesia better than adults. He attributes the special danger to the frequent existence of a large thymus gland in children with adenoids, the so-called habitus lymphaticus of the German pathologists, a condition known to predispose to sudden death from apparently trivial causes. While it has been his good fortune never to have seen an accident in his experience, he has always felt that anesthesia, when demanded by the parents, or necessitated by the unruliness of the patient, adds an unnecessary element of danger to the operation. The majority of the patients which he has seen with recurrences, including his own cases, had been operated on the first time under anesthesia (vide Journal, Nov. 12, 1898, p. 1191, and Nov. 26, 1898, p. 1310).

Clinical Meeting held December 21.

Dr. Henry B. Favill officiated as chairman of the meeting.

Dr. Jacob Frank exhibited a patient upon whom he had performed a laminectomy. He also showed a case of Steno's fistula.

Dr. Hugh T. Patrick demonstrated "The Sheet Rub," and exhibited patients.

Dr. Arthur R. Reynolds addressed the Society on the prevention of tuberculosis and the feasibility of organizing an association for this purpose, the membership of which shall consist of ordinary and life members. *Methods:* The education of public opinion and the stimulation of individual initiative by means of a central bureau for the collection and distribution of information as to modes of diffusion of tuberculosis and measures of prevention; the circulation of pamphlets and leaflets setting forth in plain language the results of scientific investigation of the above points; public lectures by men approved by the Society; addresses at congresses and other public gatherings; co-operation with other societies having for their object the promotion of public health; the co-operation of the public press; the holding of periodic congresses, and the issuance of an annual report; the promotion of the establishment on a self-supporting basis of open air sanatoria for tuberculous patients; the influencing of legislatures, county and city councils, and other public authorities on matters relating to the prevention of tuberculosis.

A motion was made that the president of the Chicago Medical Society appoint a committee to consider the practicability of forming such an association with a view to carrying out the suggestions presented by Dr. Reynolds.

Dr. E. J. Mellish presented a paper entitled

CLINICAL HISTORY OF A CASE OF EPENDYMAL CYST OF THE CEREBELLUM.

Since the greatest interest connected with the case centers in the pathology, he made the clinical report brief, and refrained from lengthy discussion of the symptomatology of intracranial tumor. Stated briefly, the usual symptoms of intracranial tumor are: 1. Headache and pain, which are rarely absent, are usually constant with paroxysmal excerbations, but may be intermittent and either general or local. 2. Optic neuritis, present in more than three-fourths of the cases, regardless of the seat of the tumor. 3. Vomiting, a common effect of tumor anywhere, but most apt to occur in tumor of the medulla, middle lobe of the cerebellum and corpora quadrigemina, cerebellum and middle cerebellar peduncle. 5. Convulsions, general and local. Brief tetanic rigidity with retraction of the head has been observed in cases of cerebellar tumor (Gowers). 6. Sensory symptoms, as paresis, paralysis, anesthesia, deafness, etc. 7. Mental disturbances and derangements of speech. 8. Stupor and coma, common as terminal phenomena.

The chief points of interest in the clinical history of this case are that they were able to make a reasonably positive diagnosis several months before the fatal termination, and that the diagnosis was based very largely upon negative symptoms.

The patient was a girl, aged 7 years, of good family history—brothers and sisters, parents and grandparents, all living and healthy, with no evidence of venereal disease in the family. This child seemed less rugged than her four brothers and sisters—less resistant to disease. During gestation with this child the mother suffered from sunstroke. At the age of 2½ years she was ill five weeks; at 3½ years one week, and at 4½ years two weeks with gastro-intestinal trouble accompanied by fever. His acquaintance with the patient began at the time of the last mentioned illness. He observed no special sign of intracranial disease, but recalls that she had severe headache, which he attributed to febrile action. The next time she came under his observation was on an abnormally warm day, about Oct. 1, 1897, when she was 6 years old. She had been running and playing violently, and appeared to be overcome by heat. The presence of severe headache, cardiac depression, and other symptoms, led him to treat the case as one of mild sunstroke. While the symptoms of depression yielded promptly, the headache persisted, and after two days she had paroxysmal pain, somewhat intensified in the suboccipital region, together with retraction of the head. The temperature ranged between normal and 100 degrees F. Under treatment suitable for meningeal irritation or subacute meningitis, the symptoms subsided within a few days. After the acute symptoms had vanished, the mercurial and iodid treatment was instituted, for possible syphilitic disease. For seven weeks she had no further trouble, save paronychia of several fingers, which, however, yielded to simple antiseptic treatment and was not considered as either tubercular or syphilitic. Then recurred violent paroxysmal headache, even more severe than that of the first attack, together with pain somewhat localized in the suboccipital region and extending down the back of the neck. During the paroxysms of pain there was frequent retraction of the head with brief tetanic rigidity of the whole body.

These paroxysms of headache usually lasted several hours, but the intense pains were momentary, or, at least, of short duration. There was slight photophobia. The temperature was usually normal and never above 99.5 degrees F., during this exacerbation. The pulse was about normal in frequency and rythm, tongue coated and bowels constipated. The active symptoms subsided within ten days.

At this time Dr. R. B. Preble saw the case with him and made careful neurologic investigations. The eyes were examided under a mydriatic, and they found a portion of each disc at the border less clearly defined than normally—slightly choked. Ophthalmoscopic examinations made on three or four different days yielded the same result. There was no disturbance of the functions of the cranial nerves or spinal cord. The patient's condition of lowered vitality was no more than might be attributed to decreased ingestion of nutriment during the periods of suffering.

These were all the positive symptoms observed in the case up to December, 1897. On these findings, and by exclusion, the diagnosis was based, which was intracranial tumor of undeterminable character and location. He had previously observed several cases presenting a similar symptom-complex in which tumors were located beneath the tentorium. In the belief that he possibly had to deal with gumma, the mixed treatment was continued, and during the next four or five weeks, or until January, 1898, she progressed favorably. She then passed from his notice until Sept. 21, 1898, the day before her death. She was in a condition of stupor during the last two or three days before her death and subject to frequent tetanic convulsions. The mother states that from January on the child had an exacerbation once every two to four weeks, with the symptoms gradually increasing in severity. The only new symptoms observed by her were partial amblyopia and progressive muscular weakness present during the last few weeks.

A few words as to the basis of diagnosis. It was considered that the diagnosis lay between tubercular meningitis, intracranial abscess and tumor. The two former were excluded on account of the chronicity of the disease and the absence of the forerunners and prodromes of these affections. Besides, the clinical picture was almost wholly at variance with what is usually seen in tubercular meningitis and abscess.

The autopsy was made by Dr. Preble and himself and was confined to the cranium. The membranes and entire surface of the brain seemed perfectly normal and the ventricles contained the normal amount of fluid. In short, nothing pathologic was encountered until they came to the cerebellum, and here the tumor was discovered in the middle lobe. The cerebellum and medulla were transferred to Dr. Herzog, who will make the pathologic report.

Dr. MAXIMILIAN HERZOG then made the following report of

A PECULIAR EPENDYMAL CYST OF THE CEREBELLUM, WITH SOME REMARKS CONCERNING THE NEUROGLIA.

Attention has been called by several writers to the fact that the ependymal epithelium lining the central canal of the cord and the ventricles of the brain may, under certain conditions, undergo extensive changes of a proliferative type. Von Kahlden, like Stieda, whom he quotes in his article, has seen proliferative changes in the ependymal epithelium in consequence of the presence of cysticercus cellulosa. Of more moment, however, than such secondary and relatively unimportant changes are primary proliferative processes occurring in the ependyma. Stroebe, who in gliomata saw cavities lined with epithelium, which he takes to be embryonic inclusions (diverticula from the original neural canal), is of the opinion that such inclusions are the essential cause of the formation of gliomatous tumors.

Leaving glioma out of consideration, the histogenesis and etiology of which are by no means settled, there remain in the central nervous system at least two forms of tumors, the origin of which from ectodermal embryonic inclusions appears to be beyond doubt, the dermoid and the cholesteatoma. That the latter are derivatives of the ectoderm and not, as some have believed, endotheliomata, is strongly suggested by the fact, quoted by Oppenheim, that in some cases little hairs were found included in the epithelial pearls of the cholesteatoma.

It may appear somewhat strange to speak first of proliferative processes of the ependymal epithelium of the central canal and the ventricles, and then couple with these considerations the origin of dermoids and cholesteatoma of the central nervous system. It should, however, not be forgotten that there are concerned in all three cases proliferative processes of structures primarily derived from tissues of absolutely the same histogenetic origin. Only after the epithelial cells of the ectoderm have been well differentiated as such, are formed the medullary plate and later the medullary groove. The latter is first lined by epithelial cells (as Dr. Herzog himself has been able to observe in the chick embryo, the sheep embryo, and in one very young human embryo 2.5 mm. long with the neural canal still partly open), which have exactly the same character as the other epithelial cells of the ectoderm, which later on give rise to the epidermis, its hirsute appendages, and its glandular apparatus. These points are emphasized here, because the epithelial cyst to be described presently presents some features which might easily induce one on superficial examination to classify it as a dermoid which, in his opinion, it is not at all. He believes it to be a formation originating from the epithelium of the early neural canal.

The cyst under discussion occupies the site of the vermis inferior of the cerebellum, the posterior end projecting into and partly obliterating the incissura posterior. The commissura brevis, the pyramid and the uvula of the inferior vermiform process have disappeared, as all of that structure posterior to a line drawn through the middle of the amygdalæ has become replaced by the cystic tumor. The latter has apparently displaced the postero-median parts of the hemispheres outward, so that the vallecula, instead of being a deep and comparatively narrow depression, has become a wide, shallow one. The long axis of the cyst is identic with the long axis of the furrow between the two hemispheres, and measures a little over 4 cm. Transversely the diameter of the cyst is about 3 cm., and vertically (from roof to floor) between 2 and 3 cm. At the anterior pole of the cyst its upper and lower walls are in complete juxtaposition, and they project as a solid bud or, if this term be admissible, as a solid diverticulum into the nodule—the only part of the inferior vermiform process left. The nodule is practically intact, and consequently the cyst has no connection with the fourth ventricle. In growing, the cystic tumor has found room for its enlargement more by pushing aside and compressing than by directly destroying or replacing normal tissues. The posterior part of the inferior vermis has almost entirely disappeared, while the superior vermis is almost intact, and the gray matter of the hemispheres, the central stem of white matter, the corpus dentatum, and the nucleus tacti are macroscopically normal.

The cyst wall consists of a whitish, somewhat shiny tissue, which is composed of thin scaly lamellæ which can be separated into still thinner flakes and also teased into fine, long fibers. When first examined by the writer, the cyst had ruptured and discharged an abundant amount of the scaly masses first mentioned. The rupture had occurred in the lower wall, which at the point of rupture was as thin as brown paper and appeared covered only by a very thin film of soft granular, disintegrated gray matter. To all appearances, the rupture was an artefact produced during the removal of the brain.

Microscopic examination.—Pieces from the cyst wall, including the neighboring cerebellar tissue, were hardened in a mixture of Mueller's fluid and formalin, embedded, sectioned and examined with various stains. At the point near the anterior pole, where the cyst projects into the cerebellar tissue, the wall was found to be composed of the following elements: The inner cyst wall proper is formed by several layers of cuboidal epithelium. Next to this, i. e., external to it, is a tissue composed of cells, more or less spindle-shaped, the nuclei of which, as a rule, do not take the nuclear stain very well. In some places nuclei are almost entirely wanting, and instead of distinct cells only a granular débris is found. Here are also found some cells in appearance like polymorphonuclear leucocytes. Next to the tissue described is found a zone with cells of the character of those in the granular layer of the cerebellum, and among them a few large non-nucleated masses, which one might take for degenerated Purkinje cells. The whole of the tissue so far described, excepting, of course, the epithelial cells, creates the impression of being the degenerated remnant of the former gray matter of the vermis inferior. This gray matter had apparently, in consequence of the pressure exerted by the growing cyst, become atrophic and degenerated. Fibrous, wavy, connective tissue, poor in nuclei in some places, richer in other places, and containing blood-vessels—the pia arachnoid—separate the cyst from the gray substance of the hemispheres. This appears normal, as far as can be judged from the methods of staining employed.

Interest mainly centers upon the epithelium forming the cyst wall proper. It consists of several layers of stratified cuboidal cells. These cells are, however, regularly cuboidal only in the outermost layer. Toward the interior of the cyst they become more changed in shape and type. In some places there can be seen a light ring around the cell outlines, or rather, a light space between neighboring cells. Distinct intercellular bridges, however, cannot be made out. The changing cells do not, however, assume the type of cornifying epithelium of the epidermis or of a true typic dermoid cyst. The epithelial cells are changed into slender bipolar fusiform cells with two long processes. While the cell as a whole is changed in type and character, its nucleus, previously round, becomes oval or more or less rod-like, and there appear in the cell protoplasm granules, highly refractive and taking up the nuclear stain. The more elongated the cell the finer are the granules, which now stain less intensely with the nuclear stain. Finally, we find long, slender, stiff fibers which contain no distinct granules. These fibers, however, retain a certain degree of affinity for the nuclear stain, which they take up in a slight homogeneous, diffuse manner. Besides the hematoxylin-eosin method, several other stains were used with the following result with reference to the fibers: Picrocarmin, yellowish with a tinge of red; Van Gieson, brownish-violet reddish; Gramm, light violet. The new specific methods for staining neuroglia fibers were likewise tried. They did not furnish any satisfactory results, as was to be expected from the fact that the specimen was only obtained quite a time after postmortem.

From the results of the staining methods, we see that the fibers derived from the epithelial cells behave similarly to cornified substance, though not quite the same. A digestion test made with the scales which came out of the cyst is not free from objection, since it was only made after the scales had been in the Mueller-formalin fluid. After removal from this fluid the scales were washed three days in running water. Artificial gastric juice acting upon these scales for two days at brood oven temperature had no visible effect upon them.

He maintains that on account of its anatomic position and on account of the make-up of its wall, the cyst described can not be looked upon as a dermoid, but must be considered as a diverticulum of the fourth ventricle which had become cut off from its original place of origin. In considering the process of cornification in the epithelial cells of an ependymal cyst, he briefly referred to some embryologic and other work concerning the neuroglia in which he has been engaged for some time.

He believes with Weigert that the so-called glia fibers are something absolutely distinct from the glia cells and are not processes of the latter. However, some of the neuroglia cells certainly have protoplasmic processes. Such bipolar and unipolar glia cells occurring in gliomata have been described and pictured in an excellent paper by Taylor. Dr. Herzog has likewise found such cells in gliomata, and demonstrated them about a year and a half ago before the Chicago Pathological Society.

Concerning the embryology of the ependymal epithelium and the neuroglia, reference must be again made to what has been said at the beginning of this report. At the time when the medullary plate and the neural groove are formed, those cells which later on formed the ependymal epithelium and the neuroglia and those ectodermal cells which later on form the epidermis are absolutely alike in character. The ependymal epithelium also shows and preserves another feature which reminds one of the regeneration of the epidermal epithelium. The formation of the neuroglia takes place, at least early in embryonic life, only from the layer of ependymal epithelium lining the neural canals. In these embryologic considerations the term "neural canal" is used in the sense of the whole neural canal, and it includes what later on becomes the ventricles (ependyma) as well as the central canal of the cord. The newly-formed cells, which later on become the neuroglia cells, are pushed in a radial manner from the center toward the periphery. He has been able to observe in the young chick embryo, in the sheep embryo, and in two human embryos, the latter about four to five weeks old, obtained by hysterectomies and fixed immediately after removal, that the karyokinetic figures are all found directly around the neural canal. The formation and regeneration of the neuroglia occurs, therefore, at this place. In older chick and sheep embryos he has noticed that karyokinetic figures are also found at the opposite side, namely, at the outer surface of the central nervous system. He believes that these observations will explain the fact, brought out so prominently by Weigert recently, that in the ependyma of the ventricles and around the central canal of the cord there are always found densely packed neuroglia fibers in great abundance. Weigert further states that numerous neuroglia fibers are also found on the surface of the central nervous system. These findings may be easily explained from the study of the early embryonic formation of the neuroglia, which also explains why the glia cells in the embryo are arranged in a radial manner. The newly-formed cells in the central canal push the older ones outward toward the periphery. This is the true state of affairs, and not, as Sala y Pons (quoted from Weigert, p. 125) somewhat adventurously assumes, that the peripheral process of the ependymal cell draws the cell toward the periphery by ameboid motion.

The embryologic observations mentioned, as well as observations made in the examination of gliomata, impressed him with the idea that the neuroglia cells, like their near histogenetic relatives, the epidermic cells, in the course of time go through a process of cornification; and that from the young simple glia cell there is finally formed the differentiated glia fiber of Weigert. Gierke, who, however, still looks upon the glia fibers as cell processes, expresses the opinion that these fibers are a cornified material. It seems, however, that Gierke's view was almost forgotten until Weigert again mentioned it. The latter, however, does not believe that the glia fibers are a cornified substance. His impression that the glia cell finally becomes the glia fiber by a process of cornification, was particularly formed by considering, on the one hand, the early embryology of the ependymal epithelium and the neuroglia cells, and, on the other hand, the fact of the later existence of the distinct glia fiber. It is evident that the distinct glia fiber must in some way or other be derived from the glia cell. However, he does not wish to be understood as believing that the distinct glia fiber of Weigert in its intrinsic nature is absolutely identic with a cornified epidermal epithelial cell. What he does believe is that we are dealing with two tissues, absolutely identic in their earlier histogenetic origin, but differentiated very much, later on, *going through a final senile process, which is very much alike in both instances.*

Concerning the cyst under discussion, the claim that it originated in a diverticulum from the fourth ventricle early in embryonic life, finds very strong support in comparative embryology. Lahousse observed in the chick embryo the cerebellum is developed around a diverticulum of the fourth ventricle. Minot thinks it probable that in the mammalian embryo the cerebellum is developed in a similar manner, but that the diverticulum is obliterated by the growth of the cerebellar walls. Observations are wanting, however, as Minot states, to verify this supposition, and there is, according to Koellicker, never any large diverticulum present normally. He would have to look upon this anomaly as an atavism.

It is also interesting to note that Virchow has described a cerebellar cyst of which he says: "It (the cyst) is nothing else but a diverticulum (Ausotuelpung) of the fourth ventricle which has been transformed into a sacculated nodule." All indications, therefore, are in favor of the claim that in this case we are dealing with what was originally a diverticulum of the fourth ventricle. The epithelium lining the cyst was consequently derived from the ependymal epithelium. The latter, as well as the neuroglia derived from it, normally do not show such cornification-like processes as were found to exist in the cyst epithelium. On the contrary, we are dealing in the cyst wall with a tissue change, a metaplasia, which approaches the type of cells neither ontogenetically nor phylogenetically as highly differentiated as the ependyma and the neuroglia. Such an occurrence might properly and significantly be called an "atavistic metaplasia," and it is undoubtedly of a great deal of interest in showing us the way in which ependyma and glia may have in the course of their phylogenetic differentiation become specialized to their present type of senile changes.

It has been previously noted that the ependymal epithelium has a tendency under other pathologic conditions to behave similar to the epidermis epithelium, namely, when we have to do with cylindric cell carcinomata arising from the epithelium of the ventricles. In such tumors there have been found epithelial pearls (cornified epithelium) identic with the same structures of skin cancers. We are likewise in such a case undoubtedly dealing with an "atavistic metaplasia" of the ependymal epithelium.

In conclusion, if a hypothetic etiologic remark may be permitted the pathologist, it would be: possibly the sunstroke the mother had while pregnant may stand in some causal relation to the diverticulum formation in the embryo, and that the neoplastic, proliferative changes leading to the formation of the finally fatal cyst were started up in the embryonic inclusion by the sunstroke from which the child suffered in 1897.

Dr. Reuben Peterson, at a previous clinical meeting of the society, reported

A CASE OF EXCISION THROUGH THE ABDOMEN OF NINE INCHES OF THE RECTUM AND SIGMOID FLEXURE FOR TUBULAR STRICTURE. RECOVERY WITH PERFECT SPHINCTERIC CONTROL.

Mrs. K. R., married, aged 35 years, family history negative, no history of congenital syphilis, the menstrual periods, although painless, have never been regular, was married fourteen years ago, and three years later gave birth to a male child, which has shown no constitutional taint. No history could be obtained of acquired syphilis, gonorrheal infection, or ulcerations about the anus, or within the rectum. Since girlhood the patient had suffered from an obstinate form of constipation, evidently aggravated by neglect, as she only went to stool at intervals of several days. Eight years ago she noticed that the fecal masses were becoming smaller and flattened. From this time up to the present she has experienced more and more difficulty in evacuating the bowel until before applying at the clinic, she had not had a passage for nearly two weeks. Of late she has had considerable discharge of pus and slime from the rectum. For the past year she has gradually been losing in flesh and strength. Examination showed the patient considerably emaciated. Heart, lungs and kidneys were normal. There were no physical characteristics of constitutional disease. A vaginal examination showed the uterus to be retroverted, and the appendages to be enlarged and adherent. Rectal examination revealed, one inch above the external sphincter, a dense tubular stricture of the rectum through which the finger could not be forced. By the vagina the thickened gut wall could be traced upward some inches, although the upper extremities of the thickened tube could not be reached. The patient was placed upon cathartics for some weeks, and the intestinal tract kept cleared as well as possible. She was admitted to the Charity Hospital, and the sigmoid flexure above the stricture was carefully cleansed by a large amount of water passed through a slender rectal tube, which could be just pushed through the stricture. Dr. J. B. Bacon kindly saw and examined the case with me, and thought that the beginning of the stricture was high enough above the sphincter to allow of a fistulous communication being made between it and the sigmoid.

The operation was performed before the class at the Post-Graduate Hospital last March. The patient was placed in the Trendelenburg position, and the adherent appendages, consisting of a hydrosalpinx on the right and a dermoid cyst on the left side, were quickly removed. Then I tried to carry out Dr. Bacon's suggestion, which, as you know, is bringing down the sigmoid and by means of the Murphy button establishing a fistulous tract between it and the portion of the gut below the stricture. In separating the vagina from the rectum, my finger slipped through the friable structure and I had an infected pelvis. There was nothing left for me but to remove the rectum through the abdomen, which I proceeded to do as quickly as possible. I tied off the superior hemorrhoidal artery below the promontory of the sacrum, thus securing a bloodless operation, the patient not losing more than a tablespoonful of blood during the rest of the operation. I incised the peritoneum on either side of the rectum and sigmoid and enucleated them until I got below the point of stricture. It was too deep down in the pelvis to do an anastomosis through the abdomen. I had the bowels protected by gauze, so I invaginated the lower portion of the gut outside of the anus and then drew down the upper portion, and did a modified Monsell operation through the anus. In other words, I had peritoneal surface against raw surface. I let the parts slip back, and after suturing these together, protected the joint by gauze packed through the abdominal incision. In spite of the length of the operation, two and one-half hours, the patient had no shock, for the reason that she did not lose blood. I had infected the pelvis, and upon withdrawal of the gauze on the third or fourth day, there was a high temperature and a recto-abdominal fistula resulted. This gradually closed, until now there is only a small opening through the abdominal wall, which causes her very little inconvenience and is healing.

The interesting points in regard to the case are the removal of the rectum through the abdomen and the preservation of the sphincter. She has perfect sphincteric control. Just at the point of union of the two ends of the gut there is a slight stricture, admitting, however, the passage of the forefinger with ease. Her bowels move every day, she has gained sixty pounds in weight, and considers herself a well woman.

It is too late to go into the objections to the operation, or to bring up points in its favor, but whatever may be said in regard to the radical excision of rectal strictures, certainly in a case of tubular stricture of such extent as this, we are justified in excising it radically, because we transfer a stricture which extends over a distance of eight inches into an inferior stricture which can be readily dilated and controlled. I think if sepsis could be prevented and we could get complete union of the gut, there would be very little stricture remaining in these cases. I let the bowel slip back after I had made anastomosis outside of the anus. That, I believe, was a mistake, and is too dangerous to repeat, because we have a peritoneal surface coming against a raw surface, and union does not take place so readily as where two peritoneal surfaces come together. In another case I would hold both ends outside by sutures until the latter cut through and allowed the gut to gradually slip back within the pelvis. I have experimented on a number of cadavers and have found that when you cut the mesosigmoid and mesorectum, the lower portion of the sigmoid can readily be brought down through the anus. The operation is exceedingly easy when done through the abdomen; when done through the bowel, or by the Kraske operation, it is exceedingly bloody, and the shock to the patient is considerable.

At some future time I shall present at more length the results of my experiments on the cadaver.

San Francisco Eye, Ear, Nose and Throat Surgeons.

December Meeting.

Dr. BARKAN presented an unusually interesting case of syphilitic disease. The patient was a woman of about 25 years of age, three months married. The husband had been treated for syphilitic disease of the eye several years before; it was not known whether there had been illicit intercourse between the two prior to marriage or not. The family history of the patient was negative. No history of any trouble that would tend to point to congenital syphilis could be elicited. The right eye was the seat of syphilitic gummata of the iris, so stated Dr. Barkan, with plastic exudate that could be plainly seen on examination, by the members of the Society. The lumpy appearance of the iris was also quite visible, but the fact was pointed out by Dr. Martin that these lesions of the iris were of the nature of papillomata rather than gummata. The left eye showed a very unusual condition. In the median line of the eye and immediately below the margin of the cornea, slightly encroaching upon the cornea itself, a large mass was to be seen. The conjunctiva was greatly congested. The mass was about the size of a small hazelnut, somewhat larger in its transverse than in its longitudinal dimension. At the top of the tumor was a small greyish spot which Dr. Barkan said had developed within the last few days; this was apparently the commencement of a sloughing process. On the forehead, just above the inner angle of the right eye was a large dry scab surrounding a deep pit, also dry. On the forearms were four large, round scabs covering ulcerating areas, two on each forearm, the arrangement being symmetric on the two forearms. These areas were about five-eighths of an inch in diameter. On the back were several more sores of the same general size and character, and on the right leg was another similar sore. On the right tibia, at the upper end of the lower third, was a very marked gumma, about two to three inches in diameter, and very hard. It seemed to be a well-marked case of tertiary syphilide.

Some discussion arose as to the probable seat of the gumma of the left eye. The question as to whether it was situated in the tissues immediately below the conjunctiva, or whether it was a gumma of the uveal body which had grown upward and outward, was discussed at some length. No definite conclusion was arrived at, however.

In the matter of treatment, also, some difference of opinion was called forth. Dr. Barkan stated that the treatment he was now giving the patient consisted of inunctions of mercurial ointment together with twenty grains of iodid of potassium, three times daily. He also stated that he should increase the iodid up to thirty grains three times daily. The advisability of giving very much larger doses of the iodid was suggested by several members, who stated that their experience led them to use doses as high as 100 to 150 grains, three times daily. By other members it was claimed that a maximum effect could be obtained with very much smaller doses; 20 to 30 grains, t. i. d. The prognosis, it was agreed, was bad; the probabilities being that the left eye would slough before the iodid or other treatment could be made to have its proper effect.

Dr. POWERS introduced a patient he had previously brought before the Society, in whom he had found a tumor of the left eye, intra-orbital. After seeing the patient for some time, and carefully examining him upon a number of occasions, he elicited the fact that the man had had the end of his thumb removed, in London, for what he said the doctors there had told him was syphilis. No other history could be made out. Upon the assumption that this might be the case, proper syphilitic treatment was employed with almost immediate benefit. The tumor had very materially reduced in size, and the objective and subjective symptoms had very much changed for the better.

The question of adding to the literature relating to the eye, ear, nose and throat in the library of the San Francisco County Society was brought up, and after some discussion it was decided to vote the sum of $50 to be expended by Drs. Philip Mills Jones and Kaspar Pischol, in purchasing as many numbers as possible of the volumes missing from the files of the principal journals on the subjects noted.

PRACTICAL NOTES.

Dressing for Psoriasis.—Unna uses a collodion made of chrysarobin and salicylic acid, ãã 2 gm.; collodion, 20 gm.

Salve for Pruritis.—Benzoinized lard 40 gm., Sydenham's laudanum 4 gm., chloroform 3 gm., extract of belladonna 2 gm., extract of conium 1 gm. (Lutaud).—*Jour. de Méd. de Paris*, December 4.

Accidents from Dermatol.—A Russian exchange relates that dermatol caused severe inflammation in two cases in which it was applied to the penis; its use for this organ seems to be counter-indicated.—*Nouv. Remèdes*, October 24.

Hernia Disposition.—Kocher observes that he always investigates the other side when operating for hernia, frequently finding and remedying an evident weakness of the abdominal wall at that point.—*Cbl. f. Chir.*, November 12.

Dressing for Wounds.—Lutaud recommends dusting the wound with the following: Zinc oxid and starch ãã 15 gm., tannin 2 gm., crystalized phenic acid .50 gm. This powder, kept in place with a pledget, is especially effective for ulcerations of the cervix.—*Jour. de Méd. de Paris*, December 4.

Ablation of the Gall-Bladder.—De Voogt's experimental investigations confirm Oddi's assertions that extirpation of the gall-bladder is far from a serious operation, and that the organ grows again afterward, hence it is not a permanently effective measure against cholelithiasis. It is only indicated in case of neoplasms or much degenerative changes.—*Cbl. f. Chir.*, November 5.

Iodoformogen.—E. Kromayer endorses this odorless preparation of iodoform as the best method of applying iodoform which we possess. It consists principally of albumin and iodoform; is three times lighter than the latter and its odor under the dressings, even on extensive wounds, is not perceptible. It favors the production of granulations and a rapid epithelial epidermization, as he has established by experience with over a hundred patients.—*Annales de Derm.*, October.

Chemic Effect of Sterilizing Milk.—Wroblewski sterilized each element of the milk separately and found that the altered appearance and taste are due to a caramelizing of the milk sugar, with the formation of a small amount of lactic acid, also that the albumin was coagulated, and the casein partially precipitated. Pasteurizing produces the same alterations in a slighter degree. His tests prove that sterilizing milk does not render it any less digestible.—*Deutsche Med. Woch.*, December 15.

Thyroid Treatment in Fractures.—Some cases have been recently reported in which thyroid treatment proved promptly effective in promoting the consolidation of the bone after a fracture. Reclus observes of one case: "the large callus melted away before our eyes, and the consolidation was rapidly effected," although his experience was negative in two or three other cases.—*Presse Méd.*, December 3.

Curare in Epilepsy.—Professor Kunze reports three cases permanently cured to date and three very much improved, out of thirteen treated. One promised a successful result but is still recent. The majority were severe and inveterate cases. Two other cases of hystero-epilepsy were not affected. He injects a third of the following solution every five days, and has never noted pain, reflex disturbances nor indications of intoxication: Curare .5 gm., aq. dest., 5 gm.; hydrochloric acid 1 drop. Set aside for twenty-four hours and filter.—*Jour. de Méd. de Paris*, December 11.

Myxedema and Sleep Disease.—Several writers in the *Presse Méd.* of late have commented upon the similarity that exists between these two affections, which suggests similar treatment. They have, in fact, applied thyroid treatment to the latter with considerable success. In one case there was concomitant hypertrophy of the thyroid gland. Both affections seem to be due to an intoxication from anomalies in the secretions of this gland, usually combined with hepatic insufficiency. Abstract in *Munich Med. Woch.*, December 6.

Serodiagnosis in Typhoid Fever.—C. Tarchetti concludes from a comprehensive study of a number of cases, that the intensity of the agglutinating power depends upon two factors: the character of the infection and the resistance of the organism, but that it is extremely difficult to draw any reliable conclusions in regard to the prognosis from a comparison of the height of the thermic curve with the curve of the agglutination.—*Gazz. degli Osp.*, November 6.

Bright's Disease.—Lemoine recommends the following potion to stimulate the cutaneous perspiration in cases of Bright's disease with uremia imminent: Pilocarpin hydrochlorate, .01 gm.; mucilaginous vehicle, 100 gm. Take three to six tablespoons a day. This amount of pilocarpin is not sufficient to cause any disturbance, and yet it effectively stimulates the functions of the skin.—*Semaine Méd.*, December 7.

Applying a Stomach Fistula.—M. M. Trofimow cuts an oval flap five by three centimeters, and turns it over backward, the broad end upward, suturing it in place. Four stitches are then taken across the hole, drawing it together until nothing is left of it but a triangular opening at one end. Four stitches are then taken at right angles, two at each side of the fistula. When drawn up, the first stitches are entirely concealed and a round opening left, with the folds working as a perfect valve. He has thus operated three cases with great success, but in his two last, he saw a little pus in the abdominal cavity.—*Cbl. f. Chir.*, November 12. Illustrated.

Captol.—J. Eichhoff finds that captol, a combination of tannin and chloral, has a remarkable effect on seborrhea of the scalp accompanied by pruritus, desquamation and loss of hair. He recommends the following formula: Captol, chloral hydrate, and tartaric acid ãã 1 gm., castor-oil .5 gm,, spirit of lavender q.s., wine alcohol, 65 per cent., 100 gm. Another effective formula substitutes resorcin for the chloral and adds of salicylic acid .7 gm. Apply a small amount in the palm of the hand once or twice a day, with friction until dry. The effect is more rapid with dry than with oily seborrhea.—*Annales de Derm.*, from *Derm. Ztft.*, 1888, p. 25.

Aid to Diagnosis of Cancer of the Stomach.—Guinard states that by insufflating the stomach it is possible to disclose the existence of a tumor otherwise undiscoverable. If a tumor disappears after insufflation it shows that it must be located on the posterior wall. He insufflates with the tube and bulb of a thermocautery. The subject takes 25 to 30 centimeters of the tube in his mouth, first dipped in water or glycerin, and swallows it as he drinks a little water, like a tube of macaroni. He remarks: "some persons object, but with a little patience, authority and persuasion one arrives."—*Presse Méd.*, December 3.

Operating Uterine Fibroma.—Chandelux has noticed that if the cervix is completely effaced in case of a voluminous fibroma, there is reason to assume a subperitoneal extension of the tumor, creating serious operative dangers. When the cervix has retained part of its normal characteristics, the tumor can usually be pediculized and hemorrhage arrested by compression of the pedicle, but if it is deformed or effaced, fatal hemorrhages may ensue in the course of an operation.—*Semaine Méd.*, December 7.

Treatment of the Ears in Whooping-Cough.—G. A. Stephens has found that the paroxysms of coughing diminished or ceased altogether after treating the ears, which often in this disease have a serous or purulent secretion or are merely sensitive to pressure. After washing the ear morning and night with warm boricated water, he paints the external passages and the membrana tympani with the following: cocain hydrochlorate 1.25 gm., glycerin 16 gm., Van Swieten's solution 20 drops, aq. dest. 15 gm.—*Semaine Méd.*, December 7.

Electric Treatment of Hysteric Gastralgia.—Certain gastralgias of evidently hysteric origin may simulate an early and frequently isolated symptom of tabes. These two forms of gastralgia may be differentiated by well applied franklinization, as in a case reported by Apostoli and Planet, which had resisted all treatment for ten years, and led to the diagnosis of tabes, cured with franklinization alone. Static electric treatment reveals the hysteric origin, as it indicates the peripheral anomalies in the sensibility, and applied with patience, cures the hysteric gastralgia completely.—*Gaz. Méd. de Paris*, December 2.

Baldness After Use of Thallium Acetate.—The JOURNAL has mentioned the case of sudden alopecia in a woman 47 years of age, resulting from taking nine doses of three centigrams each of thallium acetate, recommended for the night sweats of phthisis. Paul Berthod draws a moral from this case and preaches greater caution in the use of new remedies, "in these days of lack of confidence in the profession." A third of the patient's scalp is completely bare, and although a few hairs have sprouted during the six weeks since, the majority seem definitely destroyed, with atrophied bulbs.—*Annales de Derm.*, November.

Phenic Acid in Severe Erysipelas.—Fedele reports a case of erysipelas of the face and scalp, with fever at 41 degrees C., delirium, and other alarming symptoms, which resisted the usual treatment but yielded to hypodermic injections of phenic acid: aq. dest. 100 gm., alcohol 4 gm., phenic acid 2 gm. A hundred and ten injections were required during the eight days before complete cure, a total of 220 centigrams of phenic acid. Luciani ascribes this tolerance to the combination of the phenol with sulphuric acid, producing phenol-sulphuric ether, which the organism can tolerate to a much greater extent. Ascoli suggests that possibly in an acute infection the organism has an enlarged protective mechanism at its disposal that preserves as well against acid intoxication.—*Gazetta degli Osp.*, October 23.

To Apply Dressings to the Knee and Elbow.—Unna applies a layer of zinc oxid glue to the extensor muscles, above and below the articulation, and then paints a strip five centimeters wide around the limb, leaving the front of the joint untouched. The desired salve or plaster is then applied to the joint, covered with an impermeable cloth and then with a layer of the zinc glue. A long strip of gauze is then wound around the whole in a figure 8, crossing on the point of the elbow or knee, while the inner bend is left exposed. The outer layer of gauze is then painted with glue and a layer of cotton applied. This dressing remains in place, does not interfere with the movements of the joint, and can be left for several days.—*Semaine Méd.*, December 7.

Oxygenated Water.—Lucas-Championniére and Laborde recommend oxygenated water as a powerful and harmless antiseptic, with hemostatic properties that entitle it to a higher place in therapeutics. The former asserts that it is not adapted for topic applications, but that its value lies in its efficacy in lavages. He has found it particularly useful in preparing the vagina for hysterectomy, and for intrauterine injections after abortion with fetidity and temperature, for which it is as effective as curettement. Laborde states that it can be introduced into the veins without danger, and thus be applied to destroy ahthrax germs in the blood.—*Bull. of Paris Acad. of Med.*, December 6.

Metal Clamps for Bone Prothesis.—Anghel has devised a steel clamp—a bar shaped like a prism, with pointed ends at right angles, to hold the bones together. The sharp edge of the prism sinks into the tissues and holds it firm so that massage can be applied at once and the patient be allowed to walk. Juvara's device is a silver plate with projecting tongues and corresponding holes on the other end, so that it fits tight around the bone, the tongues inserted into the holes holding it close and firm like a girth. Neither of these clamps has been tested, except on the cadaver.—Bucharest, *Revista de Chir.*, 1898, 1.

Exosplenopexy.—Houzel operated an enormously hypertrophied spleen by suturing the parietal peritoneum to the spleen capsule, thus exposing the larger part of the spleen to the air, hoping that the portion of the tissue thus exposed would necrose off without contact with the peritoneal cavity. The bold experiment succeeded, and the woman is now, twenty months later, working on a farm. After four weeks of suppuration that did not seem to affect the general health, a portion of the spleen as large as a man's hand sloughed off, and the laparotomy wound could be closed six weeks later. Stolper relates a case in which the spleen had necrosed and become a hard mass in the organism, without contact with the air, and only discovered at the necropsy.—*Cbl. f. Chir.*, December 1.

Saline Injections in Burns.—When the surface is much burned the circulatory apparatus, becoming chocked by the thickening of the blood from loss of serum, may entail the most serious consequences and even death, as in a case Vignier reported years ago: a man fell into boiling water, which caused such a coagulation of the blood that none issued when a vein was opened. Large injections of salt solution dilute the blood to its normal fluidity and restore normal conditions. Besson describes a case of extensive burns in which he injected ten liters of salt solution in five days, with the result that the delirium was arrested at once, the kidneys restored to normal and the patient was soon cured, when the prognosis had been most serious.—*Jour. des Sc. de Méd. de Lille*, December 3.

Wandering Kidney and Appendicitis.—Edebohls stated in 1894 that he had found 60 per cent. of his cases of appendicitis in woman accompanied by wandering kidney, and later experiences confirm this assertion. Chronic appendicitis is the most constant consequence of wandering kidney, which presses against the head of the pancreas, thus compressing the superior mesenteric vein against the vertebræ, determining a chronic stasis in the appendix. The connection might even be traced still further and it be shown that both appendicitis and wandering kidney are due to some relaxation of the peritoneal supports. In twelve cases the appendicitis was cured by nephropexy. If the appendicitis is of long standing, ablation is indicated.—*Cbl. f. Gyn.*, No. 40.

Tertiary Syphilitic Lesions Without Antecedents.—Viannay found that over one-half the women in a hundred cases of typic tertiary lesions investigated at the hospital, were unable to recall any primary or secondary manifestations. In the rest the findings were only positive in thirty-two cases, and in half of these there was merely a history of abortions or children dying young; no specific lesions. He considers, therefore, that in hospital practice every affection that syphilis can entail directly or indirectly, is undoubtedly due to it, in 48 per cent. of the cases at least. He also proves by personal and other statistics, the positive syphilitic origin of tabes, general paralysis and spontaneous aneurysms in women, in the same or even a larger proportion, although they follow a severer form of syphilis and the early manifestations did not pass unnoticed. but required treatment.—*Annales de Derm.*, October.

Modern Treatment of Tetanus.—The *Progrès Méd.* of December 3 describes a severe typic case of tetanic infection cured by treatment directed against: 1, the tetanic bacillus which remains at the entering point, where it generates its toxins; 2, against the association of the anaërobic Nicolaier bacillus with other microbes, which enhances its injurious effects; 3, the toxins passing into the blood, and 4, the effect of the toxins on the nerve centers. The large wound on the arm was treated about every second day with an arm bath of a solution of potassium permanganate, to avoid secondary infections. The intoxication was kept under control by lavage of the blood, venesection, which eliminated a certain amount of the toxin, and the injection of antitoxin to neutralize the toxin left in the circulation. Chloral was given to diminish the erethism. The patient, a mason, 40 years of age, was able to sit up by the end of a month of suffering and was discharged cured twenty-five days later, although the prognosis had been most unfavorable.

Winkelmann's Operation for Hydrocele.—Winkelmann has been practicing for a year and a half with most satisfactory results, a very simple but radical method of treating hydrocele. The fluid is released through an incision three to four centimeters in length, nearer the upper pole, after Schleich local anesthesia. The testis is then drawn outward as far as possible until stripped of the serous tunica vaginalis covering, which is thus turned wrong side out. A stitch or two is taken to prevent the testis from slipping back into its sac and the testis and the tunica are replaced, and the skin sutured. Adherences soon form, and this harmless operation proves as effective as the more radical ones. The testis is a trifle higher than normal, and a slight edematous swelling may form for a short time, but there are no other inconveniences, and the patient can be dismissed at once, as there is no danger of hemorrhage.—*Cbl. f. Chir.*, November 5.

Bardenheuer's Operation for Hypospadia.—The *Cbl. f. Chir.* of November 5, illustrates an operation performed on a three-year-old child at one sitting, with scarcely any after-catheterization, which proved so successful that no traces of the deformity could be seen in four weeks. The skin of the penis is detached and slit toward the root on the under side, and the urethra mobilized and stretched. A broad trocar is then inserted in the tip of the penis at the point of a normal orifice, and worked down to meet the urethra, which is then pulled up through the channel thus made and sutured with four stitches at the tip of the glans. To prevent pulling on these stitches, the urethra is sutured with four other stitches to the neighboring tissue before entering the glans, and the skin is sutured together over it. Hacker has suggested a somewhat similar operation, but he detaches the corpus cavernosum with the urethra, and only sutures the latter at the orifice.—*Beitr. z. klin. Chir.*, xxii, 1.

Topic Applications on Temperature.—Finkelstein announces that the local application of betanaphthol (25 to 50 drops of a solution of one part betanaphthol to four of 75 per cent. alcohol), will reduce the temperature in children with fever, falling during the first hour, afterward to its maximum in the second hour: 3.2 degrees Celsius. The pulse and respiration also grow slower. The effect was marked in 86 per cent. of his cases; stronger at night than in the morning, and as the fever was more elevated. By repeating the inunctions the temperature was kept permanently reduced. The influence was most decided in typhoid fever and fibrinous pneumonia, less in scarlet fever, and uncertain in tuberculosis. The absorption is so slight that it is difficult to detect any traces of the naphthol in the urine. The radiating heat and the evaporating from the skin diminish at the same time. He explains its effects by reflex action on the calorification centers, with a diminished production of heat as the primary cause. (*Nouveaux Remèdes*, November 24). The ingestion of naphthol and inhalations produced no effect of the kind, and inunctions with twenty-five other substances tested were also negative.

Treatment of Eclampsia.—Three numbers of the *Clinica Moderna* are devoted to this subject, describing the treatment adopted by Brunelli at Pisa and the satisfactory results. His conclusions are that every pregnant woman with albumin in the urine, should be restricted to an exclusive milk diet. Soothe the nerve centers with a rectal injection of a moderate amount of chloral, or with chloroform, or both combined. Administer purgatives per os, or rectum, if patient is unconscious, following with an abundant enema of salt solution, and in case of much pulmonary or cerebral congestion, a moderate amount of blood may be withdrawn. If these measures fail to arrest the attacks, the obstetrician is justified in producing artificial delivery. If labor is already under way he can assist nature, but if not, and the condition is very serious, Cesarean section is indicated, if sufficient assistance is at hand. If alone and delay is dangerous, forced delivery should be resorted to with Tarnier and Hegar dilators. Chloroform in either case.—*Gazz. degli Osp.*, December 4.

Otitis and General Pathology.—G. Herman describes four cases out of a large experience, in which patients had been under treatment by specialists for years, for chronic catarrh of the middle ear, without result. He became convinced that the trouble was favored by the disturbances in the digestion and circulation which he noted in each case, although not severe enough to attract the subject's attention, or ever induce him to apply to a general practitioner. One, a student, he advised to go and work on a farm during the summer vacation; another, a wealthy landed proprietor, he persuaded to dispense with his carriage and make his rounds on foot, and the rest received corresponding advice. The improvement that followed in the general health soon resulted in the cure of the ear trouble, Vulpius has used thyroid treatment to advantage in similar cases. Hermann recommends, therefore, that the general health of persons of obese and sedentary habits be improved as a preliminary or accompanying measure to treating obstinate otitis and checking incipient sclerosis.—*Deutsche Med. Woch.*, December 8.

Malarial Infection and the Female Genitals.—Dr. Lemanski, a gynecologist of Tunis, has been studying the effect of malaria infection on uterine affections and pregnancy, and notes that metritis is rebellious to curetting, unless the malarial diathesis is treated at the same time. The menses are frequently painful, excessive and irregular. In some, after a long period of dysmenorrhea with menorrhagia, the menses are arrested. In others there is frequently a partially intermittent metrorrhagia in the intervals. Malarial infection predisposes a pregnant woman to all the discomforts to which the condition is liable. Vomiting is frequent, and although seldom uncontrollable, is serious. Hemorrhage in the course of the pregnancy is frequent, and false labor. Delivery is slow, labor difficult and the fetus generally small. Abortions are frequent in women with latent or chronic paludism, and invariable in the pernicious form. There is often an intermittent postpartum hyperthermia. In all these cases quinin works wonders. He supplements it with quinquina, arsenic, potassium iodid, and hydrotherapy as indicated, preferring the rectal or subcutaneous administration of quinin in urgent cases.—*Journ. de Méd. de Paris*, December 11.

Immediate Massage of Fractures.—The massage should be extremely cautious and gentle, and include the entire group of muscles, omitting none. The adjoining articulation must not be worked too violently, either by the masseur or the subject himself. Dagron reports that fractures of the two bones of the forearm in children are cured in twenty days with mobilization and massage (Lucas-Championnière), and of the lower end of the humerus in twenty-six days. By "cure" he means absolute restoration to integrity, without either functional or plastic troubles, a solid callus and muscles ready to work the consolidated skeleton normally. Fifteen to twenty minutes are required for the mobilization, and the maneuvers should never cause pain. In fractures involving the periosteum, in rhachitic children, in syphilitic adults, the mobilization and massage must be applied at a distance, not directly to the injured spot.

In fractures of the olecranon, with a space of two centimeters, this will increase to three after mobilization, and gradually close up to one centimeter. This is the best result attainable. —*Presse Méd.*, December 3.

Indications for a "Carlsbad Cure."—The principal effect of Carlsbad waters is to reduce the inflammation. They do not dissolve and carry off stones, and this should not be expected of them. H. Kehr establishes the following indications for treatment: Acute occlusion of the choledochus without cholangitic symptoms; inflammable processes of the gall-bladder with or without icterus, with infrequent and not too violent pains; frequent colics and passages of stones. If the stones do not pass off, surgical intervention is required; also in case of obese, gouty and diabetic persons, and for all those who are unable to submit to narcosis; also after an operation, to prevent inflammation. If the stone is in the bile-duct, cholagogic remedies are called for, but if in the gall-bladder they are counter-indicated and the aim should be to soothe. An operation is required under all circumstances in acute, seropurulent cholecystitis and pericholecystitis, or the resulting adherences; in chronic occlusion of the choledochus; in forms commencing lightly, but resisting all treatment and producing permanent disturbances; in purulent cholangitis and hepatic abscess; in perforating processes in the biliary passages or peritonitis, and in gall-stone morphinism.—*Deutsche Med. Woch.*, December 15.

Value of Phlebectomy.—Longuet and Balthazard report (*Presse Méd.* of December 7) the resection of the leg portion of the saphenus externus for a voluminous varicose thrombophlebitis, with most satisfactory results. The vein excised, unopened, between ligatures measured forty-nine centimeters unstraightened. They cut out a spindle-shaped piece of the integument according to Schwartz' suggestion, to make "a natural elastic stocking," and this is the only detail they regret, as the tension on the weakened tissue resulted in two stitches tearing out. Henceforth they observe, "a non-elastic natural stocking will content them." With the exception of very benign phlebitis, which may yield to rest, and phlebitis in extremely debilitated persons, diabetics and albuminurics, phlebectomy will be found the best means of treatment in all cases. It is legitimate; no accidents have followed it in the sixteen cases published. It prevents additional complications; the spread of the affection into inaccessible regions, the transformation of an adhesive into a suppurating phlebitis, or, chief in importance, the development of neuritis, with the whole train of neuro-trophic disturbances. If the phlebitis develops microbian embolism it may prove fatal. Three such cases have been reported. In one the incision of a varicose thrombosed ampulla resulted in fatal septicemia in twenty-four hours. Deaths from sanguine embolism are still more frequent (12). Phlebectomy is therefore the most valuable preventive treatment for all the complications of varicose thrombophlebitis. Quénu has successfully operated on two cases during pregnancy. The cure is absolute and permanent; no trace of pain in standing or walking, no induration, no edema.

Sexual Operations for Hypertrophied Prostate.—Albarran and Motz conclude, from a study of 183 observations, that it is impossible to tell beforehand whether the glandular or intraglandular element was involved in the hypertrophy, while the fact seems to be established that only the glandular element is regularly affected by sexual operation. Neither the softness nor the hardness nor the size affords any reliable data, although it was noted that most glandular prostates were of medium size. Motz found, at the necropsy of thirty cases, that the hypertrophy was due in two-thirds of the cases to development of glandular tissues. Sexual operations on animals proved invariably successful in determining a positive atrophy of the prostate; most rapid and decided after double castration and after angioneurectomy of the cord. The atrophy after resection of the vas deferens is not complete for three months. Unilateral operations are insufficient. Angioneurectomy of the cord has been applied to man with one failure in a case of complete retention, and with marked success in three cases of complete retention (vide JOURNAL, xxx, p. 220: "It consists in resecting for a short distance all the elements of the cord with the exception of the vas deferens, the artery of the vas and one or two of the accompanying veins"). After double castration the prostate diminished effectively in size in 17 cases of dysuria, 41 of acute retention, and 47 of chronic retention. In Albarran's personal experience the atrophy has been tardily and progressively produced. He disapproves of interfering in the first stage of prostatism, and also in acute retention, which may be cured by catheterization alone.—*Bulletin de l'Acad. de Méd.*, November 29.

Renal Congestion of Nephritic Type.—An attack of renal colic with the descent of the calculus, in arthritic persons, is sometimes followed after a few hours of calm with a gnawing pain in the renal region, extending to the prostate, the bowels, bladder and penis, but strictly unilateral, with constant desires for miction and defecation. There is no fever, no appetite, but much thirst; sometimes nausea, but no vomiting. Rest or sleep is impossible, and this condition may last for hours or days—twelve days in one case. No relief is obtained from anodynes per os or rectum, or subcutaneously. A similar condition may occur, but less acute, without the preceding attack of colic. It is rational to assume that it is due to a congestion of the kidney caused by the passage of the calculus, overexertion, cold, or something of the kind. Treatment directed to a supposed calculus or gravel is worse than useless, but the application of six to ten leeches over the kidney relieves at once, and the patient drops to sleep. When he awakes, he passes clear urine abundantly, with no traces of gravel. Phlebotomy may be necessary for very plethoric persons. Apply the leeches in a glass after cleansing the region; let them suck until gorged, then wash the place again and apply a compress of boricated or saloled gauze, with a layer of cotton and a bandage around the body to hold it. Pousson considers renal incision indicated in nephritic colic as having "the triple advantage of diminishing the intrarenal tension, arresting the spasm and preventing the evolution of lesions in the renal epithelium." The same effect is attained in these cases by the leeches, which will usually be found more convenient than cupping.—P. A. Mesnard, *Presse Méd.*, December 3.

Tribromphenol-Bismuth.—Somers (*N. Y. Med. Jour.*, Dec. 24, 1898) writes on this compound as an antiseptic in chronic suppurative otitis media. His method is to thoroughly cleanse the external canal and middle ear with hydrogen peroxid applied on a cotton-tipped applicator, all granulation tissue having previously been removed. He then lightly dusts the powder over the secreting surfaces and inserts a gauze drain, which reaches from the tympanic margin to the concha, fitting into the concha, and over the external canal he places a pad of sterile absorbent cotton and allows this to remain for one or two days, according to the amount of discharge. In cases in which the use of this treatment, after other methods and remedies, had been tried, they were all apparently cured, and he has treated more than one hundred cases. It does not stain the parts as does pyoktanin, nor does it cake like boric acid, and it not only lessens but changes the character of the discharges from the middle ear. Being slowly decomposed in the ear, its action is of considerable duration, thus keeping the mucous surfaces antiseptic for a longer period than any other remedy. He especially emphasizes a thorough cleansing of the canal and tympanic cavity before applying any of the powder, as it has little or no influence unless brought in immediate contact with the pus producing surface. Through its sedative action pruritis is also allayed, permitting more rapid repair (vide JOURNAL, Oct. 15, 1898, p. 897).

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SATURDAY, JANUARY 7, 1899.

THE SO-CALLED EMBRYONAL GLANDULAR TUMORS OF THE KIDNEY.

Our knowledge of tumors is constantly increasing. The occurrence of certain tumors in childhood and infancy has of late attracted especial notice. Many of these tumors of early life are frequently referred to as congenital, but as LUBARSCH emphasizes, the frequency with which tumors in childhood are observed does not constitute any proof of their congenital origin. However, when such tumors develop before or very soon after birth, and when certain heterologous formations of tissue depending upon misplacements are found in them, they can certainly be looked upon as substantiating COHNHEIM's theory of the development of tumors from an embryonal matrix.

It has long been noted that the genito-urinary organs are especially liable to be the seat of tumors in early life. The kidney is the part of the genito-urinary tract most frequently involved, and the tumors observed are more often malignant than benign. HEINECKE[1] collected 138 malignant tumors of the kidney in early life, and found that 11.1 per cent. occurred in the first year of life, 21.5 per cent. in the second and third years, 12.6 per cent. in the fourth year, 14.8 per cent. in the fifth, 6.7 per cent. in the sixth, and 1.5 per cent. in the ninth, so that the second and third years of life show the greatest number of tumors. These tumors occur with about equal frequency in the two sexes, and there does not seem to be any special preference for either the right or left kidney. Sometimes both kidneys are involved. Of HEINECKE's 138 cases, 42 developed metastases.

There has not been uniformity in the classification of malignant tumors of the kidney in early life. They have been described as epithelial in character, as endothelial and sarcomatous; as developing from misplaced remnants of the adrenal, and finally, not a few rhabdomyomas are mentioned. In 1897 HEINECKE could refer to fifteen tumors of the last type. MERKEL,[2] from whose article these facts are gathered, finds that there are now twenty-three rhabdomyomas of the kidney of young persons reported, including one case which he now publishes.

The occurrence of striped muscular tissue in an organ which normally does not contain any such tissue has long been a source of interest, so much so as to perhaps unduly monopolize the attention of the investigators. Only recently KOCHER and LANGHANS pointed out the existence of a second characteristic part in the rhabdomyomas, viz., glandular tubules. BIRCH-HIRSCHFELD[3] regards these tumors as developing from elements that have remained in an embryonal stage, and proposes to call them, no matter whether they contain striped muscular tissue or not, embryonal glandular tumors of the kidney, and assumes that they originate in misplaced remnants of the Wolffian body. This point of view in regard to many of the infantile tumors of the kidney, including rhabdomyomas, has already been advocated by PERTHES,[4] and it seems reasonable to suppose that perhaps a larger part of the renal infantile tumors belong to this class than is yet apparent. BIRCH-HIRSCHFELD expresses the opinion that the largest part of the malignant renal tumors of early life, which have been described as carcinomas, adenocarcinomas, sarcocarcinomas, adenosarcomas, and myosarcomas, belong to the group which he designates as embryonic glandular tumors. He cites in support of this opinion the fact that certain cases which he himself, as well as others, had diagnosed as simple sarcomas, proved upon subsequent more extensive examination to contain striped muscular tissue and other elements characteristic of this new tumor group.

MERKEL describes two new tumors of this kind, which seem to represent different developmental stages in the same type of tumor. From the microscopic study of the first case he concludes that it might properly be called a pericanalicular adenosarcoma, and the second case a pericanalicular striocellular adenomyosarcoma. These phrases are quite descriptive of the structure of these growths.

In both instances a conspicuous element of the tumor is glandular tubules lined with low columnar epithelium, around which is arranged a layer of more or less typic sarcomatous tissue; hence the term pericanalicular adenosarcoma. The presence of muscular tissue is not constant in all the tumors which have the peculiar glandular structure. Of the twenty-two cases in which striped muscular tissue was present one was a prominent feature, the tumor was bilateral four times, but in only two of these cases were the striped muscle fibers present in both tumors. Nodules may occur in which the striped muscular tissue is absent, consequently it would seem that both kinds of tumors belong to the same class, as pointed out by Merkel. The presence of a small quantity of muscular tissue in a large tumor might very readily be overlooked in the microscopic examination. The relationship referred to is also emphasized by the clinical features of the growths in question.

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[1] Quoted by Merkel, Ziegler's Beitrage, 24, p. 475.

[2] Loc. cit.

[3] Zeigler's Beitrage, xxiv, Heft 2.

[4] D. Zeitsch. f. Chirurgie, 42, 1896.

The course of the disease in renal tumors, especially of this type, is usually very rapid as soon as the first severe symptoms become apparent. In many of the cases a growth of the tumor into the renal veins and vena cava occurred.

While the presence of striped muscle fibers is referred by nearly all writers to misplaced embryonal tissue, the explanations of the glandular formations vary widely. They are referred by some to proliferated lymphatic endothelium; by others to misplaced epithelium of the renal pelvis; others regard them as due to proliferation of the uriniferous tubules. The pericanalicular sarcomatous masses are regarded by some as originating in the interstitial tissue of the matrix, by others as an early stage in the development of the striped muscular fibers. Orth says that while the typic renal carcinoma in older persons must be regarded as springing from the normal epithelium of the uriniferous tubules, the so-called carcinomatous tumors of early life must, on the other hand, be regarded as developing from abnormal embryonal deposits. As already indicated, Birch-Hirschfeld has especially studied the etiology of these tumors, and he regards them as representing immature embryonal glandular formations. The embryonal character is shown in the immature state of the glandular tissue, as well as in the condition of the stroma, which contains different embryonal connective tissse elements. Personal examination of human embryos leads Birch-Hirschfeld to say that the relation between the Wolffian body and the *anlage* of the kidney is so close, that the supposition that a part of the former could be included in the developing kidney is no more unreasonable than the inclusion of adrenal tissue in the kidney, a fact which is now generally accepted.

Birch-Hirschfeld's hypothesis seems most likely to be generally accepted as explaining the origin of these interesting tumors. We have, therefore, in the embryonal glandular tumors of the kidney, in all probability, an example of tumor developing from the misplacement of pieces of one organ, in this case a temporary structure, into another and a prominent tissue.

MULTIPLE ULCERATION OF THE STOMACH WITH ANACHLORHYDRIA.

Although neither absence of hydrochloric acid from the gastric contents or the presence of lactic acid on the one hand nor hyperchloracidity on the other hand is any longer considered pathognomonic of carcinoma or ulceration of the stomach respectively, each of these phenomena must be conceded certain diagnostic significance. It is important, however, to be on guard for the exceptions and anomalous conditions, and a forcible illustration of this necessity, as well as that of avoiding dogmatism in our conclusions is afforded by a recent communication of Krokiewicz (*Wien. klin. Woch.*, 1898, No. 48, p. 1101), in which he reports a case of multiple ulceration of the stomach, with disappearance of free hydrochloric acid from the gastric contents in spite of the fact that the patient received dilute hydrochloric acid as a therapeutic agent.

The patient was a servant-girl, 40 years old, who for a year and a half had suffered from symptoms of gastric derangement. At the inception of the illness there had been vomiting, diarrhea and pain in the right hypochondrium, followed after a time by transitory nausea of varying intensity. There had never been jaundice, but for several months there had been loss of flesh and strength and distaste for food. Axillary, cervical and inguinal glands were slightly enlarged, the overlying skin movable. The percussion-note was slightly impaired over the apices of both lungs, especially on the left, where also bronchial breathing and consonating râles were audible. In other situations the breath-sounds were whistling and wheezing. The abdominal walls were relaxed and the recti muscles separated. The peristaltic movements of the intestines were visible. Splashing could be elicited in the bowel. The epigastrium was sensitive and a sense of distinct resistance was appreciable at the pylorus. After the introduction of 250 gm. of milk the lower border of the stomach was found 2 cm. above the umbilicus. On deep pressure slight enlargement of mesenteric and retroperitoneal glands could be appreciated. Ingestion of solid food and of acids was followed by epigastric pain. Scarcely 1 c.c. of light icteric, neutral fluid was removed from the fasting stomach with a tube, and but little more of consistent mushy material containing casein and bits of roll of acid reaction and with traces of free hydrochloric acid after a milk-breakfast. Some ten days later not even a trace of free hydrochloric acid could be detected in the gastric contents an hour after a meal of milk and roll.

Examination of the blood disclosed the presence of 4,016,000 erythrocytes without noteworthy peculiarity and 12,400 leucocytes to the cubic millimeter, with 70 per cent. of hemoglobin. The condition of the patient grew progressively worse, and death ensued in collapse following hematemesis. The autopsy disclosed the presence of thirty peptic ulcers on the floor and posterior wall of the stomach, together with tuberculosis of the large intestine and of the lungs, and enlargement and caseation of mesenteric and retroperitoneal glands.

We have thus a case in which in spite of the existence of symptoms indicative of carcinoma of the stomach: cachexia, long duration, impaired appetite, the autopsy disclosed the presence of multiple ulceration. The absence of free hydrochloric acid from the gastric contents may, it is suggested, be related to the multiplicity of the ulcers and also indicative of a grave state and perhaps a fatal issue, while the multiplicity of the lesion is considered as pointing to an embolic origin. From a diagnostic point of view the results of examination of the blood may afford a means of differentiation between gastric ulcer and gastric carcinoma, as the reduction in the number of erythrocytes is always more considerable in cases of advanced carcinoma of the stomach than existed in the case recorded.

Krokiewicz (*Wien. klin. Woch.*, 1897, No. 51) has previously recorded a case in which during the last six weeks of life there had been complete absence of free hydrochloric acid, while postmortem examination disclosed the presence of three ulcers in the stomach, one at the cardia, one at the pylorus and one on the lesser curvature. Both observations, it is pointed out, show at least that free hydrochloric acid may disappear from the gastric contents in cases of ulceration of the stomach before the occurrence of hematemesis.

THE STRENGTH AND RELIABILITY OF DRUGS.

The strength and reliability of drugs do not receive proper attention by physicians for, as a matter of fact, these important attributes of a drug are lacking for several reasons in many instances. Aside from the fact that the gatherer of crude vegetable drugs may introduce into his bundle enough of another similar plant to enable him to make a profit out of his sales to the wholesaler, who bids him down to the lowest figures, and that this wholesaler also desires to make as much as possible out of his purchase, and finally that the retailer wishes to buy as cheap and sell as high as he can, there are other factors even more difficult of control to be contended with. These are that many medicinal plants only contain their greatest activity if gathered at a certain time of growth, or certain parts only contain medicinal powers when in a certain state. Thus the flower spikes of the male and impregnated female cannabis indica plant are without medicinal value, whereas those of the unimpregnated plant are valuable. Much of the former could be placed in a bale of the dried drug and even an expert would not detect it. Again, medicinal plants are like vegetables that we use for food in this, namely, that they grow well or badly according to the soil, moisture, sunlight and temperature surrounding them, and contain much or little medicinal principle according to whether they are favorably placed. The nux vomica beans apparently perfect in their development may vary over 50 per cent. in their contents or alkaloid and so may all of the important drugs that we employ in pressing cases. That our view of the value of certain drugs is often distorted by such natural variations is an undoubted fact, and not only do our patients and our reputations suffer when a drug fails, but we fail to prescribe that drug in the next case which really needs it because we are disgusted at its failure, when in reality our idea as to its need by the patient was correct, but the sample we employed was faulty. A very good instance of this has come to our attention in connection with *Apocynum cannabinum* which often seemed uncertain and of little value. Recently however, it has become clear that the fault lay with the fact, that owing to an error, *Apocynum androsemefolium* was often supplied to the druggist by the gatherer of so-called *Apocynum cannabinum*. The latter drug is an efficient diuretic and heart tonic, the former is a violent drastic cathartic, if given freely, and is not an efficient diuretic. It is seen, therefore, that drugs may be dispensed for, or by, the physician, which are not what they are called, which are too strong or too weak, or which are impure or stale, and all these faults may be present without the druggist who dispenses them being consciously careless or dishonest. When to these facts we add that wholesale druggists offer for sale different grades of crude drugs at different prices and that the retailer may buy the cheapest if he pleases, it is evident that the physician should exercise some care as to what he prescribes, whether he buys direct from the manufacturer for his own dispensing or has his prescriptions filled by a local pharmacist. But even if the local druggist buys the crude drug at the highest price to get the best, he has no means of determining the quantity of active ingredient in his purchase, which may be powerless even if it looks botanically perfect, and be his process of manipulation never so skilful the product is worthless.

How shall this great element of uncertainty in our treatment of patients be avoided? How long shall we be content to have that which our best judgment dictates seemingly proved faulty by the use of pure drugs instead of poor brains? Recognizing that these possibilities exist, the Committee of Revision of the last Pharmacopeia directed that certain products, as for example nux vomica, should have a known content alkaloid to be determined by assay, and this much having been done it is hoped that the next Committee will go further, owing to the advances made in chemic analysis during this decade.

There are, however, certain drugs which, because of their complex nature or our faulty technic, can not be tested satisfactorily by chemic means, and as ill fortune will have it, nearly all of these are powerful remedies, poisonous in overdose and depended upon in emergencies by every one of us. The chief ones are digitalis, strophanthus, ergot and cannabis indica. Digitalis leaves vary greatly in their medicinal content totally and in respect to each principle. Thus one set of leaves may contain a large amount of one principle, thereby producing a dominant physiologic effect and another set containing another principle produce still another influence. It will be recalled that digitalis contains at least five principles, of which four are physiologically active and the fifth inactive. From these there may be developed other substances by chemic alterations or by decomposition, but they probably are not primarily present. Each of these ingredients possesses a physiologic action of its own, and each has a solubility of its own. Of the four constituents, digitalin, digitoxin and digitalein act upon the heart muscle, while digitonin has an entirely different effect, namely, the power of depressing the vagus nerves centrically and peripherally and the inhibitory ganglia in the heart. The digitalin here referred to is not the digitalin of amorphous form prepared according to the process of HOMOLLE, nor the crystalline digitalin of NATIVELLE, neither of which is a pure digitalin, but it is the digitalin of SCHMIEDEBERG.

The effect of SCHMIEDEBERG'S digitalin upon the heart is that of a powerful stimulant, for under its influence the individual heart-beats become more powerful (four to six times greater than normal), and it simultaneously causes a rise of blood-pressure, first by increasing the strength of the heart, and second by stimulating the centric and peripheral vasomotor apparatus.

The physiologic effects of digitalein and digitoxin are identic with those of digitalin, except that they do not stimulate the vasomotor center nor the pneumogastric apparatus, and so do not directly raise blood-pressure or slow the heart. In other words, they increase the force of ventricular contraction. The effect of digitoxin being to depress the vagus nerves, it will be seen at once that it antagonizes the vagal effect of the digitalin on these fibers and so prevents digitalis from slowing the heart to the extent that would result from the use of digitalin alone. It also depresses the heart muscle. The proportion of digitonin in digitalis varies, but it is not present in sufficient amount to entirely overcome the inhibitory influence of the digitalin.

If we now turn to a consideration of the solubilities of these principles we can readily explain the different effects produced by the infusion and tincture or fluid extract. Digitonin is soluble in water, as is digitalein, but digitalin is only slightly soluble, and digitoxin is scarcely soluble in water at all. As a result the use of the infusion in a case of heart disease would not give the patient the same degree of cardiac power as the use of the tincture, for not only would the most powerful stimulant of all to the heart, vasomotor system, and vagi be present in small amount, but in addition the large proportion of digitonin would antidote it.

On the other hand, digitonin is sparingly soluble in alcohol, while digitalin and digitalein are readily soluble in it, digitoxin being slightly so. It would seem therefore that in the presence of a failing heart and circulation the tincture or the fluid extract are the preparations greatly to be preferred to the infusion, because they contain large amounts of the active stimulant ingredients.

The reason that the infusion acts efficiently in some cases as a diuretic probably depends upon the fact that as it does not contain as much digitalin it is less apt to cause spasm of the renal vessels, but if the heart is feeble and there is renal stasis, the tincture is probably the better preparation to overcome this state, because it both aids the heart, and by contracting the renal vessels, overcomes the stasis. The use of digitalin is inadvisable unless we are sure that we get that made according to the process of SCHMIEDEBERG, for the other digitalins usually sold are very uncertain. The infusion is far more apt to disorder the stomach than the fluid extract or tincture, because of the irritating digitonin.

A very different physiologic effect, therefore, will follow the use of one sample of digitalis to that of another, even if both be tinctures, and if we vary the pharmacopoeial product, an infusion will give different results than a tincture. It is better, therefore, to use the same product in every case when we wish to maintain an effect, and better to use a product the activity of which has been tested chemically, or physiologically when chemistry fails us, as it does in this case, for digitalis can not be satisfactorily assayed. That is, we should use a preparation in which its principles are so balanced that it is capable of producing a normal physiologic effect. Such a physiologically tested product is now marketed, and even if the crude drug vary greatly, by this means the physician finds in his hands a fluid extract of digitalis which has the same physiologic action when he buys it in 1899 as did the sample he bought in 1897. So with strophanthus. HOUGHTON has recently pointed out in the JOURNAL that a physiologic test is essential to determine its real value, and that without such tests one pharmaceutic product may contain much more strophanthin than another, and that as strophanthin is twelve times as poisonous as absolute hydrocyanic acid, such variations are to be avoided. Again, ergot varies in its crude state, from a worthless product to a powerful one, and in such instance may be apparently perfect. It is a drug which can not be chemically essayed within practical lines, and, therefore, must be tested physiologically.

AURAL AFFECTIONS IN BRIGHT'S DISEASE.

Complications on the part of the visual apparatus in acute and chronic nephritis are not unusual, and that such do occur is well recognized by physicians in all parts of the world. That complications on the part of the ear are almost as universal—according to DIEULAFOY approximating 50 per cent.—is probably not so well known. Ocular and aural affections may often coexist in the same nephritic subject, though the disturbance in either may be entirely functional; that is to say, without *appreciable* lesions. In the eye, an amblyopia in a nephritic, without apparent gross lesions, has long been recognized. In the ear, a loss of hearing may supervene in a similar manner, though usually accompanied by tinnitus. According to MORF (*Archives of Otology*, Oct. 8, 1898), there are two distinct classes of aural complications occurring in nephritis. In the first there are always easily recognizable pathologic lesions, " macroscopic, microscopic, or revealed by the functional examination;" the second class contains those frequent cases in which there is functional disturbance, but no apparent pathologic change to account for the symptoms. All who have devoted considerable study to internal medicine will recall the sudden deafness usually affecting their uremic patients, and at that, in the early stages previous to their relapsing into unconsciousness; they will also probably recall that these patients often complained of the most violent tinnitus, the noises in the head being almost unbearable. Various theories have been brought forward to account for this condition of affairs: that of FIELD, the theory of increased arterial pressure exerting a paralyzing influence on the sound-receiving filaments of the cochlea, becomes untenable when we reflect upon the numerous cases, though perhaps with hypertrophy of the left side of the heart, certainly with a weakened cardiac force. The theory of ROSENSTEIN is more happy. The latter thinks that the symptoms are entirely dependent upon edema of the brain. We are all familiar with the excessive amount of fluid present within the skull cap of patients whose death has occurred in uremic coma. What more plausible than that the cranial nerves are buried in exudative fluid and that this very fluid in one place stimulates the nerve filaments, causing tinnitus or exaggeration of function, in another paralyzes their action, causing complete abolition of function or, in other words, non-conveyance of sound.

As to the form of nephritis in which this condition occurs, it is usually of the chronic interstitial variety, chronic parenchymatous nephritis ranking next, while acute nephritis, according to statistics, appears to play a rather unimportant rôle, though it must not be forgotten that the usual seriousness of the latter variety would interfere with the attending physician spending much time upon a symptom that would not materially aid him.

Deafness may intervene at any stage of the disease, though an increase in the severity of the nephritis is usually followed by a corresponding intensity of the auditory symptoms. Here, too, subjective symptoms in the way of noises of all kinds are particularly liable to occur. On the other hand, when we are able to favorably influence the progress of the kidney disease, we are likewise conferring a respite on the aural apparatus. The otitis occurring in scarlet fever is sometimes dependent upon concomitant nephritis for its prognosis, for it has not infrequently been noted that a persistence of the symptoms of renal destruction, as shown by the microscopic examination of the urine, is accompanied by a continual and increased flow of pus from the ear. Whether there is some connection between the kidney and the auditory apparatus, or whether the general debility of the patient from his nephritis is the cause of the continuation of the aural trouble, is impossible to state. The practical significance of this nephritic deafness, as it may not improperly be called, is that a persistence of ear symptoms or of aural organic lesions without apparent cause should lead us to a careful examination of the urine, with perhaps discovery of the more harmful disease.

LITIGATION SYMPTOMS AND DISEASES.

There are grave doubts as to the accuracy of these terms, so freely talked about in the court rooms and among physicians who appear as witnesses in court trials. Stories of grave neurotic diseases which have rapidly recovered after a court decision in their favor, are common, but when examined, appear very different. Many symptoms which appear more prominent before the issue of a damage suit and afterward are seen to subside, are not always real, but only superficial semblances of hysteric states of depression and elation. A famous trial in which large damages were awarded was followed by the apparent recovery of the patient. In an equally famous case the collection of a large sum was followed by an increase of all the symptoms and death. The former was commented on very publicly as an example of a fictitious case; the latter passed without comment. The former case, after a year, relapsed, and is now a paralytic. It is no doubt possible for a neurotic to exhibit many exaggerated symptoms of disease, but the modern neurologist, with time and opportunity, is able to make an accurate diagnosis that is reasonably correct

The class of men and women who become litigants for damages for injuries are usually neurotics who can be classified in the following groups: 1. A class who are possessed of an emotional nature which demands sympathy and attention from others. Diseases, injuries and derangements of the body are magnified, particularly when this creates interest from others. They take pleasure in becoming the centers of exacting attention, care, and sympathetic comment. The more they can be prominent by commiseration, the longer the symptoms continue; without notice or care, many of the symptoms subside. 2. A second class have a constitutional dread of pain and fear of death, and are filled with a half-conscious alarm at every symptom of disease and injury. They are pessimists, who fear the worst results from every derangement or injury. They are always intensely depressed and are very susceptible to suggestion of disease. 3. A third class have an abnormal equilibrium, reflecting every condition of the surroundings, associated with a low reasoning mania, which seeks to take advantage of the conditions that appeal to their selfishness and vanity. The gravity of their condition appears or disappears with the surroundings. Predisposing states exist from heredity and defective culture, growth, and conditions of living, which come into activity from injury or disease.

These cases appear in court for damages, claiming injuries, disabilities, and all forms of diseases, due to some specific cause or causes. To the ordinary man the symptoms are clear, but when examined carefully and critically, grave faults and inconsistencies appear. Certain symptoms are changeable, confused, and due largely to some unknown psychic element. The result of the trial may or may not cause a change in these symptoms. The symptoms during or preceding the trial may be traceable to suggestion from the physicians and counsel, or may be influenced by some dominant idea not expressed by the patient.

The more these disputed classes are studied, the more clearly the physical conditions appear. Recently a noted trial brought out conflicting testimony on both sides. The claim for damage was sustained, and the symptoms disappeared. Two months later they returned in more complicated form and ended in death.

In a review of this case, an eminent medical man said that the symptoms of every case would be materially altered where the issue depended on legal proceedings. He also asserted that it was impossible for a normal healthy man to work up a fraudulent case and secure damages in court on the testimony of critic, honest medical men. No one could "work up a case" to the extent of deceiving the physician who was a good diagnostician. Neuropaths and neurasthenics undoubtedly can and do exhibit an array of most puzzling symptoms in some cases, but the history of these always throws much light on the anterior state. The element of personal equation is always a factor in neurotics; this, with suggestion, is to be considered in all cases in dispute. There seems to be no reason for calling these symptoms by any special name, as they are seen in every condition of life, and just now are in strong evidence in the bitter comments on the failures of physicians in the late war. During the past year several very excellent studies of these litigation diseases and symptoms, so-called, have been made by Dr. JACOBY,[1] Dr. PRINCE,[2] and also Dr. PUTNAM.[3] Other papers have appeared on the same field, and it is evident that a new and most valuable literature is beginning to appear.

MILITARY SANITATION IN MANILA, P. I.

Through the courtesy of Surgeon-General STERNBERG we have been permitted to see reports recently received from Lieut.-Col. HENRY LIPPINCOTT, chief surgeon, Eighth Army Corps, and from some of his subordinate officers at Manila, which show the conditions affecting the large body of our troops on duty at that station. The filth and insanitary surroundings of the native population in every locality from which reports have been received stand out prominently as the first subjects for consideration and practical work on the part of medical officers serving with our troops. When General SHAFTER'S command effected its landing at Daiquiri, Cuba, one of the first sanitary requirements involved the destruction of Siboney on account of its filth and probable infection. The active measures adopted by Dr. LEONARD WOOD, the major-general of Volunteers now in military command at Santiago, Cuba, for the regeneration of the city, have been reported from time to time in the press dispatches. When General MILES' expedition occupied Ponce in Porto Rico one of his first acts was to establish a sanitary government for the city, under the supervision of Major J. McG. WOODBURY, chief surgeon of Volunteers, who convened a meeting of the local physicians, organized a board of health, caused a vigorous cleaning up of the streets and alleyways, improved the water-supply, broke ground for a new cemetery and instituted proceedings for the suppression of smallpox.

From Manila come reports of a similar character. The various buildings in that city are described as constantly permeated with an offensive odor, as the water-closets are often merely holes in the sewer-pipes, in some cases without even as much as a seat over them. The water-supply is filthy and dangerous to the extent that fecal matter has been discovered in it. Questions of municipal sanitation are meeting our medical officers at every turn, and that these officers deal with them so efficiently speaks highly for their training. The trained military sanitarian makes an excellent municipal health officer. We do not forget that thirty years ago the men who devoted their energies to the establishment of State and local boards of health in this country were mostly men who had served during the Civil War as medical directors of corps and surgeons-in-chief of divisions. A Board of Health for the city of Manila was appointed September 29, by military authority. This board was required to draw up and submit for approval such regulations as would secure for the city a good sanitary condition and protect it against the introduction of contagious and infectious diseases by persons entering the port. The city was divided into ten districts, to each of which a duly qualified physician was assigned to provide medical attendance to the sick poor and to secure a closer watch against endemic and infectious diseases. Qualified midwives were also appointed in these districts for assistance to the needy, free of charge. No interment is now allowed without a permit from the Board of Health. The work done under the orders of this Board has already exercised a notable influence on the insanitary conditions of Manila.

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[1] On Suggestive Therapeutics.

[2] On the Pathology, Genesis and Development of the Most Important Symptoms in Traumatic Hysteria and Neurasthenia.

[3] On the Etiology and Pathogenesis of the Post-Traumatic Psychoses and Neuroses.

The commission investigating the conduct of the war with Spain has had few witnesses from the far East before it, and affairs at Manila have not received that general publicity which has been given to those that occurred nearer home, but the reports which we publish this week give full information on the subject.

CORRESPONDENCE.

Hereditary Paralysis Agitans Cured (?) by Nasal Treatment.

Minneapolis, Minn., Dec. 26, 1898.

To the Editor:—Mr. O. H. P., 34 years of age, a very intelligent mechanic, consulted me June 9, 1892, complaining that he had developed in connection with a series of severe colds in the head, a hereditary tendency to shaking of the head. Mr. P. is a man of fine physique and in good general health, which has continued to the present writing, six and a half years. The family history is as follows: His mother died of internal cancer, in her 63d year. His two brothers, his father, two paternal uncles and four paternal aunts (with one or two exceptions), his great-grandfather and the latter's brothers and sisters (with one or two exceptions), farther back he has no knowledge, all began to shake between the ages of 30 and 40 years. One sister of Mr. P. had temporary relief for about one year, following treatment by baths at Messina Springs. The cases are all said to have had "shaking of the head, hands and voice."

My patient's head was turned to the left and was in constant but slight motion. Examination of the nares revealed hypertrophic rhinitis, a small anterior septal spur of the right side and a large cystic development of the left anterior middle turbinate. This growth was removed by snare, June 11, leaving a part of the cyst. A week later the head of the right middle turbinate, which was enlarged and pressed upon the septum, was removed. July 16 I removed, with snare and curette, polypoid masses which had developed in the stump of the left middle turbinate. August 6 and 13 I galvano cauterized the stump of the left middle turbinate. This had smoothly healed September 17, but as there was still pressure against the septum, the inner aspect of the stump was cauterized. From the date of this cauterization a marked improvement was noticed as regards the shaking, which in a few weeks entirely disappeared.

There was no recurrence of the trouble until January, 1897, a period of four years, when he returned with the statement that his head had been shaking again for the past two or three weeks. I found the stump of the anterior left middle turbinate pressing upon the septum. This was relieved by snaring the offending stump, after which the shaking soon disappeared and has not recurred. Edward J. Brown, M.D.

Are there Causes for Criticism in the Sanitary Management of the Late War?

Tecumseh, Mich., Dec. 12, 1898.

To the Editor:—That there are good grounds for criticising the sanitary management of military camps there is every reason to believe, but when one reads the editorial article in last week's Journal (Dec. 10, 1888, p. 1425) comparing the sickness of the British Soudan forces with our own, he certainly finds the field of comparison a narrow one, because the elements for comparison scarcely exist.

The principal fault found has not been so much from mismanagement of field-hospitals, either before a battle or immediately after, but from the gross mismanagement of the sanitary conditions of the soldiers in camp. Camp Thomas, Chickamauga was a veritable pesthole. Soldiers returning home on furlough bore the appearance of those who were so happy as to make their escape from Old Libby or Andersonville prisons of thirty-five years ago.

The fault was not with Surgeon-General Sternberg, nor the medical men under him, but with the antiquated machinery which permitted pot-house politicians to appoint as officers men who knew very little about protecting soldiers from disease, and in many instances apparently cared less.

Probably no better condition than the military camp exists for the exercise of that eternal vigilance which will exclude preventable diseases from camp life, and when they do break out in camp, "to move on," as was frequently done by Hannibal in the Second Punic War over two thousand years ago. To allow soldiers to become emaciated and unfit for duty by supplying them with indigestible food and drinking water contaminated with their own excreta, which produced camp diarrhea, dysentery and typhoid fever—diseases which so generally prevailed in Camp Thomas, Chickamauga—shows very clearly that there was bad management somewhere.

When a writer compares the management of our forces in the field with the march of Kitchener to Khartoum, he will find that only in one instance is there any similarity. Kitchener and his soldiers built nearly a thousand miles of railroad, and laid the same length of telegraph wires, navigated a river which runs through a desert, fought the most heroic savages in the world, frequently marched and fought battles in a temperature of 120 degrees, all with an army of only 25,000 men. The reader will very readily perceive that typhoid fever did not prevail in the march down the Nile, but when sanitary restrictions began to relax, preventable diseases manifested themselves. The only comparison to be made between the forces of Kitchener and our own is that insanitary conditions in both instances produced like results.

J. F. Jenkins, M.D.

Whither are We Tending?

Owatonna, Minn., Dec. 13, 1898.

To the Editor:—Apropos of the commission evil, which is being discussed in the Journal, I can not resist the inclination to say a few words upon this and other evils that pervade the profession.

Undoubtedly, there is not a State in the Union that is not infected with the commission evil to a greater or less extent. It may be accounted for in various ways, the principal of which is the overcrowding of the profession everywhere and the consequent scramble for business by many of its members.

Probably there are always men in every profession who will stoop to such practices for money, but this is peculiarly true of the medical fraternity. Nor is this the limit to the sacrifice of honor and dignity which the profession is daily making. We have men in the profession who personally go on the street and solicit business. Only a short time ago, I saw the wife of a reputable (supposed) physician collar a boy with a dirty rag on his throat and steer him to her husband's office. When that same woman hears of a woman who is pregnant she coaches her and uses her utmost endeavors to inveigle her to employ her husband. This same man advertises his confinement cases in the secular press after they have occurred.

Physicians even prostitute the church for the furtherance of their interests. Not long ago two ladies joined a certain church. At the instance of a physician who was a member of that church, the pastor called upon these ladies within a week after their reception into the church and requested them to employ the above-mentioned physician, though they assured the pastor that they were well satisfied with their present medical attendant, who had borne that relation to them for the last twenty-five years,

Neither are the features thus far enumerated the only evils that have taken possession of the profession. How often do we commence the perusal of an article in some reputable medical journal by a physician who has a high standing in the profession, only to find that the said article, instead of being devoted to the advancement of medical science, is written to extol the virtues of some proprietary article, or in the interests of some manufacturing firm. It is needless to mention the fee that he gets for this article, or the elasticity of his conscience, though the act does detract from the standing of the entire profession. Nor is the medical press immune to this disease. As every intelligent physician is supposed to read, it is entirely unnecessary to mention the different ways in which it is perverted.

These lines are not written in a spirit of querulousness, but every physician engaged in active practice knows that they are facts that can not be gainsaid. Admitting this to be true, the caption at the head of this article naturally presents itself. If this disease which infects the profession is not already malignant, it will soon become so—provided it continues. Is there a remedy? Would it not be of profit to the AMERICAN MEDICAL ASSOCIATION at its next session to direct a little of the force it expends upon scientific papers in the direction of the correction of these evils? THEO. L. HATCH, M.D,

Incarceration of the Penis.

LEAD, S. D., Dec. 29, 1898.

To the Editor:—The five-year-old son of P. G. recently awakened suddenly and began crying as if in severe pain. An examination by his mother failed to reveal any cause, but he continued to suffer and two or three days later, while giving a bath, the mother found the penis greatly swollen and brought the boy to the hospital, when examination revealed a badly swollen penis, about the size of an adult's in a flaccid condition, with very edematous prepuce, uniform in size, but at the base of the penis a fissure involving the entire circumference of the penis and just behind this fissure an absence of swelling. By opening this fissure I found a small black cotton thread deeply imbedded, and which had cut nearly through the corpora spongiosum and almost into the urethra. The pressure had caused some cyanosis of the organ. It was impossible to learn how long the thread had been there, but after its removal the organ rapidly assumed its normal condition.

HERMAN S. JUDD, M.D.

Home Treatment of Chronic Morphinism.

CLEVELAND, OHIO, Dec. 26, 1898.

To the Editor:—I notice an article on page 1423 of the JOURNAL (Dec. 10, 1868) on the above title. I am somewhat at a loss to understand whether the item was published for the sake of condemning the method or not. I think that it must have that effect on the profession and am sure that it will have on the habitue. Any method of treatment that is of itself cruel enough to torture patients to the extent of driving nearly 6 per cent. of them to suicide within three days of the time of commencing it, should be classed with the cruelties of Nero rather than as belonging to modern medicine.

I have treated thirty cases of chronic morphinism in the past year, some of them taking as much as 40 grains per day hypodermically (I never refuse a patient because of the amount taken), and have not failed to make a cure in any single case. I have had no suicides or attempts at suicide. I have never found it necessary to employ more than one nurse for ten patients, but do find that I must have the patients at my institution. I have devoted my entire time to the treatment of this class of cases for the past six years and have never found a case that I could not cure, provided he wanted to be cured, and that without extreme suffering. Most patients do not suffer at all. Some of them have told me they felt better from the time they commenced treatment until they were cured than while themselves taking the morphin.

I will be glad to explain my methods to any physician who may be interested. A. J. PRESSEY, M.D.

Lepra Bacilli Found in the Brain.

NEW YORK, Dec. 23, 1898.

To the Editor:—Hansen said the brain is never affected by leprosy. Dr. C. Brutzer (*St. Petersburg Med. Woch.*, Oct. 17 and 19, 1898, No. 42, p. 363), reports ten autopsies of lepers who had died in the leprosery of Riga, and in four of these cases there were adhesions between the dura mater and the brain; in three of these four cases of adherent meningitis, he found lepra bacilli *au niveau de la glande pituitaire.* Evidently Hanson is wrong in his opinion that "the brain is never affected by leprosy." ALBERT S. ASHMEAD, M.D.

SOCIETY NEWS.

Chicago Pathological Society.— The second annual address before this Society was delivered by W. T. Councilman, M.D., professor of pathology in Harvard Medical School, Wednesday evening, Dec. 28, 1898, on the subject of "Inflammatory Processes Illustrated in Acute Inflammation of the Cornea."

N. Y. Academy of Medicine.—At the meeting, Dec. 15, 1898, the following officers were elected: President, William H. Thomson; vice-president, Herman Knapp; trustee, E. G. Janeway; treasurer, for the trustees, W. F. Cushman; member of committee on admissions, Reginald H. Sayre, and member of library committee, A. Caillè.

An International Congress.—The ninth international Congress against the Abuse of Alcohol, to be held in Paris, April 4 to 6, 1899, has appointed Dr. T. D. Crothers of Hartford, Conn., foreign coresponding secretary. This Congress is presided over by Dr. Legrain, an eminent specialist, and superintendent of the Asylum of the Seine for Mental Diseases. The preliminary program gives the names of several of the most prominent medical men of Europe as readers of papers on the scientific side of the drink problem.

Philadelphia Pathological Society.—At the last meeting of this society the following program was carried out: Dr. A. Ferree Witmer spoke on "A Study in Involution"; Dr. J. H. Johnson, on "Fistula of Appendix Following an Appendicial Abscess"; Drs. Sailer and Greisinger presented "Specimens From a Case of Typhoid Fever"; Dr. David Riesman spoke on "Hemorrhagic Infarction of the Mesentery and Intestine," also "Varicose Veins of Esophagus"; and Dr. W. E. Hughes, on "Aneurysm of Thoracic Aorta."

Philadelphia Pharmaceutical Society.—At the last meeting of this society, Mr. William Thompson read a paper on "Some Observations on Abstracts in Comparison with Fluid Extracts," in which he did not favor the use of the former until further clinical experiments had been made. Dr. Lyman Kebler spoke on "The Physical and Chemical Properties of Lithium Benzoate and Lithium Salicylate." Mr. Thomas S. Wiegand spoke of "Specific Gravity." The speaker referred to the claims of Mr. Simons of London, who, it was thought, had devised a method for taking specific gravity, but which honor should be given to Dr. Robert Hare, professor of chemistry at the University of Pennsylvania in the year 1828. Specimens of saffron were exhibited which were grown in Pennsylvania.

Western Surgical and Gynecological Association.—The eighth annual meeting of this Association convened at Omaha, Dec. 28, 1898, for a two days' session. About 150 of the leading surgeons of the trans-Mississippi country were in attendance. The convention was called to order at 10 o'clock by the president, Dr. D. S. Fairchild, of Clinton, Iowa. After the welcoming speeches the president read an address on "A Review of Some Surgical and Gynecologic Problems." Other papers read were: "Is Asepsis to Be Preferred to Antisepsis?" C. E. Stoner, Des Moines, Iowa; "Surgical Delirium," J. J. McCone, Tacoma, Wash.; "Treatment of Burns," W. D. Otis, Fort Morgan, Col. Among others who read papers were; Franklin H. Martin, Chicago; J. H. Kellogg, Battle Creek, Mich.; T. A. Stoddard, Pueblo, Col.; M. H. Everett, Lincoln, Neb.; William Jepson, Sioux City, Iowa; J. E. Moore, Minneapolis, Minn.; J. H. Van Eman, Kansas City, Mo., and O. Beverly Campbell, St. Joseph, Mo.

BOOK NOTICES.

Transactions of the Medical Society of New Jersey. 1898. Cloth. Pp. 481. Illustrated. Newark, N. J.: L. J. Hardman. 1898.

This volume contains the proceedings of the one hundred and thirty-second annual meeting, held at Albany Park, N. J., June 28–30, 1898, with papers on the following subjects: "External Esophagotomy," "Case of Lumbar Nephrectomy," "Foreign Body in the Bronchi," "Milk as a Food and as a Means of Contagion," "Milk," "The Umbilic Cord," "Uterine Displacement," "School Hygiene with reference to Production of Ocular Disease," "Regression vs. Progression, Viewing the General Practitioner from a Scientific Standpoint"; "Chronic Cardiac Disease and its Management," "Dangers of Certain Faulty Impressions Regarding the Menopause," "Early Diagnosis of Pott's Disease," "Recent Advances in the Normal and Pathologic Histology of Central Nervous System." There are also papers on the progress of bacteriology, surgery, public hygiene, ophthalmology and otology, and diseases of nose and throat.

Medical News Pocket Formulary for 1899. By E. Quin Thornton, M.D., Philadelphia. Leather. Pp. 272. Philadelphia and New York: Lea Brothers & Co. 1899. Price, $1.50 net.

In this pocket formulary the diseases are arranged alphabetically, and under each the author has grouped various prescriptions for both simple and complicated cases, with notes as to the indications, etc. Both the ordinary and metric systems are given in the prescriptions, which number 1600.

Proceedings of Thirteenth Annual Meeting of Conference of State and Provincial Boards of Health of North America. Paper. Pp. 125. Indianapolis, Ind.; Sentinel Printing Co. 1878.

These proceedings have to do with the conference held at Detroit, Mich., Aug. 10, 1898, and comprise the various papers and addresses presented at that session.

Report of State Board of Health and Vital Statistics of Pennsylvania. Cloth. Pp. 1110, 2 vols. Wm. Stanley Ray, State Printer, 1898.

This report, the thirteenth annual, is for the year 1897. Part I contains report and minutes; Part II contains appendices, which deal with various subjects, including various legislative acts, reports, etc. The contents is well arranged and the entire report is a credit to Pennsylvania's State Board of Health.

NECROLOGY.

Mark H. Lincoln, M.D., University of Pennsylvania, 1885, died in Philadelphia, Pa., Nov. 26, 1898.

John Stillwell Schanck, M.D., University of Pennsylvania, 1843, of Princeton, N. J., died Dec. 16, 1898, in his 81st year.

C. Holmes McNeil, M.D., who had been a member of the Jersey City (N. J.) Board of Health for three terms, died in that city, of cardiac disease, Dec. 18, 1898.

Robert Barfe Baisley, M.D., New York College Physicans and Surgeons, N. Y., 1842, died at his home in East Rockway, N. Y., Dec. 17, 1898. He was medical superintendent of the Kings County (N. Y.) Lunatic Asylum from May 8, 1855, to May 8, 1857.

John B. Vandergriff, M.D., University of Louisiana, 1846, of New Orleans, President of Board, United States Examining Surgeon of Pensions, and at one time medical director, G. A. R., Department Louisiana and Mississippi, died November 4, aged 71 years.

William A. Varian, M.D., New York University, 1846, died in Kingsbridge, New York City, where he had long lived, December 23. For many years practically retired, he was remembered as having been a police surgeon and at one time quite active in political circles.

Frank Archer Bottome, M.D., College of Physicians and Surgeons, New York, died at his home in New York December 20. He was born in Bridgeport, Conn., in 1865, and at the time of his death was connected with the clinic of nose and throat diseases at Roosevelt Hospital. Enthusiastically devoted to his profession, he was entering upon a most promising career.

Kemp B. Batchelor, M.D., Baltimore, Md., Dec. 24, 1898, aged 32 years.—James Ford, M.D., Wabash, Ind., Dec. 30, 1898.—Irving Fred Graves, M.D., Nashua, N. H., Dec. 15, 1898, aged 32 years.—E. H. Hyatt, M.D., Delaware, Ohio, Dec. 24, 1898, aged 71 years.—Martin C. Kelly, M.D., Mt. Clemens Mich., Dec. 23, 1898.—William Meyer, M.D., Cleveland, Ohio, Dec. 21, 1898, aged 78 years.—Sumner A. Patton, M.D., Skowhegan, Maine, Dec. 19, 1898, aged 78 years.—James H. Ricks, M.D., Bolton, Tenn, Dec. 9, 1898, aged 28 years.—William Schorse, M.D., Milwaukee, Wis., Dec. 11, 1898.—D. F. Shea, M.D., Franklin, Mass., Dec. 22, 1898, aged 31 years.—John Sheets, M.D., Philadelphia, Pa., Dec. 26, 1898.—Vernon L. Todd, M.D., Kansas City, Kan., Dec. 22, 1898, aged 31 years.—James E. Whiteford, M.D., Baltimore, Md., Dec. 20, 1898, aged 50 years.

PUBLIC HEALTH.

The Plague at Madagascar.—The *Semaine Med.* (December 7) states that it is officially announced that the plague has broken out at Tamatave and the surrounding villages. It is supposed that it was imported from India "where the government, for political reasons, has ceased the sanitary measures adopted at first."

Campaign Against Charlatanry.—A committee has been appointed by the *Aerztekammer* of Brandenburg and Berlin to devise measures to educate the public to the dangers of consulting quacks, and the benefit to be derived from scientific medical attendance. The committee offers a prize of 300 marks for the best pamphlet on the subject by a physician of Germany, which is to be distributed broadcast among all classes of society. Schwalbe and Eulenburg are among the ten members of the committee.

The New French Sanitary Matches.—The substance employed is neither white nor red phosphorus, but the sesquisulphid, manufactured according to a process invented by Sevène and Cahen, The sesquisulphid takes fire at 95 degrees C., white sulphur at

60 degrees and red at 260. The pastes made with this substance are not phosphorescent, and emit no fumes nor smoke during the manipulations. It has been tested on guinea-pigs, which tolerate a dose of three centigrams a day, while they rapidly succumb to three milligrams of white phosphorus.—*Progrès Med.*, December 10.

Eyesight of Railroad Employes.—Dr. Ricchi of Florence stated at the Brussels International Congress, 1897, that the Italian railroads require of their employes both eyes normal in regard to visual acuity, ocular refraction, perception of red and green and visual field. They are re-examined when they are 45 years of age, when they have been injured or affected with a serious cerebral or infective disease, when they are addicted to the use of tobacco or liquor, or merely suspected of diminished visual faculty. The Monoyer scale, Donder's and Holmgren's are the tests used. Nuel advocates re-examination every five years and after every accident, including all the employes on the train and those responsible for that portion of the track. Bickerton remarked that the eyes of candidates for the British navy are not tested until they have been in the service for some years, and then not by a medical man. Beaumont added that the standard exacted by the English railroads of their employes is only one quarter of the normal eyesight in the best eye. Parliament is powerless to interfere, as eighty members of the House of Commons are directors of railroads and oppose any reform on account of the expense.—*Rev. Gen. d'Ophthal*, November 30.

Sanitary Advantages of Automobile Carriages.—In the annual report of the licensing of public carriages which had just been issued by Sir Edward Bradford, commissioner of police in London, there are some interesting statements regarding the progress made by motor carriages for hire. He hopes to find in motor carriages one of the main factors in solving the problem of the congestion in the London thoroughfares. He says: Should electric carriages come generally into use, the effect on the traffic of the metropolis will be marked, as such vehicles occupy but a little over one-half the space of that of a similar vehicle drawn by a horse. From a sanitary point of view also, a diminution of the number of horses in the streets is a desideratum. The report points out that the number of carriages is continually increasing. Altogether there are 16,000 public carriages licensed in London, an increase of 872 over the number licensed in the previous year. In Paris, further indications of the gradual substitution of mechanic traction for animal traction are furnished in the statement made by an official of the Compagnie Générale des Petites Voitures to the effect that they have from thirty to forty motor cabs all ready to put into use, but they are delaying bringing them out so that the drivers may become perfectly expert, the more so as the streets are at present in a condition which renders driving very difficult.—*Public Health.*

Military Sanitation in Manila.—The following is a report by Lieut.-Col. Henry Lippincott, U. S. A., of date Oct. 23, 1898; also a report by Major Samuel O. L. Potter, Second Brigade, Second Division, Eighth Army Corps:

Since the date of my last report, Aug. 31, 1898, I have the honor to inform you that the troops of this command have been placed in quarters, and are now fairly well housed. The buildings occupied are dwellings, vacant Spanish barracks and convents, all of which are constructed in a most insanitary manner. Three regiments of infantry, namely, the Twelfth Minnesota and Second Oregon Vols., and the Twenty-third U. S. Infantry, constituting the provost guard, are stationed within the walled city of Manila, and the remainder of the command in the various parts of the unwalled city or suburbs. The command now in the Philippine Islands consists of 15,419 officers and enlisted men, including 393 members of the hospital corps and 9 contract surgeons.

The sanitary surroundings of our troops are necessarily unsatisfactory. In the walled city, and indeed in parts of the outlying districts, the filth of centuries seems to have been allowed to accumulate. No sanitary control has, it appears, ever been attempted over the native population, whose personal habits are anything but cleanly. Just outside the walls that enclose the city is a ditch or moat, which has not been flushed in years, and is now filled with stagnant water, decaying vegetation, etc. The health of the troops can not but be materially affected thereby, and the Second Oregon Vols., who are doing the police duty of the city, have a larger sick report than any other regiment in the command, there being 95 sick in this regiment at the present time.

The sewerage system of the city is in a most insanitary condition. Even in private houses little attempt has been made to properly trap closets and urinals, and as the water-supply is in most cases deficient and the system out of order, the rooms are permeated almost constantly with an offensive odor. In public buildings, like the *Ayuntamiento*, or City Hall, where the headquarters are now located, in military barracks, hospitals, etc., the arrangements are even more unsatisfactory. For the most part, in the hospitals and in nearly all the barracks occupied by our troops, the water-closets are mere holes in the sewer pipes, without, in some cases, even as much as a seat. Large, open cesspools are usually placed in connection with the buildings and are in many instances exceedingly filthy. Many of them have been filled in with earth and lime since our arrival here.

A board of health has been organized for the City of Manila, with Major Frank S. Bourns, chief surgeon U. S. Vols., as president, Capt. C. L. Mullins, asst.-surgeon First Nebraska Vol. Infantry, in charge of the marine branch, and Dr. Charles McQuesten, acting asst.-surgeon U. S. A., as general assistant. A department of sanitation has also been established in connection with the Provost Marshal-General's office, with Capt. Lea Febiger, Twenty-third U. S. Infantry, in charge, and these two bodies, working in absolute harmony, have done much toward cleaning and freeing the city of its accumulated filth, and thus indirectly improving the sanitary surroundings of our troops. The sewerage system of the city, and especially that part of it connected with barracks and hospitals, requiring, as it does, a complete overhauling, could not, of course, be much improved in so short a time and without the expenditure of a considerable sum of money; but something has been done and is still doing in that direction. Where the closets can not be flushed, on account of not being connected with the water-supply, or because of a deficient supply—and this holds good in many cases—they have been closed, and latrines dug instead. In some cases dry-earth closets have been provided, and the chief quartermaster of the command has just made arrangements with a Chinaman comprador to have these cleaned out and emptied once a day. When these arrangements are perfected, it is believed that our sanitary condition will be much improved.

There is a water-supply system for Manila and its suburbs, and the usual distributing pipes, all, however, in bad order. The condition of the water indicates that there is not complete isolation from the sewerage system, for fecal matter has been discovered therein. The water from hydrants is, therefore, regarded as exceedingly dangerous, and I have called attention to this matter and urged its importance. With all these warnings, however, men still continue to drink this water unboiled, besides imbibing various noxious fluids sold on the streets and elsewhere by the native population, under the name of "lemonade" or "soda water." This habit of the men accounts to a great extent, I fear, for the prevalence of typhoid fever and dysentery in the command.

Smallpox made its appearance in this command, Sept. 2, 1898, since which date twenty-one cases have occurred, eight of which, I regret to say, have died. There does not appear to be any particular focus of infection, since the disease has occurred in regiments widely separated from each other, but it springs undoubtedly from contact with the native population, among whom smallpox flourishes to a greater or less extent throughout the year. In at least two instances the disease can be traced to native washer-women, one of whom was recently discovered fondling her smallpox child with hands still wet with the water used in washing the clothing of some men in the Thirteenth Minnesota Infantry. Then again there is the habit our men have of going into native huts, in total disregard of the consequences, sitting there for hours at a time, eating their contaminated fruit and viands of all description, drinking their infected fluids, and otherwise exposing themselves unnecessarily to smallpox and other infections. Direct contact with the disease and infected clothing are therefore the sources from which our men have become attacked with the disease. It may be stated here that the laundry work of the command has heretofore been done by native women, who do not include boiling as a part of the process of washing, nor do they even boil the water used for the purpose. To avoid any further danger from this source, I recommended to the Adjutant-General of the Department, October 6, that all washing be done by the enlisted men themselves, and this recommendation is now going into effect. The measures adopted for preventing the spread of the disease consist in the isolation and control of all those found sick, the isolation of our own patients and the disinfection of the quarters, both of natives and of troops, in which the disease occurred. A tent hospital has been established for our own cases, with Capt. A. P. O'Brien, asst-surgeon, First California Vol. Infantry, in charge, and the cases now under his care are doing well and will probably recover.

The woodwork of barracks is washed with a solution of corrosive sublimate and the plastered walls of most of them are now being lime-washed. Some days ago I directed the surgeons to ascertain and report the number of men in their commands who required vaccinnation or revaccination, and I telegraphed to the American consul at Yokohama for 3500 hermetically sealed tubes of the best non-humanized vaccin virus. Fifteen hundred of these were shipped from that point, October 4, and arrived October 20, and the remaining 2,000 were shipped October 14, and will probably reach me in the course of ten days or less. With these tubes, each of which contains virus sufficient to vaccinate two or three men, I shall have sufficient to vaccinate all the cases that have been reported to me as requiring it, in order to fully protect the command. I do not fear that an epidemic will break out among our troops, since some 20,000 points of vaccin were issued previous to our sailing from San Francisco, which means that every man in the command was vaccinated or revaccinated before he arrived at Manila. There can be no doubt, however, that isolated cases will appear here and there from time to time, as a different result can hardly be expected in a country where the disease is habitually endemic.

During the week ending September 19, sixty-one cases of typhoid fever developed in the command. The next week there was a slight decline, while since then there has been a gradual rise. In malarial fever the rise has been steady since September 12. The average number of sick from dysentery and diarrhea during the seven weeks ending October 17 was 246 in quarters and hospital. The wounds reported October 17, were nearly all of accidental origin. It will be noted that there has been a gradual rise in the venereal cases, from seventeen on September 5 to 178 on October 17, this notwithstanding the warning contained in the circular of Aug. 27, 1898, from these headquarters. In the total number of sick from all causes there has also been a steady rise from 1032 on September 5, to 1850 on October 16. Our death-rate was rather large in the weeks ending October 3 and 10, owing to the breaking out of smallpox, but the report for October 17 would indicate a slight decline. I may remark that convalescence from all diseases, and especially from typhoid fever and dysentery, is exceedingly slow in this climate on land, and consequently the necessity for a hospital ship is felt. It is surprising what effect five or six days on the water has upon such convalescent patients when otherwise properly cared for. I was informed that the *Scandia* was coming as a hospital ship, but the Board of Medical Officers who examined her find that she is unsuited for the purpose without extensive alterations, which can not be made here and must be done in Hong Kong. I am therefore compelled to keep patients on land, and see convalescents accumulating until the hospitals are filled to overflowing.

The matter of finding sufficient suitable buildings for our hospital patients has been a serious problem during the past four weeks. The Second Division Hospital, referred to in a previous report, has capacity for about 500 patients. As it was becoming very much crowded, it became necessary to erect tents and look elsewhere for hospital accommodation. This was found for a time in the vacant convent building, De La Asuncion, situated on Calle Heran, Manila, in the district of Ermita. This building was impressed for hospital purposes by Special Orders No. 59, from these headquarters. It is a beautiful structure, excellently adapted for hospital purposes, has accommodation for about 250 patients, but is still not sufficient for our needs. I am now endeavoring to find a suitable building on the north side of the Passig River, where by recent orders (G. O. 22) the Second Division is to be quartered. If I succeed in finding a building in that locality, with a capacity of 300 or 400 beds, it will not only be a great convenience to the troops quartered in that part of the city, but will be sufficient, I believe, for present hospital requirements.

During the past month the troops stationed at Cavite were: Headquarters First Division, First Montana Vol. Infantry, Battery G, Sixth U. S. Artillery, and Detachment California Heavy Artillery. By the new arrangement all but the California Heavy Artillery are coming to Manila, and the Eighteenth U. S. Infantry is to take station at Cavite. Upon the establishment of the headquarters of the First Division at Cavite, the hospital there, at first called the Reserve Hospital, was designated the First Division Hospital, and an average of sixty patients has been in this institution during the past month, it being unable to accommodate more comfortably. The building, as already reported, is entirely unsuited for hospital purposes, but is the best that could be found in Cavite. By careful attention to sanitary details and under the able management of Major Warne, surgeon First South Dakota Infantry, the death-rate from typhoid fever has been reduced until at the present time it is about equal to that in the Second Division Hospital in Manila. The ordering of the Eighteenth U. S. Infantry to Cavite will necessitate the retention of this hospital for that regiment.

As to supplies, our present hospitals are provided with everything neeedful for the comfort of the sick. Excellent storage room has been obtained and a supply-depot established, where requisitions are now being filled as they arrive. The supplies brought by Major Corbusier, the acting medical purveyor of the department, on the *Arizona*, and by Major Owen, brigade surgeon, U. S. Vols., on the *Scandia*, will be sufficient to equip the hospital at present, and the supply of medicines, etc., on hand will be enough, I believe, until the arrival of the stores asked for on the requisition forwarded by me to Colonel Middleton, Sept. 12, 1898. However, I will not fail to purchase here or in Hong Kong, should that be necessary.

In conclusion, I may remark, that although Major Owen brought 123 privates with him on the *Scandia*, I am still short of the necessary men to do the necessary work of the hospitals, owing to the fact that many of the men are sick. It has been a most difficult matter to obtain good nurses and attendants' but the men are being instructed and are giving better service as they gain in experience. I am very short of experienced stewards and acting stewards. The acting stewards are all new men, necessarily untrained in hospital work and especially in that part of it pertaining to the preparation of reports and returns, resulting in many errors and blunders, requiring numerous corrections and thus requiring an unnecessary amount of labor upon my office; for it has been my aim to forward to your office reports that may serve in some degree as a record.

Major Potter reports:—This brigade was at first commanded by Gen. F. V. Greene, afterward by Gen. Irving Hale, and consists in part of the Third U. S. Infantry, the First Colorado, First Nebraska and Tenth Pennsylvania Infantry and two batteries of Utah Light Artillery. The brigade went into camp July 18 to 21, at the village of Tambo on the south side of Manila Bay, about four miles from Manila. This camp was afterward designated Camp Dewey, and was occupied by the brigade until August 13, when the advance on Manila occurred. Since then the brigade has been quartered in the Spanish barracks, public buildings and rented houses in the districts and suburbs of Manila, known as Tondo, Binondo, Santa Cruz, San Miguel, Malacanon, San Sebastian and Samploc.

The only marches or journeys made by the command were the daily journeys to and from the trenches, about two miles each way, and the final march into Manila, including the assault on the Spanish works and the skirmishing through Malate and Ermita on August 13, about nine miles for the most active portion of the brigade. On July 29 the insurgent intrenchments north of Camp Dewey were occupied by the brigade, and new trenches dug by our troops about 100 yards in advance of the old ones and extended eastward to the Pasay road. In these trenches occurred all the fighting until the day of the final advance on Manila. On August 13 the brigade advanced upon the Spanish line of works, drove back the enemy and occupied Forts San Antonio, Malate and Ermita. The brigade then advanced over the Pasig River to the northern districts of Tondo and Binondo and the eastern district of Samploc, finally taking station along the northern and eastern fronts of the city, on a line about four miles long, extending from the northern bay shore to Nadtajan on the Pasig, east of Samploc. The distance marched this day was about nine miles for the Colorado regiment and from five to six miles for the other organizations. The United States flag was raised on Fort San Antonio about 11 A.M. of this day by Lieut. A. McD. Brooks, adjutant First Colorado, who had been detailed by General Greene for that duty.

Sanitary Condition of Camp Dewey.—Camp Dewey was located on ground sloping toward the bay shore and composed of sandy soil containing much sub-surface water about eighteen inches below a scanty covering of grass. The camp faced the bay with the kitchens and latrines in the rear. The latter could not be excavated to a greater depth than two feet and required repeated reconstruction. All kitchen waste which could not be burned was deposited in pits dug for the purpose and covered with dry earth thrice daily. The water used for cooking and drinking was generally obtained from shallow native wells and contained a large amount of organic matter, but was boiled before being used as far as the limited utensils and fuel would allow. New wells were dug by some of the regiments. The troops were quartered in shelter tents raised above the ground on bamboo platforms. The drainage was poor, but the porous soil rapidly absorbed moisture. The health of the troops was generally good in this camp, notwithstanding the daily heavy rains, the scanty supply of firewood and the unsuitability of the army ration to the climate. A mild epidemic of measles occurred in the Colorado regiment, but was soon stamped out by prompt isolation of all suspected cases. The prevailing sickness consisted of digestive disturbances and diarrhea. In the Nebraska regiment there was no infectious or contagious disease except three cases of parotitis, and the total sick and wounded during this time numbered only ten.

From July 29 to August 13 the trenches were occupied by details from the command, made daily, each organization in the brigade doing this duty about every third or fourth day. Each tour of duty comprised a march of about two miles through water-soaked rice fields, twenty-four hours' duty in the trenches and the return march. Hardly a day passed without several severe rainstorms and as the men were in the open air during their entire tour, their clothing was constantly wet, and on their return to camp they would frequently find their remaining clothing and beds saturated with water. The ground in the rear of the trenches became insanitary by the deposit of excreta. Notwithstanding these conditions the health of the command remained good. Boiled water and coffee were furnished to the men, and they were strictly forbidden to drink anything else. Some organizations obtained good rainwater from cisterns in dwelling-houses near the trenches. The percentage of sick in the command at this time varied from three to six in the different organizations.

Conditions in Manila.—After August 13, when the brigade moved into Manila, it was quartered in various places along the line heretofore mentioned. Spanish barracks, warehouses, public buildings and private houses were utilized for this purpose. Most of the buildings occupied were in an extremely unsanitary condition, this being especially true of the barracks formerly occupied by Spanish troops. An immense amount of labor was performed in cleaning up these places and their vicinity and the troops were quartered as far as possible on the upper floors, where they were generally very much crowded. In some cases, however, it was necessary to occupy the ground floors, which, though paved with large flagstones, were exceedingly damp. Many of these houses were occupied by natives, left as caretakers by the owners, who were accompanied by their families, relations and friends, often aggregating a large number of persons. As rapidly as possible cots were furnished to the men, and other quarters were obtained in lieu of the most unsanitary and crowded ones, as fast as the necessary arrangements could be made. With the inaction following the occupation of Manila began a steady increase of sickness in the command. Intestinal complaints, as diarrhea and dysentery, and typhoid and malarial fevers predominated. Furunculosis, pemphigus and otitis externa furnished many cases during the month of September. Eight cases of variola and four of measles have appeared in the brigade, but there is no indication of these diseases becoming epidemic and every precaution is being taken to prevent the men from frequenting the quarters of the natives. Venereal diseases have been infrequent, there being only nine cases reported in the entire brigade on October 1; but these infections are now increasing in number, the reports showing 56 on October 22. The percentage of sick from all causes for the weeks ending October 1, 8, 15 and 22 was respectively 9.5, 10.5, 12.5 and 13. Our regiment reported 95 cases of nostalgia. Some of the regimental medical officers are badly infected with this complaint, and such naturally sympathize with the men. The result is a sick list wholly out of proportion to the real amount of disease present.

The medical service of the brigade consisted at first of 11 medical officers, 8 acting hospital-stewards and 30 privates of the hospital corps. Upon the occupation of Manila a division hospital was established and all the sick who could not be treated in quarters were removed thereto. The present strength consists of 10 medical officers, 7 acting hospital stewards and 18 privates of the hospital corps. Prior to entering the trenches first-aid packages were distributed to the officers and to every second enlisted man. The arrangements for the care of the wounded are well illustrated by the following extract from the report of Major Lewis H. Kemble, surgeon First Colorado Infantry: "The day of the building of the new trenches a temporary hospital was established in a building at the extreme left of the old insurgent intrenchments and about 100 yards to the rear of our new ones, which, though already riddled by bullets, seemed more out of range of Spanish guns in case of a possible attack than any other place. This continued to be used as the first-dressing station until the advance on Manila, August 13, with the exception that on August 1 it was found necessary to move to underneath a wide porch at the rear of the house, which was then fortified by a thick wall of earth thrown up from underneath the building. Here all first dressings were applied and the wounded were then carried back to the brigade hospital either by the litter-bearers or in native carts, on which they could be laid out full length and transported very comfortably. A first-dressing station was also established in as well protected a house as could be found on the line of the reserves, which were stationed about one-fourth mile in the rear of the trenches. During the advance on Manila the first-dressing stations were moved forward as the command advanced, and the wounded were very rapidly and satisfactorily transported to the brigade hospital in native carts."

The surgeon of the Tenth Pennsylvania Infantry, Major George W. Neff, says in his report: "The medical and surgical supplies for this regiment have been very good. On August 1 twenty-eight of our men were wounded in battle and the wounds all did remarkably well. There was not a single instance in which there was an untoward symptom. This, I think, is largely due to the first-aid dressing and the careful antiseptic treatment they received at the division hospital."

Lieut. Jere. B. Clayton, asst.-surgeon, U. S. A., reports as follows concerning Camp Dewey: "The men were under shelter tents, the officers under wall tents. Diarrhea gave more trouble than any other complaint, but yielded readily to treatment. After a time in the trenches, rheumatic pains, sore feet from the continuous soaking and small infected wounds from bamboo thorns were reported to the surgeon."

Before entering Manila the ambulance service was performed by native carts and other methods improvised by the medical officer in charge of the division ambulance company. Since occupying this city the ambulance company has been a division organization and has rendered good and efficient service. The losses of the brigade from August 1 to October 15 were: Died 44, wounded 55. Of the 44 deaths, 10 were killed in action and 5 died of wounds received in action, 2 were deaths from accident and 27 from disease. Three of the 55 wounded were cases of accident.

Sanitary recommendations.—From the first organization of the command many sanitary recommendations were made by the chief surgeon of the corps, and were published to the troops. Repeated sanitary recommendations have been made from time by the regimental surgeons to their immediate commanders, and have been enforced as far as possible. The brigade surgeon has made many verbal recommendations to the brigade commander, all of which have received prompt consideration and favorable action as far as it was in his power to promote them. They are summarized in the following extract from my Sanitary Report for October 16: For the control of the existing malarial, typhoidal and intestinal disease, I would respectfully submit:

1. That no men be quartered on the ground floor without having a wooden floor raised three or four feet above the earth.
2. That double-tier bunks be furnished whenever desired by regimental commanders.
3. That the sale of native made drinks and spirits of local manufacture be absolutely prohibited throughout the city.
4. That regimental commanders be required to insist on their men drinking no water except that which has been boiled.
5. That the men be required to keep out of the poorer natives houses, and that all natives of the lower class (except servants) be excluded from the quarters of the troops.
6. That laundry work be done in quarters or in separate buildings provided for that purpose under the supervision of regimental or company commanders.
7. That earth closets be furnished when desired by regimental commanders, and that all sinks be regularly cleaned by contractors under the Quartermaster's Department.

MISCELLANY.

Gastrostomy for Carcinoma.—Mikulicz reports seventeen deaths in eighty-three gastrostomies for carcinoma; two only, from infection. The average length of life was five months; some survived over a year. Witzel's method with Hacker's sphincter produced the best results.—*Cbl. f. Chir.*, November 12.

"Progressive Medicine."—The first volume of this new quarterly, edited by Dr. H. A. Hare of Philadelphia, will appear in March, 1899.

Appointment.—Raymond Custer Turck, M.D., has been elected Professor of Anatomy and Operative Surgery in the Post-Graduate Medical School and Hospital of Chicago.

Statue of Charcot.—An imposing statue of Charcot has been erected in Paris near the entrance of the Saltpetrière and the monument to Pinel. It was recently unveiled with appropriate ceremonies.

O'Dwyer Memorial.—At the College of Physicians and Surgeons, New York, the Board of Trustees has voted to establish a scholarship to be known as "the Joseph O'Dwyer Scholarship," in recognition of the work done by Dr. O'Dwyer in respect to the intubation of the larynx and his other fruitful labors in medical fields (vide JOURNAL, xxxi, p. 1064).

The "Revue des Sciences Medicales."—Professor Hayem's large and important quarterly will not be issued after this volume, which completes its twenty-sixth year. The editor refers with just pride to the great work it has accomplished in the past, and the value of its fifty-two volumes in a library. But he frankly acknowledges that it is now supplanted in its particular field by certain standard medical journals which review the medical press of the entire world and present the freshly gathered facts each week.

Avian Tuberculosis.—Cadiot, Gilbert and Roger announce, as the results of recent experimentation, that the parrot among birds is like the rabbit among mammals, either can contract both human and avian tuberculosis, which they consider addition proof of the identity of the two affections. Still further proof is afforded by the fact that successive inoculations of pigs and turkeys ended finally in overcoming their original resistance.—*Presse Med.*, December 7.

New Publications.—From London, England, we have received the October and November numbers, these being the first two issued, of a new publication, entitled *The Medical and Surgical Review of Reviews.* This publication is edited by Nathaniel E. Boyd, M.D., published at $3.75 per annum, and will contain a monthly summary of the best news in medical and surgical periodic literature throughout the world. We notice in the two numbers already issued numerous abstracts from leading American medical journals.

Banquet to Dr. Councilman.—A social dinner was given at the Chicago Club the evening of Dec. 28, 1898, in honor of Dr. W. T. Councilman of Boston. Dr. L. Hektoen presided and spoke on "Pathology in Relation to the Past." Other speakers were: Dr. James B. Herrick, "Pathology in Relation to Medicine;" Dr. N. Senn, "Pathology in Relation to Surgery;" Dr. Councilman, "Pathology in Relation to the Future." Among those present were: Drs. M. Dodson, James Nevins Hyde, G. Fustave Fütterer, F. Henrotin, A. D. Bevan, F. S. Coolidge, J. Doering, W. L. Baum, Sanger Brown, T. W. Miller, L. E. Frankenthal, H. N. Moyer, F. Johnson, H. Hooper, F. Billings, M. L. Harris, J. H. Etheridge, L. L. McArthur, C. Fenger, H. R. Edwards, W. Andrews, W. T. Belfield, W. Van Hook, M. Herzog, A. R. Reynolds, E. C. Dudley, H. B. Favill.

Ptomain from a Hydatid Cyst of the Liver.—Boinet and Chazoulière report a case of hydatid cyst on the liver in a man of 35 years, from which a clear fluid issued after puncture, scarcely at all toxic. Two weeks later, as the fluid had collected again, the cyst was treated with electrolysis for six minutes. Punctured again after a couple of days, they obtained from the fluid a very toxic ptomain, crystallizing in long prisms and fern leaves. The electrolysis had killed all the hydatids, evidenced by the presence of numerous hooks and albuminoid substances. The patient was discharged cured. The ptomain is probably the cause of the congestion of the lungs, hiccough, collapse, observed in some cases. It indicates the necessity of puncturing again a few days after electrolysis.—*Rev. Gen. de Path. Int.*, December 5.

Infective Icterus.—Several cases have been published recently of intense infective icterus, one with nephritis, hepatitis and inflammation of the lungs, in which an encapsulated proteus was found pure in the lungs, kidney and spleen, very few in the liver and none in the blood till after death (*Settimana Med.*, October 8). Others presented symptoms of a neuritis with paralysis, one with laryngeal motor troubles, another paresis of the lower limbs, left eye and facialia. In one case the infection could be traced to excavations being made in front of the house; other inmates of the building presented other infective disturbances of greater or less intensity.—*Rev. Gen. de Path. Int.*, December 5.

Expert Testimony.—Cruppi advocates legislation in France requiring a list, to be made out each year, of competent men in the profession especially qualified for medical experts. From this list the judge selects one or more experts and the prisoner also the same number. These experts work together and discuss their opinions together. If impossible to agree on their decisions, a third expert is to be chosen by them, whose decision will be final, although under present conditions, not binding on judge or jury. In Germany the government appoints a committee consisting of men who are acknowledged to stand at the head of their respective lines, and the question is then referred to the one best qualified to decide the matter.—*Presse Med.*, December 3.

Serotherapeutics of Acute Alcoholism.—Maramaldi has been experimenting to obtain immunity with alcohol against the effect of large doses. He announces that he has succeeded in administering alcohol to dogs in progressively increasing doses until they will tolerate an amount much larger than the minimum fatal dose, without any functional or organic disturbances. The serum of the dogs thus rendered immune contains certain specific antitoxins capable of neutralizing the toxic action of a dose of alcohol larger than a quarter of the minimal fatal dose. The normal serum has no such power in any way.—*Gaz. degli Osp.*, from the *Giorn. Int. di Sci. Med.*, 1898, 17.

Cleverness of General Wood.—There is something bordering on the marvelous about General Wood. He is doing things down in Santiago that are seemingly beyond the power of mere mortals. We first had our suspicions of the General when the news came that a body of prominent merchants had called upon him and asked him to invent some new taxes for them to pay. That more than hinted at the exercise of hypnotism, witchcraft, or some other black art to which these unsophisticated islanders certainly should not be subjected by our representatives. Now we get a report that another delegation of Santiago's eminent citizens have been similarly beguiled. They went to get certain taxes reduced, and the General, within an hour, had persuaded them to consent to an increase of the burdens in question! It's a late day to talk of diabolism, but these things are more than mysterious—they contradict nature. So far, we confess, General Wood has used his magic only for commendable purposes, but can he long endure the temptations which the possession of supernatural power throws around a man?—*New York Times.*

Pasteur's Fermentation Processes Amended.—Dr. E. Buchner, professor at Tübingen, recently delivered before the Third International Congress of Applied Chemistry, an address on the subject of fermentation without yeast-cells, in which he described his method of producing fementation by means of the liquor expressed from yeast. He stated that he infers from the result of his experiments that, contrary to Pasteur's theory, living yeast-cells are not necessary for the production of alcoholic fermentation, and that, consequently, fermentation is not a physiologic process, but is caused by the substance called zymose. Professor Buchner's discovery, if substantiated, may possibly throw a new light on the theory of infectious diseases, and may lead to results of the utmost importance.—*Review of Reviews.*

Contraction of the Unstriped Muscles.—Ossipow asserts that the unstriped as well as the striped muscles are affected by the general excitation of all the motor centers producing a epileptic attack. The stomach, the intestines and bladder contract and continue this contraction for some little time after the attack has ceased.—*Rev. Gen.* from *Neurol. Cbl.*, June 15.

Traumatic Tabes.—Trummer reports three cases of tabes commencing immediately after a severe traumatism—fall from a carriage or injury from a falling tree. In one case the arm was crushed and tabes developed in the course of an attack of influenza soon after. No cause for the tabes could be discovered aside from the traumatism, in either case.—*Rev. Gen. de Path. Int.*, September 5.

Manna of the Hebrews.—H. Castrey states in *Nature*, October 8, that the Arabs crossing the deserts of Arabia and even of Africa still find and use for food for themselves and their camels, the manna celebrated in Bible history. It is a thallophyte, the *canona esculenta* or esculent lichen. It is very common and is found scattered over the sand after a rain, a grey crytogam, the size of a pea, with an agreeable, slightly sweetish taste. It has rather a laxatixe effect. It contains 14 parts nitrogenous and 29 non-nitrogenous to 5 parts mineral and 32 starchy and 4 of fatty matters to 16 parts water.—*Nouv. Remèdes*, October 24.

Insular Sclerosis.—Erben has been studying five cases in various stages of this disease. He notes the striking increase of small nerve fibers and the marked rarefaction of the large fibers. The fibers generally seem normal, but occasionally the cylinder axes are swollen and the myelin stains pink with carmin, soon losing its colorability by hematoxylin. Among the small, shining fibers others are seen, pale and straight instead of wavy. He considers it probable that these smaller pale fibers are elements of regeneration, which would explain the remissions noted in this disease, not only in the sensory disturbances but in the vesical and intestinal paralysis and diminished vision. The vascular lesions were not very decided, merely a little infiltration of the walls of the larger vessels and of the capillaries. The perivascular lymphatic sheaths were enlarged, filled with pigment and red corpuscles. Sometimes the sclerosis had extended the entire length of the artery. The disappearance of some of the cylinder axes from the commencement of the affection explains the trembling, which indicates disturbances in the contraction of isolated muscles, while the ataxia is due to alterations in the muscular synergy.—*Rev. Gen. de Path. Int.*, from *Neurol. Cbl.*, July 15.

Vaccination Against Typhus.—Vandeauwera has succeeded in preparing a vaccin out of the bodies of typhus bacilli which will confer immunity upon a rabbit or guinea-pig for days and weeks without affecting the animal injuriously in any way: 0.4 milligrams to 500 grams weight protects against an otherwise mortal typhus infection twenty-four hours later. Five or six vaccinations, or a total of 3.7 to 7.6 milligrams during fourteen days, will immunize for forty-five to fifty-nine days. The typhus vaccin retains its efficiency for months. The organic fluids of animals immunized with it possess the specific agglutinating property. Twelve milligrams of the vaccin will protect for twelve days a guinea-pig weighing 600 grams, against a fatal dose of typhus toxin. The proportion of vaccin to the weight is one to a million against typhus infection, while it is one to fifty thousand against the intoxication. He considers his experimental results so promising that he urges clinicians to try the vaccin on man, as the effectiveness of a bacterial product increases with the increasing susceptibility of the subject, and as the vaccin is entirely harmless, and can be injected subcutaneously, diluted with sterilized water or salt solution. To protect against typhus and staphylococcus infection it is necessary to use a typhus and staphylococcus vaccin. —*Deutsche Med. Woch.*, from *Journ. Med. de Bruxelles*, 1898, Nos. 27, 28 and 29.

Calcium Carbid Restricted in New York.—The Fire Department of New York City has taken measures to safeguard the handling of calcium carbid, from which acetylene gas is made. For some time past this substance has been stored in very many of the stores in the city, and as acetylene gas is generated by the contact of water with the carbid, in case of a fire the water thrown by the firemen would, if it came into contact with the substance, quickly generate gas and probably cause a disastrous explosion. While nothing of this nature has happened, the fire officials think the time has arrived when the department should take cognizance of the growing trade in the carbid. According to the new rules, all calcium carbid in transit through the city and on storage must be inclosed in hermetically sealed iron receptacles and plainly marked: "Calcium carbid. Dangerous if not kept dry." No single package must exceed one hundred pounds. As to the sale of the carbid, not more than twenty pounds, either in bulk or cartridges, can be stored or kept in any building used for dwelling or mercantile purposes, and this amount can only be kept under a municipal permit, which will provide that all quantities in excess of two pounds shall be in tight metal packages, and kept elevated at least six inches from the floor, in a fireproof safe located above the street grade. The manufacture, transportation, storage, sale or use of liquefied acetylene is absolutely prohibited within the limits of greater New York.

Thymic Asthma in Infants.—Dr. Lange, in the *Centrabl. f. Gynak.*, No. 20, speaking at Leipzig of a case of sudden death, where the thymus was found enlarged, raised a discussion on the whole subject. Kroenig was of the opinion that rapid death of an infant should always be attributed to sepsis. It is in new-born infants that the purest examples of "bacteriemia" are to be found, not a trace of disease being visible at the necropsy, even at the umbilic wound, when the blood is full of colonies of streptococci. Lange's patient died suddenly at three and a half months; it had been under treatment for ophthalmia at the eye clinic, and had been weighed every week. It was not under weight, and it died suddenly, early in the morning, without any symptoms of acute or subacute mischief in the respiratory tract. The trachea, just one inch above the bifurcation, was contracted so that its lumen, not absolutely effaced, was like the hollow in the sheath of a sword. This contraction was due to the thymus, which weighed over three-quarters of an ounce, measured one inch in thickness, and closely embraced and compressed the trachea. Structural changes were detected in the tracheal tissues. Lange claims that this case is the first recorded in which purely mechanic and persistent compression of the trachea by the thymus was sufficient to kill. He showed the parts, and with them another instructive preparation of hyperplasia of the thymus without visible compression of the trachea, from an infant who had died snddenly from after attacks of spasm of the glottis. Zweiful had his doubts about the cause of death in Lange's first case, as the lumen of the trachea was entirely obstructed. Asthma thymicum might cause death, but there was a great difference of opinion concerning the disease.—*British Medical Journal.*

Have a Dubious Money Value.—A case of interest and importance to medical men in England was decided recently by one of the County Court Judges for Cambridgeshire. A physician sued a laborer to recover about $3.75 for professional services rendered in pursuance of an engagement to attend the laborer's wife during her confinement. Before the child was born, the wife engaged another medical man. The judge was of the opinion that the doctor who was originally engaged had no legal claim to compensation, inasmuch as he was not called upon actually to attend the mother when she was confined. This view has provoked much adverse criticism in British medical circles; and it is not easy to defend the doctrine of the decision on any ground of good morals. It was pointed out by the plaintiff that an obstetric engagement restricts the liberty of the practitioner more than almost any other kind of case, as he is compelled by the very nature of his undertaking to be constantly in readiness to attend the patient at a time which can not be fixed definitely. To engage a doctor and thus impose upon him restrictions that may affect his movements for many days, and then employ another physician, when there has been no fault or suggestion of fault in respect to the conduct of the first one, is a course of proceeding which certainly ought to render the employer chargeable with the fair and reasonable value of the first doctor's services in holding himself ready to respond to the summons, come when it might, which should call him to the bedside of the patient. The editor of the *Lancet* makes the remark, well and truly, that this decision tends to do harm to the poor parturient patient rather than to the practitioner. The latter can protect himself by exacting deposits and in various other ways. It is especially important for the poor classes to be able to rely on the binding nature of an engagement by a medical man to attend when summoned to a confinement. Previous engagement is of the very essence of safety and comfort of a woman who knows that shortly she will be in the pain and risks of child-birth. The judge's decision tends to demoralize the whole transaction. The woman may make another engagement; the medical man when he is sent for is free not to attend. This may be a good law, but it certainly is bad morals. It is fortunate that there is between such patients and their medical men a sense of obligation deeper than any which is fostered by the law, as laid down by such an unfortunate decision. Were it otherwise, medical men, certainly the best medical men, would decline to trammel their lives with obstetric engagements, especially among the poor, and those who were compelled by circumstances to do so would have to secure themselves by substantial deposits beforehand in earnest of their fees. The judge sought to draw a comparison between the case of lawyers in the higher ranks of practice and that of medical men in the lower. The comparison can not well be made. Among the poor, lawyers are not in demand to the same extent, for no one will deny that the laborer has, as a rule, more babies than lawsuits; and from rich clients lawyers can easily command retainers which secure their position. Medicine and its aids are as indispensable to the poor as to the rich, and its practitioners should have the support of law in their modest claims for hardly earned fees. The extreme modesty of these claims does not permit of their enforcement by any prolonged litigation, so that the county courts are likely to have their way without any fear of appeals in this class of cases. But this is an excellent reason why county court judges should not disparage the great unwritten contracts which govern life and death transactions between the poor and their medical advisers.

Blood Stains.—Prince (*Phil. Med. Jour.*, Dec. 24, 1898) suggests the following mixture as giving the best results in staining the nuclei of the leucocytes clearly, and at the same time the granules of the neutrophilic, eosinophilic and basophilic cells: Saturated solution of toluidin blue (Grübler) 1 part, 2 per cent. solution of eosin (Grübler) 2 parts. He mixes the solution in distilled water in the order given, agitates thoroughly for a few minutes, as the toluidin blue is precipitated by acid anilin dyes. He then employes the supernatant fluid only. Immediately after agitation the mixture is ready for use and from thirty to sixty seconds is sufficient time for staining, although at the end of ten or twelve weeks, it requires five to seven minutes to get a good result. He fixes in dry air at a temperature of 120 degrees nearly twenty minutes, although 128 degrees will not bring disastrous results and the time of fixation may be extended several hours with a highly beneficial effect. Fixation with alcohol, or with a mixture of alcohol and ether, gives less satisfactory results, the granules not being satisfactorily separated out from their surroundings. After fixation, the film on the cover-glass is covered with the stain, the solution being allowed to remain from one to three minutes, when the slip is washed thoroughly and rapidly in running water and dried quickly in the air. After drying, it is passed two or three times through a Bunsen flame and then mounted in balsam, when it is ready to be studied with a 1-12 in. immersion lens, with a flat mirror and open diaphragm. The nuclei of the small lymphocytes are stained a rather diffuse dark blue, with darker narrow bands of wavy outline interwoven through out each nucleus, while the protoplasm is stained pale blue. The nuclei of the large lymphocytes stain deeply with the same characteristics, the protoplasm staining faintly. Granules stained intensely blue are occasionally noted in the protoplasm and the nuclei of the large lymphocytes. In the polymorphonuclear cells the nuclei stain sharply and clearly and of a dark blue. The neutrophilic granules stain pink and are isolated from the protoplasm, which remains clear. Degenerative changes in the cells are distinguished by the faintness of the reaction in such cells. In the eosinophiles, the nuclei stain greenish-blue and the granules a deep maroon. The erythrocytes react faintly or stain darkly, a brownish-red stain, according as the spreads are stained for a shorter or a longer time. Nuclei in normoblasts stain deeply, exhibiting the karyokinetic tendency, when present. This stain shows the characteristics of leukemic blood very well, with better differentiations in the myelocytes, and the plasmodium malaria stains turquoise-blue and is therefore sharply differentiated from the cell in which it is enclosed.

"Surgical Interference" or "Surgical Intervention"?—The *Richmond Jour. of Practice* (November, 1898), says, editorially: "We have never understood why authorities in surgery use the word 'interference' when speaking of operative or surgical treatment. When a surgeon performs an operation for the correction of a deformity, the mitigation of pain or the saving of life, does he mean to say that he interferes? If it be interference, then he is culpable; but certainly no operator will plead guilty to the charge of doing meddlesome surgery, and the inevitable conclusion is that the term 'surgical interference' is a misnomer. Whenever we read it in text-books, or in current literature, we feel like substituting the word *intervention* for 'interference,' using the word intervention in the sense of interposition, or, better still, mediation—a coming between for a friendly purpose. The word 'interference' suggests the idea of collision, clashing, opposition, officiousness, intermeddling, etc. According to Webster: 'A man may often *interpose* with propriety in the concern of others; he can never *intermeddle* without being impertinent or officious; nor can he *interfere* without being liable to the same charge, unless he has rights which are interfered with.' And quoting from Trench: 'In our practical use, *interference* is something offensive. It is the pushing in of himself between two parties on the part of a third who was not asked, and is not thanked for his pains, and who, as the feeling of the word implies, had no business there; while interposition is employed to express the friendly, peacemaking mediation of one whom the act well became, and who, even if he was not specially invited thereunto; is still thanked for what he has done.' A few days ago we suggested this improved phraseology to two of our surgical friends, both of whom are teachers of surgery and liberal contributors to surgical literature. They agreed with us that the point was well taken, and announced it as their intention to adopt the suggestion, and we shall hope to see its general adoption by surgical writers."

Recovery After Wound of the Heart.—According to the *Lancet* (Sept. 18, 1898), Dr. Parlavecchio has described a case of punctured wound of the heart on which he had operated successfully. On the night of July 7 a man, 20 years of age, was stabbed in the fifth intercostal space on the left side, in the parasternal line (the vertical line midway between the border of the sternum and the nipple), with a knife. He afterward walked a distance of more than 200 meters (218 yards) to the Hospital of San Giacomo. Five hours later he was found to be suffering from pneumothorax on the left side with extensive effusion of blood into the pleura. The area of cardiac dulness was increased; at the apex the heart sounds were confused, and at the base they seemed to be distant. The pulse was irregular, intermittent and small. Parlavecchio suspected a wound of the heart, or at least a wound of the pericardium, but was not able to operate until eight hours after the injury. Chloroform having been given, a free incision was made in the fifth intercostal space and much blood escaped on opening the pleura. After resection of the fifth rib, a wound admitting two fingers was discovered in the pericardium and was enlarged so as to expose the heart, in which there was near the apex a V-shaped wound, 3.5 centimeters (one and one-half inches) long, penetrating obliquely into the left ventricle and intermittently discharging blood. It was closed with four deeply-applied separate silk sutures, after which there was no further hemorrhage. The pericardium and the intercostal wound were then sutured, the whole operation lasting forty minutes. The V-shape of the wound in the heart was probably due to its movement during the infliction of the wound. The patient's survival for the eight hours preceding the operation may be explained by occlusion of the wound by clot, which was displaced during the struggling occasioned by the chloroform. The subsequent history of the case was quite uneventful, and on August 14 the patient insisted on leaving the hospital. It is added that this is the third case in which suture of a wound of the heart has been followed by recovery.

Craig Colony for Epileptics.—New buildings are to be erected at the Craig Colony for the epileptics of New York State, which will provide accommodations for 300 additional inmates, under the per capita cost of about $350. The experience of this charity in the last three years has tended to remove the apprehensions of those who opposed the segregation of these patients, all of one class, in an institution by themselves. Not only has the influence of the patients on each other not been depressing, but the opposite has been found to be the fact. A sympathetic and helpful influence has arisen among them in that they are taught constantly to care for one another. They are trained to go in pairs or groups, and to be made to help a fellow-sufferer during an epileptic seizure. Regarding the practicability of making such a colony self-sustaining, some light has been gained. It is, or rather will be, found that all this is true, but at the same time this assertion should have been qualified by the statement that it would take time to do it, for the reason that none of the patients admitted, so far, possessed any degree of skill or education that would make them of much use in the industrial life of the colony. They had no opportunity in private life to acquire such skill, and when we furthermore remember that the Colony was obliged, in its early days, to receive patients exclusively from county poorhouses and alms-houses, it will be further appreciated without explanation why such patients could not and would not work. It takes three years to train the average epileptic, of an average degree of intelligence, to perform labor that is really useful and that helps to reduce the cost of maintenance. The nature of his disease makes it difficult to teach him, for the reason that he can not at any time act in continuity. What he does or learns today may be undone or forgotten during the next two or three days by reason of his incapacity from a seizure or series of seizures. The State Commission in Lunacy has approved of the contract by the board of managers of the Manhattan State Hospital, for the erection of the new Colony group at Central Islip, Long Island, to accommodate 2250 patients. It is designed to have this group finished by 1901, when the Blackwell's and Hart's Island institutions must, under the terms of the transfer of the New York City institutions to the State, revert to the city authorities. The population of these islands is now 2000. The cost of maintaining the insane in the institutions of New York is lower this year than at any time since the inauguration of the State care in 1893, being $184 per capita per annum.—Spratling: *Charities' Review*, November 6 (vide JOURNAL, xxxi, p. 1001).

Gleanings.—Laborde exhibited a guinea-pig at the meeting of the Paris Acad. de Méd., November 29, with confirmed experimental epilepsy, whose entire cervical sympathetic had been excised with the three ganglia, without affecting the epilepsy in the slightest. . . . Collective report on results of serotherapy of diphtheria in Russia shows that the public received it with confidence from the first, and that the death-rate has fallen to less than one-half of what it was before its introduction (*Gaz. Mèd. de Paris*, December 2). . . . Intestinal perforation and fistula after nephrectomy, with erysipelatous complications; spontaneous recovery commencing the fifth day with the natural course of the feces reestablished (Depage, *Gazz. d. Osp.*, December 6). . . . Formation of multiple anastomoses between a few branches of the veins of the retina, observed by Elschnig in two cases. . . . Soft chancre of the conjunctiva, fourth on record, cured with insufflations of calomel in fifteen to twenty days. No bacteriologic proof (*Rev. Gen. d' Ophthal.*, November 30). . . . Turner recommends cabinet-maker's glue and lignin, heated and rubbed into cambric over a cast, for a light, simple, porous and inexpensive prothetic apparatus (*Cbl. f. Chir.*, November 5). . . . Palleroni recently resected a large part of the liver to remove an echinococcus cyst. Seventeen stitches were taken, the process much facilitated by a few temporary threads passed through the liver, by which the assistant raised and held the organ (*Gazz. d. Osp.*, No. 34). . . . Virulent proteus found in meat from a cow that had been slaughtered on account of traumatic pericarditis. The meat produced sickness in sixty-three persons. A proteus was also noted in the Strasburg epidemic of the same nature (*Presse Med.*, December 7). . . . Tuffier calls attention to "tuberculous periappendicitis" without tuberculous lesions in the appendix itself. Three cases (*Presse Med.*, December 3). . . . Typhus bacilli noted in the marrow of a rib and of the femur in a case reported by Busch (*Zft. f. Hyg. u. Inf.* xxxiii, 3). . . . Case of progressive paralysis in mother and child of nine; mother died in three years, child in seven (*Deutsche Med. Woch.*, December 1). . . . Ballard, extolling the value of cheese as food, at the Paris Acad. of Sciences, stated that 100 grams Gruyère cheese contain as much fatty and nitrogenous substances as a quart of milk, that is, more than 250 grams of meat (*Presse Med.* December 7). . . . A boarding house has just been opened at St. Petersburg for the exclusive benefit of country physicians who wish to spend a few weeks there attending some post-graduate course, at the minimum of expense. It is practically a club house in most of its arrangements. . . . Simon confirms the much increased peristalsis of the stomach and intestines after taking one gram of Glauber's salt during the day. It has a beneficial effect on anacid, mucous gastric catarrh, but does not decrease hyperacidity. . . . Escherich notes that the amount of water in an organ determines the depth of the shadow in the radiograph, as can be verified with a wet and dry sponge. . . . Case of cirrhosis of the liver, with spleen weighing 2.75 kg. and hemorrhagic diathesis, in a man of 39 years. The liver affection was not suspected until just before death, and the case assumed to be pseudoleukemia. . . . Fifty unmistakable cases of tardy congenital syphilis noted in the Hamburg asylums, among 540 idiots, 100 deaf and dumb and 60 blind subjects *Deutsche Med. Woch.*, December 1). Lindner exhibited a patient of 66 years, before the Berlin Surgical Society, whom he had operated nine months previously for an incarcerated crural hernia. An injury to the arteria femoralis made it necessary to suture quite a large hole in the artery; smooth recovery. Glück also reported extensive successful experimentation with sutures in arteries and veins, with and without absorbable or non-absorbable prothesis (*Deutsche Med. Woch.*, December 8).

San Francisco.

New Quarters.—The College of Pharmacy of the University of the State of California recently moved to its new quarters at the Affiliated Colleges buildings. The Market Street Railway Company is building a road out to the buildngs, to be completed early this year. The old road ran out within about one thousand feet of the buildings, but it left passengers at the bottom of a steep hill. The new road will be of much better construction, is being built on the street level of the buildings on College Hill, and it is the purpose of the company to run cars through from down town to the buildings. Changes in the course of the other departments of the university at Berkeley have been made, so that the undergraduates who are at the same time prospective medical students, may take up much of the required preliminary work while at Berkeley. After a two-year course with the departments at Berkeley, students may enter the second-year class at the medical department and receive upon graduation the degree of B.S., as well as the regular medical degree. The library of the medical department has already outgrown the shelving provided when the room was furnished, and as accessions to the library are numerous and continuous, increased facilities are being planned for the care and shelving of the volumes.

Assistant Appointed.—At his personal request an assistant has been appointed to Dr. R. A. McLean, in the chair of clinical surgery, in the medical department of the University of California. Dr. McLean has been in very bad health for some time past, and has found the work entailed upon him by virtue of the college work, too trying for his health. Dr. T. W. Huntington of Sacramento has been appointed as Dr. McLean's assistant, and it is understood that he will take charge of all the operative work. Dr. Huntington graduated from the Harvard Medical College in 1876, and for many years has been the chief surgeon of the Southern Pacific Railway's hospital at Sacramento. By long, careful and successful work he has made for himself a very enviable reputation on the Pacific coast as a surgeon of the first ability, and it is an honor won by hard and meritorious work that has now come to him in this appointment.

Washington.

Public Health Committee.—At the meeting of board of directors of the Washington Board of Trade, held on Dec. 16, 1898, the following were appointed members of the Committee on Public Health: Drs. W. W. Johnston, chairman; H. L. E. Johnson, W. P. C. Hazen, Louis W. Ritchie, John E. Jones, J. B. G. Custis, George Henderson, Charles W. Richardson, R. A. Phillips and H. H. Barker.

Antivivisection Bill.—At the close of the session of the American Humane Association, the organization adopted a resolution earnestly indorsing the Washington Humane Society's bill for the regulation of vivisection in the District of Columbia, and advising the humane societies of the country to work for the bill before Congress. Resolutions were adopted fixing the salary of the secretary of the Humane Association at $500 a year. It was further proposed to nominate Columbus, Ohio, as the next place of meeting. John G. Shortall of Chicago was elected president. It will be next to impossible for Congress to consider this bill during the present session, but the regular physicians of the country should, nevertheless, keep an eye on this matter and be prepared to resist the unexpected, which may crop up at any moment.

Medical Journal Club.—At the annual meeting of the Medical Journal Club of Washington, Dr. Henry Alfred Robbins was elected president and Dr. Francis P. Morgan secretary and treasurer. Dr. D. W. Prentiss was elected an active member of the club.

Health of the District.—The report of Health Officer Woodward for the week ended December 17 shows the total number of deaths to have been 118, of which 71 were white and 46 colored. The principal causes of death were apoplexy, heart and lung diseases, intestinal diphtheria, diseases of the kidneys, scarlet fever, typhoid fever and suicide. The total number of births was 112, of which 78 were white and 44 colored. At the close of the week there were 127 cases of scarlet fever and 122 cases of diphtheria under treatment.

Philadelphia.

"Old School Physicians" vs. "The New."—The above heading is clipped from a daily paper published in this city, in which it is reported that disciples of Hahnemann are up in arms over the way graduates of that institution, and others which teach the same doctrine, have been excluded from serving as surgeons in the National Guard of Pennsylvania and in the regular Army and Navy. The homeopaths of Philadelphia want to assert themselves, and they have asserted themselves with a vengeance. They want to grow and expand. Whether this expansion also includes a breaking away—an enlargement as it were—upon the views once promulgated by their founder, remains to be seen. The writer is in a position to know that at an institution at which they operate they use bichlorid solution in different strengths, varying from 1000 to 5000, that they disinfect in the same manner as allopathic physicians, and operate similarly, so that if you did not know they were homeopaths, you would hardly suspect it. It may also be stated that the doctrine of minute doses, or doses given according to "potency," is not so strong as it once used to be. This time and day may, therefore, be a fitting one in which to expand—enlarge, but whether or not they will be requested to testify to that fact before admission into the Army and Navy, remains to be seen. It may be a question for Surgeons-General Sternberg and Van Reypen to decide. In regard to the question of admission of homeopaths into the National Guard of Pennsylvania, a prominent homeopathic physician is reported as saying: "A strong combination exists in the National Guard of Pennsylvania to prevent the appointment of homeopathic surgeons. The fact that such a combination exists is not a secret. When the war broke out, many homeopathic doctors offered their services in the volunteer army. They were invariably rejected, however. In most instances no reason was given for their rejection. The surgeons-general in most of the States, including Pennsylvania, are old school men; they have everything in their own hands, and whenever a homeopathic applicant presents himself for appointment, these officials take good care to see that they are rejected. This state of affairs is due to 'prejudice' alone. The same condition exists in the Army and Navy. Time and again have homeopaths presented themselves before both the Army and Navy Boards for examination, only to be turned down. The Surgeon-General of the Navy does not conceal his prejudice against the followers of Hahnemann. In the Army the things are the same."

Good Showing.—During the recent Hispano-American war and subsequently, the University of Pennsylvania Hospital treated a total of 270 soldier patients, only six of whom now remain. Of the total number, probably the majority suffered from typhoid or malarial fever. There were only five deaths.

National Relief Commission.—Mr. George C. Thomas, treasurer of the National Relief Commission, has acknowledged the following contributions: Cash previously acknowledged, $79,293; cash from benefit play, $102.40; cash, $222.37; total value of supplies to date, $40,345; grand total cash and supplies, $119,962.77.

Resignation.—Dr. Guitéras has severed his connection with the University and will make his future home on his native soil. He is known far and wide for the earnest devotion and zeal with which he has always imparted the subject of pathology to students of this school.

Diphtheria.—The fact that diphtheria has been almost epidemic in this city for the past few weeks is gradually being learned. From a study of the mortality statistics during that time it is seen that there has been a steady increase in the number of cases reported from week to week, with a corresponding death-rate.

Want a State Insane Asylum.—Some time ago, at a meeting of homeopaths, it was decided to attempt to have the State erect an asylum for the treatment of insane persons under their direct supervision. At the last meeting of the Homeopathic Medical Society of Germantown a report was heard from the organization's Committee on State Homeopathy for the Insane, which accepted the plan proposed. It was therefore suggested that the society appoint a delegate to be one of a committee composed of a delegate from each of the other homeopathic societies in the State appointed to act in conjunction with the legislative committee of the State Homeopathic Medical Society to secure the passage by the next Legislature of a bill providing for a Homeopathic State Insane Asylum in Pennsylvania. It is further stated that at the last session of the Legislature a similar bill was passed, but owing to the fact that no definite place was settled for the erection of the asylum and for other reasons, the bill was not signed by the Governor.

La Grippe.—Two weeks ago there were probably not two dozen cases of la grippe in this city, but today the number would almost run up to a hundred thousand. City officials, ministers, doctors, policemen are down with the disease, while several schools have been closed until its abatement.

Mortality Report—According to the last report of the Bureau of Health an increase in the total number of deaths is shown over the previous week, there being 650 deaths, which is an increase of 169 over that of last week and an increase of 254 over the corresponding period of last year. Of the total number of deaths, 164 occurred in children under the age of five years.

Smallpox—The secretary of the State Board of Health, Dr. Benjamin Lee, recently reported the status of the smallpox epidemic in this State as follows: "Since my last report of Dec. 12, 1898, smallpox has been reported in Pennsylvania as follows: Borough of Bedford, Bedford County, 9 cases, no deaths; Hustontown, near McConnellsburg, Fulton County, 1 case. The disease is even reported near Robertsdale, Huntingdon County, and Enid Wells township, Fulton County. As these places are contiguous this is probably one and the same outbreak. A State Board of Health medical inspector is making a thorough investigation of all these counties."

Annex to Samaritan Hospital.—Several months ago the Samaritan Hospital purchased a large fourteen-room dwelling-house adjoining their property and for the past few weeks workmen have been employed in uniting the two buildings. The enlarged hospital now has a frontage of 100 feet on Broad Street and 160 feet on Ontario Street. As the hospital is now arranged a convenient plan may be adopted of abolishing the old method of carrying patients on stretchers through the yard from the Broad Street entrance. The new annex is well lighted and ventilated and furnished with all the latest requirements. The total cost of the addition was $16,000.

Typhus Fever.—This week a patient suffering with typhus fever found its way to the Pennsylvania Hospital, which was promptly recognized and transferred to the Municipal Hospital. Owing to the danger from contagion the patient was finally isolated in an abandoned church building adjoining the Municipal Hospital which was purchased by members of the Board of Health. Director Riter was charged with exceeding his authority in acquiring outside property by the Board, but matters were soon smoothed over by memorializing councils to make an appropriation for the erection of buildings for the treatment of similar diseases.

Smallpox Ward for Municipal Hospital.—Dr. George Woodward, who owns the property adjoining that of the Municipal Hospital, which has formerly been used for church purposes, has given notice to the mayor that it is his purpose to deed the property to the city for the use of the Municipal Hospital. It is now thought that this building will be converted into a ward for the treatment of patients suffering from smallpox.

Salary Raised.—Council's Committee on Finance met this week and, among other items of the budget of city expenses, took up the subject of compensation for the prison physician, now Dr. Butcher. For many years the salary has been $1200, though frequent attempts have been made to raise it, without success. At one time the Committee favored a raise of $300, but it was defeated in councils. Subsequently the inspectors raised it to $1800, but the sub-committee finally fixed it at $1500, the sum compromised upon and now accepted by the prison physician.

Army Camps in the South.—Mr. M. S. French of the National Relief Commission, who has been for the past week on an inspecting tour to the different army camps in Georgia and elsewhere, has returned, and speaks in high praise of the different camps and hospitals which he visited. The hospital located at Augusta he considers a model of its kind, with good water and excellent sanitation facilities. The hospital at Savannah is also well equipped. Dr. Groff, who has taken charge of the work in Porto Rico, has mailed a report to the commission.

Bequest to Masonic Home.—The will of James L. Bugh has been admitted to probate in the sum of $200,000 or over. Mr. Bugh was a prominent mason of this city and died at his home Dec. 11, 1898. The greater part of the estate is left to the Home for Free and Accepted Masons of Pennsylvania, located at 3333 North Broad St.

CHANGE OF ADDRESS.

Bannister, J. M., from Fort Leavenworth, Kan,, to West Point, N. Y.

Benepe, J. F., from Lemcke Bldg. to Willoughby Bldg., Indianapolis, Ind.

Crump, J. M., from South Prairie to Fairfax, Wash.

Concanon, J. J., from 241 to 26 W. 34th St., New York City.

Fish, E. F., from 211 Grand Ave., to 633 27th St., Milwaukee, Wis.

Jones, W. D., from Rising City, Neb., to Devil's Lake, N. D.

Kenefick, T. A., from Newport, R. I., to 50 E. 31st St., New York City.

Lewis, G. F., from Oakalla to Carbon, Ind.

Litvin, A., from 568 to 291 W. 14th St., Chicago.

Misick, O. S., from 322 Belmont to 445 E. North Ave., Chicago.

Straley, S. B., from Huntsville, N, J., to Cocoa, Fla.

Stevens, F. W., from Seattle to 780 Sawyer Ave., Chicago.

Sprague, W, B., from Eureka Springs, Ark., to 801 Rockwell Street, Chicago.

Venn, F., from 5033 to 5117 Ashland Ave., Chicago.

Vedeler C., from 715 W. Harrison St. to 649 W. Adams St,, Chicago.

LETTERS RECEIVED.

Ammonol Chem. Co., New York City.

Bischoff & Co., C., New York City; Balke & Co., R. F., (2) Louisville, Ky.; Burnett, A., Sullivan, Ark.; Book Shop Bindery, Chicago, Ill.; Benton, E. A., Central City, Neb.; Bean, W. W., Rolfe, Ia.; Bush, J. Foster, Boston, Mass.

Crawford, G. M., Lorain, Ohio.; Cooling, A. N., Wilton Junction, Ia.; Codman & Shurtleff, Boston, Mass.

Durham, C. E., Galveston, Texas; Dunn, S. C., Columbus, Ohio; Dewey, Richard, Wauwatosa, Wis.

Elkhart Carriage & Harness Mfg. Co., Elkhart, Ind.; Electric Light Bath Co., Ltd., Battle Creek, Mich.

Fougera & Co., E., New York City; Frazier & Co., W. S.. Aurora, Ill.

Goshen Pharmacal Co., Goshen, Ind.

Hawley, D. C., Burlington, Vt.: Henry Pharmacal Co., Louisville, Ky.

Instant Cut Off Co., Port Huron, Mich.

Jackson, C. Q., Pittsburg, Pa.; Jens. F. B., St. Louis, Mo.

Kimball, C, P. & Co., Chicago, Ill.; Keller Pharmacal Co., Baltimore, Md.: Kidd, J. W., Joliet, Ill.; Kirkland, C. B., Detroit, Mich.; Koechl & Co., Victor, New York City; Keyes. T. B.. Chicago.

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ORIGINAL ARTICLES.

A HISTORY OF THE THEORY OF EDEMA.

BY RUSSELL BURTON OPITZ, M.D., S.M.
CHICAGO, ILL.

The history of the theory of edema shows a striking imilarity to the development of the theory concerning secretion and absorption. The latter theory, however, has gained a firmer basis at an earlier time, and he research pertaining to secretion and absorption as shown the way to that concerning edema. The wo theories traveled almost identic paths until, hrough the work of Ludwig and Haidenhain, the heory of secretion and absorption reached pretty firm round, leaving the solution of the question regarding the production of edema in the rear. Much less ood work has been done on the theory of edema during the time following the publication of Cohnheim's irst investigation in 1877. Indeed, the theory of dema has been a neglected problem, if we may judge y the few papers which have been published on this ubject during the last six years. Still, within the ast months, the theory has taken an important forward step through the work of Professor Loeb of the Jniversity of Chicago. At last, a firm physical and hemic basis has been given to the theory.

In secretion and absorption as well as in edema, olutions of organic and inorganic substances pass hrough animal membrane. To determine the driving orce, has been, and is today, one of the greatest problems of physiology. Secretion and absorption took a ecided step toward their solution when philosophic xplanations—a speculative basis—were cast aside and igid physical and chemic investigations were instituted which promised better results. Capillary pressure and filtration seemed then sufficient to explain he phenomena. A new area appeared after the investigations of C. Ludwig. His researches on the secretion of saliva put the driving-force not outside of the ell membrane, but inside of it, and showed that those omplex units of the body, the cells, are not passively ut actively engaged in the secretion of saliva. Of qual importance is Haidenhain's work on absorption nd on the flow of lymph. Even lymph flow, seemingly the most simple case of the passing of fluid hrough animal membrane, can not be explained upon he basis of filtration and diffusion alone.

Much time could have been saved to the theory of ecretion, if comparative physiology had been taken nto consideration. Even in animals, insects, for instance, where blood-pressure is at a minimum, secretion is well marked. If physiology had not ignored e facts of comparative physiology, filtration and diffusion could not have been considered as explanations f secretion or allied processes.

Finally, we are forced to acknowledge "vitalismus," r the "vital force" of the cell. We may call it that, provided we bear in mind that this term has lost all of its metaphysic meaning, and that by it we mean only peculiar chemic and physical properties of the cell. Of course, we must acknowledge that the chemistry and the anatomy of the cell are only in their infancy today. Let us call to mind here the illustration of the steamship, with which Haidenhain opens his classic paper on intestinal absorption. As soon as we will have passed the difficulties which Haidenhain enumerates, we will be enabled to look more clearly into this matter, and a complete solution of the problems of secretion, absorption, and allied processes will be the consequence.

In 1827, Richard Bright showed beyond doubt that the presence of albumin in the urine pointed to a diseased kidney. According to him, edema finds its origin in blood poor in albumin. The "thinned" blood reaches the tissues by filtration, while the normal blood is too thick to pass through the vessel wall. Although this theory retained its place for the next fifty years, modifications of it were put forth as a consequence of observations. Albuminuria, for instance, exists without kidney lesions. Albuminuria, as found in scarlet fever and diphtheria, shows another fact. Although, in these diseases, the urine often contains a large amount of albumin, edema at the same time being very extensive, nevertheless, the urine is discharged in such small quantities that the extent of the edema and the discharge of albumin are not at all proportional. Again, in some lesions of the kidney, the discharge of albumin may go on for years, the quantity of urine be large, and yet edema may never complicate matters at all, or at least not until the final stage of the disease has been reached.

These facts modified the original explanation of Bright, so that the loss of albumin was not supposed to be the cause of edema, but only a favorable factor for an easy transudation of the fluid constituent of the blood. The principal cause of edema was supposed to lie in the retention of water in the blood, which even led to a thinned condition of the serum, and increased the amount of other fluids of the body.[1] Filtration, therefore, played the principal part in the transudation process.

It is undoubtedly true that the amount of urine is increased, if large amounts of fluids are taken into the body. It is also known that during edema, the urine is diminished, while again, during the absorption of the edematous fluid, the urine increases in quantity. This phenomenon takes place during inflammatory processes also. Might it not be true that the urine-quantity depends upon the transfusion of fluids, and not vice versa? These are two entirely different conditions.

All the complicating facts and suggestions originating from Bright's theory about the dependence of edema upon the quantity of albumin in the blood, finally led Cohnheim and Lichtheim[2] to institute an investigation which should settle this controversy. Until the appearance of their research, the filtration theory had held undisputed sway. Although this theory was not disproved by their work, still, many facts showed that other factors besides filtration are involved in the production of edema. Their results have been the starting point for the modern theory of edema.

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[1] Bartels: Ziemssen's Handbuch d. spec. Path. und Therapie, x, 1.

It is true that Magendie tried to disprove Bright's theory some time before these authors, by injection of distilled water into the circulation of dogs. By this means, however, the red corpuscles were destroyed, and Magendie's results were not at all conclusive.

Cohnheim and Lichtheim on the other hand, used 6 per cent. NaCl solutions in their experiments, by this means doing no injury to the solids of the blood. Dogs were used most frequently, and the injections were made into the jugular vein. Often enormous quantities of the solution were injected; in one instance, 64 per cent. of the dog's weight without fatal results. When the dog's abdomen was opened previously, 92 per cent. of the dog's weight could be injected before death took place.

A lasting increase of pressure in the arteries did not occur, a temporary rise of pressure, however, was unmistakable. This rise occurred immediately after injection and lasted for a time, possibly until the superfluous fluid had found a space by means of the elasticity of the vessel wall. Venous pressure remained close to zero throughout the experiments. The great power of the circulatory system to accommodate itself to a change in the amount of fluids present played surely an important part in these experiments. The pulse waves were increased in strength, and continued thus for some time after the injection. Undoubtedly, much depended upon the already injected fluid. All these phenomena were less marked at the beginning, and became more pronounced as more fluid was injected into the body. When the pressure rose, pulsation of the veins took place. These waves traveled from the heart to the periphery. The blood became lighter in color and thinned to a higher degree than that of a person afflicted with any disease of the kidney. Both blood and lymph flow were increased. A large amount of light-colored urine was discharged and often slight albuminuria was present.

In all the experiments, however, the injections were never followed by anasarca. Even after the injection of enormous quantities of the NaCl solution, the skin and underlying tissues were perfectly dry; however, dropsical effusions in certain parts of the body did occur. Ascites was produced in most of the dogs; also edema of the submucosa of the stomach and intestines. The pancreas showed a high degree of edema; the liver and kidney also. The organs and cavities of the thorax, on the contrary, were normal. Only in some cases, and toward the end of the experiment did edema of the lung occur. The glands in nearly all parts of the body were edematous.

The edema produced in these experiments has a peculiar distribution. In general, the organs which become edematous during kidney disease, showed no such indications during or after the injections of NaCl solutions. The reverse is also true. As far as an explanation of this phenomenon could be given Cohnheim has done so. All the facts point to peculiar conditions which result from the injections. There is, therefore, no connection between the edema following or accompanying kidney disease and the one produced by the injections. The latter has an origin peculiar to itself, while for the former new causes must be sought.

These authors, however, put to rest the old idea of Bright and others. The results of their experiments disprove the idea that the production of edema depended upon the amount of albumin in the blood. The claims that the lining cells of the vessels could not hold the "thin" blood, but allowed it to filter through the vessel wall into tissues and tissue spaces could no longer be considered. The filtration theory received a hard blow by these investigators.

The authors concluded, moreover, that an alteration of the vessel walls was necessary to allow the transfusion of fluid to take place. They were able to produce anasarca in certain parts of a dog by subjecting the part to irritants before the NaCl solution was injected. Whether these changes were thought to be chemic or physical is not definitely stated, but the latter is more likely to be true.

Gaertner[3] repeated the experiments of Cohnheim and Lichtheim, frequently getting opposite results, namely, considerable and extensive edema of the skin and underlying tissue. He attributes the results of Cohnheim's and Lichtheim's investigations to a too rapid injection of the NaCl solution. With Bartels, Stewart and Grainger, he holds that the principal cause of edema lies in the excessive amount of water in the system.

Fleischer[4] suggested that the normal kidneys removed the superfluous fluid from the circulation. He repeated Cohnheim's experiment of injecting a solution of NaCl after having litigated the ureters. No increased blood pressure nor edema of the skin resulted; however, dropsical effusions into the tissues and cavities of the body as enumerated by Cohnheim took place.

X. Francotte's[5] results again went against the results of Cohnheim, namely, in his investigations on eleven dogs and two rabbits, edema of the skin followed the NaCl injections.

The research of O. Lassar, made under the direction of Cohnheim, and published in 1877, concerns itself with inflammatory edema. The author endeavors to show whether during inflammation, an obstruction to the absorption of inflammatory material occurs, aiding thereby the production of edema, or whether a rapid lymph flow really frees the tissues of an accumulation of edematous fluid.

For his experiments he used the posterior extremities of dogs, in which an inflammatory process had been produced. For this latter purpose, applications of hot water or croton oil were made. Often injections of .5 to 1 c.c. of turpentin were used to bring about the same result. As a rule the leg was constricted, and placed in hot water. As soon as an inflammation set in the constrictor was removed.

In all instances, Lassar found that the amount of lymph, coming from a lymph-vessel of the inflamed extremity, was greatly increased. From a normal lymph-vessel of a dog's leg, hardly one drop in ten minutes escapes. From the inflamed extremity, on the other hand, the lymph dropped spontaneously and 20-40 c.c. of it could be obtained in a short time.

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[2] Virchow's Archiv., 77.

[3] Wien. med. Presse, Nos. 20-21.

[4] Sitzungsb. der physik. med. Ges. von Erlangen. No. 1, Juli.

[5] Bull. Belge, 4 Ser. T. 11.

The greater the edema, the greater was the lymph flow. We might conclude, therefore, that the large mass of exudated fluid in the tissue produced, by mere pressure, the rise in lymph flow. Normally, the weight of the tissues, aided by muscular movements, pushes the tissue plasma into the lymph stream. According to this explanation, the rise in lymph flow would take place later in the process, after a sufficient exudation has occurred to exert pressure. Lassar, however, found that the lymph flow is increased from the beginning of the process when there is no sign of an exudation. An increase in the transudation must occur from the time the inflammation begins, and the lymph flow rises long before an accumulation of fluid could take place.

Emminghaus[6] has shown that the same is true in obstruction edema. Thus he constricted the leg of a dog sufficiently to obstruct the venous circulation and the flow of lymph from the leg was greatly increased. After relieving the constriction, physiologic conditions set in again. There is, therefore a striking similarity between edema produced by inflammation and obstruction. In both instances, there is a disturbance of the circulation, accompanied by edema and increased lymph flow. By a number of analyses, Emminghaus showed that there is a great difference in the characteristics and chemic composition of the fluids drawn from a leg which is inflamed and one in which stasis has taken place.[7]

This author also raised objections against Arnold's[8] idea that in diapedesis the blood corpuscles escaped through preformed stomata. A different explanation must be looked for as a consequence of the fact that the fluids of inflammation and obstruction edema differ so much in composition. If stomata did exist in the vessel walls, the difference in the composition of the two fluids is to be explained; moreover, the absence of a transudate even after an increase of capillary pressure. All the facts, therefore, point to changes which determine the permeability of the vessel wall.

In 1878, Professor Welch[9] of Johns Hopkins University, published the result of his investigations regarding edema of the lungs, made under the direction of Cohnheim in Breslau. After reviewing the prevailing causes of this type of edema, such as atrophy and hypertrophy of the heart, local inflammations, hyperemia, etc., he came to the conclusion that none of the causes serve as a sufficient explanation. Welch produced edema of the lungs experimentally in dogs and rabbits. He brought about this condition in rabbits after ligating the arch of the aorta, between truncus anonymus and left subclavian artery; all branches except one of the former had to be ligated also. In dogs, edema of the lung occurred after ligature of the aorta between heart and truncus anonymus. When he wished to produce edema of the lung by venous obstruction, it was necessary to ligate all veins of the left lung and those of the upper lobe of the right lung. Only after resorting to such measures was he able to produce edema of the lung in these animals. In man, such heroic measures would, of course, be out of the question. The author concluded, therefore, that an explanation of edema of the lung upon the base of active and passive hyperemia was entirely insufficient.

In other experiments, Welch was successful in producing edema of the lung by digital compression of the left ventricle, hindering its action thereby. If the right ventricle acts normally while its fellow does not, one of the principal conditions for the production of this type of edema may have been produced.

Mayer[10] made similar experiments. He produced edema of the lung in rabbits after ligating the large arteries of the neck. According to him, this type of edema is produced by an obstruction to the return of the blood from the lungs, and by the driving of blood into the organ by accessory forces, such as: 1, increased tonus of the vessel wall; 2, increased pumping force of the thorax; 3, spasms of muscles, principally of abdominal muscles and diaphragm.

Colin[11] concluded from experiments which he performed in 1883, that moderately complete venous obstruction was sufficient to produce edema, and that vasomotor nerves took an unimportant part in its production. Ranvier, on the other hand, said that vasomotor paralysis was a necessary factor in conjunction with venous obstruction. In order to reach some conclusion, Sotnischewsky[12] examined the question again. Edema was produced in the extremities of dogs and rabbits by simple constriction, no matter whether the nerves were divided or not. The constriction, or ligature, of course, had to be made in such a way that the afflux of blood was not disturbed. Venous return alone, had to be interrupted entirely, otherwise, collateral branches would carry on the circulation. Like Ranvier, this author found that even after obstructing one vein, edema resulted, provided the nerve supplying the vein had been previously cut. He explains this fact upon the ground that the vasomotor nerves are paralyzed, the amount of blood in the involved region is increased and the collateral branches are no more able to transfer the blood.

In 1883 Jankonski[13] took up the same question under the direction of Cohnheim. First he determined the question of how far nerve section and vasomotor paralysis influenced inflammation. In a normal dog, the lymph flow from the posterior extremity remained the same after the sciatic nerve of the involved limb had been divided. When, however, both extremities were inflamed, by the methods previously mentioned, and the sciatic nerve of one limb was divided, the lymph flow from the paralyzed extremity was increased. Upon the physical and chemic properties of the lymph, nerve section had no effect.

After this determination, the author added venous obstruction to the inflammation. This was produced either by constriction of an inflamed posterior extremity or by injections of plaster of Paris into the veins leaving the leg. The result was, that by the combination of the two conditions, the lymph flow from the leg was greatly increased, and the amount of lymph was larger in this case than if inflammation or obstruction had been used alone. If the sciatic nerve was divided in such an instance, the amount of lymph discharged from the leg became still larger.

NaCl injections were made in a number of instances to determine what effect upon the lymph flow would then be produced by nerve section. About one-half the mass of the blood of a dog was substituted by a solution of NaCl. (The amount of blood was figured at one-thirteenth of the body weight.) Three days later section of the sciatic nerve was made and the lymph flow observed. Simple obstruction to the lymph flow had no effect, but, after division of the sciatic nerve, a considerable increase in the amount of lymph followed. This result shows that a change in vasomotor action is a sufficient cause for the production of edema in an animal with "thinned" blood. This fact, seemingly, is of great importance in explaining the edema of cachectic individuals. The afflux to the paralyzed leg produced by enlargement of the blood-vessels, is not so considerable after nerve section as during inflammation; still, in the former case, the edema is more extensive. From this fact, the assumption follows that by the loss of nerve innervation, the walls of the blood-vessels are changed in an unknown way, and allow the fluids to escape.

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[6] Arbeiten des phys. inst. zu Leipsig, viii Jahrgang.

[7] See Hoppe-Seyler, Physiologic Chemistry.

[8] Virchow's Archiv., 58 and 62.

[9] Virchow's Archiv. 72, xx.

[10] Sitzungsberichte der Akad. der Wissenschaften zu Wien. lxxviii. Abth iii.

[11] Bull. de l'Acad. de Med., No. 51.

[12] Virchow's Archiv., 77.

[13] Virchow's Archiv. Bd., 93, p. 259.

A. Landerer's[14] investigations about the influence of the pressure of the tissue spaces upon lymph and blood flow have an important bearing upon the theory of edema. In order to see to what extent tissues possessed elasticity, the author used Braun's method upon different tissues, and found that they possessed this quality in a high degree. The tissues surrounding the capillaries, therefore, are of the same importance as are the media for the arteries. They serve as a reservoir to the capillaries. Edematous tissues on the other hand, have little elasticity, but possess expansibility in a marked degree. Of course the formation of edema may be due to a second cause, namely, continued expansion of the tissues as occurs during obstructions to the circulation.

In inflammation, the elasticity and firmness of the tissues and vessel walls is impaired. According to this author, alterations in the elasticity of the tissues is the primary factor in the change of the circulation of the blood and lymph. The phenomena of inflammation, therefore, follow the loss of elasticity of the tissues and not vice versa. By weight lifting, he demonstrated that inflamed tissues possessed marked expansibility, and little elasticity. To this loss of elasticity is added a greater pressure of the fluids within the tissue. This rise in pressure of inflamed tissues has been previously demonstrated by Quincke. The circulation is quickened by the loss of elasticity of the tissues, and Landerer hopes to have found in this a simple physical explanation for hyperemia. The dilatation of the capillaries is also a consequence of the loss of elasticity, and a condition favoring stasis. In general, Landerer considers inflammation and resulting edema as an impairment of the elastic equilibrium of the circulating fluids of the body. Wound healing and traumatic inflammation the author explains in the same way.

G. Salvioli[15] performed experiments in a similar manner as Cohnheim. His work, published in 1885, has given the following results:

Under constant pressure, NaCl solutions were injected which did not exceed 10 per cent. of the body weight of the animal. Hardly any effect was noticed, the superfluous fluid being removed by the kidneys. When solutions of a strength of 30-40 per cent. of the body weight were injected, different results were produced. Already during the experiment, all secretions of the body were increased. The amount of urine and saliva was large, tearing resulted, and the stomach often contained a large amount of water. These symptoms were followed by swelling of the abdomen, impaired circulation and respiration, and finally death. Postmortem examination showed an edematous condition of the intestinal walls, stomach, pancreas, liver, spleen and kidneys. The pleural cavities and the pericardium were free from fluid; moreover, edema of the lung did not always follow the injections. The skin, with the exception of the region around the eyes, the neck, and inguinal regions was perfectly dry. Practically the same results as those arrived at by Cohnheim and Lichtheim followed Salvioli's experiments.

Small quantities of injected fluid are of course easily removed by the kidneys. When larger amounts are injected, other organs must contribute to the removal of the superfluous fluid. Probably the intestinal canal serves as an eliminator of some of the fluid, if too much intravascular pressure follows the injection. The action may be similar to that produced in morphin poisoning. In general, however, the organs of the body vary greatly in their reaction to the increased mass of fluid, the variations being due to their difference in structure.

In order to determine how much depended upon the quality of the NaCl solution and upon the intravascular pressure in the production of edema, Salvioli made the following experiment: The author produced artificial circulation in the intestines and posterior extremities of different animals, using NaCl solutions with 40 per cent. resp. 10 per cent. of blood, under a pressure of 76-120 mm. mercury. While edema of the intestines was produced almost immediately, after injecting the second solution under low pressure, it took one to two hours and higher pressure for the appearance of the edema, when the first mixture was used. Edema of the extremities occurred much later, and only after increasing the pressure still more and obstructing venous return. By irritants, heat for instance, the edema was made more extensive.

Salvioli suggests no other force than filtration as an explanation for edema, however, one fact which the author puts forth should not be overlooked. He cautions investigators against applying the facts found by experiments upon animals, to man, without using some reserve in doing so. That the skin and underlying tissues in man become so easily involved in edema is undoubtedly due to their structural peculiarities. While the skin of man is such an important excretory organ, the same is not true in dogs. Cohnheim has already shown that horses died quickly of edema of the lungs, accompanied by hypersecretion of sweat, if NaCl injections were made. We see, therefore, that different animals are affected in different ways by these experiments, and the problem of edema in man will require different investigation and explanation for its solution.

According to Salvioli, the transudation is dependent upon the nutrition of the animal, the concentration of the injected fluid, and the pressure. His belief in the filtration theory becomes much more pronounced when he puts down as the principal cause of edema the permeability of the vessel walls, and endeavors to explain the problem upon a mechanical basis.

Similar to Landerer, von Basch[16] finds the cause for edema of the lung in the rigidity of the walls of the alveoli which has been brought about by a hyperemia of this organ. The elasticity of the tissue is lost, giving rise to edema. The appearance of edema of the lung in muscarin poisoning, M. Grossman[17] attributes to blood stasis, produced by spasms of the heart muscle. The spasms are stronger in the left than in the right half of the organ, increasing venous pressure in the right auricle, in the pulmonary artery and the left auricle.

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[14] Die Gewebspannung in ihrem Einflusse auf die Örtliche Blut und Lymphbewegung, Leipzig, 108 S.

[15] Edrema et edimi idremici. Arch. per le Scienze med., Vol. viii, No. 21.

[16] Wiener med. Blaetter, No. 15.

That edema of the lung is due to an obstruction is denied by H. Sahli.[18] Neither the experiments of Welch nor those of Grossman are sufficient proof to him for such an assumption. From pathologic, anatomic and clinical facts, he assumes that edema of the lung has a local cause which lies in an alteration of the capillary walls What this change is, whether physical or chemic, he does not state. According to him, impaired action of the left auricle (Welch) and spasm of the heart muscle (Grossman) can never cause a rise of blood pressure in the circulation of the lungs, necessary for the production of edema. This is undoubtedly well proven by later experiments.

The anasarca of the lower extremities occurring during ascites and cirrhosis of the liver is undoubtedly an obstruction edema, produced by pressure upon the inferior vena cava. In order to see what influence the pressure of the ascitic fluid has upon anasarca of the lower extremities, G. B. Queirolo[19] measured the lower limbs before and during withdrawal of the dropsical fluid from the abdominal cavity. With the removal of the fluid the size of the limbs decreased. This certainly shows that in this and all similar pathologic conditions of this locality, an obstruction edema is formed by impairing venous return and the lymph flow from the leg. Undoubtedly, anasarca of the lower limbs does not always accompany ascites; this fact compelling us to believe that other factors must play an important rôle. It may, moreover, be true that the pressure exerted by ascitis or any other similar condition is not at all great enough to produce anasarca of the limbs, and that its primary cause lies in an impaired action of the heart. In the light of modern research, however, both conditions can be looked upon as exciting causes only, mere secondary causes as far as their importance is concerned. Obstruction, inflammation and similar conditions only pave the way for the real phenomena of edema.

As late as 1893, W. Dickenson[20] investigated the question whether filtration or diffusion played the principal rôle in edema. From a comparative chemic analysis of the blood and dropsical fluids, he concludes that diffusion is the principal factor in the interchange of salts, while blood pressure determines the escape of the albuminous constituents of the blood. The explanation of the fact that frequently we do not have edema during acute nephritis or renal calculi, this author finds in an impaired action of the heart, and in low blood pressure. When edema does occur the pressure is always high. In chronic nephritis, with or without edema, the blood pressure increases on account of hypertrophy of the heart and arteriosclerosis, accompanied very frequently by complications in the lung which lead to blood stasis. The occasional absence of edema in this disease, Dickenson attributes to an increased discharge of urine.

Finally, even diffusion seems not to be a sufficient explanation of edema. During edema, due to acute nephritis, the blood pressure is increased. When the disease becomes chronic the pressure rises even more, cardio-arterial changes set in and the edema decreases. As soon as the heart's action becomes insufficient, the edema increases again.

No history of edema would be complete without mentioning the work of H. Senator.[21] In 1868 he joined those investigators who hoped to arrive at a solution of the problem of edema by making the chemic composition of dropsical fluids the basis for further research. Although the knowledge of the composition and peculiarities of edematous effusions is not to be underestimated, it has never caused any advance of the theory of edema. On the contrary, it has served to prolong the life of the filtration theory, as a natural consequence of the results of the chemic analysis, which point rather toward filtration.

In order to show the influence of a different venous pressure upon the flow and composition of lymph, constriction of the lower extremities of dogs was resorted to, and after twenty minutes the fluid escaping from a trocar was examined. The amount of lymph was increased after constriction. In ten out of fifty cases the amount of albumin was the same as that of the blood; in thirteen cases it was increased and in seven instances decreased. Only in five of the thirteen cases, the increase in the amount of albumin was undoubtedly due to venous obstruction. The quantity of NaCl remained the same in five instances out of ten; seven times an increase and six times a decrease was noticed. An unquestionable result the method does not give, as even before constriction of the extremity a certain amount of transudation has taken place.

Senator considers the theory of Bright and Bartels to be wholly inadequate for explaining edema following nephritis. He upholds the theory of Cohnheim according to which the blood and lymph vessels not only in the skin, but also in the serous membranes, have undergone an abnormal change and have become more permeable. In edema following or accompanying scarlet fever, malaria, etc., the glomeruli of the kidneys seem to be greatly affected. It is certain, however, that as the poisonous substances continue to irritate the body, the blood and lymph vessels of other localities besides the kidney, become affected. According to this, Senator attributes the absence of edema in contraction of the kidney to a slow and small injurious influence of the disease-substances.

After having investigated the absorption of ascitic fluid, H. Hamburger[22] comes to the conclusion that the blood-vessels play the principal rôle in this process. The lymph vessels are involved in a lesser degree. The diaphragm serves as a pump by means of which the exudated fluid is forced into its lymph spaces and finally into the ductus thoracicus. The lymph vessels in the other part of the peritoneum, however, aid in the absorption. According to this author, osmosis can have no part in the process, also Haidenhain's theory can not be considered, as absorption takes place after extensive injury to the peritoneum and even after death. About the production of edema, Hamburger holds about the same view as Cohnheim. This is to be seen from his enumeration of the causes of obstruction-edema, which is as follows:

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[17] Zeitschrift für klin Med., Bd. xii, S. 550.

[18] Zeitschrift für klinische Medicin, Bd, xiii, 5.

[19] Revista Clinica, No, 1.

[20] Medico-Chirurgical Transactions, vol. lvii, 317.

[21] Spec. Pathologie und Therapie (Nothnagel), xix, i, 1.

[22] Nederl. Tigdschr., 2_4 Aug. and 7 Sept., Virchow's Archiv, Bd. 141, ii.

1. Considerable venous hyperemia.
2. Increased permeability of the vessel walls (Cohnheim).
3. Disease substances which irritate the endothelium and exercise a peculiar influence upon the lymph flow.
4. Retarded absorption.

Lazarus-Barlow,[23] in his paper on the pathology of edema, tells us that the mechanical causes of edema are not at all satisfactory, but serve only as primary or exciting causes for the real phenomena of odema.

Only recently the theory of edema has taken an important forward step through the work of Dr. Loeb[24] of the University of Chicago. A physical and chemic basis has been given to the theory, and if its final solution has not been reached, at least the solution of the question must be close at hand. Just as the development of the theory of secretion and absorption is awaiting a thorough knowledge of the properties and functions of the cell, so will it be necessary for the theory of edema to await such an end before the final solution of the question will be possible.

According to Dr. Loeb, the transudation of the fluid into the tissues is greater than that of the blood and lymph. Such causes, therefore, must be at the bottom of edema as either increase the osmotic pressure of the tissues, or decrease it in the circulatory system.

First, the author demonstrates the possibility of a rapid change in the osmotic pressure of tissues; showing thereby that the forces which according to the filtration theory are able to produce edema are wholly inadequate. The pressure of a 0.7 per cent. NaCl solution, which is isosmotic to the blood and the resting gastrocnemius of a frog, amounts to 4.9 atmospheres. It is twenty times greater, therefore, than the blood pressure ordinarily present in physiologic investigations. Only a trace of acid or alkali in muscle increases the osmotic pressure to such an extent that the muscle becomes edematous in an 0.7 NaCl solution. By stimulation, the osmotic pressure is raised, and water is taken up by the muscle. After tetanizing the gastrocnemius of a frog for ten minutes, the increase in its osmotic pressure amounts to 1 atmosphere. After a few hours, the muscle in a 4.9 per cent. NaCl solution begins to take up water, the reaction becoming acid. The osmotic pressure of such a salt solution is over 30 atmospheres. The author concludes that through the influence of the original loss of water, chemic changes must take place in the muscle which raise its osmotic pressure by about 25 atmospheres.

When we compare these pressures with some produced by an increase of blood pressure, the absurdity of supposing that the latter are sufficient to produce edema is striking. During the experiments on the production of edema of the lung, Welch never got a greater rise in blood pressure than 1/10 atmosphere, in the lesser circulation. A rise in osmotic pressure of 1 atmosphere, however, occurs during common muscular exercise and an increase of 25 atmospheres can be produced quickly by chemic means. That is a rise 300 times greater than can take place during a change of blood pressure. The filtration theory, therefore, can not be considered, and osmotic pressure must be the principal factor in the production of the edema.

The cause for the presence of blood corpuscles and epithelial cells in edematous fluids, the author finds in the morphologically changed blood-vessels. This change is brought about by the same chemic substances (poisons) which produce the increase in osmotic pressure. For the purpose of showing that these poisonous substances may be produced by a lack of oxygen, Dr. Loeb gives several instances of similar processes. An ameba which suffers a lack of oxygen becomes contracted. Quincke thinks this is due to a disintegration of the more solid constituents of the ameba. If oxygen is taken from the developing eggs of *Ctenolabrus*, the walls of the splitting cells disintegrate. As soon as oxygen is admitted again, the cell walls become normal. The bodies of certain infusoria become fluid in an atmosphere poor in oxygen.

In order to disprove the supposition of the filtration theory, that during edema the fluid constituents of the blood are pressed into the tissues, Dr. Loeb made the following experiment. He used a number of frogs, in which the circulation of one posterior extremity had been completely stopped by a ligature. The gastrocnemii of both legs were then removed and weighed. Although the two muscles are equally heavy under ordinary circumstances, yet in all instances the gastromemius removed from the ligatured leg was heavier. Its weight increased with the time that had elapsed since the ligature was applied. After 16 hours, the weight of the muscle of the abnormal leg was about 1 to 3 per cent. greater than that of its fellow on the opposite leg; after twenty-four hours, the difference amounted to 15 per cent., and after seven days to from 25 to 40 per cent.

In order that there might be no possibility of an increase of blood pressure in spite of the ligature, and a consequent occurrence of edema, some gastrocnemii were removed and immersed in a physiologic NaCl solution. By this means, all possible circulation of blood was stopped, and a lack of oxygen was produced at the same time. These muscles behaved in the same way as those in the ligated leg of the frog; showing conclusively that the blood pressure has very little to do with edema.

It has been shown by Araki that sugar and lactic acid are excreted in the urine if certain amounts of oxygen are withheld from an animal. The increase of weight in a muscle in the experiments enumerated is accompanied by the formation of one or several acids. The nature of the acid (or acids) has not as yet been settled, but Dr. Loeb is inclined to think that lactic acid is one of the possibly several acids formed in the oxygen-starved gastrocnemii.

The favorable influence of nerve section upon the formation of edema, this author considers as not proven. Moreover, if this statement were true, this fact could not be utilized as an argument for the filtration theory. We know that nerves exercise direct chemic influences in secretory processes, and as the nature of the nerve innervations is yet indefinite, we may justly suppose that many, if not all, nerve-transmissions are of chemic origin. Gaule thinks that the nerve gives off a special substance, but Dr. Loeb suggests a dissociation of ions, if electric phenomena play a rôle in the transmission of impulses.

Professor Welch attributes edema of the lung to an increased blood pressure, but this driving force is entirely too small in comparison with osmotic pressure. Upon one fact, Professor Loeb dwells particularly. While in rabbits, the ligation of the principal branches of the arch of the aorta produces edema, this condition does not occur in dogs under similar circumstances. Walther has shown that rabbits and dogs differ greatly in their reaction toward acids. While in rabbits, a sufficient quantity of acid proves fatal, dogs are almost immune against it. The difference in their reaction toward acids is caused by the greater amount of ammonia which is produced through the influence of the acids in dogs. It is not necessary to seek the cause for edema in the formation of acids directly, but it must be acknowledged that certain chemic peculiarities exist in these animals which determine the difference in the formation of edema of the lung.

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[23] British Med. Journal, March 23-30.

[24] Archiv für die ges. Physiologie, Bd. 70, 457.

Sigmund Mayer and von Sahli demonstrated that curare lessens the liability of the formation of edema of the lung, while muscular spasms favored its production. Their explanation has obstruction, increased blood pressure, and filtration for its basis; however, Professor Loeb gives a more interesting cause for this difference. The muscles are the principal seat of the oxidation processes and, therefore, in these structures the acids must be formed which are produced by a lack of oxygen. When curare is given, the metabolic processes of the muscles are reduced, and less poisonous matter circulates through the heart and lungs. Muscular spasms, on the other hand, cause an increase of these injurious substances and are, therefore, more liable to produce edema.

According to Professor Loeb, the cause of edema lies in the chemic changes which occur in the tissues, and which are mostly due to a lack of oxygen. These changes lead to an increase of osmotic pressure, which is greater in the tissues than in the blood and lymph. Morphologic alterations of the vessels are also a consequence of the chemic exciting cause. Such conditions as blood stasis, inflammation, etc., are only the primary causes which give rise to chemic changes and consequently edema.

For fifty years after Bright and Bartels, the filtration theory has held undisputed sway. Nobody seems to have considered any other force than mere filtration as an explanation for the minute phenomena of edema. Through the work of Cohnheim and his pupils, however, a future was given to the theory. Bright's theory was disproved and new factors were found which promised to be worthy of careful research. The frequent suggestion that an alteration of the vessel walls and blood pressure are the means by which the fluid escapes from the vessels, is only a part of the filtration theory. It is hardly possible that any other change than a mechanical one was thought of when an alteration of the vessel walls was mentioned. The work of Cohnheim, Welch and others has really been done in the interest of the filtration theory, the chemic side of the formation of edema having been neglected. Only recently the theory has found a physical and chemic basis through the work of Loeb. The theory of edema stands today where the theory of absorption stood before Haidenhain's classic paper was published. In spite of the many attacks upon Haidenhain's explanation, the merits of his work have not been lessened. In fact, the criticisms of the extreme physicists have only served to strengthen the belief that the cells play an important rôle and that osmotic pressure is not the only factor to be considered in absorption. Just as important is the physiologic state of the absorbing membrane. The same end has been reached in the theory of secretion through the work of Ludwig.

Why should edema be such a passive process? Undoubtedly it is true that not so much stress can be placed upon cell activity in edema as in secretion and absorption, naturally edema would be a more passive phenomenon. Just as secretion and absorption depend upon the physiologic condition of the cell, so does edema depend upon the pathologic state of the cell. Still it is best not to conjecture, but to await further developments of the theory of edema.

RETROMAXILLARY GROWTHS.

OPERATIVE TREATMENT, ESPECIALLY OF NASOPHARYNGEAL FIBROMATA.

BY CARL BECK, M.D.
CHICAGO.

Among the tumors of the nasopharyngeal cavities which are amenable to operative treatment, the nasopharyngeal fibromata, or so-called nasopharyngeal polypi, are the most important. Sarcomata and carcinomata of this region may also be treated surgically, but when one considers how unfavorable the prognosis is, even in the case of a very good operative result, one must acknowledge that it is inexpedient to undertake so serious an operation for the sake of such a trifling benefit. Butler, who has paid particular attention to this question, finding an operative mortality of 30 per cent. and such a small number of cases free from recurrence after three years, arrived at the conclusion that the operation must be condemned unless there is a reasonable hope of obtaining better results in the future. In addition to the nasopharyngeal polypi and malignant growths, there are a number of very rare tumors which may be extirpated. The polypi, however, are clinically the most important. Histologically they are mostly fibromata or fibroangiomata which produce grave symptoms, even endangering the life, and their removal, as a rule, is followed by a complete cure. The question as to the best method of removing them has been discussed for a long time in the past, and even now there is a wide divergence of opinion on this point among surgeons.

The difficulties of the technic lie in the obstacles encountered in obtaining access to the growths. They arise in a region which can not be attacked through any natural opening, even with instruments of special construction, without making a considerable breach in the skeleton of the face. The development of the technic of the operation shows that surgeons are more and more endeavoring to replace the operation in the dark by an anatomic preparation under the guidance of the eye. Experience shows that pieces of the growth left behind after such operations of polypi cause not only recurrences, but degenerate and even become malignant (Koenig) and, therefore, the surgeon endeavors to remove the growth radically. On the other hand, others maintain positively that such relinquished pieces disappear spontaneously, that even the whole tumor of considerable size disappears after a certain age, say twenty-five years (Lafont-Gosselin), but it can not be discovered, a priori, what is going to be their course. Besides, there is another cause which was pre-eminently noticeable in one of my cases, calling for the most radical removal of these tumors. These fibromata are often multiple, and parts are liable to be overlooked, and these remaining small growths may develop to enormous size, as owing to the removal of part of the growth, they obtain room to spread. Therefore, the axiom must be: Under the guidance of the eye remove everything anatomically by preparation. If we review the history of the technic we can see that it yields more and more to this postulate: First of all, the tumor must be exposed.

When I speak of tumors of this kind. I mean only those which, on account of their considerable size, cause obstructions of the nasopharyngeal space with dyspnea, dysphagia, etc. By no means do I refer to those small growths which produce only local symptoms, as obstruction of choanes, catarrh, etc. Such large fibromata with their protuberances toward the pharynx, larynx, antrum and orbit, cause destruction of the bone, dislocation of the eyeballs, may perforate the base of the skull, and give rise to meningitis. One of the most pronounced cases I ever saw is the specimen in the Musée Dupuytren, in Paris, the picture of which has found its way into most text-books.

To lay bare such tumors one must produce a considerable breach in the skeleton of the face. The objection to such an operation is found on the one hand in the disfigurement of the shape of the face, and on the other hand, the greatest objection is in the hemorrhage during the operation, and its consequences thereafter, by causing diseases of the lung (pneumonia), gangrene, etc. No wonder that formerly even prominent surgeons refrained from operative radical treatment, and that many still resort to palliative rather than radical methods, considering the operation too dangerous. If we start from this standpoint, we will consider that method best which in the highest degree fulfills the following requirements: 1, total exposure of tumor; 2, prevention of hemorrhage; 3, least possible disfigurement and best function of the parts operated upon after the surgical interference; 4, prevention of secondary diseases.

It is no easy matter to satisfy all these requirements, but we can approach very near to the ideal. The methods used are:

1. The ligature or treatment with the écraseur, the galvanocaustic scissors or loop. This least answers the requirements, as the écraseur very often breaks, and the hemorrhage becomes excessive, and that part of the tumor remaining behind the ligature sloughs off and septic inflammation takes place, the sloughed and septic parts are aspirated into the lungs, and septic pneumonia and gangrene follow. Such methods are being abandoned more and more by modern surgeons, and in the future will not be used, we hope. The same objections hold good against all mortifying methods.

2. Electrolysis, a method which gives remarkable results in the hands of skillful operators like Nélaton, Bruns, Koenig, Karsberg, and others, is not reliable in every case. It has, however, one advantage, that it can reduce the size of large growths, and removes the mechanic obstruction symptoms, but it may be safely said that in large-sized tumors it will not remove the entire growth. That requires an enormous amount of patience on the part of the surgeon and the person treated, and when the tumor diminishes in size, it will become less and less accessible to instruments, and for this reason we may say that it is impossible to remove the tumor radically. Moreover, tumors on the antrum and orbit can not be reached at all, and they may afterward grow and become malignant. Besides, the technic accomplishment of such a treatment is very arduous, and can not be applied except in hospital cases, and perhaps only in such cases where hospital operations allow tedious experiments of this kind. In this country a patient would never consent to having forty or fifty treatments, painful and uncertain in their ultimate results, if he knew that a radical operation would remove the growth surely and rapidly. Electrolysis certainly may be of great use where we have to deal with small tumors with irritative symptoms.

3. As to the operative treatment, in reviewing the many methods advised by different surgeons, we can say that each and every one has its advantages for special cases. For large growths, however, only a few can be of use. All operations aim to get access to the polypi and, naturally, those which get the best access with the least destruction are to be preferred. All breach and flap operations have one great danger, the hemorrhage, causing anemia, which becomes dangerous as such, or by aspiration into the lung. The latter danger is more to be feared. The hemorrhage may arise from the severed vessels of the face or the vessels of the tumor, and may be prevented by ligature of the main vessels furnishing the blood, like the carotid, or by diverting the blood outward. To prevent aspiration of the blood, we can let it run out from the hanging head, or we can perform a preliminary tracheotomy with tamponade of the upper air-passages. If we compare these two safety measures with each other, the ligature of the carotid artery seems to me preferable. It is not dangerous, but it may not be sufficient to prevent all hemorrhage. From my experience in a number of cases operated on for such purposes, I may say that it has always been sufficient. One can object, and say that if the hemorrhage comes from the tumor it comes from both sides, since the tumor receives its nourishment from both sides. In reality, however, one side is affected more than the other, and one can diagnose the affected side beforehand from the clinical symptoms, e. g., from the protruding of one eyeball, the destruction of the bone on one side, etc. To operate without such ligature of the main vessels, and to rely on the ligature of the single vessels as they are reached, means to operate in a pool of blood, and such operations are the most dangerous, tedious, and also the least clean. The preliminary ligature has therefore, many advantages. The tracheotomy is a very useful method, and Razumovski has shown in operating on several cases that it prevented the aspiration of blood, but it is unnecessary and under certain conditions may cause complications. Generally, we do not perform preliminary tracheotomy, because we succeed with ligature of the carotid and operation on the hanging head.

As to the formation of the breach necessary for exposure of the growth, it can be performed two ways: 1. From the mouth. Gussenbauer's method seems to me preferable to any other, because it gives the best access to the growth, and does not disfigure the face, but one still operates under difficulties, and an anatomic preparation is hardly possible. 2. From the face. The method of Ollier used by Razumovski, that is, the flapping open of the nose, does not produce large scars, but it gives insufficient access, and also the scar formation is not trifling. The nose often looks very flat, and as a notch or dent is produced in some cases, the result is very unsightly. To me the old Ferguson's or Liston's method seems the best. It fulfills all requirements. Of course I always ligate the carotid artery beforehand, so that I operate with very little loss of blood. The operation consists in osteoplastic resection of the upper jaw. An incision is made, beginning at the middle ear, crossing the face in a line underneath the eye, passing alongside the nose around the wing of the nose to the middle of the upper lip, splitting this upper lip and the soft parts of the palate right through, chiseling the bone on the malar, nasofrontal and middle palatal lines, prying the bone at its junction, and thus the whole tumor is made accessible. It may now be removed with its processes and anatomically prepared, all the hemorrhage stopped, the different parts replaced and sutured—only the two incisors being wired—otherwise only the soft parts are united, but in the most exact manner. Particular attention must be paid to this adaptation, inasmuch as primary union insures a good function of the parts replaced, and causes the least disfigurement. As the accompanying figure of one of the cases shows, this disfigurement is very trifling, and as the scars run all along the natural folds, they are hardly noticeable (Fig. 1).

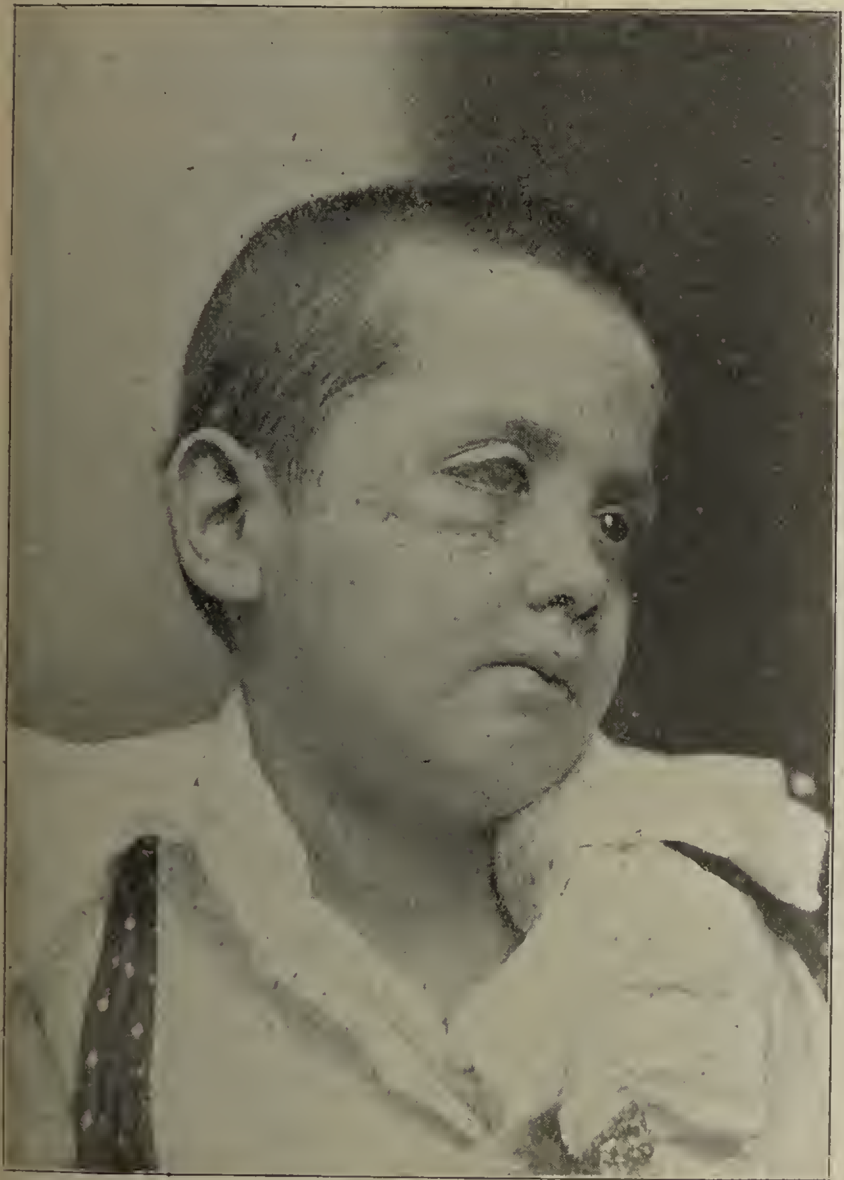

Figure 1.

In the same manner as these nasopharyngeal polypi, I have removed sarcomata and carcinomata of the retropharyngeal region, leaving the upper jaw, where it was not affected by disease. I must not neglect to mention one feature of this operation which caused me considerable trouble during the after-treatment. In the osteoplastic, as well as the permanent extirpation of the upper jaw, a considerable chemosis of the conjunctiva of the same side set in, and in many cases ulceration of the cornea developed. At first I could offer no explanation for this, as neither vasomotor nor any other nervous disturbance could be detected. In one of the last cases it appeared to me that the ulceration was due to pressure from the dressing. By loosening the coaptation of the lower lid and cheek, the lower lid loses its tension and droops, thus opening the slit of the eye, and leaving the cornea exposed to the friction from the dressing, which, however fine it may be, might cause ulceration of the cornea. I would, therefore, suture the eyelids temporarily, or paste them with collodium to prevent such a mishap.

Without going into details of all cases operated upon by this method, I will give briefly the history of one of the most interesting:

Case 1.—C. P., 10 years old, was brought to me by his mother, in a very critic condition, unable to walk in consequence of exhaustion. He had been sick for a long time, and as he sat in the chair, with wide open mouth, gasping for breath, the expression of his face showed hunger for air. This was due to some obstruction in the respiratory passage. The face was disfigured by protrusion of the right eyeball, and the entire right side of the face. The nose on that side did not show the usual nasolabial fold, but the bridge passed directly into the cheek. The right nostril was very much enlarged, and showed a bluish-white tumor mass protruding. The inspection of the mouth showed that the posterior portion of the pharynx was filled out by a tumor mass, depressing the soft palate and tongue and leaving only a very small space for the entrance of air and, naturally, also for food. The mother gave the following history: The child had experienced difficulty in breathing since she could remember, but it had become very annoying in the past two years. She had consulted several physicians, amongst them specialists, who advised operations and had tried to operate on the child. Dr. B., under whose care this child had been at the Clinic for Nose and Throat of the College of Physicians and Surgeons, gave me the following report: He had tried to remove the tumor through the nostril with an écraseur, but broke the same in application. The bleeding from the tumor was so profuse that the child was almost exsanguinated, and for two days in danger of death. He consequently gave up the operation. A well-known surgeon also advised against operation on account of the dangers attending the same, so the mother decided to let the matter rest.

The expression and appearance of the boy's face reminded me so very much of the classic specimen in Dupuytren Musée, Paris, of a retromaxillary fibroma, that the diagnosis was almost intantaneous. In my judgment, the tumor was about the size of a man's fist, and must have destroyed considerable of the bone and other tissues in order to have found space for growth. I told the mother that the operation would be dangerous, but was the only effective thing to do, and she consented, even taking the chance of having the child's face disfigured.

The boy was taken to the Post-Graduate Hospital, and the operation was there performed before the class. The first step taken was a ligation of the carotid artery, in a classic manner, preparatory to the operation. Then the child was brought into Rose's position (i. e., with head hanging over the table), and an incision made, beginning at the tragus of the ear underneath the eye toward the inner angle corresponding to the nasal fold, to the middle of the upper lip around the nose; this upper lip was split right through, also the gingiva in the center, and then the palate slit clear down to one side of the uvula. A chisel was then used to divide the malar bone, the upper maxillary at its junction to the frontal in a backward direction, and the maxillary bone through the palatal process chiseled through. This last time the chisel was used to pry open the maxillary bone, and with a few movements to and fro it was raised from its place, and thereby bent to the side like a lid. The operation thus far caused some bleeding, but not one ligation of an artery of any size was necessary. The bleeding was easily controlled by the application of a few forceps. Now the tumor was entirely exposed, and it could be seen that it had filled out, not only the pharyngeal cavity, but also the antrum Highmori, and had with one lobule partly destroyed the inferior orbital plate, and with another partly destroyed the anterior wall of the maxillary. The tumor seemed to have its origin at the sphenoidal sinus, at least there was its closest attachment. With curved scissors it was separated all along its attachment. This separation again caused some, but not excessive, hemorrhage. Though the tumor seemed to belong to both sides of the base of the cranium, the right side seemed to furnish more circulation to the same, the hemorrhage being very light on account of the ligature of the carotid artery.

One peculiarity was noticed in the growth. Two entirely independent lobules of the same nature were found in the external portion of the antrum, making three tumors in all. In an operation not having such a wide opening, these two tumors would certainly have escaped notice, and would not have been removed. As it is known that such remaining tumors occasionally grow rapidly after operations, and even become malignant, an omission of this kind might have prevented the results of the operation. After the removal of the growth, the bleeding cavity was packed with gauze, the ends of the strips brought out through the undivided nostril, then the open skin flap of the upper jaw closely attached to its former place, and all the divided surfaces exactly sutured.

The shock of the operation was considerable, as was expected, but under careful observation the pulse remained in good condition, and the child rallied. There was no complication, and seven days afterward the child could be exhibited at a meeting of the Chicago Medical Society. One remarkable feature developed in this case, also in two others, which remained unexplained to me as well as to ophthalmologists whom I consulted. The child developed a central ulcer of the cornea, of the right eye, which resulted in an opacity necessitating iridectomy, performed by Dr. Gradle. The result of this operation, cosmetic, as well as curative, was perfect. Today, about two years after the operation, the child is perfectly well, has no perceptible disfigurement of the face, and the bones are as solidly united as before.

Cases of sarcomata and carcinomata of the retromaxillary region, naturally, have many more difficulties. In the first place, they are not so easily enucleated as the fibromata, for they must be traced in the tissues they attack, and if any chance of total and radical removal is present, it is only possible by tracing them with the guiding eye. The malignant growths destroy the adjoining tissues not only by pressure, but by infiltration, and we have, therefore, much more destruction in these cases. We have to be satisfied with impaired functions after recovery. In one of my cases of sarcoma of the retromaxillary region, the history of which I will mention briefly below, this destruction reached such dimensions a priori, not diagnosticated, that the functional result after the operation was very poor.

Case 2.—V. K., 32 years old, a blacksmith, had been suffering for several months. At first his physician called his complaint neuralgia of the face. Later on he detected growth of the uvula and behind the same. He thought it was an abscess, punctured it, but the free hemorrhage showed it was a solid growth. The patient was brought to the Presbyterian Hospital, and on account of difficulty in breathing, tracheotomy was to be performed, but proved unnecessary. An incision was made into the retromaxillary tumor, some fluid withdrawn from the abscess-like growth, whereupon the man could breathe easily. In the hospital an interbuccal operation was tried by the attending surgeon, particles of the growth were removed, but the bulk of it being inaccessible was left behind, and thereupon the growth increased in size and was accompanied by the most excruciating pains.

I saw him after he had been suffering about six months, proposed a radical operation, brought him to the Post-Graduate School, and operated upon him shortly afterward. Osteoplastic resection, in the manner described above, was made, and a tumor of sarcomatous nature, about the size of a child's fist, removed. The lateral wall of the pharynx had been involved, and this was sutured, and healed by primary union, as well as all the incisions. The patient was demonstrated about six weeks afterward before the Chicago Medical Society. At that time there had been no recurrence, but in about six months intracranial symptoms showed that the tumor had not remained local, and the patient died from metastatic growth in his brain a few weeks after. This case again proves the truth of my initial remarks as to the prognosis of malignant growth.

In another class of growths of the retromaxillary region it may be more expedient to operate by temporary resection of the lower jaw. This refers to that class of tumors of the tonsils or parotids which reach into the retromaxillary space with the bulk of their growth. Such tumors are more laterally situated, and more easily diagnosed than those of the former class. It is a question whether this temporary resection of the lower jaw is necessary, or whether such tumors are more easily removed by the inframaxillary route, and either esophagotomy or pharyngotomy are performed. This must be decided by the surgeon in individual cases, according to the extent of the growth. When the bulk is in the upper pharyngeal region, even extending into the attic, it is necessary to sever the lower jaw. When it is more inferior, the inframaxillary route underneath the jaw will be sufficient. A special case described more in detail may illustrate this method of operation of retropharyngeal growths.

Case 3.—Miss H., a school teacher, had been well until about one and one-half years previous to the time she consulted me. She had had a tooth extracted from her lower jaw. The extraction was very difficult, and left a thickening of the lower jaw, which was not painful, and not very noticeable. Shortly afterward, however, a growth appeared adjoining this, gradually increasing upward, and became prominent on the left side in front of the ear, but more noticeable as a globular protruberance in the pharynx, pushing the soft palate upward on that side, also the tongue. At first the growth was rapid, but then remained stationary for a time.

She had consulted prominent surgeons of this city, who all agreed in the diagnosis of an osteosarcoma of the lower jaw, involving the adjoining tissues, perhaps the base of the skull, and advised against operation. It was at the time of Dr. Coley's publication on the effect of erysipelas and prodigiosus toxins on malignant growths that I made some experiments in this line in the Cook County Hospital. This case was referred to me by Dr. F. B. Earle, whom the patient had last consulted, as a hopeless case of sarcoma, to be given the benefit of these injections. I injected eight ounces of the erysipelas toxin (Coley) with the result that the tumor grew to such a size that the patient could hardly breathe. The tumor filled up the mouth cavity almost entirely on the side of its origin, and a large portion on the other side. She could neither swallow nor breathe, and begged me to undertake something to relieve her sufferings. I finally decided to make an effort to remove the growth, even if it were necessary to leave some of the tumor if I could not effect a radical cure, in order to give her a chance to breathe and eat so long as she remained alive. Previous to the operation, which was undertaken at the Post-Graduate Hospital, I ligated the external carotid artery, on the left side, in order to avoid hemorrhage. This I do in all these cases. The external incision was carried transversely along the lower jaw clear down to the bone, the jaw severed at about the middle of its transverse branch, pried open, and the tumor exposed. Strange to say, it was easily enucleated, and proved to be not a sarcoma of the lower or upper jaw, but a tumor of the parotid gland, which had grown with the small portion around the ascending branch of the lower jaw externally, with its largest portion internally, pushing before, behind and upward all the tissues which were in the way. When removed, it was about as large as two fists. The jaw was adapted, but owing to the large cavity left by the removal of the tumor, it did not unite, and to this fact I attribute the extremely tedious and very disagreeable after-treatment of the case. It had many complications. A short time after the operation I was one night called to the hospital. The ligature of the carotid had cut through, and the interne was scarcely able to control the hemorrhage, which in a few seconds had completely covered the patient with blood. We finally succeeded in controlling it, and the very anemic patient slowly recovered from the operation. The jaw did not unite, being infected, small portions became necrotic, the two fragments placed themselves in an angular position, so the face seemed drawn to one side. The portion of the normal parotid gland had remained, and the ductus Stenonianus having been severed during the operation, large amounts of saliva poured through the cheek. I tried to bring about union of the jaw by means of dental appliances, but for a long time without success. Finally, Dr. Goslee of the Chicago College of Dentistry succeeded in bringing about union, with a very ingenious splint. Prior to this, I operated on the patient for her salivary fistula, dissected the ductus Stenonianus with its outer opening clear down to the rest of the gland, and implanted the opening internally into the angle of the jaw, keeping it there by sutures. In this way I closed the fistula. At the present time, a little over two years after the operation, the patient is well and has returned to her former avocation. The microscopic examination of the growth had shown a mycochondro-sarcoma. Though many operations were done, the disfigurement is not very marked (Fig. 2).

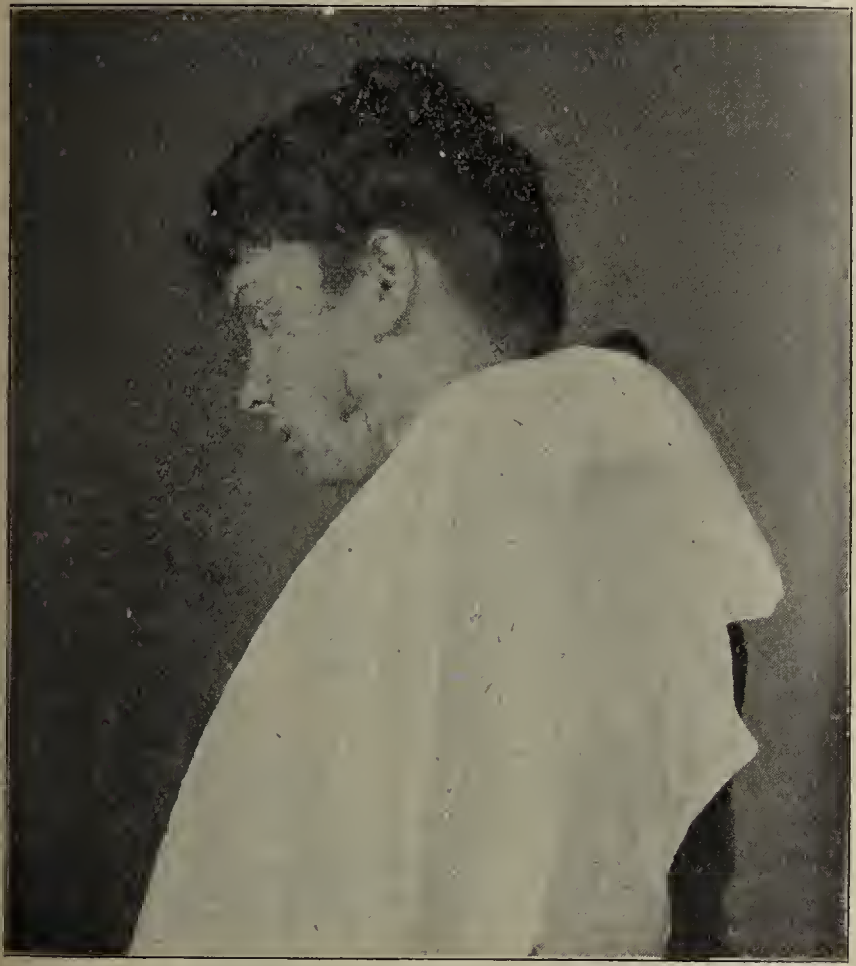

FIGURE 2.

If we review the subject briefly, we must acknowledge that the open method of treating such deep-seated pathologic conditions as retromaxillary tumors is gaining more and more adherents among surgeons. I call attention to an article published by Prof. Jordan, in the *Muenchener Medizinischer Wochenschrift,* bringing forward a new method, which is still more extensive than the ordinary osteoplastic dissection. He even goes so far as to temporarily remove the external nose in order to gain access to the retromaxillary growth, and combines temporary resection of the upper jaw with temporary resection of the nose by Ollier's method. His two cases seem perfect successes, both cosmetically and therapeutically. In one case, he flapped the jaw to one side, the nose to another; in the other case, he formed one flap of nose and jaw to one side. For simple nasal polypi, even of large size, such double operations appear to me unnecessary, as the removal of the jaw in the manner previously described gives perfect success. In cases of malignant growth, however, I should advise laying open as much as possible, even to the extent of flapping both upper jaws to either side and upward, so as to lay bare the whole base of the skull, so far as can be reached by the mouth.

Whenever malignant growths in the retromaxillary region have reached such dimensions that the jaw can not be replaced, and the growth must be removed, we resort to permanent resection of the jaw. This operation, also undertaken with the preliminary ligation of the carotid artery, is very disfiguring, functionally, and cosmetically destructive. From among several cases of this kind, I shall describe one which I consider remarkable, not only on account of the extent of the operation, but also owing to the amount of plastic reconstruction.

Case 4.—Mr. R., about 40 years of age, was referred to my service in the surgical department of the Cook County Hospital. He had removed a tooth on the right side, as it had caused him great pain, but the swelling around the cavity did not disappear. On the contrary it grew after the extraction, and many foudroyant hemorrhages weakened the man. At the same time, difficulties in swallowing existed. On examination, I found a large exulcerated growth of the right side of his jaw, extending over the tonsil, the pharynx, the right side of the tongue—not involving the tongue. The tongue could be easily protruded. The growth, though very extensive, did not involve any of the vital structures, and I therefore decided to remove it radically.

The operation was performed in the same manner as described in the first case, but in addition the jaw was totally removed, also the structures, so far as they were affected. The hemorrhage was very light, compared to the hemorrhage in cases where the ligation of the carotid had not been performed. The accompanying photograph shows the patient a few days after the operation (Fig. 3).

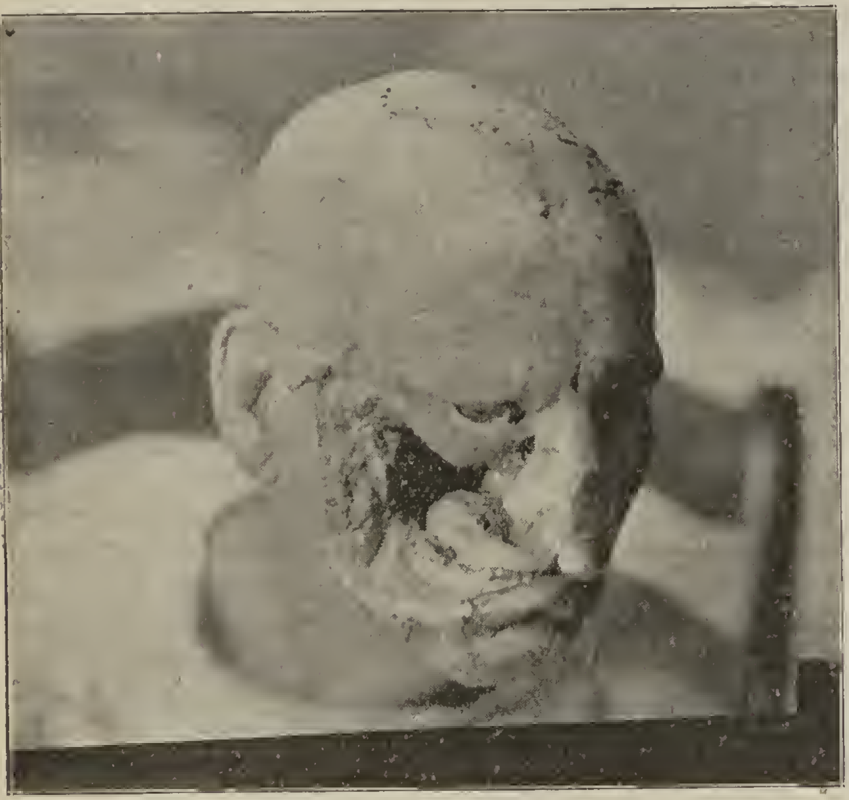

Fig. 3.—Rawlins, 45 y. Carcinoma palat., maxill. super., dextr. pharyng. Resectio maxill. super. septi nasal, ossis ethmoid, etc. Cook Co. Hospital, 94. Before plastic operation.

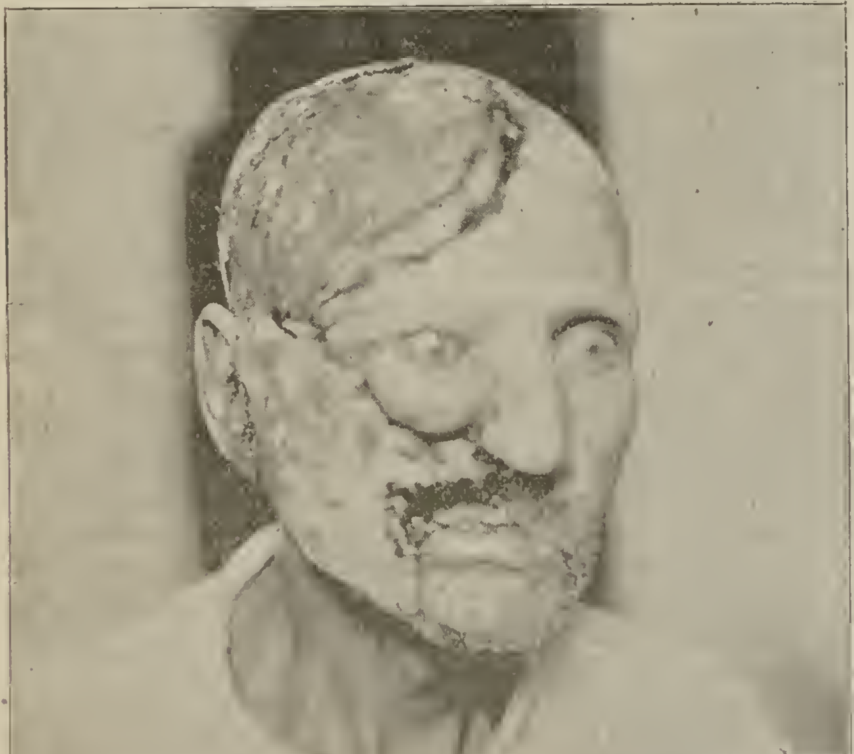

Figure 4.

After he had rallied from the operation, the question arose as to the method of covering the jaw defect. The whole cheek, external and internal, a portion of the pharynx, the whole upper jaw and a portion of the lower jaw were missing. The first thing I did was to unite the wound alongside the lower jaw with the remaining border of the mucous membrane of the mouth all along the jaw, thus preparing to transform a portion of the neck for a transplantation into the interior of the mouth to form the internal or mucous covering of the cheek. A few days following I inserted this flap in such a manner as to suture the flap of the neck to the wound of the pharynx and the other side of the palate, leaving a free wound outside, but covered toward the mouth opening. Two weeks later I covered this wound with the outside flap in the following manner: In order to prevent loss of blood, I made a percutaneous suture on the skull, outlining with this suture as large a flap as was necessary to form the cheek. After this suture had been put in the flap was turned down, the pedicle for the same being behind the ear. It was turned down and sutured alongside the eye, the nose around the wing to the middle of the lip, to the inner flap, which came from the neck, then to the lower lip. This was all that was necessary in order to cover the large defect. There was, however, an enormous defect on the skull, which had to be covered by Thiersch grafts. The accompanying figure (Fig. 4) shows the condition about this time. The man stood these operations very well, but his anemia was so great, and the swallowing of the discharges from the suppurating cavities of his mouth produced such destruction of his alimentary tract, that he ran down more and more, and a short time afterward died from septic fever. This case again proves the truth of my statements in the beginning of this article about malignant growths and their operations.

In conclusion, I would say with regard to the operative treatment of retromaxillary growths:

1. Retromaxillary growths should be operated with the open method, that is, osteoplastic resection.
2. To avoid hemorrhage, preliminary ligature of the carotid artery is the safest means.
3. Tracheotomy can be avoided by placing the patient in Rose's position, operating on the hanging head.
4. Non-malignant growths of small size can be treated without resections, eventually with electrolysis. Large non-malignant growths can not be treated otherwise than by resections.
5. Malignant growths of any extent give very unfavorable prognosis, and should not be treated radically except in cases of *indicatio vitalis*.

PERSISTENT HEADACHE.

REMOVAL, FOR RELIEF, OF AN OUNCE RIFLE-BULLET, IMBEDDED IN THE BONES OF THE RIGHT TEMPORAL FOSSA, WHERE IT HAD LAIN UNSUSPECTED FOR THIRTY-FOUR YEARS.

BY SWAN M. BURNETT, M.D., Ph.D.
Professor of Ophthalmology and Otology, Georgetown University;
Ophthalmologist to the Georgetown University Hospital and
to the Children's and Providence Hospitals; Director
of the Eye and Ear Clinics at the Central
Dispensary and Emergency Hospital.
WASHINGTON, D. C.

Mr. W. G., of Howardsville, Va, at the age of 17 years enlisted, June 16, 1863, in the Second Virginia Cavalry. In the sixteen engagements in which he took part, from that time until July 3, he escaped unhurt; but at the battle of Cashtown, on that date, he was twice wounded. The first wound was in the right shoulder, which, while disabling him as to the use of his gun, did not render him unconscious or drive him from the field; and while cheering his comrades on in the fight, he received his second wound, in the head, which prostrated him and rendered him unconscious for some minutes. He was carried to the rear, and remained as prisoner in the hands of the Federal troops. He was sent to a hospital in Providence, R. I., where his shoulder wound assumed a very serious aspect, and he was in a critical condition for several weeks. As soon as he was able to observe things after regaining consciousness on the field, he noticed that the sight of his right eye was gone. The wound in the right brow was so trivial that it was almost entirely ignored by the surgeons in their anxiety for the much more serious one of the shoulder. It was generally concluded by the different surgeons who attended him that the injury to the brow was caused by a piece of shell; and as there was little complaint of it at the time, nothing beyond local applications was attempted. The shoulder wound finally healed, leaving a fairly useful arm, and after his exchange he served as courier for more than a year. The small wound in the brow, however, never healed permanently. It would occasionally break out and discharge a small quantity of very thin pus, but there was never any marked tenderness at it or anywhere in its immediate vicinity. The eye remained blind, and in the course of years became painful, and inflamed at times, and there was scarcely ever absent a sense of discomfort and heaviness on that side of the head, which finally developed into a positive pain on any considerable physical exertion. Though a man of strong physique, this condition, continuing through so many years, finally rendered him unfit for protracted work of any kind. By the advice of Dr. Kleinschmidt of this city, he consulted me in October, 1890, and I found the right eye in a state of partial atrophy, the cornea flatter than normal, pupil closed. The eye was somewhat painful and had been for a long while; T—1; no marked painfulness to touch. There was a small fistula on the upper orbital edge about one-third of the distance from the outer to the inner canthus, from which a drop of thin pus could be pressed. There was no circumscribed tumor at the temporal region. The eye being painful and useless, it was thought best to enucleate it, with the hope that an exploration of the empty orbit might reveal the source of the fistular discharge. Accordingly he was admitted to Providence Hospital, October 16, and the eye was removed. It is to be regretted that when the time came for making a section of the removed ball it could not be found, nor has it been to this day. After the orbit had been freed of the globe, it was carefully explored. Its walls were found to be sound; and a probe introduced into the fistular opening in the brow did not enter it, but passed upward for a short distance over the anterior surface of the frontal bone. The opening was enlarged and a small quantity of necrosed bone removed.

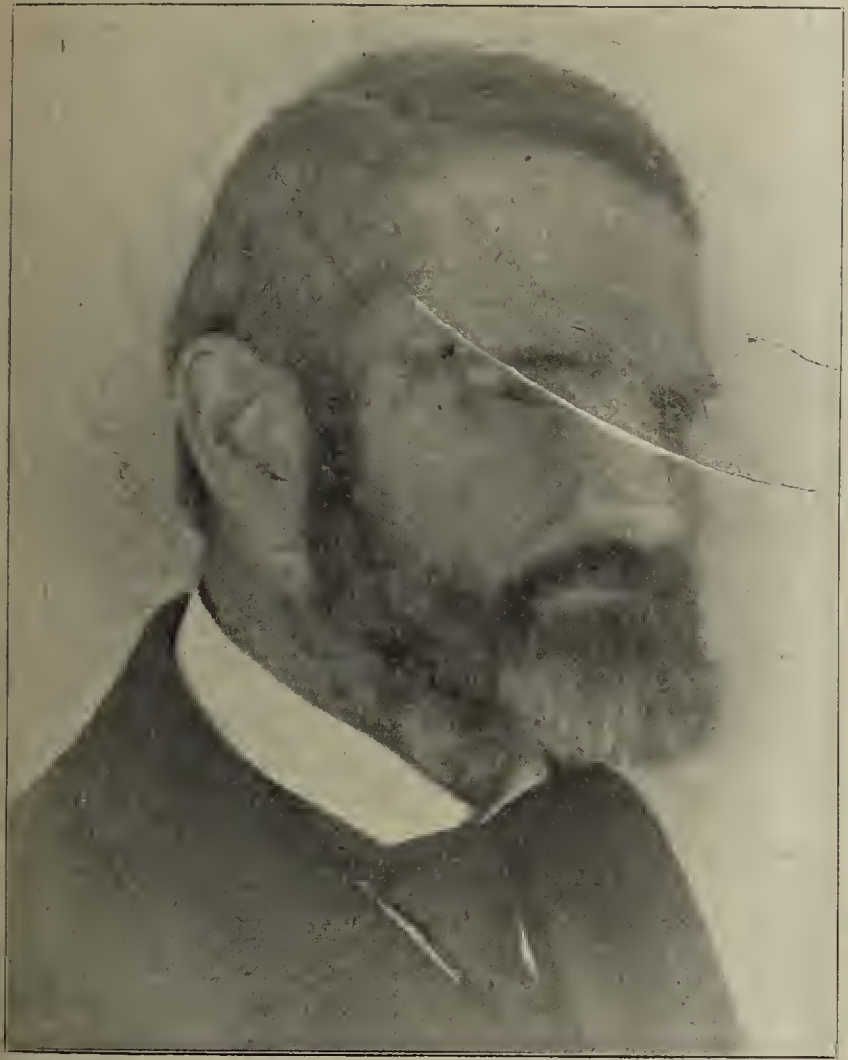

Figure 1.

From this operation he derived some, but not a great amount of benefit, and in March, 1892, he again presented himself, asking that something further be done for the relief of the pain in the right side of the head. On March 20, the fistula was again laid open and a tract followed upward over the frontal bone for some two and one-half inches. All the dead bone on the surface was removed by a curette. From this operation he experienced some relief for a year or more, but after that the old pain returned, and finally, in January, 1897, he returned and begged that another effort be made to give him relief from his suffering. As the fistula still continued to discharge at times, it seemed evident that this must be in some way connected with the pathologic condition; and believing that whatever it was, it was the cause of his pain, I determined to continue the search until it was found, and with this understanding he consented to an operation, which was made Jan. 25, 1897, at the Emergency Hospital. Taking the history as it had been given, the only definite idea that could be entertained was that there had been a shell wound, causing a disease of the bone, which was obstinate in healing and which I had not been successful in entirely removing at the other operation. I had this thought, too, that perhaps the frontal sinus had been opened. The discharge may have come from the diseased sinus through a fistulous opening so small as to have escaped detection at the other operation. Accordingly, under thorough anesthesia, the fistula was again laid open to the extent of a centimeter and a half upward. The walls were cicatricial and hard. At the bottom of the fistula and about two centimeters above the orbital ridge, a pocket of necrosed bone was found and thoroughly scraped with a curette, until perfectly healthy bone was reached in every direction. This pocket, which was as large as a very large pea, 7 or 8 mm. in diameter, was perfectly "blind." It led nowhere. The most careful examination with the finest probes did not reveal a passage into the frontal sinus or farther into the frontal bone in any direction. The cicatricial tissue was closely adherent to its edges. It seemed as though we were again to be foiled in finding a cause for the protracted pain, when happening to look at the edge of the recently denuded bone, under a certain angle of light, I noted a bright point of reflection. Examining this more closely, I found it to be a fragment of lead, with a surface about half the size of a

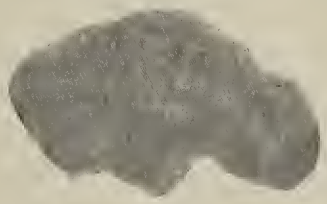

Fig. 2.—Length, 31 mm.; Width, 17 mm.; Weight, 24.9 gm.

pin-head. Turning to the medical gentleman and students who were present, I said, "This puts an entirely new aspect on this case. There has been a mistake all along. The wound was not made by a piece of shell, but by a leaden bullet. This bullet is no doubt somewhere in the skull and it must be found."

There was nothing to indicate the direction the bullet might have taken. It had left no trace of its passage. The cicatricial tissue around the cavity was firm, and the bone, after removal of the diseased tissue, was healthy. It was among the possibilities that the ball might have glanced against the bone and passed out again either through its place of entrance, or at some point quite distant, as such projectiles have been known to do; or it might be anywhere, the wandering character of the paths of bullets after they have entered the body being well known. The two first possibilities were hardly worth considering and the preponderance of likelihood was of its still being somewhere in the skull. The search was therefore continued by enlarging the incision upward over the frontal bone for seven centimeters, but without result, so far as finding further evidence of the ball or its pathway, the bone being everywhere normal under a normal periosteum. It was then called to mind that the shot had been received while the patient was on foot, the enemy being mounted. The ball would then have a downward direction and when it struck the brow would, in all probability, continue in the same general line. Under this impression, another incision was made downward, in the direction of the temporal bone, and at about 2.5 centimeters from the edge of the excavation and about 5 cm. from the orbital edge, under cicatricial tissue, was found the edge of a mass of lead. I then proceeded to carefully uncover the surface, following its irregular and seemingly never ending course until its terminal extremity was found deep down in the temporal fossa, reaching a considerable distance over the surface of the greater wing of the sphenoid. When it was fully exposed, its surface occupied a space nearly 30 by 12 mm., level with that of the surrounding bones, in which it was so firmly bedded as to form a part of their structure. The surrounding bone was perfectly healthy, without the least suggestion of necrosis. It was evident that the only method of removal was by chiselling the bone from around the imbedded bullet. We were entirely ignorant of the depth to which the bullet had penetrated, but as the skull wall at this part is very thin, the need of great caution was felt in using the chisel and making the effort for extraction for fear of penetrating the cavity and doing injury to the soft parts of the cranial contents. The idea of using a trephine which would embrace the whole of the bullet and surrounding bone was rejected—on account of the situation of the foreign body and the danger of its use—as less practicable than a careful use of the chisel, particularly in hands which were accustomed to its use. The chisels used were those of Schwartz, which I always employ in operation on the mastoid. It became apparent very soon after the chiseling had begun that it would be necessary to make a channel entirely around the mass, for everywhere the bone and lead were entirely welded together. In some places the bone had overlapped the lead by 2 or 3 mm., and everywhere had inserted itself into each crack and cranny of the very rough and irregular surface of the mass, holding it as tightly as if they had been moulded together. For this reason it was found necessary to run a channel of a depth equal to the thickness of the mass all around it, this reaching at some points a depth of nearly 1 centimeter. At length, however, the mass was felt to be loose, and it was carefully pried from its bed. It had been resting upon apparently perfectly sound bone, somewhat discolored by the lead, but bearing as exact an impress of every line and undulation of the under surface of the bullet, as if it had been made in wax. If there had at any time been a fracture or penetration of the bone, there was no evidence of it now. There had been but little hemorrhage during the operation, three vessels only requiring ligation. The cavity in the bone was filled with iodoform gauze and the edges of the skin around brought together, leaving a drainage at its lowest part. The whole operation consumed two and one-half hours.

The patient came promptly from under the anesthetic, and there was at no time during convalescence a rise of temperature one-half a degree above the normal. The wound was dressed three days afterward, and no pus found; nor was there any during the whole course of healing. He was discharged from the hospital February 3, and a few days thereafter the photograph, of which Fig. 1 is a reproduction, was taken. The bullet, which was a regulation ounce minie ball, had probably lost something of its substance before striking him, for it weighed only 24.9 grains. Its length was 31 mm., width at its widest part 17 mm., and it was 1 cm. thick at its thickest part. (See Fig. 2.)

Immediately after the operation the patient felt relief from his head symptoms and this relief has continued until the present time (July, 1898). His own words are: "I am a new man."

It is not my present purpose to enter into a discussion of the general question of the bullets imbedded in bone, but I shall limit myself to pointing out the prominent and interesting features of this particular case. The marvel is that such a mass of lead coming with a velocity sufficient to penetrate the skin, should not have entered the skull or at least caused an extensive fracture of its walls. The probable explanation of this is that it was a spent ball, struck the brow obliquely and, passing under the skin, had not enough force remaining to make its way out through the thick temporalis muscle. It hardly seems possible that it could have penetrated the bone. There was no sign of fracture either at the bed of the bullet or at the point of entrance at the brow. How was it then, that the ball was found entirely surrounded and firmly embedded in osseous tissue? The whole appearance and history indicates that there was a slow proliferating osteitis, set up by this foreign body, causing new osseous material to be thrown out around it. In no other way can we account for the complete union between the bullet and the surrounding bone. It is rather remarkable, in view of this, that there was at no time any marked circumscribed swelling in the temporal region or other symptoms pointing to trouble in this part, except the fact, which he now recalls to mind, that there were times when it was difficult for him to open his mouth, and sometimes it could not be opened wider than to admit his finger. This was no doubt due to the painfulness of the temporalis muscle in the act of mastication. He had been examined by many surgeons, both during and subsequent to the war, and the theory of the shell wound was, he says, universally adhered to. As regards the blindness, that is readily accounted for in the same way that sudden blindness following blows around the orbit are now commonly explained, by a fracture of the optic foramen with a consequent pressure on the optic nerve. The subsequent inflammatory affection of the eyeball leading to a partial atrophy is not so easily accounted for, but is most likely due to a continuation of the morbid process set up at the time of injury. The pain, of a neuralgic character, which was so persistent, was evidently due to the pressure of the mass of lead on the nerves of the bone, the removal of which gave instant and permanent relief.

I am indebted to Dr. A. R. Shourds for assistance during the operation, and to Dr. Ritchie Stone, of the Lionel Laboratory of the Emergency Hospital, for the photographs from which the figures are taken.

HEADACHE FROM NASAL CAUSES.

WITH SOME ILLUSTRATIVE CASES.

Read before the Cincinnati Academy of Medicine, Sept. 19, 1898.

BY J. A. THOMPSON, M.D.
CINCINNATI, OHIO.

Headache is one of the common symptoms of patients with diseases of the nose. So frequently is it found associated with obstructive lesions that its presence and its cure by operation are everyday observations of the rhinologist. But no one has yet systematically reviewed the clinical histories of these cases and given us a clear description of of the symptom, so that one not an expert in this special line could recognize the cause of the pain from the patient's statements. The present paper is an attempt to furnish some needed data for the accurate diagnosis of the cause of headache. A symptom so common and often so obscure in its etiology is deserving of our most careful study. There is nothing so obstructive to the true progress of medicine as false statistics and deductions, drawn from improperly observed and recorded cases. In order that the reader may judge for himself whether my conclusions are properly drawn, I shall report briefly, typic cases, illustrating each disease in the nose that may produce headache as a symptom.

Miss F., aged 18 years, poorly developed, anemic and badly nourished, is a student of music and very ambitious. The hours of confinement and the tension of piano practice have greatly increased her nervousness. There is a noticeable lack of self-control. Her nerves are all hyperesthestic. She is a mouth breather, with little discharge in either nose or throat, and no cough. She has suffered for five months from a constant headache. The pain is usually over the eyes but radiates to the temples and extends at times to the scalp. It is greatly increased by an attack of acute rhinitis when she "catches cold." Examination of the nose shows the middle and inferior turbinated bodies on both sides, chronically congested and with beginning hypertrophy. Intense pain was produced in the supra-orbital region by touching the middle turbinated bodies with a probe. This pain and the chronic headache were temporarily relieved by cocainizing the nostrils.

This then was a typic case of headache caused by hypertrophic rhinitis. The turbinated bodies were cauterized with the galvanocautery and the patient given a menthol-camphor spray to use at home. The headache was cured in three weeks. Treatment was continued six weeks longer to restore nasal respiration. I was unable to control the patient's manner of living, so there was little change in her general condition. The symptom for which she sought treatment, the headache, was entirely relieved.

Headache is not nearly so common a symptom in atrophic rhinitis as it is in the hypertrophic form. It occurs in a few cases. Mrs. N., aged 27, married, mother of two children, is an illustrative case. Like most patients where the respiratory function of the nose is impaired, she is feeble and poorly nourished. Tenacious, offensive crusts accumulate in her nose and are expelled at intervals of two or three days. She has had for months a dull aching pain over the forehead. The throat is dry and a tickling sensation causes frequent and violent spells of coughing. Examination of the nose shows only irregular ridges where the turbinated bodies should be. The nasal mucosa is purplish in color, from venous congestion. The pharynx and larynx are glazed and congested. Examination of the lungs showed chronic bronchitis affecting the larger bronchi. The patient was told how to use alkaline lotions in cleansing the nose. She was given a spray containing oil of eucalyptus and menthol. Twice a week direct applications were made to the pharynx and larynx, the remedy used being determined by the condition present at the time of treatment. The chronic bronchitis was treated partly by internal remedies and partly by tracheal injections. With the relief of the nasal congestion the headache disappeared. All other symptoms were relieved by a three months' course of treatment, but the destruction of the tissue in the nose was so great that a restoration of function was not possible.

Shelves or spurs growing from the nasal septum and pressing on the turbinated bodies are a very common cause of nasal headache. When present in patients with hypertrophic rhinitis, the headache is especially severe. One case out of many will illustrate this point: Miss G., aged 23 years, is the daughter of a physician in comfortable circumstances, whose health is good with the exception of her nasal trouble. For nearly three years she has had a constant pain as though a constricting band were tightly drawn around the forehead. The pain varied in intensity, but her waking hours were never entirely free from it. Every remedy known to internal medicine had been tried, but without effect. Examination of the nose showed a long irregular spur low down in the left nostril. It grew from the septum but was embedded in and adherent to the inferior turbinated body. This growth was removed under cocain anesthesia. There was considerable trouble in the after-treatment of the case in preventing adhesions forming between the wounds on the septum and turbinated bodies. In ten days this difficulty was overcome and the patient was free from pain. Her face lost the look of constant suffering it had worn, and she returned to her home, cured of a headache that had defied other treatment for nearly three years.

In patients with atrophic rhinitis, large spurs or exostoses often exist without causing any symptoms. In such cases no operation is needed. In others the exostoses are large enough to press on the remaining turbinated tissue and cause great suffering. J. S. H., a merchant aged 40 years, and a robust, well-developed man, consulted me in March, 1897. He had suffered all the previous winter from a headache which finally became so severe that he could no longer attend to his business. On the advice of his physician, a homeopathic practitioner, he went to Florida in January. While there the headache disappeared. After a six weeks' stay he returned home and at once began to suffer again from intense headache. I had previously relieved a daughter of his from headache, by removing adenoids. As infinitesimal medication was giving infinitesimal results, he decided to change treatment and consulted me concerning his case. I found a large exostosis growing from the vomer and pressing upon the posterior portion of the inferior turbinated body. The nose showed the changes characteristic of atrophic rhinitis. Operation was advised and refused, but a few days more of suffering caused a change of opinion on the part of the patient and the exostosis was removed. Before he left the office he said. "Doctor, you have set every tooth to jumping but my headache is gone." It has not returned.

A thin, deflected septum that presses on the turbinated bodies may also cause headaches severe enough to seriously interfere with the patient's health and usefulness. John M., aged 38 years, is a race track employee, who has twice been sunstruck, but his medical history is good in other particulars. I saw him first in February, 1898. He had suffered from headache, chiefly over the left side of the head, for months. The pain was continuous throughout the day and interfered with his rest at night. The mouth breathing and consequent dry throat also interrupted his sleep as he was often wakened by a choking sensation. His strength was failing from the long-continued pain and inability to sleep. The nasal septum was deflected until it pressed on the middle and inferior turbinated bodies of the left side. There was no thickening. The patient was operated on at the Presbyterian Hospital. Under chloroform anesthesia, crucial incisions were made through the septum, with the Asch scissors. The septum was then forced over to the median line with forceps, and nasal tubes inserted. The operation was a very bloody one. The patient suffered severely for a week after the operation, but by that time the acute inflammation had subsided and the nose become accustomed to the tube. The patient's temperature was 102 degrees F., once during the convalescence. After the first week he improved rapidly. The tube was worn five weeks and then left out. The septum retains its position near the median line. He can sleep until morning without waking, and has regained his usual health and strength. The only unfavorable feature of the case is a small perforation of the septum where the incisions crossed.

Perforations of the septum nasi ordinarily give no trouble. In some cases attacks of acute rhinitis cause ulceration at the margins. This ulceration is painful and the pain is generally referred to the supraorbital region. A. M. was a soldier in the Civil War, who, as a result of exposure, had hypertrophic rhinitis. The decomposing secretion from this diseased area irritated the skin covering the septum in the vestibule of the nose and set up an eczema. The fissures of eczema became ulcers and resulted in a perforation. Syphilis could be excluded in this case by the history and the man's general health. The catarrh had existed for twenty years with little treatment before he came under my care. He was a patient of mine at intervals for ten years. When he had a severe acute rhinitis, the upper posterior margin of the perforation would ulcerate and sometimes a bit of cartilage would become necrosed. This process was always accompanied by severe headache, the pain being supra-orbital. A salve containing 10 per cent. of boracic acid would ordinarily secure rapid healing of the ulcer and relieve the headache.

Polypi are the most common neoplasms in the nose. They often cause severe headache. C. K., a very robust, hearty German, consulted me first in 1894. He had suffered for months from a headache that continually increased in severity in spite of the treatment given by his family physician. The pain was most intense in the early morning. It gradually lessened as the hours passed until in the afternoon he was comparatively comfortable and could attend to business. Examination of the nose showed the upper part of both fossæ filled with polypi. They were immediately removed. At the patient's next visit he reported that the headache left him in a few hours after the removal of the polypi. He was seen at intervals of a week for a short time and the small polypi that grew around the base of the larger tumors destroyed. In 1897 he again came under my care with a catarrhal trouble. There had been no return of the polypi and no recurrence of the headache.

No benign growth causes as much destruction of tissue in the nose and as much suffering as a fibroma. Membrane, cartilage or bone becomes necrotic under the pressure of these tumors and the destructive process causes agonizing pain. The same statement applies to the later stages of sarcoma in the nose. It has been so short a time since I presented the specimens and case histories of both these conditions to the Academy, that I shall not again enter into details.

Tertiary syphilis appears in the nose in one of three forms. You may find it as a gumma, a deep ulcer or a necrosis of the nasal bones. Sometimes the three conditions are coincident, although this is not common. Any one of the three may be attended by severe headache. When a gumma is present, the headache usually comes from pressure on the turbinated bodies. In deep ulcer, the headache is produced by the intense inflammation of the tissues around the border of the ulcer. In necrosis of the nasal bones, the headache may also be caused by an inflammation of the adjacent tissues. I have sometimes thought it was in part due to the chronic septicemia with consequent anemia in these cases. Mrs. L. M. consulted me in October, 1897, having suffered for years from syphilis. When examined there had been an almost complete destruction of the posterior portion of the triangular cartilage. Projecting portions of the dead vomer could be seen through the mass of granulations and polypi that surrounded this portion of the septum. There was a small gumma on the posterior portion of the left middle turbinated body. The discharge from the nose was very abundant and exceedingly offensive and the patient's sense of smell was entirely gone. She was suffering intensely from headache caused by the disease in the nose. The granulations and polypi were removed by the snare as rapidly as possible. The vomer was removed by forceps and snare at two sittings. A little later it was necessary to remove a portion of the middle turbinated bone which had become necrotic under the gumma.

The patient used cleansing sprays and a spray containing oil of eucalyptus several times daily to clear the parts of the discharge and to remove the offensive odor. After three months' treatment, there was a complete cure of the ulceration and final relief of the headache.

The slow growth of a rhinolith may cause no symptoms while the stone is small. When it becomes large enough to press on the turbinated bodies, headache is added to the symptoms of obstruction already present. Ed. B. was referred to me in October, 1895, by his family physician. He is a clerk, has had syphilis and drinks to excess. He has never been able to breathe through his left nostril since he was old enough to note and remember his own condition. The obstruction was attributed to a fall from his nurse's arms when an infant. He has suffered from headache for years. For three months before I saw him he had been unable to work because of this pain and the condition of the left eye. The eye was injected, watery, and the pupil almost closed, responding very slowly to light. So intense was the pain and injection in the eye that I feared an iritis. The nasal septum was deflected to the left and thickened so the interior of the nostril could not be seen. A probe passed along the floor of the nose encountered a foreign body with the feel of necrotic bone. A portion broken off with a small pair of forceps showed it to be a rhinolith. The remaining portion was drawn down and pushed back into the nasopharynx and removed through the mouth. The hemorrhage from the granulations surrounding the rhinolith was so profuse as to obscure the field and prevent any further interference at that time. A few days later the thickened portion of the septum was removed with the saw. The result was a cure of the headache and the ocular symptoms.

In tropic or subtropic countries, flies occasionally deposit their eggs in the diseased nostrils of animals or human beings. The recorded cases of parasites in men show that the growth and activity of the maggots cause the severest headache and wildest delirium. It has been my misfortune to encounter one such case: J. B. had a sarcoma of the nose that operation had failed to benefit. He refused to remain in any hospital. His surroundings in a tenement home were so dirty and unsanitary as to defy description. The nursing consisted chiefly in Irish lamentations over his unfortunate condition. The proper fervor was obtained by copious draughts of corner grocery whiskey. The flies were attracted by the odor of the sloughing sarcoma and the nose twice became infested with maggots. Their presence greatly increased the headache from which the patient suffered. They were easily destroyed by injections of diluted chloroform.

Foreign bodies in the nose may cause headache by pressure on the turbinated bodies. Where the foreign body swells by absorbing moisture, the pain is usually most severe. A girl six years old was brought to me in 1888, by her mother, with an offensive discharge from the right nostril and pain over the corresponding eye. The left nostril was normal. The diagnosis of foreign body was made in spite of the child's denial that she had put anything in the nose. The membrane in the right nostril was so swollen that nothing could be seen. The use of the probe for diagnosis was not allowed. Directions were given for cleansing the nose. A boracic acid salve was used for its effect on the inflamed membrane. At a subsequent visit a small black spot was seen in the nostril. I had by this time gained the child's confidence so she would permit the use of the instruments. The black substance was grasped by forceps and a roll of cloth an inch long removed. The headache and offensive discharge was cured in a week.

Purulent inflammation in any of the accessory sinuses of the nose is attended by severe headache. Mrs. S., aged 55 years, had suffered for twenty-five years from headaches of great severity. She would often be confined to her bed for days by one of these attacks. For three years the pain had been continuous. She was weak and feeble from the pain and consequent loss of rest and nourishment. Her husband, a physician, had given her every attention, but the severe attacks became worse and more frequent. Her memory was failing. The diagnosis of nasal headache was made by Dr. Heady and the case referred to me for operation. The middle turbinated body on the left side was hypertrophied. Some pus could be seen below it. The patient said when there was a free flow of pus from the nose she would have little headache. When the discharge decreased she would have a violent attack. The anterior portion of this diseased tissue was removed with a snare at her first visit. This gave some relief. There was a rapid return of the obstruction and at her next visit in removing it I felt dead bone beneath the diseased membrane. The bone was removed with snare, forceps and curette. A free opening into the anterior ethmoid cells was made in removing the necrotic bone. There was a thick offensive pus in the cells. The opening was kept clear of granulation until the membrane healed over the edges of the wound. Permanent drainage of the cells was thus secured. There has been no headache since the cells were freely opened.

Probably every adult has experienced the severe headache which is caused by the extension of the inflammation in an acute rhinitis to the frontal sinuses. The condition is too well known to need elaboration. Much can be done in these cases to secure drainage and consequent relief from pain by intranasal treatment. R. H. C., aged 37 years, sent for me to see him at his residence, in December, 1896. I had removed a large spur from the right nostril some months before, and found him in bed suffering from very severe pain over the left eye. The whole left side of the face and head were congested and the scalp tender. His temperature was 102 degrees. The left nostril was completely filled by the inflamed turbinated bodies. These were contracted as much as possible by the free use of a cocain solution. A hot water bottle was applied over the forehead and codein given internally. A menthol spray was ordered to be used every three hours. At the end of twenty-four hours there was no improvement, so, in addition to the use of cocain, the engorged membrane was freely scarified about the lower orifice of the infundibulum. This treatment was followed by a free discharge of offensive pus and a cure of all the symptoms.

Chronic empyema of the frontal sinus may cause headache for years. Miss K., aged 22 years, came under my care in 1896. She had atrophic rhinitis and suffered for two years from headache over the left eye. There was some swelling over the forehead in this region and the swollen portion was tender on pressure. The middle and inferior turbinated bodies in the left nostril were adherent. Pus was discharged through a fistulous opening in the middle turbinated body. The case was one where the frontal sinus should have been opened externally, but this operation was declined. All I could do was to remove the granulations and polypoid tissue about the fistula from time to time. So long as the pus escapes freely there is relief from pain, but a cure in this case is not possible without a radical operation.

The gravest symptoms produced by empyema of any of the accessory sinuses of the nose occur when the sphenoidal sinus is involved. S. M., aged 28 years, came to me in 1894 with a gumma in the nasopharynx. The swelling had blocked the orifice of the sphenoidal sinus, which was inflamed and full of pus. She was wild with pain, which radiated, as she described it, from the center of her head. She staggered as she walked, and vision was impaired, particularly in the left eye. Her temperature was 104 degrees and she had severe nausea and vomited her food. Opiates were given liberally. Large doses of potassium iodid were also ordered. The medicines gave no relief and at the end of forty-eight hours an opening was drilled in the anterior wall of the sinus. With the discharge of pus, immediate relief was given and all the acute symptoms disappeared in a week.

When a patient with hypertrophic rhinitis has an attack of acute inflammation, the ventilation of the antrum of Highmore is sometimes stopped. This is especially true if the membrane in the hiatus semilunaris is involved in the hypertrophy. Mrs. S., aged 38 years, consulted me in June, 1897, with this condition present. She had severe pain over the infraorbital and supraorbital regions of the left side. All the teeth in the left upper maxilla were aching. She was nauseated from pain and loss of sleep. Her temperature was 102 degrees. The middle turbinated body and the membrane about were thoroughly cocainized. An attempt to probe the orifice failed. The tip of a probe-pointed knife was then thrust through and its withdrawal was followed by a gush of mucus. This gave immediate relief. It was necessary to reopen the orifice the next day. After this time it remained patulous and with the appropriate treatment of the rhinitis there has been no further trouble.

So far in this paper, with one exception, I have reported only uncomplicated cases in order to give a clear idea of each cause for nasal headache. In practice, two or more pathologic conditions are often found associated in one case. All must be cured before the headache is relieved. Alois S., aged 40, years, a robust stolid German, consulted me in November, 1897, and gave a history of obstructed nostril for two years. Headache had been constant since the obstruction was first noted. A number of polypi had been removed from the left nostril by another physician six months before I saw him, but there was no relief of the headache. For three months he had suffered from nocturnal asthma. It was for the relief of this he again sought nasal treatment. I removed the recurrent polypi and found behind them a large exostosis on the vomer. This growth was imbedded in and adherent to the inferior turbinated body. The bony growth was removed with the saw. Six weeks' treatment cured both the asthma and the headache and there has been no recurrence.

Chronic nasal headaches begin as intermittent attacks of pain. Colds or unusual excitement bring on the painful periods with increasing frequency and they last longer than the earlier attacks. By the time nasal stenosis has become a prominent feature in the case, the pain has become constant. There are great variations in the severity of the headache after it has become continuous. Sometimes the exacerbations are at intervals of two or three weeks. In other cases there is a daily recurrence of hours of suffering and a time of comparative ease. These cases are the ones most likely to be mistaken for malarial neuralgia. The most common description of the pain by the patient is the statement that there is a constant dull ache over the root of the nose and over the eyes. In severer cases the usual complaint is of a band drawn tightly around the head above the eyes with an ever-increasing pressure. In other cases the pain may be referred to the temples, the scalp or the eyes. The patient's general health suffers from the constant pain. Insomnia is a frequent complication in bad cases. The patient becomes irritable, faultfinding and peevish. In a few cases a morbid dread of insanity has been noticed. A partial loss of memory and of mental vigor, noticed by the patient himself, may increase the tendency to melancholia.

The disease in the nose which causes the headache is usually complicated by catarrh of the nasopharynx. pharyngitis, laryngitis, and bronchitis. The mucopurulent expectoration, cough and dry throat in the morning are valuable symptoms. If understood, they direct the physician's attention to the nose as the site of the primary disease. The coated tongue of obstructive disease in the nose is apt to be misleading. Where the doctor in his own mind always associates a coated tongue with dyspepsia he will treat a nasal headache as one caused by some disorder of digestion. This mistake in diagnosis and mortifying failure in treatment can be avoided by remembering that a coated tongue means mouth breathing more often than it indicates dyspepsia.

Where the headache is caused by an acute inflammation in the nose, the suffering is greater than in the chronic cases. It lasts only a few days unless some chronic inflammatory disease underlies the acute process. There will be some fever during the attack with all the well-known general symptoms of that condition.

The diagnosis of headache from nasal causes will be suggested by the history of catarrhal symptoms and long-continued pain. Direct examination of the nose will show evidence of one of the causal diseases already described. If cocainization of the nasal mucosa gives temporary relief of the headache, there is greater probability that the cause is some disease in the nose. Touching the affected area in the nose with a probe often increases the pain if the headache comes from this cause. Those tests, though, are not always diagnostic. We must sometimes depend on the results of treatment for a positive diagnosis. I have treated a case with marked hypertrophy of the middle turbinated bodies without benefiting the headache, which was later found to be due to granular nephritis.

The treatment of nasal headache is the cure of the causal condition in the nose. The methods of treatment for each cause can be found in any good work on rhinology. In a few cases, some general treatment must follow local measures. Ordinarily this is not needed. With the cure of the nasal disease, the headache disappears. The general health improves rapidly. The mental and moral condition of the patient undergoes a decided change for the better. There are none more grateful than those, who, after years of suffering, have had the "iron band" of a nasal headache removed from their brows.

CHRONIC GENITO-URINARY DISEASE.

REFLEX NERVOUS MANIFESTATIONS CONNECTED THEREWITH.

BY WILBUR F. STORMAN, M.D.
EVANSVILLE, IND.

During the past few decades the advancement and progress of invention and discovery has been marvelous indeed, and as usual, the "Yankee" justly claims his as the lion's share.

To no branch of science does the foregoing apply more forciby than to the different branches of medicine and surgery, as a whole. In fact, the discoveries of pathologic causes and processes, and their prohibition and prophylactic therapeutics have almost revolutionized the science of both surgery and medicine, and placed us at present upon a basis from which we can assert that our maligned profession is much nearer an exact science than at any other time in its history, and that the day of empiricism is practically past.

In contradistinction to the geologic and other histories of the past being divided into "Ages" the present is called the "Electric Age," and it might be appropriate for us as members of the most noble and philanthropic of all professions, to call it the "Medical Age," since no member of the other professions will ever accord it to us without the asking, I assure you.

While we must and do admit that the discoveries in electricity and their application and use have furnished many conveniences and necessities for the use and comfort of the toiling millions and pleasure-loving gentry, none (with the exception of the Roentgen ray, and the few other medicinal and diagnostic uses of electricity) have ever served to save a human life, or add a year to its length, or to ameliorate and soothe the pangs of pain and human suffering. *Per contra*, however, they have almost invariably added to the wretchedness and absolute dependence of the poor of the land upon the grasping hand of capital for their meager existence and their daily bread.

I desire to call attention to the fact (in my opinion), and to assert, that taken in their broadest sense, and viewed from a clinical and diagnostic standpoint and causative factor, in all forms of nervous disorders and affections, including insanity, hysteria, melancholia, all the different forms of mania, and the entire category whose name is legion, in a *majority of cases* the cause may be traced to some functional or organic pathologic condition of the generative or urinary organs, usually the former. What proportion of the inmates of our lunatic asylums have been addicted to vicious habits, sexual excesses and sexual pernicity and disease?

I have hanging in my office a life-size reproduction of a dissection by Byron Robinson of Chicago (my genial professor of abdominal surgery and gynecology), of the entire sympathetic nervous system, and its various spinal and cerebral connections, which clearly and plainly shows even to the laity, how a pain can be reflected and made apparently manifest at any distant part of the nervous economy. For example, let us take a diseased condition and disordered function of the pudic nerve—admitting it to be by far the most sensitive portion of the nervous organism of either sex, and the sensation of irritation and pain is transmitted directly to some distant part. It may first be sent to the sacral, or to the solar plexus, the "abdominal brain," thence to be reflected to the loin, side, back, hip, pleura, heart, lung, or to some other equally unsuspected locality, and in this manner we can account for many of the so-called neuralgias, backaches and headaches, and many gastric and cardiac disturbances as well. Consider for a moment a nervous system diseased in this locality, with the entire system constantly supplied with impure and waste-laden blood, thereby impoverishing the general nutrition and health, while every nerve is crying out against the devastation and ruin being wrought, through the central and ganglionic neurons and peripheral bulbs, and their thousands of connections and ramifications everywhere. Any form of specific or pathogenic micro-organism, if deposited by any means within the vagina of the female, may at once be transmitted and carried directly within the peritoneal cavity, and there deposited, producing acute local or general peritonitis, ovaritis, salpingitis, perisalpingitis, endosalpingitis, oöphoritis, perioöphoritis, endometritis, metritis, cervicitis or vaginitis, or by being lodged within the urethra of either sex, may result finally in chronic cystitis, nephritis, pyonephritis, and in the *male* may involve the cord, testes, anterior or posterior urethra, Cowper's glands, or the prostate. Any one of these is certain to produce pain, and that pain is almost certain to be reflexed through the various plexuses and the ramifications of the sympathetic system to distant parts, and simulate true nervous trouble there.

The treatment of these conditions, in order to be in any way successful, must be rational in every sense. The first important factor must be the recognition and removal of the cause, no matter whether it be medical, surgical, gynecologic, or what not. It must be removed before any permanent good can be accomplished and maintained. So long as anabolism is in abeyance, with catabolism in the saddle, and the sensitive nerves are thus poisoned and irritated with effete material and waste-laden blood, through lack of proper oxidation and decarbonization and insufficient elimination of the toxic principles of the normal metabolism of the entire human economy, just so long will we meet with failure in our treatment of all forms of nervous affections, and until we can look well to the re-establishment of the normal physiology of the body, and to the opening of the avenues of elimination of all these toxic irritants thus retained, our medication is a failure, and our treatment impotent of any permanent value. And along this line I desire to claim that not only should the specialist be able to recognize and diagnose these various abnormal conditions, but he should be able to successfully combat and correct them, as a rule, no matter whether they be ordinarily relegated to the surgeon, the gynecologist, or to the genito-urinary specialist, presuming that they usually entail minor operative procedures only.

Excellent results may usually be obtained in many cases, however, by the use of medicaments alone, eliminants, saline hydragogues, the tonic arseniates, alteratives, such as iridin, iodid of potassium, baptisin and sanguinarin, and where torpidity of the liver and bowel is a factor, by the addition of leptandrin euonymin, or podophylotoxin, aloin and belladonna, while many cases may be stimulated by the use of anemonin, helonin, macrotin, or caulophyllin combined with the amorphous hyoscyamin, cicutin or croton chloral—where there is spasmodic contraction of the pelvic organs, or pelvic viscera, producing much pain.

A correct and exclusive diagnosis once established, followed by a conservative and judicious tonic alterative soothing and eliminative treatment, means much in a vast proportion of all forms of reflex nervous manifestations due to pathologic conditions located here, and many times both hidden and unsuspected.

Here too, in this connection, is indicated the different forms of electricity, massage, mechanic vibration and hydrotherapy, so ably advocated in the columns of the JOURNAL of April 30, 1898, by Dr. Curran Pope, in his classification of "Chronic Cases." Therein, however, he fails to mention these, which I consider of prime importance, and the most prolific source of all forms of disease, productive of chronic nervous disorders. Though syphilis may be transmitted through other sources and gain entrance through other channels, in a greater percentage of cases its specific virus is deposited during sexual intercourse, entailing much hidden trouble, masked symptoms of various kinds, and by the formation of gummata, in time producing epileptiform convulsions and other phenomena by its interference with the proper function of the brain, the very citadel of life itself.

The enormous area of the peritoneum and its comparatively unknown physiology and patholcgy, render it also a good field for study and pioneer research in this connection. All these and many more I could mention if considered necessary, in order to sustain me in the position I have taken, that these should be placed at the *head of the list* as causative factors of nervous manifestations of chronic disease.

HYDROTHERAPY IN STOMACH DISEASES.

Read before the Mississippi Valley Medical Association, Nashville, Tenn., October 11-16, 1898.

BY GEORGE D. KAHLO, M.D.
INDIANAPOLIS, IND.

It is universally conceded that water is essential to the performance of all physiologic functions; yet its importance as a remedial agent is not, I think, so generally recognized.

The tendency in modern therapy is toward the employment of natural rather than artificial agencies, and nowhere have these principles a wider or more fruitful field of application than in the treatment of diseases of the stomach. While I do not wish to be understood as entirely opposing the use of drugs in these affections, as unquestionably they often exert a most beneficial influence, I desire to say emphatically, that I believe water ranks first among all our therapeutic resources. It may be used internally as a drink, in lavage as a douche and as a spray, and externally, either applied locally or generally. Its effects when administered internally will depend upon the condition of the stomach in respect both to the taking of food and to whether or not there is normal digestion, as also upon the amount and temperature of the water ingested.

As is well known, a healthy stomach, when fasting, is markedly contracted; this, together with the relative elevation of the cardiac extremity, greatly facilitates the rapid passage of fluids into the duodenum, and but very little absorption takes place before reaching the intestinal canal. Primarily, therefore, the drinking of water under such conditions will be to cleanse the gastric mucous membrane, and at the same time to act as a stimulant to secretions and to peristalsis. Secondarily, there is heightened arterial tension, accelerated heart action and an increased activity of the kidneys and skin.

Cold water is the more stimulating to secretions and is a better laxative. Hot water has a greater influence as a diaphoretic and in increasing the biliary flow. It is also more soothing to the gastric mucous membrane, is a better solvent, is more rapidly evacuated and is therefore, the more generally applicable as a therapeutic agent. The effects produced in pathologic conditions differ somewhat from those of the normal state, and a successful hydrotherapy must take cognizance of these distinctions. The condition furnishing the greatest indication for the drinking of hot water is gastritis, and in properly selected cases, its employment will be attended with the most beneficial influences, but it must be strictly limited to those in which the motor function is still intact. Wherever there is enfeebled motility, with retention of digestive products, the drinking of large quantities of water will only aggravate the symptoms already existing. To secure the best effects the water should be as hot as can be borne with comfort; it should be sipped very slowly, and from eight to sixteen ounces should be taken an hour before each meal and at bed-time. In this way it removes the excess of mucus, stimulates a healthy secretion and puts the stomach in the best possible condition to perform its natural function. Besides these local influences, by stimulating a healthy activity of the kidneys and skin, it removes effete products, to the presence of which are due the various phenomena of disturbed metabolism which we so frequently find associated with all digestive disorders.

Almost equally beneficial results are to be obtained in some of the purely functional conditions, as in gastralgia, and in the various secretory disturbances associated with normal motor activity. In myasthenia with diminished secretions, small quantities of cold water are sometimes useful in promoting a healthy glandular and muscular activity.

The effects of mineral water of slight concentration are in the main those of the ordinary potable water and are due more to the mode of administration, the purity and quantity of the water ingested than to its chemic composition. In certain patients they possess distinct advantages in the fact that because of their supposed medicinal properties greater confidence is felt in their efficacy, and more attention is given to carrying out the details of the treatment prescribed. The therapeutic uses of the stronger mineral waters are chiefly those of their constituent substances.

Carbonated or acidulous waters, owing to their palatability, are very popular as table waters. They are stimulating to the gastric mucous membrane, will improve the appetite and exercise quite a decided influence on the urinary excretion. They are recommended in gastric neuroses and in atony. In small quantities they will often relieve nausea and vomiting, but when taken in large amounts are apt to give rise to distension and eructations.

Chlorinated waters also act to increase the secretions, and according to Ewald, are indicated in all cases of gastric catarrh with diminished secretions, either with or without the production of mucus (Hemmeter).

Sulphated or bitter waters are saline waters containing sodium or magnesium sulphate, and it is to the presence of the latter substances that they owe their chief therapeutic property, which is as a laxative. They are useful in the treatment of chronic constipation, but because of their depletory influences, should not be employed in cases presenting anemia or marked debility.

Alkaline waters are employed quite extensively in the treatment of gastric diseases. In small quantities they increase and in large quantities diminish the secretion of hydrocholoric acid. They are used in hyperacidity and gastric ulcer, but an objection to their employment is that when taken in considerable quantities they are apt to impair the appetite. The various lithia waters are of this class, and, while the percentage of carbonate of lithium which they contain is undoubtedly small, they are very useful as eliminating agents. Better results are to be obtained from the natural than the artificially prepared waters.

Chalybeate waters are supposed to be of benefit in cases associated with marked anemia, but unless they can be taken at the spring their employment is not to be recommended.

Lavage, like other forms of internal hydrotherapy, while possessing many things in its favor, has certain well-defined limitations, and it is no doubt owing to its too indiscriminate use that it has lost much of its former popularity. It is indicated in exactly those conditions which furnish the chief contraindication to the administration of water as a drink; namely, in dilatation and retention. In gastrectasia, from whatever cause, it is a sovereign remedy, and in the earlier stages of this affection a few applications will sometimes effect a complete cure. Next to dilatation it is most frequently used in chronic gastritis, and Fenwick advises its employment in the gastro-intestinal catarrh of infancy, but it has a very limited application in dynamic affections. Ordinarily, plain water a little above the body temperature is used, but various medicinal solutions are occasionally substituted. The addition of a small quantity of salt is of advantage when there is diminished secretion with excessive mucus, and bicarbonate of soda solutions are employed in hyperacidity. In the majority of cases it is best to wash out the stomach in the morning before breakfast, for, besides its remedial influences, it has certain diagnostic advantages. In hyperacidity it is sometimes more effectual just before retiring.

The gastric douche does not differ materially from lavage, except that instead of the tube having but one or two large openings, there are many small ones, and the solution is introduced under somewhat greater pressure, the effect being a kind of internal shower-bath. It is advised particularly when using antiseptic solutions, but a much better method under these circumstances is that devised by Einhorn in the gastric spray. In this, the solution enters the stomach in the form of a fine spray, and besides being more widely disseminated, a minimum amount of antiseptic is employed and there is less risk of toxic symptoms.

Externally, water may be applied locally, either directly or through the intervention of some secondary substance. The most common application is in the form of the wet compress, but to be effectual it must be maintained at a nearly uniform temperature, which necessitates frequent renewals. It is obvious, also, that whether hot or cold water is used, the more accentuated the difference between the temperature of the application and that of the body, the more marked will be the effect produced. A most excellent application is that of the abdominal coil, through which water at the desired temperature is kept constantly flowing; a modification of this is that known as the Winternitz method.

Cold applications of all kinds are antiphlogistic and, when prolonged, are sedative. They are indicated in acute gastritis and in the control of vomiting and hematemesis, but, to obtain their full effect, it is necessary that their local action produce an active hyperemia of the skin. (Van Valzah and Nisbet.) Hot applications are most useful in the treatment of gastralgia, hyperesthesia, gastric ulcer and chronic gastritis. The Scottish douche consists in alternately spraying hot and cold water over the epigastrium, and is recommended in the treatment of neurotic conditions. The shower and plunge are employed for their constitutional effects, and in this way will often exert a most beneficial influence upon the local condition.

While it is not contended that the measures here indicated will alone suffice in the treatment of all forms of gastric diseases, much may be accomplished by their judicious employment. We can not ignore the beneficial influences of such agencies as diet, exercise, massage and electricity, not to speak of a few of the more important drugs which are thus used and, in obstinate cases especially, we are not likely to rely wholly upon any one remedy, however valuable. To be successful, hydrotherapy, like all other forms of treatment, will have for its governing factors, an exact diagnosis, a thorough knowledge of the patient, a full understanding of the causative influences, and a clear conception of the effects of the remedial agent. To these must be added the confidence and co-operation of the patient.

NEURASTHENIA AND ITS TREATMENT.

Read before the Mississippi Valley Medical Association, Nashville, Tenn., Oct. 11-16, 1898.

BY H. C. SHARP, M.D.
JEFFERSONVILLE, IND.

Neurasthenia is far from a rare disease. In fact, from the point of frequency, it stands at the head of the list of nervous diseases and is the most important neurosis met with by the general practitioner. This is especially true in America. Beard, who was the first to recognize the importance of this disease, believed it to be limited to this country, and described it as being a condition recognized by a group of symptoms which do not rest upon any distinguishable anatomic basis, and peculiar to America. Later investigation, however, has shown that people of other nations are subject to neurasthenia, although it is by far more prevalent in our own than any other country. In my judgment, this is due to the fact that we expend a greater amount of energy in accomplishing our ends than any other people on the face of the globe.

A business man in our American cities will leave his desk, go to his lunch, and in twenty minutes be found back again at his place of business pondering over some perplexing financial proposition. Never was there a time or place that the "Golden Calf" was worshiped more than it is in America today. The politician is continually wrought up, whether it be that he is stimulated by success or oppressed by defeat, either of which is injurious to health and favorable to the development of neurasthenia. The student or college professor is found with the lamp burning long after midnight, with a total disregard of his physical or mental requirements, and apparently unaware of the energy expended. What, however, is true of the business man, the politician or the student, is true ten times over of our energetic, ambitious American women.

I will digress here to say that the diseases peculiar to women—such as diseases of the ovaries, the uterus, or any other organ of the body—I do not discuss in this paper, but leave them to be treated by those who make a specialty of that particular department of medical or surgical science.

It is my desire to treat only of such cases of neurasthenia in which the cause is traceable to the social, domestic, business or professional condition of the patient. I have already spoken briefly of the two last-named causes; but the chief causes of the neurasthenic condition in women are due to the domestic surroundings and social life of the patient. The average woman feels that her life depends upon her social success. She also feels that her position is very uncertain, that the queen of the hour is at any moment likely to be deposed for a newer and more dashing beauty; that unless she is ever pleasant and pleasing to the eye, she may be entirely forgotten and cast aside without notice, a thing in her judgment justifiable of great grief, sorrow and much worry. With this firmly fixed in her mind, she enters upon her life work with the devotion of the business man, the feeling of uncertainty of the politician and the forgetfulness and disregard of self of the student, which is made up of one continuous round of excitement, pleasure, disappointment and dissipation.

It is only too often that the domestic relation is not as it should be, and where there should never be anything spoken but words of love, sympathy and encouragement, there is nothing but the most sarcastic questioning and replies; the tranquillity and rest of domestic life are to her unknown.

The social queen will lunch at 1 P.M., with an intense headache as her only companion; dress, take a drink of spiritous liquor, or, too frequently, a quarter-grain of morphin; go to her drawing-room to entertain pleasantly those for whom she has no other feeling but hatred or envy, dine at 6 P.M. with a man who is supposed to be her protector, but does and says only that which will annoy and distress her. Afterward, at about 10 o'clock, she goes to a party or reception, there spends an evening of excitement mixed with the usual amount of disappointment, returns home in the morning as the sky begins to grow gray in the East, endeavors without much success to secure a few hours' sleep, rises at 10 A.M. with a feeling of exhaustion, and with burning eyes and intense pains in the head, endeavors to overcome this feeling by the use of stimulants, takes her usual breakfast of coffee and dry toast and starts out to repeat the yesterday of every day of her life. Such a life at breakneck speed is not at all exceptional, and so it comes to pass that those who were once shrewd business men, successful politicians, profound students or bright and interesting women find that they have destroyed their health, and we are confronted with a group of neurasthenics with all the usual symptoms, which are always expressive of chronic fatigue, a burning in the head, associated in many cases by a feeling of mental incapacity, and it is not an unusual thing for such patients to express a fear of losing their minds; they are unable to concentrate their thoughts on anything; to write a letter to a friend or read a book of the lightest order is an impossibility, and frequently they complain of a burning and weakness of the eyes.

A very important symptom, and one that is frequently the cause of the patient importuning a physician for relief, is the inability to sleep. There is usually a marked diminution of nervous energy, also an increased reaction to external impressions. In proportion to diminished resistance to fatigue, there is a diminished resistance to impression from without. Thus it is, that you occasionally find a patient who has been suffering from some pathologic condition for years which was passed unnoticed until the development of the neurasthenic condition. Such patients can not engage in even the most moderate exercise without becoming extremely weary. They are usually irritable, fretful and peevish, the bowels constipated, the skin dry, and the patient complains constantly of cold hands and feet as the result of feeble circulation. Those suffering from this disease are usually very much depressed, and insist that they will never recover their health. But, with all the frankness of physicians, I think we can in many cases promise the patient an ultimate recovery, notwithstanding the fact that many authorities state an opinion to the contrary.

The treatment of these cases depends upon the exciting causes of the condition. If you find that the exciting cause of the trouble is a diseased ovary, the patient is referred to a gynecologist, and is cured of her neurasthenia by the removal of the cause, or if the cause is based upon any other pathologic condition, it is treated in a way prescribed for the special ailment. But when the cause is traceable to the mode of life we have an entirely different and far more difficult task to accomplish.

In the foregoing cases we remove the cause from the patient, but it now devolves upon the physician to remove the patient from the cause, an operation that is not always so easily performed. It is not an easy thing to persuade a man of business to leave his desk, a politician to abandon his campaign, a college professor to resign his chair, or a woman to give up her position in society; but, if we are to meet with success, this is exactly what must be done; not in part, but absolutely, until a radical cure is effected. To do otherwise would be as absurd as to remove but a portion of a diseased tissue. The patient should be given to understand that his condition is a serious one, but not necessarily fatal; he must give up everything and turn his attention to recovering his lost health. He is given absolute rest, both physical and mental; he should be dealt with firmly yet kindly, sympathetically but encouragingly. The rules for the treatment of these cases must be carefully adapted to suit the circumstances of the patient and rigidly followed out. Mental labor must be forbidden and excitement avoided. The patient should be surrounded only with that which is pleasing and soothing. He must be kept constantly under the direction and care of his physician. In my opinion, the physician often makes a mistake in advising patients to go to some fashionable resort for the season, as Atlantic City, Old Point Comfort or some other place of a similar kind, where they obtain no relief, but on the contrary, the demands made upon them are often greater than at home

Such places are fit only for well people, and in no way adapted to the sick.

The diet should be plain and highly nutritious. My preference is to rely chiefly on milk for the nourishment of a patient, but allow him to select anything, such as fruit, fresh vegetables and meat, for the purpose of gratifying the palate. It is well to have a scale handy, where the patients may be frequently weighed, provided they are gaining in flesh, for an increase of weight always encourages them and prevents them from growing despondent or dissatisfied with the treatment. If the patient is poor in flesh it is surprising to find how buoyant he becomes whenever he discovers he has gained a few pounds in flesh.

One of the most frequent complications we encounter is gastric or gastro-intestinal catarrh. This should be treated by a lavage of first hot and then cold water; also warm poultices over the abdomen. This, while simple, is usually very efficacious.

In the treatment of neurasthenia, where the cause is due to the aforesaid condition, and where there are no pathologic conditions of any of the organs, it is very seldom necessary to resort to medicine of any kind. The rest, the withdrawal of the causes that have produced the conditions, and the diet are usually all that is necessary. The patient should never be allowed to return to his former mode of living as long as there is a single abnormal condition, but should be kept strictly under the care of the physician until he is absolutely satisfied that recovery is assured, and if this treatment is carried out until the patient's health is absolutely restored, there is very little danger of the return of the original condition, provided the patient in after-life pursues his business in a moderate way.

SERUM–THERAPY IN TUBERCULOSIS.

BY W. THORNTON PARKER, M.D.

A recent paper by Dr. Robert Reyburn, at the meeting of the AMERICAN MEDICAL ASSOCIATION (vide JOURNAL, Oct. 1, 1898) has attracted my attention as being an excellent illustration of the best thought on this perplexing subject, and I wish to call attention to some points which are particularly useful to remember when we are considering the question of the treatment of tuberculosis. After quoting Hirsch as stating that "about one-seventh of the mortality that exists among civilized men is due to tuberculosis," the inquiry is made: "What are the principles of treatment that should guide the physician in the management of cases of tuberculosis?" That tuberculosis can be cured Dr. Reyburn, with many others, firmly believes. "That these cases are cured is proven by the universally admitted fact that a large proportion of cadavers of persons who have died from many different diseases have, on postmortem examination, shown indubitable evidences of having at varied periods of their lives suffered from tuberculosis of the lungs." Dr. Reyburn also quotes Dr. J. Hughes Bennet as stating that "the spontaneous arrest of tubercle in its early stages occurs in the proportion of from one-third to one-half of all the individuals who die after the age of 40." The observations of Royet and Boudet confirm this statement. "As the larger proportion of these cases never received any medical treatment for their tubercular disease of the lungs, it must be perfectly apparent *that the fluids and tissues of the body* must have the power to destroy and render inert these poisonous micro-organisms. Where does this power reside? Metchnikoff thought he had discovered the answer when he elaborated the doctrine of phagocytosis. Nuttall, Buchnér, Nissen, Lubarsch and others have shown conclusively that the power of destroying the bacteria, etc., resides not in the leucocytes, but *in the blood serum.* This preservative power of the blood serum also explains why it is that the human body is able to resist the destructive action of the innumerable poisonous micro-organisms which constantly surround us. There exist, however, two conditions which have a most powerful effect in increasing or diminishing the power of blood serum to destroy these micro-organisms. The first of these is the high or low condition of the health of the individual at the time of receiving the infection. If the individual is in a high state of health, his blood serum is then capable of destroying an immense number of these pathogenic organisms, and he is thus rendered immune to the disease. Dr. Reyburn states that, on applying the lesson to be drawn from the above mentioned facts, "patients with tuberculosis can be cured by being placed under proper conditions of hygiene." We enjoin perfect cleanliness, we direct that they shall receive an abundance of easily assimilated and nourishing food, we send them away from the vitiated, impure air of the city to breathe the pure and reviving air of the country," and then the Doctor returns to the professional track where many of us *can not* follow him, but which is thoroughly up to modern methods of dosing: "We give them cod-liver oil tonics, the preparations of iron, iodin and its compounds, beechwood tar creosote, and now and then a little codein or morphin to allay the cough and produce sleep" and, he adds, "*this* is not a long list," and as medical practice goes he is right. We all know how patients are dosed. Even such men as Sir Andrew Clark, Scoda, Oppolzer, our own Flint, Loomis, Da Costa, leaders and teachers, give their patients prescriptions to be filled at the drug-store. Can *drugs* hinder the march of tuberculosis? A century ago Dr. Benjamin Parker, a successful practitioner in Virginia, taught that medicines in the treatment of consumption were not to be depended upon, and that what we call hygiene, and outdoor treatment in a suitable climate, was the essential means of cure. Modern science has supplied to hygiene serum-therapy.

Dr. Reyburn states, after giving his list of drugs, that "one fact to be noticed is that all the remedies which the experience of ages has taught us to be useful in tuberculosis are *reconstructive* medicines, which tend to build up the body and improve the health." The patient is advised to go "immediately to the seashore or country;" still better, if his means permit it, send him to the great table-lands west of the Mississippi, to New Mexico, etc. He condemns the use of Koch's tuberculin, and concludes his admirable paper as follows: "Another and a very serious objection to the use of tuberculin R for diagnostic purposes arises from the fact that many people have encapsuled tubercular bacteria in the apices of the lungs, which are for the time being harmless. If we inject the tuberculin R and obtain the reaction characteristic of tuberculosis, we may awaken to activity these dormant germs, and thus aid in poisoning the system of our patient instead of promoting a cure of his disease. While wishing heartily, therefore, that the results of the injection of tuberculin R should have aided in destroying the most dreadful disease that afflicts humanity, yet we feel compelled to say that we have little hope of the cure of tuberculosis by this means." We agree with the last statement most fully, and undoubtedly the question of serum-therapy could not be more vigorously or more righteously disposed of. Our leading manufacturers are supplying quantities of serum to those who believe in the use of immunized serums in general, but I am glad to know that one firm in Detroit, Mich., Messrs. Parke, Davis & Co., are using the facilities their magnificent plant affords to provide free of expense to physicians for experiment, normal non-immunized serum. At the meeting of the American Medical Association in Philadelphia, I was, I believe, the first in the country to urge the value of normal non-immunized, horse blood serum as a natural antitoxin, not only in the treatment of tuberculosis but of diphtheria and scarlet fever, and in wasting disease in general. For many years I have contributed articles on the climatic treatment of tuberculosis in Colorado and New Mexico, where I have myself witnessed *many* recoveries, but in recent years I have believed that while climatic treatment is the most desirable, blood serum is a powerful means of cure. The serum with the climatic treatment is my ideal. I have been working for some time to create an interest in what I call the goat cure. A resort where healthy outdoor exercise can be indulged in, either at the seashore or in the Maine or Adirondack forests, or west of the Mississippi, and goat's milk to drink, goat's flesh to eat, and goat's blood either for rectal injection or for drinking, and finally, goat's blood (normal) serum injected subcutaneously and, in some urgent cases, by transfusion. It is along these lines I am working and planning, and I believe that time will demonstrate that this method of cure is worthy of general approval. I have already contributed several papers on this subject, and have others in mind to contribute as soon as possible.

Westboro, Mass.

SPECIFIC ACTION OF AIR IN CONSUMPTION.

BY W. H. WEAVER, M.D.

PROFESSOR OF RHINOLOGY AND LARYNGOLOGY, CHICAGO EYE, EAR, NOSE AND THROAT COLLEGE.

CHICAGO.

Aerotherapeutics in consumption is not a new treatment, although it has had a varied application. Forcibly holding a full breath with the glottis closed was recommended by so ancient an authority as Hippocrates with the idea that it "opened out the channels of breathing." Galen declared that it "opened out the internal cavities." They were positive, however, that it was the proper treatment for consumption. Their explanation for the practice was based upon the antiquated notion that by this pressure of the muscles air was conveyed through all the arteries of the frame. The most reasonable explanation would be that during the compression of a distended chest, with the glottis closed, air finds its way forcibly into little-used, collapsed or plugged-up alveoli, aerating them more perfectly than in ordinary breathing. Much has been written on the subject of climate and aerotherapeutics, chest development and kindred subjects. Inhalations, full breathing and prolonged expirations to increase the tension, chest exercises, and gymnastic exercises are recommended with great benefit, and all the most successful efforts of physicians against the disease are attained in this line. All are efforts in the right direction, but without sufficient philosophic basis to give a uniform system and uniform results.

It will be shown that if air can be kept in the air-cells, those cells can not become tubercular, as tuberculosis always involves the infiltration of the alveolar wall and the plugging of the cell. If air can thus prevent the tubercular process, or cure it when once begun, then air is the specific for this disease. That this specific action of air against the miliary tubercular inflammation has been amply demonstrated, there can be but little doubt. The well-known and successful treatment of tubercular peritonitis involves only one more important point besides the action of air, and that is drainage, which precedes the admission of air to the peritoneum. The tubercle lies in the superficial layers of the peritoneal membrane, and there is no mixed infection, no suppuration to prevent the action of air on a portion, at least, of the membrane and its tubercles. In tubercular ulceration of the larynx, however, we have the destructive processes of mixed infection infiltrating the deep tissues beyond the reach of air.

At the Medical Congress at Rome there were reported 253 cases of tubercular peritonitis operated on, with 85.4 per cent. of recoveries. It was also pointed out that the failures resulted from the serious complications, which of necessity must result fatally. Roersch's statistics make the percentage somewhat less. Of 358 cases, 253 cases, or 70 per cent., were discharged as cured. This large percentage of cures would almost compel us to acknowledge the specific action of air.

Seganti performs "a pneumatic lavage" with a couple of canulas, drawing out the ascitic fluid and admitting air to the peritoneal sac with success.

Although the miliary tubercle is a new growth, it is not stable, and entirely disappears under proper conditions. These conditions are aseptic drainage and the action of air. I am aware that there are other theories which do not recognize these two points as essential in the care of peritoneal tuberculosis, but I consider them based on unimportant facts, and in the analysis of the treatment those two points are always present and are essential. Now, if these two essentials can be applied in the treatment of pulmonary tuberculosis, we may hope to get similar results.

Asthma is never present in consumption. Attacks of it may occur in acute descending bronchitis, and this condition is often present in the first stage. Emphysema and asthma are notoriously antagonistic to the development of tuberculosis in the lung. Postmortem examinations of chronic asthmatics frequently show the remains of an old tubercular focus—the consequent alveolar distension due to the asthma curing the tubercular disease, or at least rendering it dormant. Air has been brought into direct contact with the tubercular alveolar wall by the emphysematous tendency of asthma.

It has been long known that pulmonary hemorrhage in tubercular phthisis is usually followed by improvement, and the prognosis in the same class of cases is usually very good as to length of life. It seems to me that the proper explanation for this is that the hemorrhage so reduces the congestion of the cell walls that air is more effectually drawn into the alveoli by ordinary breathing, when its beneficial action can be exerted on the inflammation, for a time at least.

Regarding etiology, I believe tubercular phthisis is a disease of inactivity in the majority of cases, inactivity or non-use of certain areas of lung tissue, due probably to the weight of the arms and shoulders on the upper chest, together with an insufficient amount of physical activity to aerate the whole lung. Malformation of the chest might be mentioned, but that could be overcome by physical activity and development. Certain alveoli in this area of least activity become congested or entirely occluded by catarrhal products. Soon the ever-present tubercle bacillus enters upon the scene of action and determines the character of the inflammation, until the germs of suppuration assist in the work of destruction.

Hanau states that the apex of the lungs becomes the seat of the tubercular infiltration as the direct result of insufficient ventilation. This explanation is generally received as true, but it has not been studied or considered as a basis for therapeutics.

The existence of the miliary tubercle is not a bar to recovery in peritoneal tuberculosis, and their appearance in lung tissue should be no greater obstacle. Just how aseptic drainage and aeration bring about the favorable results can only be conjectured. Necessarily germs and their toxins are carried out with the exudate, circulation is facilitated and stimulated, nutrition improved, phagocytosis encouraged, and possibly antitoxins formed which aid in restoring health to the inflamed tissues.

Aseptic drainage and ventilation of the alveolus are possible from the elastic nature of the lung parenchyma, and as long as the cell wall is intact air may be forced into it, distending it, and gradually forcing out the gelatinous and albuminous plug with every expiratory effort, or contraction on the confined air behind the plug. That our efforts are successful may be known from the general improvement of the patient, the diminishing area of dulness, the smaller amount of expectoration, the longer wind power and slower pulse of the patient. The increased lung capacity and relief from the shortness of breath is often immediate and surprising. It will not be sufficient to simply have the patient sit out of doors and breathe the outside air, or walk and take gentle exercise, or even pulmonary gymnastics and full breathing, all of which are good. In that treatment we recognize only that air is a good thing, and in some mysterious way improves the general nutrition and condition of the patient. But now base the treatment on the specific action of air on the tubercle, and it will be conceded that the air must be brought into direct contact with it, and any treatment or method which does not recognize that fact and force the air into the alveoli, will fail to give the certain results expected from a specific. The method I use was described in an article which appeared in the JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, May 4, 1895, entitled "Forcible Alveolar Expansion in the Treatment of Consumption." I direct the patient to take as full an inspiration as possible, then closing the glottis and bearing down just as if straining at stool for a few seconds, so as to increase the tension of the air in the upper chest. In performing the act in that manner the greater effort is expended in the muscles of the abdomen, and consequently the air is forced upward.

A method frequently recommended, of blowing through a small tube in order to increase depth of the respirations, defeats its own purpose, because in the effort of blowing, the expiratory muscles of the chest are brought more strongly into action, compressing equally over the chest, but not in any particular direction, the air being driven out without any alveolar expansion.

The exercise should be practiced frequently so as to keep up a constant effect in the infiltrated area. Five to fifteen minutes every two hours during the waking hours, and frequently at night if awake and coughing. The effect is increased if during the holding of the breath the lower chest is compressed with the hands, which also lifts the weight of the arms and shoulders off the chest. It is not the length of time the breath is held, but the tension developed in a few seconds, from which the benefit is derived. This is the simplest and easiest manner of holding the breath, and may be practiced without attracting the attention of anyone; still, it is difficult for some patients to learn and establish the habit so as to continue it regularly. It will require some practice in order to get the best results, but an ambitious patient will usually pick it up very quickly.

In order to increase the interest in the treatment, a nebulizer should be given the patient, and the importance of getting the antiseptic nebula well down into the air-cells by the method described above impressed upon him. The nebula will, of course, assist in relieving the bronchial catarrh so common and troublesome. Massage of the chest by manual compression of the lower chest during the holding of the full breath, I often practice as part of an office treatment with a multinebulizer. The tension developed in the lung should not be too high at first, but may be quite rapidly increased, especially when there is no pain or hemoptysis. Neither pain nor hemoptysis are contraindications to the treatment, as they both disappear in a short time. I usually practice the massage at the office every day, or every other day. If the glottis is not closed in this act of holding the breath, air is drawn into the lungs, but there is no tension developed, and it is simply an inspiratory exercise, and fails to accomplish the end desired, because it does not forcibly dilate the alveoli. Active exercise producing rapid respiratory efforts in cases not too far advanced will go far toward carrying the air into the alveoli.

The immediate results will be an increased amount of oxygen in the blood, a strengthened heart's action and facilitated expectoration. Thorough inflation of the chest always gives great relief from shortness of breath. The effect of the alternate expansion and contraction of the chest is to force out the contents of the alveoli into the bronchioles, then into the larger tubes until they are expectorated. This is drainage and makes ventilation possible; each alveolus thus ventilated is soon restored to health by the action of the air on the miliary tubercle in the cell wall. The area of consolidation is gradually reduced, and infiltration clears up. Expectoration is gradually reduced in amount. The general improvement and well-feeling of the patient is soon very manifest.

I am not sure that the treatment is of much benefit in rapid cases, although it does make breathing much easier, and facilitates expectoration. However, if it be applied energetically with the use of oxygen gas, good results may be obtained. Over-distension of the alveolus is hardly possible, and emphysema no more serious than might occur from violent straining at stool in constipation, or from the expulsive pains of child-birth. I do not know of any serious contraindications to the treatment. One might expect hemorrhage to be increased from the increased activity to

First stage cases.

No.	Case.	Age.	Weight.	Temp.	Pulse.	Night sweat.	Expectoration.	Examination of lungs.	Basis of Diagnosis.	Result.
1	Miss N. J.	17	124	100–102	120	Yes	Scanty,	Slight infiltration of right apex	Bacilli.	Recovered.
2	Mr. E. G.	30	165	99	90	No.	Considerable.	Slight infiltration of right apex	Tuberc. reaction	Recovered.
3	Miss C. C.	18	110	99.5	88	No.	Scanty	Slight infiltration of right apex	Tuberc. reaction	Recovered.
4	Mr. G. W.	40	162	99.5	96	No.	Scanty, but severe cough,	Slight infiltration of left apex	Tuberc. reaction	Recovered.
5	Mrs. B. G. O.	35	122	99.5	95	No.	Scanty.	Slight infiltration of right apex	Bacilli.	Recovered.
6	Mr. J. I. C.	38	130	99.8	95	No.	Scanty, cough severe.	Slight infiltration of left apex	Tuberc. reaction	Recovered.
7	Mr. W. S.	24	126	99	85	No.,	Scanty, cough severe.	Negative.	Tuberc. reaction	Recovered.
8	Miss M. F.	17	. .	102.5	101–110	No.	Scanty.	Not given	Tuberc. reaction	Recovered.
9	Mr. R. F.	34	. .	99	80–90	No.	Scanty and cough.	Not given	Symptoms	Recovered.
10	Miss A. P.	21	. .	101	90–115	No.	Cough severe.	Not given	Tuberculin test.	Recovered.

Second stage cases.

1	Mr. A. A. P.	32	110	99.5	95	Occasional.	Thick, purulent.	Left lower lobe consolidated.	Foll'w'g pneumonia	Recovered.
2	Mrs. M. B.	50	115	99.5	80	Occasional.	Thick, purulent.	Left lower lobe consolidated.	Foll'w'g pneumonia	Recovered.
3	Miss M. K.	28	137	100	98	Frequent.	Thick, purulent.	Right upper lobe consolidated.	Bacilli and reaction	Improved.
4	Mr. J. E. J.	32	149	101	95	Frequent.	Thick, purulent, mornings.	Left upper lobe consolidated.	Bacilli and reaction	Recovered.
5	Mr. J. F. B.	29	140	100	90	Occasional.	Thick, purulent, mornings.	Right upper lobe consolidated.	Bacilli and reaction	Recovered
6	Mr. W. B. E.	27	118	101	108	Frequent.	Thick, purulent.	Right upper lobe consolidated, complicated with intestinal tuberc.	Bacilli and reaction	Died.
7	Mrs. F. C. F.	21	101	101.5	100	Frequent.	Thick, purulent, mornings.	Left lower lobe consolidated from pneumonia	Bacilli, numerous.	Improved.
8	Miss S. P.	29	114	101.3	120	Frequent.	Thick, purulent, mornings.	Most of left upper lobe consolidated	Bacilli, few.	Improved.
9	Mr. R. M. H.	25	142	99.5	85	Frequent.	Thick, purulent.	Right upper lobe consolidated, complicated with intestinal tuberc.	Bacilli, numerous.	Died.
10	Mr. P. B.	42	145	99	90	Occasional.	Thick, purulent, bloody	Left upper lobe hemorrhagic.	Bacilli, numerous.	Recovered.
11	Miss I. M.	24	95	101	120	Occasional.	Thick, purulent, mornings.	Left upper lobe hemorrhagic.	Bccilli, few	Improved.
12	Miss L. M.	34	134	99.5	80	Occasional.	Thick, purulent, mornings.	Left upper lobe; ulcer of larynx	Bacilli, numerous.	Improved.
13	Mr. C. L.	35	130	100	84	Occasional.	Thick, purulent, mornings.	Right apex; ulcer of larynx.	Bacilli, numerous.	Recovered.
14	Mr. F. G.	28	165	101.5	96	Occasional.	Thick, purulent, mornings.	Right apex consolidated	Bacilli, numerous.	Recovered.
15	Mr. W. H. S.	27	126	102.5	105	Occasional.	Thick, purul., cough severe.	Left upper lobe consolidated.	Few bacilli.	Recovered.
16	Mrs. A. H.	36	112	101.5	96	Occasional.	Scanty,	Right lower lobe consolidated	Tuberc. reaction	Improved.
17	Mr. A. B.	34	114	100.6	96	Occasional.	Scanty.	Right apex consolidated	Bacilli, numerous.	Recovered.
18	Mr. E. S.	31	115	101	120	Occasional.	Abundant, thick	Rt. lung almost entirely consolidated; infiltrated or ulcer of larynx	Bacilli, numerous.	Improved.

Second Stage Cases.—Dr. Salter's

19	Miss N. H.	20	112	102	115	Yes	Considerable.	Consolidation of right apex.	Bacilli.	Recovered.
20	Miss E. H.	24	102	103	110–134	Yes	Moderate.	Consolidation of left upper lobe	Bacilli.	Recovered.
21	Miss L. B.	19	105	97–104.5	90–100	Yes	Heavy, purulent; at times bloody.	Consolidation of right upper lobe.	Hemoptysis bacilli.	Recovered.

Third Stage.

No.	Case.	Age.	Weight.	Temp.	Pulse.	Night sweats.	Expectoration.	Complication.	Examination of lungs.	Basis of diagnosis.	Result.
1	Miss J. S. G.	45	108	99.7	96	Occasional	Abundant and purulent	. . . .	Consolidation of left upper lobe and part of right.	Numerous bacilli.	Improved.
2	Miss M. McF.	19	112	97–101.5	130	Frequent.	Considerable.	Prof'nd anemia.	Cavity in left upper lobe.	Few bacilli	Improved temporarily.
3	Mr. H. C.	20	100	97–105	116	Frequent.	Thick, heavy, purulent.	. . . .	Cavity in right upper lobe.	Numerous bacilli.	Died.
4	Mr. N. D.	27	116	102	136	Frequent.	Thick, heavy, purulent.	. . . .	Cavity in right upper lobe	Numerous bacilli.	Died.
5	Mr. F. R. H.	45	135	103.4	110	Frequent.	Thick, heavy, purulent.	Extensive ulcer of larynx	Cavity in left upper lobe, consolidation right apex.	Numerous bacilli.	Improved; died.
6	Mr. A. P.	25	98	103.5	136	Profuse	Thick, heavy, purulent.	. . . . . .	Cavities in both up. lobes.	Numerous bacilli.	Improved; died.
7	Mr. C. C.	22	105	101	110	Occasional	Thick, heavy, purulent.	Extensive ulcer of larynx	Cavity in left lung.	Numerous bacilli.	Improved; died.
8	Mr. T. N.	19	110	99	115	Occasional	Thick, heavy, purulent.	. . . .	Cavity in left lung.	Numerous bacilli.	Improved; died.
9	Miss M. S.	27	94	103	120–130	Frequent.	Abundant.	. . . .	Cavity in left lung.	Numerous bacilli.	Died.

which the lung is put, but, as a matter of fact, I have had the very best results in hemorrhagic cases, in some cases the hemorrhages disappearing in a few days, never to return. The existence of cavities seems to be no contraindication, although necessarily that class of cases will not respond to the treatment very rapidly. Pleurisy, if quite general, may be aggravated by the extensive chest movements and the pain be considerable for a time, until the tubercular inflammation under the pleura has subsided. In one of my early cases there were friction murmurs over the whole chest, and the exercise was most painful for several months, but by persisting in it improvement came and ultimately complete recovery.

The method I have advocated might be termed "auto-pneumatic differentiation." It has the advantage that the patient is continually under its influence while practicing it. Tubercle bacilli can never attack normal lung tissue in active use, consequently I promise my patients that so long as they make active and forcible use of their lungs, there is not the slightest danger of relapse or contracting the disease anew. Unless a case is far advanced in the third stage, or is of the rapid sort of phthisis, it is hardly possible for the disease to make any progress in the lung tissues if the treatment is carried out conscientiously. And I believe that every uncomplicated case taken short of the stage of ulceration and mixed infection, will be found curable. As supplementary measures in the management of the disease are also very necessary, some important ones may be mentioned: the recumbent position during high fever in the afternoon; light meals during fever. To overcome the muscular atrophy about the chest, any gymnastic exercises will be of benefit provided they do not fatigue. Appropriate medication should be directed toward improving the digestion, but the routine tonics may as well be omitted if they do not positively improve the condition of the stomach. The rapidity of improvement will depend greatly on the extent of the consolidation and the inroads the disease has made in the constitution of the patient, as well as the zeal with which the patient carries out the treatment.

With regard to climate, a patient certainly stands a better chance of recovery at home, with the comforts of a home, if he has correct treatment, than if he went to another climate, depending upon the climate alone for his cure, as is usually the case. Altitude has cured a large number of cases; the cure, however, rather coming from the increased activity to which the lung is put as one goes to a higher altitude. That benefit is doubtful if the patient remains indoors in a hotel, or is unable to be out of doors. When all first-stage cases and over half of the second-stage cases can be cured at home, there is little to be gained in sending them to another climate without treatment.

It will soon be admitted that tuberculosis of the lungs in the early stages is the most curable of any of the chronic diseases, and in the last stage it is about the most hopeless of any, consequently we must consider the early diagnosis of the disease the most important point in its management next to correct treatment. It is simply criminal to make a false diagnosis and waste time with remedies which do little but interfere with digestion, until the case has advanced to the last stages, and then advise to change climate.

Of the 16 cases reported in my first paper, 15 were cured, and one died of pneumonia. Nine were first-stage cases and 7 were second-stage cases. Since that time 3 of the 15 have died—one of consumption developed the following winter from severe exposure, one of acute meningitis, and one from typhoid fever. The remainder are all in good health. Since that report I have treated 34 cases on the basis of the specific action of air, with equally good results in the same classes, although a portion of the cases coming to me have been of the more advanced and complicated sort. Included in this report are three first-stage cases and three second-stage cases, reported by my friend, Dr. Allen Salter of Lena, Ill., having practiced the same line of treatment.

Ten first-stage cases were all cured; 21 second-stage cases, 12 were cured, 7 improved and 2 died; 9 third-stage cases, 8 died, some of whom improved temporarily, one being greatly improved for over a year, since which time I have had no report.

Summarizing all the 56 cases we have: 19 first-stage cases cured; 28 second-stage cases, 16 cured, 7 improved, 3 died; in 9 third-stage cases, no cures, 6 improved temporarily. Leaving out of consideration the third-stage cases, for whom we can not hope to do much with any treatment, there are 47 cases, of which 37 were cured, or almost 80 per cent., or 66 per cent. of all the cases.

SOCIETY PROCEEDINGS.

New Jersey Sanitary Association.

Twenty-fourth Annual Meeting, held at Lakewood, Dec. 9, 1898.

Dr. W. B. Johnson of Paterson presented the first paper, entitled

DEFECTIVE VISION IN SCHOOL CHILDREN.

It was not the purpose of the paper to prove by a series of statistics the presence of defective vision in school children and that these are the result of the unsanitary condition of school buildings, or the methods which have dominated our educational system from its inception. A change is now necessary, not only in the construction of buildings, but also in educational systems. Over a quarter of a million children have been examined by various observers, showing a high percentage of increase in these troubles and especially in the more populous centers. We have improper sites and overcrowded buildings. Great benefit, however, has resulted from these examinations by the improved sanitary conditions and methods. In future this will be still greater. Defective vision is the result of ocular conditions affecting the refraction of the eye, caused by structural changes in the eyeball, which is the formative stage when these tissues are most susceptible of alteration in their contour, and accompanying errors of refraction are the result of continued visual effort overtaxing the muscles and tunics of the eye. Infants have, as a normal ocular condition, a hypermetropia or far sight, almost invariably, and it has been shown that the ball undergoes during school life a change and lengthening of the optic axis. Hence we have emmetropia or the normal condition in childhood, and finally, in many cases developing progressive myopia or some form of simple or compound astigmatism. These changes progress during the natural increase of the eye while the structure is still yielding. This is encouraged by the hyperemia of the globe produced by extra visual effort at this period. If this is regular and progressive it only results in myopia or lengthening of the optic axis. If irregular, astigmatism is produced. What can be done for the relief and prevention of these defects is now the question. Public sentiment should be educated to a reform. The State Board of Education and other bodies have interested themselves and furnished drawings of school buildings, for future benefit in this direction. Many ophthalmologists have formulated plans for this purpose, and circulars for the examination of the eyes of school children have been presented both by municipalities and independent observers. The dissemination of the knowledge thus obtained has resulted in many valuable plans for proper sites for schoolhouses, dimensions, arrangements of seats, desks, etc., so that there would be good light, ample capacity, heating and ventilation. It is the hope and belief that in the near future schools will be built only under restrictions which will compel compliance with certain forms and rules for sanitary construction. It is essential for the well-being of all students that the present and the future systematic examination of students be continued and universally adopted. All municipalities should unite in this matter. The New York State Board of Health have issued circulars of instruction for this work. Not only should all be examined, but this should be contiuued from grade to grade to learn whether there is a continued advance in the errors in each case. Errors of refraction should be corrected by glasses, diseased conditions treated, etc. Thus we would have a minimum amount of danger or any increase of ocular defects prevented. The most acceptable method of procedure is to have all students immediately examined by the family physician and when necessary referred to a competent ophthalmologist. When the eye is reddened or we have discharges, the student should not resume work until a medical certificate is given that it is fully proper, and that there is no danger of infection of others. Blank forms of notification should be prepared for the use of teachers and physicians. In all instances there should be a preliminary examination prior to the entrance of a pupil, both physical and ocular. About one-fifth of the population are destined to pass at least one-third of their natural lives, two-thirds of the working hours, at school. Hence the importance of knowing the physical adabtability of each for the work before they are admitted. Scientific advances will soon necessitate the assignment of a student with such defects to a privileged class, where by selective studies, we may enable him to acquire a knowledge commensurate with his educational qualifications, and thus he will be given only that work which he is able to perform, not being advanced till he can do it with safety, nor do work which is more than his strength will allow. One curriculum is not suitable for all, or they will be overtaxed. Teaching should be didactic, with every means to enable the pupil to use the eyes at the distance of the blackboard, thus resting them from close application at the desk. Home work must be lessened, for this is often as bad as at school. A physician should be employed to superintend and inspect the buildings as to heating, lighting, ventilation, cleanliness, etc. There should be an instructor in hygiene for teachers and pupils. This plan was first tried in Germany and was found a success. In the United States there have been only spasmodic efforts in this line. General legislation must come to our aid and make these plans compulsory and thus ensure scientific protection for everyone. Our great advance as a country has been due to the enlightenment of our people. The educational standard has been advanced, and it is of vital importance that attention should be given to every detail in school work that can promote the mental and physical good and prevent degeneration in either of these. Unless the present generation is to nurture a race of mental giants in pigmy forms, steps must be taken at once in the line of preventing diseased conditions or any chance of any character in the children of our public schools.

Dr. G. T. Welch of Passaic—We will have to demonstrate over and over again the evils attending upon unsanitary and inefficient building sites for our schools. We shall have to declaim again and again against badly constructed and illy lighted houses, and we shall have to present carefully evolved statistics of the devastation these have wrought upon the eyesight and the general health of students before we make headway with the masses and educate public sentiment aright. We must take into consideration that the hygiene of the schools is a comparatively recent study, and to interest the unscientific mind we must go carefully over the ground that has become so familiar to us, and present the discoveries and conclusions of observers, both at home and abroad, in as familiar and practical a manner as we can command. Simplicity of statement, such as has been given by Dr. Johnson, goes a long way to hold the attention of the popular mind. To properly appreciate the destructive tendencies of city school life on the eyesight and general health of children, it must be borne in mind that near sight is unknown among savages or illiterate people; and is rare among country children, where the schoolhouses are of one room, lighted on both sides, with acres of open ground around them. Vision for distance is almost the only sight required by the savage, but with us the constant demands for civilization always at tension, keep us poring over near-by objects almost exclusively. But where eyes are constantly abused, turned for hours on fine print in dim rooms, with insufficient cubic space, the lungs inhaling vitiated air, the spine bent over badly contrived furniture, an unhealthy condition of the body unerringly results, and a slight degree of hypermetropia deepens into a permanently disabling affection. In the public schools of Passaic we found a large percentage of pupils complaining of headache, many who were unable to keep up with class averages, and something vaguely at fault, which determined us to have the eyes of the children scientifically examined, to find if the most of the evil did not lie in the abuse of these important organs; 2173 of the school children of that year were thus examined; 1529 showed a normal refraction, while 654 had hyperopic and myopic astigmatism. In other words, 30 per cent. were found to be suffering from diseases of the eyes. A record was kept, with the name of every pupil suffering from headache, blurring, pain on studying at night, nearsightedness, defective color perception, or of local conditions requiring medical treatment. Proper circulars were printed, detailing the conditions of each of these affected pupils, and giving plain, concise and necessary directions for their assistance. These were sent under seal to the parents and guardians, and everthing was done to assist every child to obtain the facilities for deriving the utmost advantage from the teachings of the schools. Finally, with great care and immense labor, the mass of information gathered from these examinations was digested and published in an octavo pamphlet of twenty pages and sent to the heads of families throughout the city. The work bore fruit, and will hereafter have its effect on school life of Passaic. Better buildings have been erected since on ampler grounds, with larger rooms, better lighted and with greater cubic air-space to each pupil, more satisfactory toilet and sanitary arrangements and many minor improvements. The parents have looked more carefully after the eye conditions of their children, and it has become customary to furnish them early with proper glasses when needed. We organized a State association of school boards, in which the cities joined us in preparing the germs of necessary legislation for the benefit of our public schools. We were not warmly assisted by the State Board of Education, but we persisted in our efforts. We prepared a bill to go before the legislature prohibiting Boards of Education from erecting school buildings on any plot of ground that did not admit of fifty feet in the clear on all sides of the building, and stipulating that the classrooms should afford 250 cubic feet of air to each student. Senators who were approached in the interest of the bill listened to our arguments and acknowledged the justness of its intent. Some promised their support; others pointed out the costliness of city lots—we pointed out the costliness of human eyes. At length it was agreed that the bill should be offered and that we should be given a hearing on its merits. We never heard of it afterward. It died where so many embryos have shuddered and expired—in the hands of an unsympathizing committee. We did succeed in engineering the passage of other laws for the future welfare of schools, but in the particular instance above we did not succeed and the Association finally disbanded. Without doubt this Association should have continued to exist, and its efforts from year to year must have resulted in influencing valuable legislation. Certainly an organized movement of some kind has got to be made if we are to achieve anything besides spasmodic successes along the line. We must arrange for the authority from the State to enforce the best rules that scientific men can devise for the preservation of the health, and especially of the eyesight of the school children.

Each great organized body like the State Board of Health and the State Board of Education strains its prerogative probably as far as it dares for the public good. To do more it must have the sanction of the popular will behind it. In a democracy, even the statesman feels his way carefully along the edge of public opinion before he ventures upon great reformatory measures. He desires to avoid irritating the sovereignty that is not yet prepared for change, and he very skillfully educates it up to the level of his purpose. I think we shall have to do the same with this question. I doubt whether either of these great public bodies aforesaid would feel in a position to advocate successfully the needed law to preserve the health and eyesight of school children, unless public sentiment had been educated to the point of accepting it. On the other hand, I am convinced that the New Jersey Sanitary Association could prove the educator. The agitation of this subject through them and the publishing of such papers as that of Dr. Johnson and all such others as are pertinent to the subject, especially from observers in our State, and the distribution of them to school boards and the public would finally create a healthy opinion that would demand a comprehensive legislation.

Mr. OWEN said that there was no provision for supervision and legislation in the matter, hence very little progress has been made. We must hope for better results by continual agitation.

Dr. MITCHELL of the State Board of Health said that there was an act of the legislature relative to purulent ophthalmia, but while much was expected, yet it failed to effect its purpose and the subject was again brought up, but for want of a penalty to enforce it, it broke down. The Board require all cases reported in practice, yet we know how successfully by the results. Local authorities in examining school buildings and students in order to prevent disease have made very little advance.

Owing to the illness of Rudolph Hering, C. E., of New York, a paper which was to have been read on the subject of "Sewage Disposal" was postponed.

The presiding officer read a paper entitled "Relations of Public Schools to the Health of the People."

Prof. EDWARD B. VOORHEES, M.A., New Brunswick, read a paper entitled

MILK; IS LAW A SUFFICIENT PROTECTION AGAINST IMPURE PRODUCTS?

A careful examination of the statutes relative to the sale of milk leads us to the conclusion that so far as laws are concerned, their enforcement would be ample protection by preventing the sale of impure products, as defined at the time the laws were made; in fact, the impression was that they covered so much ground that the enforcement would be difficult. Nothing appeared to have escaped in the framing of the law. The meaning of adulterated milk was fully defined. Also in an act to prevent the adulteration of food and drugs, milk was also inserted. Under the law consumers may be protected provided the authorities are sufficiently interested, and are capable of properly defining impure milk and of formulating rules and regulations for the guidance of inspectors. Now, is the enforcement of these laws practicable under present conditions? It would seem that the intent of the act was to protect against adulteration by the addition of water or other substances, as fat. It is a well-known fact that a chemic analysis is only able to indicate that adulteration is caused by addition to the milk of material poorer in solid matter than milk or by subtraction of any of its constituent food compounds. It will not show whether the milk is from animals improperly housed and fed or suffering with tuberculosis or other diseases; or, if it has come in contact with emanations, discharges, etc., from persons ill with contagious disease. Here the bacteriologist is needed; even he is not always positive. Practical methods have not been devised to show a rapid and positive identification of tubercle except in large number. Hence we may conclude the primary intent was only to protect from inferior standards of milk. It has little to do with the public health. Insufficient appropriation has been granted to permit of the identification of disease in the milk. The writer believes that it would be impossible by any legislation to provide for detection of all impurity and dangers, and thus fully protect the people from them. There is a reasonable doubt of much being accomplished unless by the aid of an enlightened public sentiment, in order to the proper observation of sanitary laws. There is a prevailing ignorance as to many things connected with milk. Yet it is much demanded. There should be the most rigid examination of the animals, the barn, the handling, etc. No doubt there exist in this State herds of cows that are not kept in proper condition, yet the milk from them is sold in the markets. We need a law to enable us to examine into all these points, before we can make sure of pure milk. If laws were made broad enough to protect against the adulterations and impurities mentioned, and to require proper sanitation in housing, feeding, handling of the product, etc., they would be regarded as ridiculous and farcical under the present state of public knowledge You might arrest the culprit, but to convict him would be the trouble. Yet this is a very serious matter. Law must go in hand with education; all must be taught the elementary principles of sanitary science, to realize the dangers, and the necessity of care and cleanliness in every step. Thus educated, the two classes will exert a co-operative influence for better methods. The consumer must learn that to secure a pure article, he must be willing to pay a good price. Impure and unwholesome matters are cheaper, and people prefer them on that account. All sorts of adulterations are rife in the land, but the greed for cheapness causes this. The question is not "how good," but "how cheap." I can present records as to the cost of sanitary milk. The average of ten years shows that thoroughly sanitary milk costs two and a half cents a quart for food and care. If this milk is sold at the barn for this price, the consumer would be out, as he would receive no pay for his labor nor profit on his investment. Yet the bulk sold from this State does not average this amount a quart; hence, if any profit accrues it must be from the lessened cost of production. There is no incentive to improve quality, but a constant temptation to the honest man to fail in recognizing many things which contribute to unwholesomeness. The aim is to sell milk, not to guarantee purity and quality. The remedy lies in the demand for these matters from the consumer. Another thing which encourages adulteration or watering is the present method of sale on the quart basis, which assumes that milk is milk. One quart is not as good as another. So long as this continues, poor milk will be produced. It may seem that under all these difficulties there is not much hope for the future. But there is a bright side; the germs of knowledge have been introduced—friendly bacteria which are multiplying and producing good results. There is beginning to be a right understanding; consumers are ready to accept instruction and there are those who are ready to serve these with milk of a high quality, absolutely healthful. Small beginnings have been built up into large trades by these. They find it pays them to do well. Both sides are learning, the one as to health, the other as to the pocketbook. This must be encouraged and the whole milk business placed upon a proper basis. Money would be wisely expended in educating the people and in the pursuit of scientific investigation concerning the real, not the supposed, danger to public health from the use of impure and adulterated milk; the results would be the making of simple laws, easy to execute, because supported by public sentiment, and which would fully protect both the producer and consumer.

The association adjourned to meet next November at Atlantic City. Dr. Daniel Strock was elected president for the ensuing year. The other officers are: Jas. A. Exton, Arlington, secretary; Geo. P. Olcott, C. E., East Orange, treasurer.

SELECTIONS.

Successful Removal of Cerebral Tumor.—Oliver and Williamson (*British Medical Journal*, Nov. 26, 1898, p. 1607), report two interesting cases of brain tumor, in each of which the growth was removed and relief afforded. The one case occurred in a boilermaker, 34 years old, who had complained of headache for two years, with loss of power in the left hand and rigidity of the left leg of ten weeks' duration. The headache was worse in the morning, and there had frequently been vertigo. Eleven weeks before coming under observation, the man, falling in a giddy seizure, struck his head against an angle-iron, without breaking the scalp. He arose, walked about a little, became faint and sat down, shortly afterward losing consciousness and not regaining it for three days. At the end of this time he found that he could not move his left arm and hand, and that the left leg was rather powerless. In a few days the paralysis gradually disappeared, but four weeks after the accident vomiting set in, and with it paralysis of the left arm and rigidity of the left leg. For between two and three years there had been a peculiar pricking, "like pins and needles," in the left hand, extending up the arm, the member itself being the seat of a sensation as of hot water running down it, and occasionally shaking. There was bilateral optic neuritis. In addition to the weakness of the left leg and hand, there was the slightest paralysis of the lower half of the left side of the face. The knee-jerk was exaggerated, with well-marked ankle-clonus on the left. A history of gonorrhea was admitted, but none of syphilis. Potassium iodid and mercuric chlorid were tried without benefit. In the course of two weeks the patient complained of feeling drowsy and of severe pain in the head, and shortly afterward he vomited. After a little while he had a convulsion, lasting about three minutes, without loss of consciousness, and involving the left arm, the left leg and the left side of the face. In the course of eight days the loss of power had increased, and there was analgesia and anesthesia of the left arm and forearm, with slighter loss of sensation in the leg. The muscles of the left arm and leg now began to exhibit signs of atrophy, and the reflexes became even more exaggerated. Painful, cramplike sensations recurred in the left hand and forearm, and there was increasing anesthesia. There was no pain on percussion of the skull. Operation was advised, and after some delay was acceded to. An opening in the skull over the Rolandic area disclosed a tumor on the surface of the brain. This was cut out with the handle of a scalpel and was rather larger than half of a Tangerine orange. The wound healed without complication. The tumor proved to be a small round-celled sarcoma. The patient made an uninterrupted recovery, although he subsequently had a single convulsive attack.

The second case occurred in an unmarried domestic servant, 23 years old, who presented partial paralysis of the right leg and complete paralysis of the right arm. Five months earlier the patient had begun to suffer from headache and vomiting. The latter was pronounced in the morning before breakfast, and gradually disappeared during the day; the headache persisted and was generally frontal. After nearly two months numbness appeared in the right arm and hand, and in a day all power of movement in the arm was lost, the fingers being flexed in the palm of the hand. Some two weeks later a slight convulsion occurred, with loss of consciousness lasting nearly an hour. Subsequently the right leg was also paralyzed and numb. Slight analgesia was found upon the right leg, and the knee-jerk was increased. There was slight paralysis of the lower half of the right side of the face, and the tongue was deflected a little to the right. The expression was dull and heavy. There was complaint of pain in front of and above the left ear when the skull was tapped. Bilateral optic neuritis in the first stage was present, with tortuous vessels, but without retinal hemorrhages. The symptoms suggesting a tumor on the lower portion of the left motor area of the brain, the skull was opened, and the growth, together with a narrow margin of healthy-looking brain tissue, was removed. There was subsequently some aphemia and right-sided weakness, both of which grew progressively less. Histologic examination showed the growth to be an angioma.

Treatment of Raynaud's Disease.—Dr. H. E. Randall has reported (*Medical Age*, Nov. 25, 1898), an interesting case of this disease in a male aged 52 years. The patient was of unusual intelligence, the picture of health in his face, but quite helpless, owing to the ravages of the disease. The right leg had been amputated four inches below the knee and the left leg above the knee. Up to six years ago, when the disease first came on, he was as healthy as a man can be. He had never been sick a day in his life, except a few bilious attacks, and said he did not know what headaches were. His family was of a very robust type. One grandfather died at 93 years, of cancer, and the patient's brother is said to have died of cancer of the bladder. Otherwise family history is good. The affection first made itself known in 1892, when, with severe paroxysms of pain, a small red blotch appeared on the instep of left foot, and this was followed by others of like character on the calf of the leg. About this time he noticed a peculiar cracking or ticking sensation in his head just back of the ears, across the base of the brain. These red blotches on the leg would come and go, but in a short time the entire leg below the knee became swollen and blue, and just underneath the skin were several nodules varying in size from a hickory-nut to a hen's egg. The large toe now became gangrenous, and in January, 1895, the leg was amputated above the knee. The right leg passed through a little different course. The leg became swollen from the knee downward and serum exuded through the skin of the foot, which peeled off. The third toe now became gangrenous, and in the following April, four months after the operation on the left leg, the right leg was amputated four inches below the knee. Following this the patient had relief for a couple of years, when both hands became red and swollen. Last spring he was confined to bed for several weeks with the pain. In May both hands and arms were very red and swollen almost to the elbow. Black or blue spots would appear upon the fingers and disappear again. Small nodules formed in the arms and would disappear in two or three days. The patient has been in very competent hands, and a great variety of drugs has been tried. He had been saturated with mercury, iodid of potassium, tonics of all kinds, alteratives, digitalis, strychnin, etc. Thinking that nitroglycerin was indicated by the hard and rather slower than normal pulse, he was placed on that drug, although his face was red and flushed. This, with massage, has been the main treatment. The massage alone will at times relieve the pain, but as this was not sufficient, a solution of two grains of morphin in two ounces of the tincture of opium was applied locally, which controlled the pain. These paroxysms of pain have been so severe as to keep him awake until late in the morning, when he would catch a couple of hours' sleep. The prognosis of Raynaud's disease is unmitigatedly bad, and it is probable that the patient will lose his upper extremities as he has his lower. Wide-spread gangrene in Raynaud's disease is uncommon, and only superficial portions slough off after the epidermis is raised up into the blebs, which rupture, leaving a dry surface. When gangrene threatens, the hand should be wrapped in flannel or cotton-wool, and when it occurs dress antiseptically until a line of demarcation forms, when dead parts may be removed by scissors, forceps, or antiseptic poultices. Nitroglycerin with massage alleviates the pain and keeps the patient moderately comfortable.

PRACTICAL NOTES.

Neuralgia of the Trigeminus.—J. Hirschkron recommends three cachets a day of the following: Extract of cannabis indica .50 gm., salicylic acid 5 gm. For ten cachets.—*Semaine Méd.*, December 14.

Local Applications of Castor-Oil.—Beloll aserts that warm castor-oil thoroughly applied to the abdomen is often as effective in the case of a child as if taken internally.—*N. Y. Med. Jour.*, Oct. 22, 1898.

Heat in Treatment of Syphilis.—Storoscheff reports the favorable results of local warm baths, compresses, etc., in the treatment of syphilis, according to the experience of Ussass, Kaleschnikoff and Stepanoff.—*Derm. Cbl.*, December, 1898.

Orthoform in Intramuscular Injections.—Loeb and Raff state that the addition of 5 to 10 per cent. orthoform to the 10 per cent. Hg.-salicyl. suspension, renders the injection painless for eight to ten hours afterward.—*Derm. Cbl.*, December, 1898.

Ice in Anal Prolapsus in Children.—Hajech has been very successful in reducing and curing the tendency to anal prolapsus by introducing after defecation a cone-shaped piece of ice 7 to 8 cm. long, with a base 2 to 3 cm. in diameter. It is placed in the center of a piece of iodoform gauze. No bandage is required. —*Semaine Méd.*, December 14.

Infantile Spinal Paralysis.—Lacorse considers electricity the best means to diagnose this affection, and the only means to cure it. Treatment should be commenced as early as possible with the galvanic current, and patiently and perseveringly continued for a long while.—*Ztft. f. Orthoped.*, vi, 2.

Diphtheria Noma Cured with Serum.—A second case is related in the *Deutsche Med. Woch.*, No. 38, occurring in the fifth week of typhus in a child of 8 years. Diphtheria bacilli were found in the noma, which was limited to the cheek, and 9500 units of diphtheria serum injected resulted in a complete cure.

Tuberculosis and Pregnancy.—F. Gomez suggests in the *Gaceta Médica* of December 1, that many cases of "spontaneous death of the fetus" may be due to latent tuberculosis in the mother, and that possibly creosote treatment of the mother during pregnancy might avert the death of the fetus when tuberculosis was known or suspected.

Intestines Resected by the Yard.—Dresmann has resected the intestine for over a meter in twenty-four cases; in four cases over two meters; in one case 3.10 meters in a man of 60 years, and in the case of a boy of 8 years, as much as 3.88 meters. His experience indicates that only a young person can tolerate a resection of more than two meters.—*N. Y. Med. Woch.*, December, 1898.

Differentiation of Pneumo- and Meningococcus.—In young rabbit or human serum the pneumococcus grows uniformly distributed, while the meningococcus is always clustered in chains or masses, spontaneously agglutinated. The meningococcus also develops on gelatin at a temperature of 22 degrees C., while the pneumococcus does not develop at this temperature.—*Semaine Méd.*, December 14.

Diagnosed from Ocular Complications.—Facial neuralgia, moderate astigmatism and crossed diplopia, coryza, and a slightly painful point at the superior internal angle of the left orbit, induced a diagnosis of frontal sinusitis, confirmed by the operation. It was bilateral, and bilateral maxillary sinusitis was also discovered. After evacuating the fetid pus, the neuralgia and ocular troubles vanished at once.—*Presse Méd.*, November 30.

Calot's Forcible Reduction of Tuberculous Spondylitis.—According to the *Ztft. f. Orthoped. Chir.* vi, 2, Hoffa and Zuelzer of Würzburg endorse Calot's method, which has been rejected by many without a trial. Old humps should not be treated in this way; abscesses are also a counter-indication, but paralysis is not. Hoffa is more than satisfied with the results of his twenty-three cases thus operated on, and warmly recommends the method.

Analysis of Woman's Milk.—O. Klemm considers all analysis a farce that does not include microscopic investigation and determine the specific gravity, percentage of albumin, casein, N remainder, amount and melting-point of the fats, and the amount of sugar and of iron. He does not like to treat dyspepsia in the nursling without such a preliminary investigation, and he considers it indispensable in selecting a wet-nurse.—*St. Petersburg Med. Woch.*, December 3.

Fat Embolism after Brisement Force.—Payr noted a complete status thymicus and lymphaticus in a case of fatal fat embolism consecutive to *brisement forcé* of a contracted knee-joint. A similar condition was found at the necropsy of one of the four other cases on record. He observes that the heart is less able to tolerate fat embolism in these conditions, and that bones rarefied and fatty degenerated from long stay in bed render *brisement forcé* a serious intervention.—*Munich Med. Woch.*, 1898, No. 28.

Syphilitic Process Cured by Measles.—A therapeutically suggestive case was reported in *Pediatrics*, March, 1898. A healthy child of eight years suddenly developed abscesses and pains in the bones, presumably tardy hereditary syphilis, although only transiently improved with specific treatment. There was great emaciation, debility, even inability to walk. A severe attack of measles when she was 12 years of age, arrested and cured all the morbid processes and restored the child to complete health again.

Effects of Hydrogen Dioxid.—Egbert (*N. Y. Med. Jour.*, Dec. 24, 1898) reports experiments as to the effect of hydrogen dioxid on the normal action of any organized ferment and concludes, instead of retarding the normal action of the digestive ferments of the body, hydrogen dioxid may even aid their action, and by virtue of its oxygen-yielding properties it frequently influences tissue metabolism. Also, under certain conditions, it facilitates diffusion of the products of digestion to the animal tissues and their further elaboration for nourishment.

Picric Acid in Burns.—Thiery stated at the French Congress of Surgery that the picric dressing is the best of all for local medicamentous eruptions and that it possesses unquestionable efficacy in most cutaneous affections, and especially for burns. He has never observed any pain from its application, even with children, and he adds that the cases of intoxication that have been reported were all from ingestion of the acid. Accidents observed from its external use should in reality have been attributed to the burn itself.—*Revue de Chir.*, No. 11 (vide JOURNAL, xxxi, p. 138).

Extragenital Syphilis.—M. Joseph has recently observed three cases of "razor chancre," and Rosenthal states that he almost always has one case at least of extragenital chancre in his service. An abrasion of the skin seems to be a necessary preliminary to infection; a razor cut, a crushed finger, burnt mouth, or something of the kind. Infection is not necessarily derived from the barber shop, but may follow a kiss on the cut spot later, "although the number of barber's assistants constantly undergoing specific treatment certainly indicates some danger in the shops."—*Derm. Ztft.*, November, 1898.

Tolerant Regions of the Brain.—An alienist was shot in the occipital region by a patient, but did not know he was wounded, and inquired if any one had been injured, although he died twenty-four hours later of cerebral compression. . . . A patient of Verneuil's received three balls in the base of the brain, but survived forty-eight hours. . . . A man found dead, bathed in blood, had a bullet-hole above his ear, and the pistol was found in his pocket. The sphenoidal lobe was affected —one of the parts of the brain that react most slowly to traumatisms (Gilles de la Tourette).—*Semaine Méd.*, December 14.

Faure's Muscle Suture for Eventration.—After cutting an ellipse out of the weakened skin, the edges of the recti muscles are carefully isolated, and a couple of strips cut, a centimeter in width, and 12 to 15 cm. in length. One is separated from the right side, but left attached at the top; the other from the left side, attached at the bottom of the ellipse, each extending about three-fifths of the entire ellipse. Each strip is then passed over and over through the fascia and muscles, drawing them together, with four to six stitches in all, the ends tied in the center, and firmly fastened with catgut.—*Cbl. f. Chir.*, December 17.

Exaggerated Reflexes in Pott's Disease.—Giacometti asserts that paresis or relaxed paralysis with increased reflexes, indicates an affection of the spinal cord. Relaxed paralysis without pains and without increased reflexes almost always indicates a peripheral injury. Attacks of pain with increased reflexes point to an affection of the root region of the spinal cord. Attacks of pain with diminished reflexes indicate a peripheral affection, but not necessarily the entire absence of a spinal affection. Increased reflexes are an early symptom of Pott's disease. They are sometimes encountered in children who complain only of weariness. They precede paralysis, but are not so serious a symptom as contractions. Even if quite pronounced, complete recovery may still be attained. An early diagnosis is of the utmost importance for the treatment.—*Zft. f. Orthoped. Chir.*, vi, 2.

Protargol in Ophthalmology.—Two recent theses have been devoted to a study of protargol, and both conclude that it has all the antiseptic power of nitrate of silver and argentamin, while it is less caustic, rendering it much less dangerous for the eye. Argentamin is preferable for granulated conjunctivitis, as more of a caustic action is required, but in all other kinds of conjunctivitis protargol rapidly improves and then cures them. If there are recurrences of conjunctivitis caused by Morax' diplobacilli, zinc sulphate will keep them under control. Dacryocystitis is favorably affected by injections of a 5 to 10 per cent. solution of protargol.—*Nouv. Remèdes*, October 24 (vide JOURNAL, xxxi, p. 989).

Epilepsy of Ocular Origin.—L. Chavaz called attention, a year or so ago, to the close connection between ocular troubles and certain cases of epilepsy, and that curing the former frequently resulted in the simultaneous disappearance of the epilepsy, and at least would certainly free the patient from much discomfort. He describes a typic case in the *Gaceta Méd.* of Dec. 1, 1898, a young physician who for six and a half years had had three to twelve attacks of "partial epilepsy" every day, rebelious to all medical treatment, with grand mal at times. There was exaggerated hypermetropic astigmatism and convergent strabismus in one eye. Graduated tenotomy of the rectus internus in both eyes put an end at once to every epileptic manifestation.

Medicolegal Tests for Sperma.—The Florence test proved a disappointment, as it was soon found that a number of the organic secretions as well as the sperma, reacted with the characteristic crystals. But in medicolegal investigations it has been found very valuable as a preliminary measure. The garments to be examined are frequently soiled and of such a texture that it is impossible to discover traces of semen with the naked eye. In these cases the Florence test indicates with precision the absence or presence of any suspicious matter on the garment. If no crystals form, there is no use in investigating further, but if there is a crystal reaction, the spot should be cut out and submitted to a differentiating test with fuchsin or any stain which will bring out the spermatozoids distinctly under the microscope. Professor Beumer: *Deutsche Med, Woch.*, December 8, (vide JOURNAL, xxxi, p. 609).

Heat for Inoperable Cancer of the Cervix.—Westermark has been quite successfully applying Welander's method of treating soft chancres and other ulcerations rebellious to ordinary measures, to inoperable cancers of the cervix. After curetting and ignocauterizing, he introduces into the crater of the cancer a small serpentine coil of lead or silver tubing, wrapped with a thin layer of cotton and connected by a rubber tube with a cotton receptacle containing water kept at a constant temperature, usually 52 degrees C., by a gas jet, while a second tube carries off the water, which is thus about 42 degrees on the cancer. The apparatus is left working for forty-eight hours, the vulva being carefully protected from the hot water. The pain, hemorrhage and fetid discharges were all completely arrested by this treatment, the cancer was cleansed, the infiltration diminished and the general condition much improved.—*Semaine Méd.*, December 14.

Asthma and Cutaneous Affections.—Kudicke's Berlin thesis asserts that genuine asthma, dating from the first ten years of life, is always accompanied by some skin affection, usually eczema, and that asthma may enhance the gravity of an existing cutaneous trouble or even produce a new eruption, in persons especially predisposed by gout, diabetes, anemia or chronic eczematosis. A skin trouble affecting the sensory nerve terminals, if not too acute, may also induce a cramp or asthma. A skin trouble increased by asthma, reacts unfavorably in turn upon the asthma. He considers asthma essentially a nervous affection, and adds that there is no such connection between skin affections and the non-genuine asthma, occurring after 10 years of age. He relates a couple of typic cases—one a young girl with eczema and asthma, with urticaria appearing at each attack.—*Derm. Ztft.*, November, 1898.

Sticking-Plaster Bandages for Tarsalgia.—Drenkhahn relates that a butcher's boy, 15 years old, was affected with tarsalgia, or painful inflammatory flat-foot, compelling him to hobble, and frequently confining him to his bed. He applied a bandage of rubber sticking-plaster, as recommended by Gibney-Hoffa for distortion of the ankle, winding three strips, 2.5 cm. in width, after placing the foot in position, beginning on top of the foot, over the tarsal bone and carrying the strip over the outer edge of the foot, across the sole, up over the inner edge, across the instep to the ankle, and spirally up the calf. The lad was then told to put on his stockings and walk, which he did without the least difficulty or pain, and subsequent massage without removing the bandage, with appropriate shoes, soon restored his feet almost to normal. A similar functional success with an adult is also reported in the *Ztft. f. Orthoped. Chir.*, vi, 2.

Sodium Salicylate for Toothache.—Dr. Frederick C. Coley, in an article on the medical treatment of toothache, in a recent number of the *Practitioner*, states that of all medical remedies for toothache he knows of none so successful as sodium salicylate. He believes it is especially useful in those cases where the pain is started by "taking cold." A dose of 45 grains will usually relieve the pain very promptly, and if this is repeated every four hours the inflammation may entirely subside, leaving, of course, a carious tooth to be disposed of according to circumstances. The addition of belladonna is often advantageous. Fifteen grains of sodium salicylate, with 15 minums of the tincture of belladonna, will often procure refreshing sleep instead of a night of agony. It is especially valuable with children, when extraction of teeth is to be avoided, if possible, lest the development of the maxilla should be injured.—*American Therapist*, November.

Jejunostomy.—F. Terrier recently made a lateral jejunostomy in an inoperable case of gastric carcinoma, selecting a point about 18 cm. from the duodenal-jejunal angle, and suturing it to the lips of the parietal wound, but not incising the intestine for a couple of weeks, as the patient could still be fed through the esophagus for that length of time. The wound was closed except the point left for the jejunal mouth, which was opened when necessary, with the smallest point on the thermocautery and fluids injected with a syringe and urethral dropper. There was no regurgitation, and the jejunal mouth worked very well during the month the patient survived. Terrier also describes the case of a young student with a duodenal fistula caused by a gunshot wound. His father kept him alive by collecting the fluid that drained from the stomach through the fistula, and after warming it over water with some meat, injected into the intestine the products of this artificial digestion. The fistula was closed in due time and the young man recovered.—*Revue de Chir.*, December 10.

Dry Dressing for Suppurating Otitis.—Dr. H. Mygind of Copenhagen has been treating parallel groups of cases of suppurations of the middle ear with lavages and instillations on one hand, and dry asepsis on the other. The results established that the dry asepsis cured more rapidly than the other. He first soothed the inflammation with the following solution, warmed, instilling several drops for a few days: cocain hydrochlorate 20 gm., sublimate .005 gm., boiled dist. water 10 gm. When the pain and inflammation have subsided, a dry, aseptic tampon is introduced into the ear and renewed as soon as it becomes wet. Twenty tampons are wrapped separately in paper and given to the patient in a bag of filtering paper. He takes one out at a time, closing the bag at once, being careful not to touch the end of the cotton that goes first in the ear. The otorrhea is usually completely cured by the end of two or three weeks. If the improvement is not decided by this time the dry treatment should be abandoned, and lavages commenced.—*Semaine Méd.*, December 14.

Aseptic Irrigation in Alopecia.—L. Jacquet cures and prevents alopecia by producing a transient hyperemia several times a day with a stiff brush, not stroking with it, but merely pressing it against the surface until the skin is irritated by the pricks of the bristles and becomes hot and red, even pulsating in some cases, this effect lasting thirty to fifty minutes, although comparatively invisible to others. He cured himself of an intractable patch of alopecia in the beard of his chin, a difficult spot to treat. The response has been even more rapid in a number of others treated. He combines with it a vigorous brushing of the entire beard and scalp with a dry brush once or twice a day. Asepsis is imperative; for this he uses oxygenated water, or boils the brush once for all, before each application, dipping it in an oily antiseptic that will blend with the fats of the skin: 96 per cent. alcohol 80 gm., castor-oil 20 gm. corrosive sublimate 10 gm., extract of opoponax and tincture of cochineal, each 20 drops, shaking out as much as possible before using the brush.—*Semaine Méd.*, December 14.

Treatment of Epileptic Insanity.—Peterson (*Phil. Med. Jour.*, Dec. 24, 1898) mentioned among new drugs and remedial methods worth of attention, the simulo, a South American plant of the hyssop family, the tincture being given in doses of from one to two or three drams three times daily. His experience with this drug during several years leads him to believe that it deserves trial in most cases, as it is perfectly harmless, which can not be said of the bromids, borax, belladonna, and some other drugs. While he has found it extremely beneficial in some cases, in others it has had no effect at all, and in some it acts very well when combined with small doses of bromid. He also found, especially in old and obstinate cases where other agents had proved ineffectual, that the so-called opium-bromid treatment of Flechsig is of use in many cases. This treatment consists in the administration of opium for some six weeks, beginning with 0.5 or 1 grain t. i. d., and increasing gradually until 10 to 15 grains a day are taken, when the use of the opium is suddenly stopped and bromids in large and gradually reduced doses are given (30 grains four times daily to begin with).

Suprarenal Extract in Ophthalmology.—According to Dr. W. H. Bates, the aqueous extract of the suprarenal gland is the most powerful astringent known. When a drop of a 1 per cent. solution is instilled into the eye, the conjunctiva of the globe and lids is whitened in from forty seconds to two minutes. This original observation was published in 1896, and was soon confirmed by many others. The extract has been used more than 5000 times in all forms of inflammation of the eye, whether traumatic, infectious, or from constitutional diseases, as rheumatism, syphilis, or tuberculosis; it always produced a whitening of the eye. The pupil is not contracted or dilated by it. A tolerance is not established by its use. It has no antiseptic or anesthetic properties. The relief of pain and the quick cures often made are due entirely to its wonderful astringent properties. When used internally, Dr. Bates has found that the best way to administer the gland is to place a few drops of the aqueous extract on the tongue. To recapitulate: As a pure astringent in all inflammations, as a hemostatic, and as a tonic—we might say food—to all muscle-fibers, especially the heart, no therapeutic agent has been employed which can compare with the extract of the suprarenal gland.—*Medical Record*, October 8.

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SATURDAY, JANUARY 14, 1899.

TREATMENT OF TETANUS BY MEANS OF INTRACEREBRAL INJECTIONS OF ANTITOXIN.

In an editorial abstract which appeared in the JOURNAL a few weeks ago, reference was made to the interesting study of ROUX and BORREL concerning the relation of tetanus toxin to nerve-cells. It will be recalled that when the toxin is injected directly into the brain a peculiar form of tetanus, which ROUX and BORREL call cerebral tetanus, results. The symptoms are characterized by psychic excitement, intermittent convulsions, motor disturbances and polyuria, and depend upon the fixation of the ganglion cells. It will also be remembered that WASSERMAN and TAKAKI were the first to make experiments that called the attention of investigators to this peculiar affinity of the tetanus toxin for the nerve-cells, inasmuch as they showed that the same intimate union between toxin and nerve-cells occurs when bits of nerve substance and toxin are mixed together outside the body. ROUX and BORREL also showed that injection of antitoxin into animals affected with cerebral tetanus has no effect, because the antitoxin does not have the same affinity for the nerve-cells as the toxin, does not therefore come in contact with the poison, and proves entirely powerless against the poison that has already been fixed by the nerve-cells. This they considered to be one of the principal reasons why, in man as well as in animals, subcutaneous or intravenous injecions of antitoxin in tetanus so often fail. The antioxin may, of course, neutralize the toxin circulating n the blood, but in order to accomplish most, the ntitoxin should be placed where the toxin is acting; of forty-five tetanized guinea-pigs treated with intracerebral injections of antitoxin, thirty-five recovered, whereas seventeen treated with subcutaneous antitoxin injections all died, excepting two. Theory and experiments seemed to agree beautifully.

The striking results obtained in animals have justified the intracerebral injection of antitoxin in man. Inasmuch as it may be considered that this form of treatment would afford the patient the only chance possible, he should have the benefit of it, although it might be objected that the risks connected with this treatment are numerous.

In an article containing a résumé of the reports of cases treated by means of intracerebral injections of tetanus antitoxin, RAMBAUD[1] finds that the risks are in reality trivial. If the intracerebral injection is made in a neutral area, as for instance in the frontal lobes, the results of the trauma are reduced to the minimum. Under all circumstances the injury caused by the insertion of a fine hypodermic needle into the brain is trifling; the quantity of serum introduced is small, and when introduced slowly no undue compression needs to be caused. Hemorrhage from the pia and dura can be readily avoided, and the button of bone removed being preferably small, healing takes place rapidly. At the same time as intracerebral injections are the most efficient mode of treatment, it is nevertheless necessary, for the reasons already alluded to, to employ intravenous and subcutaneous injections of antitoxin, in order to neutralize the toxins circulating in the blood and that which is continuously being secreted at the site of the injury.

The first human case treated in this manner occurred only two months after the publication of ROUX and BORREL's researches. Of the twelve cases which have now been treated by this plan, three have occurred in this country, the first being one published in the *New York Medical Journal* for Dec. 17, 1898, by CHARLES A. CHURCH of Passaic, N. J. Recovery took place. RAMBAUD refers to two more cases, one of which died from tetanus. In the other of these cases, in which the tetanus developed ten days after a laparotomy, the tetanic symptoms subsided after intracerebral and subcutaneous injections of antitoxin, but death resulted, apparently from anemia, nephritis and sepsis, the fatal issue taking place eleven days after the complete disappearance of the tetanic manifestations, which were of the bulbar type of tetanus, and consequently, according to ROUX and BORREL's teaching, of bad prognostic omen. In these two cases, one may therefore be said to have recovered under this mode of treatment.

The most delicate part of the operation in intracranial injection is the injection itself. It is necessary to have a very perfect syringe, which must be absolutely aseptic. In order to make it possible to inject the antitoxin slowly, drop by drop, RAMBAUD has constructed a syringe which holds 3 c.c., the rod of which fits a thread inside the cap, so that the injection can be made by a screwing motion of the thumb-piece. The head of the needle is of conic shape, in order to fit the trephine hole made in the skull. The trephine used in RAMBAUD'S cases had a crown whose diameter was about 7 mm. The cone-shaped head of the needle makes it possible to firmly fix the needle in the trephine hole; between the needle and the syringe is a flexible rubber tube connection. With this arrangement there is no risk of the needle moving after it has been properly inserted. The injection should be made in from ten to twelve minutes. The cone of the needle is provided with a groove so as to afford passage to any fluid which might otherwise cause compression.

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[1] New York Medical Journal, Dec. 17, 1898.

It would seem that this mode of treatment of tetanus, the mortality from which is yet very large, even when treated promptly by means of the ordinary subcutaneous or intravenous injections of antitoxin, would merit an extended trial. The actual results of the intracerebral injections of antitoxin can only be fully determined when a large number of cases have accumulated. It may also be allowed to indicate that in all probability a single intracerebral injection of tetanus antitoxin will not always suffice to neutralize the toxin fixed in ganglion cells, scattered perhaps over a large part of the brain. It may be found necessary to make several injections into the brain in various places.

QUININ IN MALARIAL HEMOGLOBINURIA.

From time to time we read articles in which the assertion is made that the administration of quinin during the existence of hemoglobinuria in malarial infection aggravates the symptom. In fact, it is held by some writers and practitioners that quinin will produce this condition in malarial fever. While this view is sustained by some who practice medicine in malarial districts, it can be positively stated that the vast majority of practitioners in those districts do not hold to any such belief.

As we have increased our knowledge concerning the nature of malarial fever and the plasmodium which produces it, to that extent have these vagaries once propounded and upheld been refuted. At a time when malarial fever was believed to be due to carbonic acid, organic material, effluvia, paludism, and various other theories devoid of proof, and at a time when bacteriology and pathology had not been established upon irrefragible evidence, many plausible theories were set up only to be dissipated by the scathing light of definite knowledge established by the study of these two branches of medicine. Bacteriology has taken malarial fever from the category of diseases of unknown cause and placed it forever among the infective diseases. Pathology has shown us the condition existing during the life of the patient.

In malarial fever we have come to study the internal organs and we find that the spleen is enlarged, soft and congested, the blood-vessels being filled with red-blood cells in all stages of disintegration, leucocytes, blood pigment and the plasmodium in various stages of development. In the liver, congestion is the rule, producing a stagnation of the portal circulation and a deficiency of bile, while the kidneys may be enlarged, but in most cases show no evidences of parenchymatous or interstitial change.

In the kidney of malarial hemoglobinuria, THAYER, PELLARIN, KIERNER and KELSCH have shown a condition bordering on a parenchymatous degeneration with interstitial hemorrhages and blood corpuscles in the tubules, yet this condition is frequently found in other conditions than malarial fever and in which quinin may be used with impunity without producing hemoglobinuria.

It should be remembered that it is not alone from the study of the internal organs that our knowledge has been obtained regarding this subject, for the plasmodium has become more bold and exhibits itself in the peripheral circulation. Here then its cycle can be observed and studied—first as the small hyaline segment, with a rotatory, twisting and branching movement, next, as the flattened yellowish or hyaline cell of many sizes and shapes, and last, as the full-grown, vigorous organism containing fine masses of hemoglobin, which has been derived from the red-blood cell set free by the necrobiotic process engendered by its toxin.

With each paroxysm there is set free in the circulating medium more hemoglobin, which must be stored in the organs whose duty it is to receive it. The internal viscera have no choice but to receive its repository and when it is thrown off they receive the legacy of its coloring agents which remain in the intracellular tissue. Briefly, this may be said to be summary of the morbid anatomy of malarial fever which also includes hemoglobinuria of malarial origin which must be considered a symptom and not a distinct entity. It should also be remembered that th bright red urine observed is not always a hematuria In fact a hematuria is the rare exception, for hemorrhages, of whatever nature, are uncommon in all varieties of malarial fever. It is the blood coloring matter and not the red-blood corpuscles, which produces th glow in the cheek in the fastigium of the fever and it absence which denotes the pallor of a cachexia. Bu in the later stages of a congested kidney, blood co puscles may be present.

Why the hemoglobinuria of malarial origin ha been singled out among all the other varieties an stated to be increased by the use of quinin, is n clear. Thus we have: 1, paroxysmal hemoglobinuri and 2, toxic hemoglobinuria, including that due chlorate of potash, carbolic acid, naphthol, carbo dioxid, and the poisons of infectious fevers, yello fever, scarlet fever, typhus fever and malarial fever.

The rules of logic by which some endeavor to prove the sequence of events from the administration of quinin to the production of hemoglobinuria are not circumscribed within the boundary of therapeutics; no such proof exists. Preponderating evidence plainly shows that quinin in the largest doses will neither lead to a hematuria nor a hemoglobinuria. It neither causes a necrobiosis of the red-blood corpuscles, nor causes a congestion of the kidneys. Thus, BAILLIO reports two soldiers who took three drams of quinin, producing in both cases, cramps in the epigastric region, accompanied by vomiting, paleness of face, dilated pupils, irregular, slow pulse, ringing of the ears, syncope, and death in one case, while in the other the symptoms gradually disappeared. BRIQUET reports a case in which a man took fifty-five drams of the salt without the production of hemoglobinuria or hematuria, and GUERSENT has observed a woman who became deaf, dumb and blind after having taken ten drams of quinin sulphate within a few days.

The foremost physicians who practice in malarial districts are not afraid of quinin. If four grains of quinin every four hours will not break up a chill, ten and fifteen grains are given with impunity and without producing a hemoglobinuria; and if fifteen will not suffice in a case of pernicious fever, thirty grains are frequently given hypodermically.

The exact chemic composition of the toxin produced by the plasmodium malariæ is unknown. That it is actively poisonous is beyond a doubt. Thus a small amount of blood from a patient suffering with malarial fever has been obtained and transfused into another patient, with the result that a malarial fever has been produced. The urine of a patient suffering from malarial fever has been found to be more toxic immediately after the paroxysm than before it. The rupture of the enveloping membrane of the affected red-blood corpuscle marks the onset of the paroxysm and the chill. Fever is only the reaction of the system to expel the poisonous material.

Having, therefore, the two factors, quinin and toxin, in the blood concurrently, which one will be most patent in the production of hemoglobinuria? The toxin of malaria causes a hypertrophy of the spleen, will destroy the red-blood globules, will cause a chill, and being poisonous, may irritate the kidneys, while quinin has never been proven to be the etiologic factor in any of these conditions, and therefore must be the least causal agent in the production of a symptom for which it should be used.

ALBUMINURIA IN DISEASES OF CHILDREN.

The frequency with which albumin appears in the urine of children makes it imperative that some classification as regards its significance, its influence on diagnosis, and especially on prognosis, be made. The division into primary and secondary albuminuria is merely a cloak to hide our ignorance, for the diseases in which primary albuminuria or albuminuria with definite and marked renal changes (TIRARD) occurs, may not infrequently instead be accompanied by the so-called secondary albuminuria, or albuminuria in which the subsequent course of the disease leads us to infer that the renal changes were of the most trivial character. Thus, the albuminuria occurring so commonly in scarlet fever and diphtheria, we are accustomed to regard as primary, because there is commonly an acute nephritis or, more correctly speaking, a glomerulo-nephritis which, postmortem, is plainly evident, or, if the case progresses to a favorable termination, is followed by symptoms of subacute or chronic nephritis; though, on the other hand, we all know how common it is in either of these diseases to have a total disappearance of the albumin from the urine without subsequent reappearance, when we look upon the instance as one of secondary albuminuria without renal structural change. We often call such albuminuria febrile, because with the disappearance of the fever the albumin also gradually disappears from the urine. In the primary albuminurias, too, we often find diminution in amount of suppression of urine; the latter, if present, is very highly albuminous and contains large numbers of casts, and there are dropsical effusions into the various serous cavities and into the subcutaneous tissues. It were better, perhaps, to speak not of primary and secondary albuminuria, but of albuminuria with severe or albuminuria with slight structural change, for it is pretty definite that there can be no exudate of albumin through an intact dialyzer, as the perfectly normal kidney certainly is—if it were not, albumin would be a constant normal urinary ingredient. The change may be only epithelial in its involvement, nevertheless it is organic; it may be quickly repaired, and the kidney never show sign of the departure from the normal; the albuminuria also disappears. As regards whether it is "primary" or "secondary" it is often impossible to state; and if it were, for what good? It is the exact condition of the kidney that we wish to know after all.

The delicacy of structure of the organism of children makes them relatively more susceptible to the onset of infectious diseases than is the case with adults. In like manner each individual system in the child's body is more prone to escape from the normal. For instance, we are all aware of the frequency with which albumin appears in the urine of children with elevation of temperature. Formerly we looked upon this symptom as one of the frequent accompaniments of the fever itself; but of late years the consensus of opinion seems to be that the albuminuria and fever are both dependent upon the same cause, namely, the toxins of the individual disease; in other words, a toxic rather than a febrile albuminuria. And the former seems the more fitting term, because we very commonly see large amounts of albumin in the urine with but a low type of fever, showing that the height of temperature has no certain action at least on the amount of albumin in the renal secretion. On the contrary, the more the system is overwhelmed by the weight of toxins, the more pronounced the albuminuria; indeed, it is these very toxins that are doubtless the cause of the true nephritis that so often leads to such deplorable results.

One of the most common of the infectious diseases of childhood in which we find an albuminuria of more or less marked degree is whooping-cough. It would be difficult to go through a ward containing patients afflicted with disease and not find one or more instances. It does not seem that the number of the paroxysms has as much to do with the presence of our symptom as the severity of the individual attacks. TIRARD, in the *International Clinics*, October, in speaking of this subject, says: "When the paroxysms are severe and prolonged, we find that the occurrence of albuminuria is more probable, and that the symptom diminishes gradually when the disease is relieved, either by the use of remedies which facilitate the act of coughing or when the disease is approaching its natural time limit." When we remember that hemorrhages into the conjunctiva and attacks of epistaxis are also far more common in severe paroxysms, and bear no relation to the number of attacks if mild, we find the explanation of the above mentioned fact: a venous congestion in the kidneys resulting from interference by the paroxysms with the act of respiration. Thus, it may be that the albuminuria is one day excessive, the next slight, just as it may be that it is one day slight and the next absent, or it may be absent for several days. The appearance of the urine is usually normal, though from concentration a precipitate of urates may fall.

Just as in whooping-cough an albuminuria may occur from venous congestion, so in heart disease, though in the latter the backward pressure is directly dependent upon the defect in the circulatory apparatus. This albuminuria is practically identic with that occurring in adults afflicted with cardiac disease. For years the urine may apparently differ from the normal in that it is slightly diminished as regards the amount passed per day; its color is deeper, and its specific gravity is higher. The microscope will show urates in excess, perhaps a considerable amount of epithelial débris, and occasionally a red corpuscle forced from its vessel by the very intensity of the congestion. Edema, if its occurs, is not edema of Bright's but that of the cardiac disease of adults, beginning in the feet and involving the serous cavities later if at all. But as the years roll on, the picture changes and the urinary symptoms become the prominent ones. The chronic congestion has led to interstitial changes, and the typic interstitial nephritis with small red kidney presents itself. So similar are its symptoms to those of the cirrhotic kidney of alcoholism, which latter is so often followed by a hypertrophied left ventricle and relative mitral insufficiency, that it is impossible in a patient seen for the first time, in whom mitral incompetency and chronic insterstitial nephritis are combined, to tell whether the heart disease is secondary to that of the kidney or the kidney trouble secondary to that of the heart. Among other causes of albuminuria in children, according to TIRARD, the rôle played by drugs is a most important one. We are all of us familiar with the danger incurred by the prolonged use of salicylates, especially salol, even in adults. In children the risk is much greater. The other drugs that are liable to produce severe renal changes in adults, the local use of turpentin and cantharides, are particularly dangerous to children. Arsenic should be used with the greatest caution, and its effects on the kidneys, as shown by the urine, watched most carefully. Perhaps the most dangerous of drugs in its effects on the kidneys of children is chlorate of potash, which is so indiscriminately prescribed as a gargle. Undoubtedly a considerable amount is frequently swallowed, becomes absorbed, and its deleterious action is exerted upon the red corpuscles, resulting in their destruction. The kidney substance itself also suffers largely. Albuminuria necessarily follows. These various drugs may exhibit their action by no microscopic change, by the appearance of a few red corpuscles in the urine, or by a hematuria visible to the unaided eye, depending upon the dose, the toxicity of the poison, the resisting power of the kidney and its eliminative activity. A recognition of the cause of the albuminuria and the prompt withdrawal of the drug is usually followed by a rapid disappearance of the symptoms except, perhaps, in the case of potassium chlorate poisoning, where numerous deaths are known, and where there are undoubtedly many more whose death has been ascribed to other causes.

The last cause for infantile albuminuria to which TIRARD directs particular attention is that depending upon suppurative changes occurring in any part of the body, provided such changes are prolonged over a considerable period of time. Tubercular bone disease with secondary infection by pus organisms is the typic form of this variety of suppuration, and eventually results in amyloid disease affecting the various organs, particularly the spleen, liver, kidneys, intestines, and lymphatic glands. The amount of albumin in this affection is, as in adults, quite large but the specific gravity is low and the color a pale yellow, almost colorless. As in chronic interstitia nephritis, the amount of urine is increased. Th microscope sometimes reveals casts responding to th iodin reaction for amyloid disease.

A RECRUDESCENCE OF INFLUENZA.

According to a Washington dispatch of January "Surgeon-General WYMAN, of the Marine-Hospita service, says that the [present influenza] epidemic started in Turkey and Asia Minor about the middle of November, and has been spreading westward ever since, following the established lines of travel and being most severe where the population is most dense." It is further added that "Dr. WYMAN is now taking measures to obtain information as to the character, extent and treatment of the disease in foreign countries, as well as in the United States, and special observations are being made as to its origin and means of contagion."

Epidemiologists generally will welcome this promised assistance in the study of a disease, which though not usually the cause of death per se, is the contributing cause of a greatly increased mortality from the principal causes of death whenever it appears as an epidemic.

If, however, this study and the "special observations as to its origin" are to be of any real value, the head of the Marine-Hospital Bureau will do well to disorient himself and instruct his observers that, notwithstanding his dictum, they are not to assume that every endemic outbreak of influenza is necessarily a new importation from Western Russia, Turkey and Asia Minor. They will find a fruitful field for special observations, not only in Europe but in this country and under their own noses, in the frequent recrudescences of the disease ever since the subsidence of the last pandemic—that of 1889–92.

There is no occasion to go so far afield as Turkey and Asia Minor for the present endemic, at least in this country; and, even with the modern methods of rapid transportation, an outbreak in the far East, occurring last November, will hardly account for the local endemics of the past twelve months in places so remote from the Orient and from each other as New York and Chicago. In the former city there was a well-marked prevalence of influenza during the winter of 1897-98, the first deaths from which were reported during the week ended Jan. 15, 1898, and to which 97 deaths from the uncomplicated form of the disease were attributed before its subsidence in the early part of May, in addition to a great increase in the mortalty from diseases complicated with the endemic disease. During August and September there was a complete remission, but about the middle of October its presence was again recognized and one death was ecorded during the last week of the month, 12 in November and 115 in December up to the 24th—the atest report received.

In Chicago the early outbreak of 1898 was even more severe and widespread—21 deaths in the last ten ays of January, 94 in February, 116 in March, 27 in April and 13 in May, a total of 271 influenza deaths n five months. There was only an occasional death eported during the remainder of the year, until in he early part of November the disease began to ppear in death certificates as a "contributing cause" with increasing frequency. Between December 2 and 28, 11 deaths were recorded from influenza as "the chief and determining cause."

These facts and figures, both as to New York and Chicago, do not consist with the assertion that the present "epidemic started in Turkey and Asia Minor about the middle of November." It is more probable that the outbreaks in the early months of 1898 and at present are simply illustrations of the rule framed by many observers—most recently by OSLER—that, "following the pandemic there are, as a rule, for several years endemic or epidemic outbreaks in different regions.'

Meanwhile, it will be more profitable than any special observations of the geographic and historic pathology of the disease—which line of research has already been well covered by HIRSCH, HAMILTON (J. B.) and others—to take advantage of the present outbreak, to study the bacteriology of influenza with reference to certain mooted points of the greatest interests to physicians as to treatment and to sanitarians as to prevention. Is there an *influenza vera* due to a special germ—the Canon-Pfeiffer—whose toxin profoundly affects the nerve and trophic centers as the toxin of the Klebs-Loeffler does in true diphtheria? Is there a pseudo-influenza—the so-called "grip" of the laity, the "ordinary influenza cold or catarrhal fever"—due to a mixed infection, from which the specific serum is absent, comparatively harmless as to the vital centers, and bearing the same relation to *influenza vera* that pseudo-diphtheria does to the true diphtheria?

If these questions shall be answered in the affirmative by the bacteriologist, as now seems probable, the bacterial diagnosis of influenza will be only less necessary than that of diphtheria, and may be followed by as satisfactory results.

GLANDERS IN HAVANA, CUBA.

Yellow fever is not the only infection which the American sanitarian will have to stamp out when he takes up his official abode in Havana, Cuba. The death-roll of this city from glanders is something appalling. The Surgeon-General of the Army has received a report from HONORE F. LAINÉ, a graduate, 1895, of the Veterinary College of New York, which shows the need of sanitary work in a hitherto unthought of line. Dr. LAINÉ, being a Cuban with an American diploma, met with great opposition in the practice of his profession among his colleagues, who were all Spaniards. During the five years of his practice in Havana he repeatedly called attention to the bad sanitary condition of the stables and the neglect of the government in allowing glandered horses to work in the streets of the city; but he was unable to obtain the co-operation of his colleagues in this matter, as the owners of the large stables and omnibus lines were all Spaniards, and some of them very influential in local politics.

A young lady belonging to one of the best Cuban families died of glanders, and the authorities were compelled by the clamor of the press to take action in the matter. A committee was appointed by the Board of Health to examine the stables of the city, and Dr. Lainé was assigned as its veterinary expert. The Committee met with great opposition from the owners of the stables, who refused to allow their diseased animals to be killed. In the omnibus stable of Don Pedro Estanillo, a rich and influential city councillor, two horses were found with unmistakable symptoms of the disease. The owner objected to having them killed, and obtained a certificate from a Spanish veterinary surgeon that the horses were suffering merely from a chronic nasal catarrh. The Committee proved their case by inoculating two asses with the nasal secretion of the diseased horses. Both animals died before the fifteenth day, and unfortunately, also Mr. Fernandez Diaz, one of the members of the Committee, who became infected while assisting Dr. Lainé in effecting the inoculations. No action was taken, notwithstanding these conclusive proofs, and the Committee decided that it was useless to continue its work.

According to Dr. Lainé's observations, the disease has greatly increased of late among the horses of the city. Farcy, which is compatible with work, is the form of the disease most frequently seen on the streets. The infection is thus spread to persons whose occupations do not bring them specially in contact with the diseased animals. Among those who have died during the past nineteen years are doctors, lawyers, notaries, ladies, and men of various occupations not connected with the care of horses.

Dr. Lainé closes his report with a list giving names, residence, occupation and date of death of those who have died of glanders in the Mercedes Hospital from 1880 to date, Dec. 3, 1898. The list includes the names of 101 persons, an average of 5.3 persons per year. The largest number in any one year was 13, in 1884; 12 deaths occurred in 1895. These numbers do not include the victims who succumbed to the disease in their homes or in other hospitals.

SURGEON-GENERAL STERNBERG IN CUBA.

The Surgeon-General of the army is on a tour of inspection of all the government hospitals in Havana and in general of all military hospitals in the Island of Cuba. He left Washington, D. C., Jan. 3, 1899, accompanied by Capt. E. L. Munson, asst.-surgeon, U. S. A., as an aide. The long death-list from yellow fever among the Spanish troops in Cuba in 1897, the first season after the arrival of large reinforcements from Spain, shows what our troops may expect during the coming summer unless every precaution is taken for their protection. The Surgeon-General is already familiar with the general conditions on the island, from his residence there while a member of the Yellow Fever Commission; but a personal inspection of the local conditions surrounding the various camps and garrisons is needful to enable him to institute his measures to the best advantage. According to the military journals, Dr. Sternberg will take into consideration the establishment of a yellow fever hospital in Havana, and they suggest that with the greater knowledge of this formerly dreaded disease which the recent war has given our medical men of the army it is not too much to expect that the Surgeon-General may find it possible to insure practical immunity from the ravages of yellow fever among our troops in Cuba next summer. "This problem of yellow fever, its prevention and cure, presents one of the most interesting of the many now before the medical fraternity of the country, and especially of those in the army. General Sternberg realizes that now is the time for perfecting such arrangements as may be adopted for the inevitable conflict with the fever, and it is said he has high hopes of initiating such a system of sanitary reform as shall redound to the credit of the modern medical officer given full swing in the treatment of the customary unconquerable diseases of the present time."

CORRESPONDENCE.

The Geographic Distribution of Leprosy.

New York, Dec. 20, 1898.

To the Editor:—In *Janus* of September-October, 1898, there is part of an article by Dr. Ehlers, entitled, "La distribution Géographique de la Lèpre." I had been invited by Dr. Ehlers, in a letter dated Feb. 23, 1897, to write such an article. My answer was that everything I know about the question is on record, and that no new work on the subject was required. However, if something new about the geographic distribution of leprosy is to be said, let it at least be the truth. If the little statistics to which Dr. Ehlers seems to have devoted his life, and on which his great reputation as a leprologist is founded (cases seen in Iceland, the Balkans, etc.), are as true as the paragraph about Japan, in this article, not much can be gained by studying his notices. He says: Le Japon est très ravagé par le flèau (Kitasato, iii, p. 267[1]) Now, Kitasato's statistics as presented to the Conference were incomplete, because he had omitted Osaka, one of the three capitals; Kanagawa, which is Yokohoma, the biggest seaport of the empire; Nara, the oldest leper village in Japan, just outside of Kioto, the ancient capital of the empire; Shizuoka, the home of the Tycoons; Miyagi; Ehime (Ychime?); Saga; Miyazaki, the home of the Kiushiu statesmen, and Kagoschima, the home of the Satsuma clan, the political center of the empire. It was the Satsuma men who overthrew the Tycoon and gave the sovereign power to the Mikado. Kitasato evidently did not want to insult these holy and influential places, and the personages in power there, by putting on record that they were being punished for sins of themselves or their ancestors, for such is the meaning given to leprosy by the Japanese. Noting this insufficiency of Kitasato's figures, I wrote to Japan and obtained from Mr. Goto, the chief of the sanitary bureau of the Government, the full statistics and published them in the *Medical Fortnightly*, Aug. 15, 1898, with some remarks of my own. In the places omitted by Mr.

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[1] Mittheilungen und Verhandlungen der wissenschaftlichen Lepra Conference zu Berlin, i-iii.

Kitasato, are registered the following numbers: Osaka 372; Kanagawa 118; Nara 125; Shizuoka 529; Miyagi 111; Ychime 466; Saga 527; Miyasaki 897; Kagoschima 603. With these additions, the official record in the Secretary-General's Lepra-Conference publication is complete. I may observe, in passing, that if Dr. Ehlers will read the article of mine entitled "The Number of Lepers in Japan" (*Medical Fortnightly*), he will learn that there are over 100,000 lepers in Japan, and why the Japanese do not put on record their lepers if they can help it. There are more lepers in Japan unrecorded than there are recorded ones. This is in part true all over the world. Dr. Murata, in a late article, gives the number which he believes to be the right one, of the Japanese lepers; it is at least 75,000, according to him. He says that if measures are not very soon instituted to suppress the disease, and to prevent the hiding of those afflicted by it, *half of the forty millions of Japanese will be lepers in a century or two.*

The sanitary office of Berlin, says Dr. Ehlers, meaning, I suppose, the office of Tokio, considers the lepers as being equally distributed over the country. This is another error in the three and a half lines which Dr. Ehlers has devoted to the question of leprosy in Japan. According to my map of lepers in Japan, which was made for me by my friend, the editor of the *Jiji-Shimpo* (*Tokio Daily News*), there are in the southern provinces at least twice as many lepers as in the northern; the northern provinces run in the hundreds, two hundred, three hundred, four hundred, five hundred, six hundred, the latter the highest number. The southern provinces present the numbers five hundred, six hundred, seven hundred, eight hundred, nine hundred, one thousand, twelve hundred, and even (Kumamota) 2473. It seems as if leprosy in Japan had shifted to the south.

Another mistake in Dr. Ehlers' three and a half lines, devoted to the subject of leprosy in Japan, consists in the statement that "la lèpre se moutre tant sur les côtes que dans les montagnes." The fact is that the mountainous regions are much more afflicted than the seashore. The mountains of Narita, Minobu and Zozu are densely crowded with lepers; almost the whole population is leprous. Dr. Ehlers can not possibly know, as he has not been sent by the Danish Government *on a perilous and disagreeable voyage to Japan*, that for *1200* years it has been the habit of lepers, believing that they were being punished for sins, to crowd to the holy mountains, and to live there, only wandering from one mountain to another. Where the number of lepers is greatest the infection reaches its highest degree. In this way the inhabitants in the mountains of Japan have become infinitely more contaminated than the population living on the coast.

I can not help thinking that the reader of this article will forcibly be reminded of the definition of the crab, in which there were only three mistakes, but mistakes which covered the whole definition of the animal; it is not a fish, it is not red, and it does not walk backward. Twenty-two thousand is *not* the number of lepers in Japan; the lepers in Japan are *not* equally distributed over the country, and leprosy does *not* show itself there as much on the coast as in the mountains.

Albert S. Ashmead, M.D.

Value of Transfusion.

Philadelphia, Pa., Jan. 2, 1899.

To the Editor:—In the course of an interesting editorial on the "Value of Transfusion," in the Journal, Dec. 31, 1898, the operation is suggested in typhoid fever and other toxic conditions, and the statement is made that there is no literature at hand: i.e., presumably, no record, of the measure having been resorted to in the treatment of typhoid.

In Volkmann's *Sammlung klinischer Vorträge* (No. 11, 1890), Hermann Sahli gives an account of two cases of typhoid fever in which he injected, beneath the skin of the abdomen and elsewhere, as much as a liter of a saline solution. In a footnote in the course of my article on typhoid fever, in the "System of Practical Therapeutics," edited by Prof. H. A. Hare (vol. ii, p. 290), I briefly referred to Sahli's work and have also mentioned the fact that I have treated, at the Philadelphia Hospital, with apparent success, a number of cases of pneumonia by means of "hypodermoclysis."

Frederick P. Henry, M.D.

Restoration of Hearing.

Macon, Ga., Jan. 4, 1899.

To the Editor:—I send you the following sketch of a case which I believe to be unique: In July of last year there was brought to me for treatment a young white man, and the following history given: Born in Georgia, 18 years of age, he had never had any serious sickness, and gave no history of any of the eruptive fevers, but was born deaf. On careful examination I found him in a generally good physical condition, all organs except the ears performing their proper functions. Bone conduction of sound was acute and a rudiment of hearing by aerial conduction sufficient to catch only the highest pitch of the human voice thrown directly into the left ear. The tympanic membranes were tightly distended and the turbinated bones enlarged. Since he could not hear he could not speak. He exhibited a great desire for me to take his case, which I hesitated doing because he had been through the hands of several prominent physicians, and I believed they had done for him all that books suggest, but I was much surprised and greatly gratified when, after being treated twice, he gave positive evidence of having heard me speak. And now, after a lapse of five months, he hears the tick of a watch at two inches, and is capable of using the telephone. I presented the patient before the Macon Medical Society in September, and explained the original method of treatment pursued. I do not detail the same here, as I hope to present the case and read a paper before the Georgia State Medical Society in this city in April.

As a matter of interest I will add that the young man is fast learning to talk, his wages have been more than doubled by the manufacturing company for which he wraps soap, and he has had his mother brought from a distant city, and is supporting her and a small half-brother. Such a story may need corroboration, and if so, I will gladly furnish the necessary reference.

Yours truly,

Maury M. Stapler, M.D.

Malingering.

Unionville, N. Y., Dec. 29, 1898.

To the Editor:—On Aug. 20, 1898, the Journal considerately published a letter from me, on "Malingering," that recited a case in which suit for malpractice had been instituted. It seemed to me that the matter was of general interest to the profession then, as the outcome is now, so an outline of the progress of the case is here given, in order of time: The plaintiff's attorneys wrote me asking for a settlement by a certain time. I answered that there was nothing to settle. They then served first papers, without complaint, in a suit for $5000 damages, and I at once employed a careful and experienced attorney, and instructed him to push the suit to an issue without any delay whatever. Complaint asked for and received in two or three weeks. It was as follows: Damages demanded for "careless, negligent, wrongful and unskilful treatment" and "careless negligent and wrongful advice"—a set formula I suppose.

By the laws in New York State, in these cases, the defendant can take the plaintiff before a referee's court and have examination by the plaintiff to determine the specific charges, and examined physically by a physician appointed by the court to determine the nature of the alleged wrong treatment. Application was made for this referee's court. At this the plaintiff's attorney offered to withdraw the suit, which was refused, and the court appointed referee and physician for this examination. The plaintiff's attorney offered to send discontinuance papers to my attorney, which was refused. Referee's court held. Specific charges were: 1, "The use locally of nitrate of silver in solution when plaintiff was menstruating, which, in her opinion, at that time, would poison her blood"; 2, "refused to call in consultation and thus allowed her disease to become chronic"; 3, "advised her to take treatment of a clairvoyant." Physical examination by Dr. T. D. Mills, Middletown, N. Y., showed treatment had not been improper nor injurious. For these absurdities a firm of lawyers, it appeared, expected to make it so interesting for me that I would pay hush money for them to drop it.

My attorney placed the case on the Superior court calender for the November term, and I prepared myself to disprove each charge, but well knew that they were not sufficient for damages; besides I knew that the plaintiff could not prove a single one. The case was called in the Supreme court, Newburg, N. Y., Nov. 7, 1898, with defendant ready for trial. The plaintiff, not ready, wanted to put it over, but the defendant objected, which objection the court sustained. The defendant asked for a day for trial and the plaintiff parried, but defendant held either for a trial or to allow a dismissal of the case with costs on the plaintiff, The plaintiff then confessed they had no case ready, their bluff was at end, and the case was dismissed with costs on the plaintiff, amounting to $104.30, for which amount judgment was taken. The entire cost to the defendant was about $85.00, which is returned when the plaintiff pays her judgment; time of proceedings from Sept. 1, 1898, to Nov. 7, 1898.

Can any physician who might run in one of these experiences learn from this the following lesson: The case had no merit, as in most of these cases; the plaintiff's lawyer expected the defendant to settle out of court by paying a few hundred dollars to prevent public talk and criticism, which was discouraged by the defendant pushing the suit to trial; also that cases of this kind are taken up by some lawyers on speculation, and as physicians are not lawyers they may be frightened into a settlement; that one case of this kind pushed to an issue is worth more to the profession that it costs the defendant, by deterring patients as well as lawyers from taking them up; that if a matter of this kind is dropped before a public issue is made, many may or would say the "Doctor paid to hush it up;" that to make public to the profession all the facts in a matter of this kind is a valuable guide to any physician who may fall in the hands of one of these malicious persons and lawyer sharks; that the helps and suggestions I received from other physicians show that the members of the profession protect one another. Sincerely,

F. W. DENNIS, M.D.

SOCIETY NEWS.

Central Texas Medical Association.—This association held its eleventh semi-annual session at Waco, Texas, Jan. 10 and 11.

Marion County Medical Society.—At the annual election of officers of this society, held at Marion, Ohio, January 3, Dr. H. Chisholl was chosen president, Dr. A. Ogan, vice-president, Dr. Ramroth, secretary, and Dr. O. W. Week, treasurer.

Winona County Medical Society.—At a meeting of this society held January 3, at Winona, Minn., the following officers were elected: President, E. D. Keyes; vice-president, J. W. Scott; secretary, J. B. McGaughey; treasurer, N. S. Lane.

Central Wisconsin Medical Society.—This society held its third quarterly meeting in Beloit, December 29, and elected the following officers for the ensuing year: President, F. T. Nye of Beloit; vice-presidents, T. W. Nuzum of Broadhead, W. H. Sarles of Milwaukee, T. M. Miller of Rochester, and C. S. Smith of Elroy; secretary, C. S. Sheldon of Madison.

Morgan County (Colo.) Medical Society.—The annual meeting of this Society was held recently and the following officers elected: President, L. J. Harvey; vice-president, J. W. Harris; secretary, C. E. Black; treasurer, H. C. Harpel; board of directors, T. W. Wakely, A. L. Adams and C. R. Vertrees.

Salt Lake Medical Society.—At the twenty-fourth annual meeting of this society, held recently, the following officers were elected for the ensuing year: President, R. W. Fisher; vice-president, E. I. Thorn; secretary, S. Ewing; treasurer, M. A. Hughes; librarian, W. W. Betts.

Sixth International Congress of Otology.—This Congress is to be held in London, Aug. 8 to 12, 1899. The subject announced for general discussion is: "Indications for the Opening of the Mastoid Apophysis in Chronic Suppurating Otitis of the Middle Ear." Secretary, Dr. E. C. Baber, 48 Brunswick Square, Brighton, England.

St. Joseph (Mo.) Medical Society.—This Society held its annual reception Dec. 31, 1898. The evening was devoted to a "smoker," to which the physicians of the surrounding district were invited. Dr. Thomas H. Doyle was toast-master and an address on medicine was made by P. I. Leonard, president of the Society. Toasts were also given by members of the Society.

Hartford Medical Society.—At the annual meeting of this society, Hartford, Conn., the following officers were elected for the ensuing year: President, H. S. Fuller; vice-president, S. B. St. John; secretary, G. C. Segur; treasurer, C. D. Alton; librarian, E. K. Root. This was the first meeting of this society in its new home, the Hunt Memorial Building.

McDonough County Medical Association.—This association held its fourth session at Macomb, Ill., January 3. Dr. J. J. Parke of Bardolph read a paper on "Therapeutics," J. P. Roark of Bushnell, a paper on the "Use of Drugs in the Practice of Medicine," J. R. Hull of New Hope. a paper on "Asthma," and B. L. Copelan of Colchester, one entitled "A Few General Observations."

Chicago Pathological Society.—At the meeting of this society, January 9, Dr. I. B. Diamond reported cases of amebic dysentery, with microscopic demonstrations of sections showing an improved method of staining. Dr. M. Herzog reported a case of sarcoma of the mesentery, and Dr. T. R. Crowder a case of tuberculosis of the cecum with demonstration.

Tri-State Medical Association.—At the recent meeting of this association at Memphis, Tenn., resolutions were passed acknowledging the indiscriminate sale of morphin by druggists and its use. The association also went on record as favoring stringent legislation along these lines and appointed committees for the States of Arkansas, Mississippi and Tennessee to look after such legislation. The officers for the coming year are: Presidents, E. H. Martin of Mississippi, S. R. Kinney of Tennessee, N. Haase of Arkansas; vice-president for Mississippi, N. W. Alexander of Tunica; vice-president for Arkansas, C. R. Shinault of Helena; vice-president for Tennessee, A. H. Young of Ripley.

Wayne County Medical Society.—At the regular meeting of this society, held in Detroit, Mich., January 5, Dr. M. V. Meddaugh read a paper on "The Menopause." He said that he believed the entrance upon the change of life is perilous to many women, but that in the normal woman, the menopause is passed with no unusual events dependent upon the change; but where there is a lacerated cervix, an erosion, a ruptured perineum or a diseased condition of an organic nature of the organs of generation, such pathologic conditions should receive the prompt attention of a surgeon, else serious results almost inevitably follow. The society discussed the question of Christian Science healing, a theme that has been stirring the people of Detroit for some time, through the publication in the daily press of the miraculous restoration to integrity of the injured thigh of a prominent clergyman in the city, and the opinions of the physicians who had attended him; also the history of a case of albuminuria in a woman who had recently given birth to a child. Her regular physician had been discharged and a Christian Science healer had been called in. The woman died the same night. The regular physician had refused to sign the death certificate and reported the case to the Health Board for investigation, but the coroner gave a burial permit. Investigation is now in progress relative to the authority of Christian Science healers to sign death certificates, and the power of the coroner to grant burial permits in cases analogous to the one recited.

Kentucky Midland Medical Association.—The twelfth quarterly meeting of this association was held at Lawrenceburg, Ky., January 12, under the presidency of Dr. W. E. Sleet of Midway. Among the papers read were the following: "Eczema," H. H. Roberts, Paris, Ky.; discussion by S. J. Anderson, Midway. "The Art and Mystery of Medicine," B. F. Powers, Lawrenceburg, Ky.; discussion by U. V. Williams, Frankfort, Ky. "Pneumonia," Dr. Hicks, Midway, Ky.; discussion by W. T. Buckner, Shelbyville. "The Curette," by R. D. Pratt, Shelbyville; discussion by J. R. Ely, Frankfort. "The Use of Anesthesia in Labor," E. E. Hume, Frankfort; discussion by C. W. Kavanaugh, Lawrenceburg, Ky.

PUBLIC HEALTH.

First-Aid Boxes on Trains.—The French Government has ordered the railroad companies to install "first-aid boxes" in the depots and on the trains, "complying in every respect with the latest progress in therapeutics and modern chemistry."

Prohibits Injurious Coloring Matter in Sausages.—Chapter 193 of the Acts of Massachusetts of 1898 provides that whoever uses, in the manufacture of sausages, any coloring substance injurious to health shall be punished by fine not exceeding $100 for each offense.

Detroit Health Report.—The health report for the city of Detroit, Mich., week ending Jan 7, 1899, gives: Deaths, 88; under 5 years, 23. Births: Female, 25; male, 36. Contagious diseases: Diphtheria 13, new cases 11, recovered 11, dead 2, 11 remaining; scarlet fever 43, new cases 10, recovered 11, 42 remaining; smallpox 5, new cases 1.

Sanitary Condition of Havana.—The *Archives de la Policlinica* of Havana remarks that the official reports sent to our Government by the sanitary inspector, Dr. Brunner, will not be considered exaggerated by any Cuban who has ever traveled, notwithstanding their extreme statements in regard to the filthiness of the city.

Waterproof Uniforms.—The Belgian Government is testing processes to render the uniforms of the soldiers impermeable to water. The process most favored is to dip the cloth in aluminium acetate, and dry in the air without wringing. It has been found that impregnating the material with an aluminium salt does not hinder the cutaneous respiration, nor affect the quality nor the color of the goods.—*Gaz. Méd. de Paris*, Nov. 26, 1898.

Report on Leprosy.—Dr. C. A. Ruggles of California, recently returned from Honolulu, where he has been making an investigation as to the condition of the lepers. In his report to the California State Board of Health, Dec. 26, 1898, he suggests that, for the protection of the State, every person coming from Honolulu, China and Japan, before being allowed to land in California, shall pass a thorough and rigid examination by a competent officer.

Health in Michigan.—The report for December, 1898, gives neuralgia, rheumatism, bronchitis, influenza, and tonsillitis as the five most prevalent diseases during the month. Compared with the preceding month, there was an increase in area of prevalence in pleuritis, pneumonia and influenza, and a decrease in intermittent and typhoid fever. Compared with the December average for twelve years, intermittent, remittent and typhoid fever, diphtheria, consumption, pneumonia and scarlet fever were less prevalent.

Authorizes Incineration.—By act of 1898, any cemetery corporation organized under the laws of the State of Massachusetts may cremate or incinerate bodies of the dead, and may erect, maintain and operate the buildings, appliances and facilities for so doing and for the disposition of the ashes of the dead, on any of its land within the enclosure of its cemetery which the State Board of Health may determine to be suitable for that purpose, and such buildings, appliances and facilities shall be deemed to be a part of the cemetery and to be dedicated to the burial of the dead, and shall be held by said corporations subject to the duties, and with the privileges and immunities which they now have under general laws or by special act or acts.

Yellow Fever Contracted at Night.—A number of convincing instances are related by V. Godinho in a study of yellow fever (*O Brazil Médico*, Oct. 22, 1898), in which persons escaped yellow fever completely by leaving the infected spots before sundown and sleeping elsewhere at night. At Rio Janeiro and S. Paulo, business can be carried on during the day by nonimmunes, without danger of infection, if they have their homes at Petropolis or some other suburb. The head of a prominent German business firm at Santos thus passed unscathed through several epidemics, even the epidemic of 1889, but one night found it more convenient to sleep at Santos and contracted the disease that night. Similar instances are constantly being reported. Sanarelli has demonstrated that the bacillus icteroides is destroyed by seven hours' exposure to sunlight. Globig, of the German navy, recently published a communication (*Arch. de Med. Nav.*) stating that while in port at Rio Janeiro, none but the sailors on night duty contracted yellow fever. The popular belief that yellow fever is only contracted after an attack of indigestion, Godinho explains by the fact that the indigestion and fever are the initial symptoms of the invasion of the infection, caused by the efforts of the system to eliminate the toxins.

Malarial Infection: The Mosquito Exonerated.—Several European countries have been devoting much thought of late to the subject of malarial infection, and the Governments of Germany, England, Belgium and Italy have appropriated funds for its scientific study. Germany has the item of $15,000 in its budget for 1899, to defray the expenses of another trip by Koch to Africa. A society for the study of malaria has been organized in Rome, and the members claim to have established the fact that the germs of malarial infection are not transmitted by the common mosquito, the *culex pipiens*, but only by stings from the *anophele claviger*, *calex penicillares* and *culex malariæ*, which infected the subjects in numerous tests with typic tertian estivo-autumnal fever, such as was prevalent in the localities whence the insects were brought (Grassi, Bastianelli and Bignami). Ross also asserted a while ago that the hematozoon of estivo-autumnal fever does not develop in the organism of the *culex pipiens.* Celli and Santori also resumed their experimentation in the line of serotherapy of malarial infection, confirming anew the negative results previously attained. The members of the Society reported research which seems to favor the hypothesis that attributes to the flagella a particularly important rôle in the propagation of the parasite outside the human organism. The crescentic bodies constantly contain chromatin accumulated in their nuclei, while the flagella present two distinct portions: a protoplasmic and a central portion composed of nuclear substance. The flagella develop by means of the deposits of chromatin in the nuclei of the crescentic bodies and the large undivided bodies of tertian fever. These deposits can be observed swelling, edging toward the periphery and finally stretching out long and assuming the shape of flagella.—*Semaine Méd.*, December 14.

ASSOCIATION NEWS.

Resolutions on the Death of Dr. John B. Hamilton.—At a meeting of the Board of Trustees of the American Medical Association, held in Chicago, Jan. 2, 1899, Dr. A. Garcelon, president of the Board, appointed a committee which drafted the following resolutions:

Whereas, in the wisdom of Divine Providence our worthy secretary and editor, Dr. John B. Hamilton, a loyal friend, a devout Christian, a great man, has in the prime of his manhood been called from his earthly labors to eternal rest, therefore, be it

Resolved, That the Trustees of the American Medical Association desire to express their deep appreciation of a faithful servant, one whose untiring energies in the interests of their Journal have received the recognition of the medical profession of the world,

Resolved, That while his business capacity has been exemplified in all the undertakings of his life, and success had crowned his every effort, notably as a sanitarian, a surgeon, and a surgical teacher, yet, above all, the position to which the Journal of the American Medical Association has attained through his efforts marked him as being possessed of superior executive ability and rare editorial genius.

Why weep for him? For him the angels came;
Ere yet his eye with age grew dim, or bent the stalwart frame;
His weapons still were bright, his shield was lifted high
To slay the wrong, to save the right—what happier time to die?

E. E. Montgomery, }
Joseph Eastman, } Committee.
H. L. E. Johnston, }

NECROLOGY.

Louis H. Spannhake, M.D., N. Y. University, 1867, died in New York City, where he was long a general practitioner, December 29. He was 58 years of age.

Samuel Benjamin Nicoll, M.D., College of Physicians and Surgeons N. Y., 1852, died at Shelter Island, Queens County, N. Y., January 4, aged 73 years.

Charles W. McManus, M.D., only son of Owen B. McManus, an interne of the Willard Parker Hospital, New York City, died January 5 of pneumonia, aged 22 years.

William G. Brownson, M.D., N. Y. University, 1865, resident physician of the Soldiers' Home, Norton Heights, Fairfield County, Conn., died January 3. In early life he was a teacher, and subsequently began his medical career in the U. S. Army.

Evert P. VanEpps, M.D., Albany, N. Y., 1881, of Schenectady, N. Y., died there suddenly of cardiac disease, January 7.

Louis A. Livingood, M.D., Jefferson, 1854, died in Womelsdorf, Berks County, Pa., January 4, aged 68 years.

Joseph C. Greene, M.D., Buffalo, N. Y., a graduate of the Albany Medical College, class of 1855, died January 3, aged 70 years. He was an ex-president of the Fourth Branch of the New York State Medical Association, and of the Erie County Medical Society, and was at one time president of the Buffalo Historical Society.

Scott Owen, M.D., Syracuse, N. Y., professor of anatomy in the Syracuse Medical College, died January 3, in that city.

Lincoln Mussey, M.D., Denver, Colo., adjunct professor of anatomy and orthopedic surgery, Gross Medical College; co-editor of the *Western Medical and Surgical Gazette*; member of the American Medical Association, and Denver and Arapahoe Medical Society, died in Guadalajara, Mexico, Dec. 28, 1898, of pulmonary hemorrhage. Dr. Mussey was a graduate of the Union Medical College and had studied in Munich and Vienna for a year, and was 32 years old.

C. C. Lang, M.D., Pittsburg, Pa., born in 1848, died in that city January 3. During the Civil War he was hospital steward of the One Hundred and Third Pennsylvania Volunteers, and from April, 1864, to 1865 he was a prisoner of war at Andersonville. After the war he resumed his medical studies and was graduated from the University of Pennsylvania in 1867

John Shutz, M.D., Philadelphia, who for many years has been making a specialty of laryngology, whose death was noticed in the Journal, January 7, was a graduate of the University of Pennsylvania, class of 1880, and subsequently completed his medical studies in Vienna. For the past eighteen years he had practiced in Philadelphia and gained considerable distinction. He was a member of the County and Philadelphia Medical Societies, and 40 years of age.

Charles F. Guillou, M.D., formerly a surgeon in the U. S. Navy, died December 25 at his home in New York. He was born in Philadelphia, July 20, 1813, and was educated in the University of Pennsylvania. After having been assigned to the ship *Peacock* he served in the Mexican War, and afterward became surgeon of the U. S. ship *Columbia*, which went on an extended cruise in Asiatic waters. He was subsequently assigned to the U. S. frigate *Constitution*, and when on one of her cruises in European waters the vessel touched at Gaeta, Italy, Dr. Guillou went with the American consul and the captain of the *Constitution* to visit King Ferdinand II and Pius IX. These personages visited the *Constitution* the next day, when the Pope was taken ill and was attended by Dr. Guillou. The day after Dr. Guillou was sent for by his Holiness, who offered to confer an order on him, but Dr. Guillou, being an American, could not accept. Dr. Guillou, on his return home, was detailed to the Brooklyn Navy Yard, from which service he resigned in 1854 to assume charge of a hospital in Honolulu. While in the Hawaiian Islands he also served as Italian Consul by special appointment of Victor Emmanuel. He remained in Honolulu until 1867.

E. M. Alverson, M.D., Stonington, Ill., Jan. 3, 1899.—H. M. Ayres, M.D., Kensett, Ark., Dec. 21, 1898, aged 60 years.—N. H. Ballard, M.D., Richmond, Ind., Dec. 27, 1898, aged 50 years.—James Webb Booth, M.D., Hartford, Conn., Dec. 23, 1898, aged 54 years.—B. T. Buckley, M.D., Freeport, Ill., Rush Medical College, 1852, January 4, aged 74 years.—B. F. Coffin, M.D., Westfield, Ind., Dec. 29, 1898, aged 82 years.—B. F. Gordon, M.D., Mercer, Pa., Jan. 4, aged 77 years.—Augustus Leininger, M.D., Canton, Ohio, Dec. 30, 1898, aged 39 years.—Charles Austin Merritt, M.D., Charlotte, Mich., Dec. 26, 1898, aged 74 years.—L. P. L. Parker, M.D., Akron, N. Y., January 1, aged 70 years.—J. B. Simpson, M.D., Mountain House, Ark., Dec. 31, 1898, aged 47 years.—A. S. White, M.D., Utica, Miss., Dec. 31, 1898, aged 32 years.

DEATHS ABROAD.

Prof. O. Bulhoes, Rio Janeiro, president of the Brazilian Med. Surg. Society, ex editor of *O Brazil Medico*, representative of the Brazilian Government at international congresses, etc.

Dr. Gruby, one of the celebrities of Paris forty years ago when this Hungarian Jew was sought after by the most distinguished people as their favorite physician. His methods were eccentric, but based on rational hygiene, dieting and the idea that to win confidence and cure the imaginary ailments of people, their statements must be accepted in all seriousness and they must be given such a complicated and minute set o orders and prescriptions that they will forget the disease i carrying out the instructions. He was one of the first to mak a scientific use of the microscope, which he improved, and h also devised a number of appliances for the care of th wounded.

MISCELLANY.

Health Officer Retires.—Dr. Jas. F. Hibberd, Richmond, Ind., after serving as secretary of the Wayne County Board of Health for the past seventeen years, has retired.

Resignation of Dr. Paul Paquin.—Dr. Paul Paquin has resigned his position as secretary of the State Board of Health of Missouri. He resigned to take charge of a hospital in North Carolina

Health Officer Remembered.—Dr. Larkin Smith, health officer at Nashville, Tenn., was recently presented with a handsome silver tea service by his associates in the city health office.

Oldest Living Yale Medical Graduate.—Dr. Chauncey Ayres of Stamford, Conn., aged 80 years, and said to be the oldest livng graduate of the Medical School of Yale University, was recently injured during a fire which damaged his residence. It s believed that his injuries are not fatal.

Dr. Effie Lobdell.—Dr. Effie Lobdell, clinical professor of obstetrics at the Harvey Medical College, Chicago, is said to be the first woman obstetrician to serve on the staff of the Cook County Hospital. She was appointed to the staff January 3.

Foreign Personals.—Professor Ponfick of Breslau is seriously ill from infection contracted during a necropsy . . . Prof. Hans Virchow, son of the celebrated anatomo-pathologist, was bitten y a monkey at the Anatomic Institute, requiring chloroform o suture the injured tendons.—*Progrès Méd.*, Nov. 26, 1898. . . Prof. P. Knoll has been called from Prague to take the hair of pathology at Vienna, left vacant by the death of Professor Stricker . . . Prof. R. Paltauf has been appointed rdinary professor of general pathology and pathologic hisology at Vienna . . . Dr. C. A. Stillwagen of Pittsburg, Pa., eft for Berlin, Germany, January 2, where he will take a speal course in medicine in the University of Berlin.

Physicians' Golden Weddings.—Dr. and Mrs. J. H. Hollister, hicago, celebrated their golden wedding January 2. Dr. ollister is one of the oldest physicians in Chicago, and this as not only the fiftieth anniversary of his marriage, but the fty-first anniversary of the beginning of his practice in Cook ounty. He has been president of the Chicago Medical ociety, The Illinois State Medical Society, and at one time ditor of the JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION. . . Dr. George A. Ketchum, the eminent medical teacher nd sanitarian of Mobile, recently celebrated his golden wedng anniversary. For years connected with the Mobile Medil College, he is at present its dean. Formerly president the local board of health, he was largely influential in estabshing the city's excellent water-supply, and is an ex-president the Alabama State Medical Assiciation and member of the tate Board of Health.

Department Dinners and Rush Medical College.—Dr. Nicholas enn, professor of surgery in Rush Medical College, Chicago, cently suggested that from time to time heads of departents in the college hold department dinners, and began this novation by himself acting as host at a down-town hostelry, the various associate professors, instructors, etc., connected th the department of surgery at Rush. As far as his departent is concerned, Dr. Senn will hold these dinners quarterly. he idea is to bring about a closer fellowship between the structors and professors of the department and talk over ans for bettering the work. At the recent dinner Professor nn spoke on the work at the college and made notes of such ggestions as were offered by others present in regard to the rk. Dr. Senn and others also spoke feelingly of the late edi of the JOURNAL, whose chair at the banquet table was aped on this occasion.

Medical Department, Vanderbilt University.—This institution is about to establish a library and reading-room for its students, to be used both for study and general reading, and accessible at all times.

The University of Bologna.—This renowned institution of learning, which has fallen so much from its ancient splendor and renown that it is now one of the most backward universities in Italy, chiefly owing to funds, will in all probability soon be in a position to recover some, at least, of its former glory. Professor Baccelli, the minister of public instruction, has promised that during the coming session of the Italian Parliament he will introduce a bill to provide the necessary means for its rejuvenescence.

Medical Department Kentucky University.—The annual session of this institution began Jan. 2, 1899. On Dec. 31, 1898, the following gentlemen, formerly professors in the Kentucky School of Medicine, were elected full professors in Kentucky University, of their respective departments: J. B. Marvin, B.S., M.D., Professor of Principles and Practice of Medicine and Clinical Medicine; J. M. Holloway, A.M., M.D., Professor of Surgery and Clinical Surgery; C. W. Kelly, A.M., M.D., Professor of Anatomy; S. E. Woody, A.M., M.D., Professor of Chemistry and Diseases of Children. Kentucky University celebrated the one hundredth anniversary of its foundation January 1, it originally being Transylvania University.

St. Louis City Hospital.—Dr. John Dean has been appointed acting superintendent of the St. Louis City Hospital. Dr. Dean is a graduate of the St. Louis University and the St. Louis Medical College, and served as an interne in the Hospital in 1896.

New Hospital.—Public opening of the new Burlington (Iowa) Hospital took place January 5. The building is a three-story structure, with basement and with a nurses' house adjoining, and contains twenty-eight rooms.

Cook County Hospital.—At a meeting of the medical staff of the County Hospital, Chicago, January 9, the following officers for the coming year were chosen: President, Francis W. McNamara; secretary, Edward L. Moorehead; chairman of executive committee, J. J. Murphy.

Bequests.—The Lakeside Hospital, Cleveland, Ohio, recently received $25,000 by the will of the late Helen M. Winslow of Buffalo . . . Chester Hospital, Chester, Pa., received $1000 from the late Col. Samuel A. Dyer . . . The Presbyterian Hospital, New York City, received $5000 by the will of the late Mrs. C. L. Marcy.

Henrietta Hospital.—The name of the Protestant Hospital of East St. Louis, Ill., in recognition of an endowment of $10,000 recently received, has been changed to the Henrietta Hospital.

St. Francis Hospital.—The report of the St. Francis Hospital, Freeport, Ill., for 1898, shows that during the year 251 patients were admitted, 43 being in the hospital at the beginning of the year. In addition 87 patients were treated outside of the hospital. The deaths numbered 18 and 54 patients were still in the hospital Dec. 31, 1898.

Against Adulteration of Candy.—A law has been passed in Iowa which provides that no person shall, by himself, his servant or agent, or as the servant or agent of any other person or corporation, manufacture for sale, or knowingly sell or offer to sell any candy adulterated by the admixture of terra alba, barytes, talc, or any other mineral substance, by poisonous colors or flavors, or other ingredients, deleterious or detrimental to health. Whoever violates any of the provisions of this act shall be punished by a fine of from $50 to $100, and the candy so adulterated shall be forfeited and destroyed under the direction of the court.

To Look After Linseed Oil.—Chapter 52 of the Laws of Iowa of 1898 is designed to prevent the adulteration of, and deception in the sale of linseed or flaxseed oil, and to regulate the sale thereof. Section 4 makes it the duty of the State Board of Health to prescribe rules and regulations to enforce the provisions of the act; and any court of competent jurisdiction is authorized, upon application of the Board of Health or its agents, to enjoin the violation of any of the provisions of this act relating to the manufacture and adulteration of linseed or flaxseed oil, which offense is declared to be a public nuisance; the county attorney being required to attend to the prosecution of offenders, upon the application of the State Board of Health.

Pneumococcus Peritonitis.—A case is reported, diagnosed as an osteomyelitis of the head of the femur, and operated, when it was found that the pus came from the abdominal cavity. A similar abscess occurred later on the other thigh with the same cause. An abscess also formed on the right arm and knee. The pneumococcus was found at each incision. Recovery.—*Presse Méd.*, Dec. 7, 1898.

Local Alterations in Acute Infections.—E. Walger states his conviction that the local anatomic alterations peculiar to various acute infective diseases, and hitherto accepted as the essential manifestation of the affection, are in fact the characteristic means of eliminating the bacterial toxins, similar to what occurs through the urine, sweat and fecal discharges. The localization peculiar to each disease is evidence of the specific character of the disease germs and of its toxins.—*Cbl. f. In. Medicin*, 1898, No. 49.

Streptococcus and Pneumococcus Osteomyelitis.—Lexer reports a number of large phlegmons of the bone marrow with extensive sequestration, caused by the streptococcus. The bright, rather greenish color of the thin pus was noticeable, also the dirty-looking discoloration of the inflamed marrow. One case of streptococcus pyemia had localizations in the bone as well as other metastases. In seven cases of streptococcus osteomyelitis the suppuration of the articulations were the predominant lesions. The patients were all children from 3 weeks to 2 years old. The prognosis is good with vigorous children. He also observed a group of cases of suppuration in the articulations without any primary affection of the bones; these were the lightest cases. A case of pneumococcus osteomyelitis resembled in every respect the inflammation of a joint resulting from the breaking through of a streptococcus bone focus. A second case presented a serous effusion in the left knee, subsiding with rest, but followed later by an abscess in the region of the trochanter.—*Munich Med. Woch.*, Dec. 20, 1898.

Foramina of Majendie and Luschka.—A. Cannieu has been investigating the brains of vertebrates, including man, and announces that in the fresh brain the foramen of Majendie and Luschka's holes have no existence. When found they are always caused by postmortem changes, as absolutely fresh brains seldom come to the necropsy. The cephalorachidian fluid evidently passes, by osmosis, from the ventricular cavities into the subarachnoid spaces.—*Presse Méd.*, Nov. 26, 1898.

Paralysis of Peritonitis.—Van Arsdale (*Annals of Surg.*, January, 1899) suggests a further development of "intestinal drainage," in this condition, by direct and continued openings into the intestine, i. e., the establishment of one or more intestinal fistulæ. The openings should be made longitudinally, greatly facilitating their spontaneous closure, and they may be used for introducing medicines or restoratives, where some intestinal function is present.

A Strange Suicide.—A short time ago a man in Vienna committed suicide by placing a large quantity of gunpowder in his mouth and then setting fire to it. When taken into a hospital he was still conscious. He complained of a severe pain in the left side, and asked for a drink, but could not swallow it, and died in twelve hours. At the autopsy contusions were found on the mucous surfaces of the tongue and mouth, lacerations of the throat, esophagus, and alveoli of the lungs, and interstitial emphysema of the latter.

Identification by the External Ear.—Miss M. A. Ellis recently contributed a paper on the human ear as a means of identification, to the British Association for the Advancement o Science, and pointed out that the helix, or outer rim of the ear and the general shape of the pinna, or whole outer ear, were the most useful for purposes of identification. Ears do no change shape after childhood, although they enlarge slightly after middle life. From the varieties of sixty-four pairs o ears, many belonging to individuals noted in art, science and literature, printed from life by Miss Ellis, it has been found that the right and left of each pair of ears usually vary in shape.

Behring vs. Calmette.—Dr. Calmette, Pasteur's well-known pupil, who was recently appointed as chief organizer of th Pasteur Institute at Lille, and who has won much fame by hi researches into the question of immunity for serpent venom has made another discovery of a more purely commercial nature By this discovery he was enabled to manufacture alcohol ver much purer and stronger than is usual at a distillery and a the same time much more cheaply. He sold his secret to large factory near Lille and very soon realized the handsom sum of 250,000 francs. This he has handed over absolutely t the Pasteur Institute, over which he presides, although he not personally a wealthy man. This act of munificence, whic has been noticed solely by the medical press and ignored b the political journals, is considered as a protest against the r cent action of Dr. Behring.—*Lancet*, Nov. 5, 1898.

Turpentin in Tuberculosis.—Richet and Hericourt had thre dogs, previously inoculated with tuberculosis, inhale turpe tin vapors for an hour every four or five days, with the resu that two are still alive, nine months later, while the contr animals all died in about thirty-five days. Hénocque think there is a decided therapeutic value in the ozone generated turpentin vapors.—*Paris Soc. de Biologie*, Nov. 12, 1898.

Phlyctenular Ophthalmia.—Michel asserts that the vesicles a the "reaction lesion of the organism to microbes invading t cornea," and that the affection is exclusively parasitic. T staphylococcus was most frequently encountered in cultur from the vesicles; animals inoculated presented the sa characteristic lesions. The lesion in man is not limited to t subepithelial space in the cornea, but is accompanied by sup ficial infiltration of the corneal tissues.—*Anales de Oftalm logia*, December, 1898.

Respiration of the Amphibia.—Ottolenghi asserts that the c taneous respiration of the amphibia is very active and aids t gastro-intestinal respiration in keeping the animals alive wh in the water, and deprived of pulmonary respiration, if t skin and mucosa are in contact with continuously fresh wat which supplies the oxygen and sweeps away the products elimination.—*Gaz. degli Osp.*, Nov. 6, 1898.

Etiology of Functional Neuroses.—Luxenburg has confirm Biernacki's statements in regard to the abnormal amounts fibrin and fibrinogen in the blood of hysterics and neurasthen (vide JOURNAL, xxx, p. 392) shown in the spontaneous sedim tation. They consider functional neuroses, therefore, anot manifestation of disturbed oxidation processes, such as we h in gout, diabetes, rheumatism, etc., especially hysteria w chronic intoxication from morphin, metritis, abortion, angi infective diseases, etc. "The so-called functional neuroses not a primary affection of the central nervous system, bu secondary symptom-complex resulting from the effect on nervous system of the products of primary abnormal oxidat processes. Hysteria and neurasthenia therefore derive f the diathesis produced by a congenitally defective condition of the oxidating apparatus."—*Neurol. Cbl.*, 1898, No. 6.

Incitements to Professional Unity.—There is no absence of peace in the ranks of the medical profession of New Orleans and Louisiana. There are probably fewer bickerings and factional difficulties among our doctors than among those of any other State or large city. Yet union, which should be concomitant with peace, is wofully lacking. We mean that union which leads to organization and produces strength and purpose. The brains, education and working capacity of the individual physicians are such that collectively they should wield an immense influence for the public good and be amply able to protect themselves against infringements on their field of labor. Not being organized, they do neither, as is attested by the results of their efforts before legislative bodies and by the numerous impositions with which the appreciative public burdens them. This lack of organization is due in large part to short sightedness and selfishness. The older men in the profession, those who have achieved distinction and the attendant recompense, seem frequently to care little what may befall their brethren. What time have they to attend meetings or labor for the common good—have they not what they want? The younger men, those who are contesting for a place, with such an example before them, seize all the opportunities which tempt them by a temporary benefit, losing sight of the fact that they may be harming the best interests of the profession and that they are damaging the prospects for their own future.—*New Orleans Med. and Surg. Jour.*, December, 1898.

Development of the Uterus.—F. v. Friedländer concludes from a study of 161 uteri from the embryo to early puberty, that the cervix develops first. After the fifth year, the fundus and the ovaries develop. In early life certain peculiar, villus-like papillæ are found around the orif. int., which he is the first to describe. These may prove sufficient to arrest the outflow of mucus and even render the menstrual flow difficult. In certain cases of dymenorrhea not due to an endometritis, the persistence of an infantile form of development may be inferred.—*Munich Med. Woch.* from *Arch. f. Gyn.*, lvi, 3.

Indianapolis Board of Health.—At a recent meeting of this Board a number of changes were made in the City Hospital staff. The work on genito-urinary diseases will hereafter be divided between Dr. Sutcliffe and Dr. Wisnard, and the work n Surgery between Drs. W. V. Morgan, W. M. Wright, C. O. Durham, and J. H. Oliver.

Sanitation in Tuberculosis.—The above title is one recently created by Dr. Luther M. Halsey of Williamstown, N.J. Dr. Halsey refers to an editorial in the Journal of the American Medical Association, in which statistics were given from twenty of our principal cities with a population of 7,500,000, showing that there has been a decrease of the death-rate from tuberculosis amounting to 33 per cent. since 1888, which has been ascribed to the more general knowledge concerning this disease. The paper shows that since 1838 the number of deaths from smallpox has been reduced 96 per cent. Since 1881 typhus fever has been reduced 95 per cent., and typhoid fever 60 per cent. Since 1860 scarlet fever shows a decrease of 81 per cent. and tuberculosis a decrease of 46 per cent. "The general effect of improvement of sanitation is that 600,000 persons reach the age of 21 years who sixty years ago would have died." Regarding the prevention of tuberculosis, the writer advocates he adoption of sanitary laws by boards of health of different States, the destruction of sputa from those infected, the reguation of school-houses and the establishment of hospitals for he proper care and treatment of consumptives.

Experimental Research with Tuberculosis.—Sabrazés has experimentally established that tannin has no effect upon the course f tuberculosis. Fowls have been infected with human tuberulosis in some recent experiments in which horse serum was injected into the peritoneum at the same time, thus "manmalizing the animal as it were." Injections of bacilli into the liquor cerebrospinalis produced prompt, fatal tuberculous meningitis in guinea-pigs, and the same results were also attained with injections of the filtered toxins.—*Munich Med. Woch.*, Dec. 20, 1898.

New Publications.—Bearing the date, December 1898, Vol. i, No. 1, of a new monthly record of medicine and surgery, the *Medical Dial*, has been received. It is published at Minneapolis, Minn., at $1.00 a year.

Correction in Curare Dose.—In an item entitled "Curare in Epilepsy" (vide Journal, Jan. 7, 1899, p. 29), the dose of curare was given as, practically, one-sixth grain injected once every five days, an error as the extreme dose of curare, hypodermically, could hardly safely exceed .5 grain.

Philadelphia.

Bequests.—The third distribution of money left for charitable purposes by the late Mr. Simon Muhr has been made this week as follows: To the Jewish Hospital, $7000; Jewish Foster Home, $4200; Pennsylvania Hospital, $1400; Jefferson Medical College, $1400; Philadelphia Home for Incurables, $1400; Philadelphia Polyclinic Hospital, $700; Children's Hospital, $560; Women's Hospital, $560; West Philadelphia Hospital for Women, $280; Sanitarium Association of Philadelphia, $1400; Old Ladies' Home of Philadelphia, $280; Philadelphia Lying-in Charity, $560. Bequests from the same fund have also been made to other charitable institutions.

Smallpox.—Dr. Benjamin Lee, secretary of the State Board of Health, has made the following report in regard to smallpox in Pennsylvania: In Bedford County, 1 case is reported at Ball Hill, 3 at Everett, 3 at Hopewell, 11 at Stulton; in Fulton County, Hustontown, 4 cases, New Grenada, 7, Waterfall 1; East Vincent Township, Chester County, 1; Pittsburg, 1; Homer City, Indiana County, 2 cases. The disease is also reported at Sibonia, Franklin County, Warfordsbury and Wells' Tannery, Fulton County, diagnosis not confirmed.

Overworked Druggists.—The statement of an officer of the New York Druggists League that "upward of one hundred persons are fatally poisoned in New York every year through the practice of druggists substituting one drug for another either by mistake, or to increase profits," has been unfavorably commented by Prof. J. P. Remington of this city. It is the expressed opinion of Professor Remington that but comparatively few mistakes made by druggists occur in Philadelphia and that possibly not more than one death therefrom occurs annually. What few mistakes were made he thought were soon found out and promptly published. So far as the substitution of one drug for another, for profit, is concerned, the reputable druggist does not dare do it. Of drugs which may be substituted for one another it was thought that acetanilid may be represented as phenacetin. There seems to be a diversity of opinion regarding whether or not the long hours of druggists lead to mistakes in compounding prescriptions.

College of Physicians of Philadelphia.—At the last meeting of this institution, Dr. John B. Deaver read an interesting paper on "Abdominal Injuries." He referred to a number of cases in which the intestines and stomach had either suffered from injury or the seat of disease. In cases of intestinal anastomosis he had resorted to the end-to-end anastomosis, with apparent good results, and is gradually leaving off the use of all forms of mechanical appliances in anastomosis, much depending upon the needle and thread. Dr. Taylor, on being requested to speak on the subject, coincided in the views as expressed by Dr. Deaver, and also thought mechanical appliances might do harm by being retained. If anything other than needle and thread was to be used, he preferred the instrument recently devised by Dr. Ernest Laplace, which consists of a double pair of forceps joined together to be used in approximating the two ends of the gut while the stitches are being put in position.

Report of Episcopal Hospital.—The report of the Episcopal Hospital for the year just closed, gives the number of patients in the hospital at the last report, 271; number treated during the year, 3035. Of these, 2746 were discharged, 1974 cured, 415 improved, 88 unimproved and 271 died.

Vital Statistics of 1898.—As has been stated in a previous issue of the Journal, the number of deaths during the year 1898 were 23,790, an increase of 1055 over last year. Of this number, 5036 were children under one year of age. Compared with last year there was an increase of diphtheria, 233 cases; tuberculosis, 202 cases; heart disease, 102 cases; suicide, 22 cases. Inquests were held in 3490 cases. During the year 22 homicides were reported. During 1898 there was a decrease of pneumonia, 291 cases; cancer 18; influenza, 2, and scarlet fever 168 cases. The total number of deaths from typhoid fever during 1898 was 629 as compared with 401 during the previous year. This latter includes 73 soldiers brought to the various hospitals of the city from army camps. One of the dailies has made an unfavorable comparison with the record of our sister city New York. In 1898, in Philadelphia, there were 639 deaths from typhoid fever, while during the same period there were, in Greater New York with three times the population, only 671 deaths from that disease. The number of deaths ascribed to diphtheria in Philadelphia during 1898 were 998 and in Greater New York, 1461. The 1898 death-rate for Philadelphia was 19.18 as compared with 19.70 for New York proper and 19.21 for Greater New York.

University of Pennsylvania Statistics.—The data recently compiled for the forthcoming catalogue shows a total of 2790 students. The geographic distribution of students shows that forty States and territories are represented, thirteen countries and islands of the western hemisphere. Of the total number of students, 1947 are resident in Pennsylvania. Next to Pennsylvania, New Jersey sends the largest number, while New York ranks next with 114. Ten European countries are represented as follows: England, 3; France, 6; Germany, 11; Holland, 1; Ireland, 1; Russia, 3; Scotland, 2; Sweden, 1; Switzerland, 4; Austria, 1. Of the thirteen countries and islands of the western hemisphere the following are tabulated: Cuba, 6; Porto Rico, 1; Brazil, 2; Ecuador, 2; Nicaragua, 5. Africa sends 1, Hawaii 1, Australia 5, and China 2.

Loss to University Hospital,—By the will of Mrs. Mary Ruth, who died some time ago, a bequest of $5,000 was made to the University of Pennsylvania Hospital and the remainder of her estate to the Home for Incurables, of New York. On the same date a codicil was made revoking the latter bequest and bequeathing the property to Emeline College. The court held that the designation of the home in the codicil was incorrect and that the intention of the testator was to divert the bequest made to the University Hospital to Mrs. Colville. The above decision has just been made by Justice White of the United States Supreme Court.

Jewish Maternity Home.—According to the report of the above named institution, 105 patients have been treated in the home during the past year without a fatality, and in the tri-weekly clinics 1286 patients have been treated. The contributing membership had become 346 and the subscribing membership 344. The receipts for the year were $6,393.41, and the expenditures $5,633.30, but instead of a balance being left there was a deficit of $2,206.26.

Bequest to Pennsylvania Hospital.—The will of L. Taylor Dickson, a prominent attorney of this city, and who recently died in Georgetown, N. C., disposes of an estate valued at $100,000 and upward. After making minor bequests to relatives the following bequest is made to the Pennsylvania Hospital: "After the death of the five beneficiaries under this will I direct my executors to pay over unto the contributors of the Pennsylvania Hospital the principal and accumulated ir
comes of my estate. The total principal is to be invested an
the income thereof to be used for the support of the patient
of the said Pennsylvania Hospital."

Physicians to Outdoor Poor.—At the last meeting of th
Bureau of Charities and Corrections of this city, the physician
to the Outdoor Poor were not appointed for the present yea
owing to the fact as stated by Secretary Neall, that all suc
appointments come under the civil service rule. Druggist
have been informed by William H. Lambert, president o
Bureau of Charities and Corrections, that all prescription
given out by that department will be honored when due.

Appointment.—Owing to the resignation of Dr. William J
Sharpless, physician to the Chester County Prison, Dr. Josep
Scattergood was appointed to the vacancy. Dr. Scattergoo
is an ex-resident physician to the Pennsylvania Hospital and
graduate of the University.

Skiagraphy Reveals Ring.—Recently a child swallowed
ring and, after the usual methods had been adopted for it
removal, was taken to the St. Joseph's Hospital, where skia
graphy revealed the foreign body in the stomach. Subse
quently, during a spell of vomiting, the ring was ejected wit
the vomitus.

Coroner's Inquests During 1898.—During the year ju
closed the coroner reports the total number of inquests as 349
(*Bulletin*). The number of suicides was large, 183. The fo
lowing methods prevailed: Arsenic, 19; carbolic acid, 14
cutting throat, 11; drowned, 14; hanging, 34; gas, 19; lau
anum, 19; jumping from windows and fire-escapes, 10; shoo
ing, 48. The trolley-car caused the death of 26 persons durin
the year, and hot weather during the last summer was respo
sible for 74 deaths. Three were killed by lightning and nin
died from electric shock.

Philadelphia Polyclinic Appointments.—The trustees
the Philadelphia Polyclinic recently appointed Dr. Francis
Packard to the office of dean of the college departmrnt. D
Packard is a graduate of the University of Pennsylvania an
at present laryngologist and otologist to the Pennsylvania I
stitution for the Deaf and Dumb, and physician to the ou
patients of the University Hospital. Dr. Thomas S. Kirkbrid
also a graduate of the University of Pennsylvania (1893), h
been appointed director of the laboratories. Dr. Kirkbride
an ex-resident physician to the Pennsylvania Hospital and h
just returned from a post-graduate course in Europe.

College of Osteopathy.—Attorney-General Henry C. M
Cormick has filed exceptions to the granting of a charter f
the Philadelphia College of Osteopathy on behalf of the Co
lege and University Council of Pennsylvania. The followi
are cited as the exceptions: 1. Because the said applicati
has not been passed upon by the College and University Cou
cil of Pennsylvania, nor has such application received the a
proval of said Council or any official thereof. 2. Because t
capital stock of the proposed corporation amounts to on
$25,000, and so far as said Council is informed, the said pr
posed institution does not own or possess assets amounting
$500,000 invested in buildings, apparatus and endowment f
the exclusive purpose of providing instruction, as required.

Mortality Statistics.—The mortality of the city is st
high, doubtless on account of the serious epidemic of grip
which still prevails to a large extent. The number of deat
reported for the week ending January 7, were 713, a decrea
of 12 over the preceding week, and an increase of 251 over t
corresponding period of last year. Of this number there we
55 deaths from influenza as compared with 68 last week; 1
deaths were due to pneumonia, an increase of 23 over la
week; from heart disease there were 37, a decrease of 11.

Etiology of La Grippe and its Complications.—Since t
outbreak of the present epidemic of grippe in this city, seve
weeks ago, and since the disease has spread with alarmi

rapidity throughout the State at large, in many instances being so severe as to close entire schools and colleges, the main subject which seems to engage the attention of the people at the present time is in regard to the etiology, prevention and complications. All agree that the disease is infectious, and while a few are not so bold as to declare its contagiousness, yet it may be stated that the majority hold to this belief. Regarding its prevention, several have advocated plans, but in most cases in which these means have been resorted to proved ineffectual. The fatal diseases which may be traced to grippe and as proved by the mortality statistics of the Board of Health, are pneumonia, heart disease, asthma, bronchitis, nephritis, hysteria, and nervous diseases in general. Its influence upon the production of appendicitis has been discussed by several physicians, including Dr. John B. Deaver and Dr. J. M. Anders, both of whom maintain that attacks of appendicitis may be directly traced to the attacks of la grippe, which sets up a catarrhal inflammation of the bowels involving the vermiform appendix and thus giving rise to the disease. One physician held to the belief that previous to the epidemic of la grippe in 1890, appendicitis was a comparatively rare disease, but since that time cases have continually become more common. Since that date the deaths from pneumonia and heart disease have increased 25 per cent. During this epidemic the prevailing form has assumed the respiratory type, producing a severe dry, hacking cough, and, as has been previously mentioned, no rales can be heard in the chest, evidently showing its limitation, in some instances at least, to the upper respiratory tract. The following statistics in regard to the disease have been made public, the number of fatal cases being as follows: 1890, 147; 1891, 304; 1892, 265; 1893, 139; 1894, 311; 1895, 229; 1896, 79; 1897, 160. While its effects are still noticeable, as shown by the mortality statistics, it may be stated that at the present time (Dec. 31, 1898) the epidemic is gradually abating.

Bequest to German Hospital.—The will of Paul Jagode, in which there is a made "a bequest of $5,000 in trust for the benefit of Quicko Thomas, a poor and pitiable epileptic," has recently been admitted to probate, and on his death the bequest will revert to the German Hospital for the maintenance of a free bed, to be designated, if agreeable to the managers of the said institution, in memory of Pauline C. Jagode.

State Board of Medical Examiners.—A meeting of the State Board of Medical Examiners was held in this city this week, for the purpose of granting certificates to those who were successful in passing the examination held some weeks ago. At this examination 103 candidates presented themselves. Of this number, 71 were granted certificates, 29 failed and 33 were expelled for copying.

Report of National Relief Commission.—Mr. George C. Thomas, Treasurer of the National Relief Commission, acknowledges receipt of the following contributions through the banking house of Drexel & Co: Cash previously acknowledged, $79,617.77; cash, $1,116.00; value of supplies received to date, $40,345.00; grand total cash and supplies, $121,078.77.

Changes at Pennsylvania Hospital.—On January 1, there will be several changes among the officials composing the staff of the Pennsylvania Hospital. The chief resident physician, Dr. J. Clinton Starbuck, has resigned and will go to Boston to a private practice in that city. He will be succeeded by Dr. W. F. Stewart. The term of Dr. Robert Downes has also been completed, and he will establish himself in private practice. Dr. Torrence will succeed Dr. Downes.

Ppysician to be Prosecuted.—Owing to the severe epidemic of diphtheria which has prevailed for some time in one of the northern districts of the city, the Board of Health has placed the blame upon a physician practicing there, and he has been ordered prosecuted for stating that no contagious or infectious disease existed in that locality (Nicetown). This summary action has been instituted on account of the physician issuing a certificate admitting a pupil to one of the parochial schools before the germs had disappeared from the throat, and it is thought the return of this patient to the school caused the outbreak of the disease, and resulted in the closure of the school for the period of twenty days.

Assistant City Medical Inspector.—Through the Director of Public Safety, Dr. John P. Devereux, of 1911 Pine Street has been appointed an assistant medical inspector in the Bureau of Health, the appointment beginning on Jan. 1, 1899.

Jefferson Medical College.—Members of the class of '71, Jefferson Medical College, celebrated the twenty-seventh anniversary of their graduation by giving a dinner at the Bellevue Hotel on the evening of Dec. 10, 1898. The presiding officer was Dr. L. Webster and the principal speaker Dr. Lambert Ott, on "The Physician as a Factor in Government."

Smallpox Still Spreading.—Owing to the condition of affairs which have been allowed to exist around the county of Bedford previous to the first visit of Dr. W. B. Atkinson, who first diagnosed the disease, the citizens of that community and surrounding county are threatened with a serious epidemic of smallpox. From the fact that several new cases had been reported to the State Board of Health, Dr. Atkinson was again sent to the infected district. His report to the State Health Officer of this city, Dr. Benjamin Lee, was to the effect that little was being done by the practitioners in that vicinity to prevent the disease from spreading and that a grave state of affairs existed. Regarding his trip Dr. Atkinson stated: "That he had been toured through the infected district in a wagon and upon one occasion found a schoolteacher, who had unmistakable signs of the disease, on his way to school to teach. The physician in attendance upon this patient denied that the disease was smallpox, and it was with difficulty that the affected person was restrained from teaching." It is feared that local outbreaks may occur in many portions of the State and to that end a building in this city is being fitted up for the treatment of those affected. In the meantime an inspection is being made in the counties of Bedford, Huntington and Fulton.

Appropriations by City Council.—During the week just passed, city councils passed the appropriations looking for the health and welfare of the city for the coming year. The appropriations are as follows: Bureau of Health, $208,640; Bureau of Street Cleaning, $904,820; Dept. of Charities and Corrections, $500,308; Bureau of Water, $1,264,439. No definite action was taken on water filtration, the most important item brought before council.

Declared Free of Debt.—According to the *Bulletin*, a petition was presented in the orphans' court by three of the four executors of the estate of Dr. William Pepper, to relieve his real estate from lien of any debts. It was stated that Dr. Pepper left personal property, the inventoried value of which is in excess of $500,000; that there are no debts of record against him and there are just and reasonable grounds for believing that all debts not of record left by the testator have been paid in full by the petitioners. Dr. Pepper, it is further stated, owned the premises at 2017 Rittenhouse Square, which the petitioners desire to sell under the power of sale in the will, free and clear of the lien of decedent's debts not of record. Judge Ashman made a decree that the real estate mentioned shall be held and enjoyed free and clear of any lien or debts not of record of Dr. Pepper.

Last of the Sick Soldiers in the Hospitals.—After several months of careful treatment of the sick soldiers brought to the different hospitals of this city, it is stated that very few now remain in these institutions.

Mortality Statistics During Year.—Apoplexy, 840; nephritis, 463; cancer, 670; casualties, 467; cholera infantum, 1099; tuberculosis, 2590; homicide, 22; inanition, 592; influenza, 158; old age, 958; paralysis, 434; suicide, 165; uremia, 428; membraneous croup, 156; diphtheria, 998; heart disease, 1398; dysentery, 95; erysipelas, 50; scarlet fever, 114; typhoid fever (including 73 soldiers at hospital) 639; bronchitis, 435; peritonitis 264; marasmus, 815; measles, 234; rheumatism, 69; sunstroke, 147; whooping-cough, 162.

MORTALITY STATISTICS AND LA GRIPPE.—The number of deaths shows a considerable increase over last week, there being a total of 725, 75 more than last week or an increase of 264 over the corresponding period of last year. There were 68 deaths from influenza, as compared with 29 last week; old age 47, as compared with 34 last week; heart disease 48, an increase of 10 over last week; pneumonia 137, as compared with 123 over the previous week. Of the total number of deaths 176 occurred in children under the age of five years. While persons of all ages have suffered from the effects of the grippe the number of deaths among the aged during the past week or ten days has been quite notable, fourteen deaths having occurred in one day in persons over the age of 70 years.

THE PUBLIC SERVICE.

Movements of Army Medical Officers.—To Manila, P. I.: Capt. George D. De Shon, asst.-surgeon U.S.A, from Washington Bks., D. C., to Ft. Sheridan, Ill., to accompany the Fourth U.S. Infantry; Lieut, R. P. Stroug, asst.-surgeon U.S.A., and Acting Asst.-Surgeon Isaac W. Brewer to Ft. Crook, Neb., to accompany the Twenty-second U.S. Infantry; Acting Asst.-Surgeon Burke L. Johnson from Ft. Thomas, Ky., to Ft. Leavenworth, Kan., to accompany the Twentieth U.S. Infantry. To accompany the 17th U.S. Infantry from Columbus Bks,, Ohio, Acting Asst.-Surgeon Edward W. Pinkham from duty at the Josiah Simpson Hospital, Va.

To Cuba: Major William C. Gorgas, brigade surgeon, from duty at Santiago to Havana, to establish and take charge of a general hospital at that place; Major John J. Archinard, brigade surgeon, to Havana, to take charge of a hospital to be established for the employes of the quartermaster's department. To Las Tunas, Acting Asst.-Surgeon Joaquin L. Duenas, reporting to Brig.-Gen. Simon Snyder. To Pinar del Rio, Acting Asst.-Surgeon Stephen M. Gonzales, reporting to Brig.-Gen. Geo. W. Davis. To Havana, Acting Asst.-Surgeon Chas. E. C. Peyton from Washington, D.C., for duty with the 7th Army Corps. To Havana, to report to Maj.-Gen. John R. Brooke for assignment, Acting Asst.-Surgeons D. T. Laine and Rafael Echeverria. To Santiago, Lieut. Jas. R. Church, asst.-surgeon U.S.A. from Washington, D.C. To Cienfuegos, Acting Asst.-Surgeon Juan J. Casanova from duty at Santiago.

To special inspecting duty: Col. Chas. R. Greenleaf, asst. surgeon-general U.S.A., to Greenville, S. C., and such other places as may be necessary.

To duty with the 2d Army Corps, Augusta, Ga.: Acting Asst.-Surgeons Molyueux Turner and Elbert E. Persons.

To the 4th Army Corps, Huntsville, Ala.: Acting Asst.-Surgeon John M. Goltra.

To the 7th Army Corps, Savannah, Ga.: Major Wm. S. Bryant, brigade surgeon, to the 2d from the 1st brigade, and Major Francis C. Ford, brigade surgeon, to the 1st from the 2d brigade.

To duty with specified regiments: Lieut. Thos. S. Brattou, asst.-surgeon U.S.A., to the 3d U.S. Cavalry at Augusta, Ga.; Lieut. Frank P. T. Logan, asst.-surgeon 8th Mass. Infantry, to his regiment, from duty at the John Blair Gibbs Hospital, Lexington, Ky.

To duty at posts: To Washington Bks., D. C., Capt. Wm. F. Lippitt, Jr., from the general hospital, Ft. Myer, Va. To Ft. Snelling, Minn., Acting Asst.-Surgeon Chas. E. MacDonald from duty with the 3d Wis. Infantry. To Ft. Niagara, N. Y., Major Wm. J. Wakeman, brigade surgeon, from Columbus Bks., Ohio. To Ft. Crook, Neb., Capt. John S. Kulp, asst.-surgeon U.S.A., from Ft. Niagara, N. Y. To Ft. D. A. Russell, Wyo., Major Marlborough C. Wyeth, brigade surgeon. former orders to Ft. Sill, Okla., having been revoked. To Ft. Douglas, Utah, Major Henry P. Birmingham, brigade surgeon, from the Dept. of Porto Rico (orders subsequently revoked). Lieut. Eugene H. Hartnett, asst.-surgeon U.S.A., and Carl H. Anderson, acting asst,-surgeon, to Ft. Monroe, Va.

Relieved from post duty: The following officers are now formally relieved from the stations at which they were serving when the outbreak of the war called for their assignment to active service: Lieut. Guy C. M. Godfrey, asst.-surgeon U.S.A., now on duty at Huntsville, Ala., relieved from station at Ft. Delaware, Del. Major Peter R. Egan, brigade surgeon Vols., now on duty at Ponce, P. R., from station at Ft. Hamilton, N. Y. Major Wm. C. Gorgas, surgeon U.S.A., now on duty at Havana, Cuba, from station at New York City as attending surgeon. Lieut. Jas. M. Kennedy. asst.-surgeon U.S.A,, now on duty with the 7th Army Corps, from station at Ft. Washington, Md. Maj. Wm B. Davis, surgeon U.S.A.,now on duty commanding the U.S. general hospital, Ft. Myer, Va., from station at Ft. Brady, Mich. Lieut.-Col. Robert M. O'Reilly, chief surgeon Vols., now on duty at Havana, Cuba, from station at Ft. Wayne, Mich. Capt. Benj. Munday, asst.-surgeon U.S.A., now at Richmond, Va., from station at Ft. Wayne, Mich. Major Chas. E. Woodruff, brigade surgeon Vols., now on duty at Manila, P. I., from station at Jackson Bks., New Orleans, La. Major Paul Clendenin, brigade surgeon Vols., now on duty at Havana, Cuba, from station at Key West, Fla. Capt. Robert S. Woodson, asst.-surgeon U.S.A., now on duty at Holguin, Cuba, from station at Ft. McPherson, Ga. Major John L. Phillips, brigade surgeon Vols., from station at Alcatraz Island, Cal.

To general hospitals: To Savannah, Ga., Major Daniel M. Appel, surgeon U.S.A., from duty in connection with the care of soldiers in New York civil hospitals to the supervision of the construction and subsequent command of the general hospital at Savannah.

To hospital duty: To the general hospital, Ft. McPherson, Ga., Lieut. Samuel M. Waterhouse, asst.-surgeon U.S.A. from Ft. Logan H. Roots. Ark. To the general hospital, Savannah, Ga., Major Wm. P. Kendall, brigade surgeon Vols., from Camp Poland, Knoxville, Tenn.; Acting Asst.-Surgeon W. H. Reynolds from duty in Santiago, Cuba. To the Josiah Simpson Hospital, Va., Acting Asst.-Surgeon Jas. H. McCall from Washington, D. C.

Leave of absence granted or extended: Major Wm. R. Hall, surgeon U.S.A.; Major Donald Maclean, chief surgeon Vols.; Major David C. Peyton, brigade surgeon; Major Keating Baudny, surgeon 6th Miss. Infantry; Major Charles R. Parke, brigade surgeon Vols., from 3d brigade, 2d division of the 2d Army Corps; and Acting Asst.-Surgeons E. A. Romig, Elmer A. Dean and José M. Delyudo.

Sick leaves granted or extended: Major Wm. H. Daly, chief surgeon Vols.; Major Hiram Thomson, surgeon 3d Conn. Infantry; Major Geo. E. Lyon, 3d U.S, Vol. Engineers; Capt. J. W. McDonald, asst.-surgeon 4th Tenn. Infantry; Lieut. Lewis A. Griffith, asst.-surgeon 2d S. C. Infantry; Lieut. Geo. H. Jones, asst.-surgeon 10th Ohio Infantry; Lieut. John W. Cox, asst.-surgeon 6th U.S.V. Infantry, and Acting Asst.-Surgeon Henry P. De Forest.

Retired: Lieut.-Cols. Johnson V. D. Middleton and Wm. D. Wolverton, deputy surgeons-general U.S.A.

Resigned: Major Keating Bauduy, surgeon 6th Miss. Infantry; Lieuts. John F. Dunshie, asst.-surgeon 9th U.S.V. Infantry, and Chas. S. Snnday, 23d Kan. Infantry.

Honorably discharged: Major Bial F. Bradbury, brigade surgeon; Major Henry P. Birmingham, capt. and asst.-surgeon U.S.A. (his volunteer commission only); Major Wm. H. Daly, chief surgeon Vols., to take effect Jan. 18, 1899: Major Donald Maclean, chief surgeon Vols., to take effect Feb. 28, 1899, and Lieut. F. D. G. Harvey, asst.-surgeon 23d Kan.

Contracts annulled: John H. Grant of Washington, D. C., Thos. Y. Aby of New Orleans, La., and Harry Street of Baltimore, Md., from duty at the general hospital, Ponce, Porto Rico.

CHANGE OF ADDRESS.

Bartine, W. W., from Zearing to Goldfield, Iowa.
Brannan, C. S., from 1001 Madison St. to 888 Clifton Park Av., Chicago.
Brown, G. J., from Gualala to Point Arena, Cal.
Fitch, S. P., from Orange, N. J., to 14 Prospect St., East Orange, N. J.
Griggs, A. F., from West Point to Prudential Bldg., Atlanta, Ga.
Hexter, Stephen, from 199 Fifth Av. to 199 Market St., Chicago.
Kenefick, T. A., from Newport, R. I., to 29 W. 36th St., New York City.
Lundgren, C. E., from 58 Norman to 571 Leonard, Brooklyn, N. Y.
Middleton, T. S., from 469 La Salle Av. to 18 Maple, Chicago.
Miller, J. W., from 2 Central Av. to Armour Sta., Kansas City, Kas.
Nossman, A. J., From Leighton to Pella, Iowa.
Rugg, D. F., from Hartland, Vt., to 110 S. Edith St., Albuquerque, N. M.
Smith, W, O., from Toledo, Ohio, to Lock Box 635, Philadelphia, Pa.
Stephenson, H. E., from 1021 Van Buren St. to 1127 W. North Av., Chicago.
Stevens, A. M., from Fort Wayne, Ind., to Box 17 Maysville, Mich.
Walker, W. E., from Bay St. Louis, to Waveland, Miss.
Whalen, C. J., from 235 to 225 Dearborn Av., Chicago.
Wray, W. S., from 1234 N. 7th to 26 S. 18th, Philadelphia, Pa.

LETTERS RECEIVED.

American Therapeutic Co. (2), New York City; Ashmead, A. S., New York City; Atkinson, W. B., Philadelphia, Pa.

Baldwin, J. F., Columbus, Ohio; Bartlett, C. L., Chicago; Barto, F. C., Plainville, Ill.; Battle Creek Sanitarium, Battle Creek, Mich.; Bean, W. W., Rolfe, Iowa; Bell, J. M., St. Joseph, Mo.; Bibbens, S. S., Syracuse. N. Y.; Bischoff, C. & Co., New York City; Bogie, M. A. Kansas City, Mo.; Bowen-Merrill Co., The, Indianapolis, Ind.; Braatelien, S., Minneapolis, Minn.; Brown, H. L., Washington, D. C.; Burr, C. B., Flint, Mich.

Campbell, J. Y., Paxton. Ill.; Campbell, L. S., Los Angeles, Cal.; Campbell, W. A., Muskegon, Mich.; Cartwright, F. D., Nashville, Tenn.; Cavanaugh, J. J., Ft. Scott, Kas.; Cheney, J. V., Chicago; Chilgren, G. A., Yankton, S. D.; Codman & Shurtleff (2), Boston, Mass.; Colorado Sanitarium, Boulder, Colo.; Cook, G. F. (2), Oxford, Ohio; Cornell, C. W., Knoxville, Iowa; Courtright, C. W., Chicago; Cox, J. Emit, Carson City, Nev.; Crawford, S. K., Chicago; Crowell, H. C., Kansas City, Mo., Culbertson, L. R., Zanesville, Ohio; Curry, J. E., Sullivan, Ky.

Dennis, F. W., Unionville, N. Y.; Dunn, B. B., Perry, Ill.; Dunn, E. A. A., Washington, D. C.; Dunning, L. H., Indianapolis, Ind.

Electric Light Bath Co., Battle Creek, Mich.; Elkin, T, F., Nettleton, Miss.; Elliott, A. R., New York City; Elliott, H. G., New York City.; Evans, T. C., Louisville, Ky.

Farbenfabrinken of Elberfeld Co., New York City; Flack, A. C., Fredonia, Kas.; Fort, I. A., North Platte, Neb.; Foster, J., Job P. O., Pa.; Fowler, F. M., Elizabethtown, Ill.; Fowler & Collwell, Los Angeles, Cal.; Fuller's Adv. Agency, Chas. H., Chicago.

Gardner, G. E., Doylestown, Ohio.

Hague, A. S., Grand Ridge, Ill,; Hansen, L. A., Nashville, Tenn.; Hare, H. A., Philadelphia, Pa.; Hektoen, L. (2), Chicago; Hertzler, A. E., Halstead, Kas.; Highsmith, Geo. R., Carrollton, Mo.; Hill, E. E., Chicago; Hoffmann, F. N., Tentopolis, Ill.; Holland, A. B. Wellsville, Ohio; Holland, J. W., Philadelphia, Pa.; Hovey, J. A., New York City; Hummel Adv. Agency, A. L. (3), New York City; Huston Bros., Chicago.

Jewell, P. M., Ossian, Iowa; Journal of Cut. and Genito-Urinary Diseases, New York City.

Keene, Geo. F., Howard, R. I.; Kell, J. B., Limaville, Ohio; Kenyon News and Postal Subscription Co., Chicago; Kidd, J. W., Joliet, Ill.; Kober, Geo. N., Washington, D. C.; Koechl & Co., Victor, New York City.

Lehman, S. W., Chicago; Leith, A. R., Wilton, Iowa; Lord & Thomas, Chicago; Lutz, E. J., Kansas City, Kas.

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Zellen, J. O., L'Anse, Mich.

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ORIGINAL ARTICLES.

HOSPITALS.

HEIR CONSTRUCTION, ORGANIZATION AND MANAGEMENT.

BY J. R. McDILL, M.D.

AJOR AND BRIGADE SURGEON, U. S. V., COMMANDING HOSPITAL, FIRST DIVISION, SEVENTH ARMY CORPS.

Hospitals were not the offspring of Christianity, it were founded in India among the Buddhists sev-al hundred years before Christ. Cut in the rocks n still be seen the edicts of Aosta, more than two ousand years old, concerning the hospitals.

The origin of our word "hospital" is derived from e name of the guest-rooms in ancient Rome—*hospilia.* Our first hospitals originated from the spirit charity taught by Christ, and were stimulated by e necessities of the pilgrims and the Eastern ravansaries.

The history of hospitals does not extend, like that medicine, far back into antiquity. No informa-n has come from the Greeks or Romans of buildings hospital purposes only. The sick could obtain advice of physicians in the antechambers of the mple of Esculapius or upon the street, but not in ecial buildings. We only know that on one of the nds public buildings existed in which the women Delos awaited the time of their confinement. rangements like the *Xenodochia, Nosokomia* and *spitalia* of the Greeks and Romans, were parts of houses of small buildings in which guests were ased, and in which, when necessary, the sick were ed for. Later, in Rome, at the time of the Council Nice, A. D. 325, the *taberna meritorum*, houses set rt for the afflicted, were in existence. These hos-als were spoken of in the Council of Nice as insti-ions well known and deserving support and en-ragement.

n A. D. 300 several hospitals were established near thlehem by St. Jerome, who first used the term spital." To either St. Ephrain or St. Fabriolus perhaps Fabiola, a Roman lady who was a friend St. Jerome) is due credit (A. D. 381) of founding rmaries supported by charitable contributions for exclusive treatment of the sick. About this same e (A. D. 370–380) hospitals are said to have been nded by Valens in Cæsarea, and the saintly Basilios, hop of Cappadocia, erected the celebrated Basilios, ry extensive hospital. About that time John of ysostomus built a hospital in Constantinople, and r the enormous Orphanotropheion was erected by g Alexius and accommodated 10,000 indigent and of all kinds. The Hotel Dieu is perhaps the st hospital in Europe now in use, and was founded t A. D. 600 by St. Landry, Bishop of Paris, for ick and destitute, of whatever age, sex or condi-, and has for its motto, *Medicus et Hospes.* This hospital extended over and under the Seine and ained several thousand beds and from two to six patients to each bed. It has been compared to a gigantic and ancient oak, rotten at the core, and even the present condition of many of its quarters shows it to be as fit a habitation for the sick as a rotting tree would be for a human being. It is thought, however, that the origin of our present hospitals must be looked for in the monastic arrangements for the care of the sick and indigent. Every monastery had its *infirmaria,* in which not only were sick and convalescents treated, but also the aged, the blind and the otherwise helpless were housed. (Liber ordinis Sancti Victoris Parisiensis, MS. Cap. xl. See Ducanges Glossary, s. v. "Infirmaria.")

About the earliest distinct record of a hospital in England is in the life of Lanfranc, Archbishop of Canterbury, who in 1080 founded two, one for leprosy and one for ordinary diseases. The establishments for the sick remained in the hands of the clergy until the Reformation, when some of the monasteries and church properties were appropriated and set apart for the use of the sick.

The earliest American hospital of any size was the Pennsylvania Hospital of Philadelphia, begun in 1555 under the auspices of Dr. Thomas Bond and Benjamin Franklin, and finished in 1805. Considerable attention has been paid to hospitals in America, especially since their importance was so roughly thrust upon the country's notice in the Civil War of 1861-4.

Leprosy, introduced during the Crusades, and later, the epidemics of cholera and smallpox necessitated special lazarettos. In 1456 the Grand Hospital of Milan opened, and is still in use, with a capacity of 2000 patients.

For centuries the Church of Rome was the only home and protection of Christian religion and the development of hospitals, until the sixteenth century, since when, up to very recently she has resisted all changes in hospitals. Her first idea was to make a hospital a church institution. Add to this idea that of economy and convenience of administration, and take the plan of the Grand Hospital of Milan as a model, and we have the source of our modern block plan and corridor hospitals. This hospital was not to any extent improved upon until science became an important factor in progress and civilization.

War began to influence the establishment of hospitals in the first part of the sixteenth century; but previous to the time of Ambroise Paré (1560) there is no evidence that the surgeon was considered as a necessity or as being of much consequence in military affairs. Italy was the first country to produce writers on military medicine, at the beginning of the thirteenth century. The first military hospital appeared in 1575 at the siege of Metz, through the influence of Ambroise Paré. Thus the spirit of humanity, without the aid of science, did not make proper provisions for sick or wounded soldiers.

Three hundred years later, when science had developed in such proportions as to divide the control of the world with religion itself, we find the experience afforded by the large number of sick and wounded incident to wars to be far the most important influence of all others in bringing about reforms in hospitals. Positive science was established only at the beginning of the eighteenth century, and the practical adaptation of science and inventions was only just fairly begun and curative medicine was hardly in advance of the times of Hippocrates. Sydenham did much in the latter part of this century to influence advances in medical science, and earlier, Hoffman, Beucres and Arbuthnot. The great movement in hospital building took place in the eighteenth century, and Dr. Steele's paper, "On the Mortality of Hospitals," Howard prize essay for 1876, gives a tabulated list of the chief institutions founded during that period.

In 1713 Cardinal de Polignac treated of ventilation, and made use of the laws of physics in giving plans for the construction of fireplaces, and to him is due credit for inventing the first machine for forcing ventilation. His method of heating air before it enters the room, by ducts and chambers behind the fireplaces, is most scientific and ingenious. Desagliers, in 1727, describes a ventilator by drawing out foul air or forcing in fresh, or both successively, without opening doors or windows, the current being established by a number of fans revolving in a circular case—the exact principle of the fan regulator of today, but with the yet common error of taking impure surface air. This was not altogether original with him, but was the application and improvement of the plan proposed by Cardinal de Polignac. It was applied to the House of Commons and used seventy-five years. The most useful hospitals are, and have been, general ones, built upon the pavilion plan, with ample acreage, with wise management, principally under medical officers' control, under whose roofs every medical man is a free, independent and responsible agent, enjoying equal rights with all, as far as consistent with wise general management.

Although hospitals have been intended as a blessing and benefit to the poor, they have too often proved the reverse, on account of the ignorance, on the part of the administrators, of the true principles of health. So much was this the case formerly that it was frequently debated whether hospitals are or are not gigantic evils. In the present state of our knowledge of hospital construction and building hygiene, it would be of no use to consider statistics of mortality, etc., of different times, as former conditions are hardly likely to be met with again. Most instructive lessons can be learned, nevertheless, from these statistics of former times, and it can be gathered that the mortality is pretty generally in the ratio of the size of the hospital, and the consequent aggregation of patients, the crowding together in the wards, the deficiency of ventilation, defective sewerage arrangements and want of constant attention to the details of cleanliness, which latter neglect has especially been a fertile source of hospital disease. Dr. B. W. Richardson has traced out in a very instructive way the remarkable immunity of the Jews from epidemic and other diseases, and has shown that their religious attention to the details of the periodic cleansing enjoined by the Mosaic law appears to be the main cause of this notable circumstance. In these times it may be urged with some reason that, with correct hygienic construction an good management, there is no reason why a large hospital should not be kept in a healthy condition.

The broad general object for which hospitals hav been established may be stated to be the gratuitou medical and surgical treatment of the indigent sick Many abuses, however, creep in, and large numbe of persons yearly receive medical treatment gratu tously, who are quite able to pay for it. To obviat this evil the establishment of paying institutions ha been much recommended. There is a large clas above the very poor who are but ill able to affor skilled attendance and nursing at their homes. It not desirable, nor is it always their own wish, th those persons should be objects of charity, and th establishment of hospitals and dispensaries at whic they could contribute something toward the expen of their treatment and attendance meets this difficul to some extent. However, if it is accomplished, should be done with fairness to all concerned.

A second cardinal principle to be observed in suc a hospital, is that it shall do as little harm as possibl The hygienic principles of the even ordinary constru tion, if employed, are sufficient to insure that no har by spreading contagious disease is apt to occur; b there is another danger well known, connected wi free hospitals and dispensaries, of quite a differe kind, namely, the danger of promoting negligenc shiftlessness, laziness and vice by offering free reli from their consequences—the danger of pauperizi people. This is a danger connected with organizati and management, and can be guarded against.

MODERN PRIVATE AND SPECIAL HOSPITALS.

It is said, and with reason, of many institutio that they can show no claim to a separate existen Some special hospitals there are whose existence i necessity in the interests of society, and are primar defensive; some which have come into being in t interest of individuals. Much can be said on bo sides concerning the latter, but it is unfortunatel subject which can not be adequately discussed witho trenching upon matters of a too personal nature.

CHILDREN'S HOSPITALS.

As regards children's hospitals as separate insti tions, there is something to be said for and agai It is not good, it may be said, for children to treated in the same wards with adult patients, ethical grounds, because they might see or hear thi they ought not, and on administrative grounds, cause they can be better cared for if associated w other children only. On the other hand, there see to be in most children's hospitals an inevitable te ency to the outbreak of infectious fevers, which d not exist when children are treated in the same wa with adults. One cause of this is probably to traced to visiting days, and the impossibility of e cising any efficient control over the visitors. Anot circumstance not remotely connected with the evi the too close proximity of the out-patient departm In a children's hospital, more than any other, it i necessity to have an out-patient department. T should be in a separate building. With proper cautions it is possible, if not to abolish entirel least to minimize these risks, and with this provis should be admitted that special hospitals for chil are, if not absolutely necessary, at least emine useful and beneficent institutions. It is not my pose in this paper to go into the great subject of o special hospitals, such as hospitals for military purposes, for railway systems, for consumption and chest diseases, chronic hospitals, institutions for incurables, cancer, paralysis, insanity,* lying-in, convalescent, mineral-water, throat, ear and eye, hospitals for diseases of women, stone and fistula, diseases of the skin, etc.

HOSPITALS FOR INFECTIOUS DISEASES.

The primary defensive hospitals deserve serious consideration from all medical men and sanitarians. The fulfillment of the duty of providing suitable hospital accommodations for infectious diseases is a task apparently very little to the taste of sanitary authorities and council health committees, as a rule, particu- arly when not in any immediate demand; and as a consequence the provision for such hospital accommodation gets shelved from time to time, until an epidemic occurs, when a frantic effort is made to put up a temporary hospital in a few days to cope with the emergency of the moment. Wooden huts or perhaps tents are put up, the epidemic runs its course and dies out, and the town or district returns to its normal health condition. The question of a permanent hospital is then quietly shelved, to reappear only with a recurring outbreak of disease. The great value of a permanent and transportable isolation hospital is hat it provides the means of isolating at once the earliest cases of disease, and of thus preventing the pidemic, instead of leaving it to be battled with when t has gotten full sway. This fact is very strongly brought out by Dr. Thorne's "Report on the Use and nfluence of Hospitals for Infectious Diseases," which orms the supplement to the "Tenth Annual Report of he Local Government Board of London," 1862. "I ould occupy you for hours," says Dr. Thorne of the vidence he has collected, "in telling you instances in which epidemics have evidently been prevented by he isolation of first cases of infectious diseases." On he other hand, of the hastily extemporized hospital put up to meet the demands of a sudden outbreak, Dr. Thorne says: "It is often not ready for occupation ntil the immediate cause of its erection has passed y; it provides accommodation of a very indifferent ort; it fails, almost without exception, to meet the ermanent requirements of the infected district, even when in amount it turns out to be more than the district needs; and thus the object of the hospital as a art of the sanitary defences of that district is often ttained in a very imperfect manner and at a need- essly large cost."

The necessity of isolation hospitals for smallpox, holera and yellow fever is therefore exceedingly lear, and if clear in the case of provincial towns and country places, how much more so must it be in the ase of the metropolis! Our health laws do not sually empower the sanitary department to provide ospital accommodation for such persons as, not being aupers, could not be isolated in their own homes without danger to their neighbors. Little children nd lodgers, for instance, or tenants of large blocks nd hotels would come within this category. The mother's cottage" plan for diphtheria cases, involving o expense to a city, but which is usually defeated by municipal aldermanic councils, seeks to obviate just his lack of power on the part of the health authori- es. In 1871–72, in London, attention was drawn to he behavior of smallpox in the immediate neighbor- ood of Hamstead Hospital. Following upon this came reports of similar observations with regard to other smallpox hospitals. In 1882 appeared Mr. Poweis' report on the Fulham Smallpox Hospital in the surrounding neighborhood, and in the same year the Royal Commission on Hospitals for Infectious Diseases was appointed. The result of all this inquiry and discussion was an almost general agreement among those most able to judge, that something like a prima facie case had been made out in favor of the view that a smallpox hospital of more than 100 cases was usually a menace to its neighbors within a radius proportionate to the strictness of the local quarantine regulations.

The Ducker or Doecker, improved by Strohmeyer of Konstanz, or Strohmeyer's canvas barracks hospital, if kept on hand by State or municipal authorities, could be put up on very short notice wherever needed, and would seem to solve the problem of hospital needs in unexpected epidemics. They served the purpose admirably in the cholera epidemic at Hamburg in 1892.

The most perfect permanent isolating ward is in the Johns Hopkins Hospital. The essential feature is that the central corridor is freely open to the external air at either end, and rises through the building in a clerestory to the top, the sides of the clerestory being fitted with movable glass louvre windows. The walls of this corridor are practically double, and it is necessary to pass through two doors to get from the corridor into one of the patient's rooms. Each room has a fireplace with a separate chimney-flue, and in the wall is a small closet, in which is a commode containing a chamber utensil, which can be removed from the outside through an opening in the wall without the necessity of entering the patient's room for that purpose. This closet is lined with galvanized iron and has a separate flue exit, in which is an accelerating steam-coil. The door of this closet does not come quite to the floor, and the exit of foul air takes place mainly through the closet and up its special flue, which is of iron. The whole of this closet with its exit flue can be readily cleansed with flame. This arrangement isolates each patient from others and other parts of the hospital.

Perforated floors for heating and ventilation up to four to eight cubic feet per second per bed are employed here, the object also being to have the air pass constantly upward, so that no portion of this air should be rebreathed or come a second time in contact with the patient, thus placing him in the condition of being out of doors in a very gentle current of air.

PLANNING OF PAVILION, BLOCK, CORRIDOR, AND IRREGULAR CONGLOMERATE AND MILITARY HOSPITALS.

This is exhaustively discussed in Burdett's colossal work, "The Hospitals and Asylums of the World." Modern scientific construction can be fully enough indicated by a description of a modern surgical hospital such as many cities have recently been favored with. Doctors have often taken a deep interest in the erection of such a building, and as some of them are often the most famous in their city, and an ordinance or term of gift provides that the plan shall be approved by them, a plan adopted should give a good idea of the present progress in hospital construction, and such a hospital should be interesting as one of the few erected with the design of subserving all the interests of modern scientific achievements, as well as the interests of patients and physicians. It will be evident that the controlling idea, unhampered by any misapplied notions of benevolence or necessity of economy, was the practical application of sanitary science in treating the sick, well knowing that absurd and mistaken economy has hitherto rendered pious labor and expense in a great measure not only useless, but even fatal and destructive to the very aim and end of the intended purpose. With all these advantages and a clear field, to those unacquainted with the subject in question it may appear a very extraordinary assertion, that there is probably not at present in this country a single hospital constructed throughout upon proper medical principles, excepting perhaps the Johns Hopkins Hospital at Baltimore, which will be memorable for the care and study bestowed upon the consideration of its plans. If we inquire into the cause of such absurdities, they are easily traced to those sources of darkness and ignorance from which most of our civil abuses have originated, but how they should be continued, to disgrace the improvements of more enlightened times, can only be resolved by reflecting on the pride, obstinacy and self-interest which are too generally annexed to ancient errors and ignorance of the subject of hospital construction. The writer has seen interior plans favored *in toto* from a study of a fine black-and-white sketch of a front elevation alone. A hospital built in these days should have fewer objections to its plan than any hospital hitherto constructed, by avoidance of objects of convenience, by avoidance of objects of cheapness or ornament, even though the physicians and architect have generally two very opposite and incompatible views on many points.

CONSIDERATIONS IN PLANNING AND MAKING SPECIFICATIONS FOR A SCIENTIFIC HOSPITAL.

So-called thoroughly fireproof construction is not necessary in hospitals of two stories. The semi-fireproof or slow-burning construction, with solid oak pillars for supports and fireproof stairs and corridors, is, for such buildings, equally safe, as far as danger from fire is concerned, and is much more economic and better adapted to the double system of ventilation, which has proven to be a decided success.

Site.—In selection of a site the following should be considered: Aspect and conformation of ground; nature of soil; area in relation to number of beds; convenience of access for patients, physicians and students; and cost.

The first three questions are of hygiene and the last two of economy. The tendency to subordinate health conditions to those of economy is too often in the ascendant. The healthiness or unhealthiness of a soil is affected by its power of retaining heat and by the level of the ground water, as well as by the actual composition of the ground itself. A high water-level is unhealthy, because it keeps the soil and the air above moist and damp. This can be cured by drainage. Interspaces in the soil above the water-level are filled with air. T. W. Hime shows that the quantity in even very compact gravel amounts to one-third of its bulk. This air is not stationary, but is more or less in constant motion and subject to influence of atmospheric pressure, and unless proper precautions are adopted, is liable to be drawn up into a house by the current induced by the warmer air of the house. Such air is impregnated largely with decaying organic matter when the ground water-level is low, and would be saturated with moisture when it is high; both of which conditions are highly antagonistic to health. A system of soil drainage independent of the sewerage system should be employed to insure suitable dryness of hospital grounds. Even elevated sites must be so drained if the grounds are uneven. (Johns Hopkins Reports, p. 54.)

The soil.—In cities, the soil often consists of the accumulations of refuse of all kinds, many places having been filled in with the contents of dust-bins, garbage carts, etc. Such a soil is obviously an improper one on which to build unless the earth is covered with an impervious stratum of concrete, asphalt or some other equally efficacious pavement. As this precaution is necessary in the purest possible soils in order to prevent the air from the ground being drawn into the house, it becomes an absolute necessity in all sites. This becomes all the more important when we consider the lack of area in relation to the number of beds.

Foundations.—Foundations should have a solid concrete base with lines of drain tiles laid around them. In all buildings having cellars or half basements the outer surface of walls beneath the ground should be sheathed with overlying slates and have horizontal layers of slate the width of the wall at grade or ground level, above which the walls are to be hollow with a two-inch air space, nine inches from the inner surface; this is closed in by two or three courses of brick at the top.

Precautions necessary for a stable foundation belong to the science of building, but it is of equal importance to prevent the moisture in the soil from being drawn up into the walls by capillary attraction. The method of preventing this evil, is as just stated, to interpose between the level of the ground and the lowest floor a layer of asphalt, slates or other impervious substance continuously along the whole length and width of the foundation wall.

Walls.—The proper function of walls is usually assumed to be, in addition to their duties of support, to keep out the air. A wall built in the ordinary way of brick and stone and plaster internally performs this function to a certain extent. The porosity of brick is very great, 3 to 22 per cent., stone less, varying according to the kind. The porosity of plaster is, as is well known, very great.

By covering a brick with wax or enclosing a portion of a brick wall in an air-tight box, Pettenkofer has shown that the force of the breath will drive air through the brick, and will blow out a candle on the other side, if the current of air be collected in a small channel. Most walls therefore act as a filter by intercepting the organic particles carried on the air currents. In a hospital it would seem that the internal linings of the walls, if of a porous nature, must become saturated with the matter floating in the air and such matter will, in the parts occupied by patients be very largely composed of organic particles, epithelia, pus-cells, dried sputa and the like.

In the French Academy of Medicine a case was reported in which analysis had been made of the plaster of a hospital wall, and 46 per cent. of organic matter was found (Galton on "Healthy Dwellings") This being the case it would seem that the most perfect form of wall for hospital wards is one that presents an absolutely impervious surface, capable o being washed down and thoroughly cleansed without its impermeability being affected. Such a wal as this, if it could be obtained, would have the effec of condensing on its surface the moisture of the air and of so lowering the temperature of the ward. To remedy this a larger supply of air would be necessary than would be the case with walls of ordinary construction in a building of ordinary ventilation.

Glazed bricks and tiles are perfectly impervious, but do not make a satisfactory wall surface on account of the numerous joints which have to be made of some more or less absorbable cement. Whatever wall surface is adopted, it is of equal necessity to avoid all angles where the air is liable to stagnate. For this reason it is usual to pitch the ceiling toward the center and then to round the angles forward at the junction of wall with ceiling and wall with floor and the vertical angles of the walls. This also has the advantage of facilitating the process of cleansing. The tint of the finishing internal coat, if paint, or whatever material may be used, should be selected with special reference to its effects upon the eyes; and in selecting the window curtains the same considerations should determine their color.

Wall paint.—"Ripolin," made in Holland by the firm of Lindenberg, Jun & Co., also furnished in Berlin from No. 235 Friedrich Str., is recommended by the Berlin authorities and used by the Das Neue Krankenhaus der Stadt Berlin am Urban, built in 1893. Its advantage over oil paints is that it is neither affected by acid or alkalin fluids, is perfectly waterproof and is not brittle or tearable (*rissig*). It dries in ten to twelve hours after applying. It was also tried on the iron work, beds, etc., with good results. It is dearer than oil paint, but more durable and stronger.

Floors.—Floors of the wards, operating rooms, etc., should be a solid and fireproof surface. Infinitely superior to floor boards of even teak or oak, is a floor of solid oak or teak—that muscle of nature as it is called in Burmah—parquet, laid on the surface of cement or concrete. Such a floor, if properly laid and of well-seasoned wood, forms, when wax-polished or paraffined, a practically impervious, solid and fireproof surface. Paraffin in the solid state is melted and painted over the wood, forced into the pores with a hot iron and then polished with a stiff brush. It is very easily kept clean, and needs to be occasionally brightened up with a moist cloth. Next to such a floor is to be preferred the marmor-terrazzo, now in much general use abroad, and recently in this country. The only disadvantage of terrazzo is a tendency to cracks, which must be repaired with cement. Examinations for bacteria in the dust found in these crevices were negative, all having been killed or rendered inert by the antiseptic solutions used in flushing; but one staphylococcus colony was found. This should, for purposes of cleanliness, wear, appearance and cost, be used for kitchen, laundry, morgue and generally in all floor spaces where the objectionable and disagreeable asphalt often creeps in. In all floors, of whatsoever material, the angle between the floor and the wall should be rounded to a radius of not less han two inches. Where walls are of glazed brick his can be best effected by means of a specially-made, hollow molded brick; where of oak or other wood, a hollowed fillet of the wood answers best, and where marble, cement, terrazzo or asphalt joins a plasered wall, the rounding is best formed in the mateial of which the floor is made. It should be a fixed nd essential rule that in all details of joiner's work, no mouldings involving sunken recesses or grooves should be permitted, and that all angles in which dirt can lodge should be abolished. Every opportunity for the lodgment of dirt means so much added danger of septic poisoning, and no consideration of ornament or even beauty should be suffered to weigh for a moment against this imperative rule.

Windows.—In the construction of windows in exposed situations the value of double glazing must be sufficiently recognized. Two sheets of a thinner glass than would ordinarily be used, with an air space of perhaps three-quarters of an inch between them, makes a most effectual non-conducting surface by incurring a slightly increased cost. In such sashes the space must be made perfectly air-tight.

Doors.—In the construction of doors and the linings and architraves pertaining thereto, the same rule should apply as to minor details. All doorways into wards, or bedrooms, or bathrooms, should be made sufficiently wide, forty-two inches, to allow of a bed being wheeled through, and that these doorways should be without thresholds goes without saying. The linen room should above all things be spacious, provided with abundant air and light from an outside window, together with ample ventilation and artificial heat, and have washable walls. Light, it has been said, is the greatest enemy of hygienic crimes.

Ventilation and warming.—In approaching this great subject, one of the first things to be considered after the bacteriology of the air, is floor space, which should be 100 square feet per bed. A distance of less than eight feet between centers of beds is undesirable; and the second thing is that with 100 square feet of floor space, and the ceiling about 12 feet high, over 1000 cubic feet per bed is secured.

Cubic space supplied vertically has no advantage to the patient, but a minimum of 100 square feet floor space is necessary. Little or nothing is to be gained by raising the ceiling; it has been found that 12 feet is practically enough. The experiments of Drs. Cowles and Wood of Boston (see Report of State Board of Health of Massachusetts, 1879) show that above 12 feet there is little or no movement of air except toward the outlet ventilator, and that the space above is of little value as ventilation space. This teaches that whatever be the height of wards, the windows should reach to the ceiling, whether the ventilators are in the ceiling or top of side walls or not.

This subject of ventilation is one in regard to which much has been written, but about which there is apparently little chance of any general agreement being reached.

Warming is a subject so closely connected with artificial ventilation that it forms indeed an integral part and can not be considered separately. It is of the direct or indirect varieties, of which the indirect seems preferable. Whatever system used should have the automatic heat-regulating apparatus. The ancient idea of floor heating, which can be seen today in the Baths of Caracalla, is carried out to perfection in the great Hamburg Eppendorf Hospital. Technic description in Curschmann's or Ruppel's monographs.

The authorities, nevertheless, are practically agreed upon the fundamental principles which should determine the quantity and quality of air to be supplied, the temperature it is to be supplied at, and the rate at which the air is to be changed, almost as much as they are upon the necessity for ventilation itself. Ventilation resolves itself into two systems: 1, natural, i. e., unaided by mechanic contrivances; 2, artificial or forced ventilation. The natural system depends then upon the ordinary means of windows, aided by smoke flues from grates, etc.

Artificial or forced ventilation is arranged in two ways: 1, either air is forced into the ward, or, 2, vitiated air can be drawn out. The first system is known as ventilation by propulsion, and the second as ventilation by extraction. These two artificial systems were established at the Lariboisieré, Paris, one side of the hospital being ventilated by propulsion, the other side by extraction, the air in both instances being taken as far as possible from the ground by means of tall shafts. The terms of this comparative experiment provided for a mean temperature of 16 to 18 degrees C. (61 to 64.5 F.), and that the air-supply per bed should be at the rate of 50 cubic meters (2119 feet) per hour. In one system steam-fan power was used; in the other hot water coils in the exit shaft. Result of comparison was greatly in favor of propulsion, because it supplied 3178 feet per bed per hour, while by extraction it was but 1059 feet. A comparison of cost, however, showed the former almost three times more expensive than the latter, and this, when run in connection with the modern automatic heat regulator, which must be kept constantly in motion winter and summer, about doubles the expense again.

Johns Hopkins system,—This ventilating and heating arrangement, which should be understood by all, is by a double system of outlets, one in the floor and one in the ceiling, and the object is that the floor outlets may be used in winter or cold weather for the purpose of economizing heat, while in summer both sets may be fully opened. In the Johns Hopkins system, which has proved to be a perfect success, it has been found that in winter the accelerating coils in the main exit shaft are not usually needed, but it is found that whenever the temperature of the external air is 60 degrees F. or higher, especially if there is little or no wind going, these coils are useful. All pipes, wires, etc., for heating, lighting and drainage, are in tunnels, always open to inspection.

Foul-air flues placed in the outer walls of hospitals of two or more stories, often prove unsatisfactory in cold weather, when they are most needed, because the current in these flues is checked by the chilling of their walls.

One cubic foot of fresh air per second per person by this system is easily obtained, with the possibility of doubling this supply for a short time in flushing out the ward.

In wards designed for cases giving rise to offensive odors, or in which a large amount of organic matter is thrown off, or in which for other reasons a large amount of air is desirable, the air-supply is fixed at 2 cubic feet per second per head. Finally, a few rooms in the isolating ward are arranged with perforated floors for an air-supply of 4 cubic feet per second per head, with a capacity for doubling this if desired. All registers and flues for fresh air are of such sizes as to permit the passage of the requisite amount of air with a velocity not exceeding 1½ feet per second under ordinary circumstances. Air-currents of this velocity of from 70 to 75 degrees F. are barely perceptible to the hand and create no discomfort.

In the isolation wards perforated floors are employed for heating and ventilating, and supply from 4 to 6 cubic feet of air per second per bed, the object being also to have the air pass constantly upward, so that no portion of this air shall be rebreathed or come a second time in contact with the patient. This places him in the condition of being out of doors in a very gentle current of air.

Sewage disposal and house drainage.—At the Johns Hopkins Hospital all soil pipe was delivered on the grounds as it came from the foundry, without being tarred or painted. It was then tested by passing through each length or section a swab dipped in a mixture of linseed oil and red lead. The slightest defect in the casting was indicated by the appearance of an oily stain on the external surface of the pipe. After passing this test the pipes were painted with red lead. All pipes are so placed as to be readily accessible and freely exposed to view. Where the sewage does not drain into large bodies of water, it should be temporarily led to wells of from 70 to 80 feet in depth if possible, until a system of sewerage is established.

Water-closets must be disconnected from wards by intervening lobbies and be perfectly ventilated. The mechanism for supplying water must be as simple in construction, as strong, and as nearly self-acting as possible. A three-gallon flush should be the minimum at a minimum height of six feet above the basin, and a pipe of 1½ inches internal diameter will fulfill the required conditions. It would be better to have the flushing apparatus entirely automatic, if the mechanism was not as a rule too complicated to stand the rough usage of hospital wear. It remains therefore to put it out of the power of the user of the closet to modify the amount of the flush, and this can only be done by so regulating the apparatus, if not automatic, that by one pull of the lever or chain that works the valve the whole of the contents of the flushing cistern are discharged. Basin and trap should be of the simplest form and entirely of white enamel, and the traps properly ventilated through the roof. Those forms which have the trap immediately under the basin are preferable to those in which there is a double bond, because in the latter the water has double work to do, and its force therefore is reduced one-half. In number, the water-closets are reckoned usually as one to every ten or twelve beds, but this is not a hard and fast rule. In close proximity to the closets should be a separate space enclosed for the slop sink, with provision for keeping bed-pans, brooms, etc., and here also should be a cupboard, ventilated to the whole extent of its external or wall side into the outer air, in which to keep feces, etc., required for examination by the medical staff. This hospital slop sink requires special care. The operation of emptying and cleaning bed-pans is one involving no light risk to the nurse, and necessitates most scrupulous care on her part. This risk is a positive danger when typhoid excreta have to be dealt with. The ordinary form is a large glazed porcelain receptacle into which pans are placed and water turned into them from a tap above, and it is practically impossible to prevent splashing. This is obviated by the "McHardy sink," King's College, London, a modification of which was invented independently by the writer, and is easily adapted to an ordinary deep, rim-flush sink.

Baths and lavatories.—Although, for convenience and economy of plumbing details, baths and lavato-ries are frequently placed with closets, there is no necessity, as in the case of closets, of interposing a disconnecting lobby between a bathroom and a ward. Bathtubs themselves should be placed in the center of the room, or away from the walls, and not enclosed in any way, and surrounded by movable floor slats or lattice wooden standing boards, to prevent the attendant's feet from becoming wet while administering a bath.

Lighting.—The electric system involves no demand on the oxygen of the air to support combustion, nor does it contribute in the slightest to the vitiation of the air, on the other hand gas does both these things, and then again, electric lighting is infinitely more convenient, safer and less trying to the eyes.

Water-supply.—The importance of the purity and abundance of the water-supply is so well understood, that filters should be put in whenever there is the slightest suspicion of the quality of the water. Large filters of the Loomis patent, which are iron cylinders 6 feet high and 2 feet in diameter nearly filled with clean sand, were in use at the Johns Hopkins Hospital, and the straining effect of these filters is shown by bacteriologic examinations of the water. Before filtration the water contained an average of 39 microorganisms per cubic centimeter; after filtration the average number found was 5 per cubic centimeter, At intervals of about twenty-four hours, the direction of the current is reversed and the accumulated impurities are washed out into the street. These filters permit the passage of an ample supply of water for ordinary use but greatly obstruct a free supply which would be requisite in case of a fire, hence a by-pass around them is arranged, so that in case of necessity he steam pump can draw directly from the main. This steam pump is connected to force water into large anks placed in the attic of the largest building. These tanks are intended both to contain a reserve upply for use in case of temporary interruption of the upply from the street main, owing to breakage, etc., nd to give additional head or force when the pressure n the street mains is lowered from any cause.

Operation house.—Post-operation wound-infection, ot the fault of the operator and assistants, is now nderstood to be an extremely rare occurrence. The atus of surgery to-day rests upon aseptic technic s much as upon the skill and judgment of the urgeon, and a rigid scrutiny of the technic employed n an operation followed by septic infection will most always show the error of omission or commission o account for it.

There should be three operating rooms: one for a urgeon's dressing room, one for instruments and ster- zations, and one for preparation of patients. If not a separate house, they should be placed as far as ossible from aerial contact with wards or other parts the hospital. Thirty by forty feet is not found to any too large for an operating room. All the angles ould be rounded, and the window frames flush with e inner surface of walls. Fixed furniture, pipes, ps of sinks and other fittings should clear the wall at least one inch. The whole of the room and all its ntents should be of material that can be freely washed th water and hence must be constructed from asep- ple patterns. Lavatory and sink tops should be of ass, also all shelving for dressing, instruments, etc. hen a part of the hospital building, there should be obby between ward corridors and operating room, hich should have double swinging doors so far apart at one set must be let go before the other can opened. Every detail in the operating room is to devised with a special view to its aseptic necessi- s. Everything of an absorbent nature is to be minated; this should be easy of accomplishment and simple enough where the room is intended for operation only. The floor should be finished with a slight fall to a point near the wall where an iron pipe passes through the floor and is connected to a lead pipe on the outside, which in its turn discharges over an open trap. This iron pipe is to be enameled white inside, with a gun-metal plug made flush with the opening in the floor and connecting pipe. Around the walls at the floor line is a marble or glass skirting hollowed out to a radius of 2¾ inches; above this the walls are lined with marble or glass to a height of five feet above the marble or glass, and flush with it.

The wall should be finished with impermeable cement and the walls and ceilings made in the form of a vault with pitched glass roof and horizontal glass ceiling, leaving an intermediate space through which a ventilator leads out from the ceiling into the open air.

A north window should furnish the principal light and be formed of one sheet of plate glass, 10 or 12 feet by 8 feet, fitted in a wrought iron frame, flush with marble or glass and wall. Other windows should be constructed in a similar manner, but made to open for purposes of ventilation.

Doors should be made of two leaves of white enameled sheet iron in a wrought iron frame, and on the inside flush with the walls. Ventilation at floor surface for winter use. Light, electricity.

The important end to be kept in view is that every part shall be impervious, readily cleaned and easily seen.

The ideal practical operation room—Besides incorporating tbe above features it would be better if the large window with the north light extended four feet from the floor to the ceiling; as large a skylight as possible, and a marmor-terrazzo, or better, a teak parquet floor. The room should have two 100-candle-power electric lights, with an arrangement allowing of any angle of reflection, and also two portable incandescent lamps with flexible connections so they can be brought close to any part of the operating tables. Electric connections should be furnished to one or two sides of the room for wires for galvano-caustic instruments, electrolytic work and ordinary galvanic and faradic currents.

Operating table and floor should not be in any way connected with the general drainage system of the building, if there is the slightest doubt of its perfection; the bowls and sinks should then discharge into vessels which can be removed. One fixed operating table should be provided with steam heat. There should be an apparatus for a large, constant supply of sterilized water, first filtered through diatome cylinders, which is piped to the wash basins, the operating table and irrigators, the water in the wash bowls to be turned on by the foot on a pedal, through a gooseneck vent or spray. This supply of water is to be furnished at a constant temperature of about 130 degrees F., and the entire mechanism of filtering, boiling each drop, carrying it to the germ-proof reservoir, where it is maintained at the uniform temperature desired, to be entirely automatic and self-regulating. Such an apparatus is practical, and is even already realized through the inventive genius of a hospital surgeon.

The furniture of the room, as well as the parts of the hospital devoted to patients, is best described by what is known as aseptic hospital furniture, and is made of white enameled wrought iron and glass. This ideal room should have anterooms, with lavatories and baths for patients and surgeons.

It is thought that a few attractive tablets containing bacteriologically exact instructions for cleansing instruments, surgeons' and nurses' hands and the patient himself, as well as everything to be used in an operation, might not be out of place as proper articles of furniture in such an operation room, such as complete instructions in short separate chapters on:

1. Preparation of patient.
2. Preparation of surgeon, assistants and nurses.
3. Preparation of instruments.
4. Preparation of ligatures, sponges, towels, sheets and dressings.
5. Preparation of operating room.
6. The anesthetist.

The tablets should be printed and posted in a conspicuous place in the preparation room at least, and it would then remain necessary to have in the operating room itself, in quite brilliant characters, perhaps emblazoned on the walls, the two following summary operation room laws:

After the hands to the elbow are prepared in the manner prescribed they should never touch anything except the instruments or ligatures, the sponges or the wound, or the cleansing must be repeated.

From the time everything is in readiness until the wound is dressed, nothing is to be disturbed in the room, and any instrument, sponge or suture which has touched anything not protected by aseptic towels is discarded for the entire operation.

The detention house.—This department is mentioned merely to insist that it is an absolute necessity in all hospitals of any size. The need of properly built strong rooms for the care of violent and maniacal patients is too well known to require any argument in its favor. Windows must be built far above the reach of patients, and the floor-and-wall system of heating used.

Disinfecting room or house.—Of paramount necessity in all hospitals is a large, general disinfecting apparatus of some kind, both for the purpose of destroying vermin in clothes, and for disinfecting bedding, etc., after cases of infectious disease. Present knowledge of the subject is that the only trustworthy process, aside from destruction by fire, is the application of steam under pressure, aided and supplemented by dry hot air or formol gas. The great value of steam under pressure is its penetrative power, and the failure of dry heat disinfectors was due to their want of this property.

The fundamental doctrines established by R. Koch and Wolfhügel (*Mitth. a. d. Kais. Ges.-Amite.* Bd. i, 1881) have conclusively proved that dry air is an almost useless disinfection method; because a three-hours exposure to 140 degrees C. is necessary to kill all the known germs, and at that temperature nearly every material subjected to such ordeal is severely damaged. Far more thorough than dry hot air in its influence upon germs is the hot steam. The conclusive and final researches of R. Koch, Gaffky and Loeffler have proven that in the low pressure 100 degrees C. steam is the most convenient and most easily applied disinfector, which for certainty of result is not to be compared with any method that we have yet learned.

The most imperishable disease germs with which we are acquainted are the spores of anthrax bacillus, as Esmarch has shown (*Zeitschr. Hyg.*, 1888), which have greater or lesser resistance according to the surrounding material, or material in which they are imbedded. The most persistent of these anthrax bacilli spores, according to numerous experiments by Esmarch, survive an exposure of twelve minutes to steam of 100 degrees C.; the majority of the spores perish in five minutes. In the steam current we have therefore, for all practical purposes, a sufficiently absolutely reliable method of disinfection (Carl Günther). In all permanent hospitals steam is usually available at any time.

The difference between the two heat agents may be best illustrated by two examples taken from Dr. Parson's "Report on Disinfection by Heat." (Fourteenth Annual Report Local Government Board for 1884, *Sanitary Record and Local Government Review*, London, Sept. 29, 1894.) Spores of bacillus anthracis required for destruction four hours' exposure to dry heat at 220 F., but were destroyed by five minutes' exposure to a heat of 212 F. in steam or boiling water. Bacteria not containing spores are destroyed by dry heat in about two hours at a temperature of 212 F., and three hours at 212 F. are required to destroy the fertility of their spores. In any case it is not desirable to exceed a temperature of 240 or 250 degrees, as this is too high for woolen fabrics.

Moist heat, like hot water, is the best germicide. The thermal death-point of surgical bacteria, which practically means pyogenic cocci, and which are not spore-bearing, and the bacillus of tuberculosis and their spores is correspondingly low, when they are exposed to moist heat. The pyogenic cocci are all killed inside of ten minutes at 150 F., while the tubercle bacilli and their spores are destroyed in five minutes at a temperature of 212 F. Boiling for five minutes at a temperature of 212 F. seems, therefore, sufficient for all practical purposes Steam acts like hot water of the same temperature, and when disinfection on a large scale is desired, it can be used where hot water is not practicable. The germicidal property of steam depends upon its moisture and on the expulsion of air contained in the articles to be sterilized. It is used at a boiling temperature or even greater. All known pathogenic bacteria and their spores are destroyed in low steam at 212 F. maintained for five minutes. No spores are capable of germination if a high-pressure steam temperature of 230 F. is reached. (Red potato bacillus, Globig, *Zeitschrift f. Hygiene, Bd.* iii, 1887.) An efficient apparatus should provide means for subjecting the articles to be disinfected to actual contact with an overhead streaming steam, which expels every particle of air from top to bottom, while the apparatus is getting heated; and then the removal of vapor by a new filling of the disinfector with air from below upward before the steam can condense sufficiently to injure the articles disinfected. Such an apparatus should be provided with means of automatically shutting off steam if the temperature should exceed a certain point. Whatever form of apparatus be adopted, it should always be provided with two doors, one for ingress in one room, the other for egress in another room; the rooms being divided by a solid wall. The test of the large Reck apparatus built upon these principles, as well as the smaller Boeckmann sterilizer, show them to be scientifically perfect and efficient. (A. B. Reck, Copenhagen, Denmark; Edward Boeckmann, St. Paul, Minn.)

Disinfection by formaldehyde gas is the most recent method, and probably one of the most efficacious and economic known. The following letter indicates sufficiently the manner of applying this agent for hospital purposes:

Barnes Hospital, U. S. Soldiers' Home,
Washington, D. C., Nov. 3, 1898.
To the Surgeon-General, U. S. Army, Washington, D.C.:

Sir:—In compliance with your instructions I have the honor to submit the following account of the methods and appliances used at the field hospital, Camp Wikoff, for sterilizing articles of bedding, clothing, etc., with formol or formaldehyde gas. The generator used was obtained from Kny-Schreerer Co., and is designated as High "C" Formol Gas Generator No. 2. Wood spirit was used for the lamp, and gas generated from a mixture of formalin (40 per cent.) 1,000, calcium chlorid 200, and water 400 parts, with which the cylinder is to be charged.

A convenient wooden structure was erected, 10 x 12 feet, ten feet to the plate. The frame was scantling, 2 x 4 inches. This was first covered, floor, sides and roof, with tongue-and-grooved boards, and over this was placed a layer of tar paper and another layer of tongue-and-grooved boards at right angles with the first. No window is needed. The batten door was made double, and lined like the sides. It must be carefully fitted and hung to open outward. This tightly constructed room was provided with hooks and cords for the suspension of articles to be sterilized. A room, 10 x 12 feet, is large enough for use of a hospital with 100 beds or more. Adjoining this sterilizer chamber was a small chamber, 5 x 6 feet, to contain the generator and chemic materials, as shown in the accompanying ground plan and side elevation. The gas was introduced through two small perforations in the wall of the sterilizing chamber, into which the tubes from the generator were inserted. One charge of 128 ounces is sufficient for a room of the size above mentioned. The soiled articles are sent at once to this room, and when a sufficient number has accumulated, the generator is to be started and the gas turned on. A few hours is sufficient. It is convenient to sterilize at night, filling the room with gas in the evening and leaving it closed until morning.

Very respectfully, your obedient servant,
(Signed) W. H. Forwood,
Col., Asst. Surg.-Gen. U. S. A.

Necropsy, laboratories and museum.—In these times no hospital would be complete without facilities for the scientific study of, and experimentation in, disease. These necessary departments should be together in a separate building and include a crematory. In large hospitals a chapel for religious exercises can also be incorporated in this building.

The technic of building and fitting up these departments is so exhaustively set forth in Ruppel's great work that it is only necessary to refer to its pages.

Kitchen, laundry, boiler and bath house.—This paper has long since outgrown its proposed length, but strange as it may seem, it is necessary to mention these departments, to insist that they be incorporated in a building or buildings entirely separate from the hospital proper. It is not within the province of this article to describe these parts of the economy of a hospital in detail, but it can not be dismissed without enumerating at least the necessary contents of the culinary department:

1, a gas roasting-oven; 2, a gas hot plate fitted with grill for grilling; 3, a steaming-closet for potatoes and fish; 4, steam-jacketed coppers for beef tea and broth and for broiling meat; 5, a steam-heated "hot closet;" 6, a steam-heated carving table; 7, a steam-heated cylinder for boiling water; 8, a scalding apparatus for milk and scullery purposes; 9, two or three sinks for washing vegetables and crockery (one of porcelain for green vegetables), all provided with hot and cold water, and so arranged that the water can be kept constantly running when the sink is full. It must be possible to empty each sink rapidly and completely. Flooring should be of marmor-terrazzo, or of some impervious material.

Hospital furniture.—This subject can be briefly disposed of here by merely mentioning the modern aseptible hospital furniture made entirely of white enameled iron and glass. Hall floors and stairs should be covered by rubber matting, one meter in width, in long strips, with reinforced corners. This makes the hospital practically noiseless, there is no dust, and the matting can be cleansed and disinfected by water and antiseptic solutions.

Shutes or flues for dirty linen are things to be avoided; they rapidly become foul and serve as shafts for conveyance of polluted air from one part of the building to another. For bed or body linen that is fouled there should always be in every ward a basket or light box with handles, lined with iron or zinc, to convey linen to the laundry; the receptacle to be properly cleaned and disinfected before being sent back to the ward.

Management.—More than nine-tenths of all that can be found written on hospitals in this article, as well as all others, is mainly about their construction, and most writings have appeared since Miss Nightingale's "Notes on Hospitals" and "Notes on Nursing" (1858), results of her labors in hospitals during the Crimean War. Many times the results of carelessness and of unwise and fraudulent management, poor or untrained nurses, etc., seen in hospitalism or hospital diseases, have no doubt been unjustly attributed to faulty construction. Those who have served on the staffs of large pauper hospitals have had excellent opportunities of observing bad effects of poor nursing in newly-constructed wards, and vice versa, the good effects of good nursing in defectively-constructed and equipped wards. A well-managed, poorly-constructed hospital will give a far better result than a finely-constructed hospital with bad management. Badly constructed and managed hospitals will be built, and the causes of diseases will continue to create preventable diseases just so long as doctors leave these matters to business men, politicians and their architects, especially when the latter happen to be amateur ventilators and sanitarians. Such institutions are always liable to cause hospital diseases and become centers of infection; thus defeating the very object they are intended to promote.

PROBLEM OF THE MUNICIPAL GENERAL HOSPITAL OF THE FUTURE.

The future, centrally-located general city hospital, built upon the ground area limited by the great property values of such locations, should engage the attention and study of physicians and the modern scientific and hygienic builders. With our present knowledge of fireproof (from the inside) construction, of relative purity of air strata, diffusion of gases, ventilation and warming, together with interior finish to the remotest detail in what is called hospital construction, and with aseptible furniture, why should we not advocate the erection of double-floored, fire-proofed hospitals of an indefinite number of stories. Such a hospital could harbor every class of sick, and it could be argued that the higher the floor the more hygienic the conditions. Isolation of departments could be perfected by the properly arranged system of elevators and outside stairs and the economy of the building and its various departments could by the same means, as well as special diet kitchens, be aerially disconnected from the wards proper and from each other. Safety from external fire could be secured by sufficient space about the building, and quiet is assured in the noisiest neighborhood by properly constructed walls and elevation.

This proposition is suggestive only, but there is no good reason why it could not be worked out. The essence of the plan is in the isolation of the wards from the rest of the hospital and from each other. The extreme limit of isolation can be reached here as in some modern foreign hospitals where connecting corridors are abolished altogether and the pavilions are confined to one story. The special form of plan for such a hospital would be determined entirely by the area, conformation and shape of the site.

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GONORRHEA IN WOMEN.

Read before the Mississippi Valley Medical Association, at Nashville, Tenn., Oct. 11-16, 1898.

BY JOSEPH RILUS EASTMAN, M.D.

INDIANAPOLIS, IND.

There is no malady to which womankind is liable that should engage more consideration than gonorrhea. Strewn in the train of its ubiquitous and wily germ are pathologic ravages of surpassing import in their clinical and moral consequences, yet hardly recognized or understood. Sinclair, a decade ago, observed a strange indifference toward differential diagnosis of gonorrhea in the female, and even now, when, in the light of recent bacteriology, it is easily possible to demonstrate the gonococcus in the act of pathologic mischief, there exists a notable, if not notorious, tendency on the part of the most general practitioners, and some specialists, to disregard discriminating diagnosis in doubtful cases.

The diagnosis of acute gonorrhea in women is comparatively easy, even without the microscope. What with a history of impure coitus, free purulent secretion from vulva, vagina and urethra, intertrigo, burning on micturition, and vesical tenesmus, the diagnosis is not far to seek. Upon inspection one usually detects a discharge of tenacious pus; or greenish or yellowish streaks upon the linen may alone be in evidence. Erosion may be present upon the skin, upon the labia majora or in the inguinal and gluteal folds. The labia minora, the clitoris and its prepuce, and the hymen, if present, are red and swollen. The meatus urinarius is found to be congested and ectropic, its normal pink color being changed to a deep red. The mouths of the ducts of the Bartholinian vulvovaginal glands are deeper in color, gaping and tender. They discharge, instead of their normal glycerin-like secretion, pus-laden mucus. A small area of mucosa immediately about these openings exhibits a purplish-red tint. The surface of the vagina proper presents no great changes, the adult vaginal mucosa being practically uninfluenced by the presence of the gonococcus; not for the reason generally presented, viz., that the germ can not exist upon flat epithelium, but more probably because, as Doederlein has pointed out, of an acid enviroment and the presence of the vaginal bacillus.

It is certain beyond cavil that the gonococcus can grow fat upon flat epithelium. Rosinski reported five cases of gonorrhea of the mucous membrane in the mouth in the new-born; and specific vaginitis of children is by no means rare. It occurs so often in plural instances among the children of the same household in Germany that the term *glückliche familie* has obtained currency as a technic expression of the craft. The so-called "happy family" is one in which the father, mother and all the children are simultaneously ill with clap. It may, moreover, be adduced as proof that the gonococcus is able to penetrate flat epithelium that pieces of vaginal mucosa removed by the curette have been repeatedly discovered to contain gonococci. As a rule, however, the only gross pathologic lesions detectable in the vagina are minute angry red spots emitting a drab-colored secretion. These are the follicles. If the discharge from the uterus has been great, the stagnant secretions behind the hymen irritate the vagina perhaps, to the extent that it becomes reddened, or loses its epithelium and becomes eroded. Upon introducing the speculum we may discover, that the portio vaginalis is reddened and secreting pus, which, collecting posteriorly in the vaginal vault, produces erosion.

After a time—usually about a week—the inflammation spreads to the uterus and is here announced by symptoms of pain and marked tenderness in that organ, with fever and a purulent discharge from the cavum uteri. Having rested for a time upon the comfortably arranged rugæ of the cervix, the gonococci, if unapprehended, wander about into the tubes, ovaries and parametria. There may appear in women the symptoms of cystitis, ureteritis, blenorrhagic rheumatism and endocarditis, but to dwell upon these complications would be to drift beyond the limitations of a short paper.

The relative value of the microscope in diagnosing gonorrhea in females is uncertain. Saenger and Broese ascribe to it very small worth, since in many cases the gonococci are not to be found, and since on the other hand observation of the clinical symptoms often establishes the diagnosis without bacteriologic examination. Contrary to the views of these men are the *ex cathedra dicta* of Neisser, which declare the proof of the presence of the gonococcus by the three classic tests of Koch to be absolutely essential. Certainly in doubtful cases the microscope offers substantial aid. When once the gonococcus is isolated on the slide, the examiner is certain of his ground. It is not necessary to postpone treatment until the diagnosis is complete. Therapy may at once be aimed at gonorrhea, and if one errs it will be upon the side of safety.

A comprehensive examination of the discharge is not complete until the secretions of the urethra, Skene's lacunæ, the glands of Bartholin, the vagina and the cervix have been searched through; and in chronic cases several preparations should be made from each of these. It may appear that this would consume much time, but it may be said with truth that the reliability of the diagnosis *cæteris paribus* will bear a direct ratio to the amount of time and patience invested. The culture of the gonococcus and inoculation, as upon the conjunctiva or urethra of dogs, consume still more time, are fraught with many perplexities, and present the same uncertainties as the microscopic test.

Before each act of removing discharge for examination the vulva and the vestibule should be rinsed with warm, sterile water and dried with cotton pledgets. The secretion of the urethral mucosa, this being the germ's favorite habitat, is generally sought first. The universal method of securing it is by milking the tract with the finger in the vagina, stroking gently from the vesical opening to the orificium externum. If specific urethritis without discharge be present, nitrate of silver will generally bring the diplococci from the deeper layers. The urethra being emptied, any secretion present in Skene's glands may be evacuated by stroking with two fingers astraddle the urethra. The vulvovaginal glands will evacuate their discharge if compressed between the thumb and forefinger.

To secure unmixed gonorrheal pus from the cervix uteri, care should be taken that the platinum wire does not come into contact with the vagina or portio. It is best to first rinse and then dry the vagina with cotton to free it of mucus. The material once deposited upon the slide is fixed after the universal method of Koch.

The gonococcus takes up the ordinary aniline stains so greedily that a simple aqueous solution of methylene blue is all that is needed for routine use. The coloring is simple, distinct and intensive. However, in the case of preparations which are taken from chronic gonorrheal conditions in which blood, mucus, pus, epithelium and bacteria in great variety may be expected to present themselves, it is desirable to employ a method by which it is possible to differentiate at least the tissue elements from germs.

A method which meets every requirement is that of Ludwig Pick. Pick's solution may be prepared by mixing fifteen drops of Ziehl's carbol fuchsin and eight drops of concentrated alcoholic methylene blue solution, with twenty c.c. of distilled sterile water. After staining for ten seconds and rinsing with water, the slide is ready for examination. The gonococcus is stained a deep blue, all other bacteria light blue, cell nuclei still lighter blue, and the protoplasm and mucus pink.

In preparations of acute gonorrhea we expect to find fresh and disintegrated pus corpuscles, more or less epithelium, and large gonococci lying in groups within and without the cells. It is not to be assumed that because the bacteria are intracellular, they are therefore gonococci, for it is certain that other diplococci than those of gonorrhea lie within the cell protoplasm. Moreover, the writer has seen preparations in which the unmistakable gonococci lay altogether without the cells. The most distinguishing *characteristica* of the gonococcus as stained by the Pick method, according to Broese and Schiller, are the deep blue color, the biscuit or coffee-bean form, and their superior size. The gonococcus is an exceedingly large diplococcus, averaging one and one-half micromillimeters in length and three-fourths micromillimeter in breadth.

In preparations from chronic urethritis, one finds epithelium in abundance, few pus-cells, and sometimes gonococci. These latter appear usually, however, only after coitus or after the application of an irritant to the mucosa. The discharges from acute urethritis and Bartholinitis, are found to contain gonococci in almost every case, and it has become almost justifiable to assume a priori that acute inflammations of these structures are gonorrheal in origin; likewise inflammation of Skene's glands is very apt to be specific. It is impossible, however, to determine the bacteriologic etiology of a cervical discharge by its color, consistence or profuseness.

It is here that one experiences the greatest surprises. Today one finds almost pure pus, practically no epithelium, no gonococci, and very few germs of any kind; and after a week or so, in an innocent looking glycerin-like discharge may appear beautiful gonococci, with very few pus corpuscles and much mucus.

It will be concluded after many examinations for gonococci, that the urethra is the predilection seat of gonorrhea in women, and that the vulvitis and vaginitis are secondary, being caused by the bathing of these parts with the discharge from the urethra and cervix. Vaginitis and vulvitis are rarely seen in cleanly women, according to Bumm.

In many cases of endocervicitis, endometritis and salpingitis gonorrhoica it is impossible to isolate the specific germs. A classic clinical picture of gonorrhea is complete, and yet the most skillful attempts to run down the gonococcus are futile. An explanation of this paradox has been given us by Wassermann. He has shown that the gonococcus produces an active specific poison. The poison is contained within the substance of the gonococcus itself. The poison remains active after the death of the germ. A very small amount of this poison if injected under the skin produces inflammation at the point of application, fever, swelling of the neighboring lymphatic glands, and pain in the muscles and joints. Wassermann sought to find whether there is any immunity against this poison, with a negative result.

With these facts in mind, many dark places in the symptomatology of gonorrhea become more clear. It is possible to explain by this token blenorrhagic rheumatism after the gonococci have entirely disappeared. Moreover, the peculiar symptomatology of chronic gonorrheal inflammation of the female genital apparatus becomes clearer. Remembering that the gonococcus is aërobic and does not multiply under exclusion of oxygen, but, on the other hand, very soon dies under this condition, the picture becomes still clearer. The cocci may become encapsulated and cut off from the circulation in an old exudate and die off, but at their death and disintegration the inflammation and fever-producing poisons are set free. If they are absorbed fever results. If they remain localized the local inflammatory process continues, perhaps indefinitely, since the organism can not immunize itself.

We have seen that the diagnosis of acute gonorrhea may be made by contemplation of the clinical phenomena alone; for example, if acute urethritis be present we are almost certain that the gonococcus is to blame. A few days' observation will establish the diagnosis beyond conjecture, since the symptoms of non-specific urethritis will disappear rapidly. In chronic gonorrhea, however, too much dependence upon clinical manifestation is hazardous. Condylomata are often present, but appear also often independently of gonorrhea. Débris-laden discharge from the vulvovaginal glands is usually an expression of old gonorrhea, but other germs, as the staphyloccus aureus and saprophytic forms, may occasion just such discharge. Among the more common indications of chronic gonorrhea, are the maculæ gonorrhoicæ of Sanger, red papules about the openings of the vulvovaginal glands, sclerotic inflammation of these glands in which the glands are felt as non-sensitive nodules under the examining finger, cysts of these glands, and scars and erosions in the vulva. To these may be added the colpitis maculosa and granulosis. All these conditions may be caused by other germs than gonococci. Here, as in acute gonorrhea, the most reliable indication is the urethritis.

The swollen papilla and caruncles at the orificium externum and the milky mucus or purulent discharge speak loudly of specific infection. If the infection has reached the endometrium or tubes, the diagnosis is more easy.

Clinical data are more valuable in determining the value of a discharge from the endometrium or tubes than microscopic search. Such discharges very often infect the male specifically when the gonococcus is not to be demonstrated. As a working rule it may be laid down that gonorrhea is not cured so long as gonococci or clinical phenomena remain; it being borne in mind that the "good-morning drop" may persist after the gonococci have gone, or inversely, the germs may be secluded in the deep layers, occasioning neither objective nor subjective symptoms.

If, having weighed the clinical phenomena and having sought the gonococcus on the slide, we err in diagnosis, it may still be said with truth we have done well. *Ultra posse nemo obligator.*

315 N. Pennsylvania St.

CASES IN HOSPITAL PRACTICE.

LIGATION OF THE GASTRO-EPIPLOICA ARTERY—DISTURBANCES OF THE THYROID GLAND COMPLICATING FIBROID TUMORS OF THE UTERUS.

BY GEORGE N. KREIDER, A.B., M.D.
ATTENDING SURGEON, ST. JOHN'S HOSPITAL; CONSULTING SURGEON, WABASH HOSPITAL; TREASURER STATE MEDICAL SOCIETY.
SPRINGFIELD, ILL.

On Sunday, May 15, at 6 P. M., while engaged assisting Major Frank Anthony of the Sixth Regiment Illinois Vols., with some minor surgical work at St. John's Hospital, I was informed that a man had entered with a serious stab-wound of the abdomen. I found H. C., aged 35 years, well-built and fleshy, an attaché of a madame demi-mondaine. He had received his injury while engaged in an encounter with a desperate character in the "tenderloin" district. He was first taken to a saloon where he was seen by several physicians who had recognized the serious nature of his injury and had sent him to the hospital. I found a wound near the left semilunar line extending from about the level of the umbilicus upward two and one-half inches. On removing the dressings, which had been temporarily placed over the aperture by the physicians first in attendance, the intestine prolapsed, and with it came a profuse flow of blood. There was no evidence of any injury to the intestine, and my efforts were confined to discovering the source of the hemorrhage. I first cleansed the wound and surrounding skin thoroughly. Finding that the opening was too small I extended it slightly upward and downward and also toward the median line about one inch. I then carefully separated the walls of the original wound and discovered a clot, which was not disturbed, but was followed carefully to its termination, which I found to be a divided large vessel in the great omentum, and which I doubt not was the gastro-epiploica sinistra artery. It was apparently about the size of the radial, was completely severed, and was pouring blood into the peritoneal cavity at a rapid rate. An effort was made to take it up and tie it in the ordinary fashion, but this was found impossible because the delicate tissues of the omentum tore asunder as the thread was brought firmly down on it. I therefore finally resorted to the quilting in of the vessel, using for this purpose a Red Cross catgut ligature. By this means the hemorrhage was arrested, and I proceeded to remove as much of the blood and clots as could be readily reached. I am sure that considerable fluid blood still remained in the peritoneal cavity when it was closed. Suturing of the abdominal wall was attended with considerable difficulty because of its thickness and rigidity. He was put to bed at 7 : 30 P.M. At 10 : 45 P.M. his temperature was 99.4 and pulse 92. The subsequent history was uneventful, and he left the hospital May 30 at 11 : 45 A.M., less than fifteen days after his entrance, with a normal pulse and temperature.

The point of greatest interest in the case was the method pursued in finding the bleeding point. I had never before used or seen recommended the following up of the clot to its point of origin in order to obtain a clue to the severed vessel. I was kindly and efficiently assisted by Major Frank Anthony and Lt.-Col. C. C. Carter, of the Third Brigade I. N. G.

Disturbances of the thyroid gland complicating fibroid tumors of the uterus are sufficiently rare, I imagine, to warrant especial attention. I will mention two cases of this coincident or connected affection which have come under my observation.

In February, 1896, Miss S. M., aged 44, was operated for a large fibroid and a complete hysterectomy made. Her recovery, except for a phlebitis of the left leg, was without particular incident, and she left the hospital in ten weeks in good condition. During the latter part of the year 1896 she had some circulatory disturbance, but nothing unusual, until April, 1897, when she appeared with the thyroid gland considerably enlarged and the heart's action 120 per minute. The neck measured 13½ inches. She was very nervous, had headaches, and aggravated flushings of the face. She was given thyroid extract for a time, but as that did not seem to do much good she was given four drops of tincture of digitalis and four drops of tincture of strophanthus four times daily. This seemed to meet the indication, as it has in other cases of goiter which I have treated, and in October I noted that the symptoms of flushings had disappeared and also the nervousness. Her pulse was 94. The circumference of the neck had been reduced to 13 inches. Since then she has had no further trouble.

The second observation was made in the case of Miss A. N., aged 33. I saw her Feb. 15, 1898, with Dr. B. B. Griffith, and obtained the following history: Her parents are living. Father is 63 years old and in good health. Mother is 57 years old, has a very large goiter, which began when she was 34 years of age. Goiter manifests itself in nearly every female member of the mother's family. Mother otherwise is in fair health. Patient states that her health began to fail about a year ago. She has had symptoms of goiter for a long time. Her menstrual flow has always been regular and lasted about two days. She usually had some leucorrhea before the flow began. She has had considerable pain on the right side of the uterus for four months. The urine passed in twenty-four hours amounted to only 700 c.c. The specific gravity was 1012. A slight amount of albumin and a few tube-casts were found. She says she has passed as much as six quarts of urine in a day recently.

Examination revealed a solid growth extending to the umbilicus in the center and to the brim of the pelvis on either side. A diagnosis was made of uterine fibroma. The patient was reduced in flesh and strength to the last extreme. She was removed to St. John's Hospital and every effort made to increase her vitality. After a week's stay in the hospital there seemed to be a slight improvement, but her condition at that time was such that I concluded to operate in the most conservative manner. Her pulse when fully under the anesthetic was 120 and feeble. The decision for a conservative operation was emphasized when the median incision revealed the bladder adherent high up on the growth, and veins of unusual size coursing over the growth itself. I therefore reached for the ovary on the right side and was surprised to find a cyst of that organ the size of a large cocoanut, which had been impacted in the pelvis under the fibroma, and which had undoubtedly given rise to the pains complained of on the right side, for several months. The cyst and corresponding tube were tied off and removed, and the ovary on the left side, which also contained a number of small cysts, and its tube were also removed. The uterus, presenting numerous large fibroid tumors, was again examined and a final decision made to trust to castration to bring about the disappearance of the morbid growths.

The pulse when she was removed from the operating-table was 104, but it soon ran up to 134, and at 3 P.M. of the same day it was 150. The temperature and pulse did not correspond, for at this and other times in the history of the case the temperature was normal or only slightly above, when the pulse was running from 120 to 165 per minute. Four days after the operation the system began to show signs of absorption of the fibroid and the temperature was elevated for twenty-one days, at one time reaching 103, but generally not going above 101. During the time of this absorption a distinct crackling sensation was given to the finger as it was passed along the left side of the uterus. For eight weeks the pulse in this remarkable case ran from 126 to 140. During this time the bowels moved from five to ten times in twenty-four hours, involuntarily, and the stools were of the most offensive character. The urine was passed involuntarily also and was scanty, of low specific gravity, and contained a small quantity of albumin. The mind at times was much clouded, and she required constant watching to keep her in bed. She was so emaciated and weak that neither of us, nor any of the numerous physicians who saw her, entertained any hope of her recovery. We exhausted our armamentarium during the progress of the case.

With the idea that the rapid pulse was due to the affection of the thyroid, we gave thyroid extract, but it did not seem to be well borne and was soon stopped. Digitalis and strophanthus did not seem to have any control of the heart. Protonuclein, panopepton, beef juice, liquid peptonoids, malted milk, koumyss, bone marrow, hemaboloids, and champagne were given from time to time. Malt nutrin, one tablespoonful every three hours, and inunctions of cocoanut-oil seemed to exert a good influence on her nutrition. After more than one hundred days of what seemed a hopeless contest, the pulse began to decrease in frequency. For thirty days it ran from 116 to 120, and for ten days previous to her leaving the hospital it ran from 106 to 110. She has taken on flesh and her color has greatly improved. The bowels and urine are controlled and improved in every way. The appetite, which for weeks was absent altogether, has returned and now she may be said to be well. The tumor has disappeared entirely.

This patient was seen Jan. 6, 1899. She weighed 140 pounds and was in excellent health.

The interesting points in this case are the unusual frequency of the pulse-rate, which can probably be explained by the co-existence of the goiter and the value of the conservative operation of castration in a nearly hopeless case if the usual procedure of hysterectomy had been undertaken.

PREVENTION OF VENEREAL DISEASES.

Read by title before the Mississippi Valley Medical Association, Nashville, Tenn., Oct. 13, 1898.

BY DAVID LIEBERTHAL, M.D.

PROFESSOR OF SKIN DISEASES, JENNER MEDICAL COLLEGE; ATTENDING DERMATOLOGIST, MICHAEL REESE HOSPITAL DISPENSARY.
CHICAGO.

Occasionally, and fortunately of late more frequently, a medical man has raised his voice for the protection of society against the insidious evils of venereal disease. Thanks to the profession, by whom only the proper instructions can be given, society already shows signs of realizing the danger. I shall not dwell at length on prostitution proper, nor refer to statistics and quotations of sentiments. What I desire to say is, that prostitution carried on as a trade is by no means so great a menace as is clandestine prostitution or illegal cohabitation. I shall not advocate a legalized compulsory inspection of prostitutes, because of the directly unfavorable effect it would produce. Many a house would conceal its true nature from the public officers in order to avoid rigid inspection and expense. Most of these institutions deem it a wise policy to take all precautions to avoid a loss of patronage from neglect of necessary hygienic measures. To advocate the rigid enforcement of the law prohibiting prostitution, in order to remove its dangers, would be folly. Seduction would increase, as well as the danger to public health.

From the earliest history of the human race prostitution has existed, as is confirmed by ancient tradition. To abolish it would mean to make mankind angels, which can not be done so long as they must serve their term on earth, and we have the trustworthy tradition that even angels descending to earth have dissipated. But how could the danger from this source be lessened? In every community the State should employ a sufficient number of physicians well skilled in this special department. Prostitutes and all others applying should be thoroughly examined for a small fee or free of charge. This examination should not be considered complete without a bacteriologic examination of the discharges. Prostitutes should be examined every five days, and when found healthy a certificate should be furnished. All should be provided with a printed sheet of instructions for prophylaxis. This should consist of washing the external genitals with soap and water after each cohabitation, and afterward with a prescribed antiseptic solution, followed by an antiseptic vaginal douche. The male should adopt similar precautionary measures, concluding with a mild urethral injection.

What should become of prostitutes when infected? They should be advised to enter a hospital, which should be well equipped and provided by the State, as I shall explain later on. Both these propositions would certainly be highly appreciated by this class as not entailing any expense. Under present conditions many are no doubt deterred by the expense from procuring proper hospital care, and in their diseased condition continue their "business." Far more danger lurks in other sources, and we are looked to for advice as to how to improve matters. As soon as society becomes acquainted with the real nature of and the best means of removing the danger, the government elected by the people will fulfil its obligations.

We shall first consider the sanitation of public places before touching on the possibilities of doing good by the education of parents and others, as well as the direct and active part played by the profession.

Water-closets, from which the danger of infection is really very slight, should be provided with strips of cloth arranged in a closed box, from which one at a time can be secured by a device similar to that employed for closet paper. A visible sign should instruct to thoroughly rinse the bowl and wipe off the seat beforehand. Towels for the face should be used by one person only. Barbers should be compelled by law to disinfect their razors and to wash the soap cup and then their hands after shaving each person. The general use of the hemostatic stick should be prohibited, substituting a hemostatic powder applied by means of a fresh piece of absorbent cotton. The willing service of a barber to remove warts or pimples should not be allowed. Manicures or chiropodists should disinfect their instruments and take corresponding precautions in the treatment of their customers. Dentists, only filling teeth, should not forget that their instruments require disinfection as well as those employed for cutting. Physicians do not fulfil their duty in simply disinfecting their instruments, but should always bear in mind that medicines for application in outspoken venereal cases should be kept in separate receptacles, as well as sponges, brushes, absorbent cotton, nitrate of silver stick, etc. In doubtful cases, proper precaution should be taken. I can not avoid emphasizing this, for it has occasionally happened that syphilis and gonorrhea have been contracted by omission of these precautions, which are obligatory upon every physician. But just as they should protect their patients, so should they care for their own safety, especially in regard to syphilis, which is frequently contracted by physicians in obstetric and gynecologic practice. I have been consulted by a relatively large number of my professional brethren for primary lesions on their fingers and hands, and I must say most of those have been very resistant. The same is true of midwives. Recently, in consultation with Dr. Radesinsky, I have seen two cases of sclerosis on the ulnar side of the dorsum on the right hand, and could easily surmise where the seat of infection lay in the parturient woman. The midwives, having examined with their right hand, touched with the dorsum of that hand the left labium majus, where moist papules were seated. Subsequent examination of the women confirmed this suspicion. What protection would I advise? In examining a new patient, closely fitting rubber gloves, well lubricated, should be employed. If syphilitic primary lesion or papules are found, it is all the more advisable. The vaginal portion of the cervix should not be overlooked, being oftentimes the seat of a primary lesion, as may also be the vaginal walls. In examining the rectum or mouth with the finger, it should be protected with a rubber cover.

Turning now to the homes, we shall not forget the adults, although we must devote more time to the birth and growth of the child until it arrives at the age to care for itself. First of all, the bathtubs should be covered with sheets of linen, properly sewed together to fit the tub, using a fresh cloth for each bath. This is particularly necessary for public bathing-houses, and is quite generally employed in the bathing-houses of many European countries. Tooth-brushes should be kept locked up by each person. Fountain syringes for rectal or vaginal irrigations should be used only by one person. Even the servant-girl should not use that of her mistress, or vice versa. If it is unavoidable, then the most scrupulous cleanliness and disinfection should be employed. If syphilis, recent or remote, is found in a pregnant woman, early treatment should be instituted in the interest of all parties concerned. In case gonorrhea of the mother is acknowledged or suspected, the birth canal should be thoroughly prepared before labor. In any case, a few drops of a 2 per cent. solution of silver nitrate should be applied to each conjunctival sac of the infant immediately after birth. Bath-sponges and other appliances for the care of the child should be kept correspondingly clean, and are not to be used by others. Should the mother not nurse the child, care must be employed in both methods of substitution. If a wet-nurse is obtained then both she and the child should be examined in order to avoid infection of either party; or, if bottle-fed, the bottle should never be offered to another nursling, nor the bottle of another accepted. The habit of kissing the children of strangers should be interdicted. Later on the child must be taught to drink only from its own glass. The sleeping of children with adults should decidedly be declared to be unhealthy, for many a child has innocently contracted syphilis or gonorrhea in this way. Far less should children of different parents sleep together. As the child approaches puberty, although social prejudice is against it, we have to insist that it should be instructed by its parents or other responsible people in the physiology and hygiene of, and the danger to, its sexual organs. If it should be argued that by such information there will be aroused in the mind of the young man or maiden a morbid curiosity and a hitherto unknown sensation, whereby they can go astray, we reply that if parents are not willing to do their part, friends will soon enough appear on the scene who will communicate to the innocent more details than parents could do, and will describe all they know in a very fascinating and seductive manner. Such friendly narratives or the reading of obscene literature would be divested of their unfortunate effect were the young prepared—the son by his father and the daughter by her mother, because to these instructions many a loving word will be added. Thus many a young mind will be saved from falling, and should such an event occur, knowing the dangers of infection, they would at once apply to a physician should the slightest symptoms appear.

To return to the relation of the physician to the State. That physicians are able to do the most for the prevention of venereal diseases is easily demonstrated, but only when the Government arrives at the conviction that the profession should be consulted and their advice accepted. In the first place the sale of all proprietary medicines for venereal diseases should be prohibited and quack advertisers suppressed, while druggists should not be allowed to prescribe. The law in this respect should be strictly enforced and the part of the physician will be a much easier matter. He should not deliver a prescription to a patient calling for a specific remedy. He (the doctor) should either furnish the remedy himself, or, if it is dispensed by the druggist, it should pass through the hands of the physician.

To substantiate what I have just said, take, for example, a case of acute gonorrhea. The patient receives his prescription and possibly returns a second time, to disappear for ever. He does not consult another physician, but has his prescription filled and refilled until the alarming symptoms, copious discharge and intense burning subside. The chronic gonorrhea ensuing does not cause him as much distress, and possibly a morning drop only remains. He deems himself cured and seeks new cohabitation, and naturally not where he contracted his first infection, and so transmits the disease to one or more. Besides, he may have a good friend in like condition whom he is happy to advise, and the original prescription is refilled indefinitely with a similar result each time. In all cases, where it is possible, the patient should be treated in the doctor's office. In the first place, the application will be properly made, and secondly, he will have the moral support and good counsel of the doctor to deter him for at least the next twenty-four hours from indulging in liquors or cohabitation. The danger of complications being frequently emphasized and impressed upon him, he becomes at length more and more conscious of the fact that he may be a source of danger to others and learn to weigh his responsibilities. And finally, he is not discharged until cured. The same must be said of female patients and the effect of severe medical control will be equally observed. But how with patients whom circumstances compel to change places, for instance, traveling men? They have the opportunity to consult a physician wherever they go, and he can do the same. If a patient lacks funds to pay the usual fees, he will still find a liberal physician who will attend to his case. A patient without any means should apply to a doctor for a certificate directing him to a dispensary or hospital. Of these institutions there should be a sufficient number according to population, and supported by the Government with sufficient liberality to afford the patient the best of care. An ample staff of experienced physicians should be elected by the profession—and not through political nfluence—to attend these institutions, and should eceive suitable remuneration. Thus, at least, in one ranch of medicine there would be avoided the abuse f the free dispensary by persons perfectly competent o pay, and from these hospitals and dispensaries the ecessary clinical material for instruction could be ecured.

Impracticable as some of the foregoing suggestions ay appear, it is still true that no material advantage is obtained without effort, and considering the enormous benefit to humanity, it can not surely be purchased at too great a price.

103 State Street.

SOME FORMS OF GANGRENE AND THEIR TREATMENT.

Read before the Mississippi Valley Medical Association, Nashville, Tenn, Oct. 11-16, 1898.

BY J. S. NOWLIN, M.D.
SHELBYVILLE, TENN.

Gangrene means death of a part, and by common consent is technically applied to the soft tissues, including the fluids. The blood is always involved in this disease, and there can be no death of a part while it is performing its function. With this thought kept before us, that there is no local death where the blood is performing its function, we may inquire into the conditions which result in gangrene.

External violence may crush the tissues, to the extent that circulation is thereby arrested. The channels for the blood-current being destroyed, it is impossible for it to yield its life-giving force, and the part must necessarily die. So long as the arteries and their capillary system are at all intact, life may continue and the injury be repaired. The same may be produced by the extremes of heat and cold, burning and freezing; the tissues being destroyed, the blood can not circulate. These we class as traumatic causes of gangrene. We also have internal conditions resulting in gangrene, e.g., the neuropathic form, in which death of a part results from sudden withdrawal of the nutritive forces.

Though I am not sustained by the weight of authority, I believe we have a trophic nerve which controls the nutritive forces, and directs that energy of the circulating medium which feeds the system and gives life. Some have looked upon this as inherent in the common function of the vasomotor system. I believe there is a *receptive vital force inherent in the cell* which enables it to receive and appropriate nutritive energies of the blood as it passes by, and if this is wanting in a given tissue, the blood, though normal, can not impart its life, and death at this point is the result. I saw decubitus appear on the nates of a feeble old lady aged 70 years, within twenty-four hours after she suffered a fracture of the neck of the femur. It also appears quickly after injuries to the spinal cord. It is patent to every close observer that when a part has been injured as, for example, an incised wound, the blood is quickly rushing to its relief, and all the capillaries in close proximity are immediately surcharged. This is not simply that continuity is wanting, and the vessels leaking, but it is an intelligent determination of the life-giving fluid for purposes of repair. This is the first step of all the steps in the process of that series of conditions which we call inflammation, and, if recognized and understood by the surgeon will, as a rule, be the only step.

Simple endarteritis is sometimes the cause of gangrene. In this condition it is not because the lumen has been obliterated, but because the intima is not in receptive status and the blood can not impart its nutrition. Vitality of the tissues is thus rapidly impaired and lost, the sequence being that the blood is retained in the artery to an extent beyond its capacity. The inflamed artery is thus surcharged with blood, and a stasis results which ends in coagulation, obstructing the lumen to an extent commensurate with the inflammation. Here the gradual loss of life precedes the actual infarction of the vessel. In support of this I quote from Warren, who says: "Individuals affected with diabetes or scurvy, are peculiarly liable to gangrenous processes."

The so-called marasmic thrombi are usually due to a slowing of the current, and a coincident defect of the walls of the blood-vessels, thus favoring coagulation. The same thought is in Weigert's theory of coagulation neurosis, in which he says that the cells of the tissue become altered to granular or hyaline masses and lose their nuclei. The obliterative endarteritis, with new tissue formation, has impressed me as a pathologic condition which has not grown up suddenly, but requires time.

Sepsis is doubtless the more frequent cause of gangrene in the extremities, in cases of continued fever, or any protracted trouble in which blood is spanemic and the nervous system depressed.

Senile gangrene is the result of diseased arterial walls being either atheromatous or deficient in nerve-supplies, possibly both. It will be observed that sepsis may produce thrombosis, and either this or embolus may obstruct the arterial canal at the extremities. The difference then from senile gangrene is in that form producing cessation of nutrition because of non-nutritious capillaries, while the septic form is from thrombosis. The time for operative treatment in senile gangrene is somewhat at the discretion of the surgeon, but in the septic or obstructive form, it must be done instantly.

In the line of treatment the time for operative interference which will be safe to life, and for determining the point of amputation which will least mutilate the body, are all important. If traumatic in any of the varieties, we know that it is local, and so long as it so continues, there is no danger of constitutional effects that will be destructive to life. The operator should be familiar with the earliest indications of sepsis, as also that traumatic endarteritis, known as fulminating, which now and then destroys the patient so quickly. The artery is lacerated or in some way wounded, and the rapid obliteration may be caused by local shock to the trophic nerve, or the intima may become at once inflamed, with like result. When this state exists, amputation should be done at once at a point above bifurcation. On the other hand, if the above does not exist, the surgeon may select his own time for operation.

In the senile form, the disease is caused by sclerotic conditions of the arterial wall, whereby the expansive and contractive function is destroyed, and the nutritive receptivity lost; the part dies for want of nutrition, though the blood is normal. Twenty-five years ago I was afraid to cut a sclerotic artery, but now I am sure the best practice is to amputate.

In the beginning of this paper attention was directed to the blood as the leading factor to be looked after in pathology and treatment. If this is kept in view, the question of demarcation will no longer be looked upon with so much anxiety. There are four principal causes: 1, the septic, in which the blood is diseased; 2, the senile or atheromatous condition; 3, trauma; 4, inflammation of the internal coat of the artery. If septic, we have thrombi and coagulated blood up to the first principal bifurcation of the artery. The symptoms being pain first, then coldness and ease, are all that ought to be asked, and if these obtain, amputate high up at once. If senile or sclerotic, a little time may be given, but the knife must come, and that above the ankle if not higher. If traumatic, the watchful intelligent eye and *tactus eruditus* must be on the outlook for sepsis and hold the knife in constant readiness to assist nature at the first intimation. If simple endarteritis, or endarteritis with tissue formation, then again amputate at the first evidence of fading vitality.

HYDATID CYST OF THE LIVER.

LAPARO-HEPATOTOMY AND RECOVERY.

Read before the Indiana State Medical Society, May 28 and 29, 1896.

BY LEON J. WILLIEN, M.D.
TERRE HAUTE, IND.

The history of echinococci of the liver, or hydatids, is of no recent date, because Hippocrates describes certain kinds of fluid he found in the liver, which description, from its preciseness, leads us to believe that the malady existed then. Both Galen and Aretæus were not ignorant of its existence, yet no records could be found giving an accurate description of these cysts until more attention was given to the study of anatomy, in the sixteenth and seventeenth centuries, when Plater, Vega and Riverius gave a more careful and minute description of the disease. To Breemer is due the credit of having first given an accurate description of the echinococci, in 1821. From that year on, with the progress and rapid advancement of medical science, more was learned of this hepatic parasite, and the microscope reveals its existence.

I am not desirous of dragging this paper into a lengthy description of the disease, but simply ask attention to the following case, which, on account of its rarity and the result, was one of unusual interest to my fellow-colleagues and myself. To make a diagnosis of a hydatid tumor by a simple physical examination is difficult, unless we have recourse to the microscope, otherwise there there would be a probability of its being not a certainty. Even the closest clinical observation, kept up for days, will often keep the physician at sea as to the certainty of the diagnosis; therefore we must always accept *cum grano salis* the positive existence of a hydatid tumor of the liver unless a microscopic examination of the contents is made. How do we know for certain whether the liquid withdrawn from the pleural cavity is serum, or whether a hydatid sac has broken into it, without that examination? The symptoms would be those of a sudden rupture. They would quickly dispel the idea or the surmise of an effusion resulting from pleuritis. The diagnosis of such a case has been made most frequently at the postmortem.

Case 1.—Elias W., aged 50 years, single, coal miner by occupation, residing at Fontanet, Vigo Co., Ind., small in size, thin in flesh, light complexion, and of a delicate constitution. He claimed to be of regular habits; his physiognomy is characteristic of an eccentric individual, a religious crank, and a poet. Could find out very little concerning his history. For some months previous to his consulting a physician he had pain in the region of the liver, with indigestion, constipation, and a sensation of weight in the hepatic region. The pain came on gradually and ceased suddenly. He was admitted to St. Anthony's Hospital June 26, 1895, and placed in the clinical ward, then in the charge of Dr. Walker Schell.

The history of the case was rather obscure, he saying that he had pains in the region of the liver since September, 1894. After observation for several days the Doctor discovered an unusual increase of the anterior lobe of the liver. The larger diameter of the tumor was felt just over the juncture of the nipple and the parasternal lines. Its face was irregular, soft, and almost fluctuating to the touch; the area of the stomach and abdomen was increased, and the lower margin of dulness was due to the presence of fluid. The Doctor then kept the patient under observation until July 2, when toward evening his temperature rose to 103.4; July 4 his temperature was 102. July 5, morning temperature 103; noon temperature 102 and evening temperature 102. This condition, with a depressed and rapid pulse and the general appearance, was sufficient cause for alarm, demanding more active interference than internal medication.

The Doctor, finding surgical attention necessary, kindly turned the case over to me for operation. The patient was chloroformed by Dr. Chas. Wyeth. Then, with the assistance of Drs. Schell, Shaley and Jenkins of the hospital staff, I made a curvilinear incision over the larger diameter of the tumor, beginning about one inch below and three inches to the left of the sternocostal articulation, the center passing one inch to the right of the linea alba and downward to about three inches to the right of the umbilicus. After reaching the peritoneum I picked it up with a dissecting forceps and nicked it with a pair of scissors. Encountering no adhesions, I slit it open and entered the peritoneal cavity. In passing my fingers into the abdomen I discovered the whole anterior portion of the liver enormously enlarged, its inner border extending beyond and to the left of the median line, inferiorly down to the umbilicus, and externally on the flank below the parasternal line. Its surface was smooth and of a dark color, almost blue; subcapsular veins greatly distended. The hepatic tissue appeared solid, yet there was a certain degree of resistance, indicating the presence of some fluid beneath. In passing the hand to the right over the nipple and parasternal lines I found the walls thin, fluctuating and of a grayish color. To prevent the escape of the contents into the abdominal cavity, I stitched the peritoneum to the hepatic capsule with catgut. I then plunged the exploring needle into the walls of the liver; these I found to be only one-fourth inch thick. With the aspirator I drew out at first about two ounces or sixty grams of a semi-opaque liquid containing white filaments. This was sufficient evidence of the existence of a hydatid cyst. I abandoned the process of aspirating the contents, because of its uncertain results. I slipped a grooved canula into the aperture made by the aspirating needle to serve as a guide. With the back of a narrow bistoury I then penetrated the sac, making an opening about three inches in length so as to permit the free introduction of my fingers. Fortunately, no hemorrhage occurred, and I at once proceeded to break up the hydatid tumors that distended the entire anterior hepatic lobe. These varied in size from a turkey egg to a B shot, the contents in all amounting to about three pints. After flushing the cavity well with hot sterilized water, I packed the sulcus well with 5 per cent. iodoform gauze, bringing the upper and inferior angles of the incision in apposition with iron-dyed silk. The whole was well dusted with iodoform, well covered with absorbent cotton, and maintained in position by a roller bandage. The operation, including time taken for the anesthetic, occupied one hour and twenty minutes.

The patient stood the operation well, and reaction set in promptly; he had little nausea and vomited only three times. During the night his temperature rose to 103 and pulse 110, but by morning he had dropped down to 101 and pulse 90. Although prostrated, he felt little or no pain. The patient passed a quiet night, though suffering at times with a little nausea. Sips of hot water were gradually given him to allay the irritation of the stomach.

July 7, temperature, morning and evening, 101, with a pulse of 90; complains of no pain; skin is moist, and the tongue slightly coated. The body presents a general icteric taint. Upon removing the dressing there escaped a quantity of bile. The sac was washed out thoroughly with a warm solution of chlorid of sodium, and the drainage tube being replaced, the wound was dressed. No medicine; diet, malted milk.

July 9, fourth day, morning temperature 100, pulse 90, soft and regular; has had slight hallucinations. After washing out the sac first with pyrozone, I injected solution of tincture of iodin, one part to four of water. Secretion of urine scant, tainted with bile; bowels constipated.

℞. No. 1.	Calomel	gr. 3	20
	Sodii bicarb	gr. 10	65
	Aloin	gr. ¼	016

Sig. To be given at once, and if no purgative effect is obtained in five or six hours, give maltine with cascara ʒ1 every four hours.

July 10, fifth day; bowels moved freely during the night; he rested well, but sweat profusely; temperature 8 A.M. 99; pulse 90; washed out the wound and dressed as before, ordered;

℞. No. 2.	Quin. sulph	gr. 4	26
	Caffein, ext	gr. 1	065

Sig. To be given four times during an interval of four hours. Diet, malted milk and beef broth.

July 11, sixth day; general condition the same as yesterday; temperature 99, pulse 72; quite a quantity of broken-down hydatids, almost a teacupful was washed out. No treatment; diet, beef broth and milk punch.

Ninth day. The patient was well until July 13, when he did not rest well during the night and sweat profusely; temperature 101 at 8 A.M., pulse 80. Quite a quantity of bile, with more hydatids, was washed out; same process of irrigation of the sac as before; bowels constipated, and the tongue coated. Ordered a repetition of ℞ Nos. 1 and 2; same diet.

July 14, tenth day, temperature 99, pulse 80 and weak; sweat profusely during the night, and has had very little discharge from the wound. The sac is contracting. After removing the dressing, I slipped the finger into the cavity and felt numerous clusters of hydatids attached to the walls of the liver, about to break down. Same treatment as before; repeat ℞ No. 2 and ordered the following tonic:

℞ No 4.	Sol. strych. sulph. 1/60	gtt. 2.
	Sol. nitro-glycerin 1/100	gtt. 2.
	Tr. digitalis	gtt. 5.
	Tr. ferri chlorid	gtt. 10.
	Tr. cinchonæ comp.	ʒ 1.
	Syrup pruni virg.	ʒ 3.

Mix.

S. Repeat three or four times daily. Same diet.

July 15, eleventh day, temperature and pulse the same as yesterday; looks better, and the sweating has yielded to sulphuric lemonade; same treatment of the wound, from which quite a quantity of hydatids were expelled. The patient kept on improving, until July 24, when his temperature was almost normal; the cavity of the liver was closed up, the hydatids had disappeared, and quite a quantity of bile tainted with pus escaped. The same dressing was kept up until July 31, when the iodin was omitted. Fifty per cent. solution of dioxid of hydrogen was substituted, and after douching out the sac, the dressing was replaced, and the same treatment continued until August 15, when the wound was healed, and Elias went on his way rejoicing to be still in the land of the living.

The patient is now (Oct. 30, 1898) living in Pennsylvania.

ELECTROLYSIS AND CATAPHORIC MEDICATION.

THE TREATMENT OF CHRONIC CONGESTED PROSTATITIS AND ITS SEQUELS, IMPOTENCY AND SPERMATORRHEA, THEREBY.

BY G. W. OVERALL, M.D.
Late Professor of Physiology and Electro-Therapeutics, Memphis Hospital Medical College; Author of "Practical Electricity in Medicine and Surgery," etc.
ST. LOUIS, MO.

The pleasurable sensation of the orgasm being located in the prostate gland, and it, together with the contiguous organs, being furnished with highly sensitive nerves, makes it the most prominent organ of direct sexual influence. In fact, the prostate may appropriately be called the seat of the sexual brain. It is to this gland that the psychologic lustful impulse, in order to satisfy the animal nature, is indirectly exerted through the sympathetic nervous system.

The intimate reciprocal relations of the brain, or cerebral centers, and the prostate gland are marked, both in health and in disease. In health, excessive mental taxation, as by study or business cares, will lessen the sexual appetite; while violent emotions, such as grief, fright or anxiety, will temporarily suspend all desire. Men are by nature much more sensually inclined than women, and when they cultivate libidinous impulses, and the associations of prostitutes, they are liable to indulge sexual propensities to such an extent as to develop passions that may lead to grave immoral vices, like excessive sexual intercourse or even masturbation. Both of these frequently give rise to urethritis, prostatitis or stricture; which, in turn, reacting upon the inflamed prostate, cause at first an almost insatiable sexual appetite, that later may be followed by a total loss of all sexual desire, accompanied by involuntary seminal discharges. Such conditions usually result in young men not exceeding 40 years of age, and often the tax and drain upon the nervous system cause such perverted psychic conditions as mental depression, melancholia, and even at times insanity. Impotency in men past 40 years of age, not due to inebriety or organic cerebrospinal diseases, is almost invariably the result of chronic prostatitis.

Just as mental disturbances influence sexual conditions, so in like manner do diseases of the prostate gland cause such various forms of mental disorders as inactivity, depression and neurotic aberrations. I have especially noticed that men between the ages of 40 and 70 years, suffering from chronic prostatitis, and as a result, impotency, lose the keen mental activity they formerly possessed. Their perceptive and reasoning faculties become more sluggish and inactive.

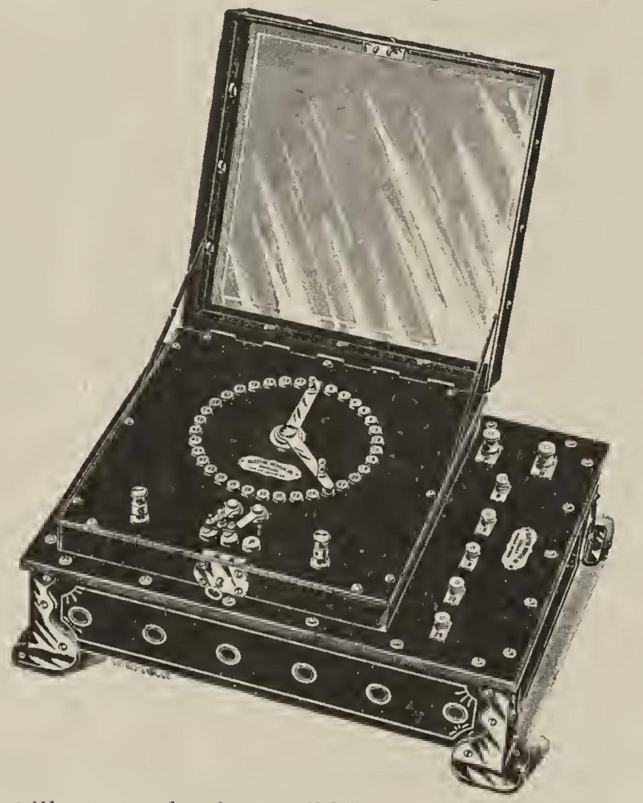


Figure 1 illustrates the shunt coil I have been using for quite a while, and I find it is absolutely accurate and never gets out of order. I have had constructed for me a primary and secondary faradic coil which makes it complete in every respect.

Impotency often exists for many years as a result of chronic prostatitis without the presence of symptoms of sufficient importance to cause the patient to consult a physician. I have met with quite a number of such cases, past 60 years of age, who thought the loss of virility was a natural sequence of old age, and had never consulted a physician until annoyed by dysuria; after the prostatitis had been relieved, accompanying the return of a natural sexual vigor, there was a corresponding return of both mental and physical activity. I do not wish to be understood to mean that there is a return of sexual vigor equal to that of early manhood, but nevertheless I am safe in asserting that it will be equal to that in the corresponding normal condition of the same age. Some men are naturally stronger and maintain their virility longer than others, and when the prostate gland is in a healthy contion, it may continue even past 70 years of age. It is the exception rather than the rule that a man passes his fiftieth year without having chronic prostatitis, and as a result, impotency, or at least impairment of the sexual organs.

Spermatorrhea is almost invariably the result of inflammation of the prostate gland, and the prostatic and seminal ducts. The semen may pass at night or both night and day, and usually without any sensation or erection. This condition is confined mostly to young men, and should not be associated with the nocturnal emissions resulting from voluptuous dreams and attended with erections. The latter may occur in health, after long abstinence from sexual relations, or may also occur when the prostatic urethra is inflamed and loses its elasticity. In the latter, the erection naturally draws upon the urethra, which, accommodating itself to the elongated condition, produces sufficient irritation to cause an emission, that in turn, is usually accompanied by sensation sufficiently perceptible to arouse the person.

CAUSES.

The chief causes of chronic prostatitis are: strictures, urethritis, cystitis, rectal ulceration, and the rough treatment of strictures by the forcible introduction of sounds into the bladder, tearing the inflamed mucous membrane and striking the tender gland with the end of the sound in making the curve as it enters the bladder. The teachings of authorities, of the harmlessness of dilatation in the treatment of strictures, urethritis and prostatitis, have developed an undue tendency to and rashness in forcing sounds into the bladder, causing hemorrhage, great pain, urethral fever, chronic prostatitis or prostatic abscess.

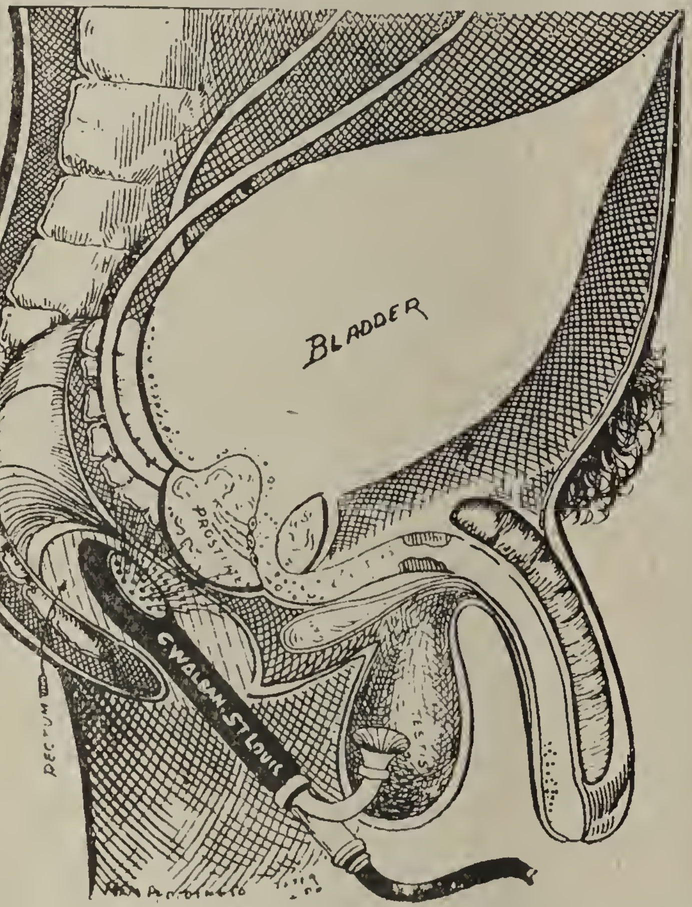


Figure 2 illustrates an electrode in use for the treatment of the prostate gland through the rectum by cataphoric medication, as devised and used by myself for some years. It is the best means I have ever used for relieving prostatic inflammation; and especially where the urethra is tender and attended with pain on the introduction of a bougie or any instrument into the bladder.

Residual urine, laden with mucus and urea, becoming decomposed and evolving carbonate of ammonia, is very irritating to the neck of the bladder and prostate, and is often a frequent source of the trouble. Chronic congested enlargement of the prostate is often mistaken for stricture or senile hypertrophy.

"Hypertrophy of the prostate" is a term understood by the profession to mean a fibrinous indurated enlargement, common to old age, and should not be confounded with the chronic, congested and swollen condition which is the result of inflammation. The former is a fibrinous indurated enlargement, attended at first with little or no acute sensitiveness (unless it has grown to the extent to interfere with emptying of the bladder, causing decomposition of the residual urine), and, according to Sir Henry Thompson, whose extensive experience places him as the generally accepted authority, occurs in men past 60 years of age, though there are isolated cases which have been reported as having occurred earlier in life. Hypertrophied prostate covers a multitude of errors in diagnosis, and those intractable cases of deep urethritis, prostatitis and strictures that prove rebellious to treatment are classed as such and considered incurable. Chronic congested enlargement of the gland usually follows strictures or chronic urethritis, or is concomitant therewith. It may occur at any time during life, even past 70, independent of senile hypertrophy.

The idea that prevails among the profession, that, when a man has any enlargement of the prostate gland past 60 years of age, it is hypertrophy and incurable, is erroneous. Some physicians even place the time of life for the appearance of senile hypertrophy anywhere from 30 years on up. I have treated and relieved cases of chronic enlargement of the prostate gland past 70, some of which had been treated for hypertrophy for twenty or thirty years. I can not cure hypertrophied prostate, and always tell my patients that I can not; but, by the use of rectal cataphoresis, I can relax, and to a limited extent soften the indurated tissue, and render the patient comfortable for many years. I have had a perceptibly diminished size of the prostate, but have never reduced it to its normal condition. Owing to its highly sensitive nerve-supply, disease of the organ is attended with marked reflex nervous disturbances, even to the remote organs of the body.

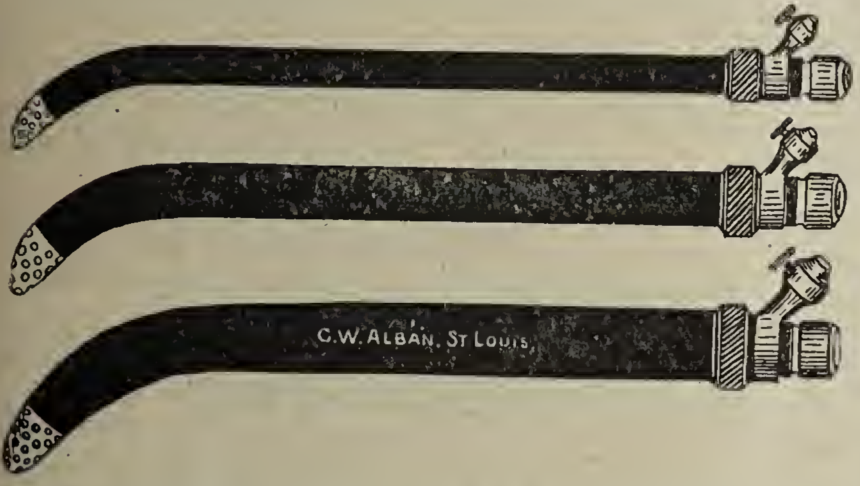
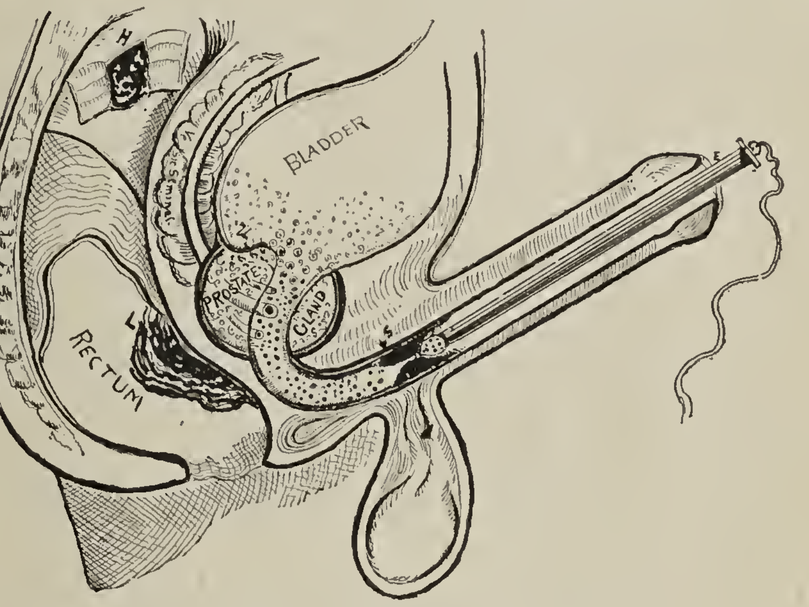


Figure 3 illustrates three sizes of cataphoric electrodes for the treatment of the prostate through the urethra when the latter is devoid of acute sensation. They may also be used in the treatment of strictures, as illustrated in Figure 4, which, when accompanying chronic prostatitis, must always be removed before permanent relief can be afforded the prostate.

TREATMENT.

It is not within the province of this brief article to discuss electrophysics or the properties of the different electric currents, as they can be obtained through a reliable text-book, but suffice it to state that, in these, we have agents that will relieve pain, stimulate vasomotor and muscular contraction, promote absorption, dissipate morbid deposits, and favor the transudation of medicinal remedies into and through animal tissue.

In regard to "cataphoric medication," or the process by which medicines are introduced into organs by the galvanic current, the electrolytic or chemic effect of the current must be borne in mind; as most of the binary, or multiple compound medicines used are electrolytes, i. e., the medicines themselves are liable to be decomposed by the current into their original chemic elements, so that, instead of procuring the effect of the remedy used, you get that of one of the original elements composing it. It should also be remembered that the medicine to be used must be in perfect solution, and that the transudation takes place mostly in the direction of the electric current, i. e., from the positive toward the negative, and that the electro negative elements, as acids, oxygen, etc., tend to the positive, while the electro positive elements, as the alkalies, hydrogen, etc., pass to the negative pole. A thorough knowledge of the electrophysiology and electrotherapy, is prerequisite to the successful treatment of any disease by electricity, except by accident, for in the various kinds and modifications of the currents, their effects are as different as calomel, quinin, morphia, etc., yet the majority of physicians look upon it only as "electricity," and when they use it at all they do so only in an empiric way. I shall state that for galvanic batteries the open circuit cell gives a more uniform current, but that cells deteriorate with use and must be kept in good condition. Where one can procure the ordinary continuous incandescent light current, it is better to use it with a reliable shunt coil, which gives the voltage required *accurately* and *uniformly*. The voltage is the same at the end of the treatment as in the beginning, and after six months or a year's use is the same as the first day, and then one avoids the annoyance of repairing cells.



I have selected in this report some of the most common cases with which we meet, together with the complications usually concomitant therewith.

Case 1. Urethritis, chronic prostatitis and cystitis.—A physician, aged 47, married, no children, large and healthy looking, gave the following: No venereal history; had practiced in the country, doing much horseback riding up to twelve years before consulting me (November, 1896), and in a cold climate. He lived in the city during the past twelve years His first symptoms appeared in 1890, when he began having irritation of the bladder, aggravated by cold weather. It continued to grow worse, when he began noticing a deposit in the urine on standing, which increased in quantity from time to time, until it was quite abundant, and became offensive and irritating, causing considerable pain in voiding, with frequent desire that remained after passing it. Reaction showed 1 per cent. albumin, as is natural for mucus or pus. During this time he was taking treatment, both local and constitutional, locally by the introduction of sounds. The symptoms continued to grow worse, until he could scarcely leave the house, during the winters of the past three years before consulting me. During this time he was under the treatment of a genito-urinary specialist, who had given him the usual internal remedies, using sounds, washing out the bladder, and stripping the prostate gland. Examination revealed a swollen and inflamed prostate, prostatic urethritis and cystitis. I had him discontinue the washing of the bladder, which he had kept up daily for a long time with the view of diminishing the quantity of mucus and pus in the urine. The urethra was exceedingly tender. I did not again touch it or the prostate for three days, but had him take only such internal remedies as would render the urine bland. On the third day I introduced a bougie into the urethra, which was not very sensitive, except at the prostatic and neck of the bladder. I used on the bougie my favorite benzoinol ointment (oil eucalyptol ʒ ii, to benzoinol ʒ iv). This was repeated three times before making an application of cataphoresis to the prostatic urethra, of ten volts for three minutes. There was very slight irritation during the application, which was followed with marked relief of all the annoying symptoms, and especially of diminished deposit in the urine. The electric application was again used on the third day, as the first gave so much relief. The deposit of urine was now reduced to less than half what it had been when I first examined it, and the voiding of it was less frequent, only getting up at night twice instead of half a dozen times as he had formerly. Watching closely the effect of each application, and noting that relief was afforded, without any irritating effects resulting therefrom, it was continued regularly for three weeks, when the urine had cleared up entirely, and was voided only once in about every four or five hours during the day and twice at night. The prostate had been reduced to almost its normal size, with very little tenderness.

The patient lived a long distance away and was compelled to leave on very important business with the view of returning soon. He wrote me in a week after he had been home, saying that he had continued to improve, and that there was no necessity for him to return, as he was passing urine normally, though he noticed a slight sediment at times in the morning. One month thereafter he wrote me the second time, stating that the urine had cleared up, and that he did not have to get up through the night at all, was busy with his practice, and the cold weather which had appeared did not affect him in the least, as it had done heretofore. I have heard from him several times since and he reports excellent health.

Case 2. Urethritis, prostatitis, cystitis.—A merchant, aged 36, married, three children, had never had gonorrhea, but had masturbated some in early life. He began having trouble occasionally, in voiding urine, at 30 years of age, when it would pass off with no symptoms to annoy him again for one or two months, until within the past two years, since he had been riding a bicycle, it had become very troublesome and at times the urine would be followed with blood, and was so painful in voiding that he would get down on his hands and knees and, even after all had passed, would strain as though there were more. The membranous and prostatic urethra, together with the neck of the bladder were exceedingly tender. A few drops of blood passed after withdrawing the bougie. Rectal examination revealed a very tender and swollen prostate. He was treated with the introduction of bougies into the urethra every third day, and rectal cataphoric medication every second day, using with the latter a saturated solution of boric acid. This treatment was continued regularly for two weeks, when all acute symptoms had subsided. Urethral cataphoresis was then begun, together with the rectal. The treatment was kept up six weeks, making in all two months, when he was dismissed, and has been well ever since.

Case 3. Prostatitis, urethritis, cystitis.—A bachelor, aged 69, had several attacks of gonorrhea, for which he had been treated by nitrate of silver injections. He had also been treated for hypertrophied prostate by various physicians for over thirty years. When he first consulted me he had just undergone a treatment by the introduction of sounds, washing out of the bladder and local applications to the prostatic urethra. This had greatly aggravated his trouble, causing vesicle tenesmus, which necessitated the voiding of urine every fifteen to thirty minutes through the day, and from eight to ten times during the night, attended with severe pain and straining, though passing only a small quantity of urine at a time. He had been totally impotent for several years. The prostate gland was very much swollen and inflamed, with one lobe somewhat indurated.

I had him discontinue the washing of the bladder, and gave him internal remedies to render the urine bland. He had been taking sanmetto and similar medicines, which gave him slight relief for a short time, only to recur in a more aggravated form. The prostatic urethra had been rendered so sensitive by the daily use of the catheter in washing out the bladder, that I did not make any intra-urethral applications for ten days. I gave him suppositories of aristol and boric acid, āā. gr. v., ext. belladonna, ¼ gr. to be used at night on retiring. I applied, through the rectum, cataphoresis with boric acid directly to the prostate. The urine began to pass less frequently, with less pain and diminished quantity of sediment. I then began the introduction of the bougie, continuing the rectal treatment at the same time. The urethra was studded from within two inches of the meatus to the neck of the bladder with granulations, causing marked tenderness and swelling of the lining membrane, which, by encroaching upon the caliber, caused narrowing of the canal. After having used the bougie the third time, the negative urethral electrode was glided over the granulated surface, using five volts for three minutes. This was followed with much improvement. I then began the application of prostatic cataphoresis with boric acid through the urethra, alternate days. This was kept up two weeks. Though followed by some irritation for a few hours after treatment, the subsequent effect was attended with much improvement. After the third treatment he only voided urine every three to four hours during the day, and twice through the night. There was little or no irritation in evacuating the bladder, which could now be entirely emptied. The urine had cleared up during the day and showed only a slight deposit in the morning.

Electrolysis was applied to the urethra once a week; and after all the acute symptoms had subsided, the rectal prostatic cataphoresis every third day, with 20 per cent. iodid of potassium. This application caused some irritation of the prostate and bladder that would last from sixteen to twenty hours, when it would pass off.

This treatment was continued for five weeks, at the expiration of which the urine was voided only once and often not at all, through the night, and three to four times during the day. He stated that he did not think he would have to pass it any oftener than was natural, if he could keep it from his mind. He was with me six weeks. Later, I learned through a friend of his, that he had married in about two months after returning home.

Case 4.—Chronic prostatitis, urethritis, cystitis, phimosis.—A merchant, aged 50, delicate, married twenty years, with no children, constipated and dyspeptic, had a very long prepuce, with a firm band that contracted and pained him when forced back of the corona. He had suffered with enuresis all his life, both day and night. Three years prior to consulting me, the urine passed with difficulty, and occasionally there would be retention for several hours, which finally necessitated the withdrawal of it by means of a catheter. Immediately preceding these attacks there would be pain over the region of the bladder, and in his back, necessitating his confinement in bed for two or three days after the bladder had been evacuated. The three or four days succeeding the withdrawal, the urine would become clear, strongly alkaline, very irritating in its passage (without the use of the catheter) and in large quantities. The attack would at first recur once a month; then fortnightly, and finally once every week, which kept him confined to bed most of the time. He always had a mucopurulent deposit in the urine prior to each attack, but it would clear up when the urine became abundant. He said he had taken almost every remedy in the drug store, some of which gave him temporary relief. About six months prior to consulting me, the pain in the back had become very severe and constant, and at the same time he began noticing a numbness of the right side. The latter continued to become more marked until he noticed that he was losing control of the arm and leg of that side, occasionally dragging the leg and raising the arm with difficulty. He was extremely constipated. There was a slight ulcer in the rectum immediately opposite the prostate. He had an exquisitely tender urethra and prostate, the latter being somewhat swollen.

The treatment was begun by introducing a bougie into the urethra every third day, and rectal cataphoresis with boric acid alternate days. He at the same time was given ʒi of fld. ext. trit. rep. and m. ii of staphisagria three times a day. The acute symptoms readily began to subside, and at the expiration of two weeks prostatic urethral cataphoresis was begun, alternating with rectal. After two months' treatment, he was entirely relieved of all irritation about the prostate. The trouble with his arm and leg was much improved.

Six months after he had returned home I received a letter stating that he had fully recovered the use of his arm and leg.

Case 5.—Chronic enlarged prostatitis, urethritis and cystitis.—This patient, sent to me for treatment by Dr. C. A. Reed of Texarkana, was aged 56, married, had gonorrhea when about 20 years old, and two or three times thereafter. When about 35 he was operated upon for stricture, by internal urethrotomy, which was followed by the introduction of sounds. Several years thereafter he was again operated on by the same method, using sounds afterward as before. During most of this time the urine passed with difficulty, attended with pain, and at times necessitating the use of a sound to void it at all. There was numbness of the left side, with impaired use of both arm and leg. On the introduction of a No. 12 f. bougie, it was arrested at the prostate, and following its withdrawal were several drops of pus, which evinced the fact that it had entered a prostatic sinus, as a large instrument would enter the bladder with ease.

The case was treated in a similar way to the preceding one, for three weeks, when he had to return home before I had completed the treatment, though the urine was passing without any discomfort. I received a letter from Dr. Reed some time after stating that the patient had entirely recovered and was as well as he ever was, and there was no necessity of his returning.

Similar cases to those reported have come under my observation in men about middle age, in whom there would be a mucopurulent deposit in the urine, and because of its albuminoid reaction, they had been treated for Bright's disease of the kidneys, when it was only the mucus and pus from the bladder or prostate. This error in diagnosis is not confined to the so-called "country doctors," but I have seen several cases that had been treated for years by some of our most prominent physicians for Bright's disease, when the urine would clear up just as soon as the local trouble was relieved. It is a common practice to wash out the bladder where there is much deposit in the urine, in cystitis. I did it myself for quite a while, until I found that in the large majority of cases it did more harm than good.

Cystitis is rarely an idiopathic disease, but is almost invariably the result of urethritis, prostatitis, or some abnormal condition of the urine. The daily passage of instruments through an inflamed urethra and prostate, for the purpose of washing the bladder, keeps up the tenderness of the former, and the condition is aggravated. The cystitis will be allayed just as soon as the cause producing it is removed. If due to prostatitis or urethritis, they must be relieved first. If to the urine, which is rare, it must be corrected.

IMPOTENCY AND SPERMATORRHEA AS SEQUELS OF PROSTATITIS.

The habit, common among members of the profession, and especially the "quacks" of the country, of giving aphrodisiacs for impotency and spermatorrhea due to prostatitis, is a pernicious one. The baleful effects of the stimulating properties of medicines upon the diseased glands are evident to any intelligent physician. It is often the case that the first indication of disease of the prostate is impairment or loss of all sexual desire, and medicines given for the purpose of exciting activity of the organs only serves to aggravate the local conditions.

Case 6.—Impotency, spermatorrhea, urethritis.—A clerk, aged 33, single, with venereal history, had for many years been in the habit of injecting a solution of sulphate of zinc after each act of illicit intercourse, to prevent contracting disease. This had caused urethritis and prostatitis, and sexual impairment gradually came upon him, so that, for two years prior to consulting me, he had been totally impotent. Seminal emissions occurred involuntarily both at night and during the day. He had been treated by means of constitutional medication for several years, without relief. There was a whitish discharge while at stool. He was very despondent, and took very little interest in business. He had been engaged to be married for several years, and had postponed the engagement from time to time, until, as he said, he could do so no longer. I found the urethra inflamed and sensitive from the meatus to the bladder, and especially so in the prostatic urethra.

I relieved him of the local trouble, and in a short time he was entirely restored to health. He married very soon after, and now has a "house full of children." He has never had any recurrence of the trouble.

Case 7.—Partially impotent, sterile, urethritis.—A merchant, aged 35, had been married ten years, with no children, and had had an attack of gonorrhea when about 20, but he thought he had fully recovered, although it lasted a long time. He had never had any obstruction in voiding urine, though at times it would be frequent and was attended with slight irritation, which usually passed off in the course of a few days. Erections were imperfect, and there was an early ejection of semen, often before intromission. Upon examination I found prostatic urethritis and tenderness of the prostate gland. He was treated in the usual way.

In less than twelve months after being treated, his wife was delivered of a healthy girl baby. He has had no trouble since, and says he feels like a different man.

Case 8.—Impotency, phimosis, prostatic urethritis and prostatitis.—A merchant, aged 52, consulted me for retention of urine and dysuria. He had been married eighteen years, with no children. He complained of having been annoyed by frequent micturition all his life; was delicate, and small in stature. For ten years he had suffered from attacks of dysuria, which had been accompanied by retention, at intervals, for three years before the time he consulted me. Upon examination I found the glands very red and tender, the meatus contracted, and an excessively inflamed urethra and prostate. He had been totally impotent for four or five years, and never had a perfect erection in his life. I circumcised him, and relieved the prostatitis and urethritis. He remained under my care two and a half months when he returned home. He was very timid and never liked to be questioned about his trouble. After the third week he passed urine better and less frequently than he had during his life, and continued to improve in general health.

I have not heard from him directly, but I learned through one of his neighbors, whom he had sent to me for similar trouble, that he was looking better than he had ever seen him.

Case 9.—Impotency, prostatitis, dysuria.—A lawyer, aged 65, consulted me for dysuria. He had been troubled with difficulty in voiding urine, at intervals, for ten years. His sexual vigor began to fail about the same time, and was totally lost a few years after. I treated him for prostatitis and painful micturition without reference to the existing impotency. After the third week of treatment, he told me, apparently apprehensive of something serious, that he had begun having erections every morning, and that he thought that he had passed that stage some years ago.

The cases with which I have the most trouble, and those that can never be entirely restored, are the ones that have been operated upon by external urethrotomy and perineal section, severing the prostate gland.

Chronic prostatitis often gives rise to cerebrospinal irritation, and as a result paresis or paralysis of one side or the lower extremities.

No. 1201–1202 Chemical Building.

PREVENTION OF HAY FEVER.

BY ALEXANDER RIXA, M.D.

NEW YORK CITY.

It is interesting to note the immense progress medical science has made in the investigation concerning the etiology, pathology and therapy of that obscure disease called hay fever. A survey of the results achieved in the last few years, in connection with a brief historic review, is highly interesting and instructive.

Presumably the term "hay fever" originated in the early belief that the emanations of the new-mown hay are the cause of the disease. Hay fever is an ancient disease. The first case was reported by Botallus as early as 1565, although the early writers did not recognize it as a distinct ailment, until Dr. Bostock of London published a series of essays on the subject from 1828 to 1835, in which he describes it as a distinct, periodic, autumnal disease, which, according to his claim, is caused by the united efforts of *moist heat, sunshine, dust and fatigue*. Dr. Elliston of London opposed this theory and asserted that the affliction is caused by the pollen of some flowering plants. Dr. Phoebus of Germany considered ozone as the causative principle, while Dr. Pirrie advanced the theory of nervous origin, claiming that the ailment arises from the action of light and heat upon the central nervous, the cerebrospinal and sympathetic systems. The savant, Helmholtz of Germany, a hay fever sufferer himself, found some vibrios, certain micro-organisms, in his nasal discharges, which he claims to be the active cause of the disease. Dr. Blackly made extensive experiments with the pollen of flowering plants, and thus furnished conclusive evidence that the action of the pollen of certain plants upon the mucous membrane of the nasal cavity, are the exciting causes of hay fever, and that none of the other agents, such as heat, light, dust, ozone, or odors would of themselves cause the affliction. Others, again, believe that the inhaled pollen of the ragweed generates a certain toxin, which develops in the alkaline secretion of the nose, by a fermentative process, and thus forms the active principle and cause of the disease. Dr. Arnold maintains that it is not the healthy pollen which produces the disease, but some fungoid growth, which floats with the pollen.

Dr. Strangeway, in his highly interesting researches, furnished us with the points regarding the amount of pollen in the air. He considers the amount entirely too small to be able to cause an injurious, mechanic, medicinal or poisonous influence. He found but one ragweed to every square foot of surface. The elevation to which pollen floats is about 1000 feet, at which elevation, however, it will be found only in the proportion of one pollen to fifteen or twenty billion parts of air. Furthermore, he found but one grain of pollen for every thirty respirations. He concludes, therefore, that this small amount of pollen can not act as a direct irritant to the mucous membranes, and that a protoplastic substance found in the pollen acts as a ferment, thus causing the formation of a toxin, which is the actual exciting cause of the disease.

The ingenious researches of Dr. Blackly gave the impulse to my experiments, principally, with the pollen of the much and justly blamed ragweed, hogweed, Roman wormwood (*Ambrosia artemisæfolia*). I found that by inhaling them through the nostrils, they will produce the symptoms of genuine hay fever. However, not satisfied with this solitary proof, I requested the support of some of my friends, and they cheerfully submitted. To my satisfaction, I found that in every instance I was able to produce the aggravating symptoms of hay fever in a measure proportionate to the quantity of the inhaled pollen, as well as to the susceptibility of the individual thus subjected to this test. As a matter of fact, after this gratifying result, there was no doubt in my mind that the pollen of the ragweed is the principal cause of hay fever. However, its mode of action, or the changes it undergoes on the mucous membrane of the nasal cavity, notwithstanding my searching macroscopic and microscopic explorations and examinations, thus far, I have not been able to ascertain. Dr. Shoeney, a very efficient microscopist, is kindly giving me his assistance in this gigantic venture, and we flatter ourselves with the hope that in some future day our labors will be rewarded and crowned with success. However, as it is conceded nowadays that a certain morbid condition must be in pre-existence where the germs may find a prepared soil for their damaging action, this artificial hay fever was of but short duration, notwithstanding that in my own case I used no remedy to mitigate or abate the irritation. Considering, therefore, that every individual is exposed to the inhalation of this pollen, there can be no doubt that a morbid condition must be present where the seed finds a prepared soil for its development or generation.

My first essays on this subject were published in *The Therapeutic Gazette*, May, 1890, January, 1891, and December, 1892, and in *The Medical Summary* of Philadelphia, December, 1894. Therein I enunciated my theory and method of treatment. From the time I found the pollen to be the exciting cause of the disease, I concluded in a logical way upon the proper treatment. I conceived the idea of rendering the receptacle aseptic by preparing the soil for the reception of the pollen. Naturally, they will find no proper soil for a possible generation, propagation or development, destroying their existence in embryo, so to speak, and with it the real cause of hay fever. For this purpose I decided on the following treatment:

About two weeks before the onset of the disease I commence to irrigate or sterilize the nasal cavity and the post-nasal spaces with a harmless antiseptic solution, using the douche and atomizer. After giving a great number of antiseptics a fair trial, I decided on hydrozone, as the most innocuous and most powerful germicide. Hydrozone is a 30-volume aqueous solution of peroxid of hydrogen. At the beginning I use irrigation in the proportion of one ounce of hydrozone to 12 ounces of sterilized water. Nearing the period of the expected onset of the disease, I increase the dose to 2 or 3 ounces of hydrozone to 12 ounces of the sterilized water, according to the severity of the disease, using the douche, either tepid or cold, four times a day—morning, noon, evenings, and at bedtime — while during the intervals I use the atomizer, with a solution of hydrozone and pure glycerin, or sterilized water, 1 to 3, thus keeping the nares perfectly aseptic, during the entire period, and preventing the outbreak of the disease in consequence thereof.

In most obstinate cases, when there is still some irritation in the nasal cavity, I give the following prescription:

℞	Acid boracic	gr. xx	1	30
	Menthol	gr. iv		26
	Glyco-Thymoline.	℥ii	7	80
	Sol. Eucain B. 4 per cent. q. s. ad . . .	℥ii	62	20

S.—Use in atomizer.

As a rule this treatment was sufficient to avert the disease and keep the patient in perfect comfort.

With reference to hay asthma, my experience has not been so satisfactory. Statistically, I found 18 to 20 per cent. among my patients suffering from so-called reflex or hay asthma. Regarding the theory of the disease, I regret to say that the reflex theory does not agree with my experience in practice. The sensitive area, which is given as the cause of this reflex asthma, is situated, according to Dr. Sajous, "at the posterior end of the inferior turbinated bones and the corresponding portion of the septum," or according to Dr. John Mackenzie, "at the anterior extremity of the inferior turbinated bone." However, the closest rhinoscopic exploration would reveal no pathologic change in the parts aforesaid, and even the electric test would not bring about a reflex attack of asthma. Notwithstanding the missing of this "sensitive area," the reflex or hay asthma appeared on certain cloudy or muggy days, and the patient suffered just as severely as in previous days when hay fever could not be prevented, and displayed its full virulence. However, in the last few years I succeeded, in the milder forms, in averting the paroxysmal attacks, while in the severe cases, I found some remedies to mitigate and shorten the duration of the attack. In my observations of former years I found the duration of hay fever, as a rule, to be six weeks, of which there were two weeks of hay fever proper, two weeks of asthma, and two weeks of bronchitis. I found in this observation that the asthma is caused by an occlusion by a viscid mass of mucus, of one of the bronchial branches, right at the bifurcation. Sometimes I succeeded in dislodging this wedge with a large dose of Javanese ipecacuanha, and the asthma disappeared as if by magic. At other times, no amount of expectorants would effect a removal of this plug. Being aware of this fact, I reasoned that some remedy which would constantly keep the bronchial mucous discharges in a liquefied condition might prevent the occlusion of this bronchus; consequently I tried a number of drugs, until I found the terpin hydrate in large doses acting charmingly for this purpose. I administered it in tablets in 10-grain doses, every three to four hours, two weeks before the asthma period, and later, every two hours. However, if, in spite of this preventive treatment, a paroxysmal attack occurred in cloudy weather, I prescribed large doses of iodid of potash with some expectorant syrups and fl. ext. of quebracho, or grindelia robusta, with lobelia and belladonna, which usually sufficed.

In some rare, obstinate cases, I derived gratifying results from the application of Dr. Chapman's ice-bag to the spinal vertebra, from the cervical down to the lumbar region, leaving the bag *in situ* for an hour or longer, if required. Hot drinks with whisky or brandy have a beneficial stimulating effect at this period, and also the old-time remedy of placing both hands in hot water gives prompt relief. In the bronchial stage, a similar treatment to that used in the idopathic form of bronchial catarrh is indicated.

In closing this paper, I wish to establish herewith my priority to the claim of having been the first to advocate irrigation and sterilization, in order to prevent hay fever, by rendering the parts aseptic. My first article on this subject, under the heading "How to Prevent Hay Fever," was published in *The Therapeutic Gazette*, January, 1891.

109 East 83d Street.

DENTAL SEPTICEMIA OF THE ANTRUM.

TWO CASES WITH OBSCURE SYMPTOMS.

Presented to the Section on Stomatology, at the Forty-ninth Annual Meeting of the American Medical Association, held at Denver, Colo., June 7-10, 1898.

BY V. A. LATHAM, M.D., D.D.S.
CHICAGO.

In presenting these brief notes on such a common subject, I ask the consideration of the Section because it seemed as though the period of life at which the disease occurred, as well as the obscurity of the cases for lack of the usual symptoms, would be of interest.

The cases would hardly come under the term "empyema," unless we accept that definition to be a chronic suppuration, as is usually described in the text-books. C. Heath, in his article on "Diseases of the Antrum," in the "Dictionary of Surgery," speaks of suppuration or empyema of the antrum as being "a form of chronic abscess, but with the peculiarity that the pus is seldom completely shut in, so as to *produce distension.*" This statement may be questioned by some when we remember the bulging cheek, even with a copious nasal discharge.

Case 1.—The patient, aged 8 years, was first seen and treated for what appeared to be the usual spring discomfort—general malaise with slight symptoms of la grippe. The mother complained that the child was wakeful and would stay up all night, wandering into the bath room, which was the warmest room in the house, at the early morning hours, and play over the radiator instead of going to bed. On questioning why she would sit up, she said she could not sleep. After some days the mother became anxious and called a physician.

The main symptoms were fever, which varied in degree, more at night, ranging from 99 to 101; a muddy complexion; constipation; gastro intestinal irritation; headache, a trifle off and on; a reddening of the skin over the malar bone; extreme fetor of the breath; heavily coated tongue; no appetite nor thirst, and some nausea; the teeth and mouth showed neglect and were in a bad condition.

The left eye showed catarrhal signs, the conjunctiva being injected and watery. Beyond these symptoms nothing else could be obtained, and the child persisted in saying her teeth were not poor and she had no pain, which statements her family agreed with. The usual treatment by free elimination, mouth-washes and tonics was given and some benefit obtained. A few days later the cervical glands showed signs of swelling slightly on the left side, but were preceded by the submaxillary, and I was asked to see the case. The history as given above was repeated, with the addition that to me the cheek seemed swollen a trifle—the mother thought it natural. After repeated questioning I learned that "This is just the same kind of trouble she had last spring and also the year before, but the face swelled a little the first time, but the Doctor said it was only cold and the grippe and would go away in a day or so, which it did." The child staying awake seemed the dangerous symptom to the parents. The mouth seemed fairly clean. The gland was somewhat swollen and the cervical chain also. The teeth were carious, especially the temporary teeth —the upper on the left side. There was no soreness; never any toothache nor abscesses. On palpation, the cheek showed a slight difference in feeling and sensibility over the malar bone, compared to the right side. The temporary first molar was decayed badly but not at all loose. The gum around was reddened some and, judging the condition was septic, the temperature now rising 1 to 3 degrees, the erysipelatous coloring of the cheek, the general condition and lymphatic enlargement, I opened the temporary molar, found a little thick pus in the pulp chamber and advised extraction, which was done, when more pus came down. The alveolus was cleansed, syringed and probed for evidences of necrosis, but none found. Antiseptic washes were ordered and general remedies. After three days the patient showed more swelling of the cheek, the eye being half closed. The bulging was pronounced, and a globular swelling showed at the buccal junction of the lip near the extracted tooth cavity. She complained now of "feeling as if she had a cold in the nose," slight periodontitis of the teeth on left side and redness of the gums, but denied pain or headache, much to my surprise. On examining carefully I thought I detected slight crepitation, which led me to suppose the antrum was involved. The symptoms continuing, I extracted the temporary second molar. The cavities of both first and second were thoroughly examined and probed with blunt and sharp pointed steel probes and no necrosis found, but the evidences of roughening of the bone felt. The danger lay in damaging the permanent teeth, but I thought best to open near the median line and just in front of the permanent first molar to the alveolar buccal border, feeling for the cusps of the developing teeth. The cavity was drained of pus, washed with a hot (98 degrees F.) saline solution, followed by borolyptol solution till it came clear. Then some alcohol and cassia oil, which had been thoroughly shaken in hot water, was injected and the opening packed to keep out food, etc. This treatment was continued for two weeks and then at long intervals, and the opening allowed to close slowly. The patient reports good progress and the permanent bicuspid is slowly coming down.

The chief interest in this case lies in the following points:

1. *The age of the child.*—This patient is younger than any other reported case I have found in the literature available to me, except one, viz., the oft-quoted case of Dr. G. A. Rees (*Med. Gazette,* Vol. iv, n. s.), mentioned by Tomes, Smale and Colyer, of a newborn infant.

2. *The lack of the usual symptoms*, more especially the *pain*, swelling, tenderness, the discharge from the nose, roots of teeth, or abscess.

3. *The occurrence of some symptoms later*, after the extraction of the first and second temporary molars.

4. *The periodic recurrence.*—Every spring for three years a similar condition was described by several members of the family; and the insomnia so seldom seen in young children.

5. *The relative position of the antrum* compared to adult life, and the difficulty in entering the same, through

6. *The danger of displacing or injuring* the developing permanent bicuspid teeth.

Case 2.—This patient was a medical student, blonde, aged 23 years. She complained of severe facial neuralgia in the left side of the head. I was informed the patient had consulted numerous prominent physicians, oculists and dentists, and tried various remedies for her trouble. Tonics, outdoor life and change of climate all were tried with the same result, the benefit being only temporary. The neuralgia continued, accompanied by a severe headache, and she finally consulted their oculist, who, in consultation, urged spectacles to be worn, and these seemed to benefit for the time being; then the trouble recommenced with severe earache and taxed the patient's endurance considerably.

The case fell into my hands through a mutual acquaintance who was anxious to get some advice, and I was anxious to see the case for its unusual history.

The patient having been engaged in laboratory work, it was thought the eye-strain was possibly due to the fine work, and so the work was stopped. The eye was injected, as is usually seen in neuralgia of the fifth nerve; some interference of vision. The patient is of the nervous type, has an anxious, worn-out expression, and has had catarrhal trouble in nose and throat. General history was very good outside the usual trouble. The teeth were in good order, three stoppings (of gold) only, in the mouth, one small anterior proximal in the second upper molar, and the tooth seemed a trifle darker in color. This I suspected might be the cause of the trouble, but on testing by the various methods, no evidence of devitalized pulp or hypersensitiveness could be obtained. The third molar was in a fairly good position, though the crown turned toward the buccal fold, erupted fairly and healthy so far as could be learned. On examining with a small electric lamp, the antrum seemed to be slightly opaque. Consultation was held and the attending oculist vetoed the diagnosis of antral trouble—inflammation—but the family physician agreed with me that there was a possibility of its being the cause of trouble and, as there was small danger in making an exploratory incision, the patient gladly consented, and, as she was becoming emaciated, nervous, and was suffering severe pain, we punctured through the canine fossa, obtaining some serous fluid with some flakes of fibrin. Covers were spread and a culture made, the result showing streptococcus pyogenes albus, blood cells, epithelial cells, mucous and salivary corpuscles, mixed with micro-organisms and pus germs.

The opening was enlarged, washed with hot saline solution and then with mild antiseptic solutions, and a fine silver tube tied in. For two days the discharge continued and the patient complained of severe earache and pain in the eye. The tube was cleared, and a thin creamy pus oozed out, with small pieces of gelatinous tissue resembling the myxomatous structure of a polypus. The opening was enlarged, a flexible probe passed through and the surfaces carefully examined. The mucous membrane appeared to be somewhat thickened, and over or about the position where the roots of the third molar tooth would lie, there seemed a nodular place with some softened tissue around. The antrum was again cleansed and then touched with carbolic acid and iodin, followed by a curetting, the fresh surface being washed with boric acid and 0.1 per cent. formalin (of 40 per cent. strength sol.), then cauterized with iodin, and the tube inserted and plugged. The third molar was extracted, for fear it was abscessed, although seeming healthy. The pushing up and engaging of the forceps caused the crown to break very easily, and on examining the tooth a large cavity with carious material was found, but the nerve was not exposed, and the tooth alive. The root is curved and slightly roughened on the apical knob, and evidently was the one felt in the antrum, and by pressure was causing necrosis and absorption.

The patient progressed well, though slowly, under tonics, local antiseptics and packing, and at the present time, nine months, has had no recurrence of the neuralgia. An interesting point is the cause of such severe pain in that region and what caused the carious tooth, for the coronal surface showed no evidence of fissures or cavities, as was testified to by a number of the examining physicians and dentists! There was no history of abscessed teeth, soreness or pain in any particular tooth, neither was any sensitiveness found with electricity, ice or percussion. Neither was the cheek swollen.

THE MEDICAL PRACTICE ACT OF INDIANA.

SOME COMMENTS THEREON.

Read before the Mitchell District Medical Society, at New Albany, Ind. Dec. 29, 1898.

BY W. W. VINNEDGE, M.D.
LA FAYETTE, INDIANA.

The common law is a true reflection of social conditions. By it the people express their accumulated opinions. It is an index to the past and must mark our progress in the future. The common or unwritten law is supposed to be founded upon the imperceptible growth of the usages and conventionalisms of men, maturing little by little until, in theory, it becomes as is said, the perfection of reason; while statute or written law is the abrupt expression of the legislative will founded upon the accumulated opinions of the people. The one corrects evils and supplies needs by slow processes; the other overturns, alters, and invents remedies, as occasions arise; and its enactments are wholesome and beneficial or otherwise, according as the legislative mind is intelligent and pure.

No matter what our individual ideas may be, whether of social or professional conditions, we must accept, for the time being at least, the test found in fact—in the acts placed upon the statute books by our lawfully chosen representatives. Still we are not forbidden the right to comment or condemn, or correct if we can. Error may be tolerated, so long as reason is left free to combat it.

The liberal professions have by no means been free from infirmities or exempt from dangers; and the medical profession especially has called long and loud for safeguards and protection.

The question of what shall be the standard of qualification to practice medicine in this State, as well as in our neighboring States, appears to be an ever-present one; it will not down, but like the ghost of fancy, reappears in the meetings of medical organizations and in legislative bodies with never-failing frequency. The Association of American Medical Colleges discusses it and seeks to fix a standard fairly uniform as to qualification, but when the legislatures undertake to formulate a standard of qualification in the public interest, their work is too often a mixture of the good, the bad, and the indifferent. Our present Medical Practice Act is an example of this, I think. Perhaps nowhere do the currents and counter-currents of opposing organized professional interests, the indirect interests of medical colleges joined to the all-important public needs, furnish a more pronounced example of legislative perplexities than by it. I can only undertake to comment briefly on some of the underlying principles with which it has to do.

I think it is becoming apparent to the professional public that the legislature of the State will become more and more a factor in regulating and fixing the standard of qualification to practice medicine, while medical colleges and the organizations of the different medical sects or so-called "schools," will become less and less a political force to influence it. I am sure the medical colleges, holding membership in the Association of American Medical Colleges, enjoy the confidence and esteem of the professional public, so long as they keep to their proper work, but when they unite the licensing function indirectly to their legitimate duties, the confidence and esteem of the professson as a whole must and does cease to exist. There is no question in my mind that the enactment of a law to regulate the practice of medicine, surgery and obstetrics was a public necessity, and I have nothing but words of praise and sympathy for our State Board of Medical Examination and Registration in its efforts to apply it to the public use.

Let us consider a few of the salient features of the law sections in order to draw attention to it as it is, and at the same time for the purpose of showing what we believe and wish it to be.

Taking up Section 2 of the Act, I object to the diploma in the possession of any one as his personal property being made the deciding power of his qualification for practice. Every applicant for a license to practice medicine, surgery and obstetrics in this State ought to go before the State Board of Medical Examiners and undergo his examination. If he falls short of success let him or her take the consequences; if he succeeds, very well.

The diploma is all right enough in its place, as an expression of academic progress, but let it not be made the certain certificate of that high qualification necessary to deal with the lives and bodies of men and women threatened by disease and death. Let the incentive be to meet well the inquisition of a medical examination rather than to obtain a speechless diploma, and then the attainments of its holders will, without doubt, be of a higher order.

How can or does our State Board of Medical Examiners obtain judicial knowledge of all or even part of the 160 medical colleges, more or less, of the country? What good evidence has it to consider, such as a court of justice would accept as competent evidence, as to the respectability of medical colleges at either extreme of the country geographically?

But to my mind another objection to the section is absence of good form from its diploma feature. Medical colleges furnish the diploma to candidates for the degree of M.D. for merit and a money consideration, and although the consideration is not, in respectable circles, one of purchase in any sense, it is nevertheless a fee, a consideration, and therefore furnishes a reason why the diploma in the possession of a candidate for a license before the State Board of Examiners should weigh only to a degree in his or her favor. If it does more than this, as now, the element of doubt and distrust as to the law is bound to find lodgment in the minds of members of the profession, as well as the thinking public.

Section 4 says: "Within thirty days after this law goes into effect it shall be the duty of the Governor of the State to appoint a State Board of Medical Examination and Registration," etc. . . "No school or system of medicine shall have a majority representation on such Board." And further on: "Each of the four schools or systems of medicine having the largest numerical representation in the State shall have at least one representative on said Board."

Now look into this scheme critically and fairly. Here are the great professional organizations of the State united in a legal alliance. We know these medical sects or so-called "schools" or "systems of medicine" are not joined together because of love and confidence in each other. Then why are they so joined? For no other reason than to protect the public against *shams*, against quackery. And yet the question is frequently asked: Why is the social status of the medical profession so low? I will say that a statute built upon such a foundation as is this is not destined to enjoy long life; that it will not be classed by the future historian as the perfection of reason in law.

Again, in our applications for a license to practice our profession under the Act, we are met at the threshold, so to speak, with this proposal for information for record, thus, "I wish to be classed as a member of —— School." If the teachings of such great lights as the late Dr. S. D. Gross, Dr. N. S. Davis, and many other distinguished men in the profession are sound as to principle, this feature of the law is unsound and undignified, and in time must be injurious to the profession and the people. It tends to foster medical sectarianism, narrowness of thought and encrusted prejudice, and to prevent the unification of scientific investigation.

Passing now to the consideration of Section 5, I shall briefly refer to that clause which declares that the State Board of Medical Examiners "is charged with the duty of enforcing this Act, and it shall be the duty of the prosecuting attorney, upon the complaint of the Board, to prosecute any violation of this Act." This section should be amended, it appears to me, at the earliest practicable moment, by subjecting persons suspected of practicing medicine unlawfully to an examination under oath, before the grand jury if practicable, as to their rights and qualifications, etc. In its present state, the member of the State Board of Medical Examiners who files the formal information, to set the legal machinery in motion, is frequently exposed to unpleasant notoriety, if not scandal, for instituting proceedings against a competing practitioner; he is almost sure to be charged with malicious persecution of a competitor, by the newspapers and by the unthinking public—with moving against his neighbor from motives of rivalry and jealousy. If the enforcement of the law were made inquisitional, in the grand jury room if possible, it would do away with unpleasant notoriety, if not positive injury to the operations of the Act.

It is certainly unfortunate for the people that Section 7 of the Act does not do away with the itinerant pretender of wonderful cures, and of the flambeau and night noises of the street vender of uncertain nostrums, and of female peddlers of devices and drugs intended for nefarious uses. But it does not, for Attorney General Ketcham, referring to this question (State Board Report, 1897, p. 427), says: "I think a licensed physician has a right to practice anywhere in the State. He can have but one residence at which he is required to take out a license, but I see no reason in the law why he could not maintain any number of offices if he feels so disposed. It is not where he maintains his office that he is required to take out his license, but where his residence is, and it might well be that a physician should prefer to live in one county and yet have his office in another." So this Act is no bar to the wanderings and pretensions and peculations of the charlatan and the strictly commercial physician.

The ethics of the profession, which discountenances quackery and fraud, is sound in principle and ought to be sustained both for its dignity and usefulness and for the protection of the people. It does not follow that because some of these loquacious itinerants may be men of fair attainments, they do not practice impositions upon the ignorant and incredulous. Tolerate the practice of such men, and little by little the profession at large suffers in public confidence and esteem.

It seems strange to me that the Act which undertakes to curtail the defects of persons who may become practitioners of medicine in the State is strikingly silent as to the elementary educational qualifications of licentiates. That some such practical attention should be given applicants for license may be gleaned from the following report (Happel on Medical Legislation, Tenn., May 13, 1897, p. 9): "The query has frequently been raised in our meetings as to how it was possible for some young men who have been before us to have entered a medical college, in the face of the requirements printed in their catalogues as prerequisites to entrance upon a course of lectures. They could not write correctly the printed questions before them, and their answers could not be interpreted by any one not a physician. Spelling and writing were alike undecipherable. It is irrational and unreasonable to suppose that persons as illiterate as these examinations have proven some to be, could intelligently read any medical work."

Tennessee is not a great distance from Indiana. I shall not institute a comparison as to the attainments of medical students and practitioners in the two States. For the present I suppose we will have to look to future reports of the State Board of Medical Examination and Registration for definite light on this point as to this State.

In conclusion, I believe it is not too much to say that the present Medical Practice Act of this State will require early and liberal amendments on the lines suggested, in order to be continued as a useful and forceful law on our statute books. We must, as a profession, exercise more simplicity, more directness in our efforts to obtain legislation in behalf of the people and the profession, in order that our work as such may survive us and prove a blessing to both.

RECAPITULATION.

1. To provide that no one shall be granted a license to practice medicine in the State until he shall have passed a satisfactory examination and been so certified by the State Board of Medical Examination and Registration. The licensing power should be furnished a face-to-face opportunity to scrutinize the general and moral character, as well as the preliminary educational training of aspirants for a license.

2. To do away with all distinguishing titles in name, both in the State Board of Examination and in the proceedings to obtain a license, and everywhere else. In order to do this and to harmonize the opposing sects and factions, let all reference directly or indirectly to the subjects of materia medica and therapeutics as to the application of drugs as remedies be eliminated from the statute. The State Board of Medical Examiners could easily estimate the character and qualifications of an applicant for a license with this omission.

3. To give less prominence by name or class, to medical colleges, and more to actual attainments; to bestow a higher estimate upon thoroughness of examination than upon parchment certificates. I would not belittle the diploma, but it speaks with no voice, and is of the same significance whether in the hands of one or another. Let it be presumed that all reputable medical practitioners in the future will possess a diploma from a respectable medical college, or possess a medical education that will obtain one for him if he seeks it.

4. To make real or supposed infractions against the law actionable through inquisitional process, through findings in the grand jury room if possible; if not possible there, then by some appropriate arrangement before some other suitable tribunal.

5. To furnish some remedy by which the itinerant doctor, the street nostrum auction vender, the woman peddler of nostrums and appliances intended for nefarious uses, shall be banished from the State as such.

SOCIETY PROCEEDINGS.

Chicago Society of Internal Medicine.

Regular Meeting, Dec. 22, 1898.

Dr. JOHN H. HOLLISTER occupied the chair in the absence of Dr. John A. Robison, president of the society.

Dr. WILLIAM J. BUTLER read a thesis entitled

THE PRECORDIAL AREA IN CHILDREN RANGING IN AGE FROM SEVEN TO PUBERTY, AND ITS RELATIVE VALUE IN THE DIAGNOSIS OF HEART LESIONS IN CASES PRESENTING SYSTOLIC MURMURS, ESPECIALLY IN CHOREA, ANEMIA, ETC.

While it is generally accepted that the precordial area in a child is relatively larger than that in the adult, no special study with a view to determine its accurate limit seems to have been made in earlier years. Smith, in his work on "Children's Diseases," states: "The position of the heart in childhood has not been hitherto sufficiently understood," and quotes from the more recent anatomic studies of Symington, who found that the position of the heart and great vessels is, normally, practically the same as in the adult, but says that the cardiac impulse in infants and children usually takes a more external position than in adults and that it is usually in the nipple line or may extend one and one-fourth inches beyond it.

Rotch is inclined to think that in the first few years of life the apex is higher, but later assumes the position found in the adult, or even lower if the inferior portion of the sternum has been slow in developing.

Holt quotes directly from Sahli, whose diagram he presents, and gives the area of relative dulness as commencing above in the second interspace or the lower border of the second costal cartilage to the right, at the parasternal line, or slightly beyond it, to the left at or slightly beyond the mamillary line, this depending on the age of the child, the variations at different ages not being mentioned. The area of absolute dulness he gives as the upper border of third intercostal space, sometimes third costal cartilage, to the left at a point between the parasternal and mammary lines, to the right, the left border of the sternum.

To Whitney must be given special credit on this subject, so far as area of relative dulness is concerned. He has found that the enlarged precordial area in a child is first noticed at the sixth year and continues until puberty. He uses the diagram prepared by Weil, who states that the enlarged area indicated in the same persists to the fourteenth or fifteenth year. The area of relative dulness given by Whitney is as follows: Upper border, second interspace; left border, one-fourth to one half inches outside the mamillary line; right border meets the liver dulness at one and one-fourth to one and one-half inches to the right of the median line. It is to be noted that Whitney deals entirely with relative dulness. Sahli has pointed out that too much reliance can not be laid upon the relative heart dulness in children, as it may be taken beyond the actual cardiac limit, because of the thin and yielding chest wall found in children, and the thin layer of lung tissue lying between the heart and chest wall through which an airless organ like the heart resounds beyond its actual limit, notwithstanding caution in regulating the intensity of percussion. Kovacs likewise teaches that the only reliable sign in determining cardiac area, so far as the diagnosis of cardiac lesions is concerned, is the position of the apex-beat and the lines of absolute dulness. Neusser also lays special stress on the position of the apex-beat in determining the heart limit to the left.

A factor of considerable importance in children is the position occupied during examination, i. e., the erect or recumbent position. Sahli states that the heart is fairly constant as to its position in the erect or recumbent position in the adult. In children, there does, however, at times, as observed by Cotton, seem to be a difference in the position of the apex-beat in the positions mentioned. Special attention has been attracted to the subject of this paper in Professor Cotton's clinic, at Rush Medical College, because of the noted marked variations in the position of the apex-beat under normal conditions in children, as observed during the methodic physical examination of the same, likewise to the auscultation of the heart in such children and longitudinal level at which the absolute liver dulness begins. The latter was noted because of its being the index as to the position of the diaphragm, which at times is responsible for variation in apiceal location, and also with a view to confirm the observations of Sahli; viz., that the liver dulness commences on a level corresponding to that in the adult, that is, in the lower part of the fifth interspace or on the sixth rib.

In order to arrive at something definite as to the normal limits of the cardiac area in children above the age of 7 years, or rather the limits which occur in normal children during these ages, for purposes of comparison, and to illustrate the points mentioned above, a number of normal cases were selected and carefully examined, the methods of examination employed being those that usually obtain in determining these results. We will only mention the limits of relative dulness outlining the upper and right borders and the position of the apex beat, the latter being accepted by Kovacs, Neusser and others as the limit of the heart:

Upper border.—Erect position, relative dulness; second intercostal space in 42 per cent. of cases; third rib in 52.6 per cent. of cases; second rib in about 5 per cent. of cases. No variation observed as to foregoing in recumbent position. Absolute dulness; third rib or third intercostal space in 20 per cent. of cases; fourth rib in 80 per cent. of cases.

Right border.—Taken on a level with fourth interspace, erect position; relative dulness: Sternum and one to one and a half fingers' breadth to right of right sternal border in 52.6 per cent. of cases; sternum in 22 per cent. of cases; no relative dulness observed in 20 per cent. of cases. Recumbent position: In 33 per cent. of cases the relative dulness was less marked. Absolute dulness: Invariably on left sternal border.

Apex.—Erect position.—In fifth interspace in 78.9 per cent. of cases; behind the fifth rib in 5 per cent. of cases; in fourth interspace in 16 per cent. of cases. Erect position; fifth interspace: Inside mamillary line in 27 per cent.; inside and extending to or into the mamillary line in 47 per cent.; inside and outside the mamillary line 26 per cent. of cases.

Those found behind the fifth rib in the erect position were usually inside or in the mamillary line. Of those found in the fourth interspace, two-thirds were inside and one-third outside the nipple line. In 21 per cent. of the cases the apex in the recumbent position withdrew itself behind the fifth rib or into the fourth interspace.

Auscultation.—In 31 per cent. of cases pulmonary second tone louder than aortic second; in 5 per cent of cases aortic second tone louder than pulmonary second; in 5 per cent. of cases both louder than usually found. Accidental systolic (or so called hemic) murmurs heard in 31.6 per cent. of cases; 83 per cent. of these heard loudest over the base; 17 per cent. louder over the apex.

Liver dulness.—Lower part of fifth intercostal space and fifth rib in 70 per cent. of cases; fifth rib in 30 per cent. of cases.

We concluded that the most frequent position of the apex in children of these ages is in the fifth interspace and that about one half of those so located are found inside and extending to or into the mamillary line; that about one-fourth of the cases appear entirely within the mamillary line and that the remaining cases occupy a position to the extent of the breadth of a finger or finger and a half outside the mamillary line. It is further noted that the apex is far less often found in the fourth interspace and behind the fifth rib in the erect position; further, that where the apex is found in the fifth interspace in the erect position, in about 20 per cent. of the cases it ascends behind the fifth rib or into the fourth interspace in recumbency.

Gierke examined fifty children at ages varying from 8 days to 18 years, and found the apex-beat in the intercostal space in thirty-eight of these; in the sixth, in six of them; and in the fourth, in two, while in three it was behind the sixth. In these fifty cases he found the apex in the nipple line in forty-four, in fourteen outside and in two inside this line. Sahli gives the results of his observations on eighteen children at ages varying from 9 months to 12 years. In ten of these the apex-beat was in the fifth interspace; in five, in the fourth, and in the remaining three in both the fourth and fifth. Steffen gave the normal position of the apex-beat as being in the nipple line or slightly external to it. Rauchfuss, while agreeing generally with Steffen, stated that he had known a good many cases in children 11 and 13 years of age, in which the apex was 2 cm. external to the nipple line. Symington states that since the vertical extent of the heart in relation to the anterior chest wall is practically similar in childen and adults, it will naturally follow that the transverse diameter of the heart, as compared with that of the chest, is relatively greater in the former (in which the characteristic features of the thorax is its narrowness from side to side) than in the latter.

According to Sahli the apex in the healthy adult is located in the fifth interspace, somewhat inside the mamillary line. In children he asserts it can extend physiologically—not mentioning in this instance the longitudinal level—beyond the mamillary line. He further states that displacement of the apex to the left, where other causes can be eliminated as producing it, indicates dilatation of the left ventricle. No less difficult than the accurate calculation of the normal apex-beat, is frequently the interpretation of the auscultatory signs of the child's heart. As stated, one or two loud tones at the base are not at all uncommon. Then again, how frequently we hear systolic murmurs over the heart of a child, most frequently loudest over the base, but occasionally loudest over the apex. According to Sahli, the differentiation between accidental (under which we include all murmurs not organic or pericardial) and organic murmurs is possible when all signs, besides murmurs, fail which we value in the special diagnosis of valvular lesions. It is, therefore, not improbable that the liability to error in the diagnosis of heart lesions in children is greater than that in the adult, because: 1, the heart area in an adult is fairly constant; 2, the heart area in children may vary considerably, especially the position of the apex; 3, the basic tones in a child are not infrequently loud, especially the second pulmonic; 4, because of the occurrence of accidental murmurs, probably more frequent in children.

Leube states that the diagnosis of endocarditis bases itself in the first place on the objective findings of the heart. How easy, therefore, to diagnose heart lesions in children presenting the findings mentioned above as occurring in normal children; namely, the apparently displaced apex, where the same is compared with the location of the apex in the adult; the loud second pulmonic sound and systolic murmur, especially where reinforced by the existence of a favorable etiologic factor, as chorea. That chorea is frequently associated with rheumatism and hence endocarditis, is well known, but there is a large proportion of chorea cases in which rheumatism is not traceable, and on the other hand, rheumatism is by no means always associated with endocarditis. Chorea frequently occurs in anemic children, and in this condition systolic murmurs are frequent phenomena, likewise a loud pulmonic or pulmonic and aortic tones. It is to be noted that the most frequent valvular lesion made out in these cases is that of mitral insufficiency, which arises not from the fact that that is the most frequently acquired valvular lesion, but that conditions favorable for its diagnosis are most frequently present, as accidental diastolic murmurs are great rarities. According to Kovacs, the diagnosis of mitral insufficiency is the most difficult, at times, of all acquired left heart lesions, and yet how apparently easy where so frequently diagnosed.

We believe that the conditions mentioned, which are inviting to the diagnosis of a mitral lesion, together with our tendency to compare the cardiac area in children with that found in the adult and the more frequent occurrence of accidental murmurs in children would explain a great number of the heart lesions diagnosed in chorea and other conditions which may or may not be associated with anemia.

We will again revert to the relative dulness outlining the precordial area in children, especially to the right. In the majority of cases above the sixth or seventh year, a relative dulness is observed over the lower part of the sternum and very frequently to the extent of one to one and one-half fingers' breath to the right sternal border. This is the usual finding in normal children of the ages mentioned, and from it can be deduced nothing pathologic so far as the right ventricle or pericardium are concerned. Possibly in suspected pericarditis this might be misleading, but the fact that it occurs normally and that relative dulness is unreliable in accurate heart diagnosis in children, leaves little room for error unless the effusion is small and adhesions between pericardium, pleura and chest wall exist, which can be readily excluded or confirmed by testing the respiratory excursion.

In conclusion, we would call attention to the relatively small valve of the relative cardiac dulness in children during these ages, and of the supreme importance of apiceal location, the variations in the positions of the same in normal children during these ages, that it may extend the breadth of a finger to the left of the upper line, and the not infrequent occurrence of bad basic tones and accidental murmurs under normal conditions.

Dr. JOHN H. HOLLISTER—I would like to ask Dr. Babcock if in his study of children this subject has been brought prominently to his attention, and to what extent the statements made by the essayist are in consonance with his own experience.

Dr. ROBERT H. BABCOCK—It has not been my fortune to see as many healthy children as men who are engaged in general practice, and particularly those working in the line of diseases of children. I do not think my experience would be valuable on the subject, for that reason. But I am very much surprised, and find myself at a loss to understand why there should be such a deviation in the size of the heart in normal children. And the query has suggested itself to me a number of times, and particularly when I heard Dr. Whitney's paper at Denver, whether there were not accidental conditions which would deceive us in the determination of the actual size of the child's heart, for instance, the position in which the child stands. If a child stands in such a way as to throw the dorsal portion of the column forward and the epigastrium out in an unnatural manner, and not in accordance with the proper mode of standing, it has seemed to me that the heart would be thrown forward against the chest wall and into the sulcus formed by the diaphragm and anterior chest wall in such a manner as to influence the area of cardiac dulness. I have also wondered whether, many times, in supposedly normal children, there did not exist pericardial adhesions, for we know that pericarditis is of very frequent occurrence in children, more frequent, in fact, than it is recognized clinically, and as Broadbent states, pericardial adhesions which may not manifest themselves by any physical signs may yet induce an increase in the size of the heart.

A boy, 11 years of age, was brought to my office yesterday for the purpose of determining the question of whether he had heart disease or not, as it had been stated in Paris a year ago that his heart was enlarged. The area of relative cardiac dulness in this boy was increased. I was not satisfied, however, with determining it simply by the nipple line, but measured the relative cardiac dulness, and found that the left border of the heart reached nine centimeters to the left of the median line; the right border four centimeters to the right of the median line. I regarded it as an abnormally large heart in a boy of 11 years, assuming these measurements to be correct. But we are all liable to error, and these measurements would make the size of the heart correspond with those given for the average heart in an adult. In this boy there was no history of any disease which had or could have led to endocarditis, nor indeed to pericarditis, except, perhaps, a history of growing-pains. The boy might have had subacute rheumatism, and there might have been set up an acute pericarditis which led to adherent pericardium, but there were no signs of it. I was at a loss to explain the size of the boy's heart, but nevertheless gave it as my opinion that the heart was not only large, but that I felt quite sure the relative size between the heart and chest would probably adjust itself.

Dr. E. FLETCHER INGALS—The suggestion that the position of the child has much to do with the position of the apex of the heart is important. From my observation I think that a child under examination seldom occupies a strictly symmetric posture, and it is quite difficult to get it to either stand or sit absolutely erect. As a result, a little twisting to the right or left alters the apparent position of the mamillary line, and consequently the relations of the apex of the heart. The elasticity of the chest wall and the position of the body make a great difference in the resonance over the heart in different individuals, and it is easy to make a mistake unless the examiner is extremely careful. We see cases in which during the first part of the examination the heart appears to extend possibly a long way to the left of the mamillary line; but when we come to feel for the apex and listen to the first sound and again to percuss more carefully, we find material changes from our first impressions, and the heart may not be so much enlarged by an inch, as we had thought. It is claimed that the position of the apex of a healthy heart may extend from an inch to an inch and a half to the left of the mamillary line in some cases as a result of the posture of the patient. I have never seen the healthy apex-beat as far as that from its usual position, and I have not studied children's hearts sufficiently to be competent to say where the apex would be situated in the majority of healthy cases, but I think that some of the difference of opinion on this subject may be accounted for by the facts I have just mentioned. In listening to the paper, it occurred to me that some of the apparently healthy children may have had some diseases that would cause the changes noticed in their hearts. A child with almost any affection that would cause fever might consequently have slight enlargement of the heart that would displace the apex, or it might have as a result some of the murmurs referred to by the essayist. I was surprised at the number of murmurs spoken of in the paper as having been heard in children. Did I understand the essayist right in saying that it was in 80 per cent.?

Dr. BUTLER—I believe I said 30 per cent.

Dr. INGALS—It would be interesting to know to what these various accidental murmurs were due; whether they were the ventricular murmurs which we frequently hear in adults, or hemic murmurs, or whether they were only murmurs that are so easily produced by firm pressure with the stethoscope against an elastic chest wall.

Dr. FRANK BILLINGS—I can not bring any personal information to bear upon this subject, which will be of particular value, because I have never made systematic measurements of the topography of the child's heart. My information of the whole matter has been obtained from personal observation and from books upon diseases of children, my understanding is that, as a rule, the heart of the child lies more obliquely than it does in the adult, because the diaphragm is higher, consequently the apex-beat is practically always found higher in a child than in an adult and farther to the left. I have not confirmed this observation by actual measurements in a number of cases, but I have paid some attention to it when examining children. In examining the heart of any individual, the child included, the presence of a murmur, perhaps without collateral signs, is not sufficient necessarily to enable us to make a diagnosis of accidental murmur. The belief of clinicians and pathologists today is that in many instances, both in children and in grown people, we may have a mild endocarditis, perhaps a pericarditis, occurring, in which there may not be many clinical signs, but afterward perhaps some slight roughening of the endocardium, or slight valvular leakage, which is not necessarily associated with hypertrophy, dilatation, or any other sign which is so often the sequence of a severe valvular lesion. Those who have practiced among children will bear me out in this statement, that many times pericarditis occurs in children in which the only evidence is a febrile disturbance, a rapid heart, much dyspnea, but absolutely no *physical signs* except rapidity of heart. The same is true of endocarditis, with less emphasis upon the rapidity of the heart and dyspnea. I believe that in many of the infectious diseases, such as measles, whooping-cough, etc,, we may have a mild form of endocarditis which is sufficient to produce either hypertrophy or dilatation of the heart, which may not become permanent, but at least exist for a time. Furthermore, in children who are vigorous and otherwise healthy, particularly in boys who play and romp a good deal, occasionally those whom I have examined have shown dilatation of the left ventricle, due, I think, to the resistance offered by the blood. In examining children for the location of the heart, all these things should be considered, and while I fully appreciate Dr. Butler's paper, I should like to know more about the condition of these children, especially of the urine in the cases quoted. As to measles, whooping-cough, and other diseases interfering with the right heart circulation, we know that in measles and whooping-cough, where some resistance is offered to the pulmonary circulation, there may be produced some dilatation of the right heart. While I am not discussing the subject of the paper, and have not made such measurement as would be apropos to the discussion of the paper, still I believe the above-named conditions bear somewhat upon the question.

Dr. Frank S. Churchill—I think the question of so-called accidental murmurs, sometimes regarded as hemic murmurs, is a very important one. At a recent congress, Soltmann and Hochsinger made the statement that hemic murmurs in children under 4 years of age were extremely rare, and that they were rare even up to the age of 8 years. If this statement be true, then there must be a deplorably large amount of organic heart trouble in children. Up to the time of seeing this statement, in examining children, I took it for granted that the murmurs which I have heard distinctly, generally at the second right interspace and the second left interspace, and transmitted upward, were hemic murmurs. They occurred in children coming to two large clinics, one at Rush Medical College, and the other at the Policlinic. The children seemed to be fairly well nourished and looked a little anemic, although I can not absolutely say that they were anemic, as I have not careful records of the blood in those cases; neither had I up to that time careful records of the other conditions of the heart, such as the area of cardiac dulness, the character of the sounds, etc., all of which ought to be considered. Since then I have been following the question up more carefully, and although I am not as yet prepared to make any positive statement, I know that these murmurs are to be heard, and that they generally occur in chlorotic children with a low percent age of hemoglobin, and a normal number of red corpuscles. With no increase in the area of cardiac dulness, with no displacement of the apex, the urine shows no organic trouble, but in a number of cases there is a diminished excretion of solid materials. We should take into consideration the position of the apex at the different ages of the children. I speak of this because I hope some other gentleman will relate his experience and because I had regarded these murmurs as of hemic origin until I saw the statement I have mentioned. That statement, however, is contradicted by Holt, who says that hemic murmurs are not at all uncommon in children under 3 years of age.

Apropos of Dr. Billings' statement of the occurrence of endocarditis in the course of any of the infectious diseases, I would like to mention a case which I had last January, of a child 3 years of age, presenting a rheumatic family history. The child was attacked with croupous pneumonia, and on the fourth day thereafter developed a very curious temperature chart, one which, at the end of two days, led me to suspect the existence of endocarditis, although nothing could be heard on the part of the heart suggestive of that condition, except a soft systolic murmur heard at the second right interspace. Four days after pneumonia developed, a harsh, systolic murmur was heard at the fourth interspace, just inside the nipple line and a little to the left of the apex beat, the murmur being transmitted outward into the axilla. The child recovered from the pneumonia, which ran the average course, and the murmur disappeared in the course of a few weeks. I thought at the time, although it was impossible to demonstrate it, that with the croupous pneumonia there was an invasion of the endocardium by the pneumococcus, and a resulting endocarditis, occurring in a child predisposed to endocarditis by a distinctly rheumatic inheritance. The boy has entirely recovered from the endocarditis, but it is going to be extremely interesting to see whether, in future attacks of tonsillitis, or when the child is exposed to cold, there will be a recurrence of the endocarditis.

Dr. Arthur R. Edwards—Something like a year ago I had occasion to look up the literature of the subject upon which Dr. Butler has largely based his observations. The principal part of what I have to say will relate to investigations rather than to personal experience. I have not seen the number of heart cases presenting the special points that Dr. Butler and others have. One of the first points in the discussion to attract my attention was a remark made by Dr. Billings regarding pericarditis and endocarditis as having a bearing on the contour of the heart in youth and in infancy. Those remarks apply with particular force here, and yet the standpoint of Dr. Butler should be emphasized, namely, that those changes which are so close to the pathologic may be observed in healthy children as well. The location of the apex-beat varies according to different authorities, and this is why there has been so much confusion on the subject. For instance, many authors, and among them those mentioned by Dr. Butler, do not state explicitly whether they are dealing with a normal or diseased heart. Sahli states that his observations were made on the normal heart; others state that their observations were based on pathologic cases. One of the largest statistics is that of Wassilewsky, who examined something like twelve hundred pathologic cases. I think it can be established beyond all doubt, that the heart varies at all stages of infancy or of childhood more than it does in the adult.

In looking up the subject in relation to the location of the heart and its horizontal position, it would seem that Dr. Butler's observations differ a little from many of those that have been published. For example, my own observations have shown the apex beat to occur with equal frequency in the fourth interspace, and I believe Dr. Butler found it in the fifth interspace with the children in the erect posture. Whether this be true or not, and whether the position of the heart be due to elevation of the diaphragm, it seems established that the heart is rather higher in children than it is in adults. Then, too, there is another point to be considered, although it is not proven, viz., that the heart is in closer apposition to the chest wall in childhood than it is in the adult. The decrease in size of the heart is probably due to a lengthening out of the transverse diameter of the chest. Again, with reference to the position of the apex-beat. There are a great many statistics on this point, and they are very confusing. Various pathologic conditions are related in various stages, and still find statements made by many men who have observed the patients carefully, and who say they have found the apex-beat under the nipple line or even as far as two or three centimeters external to it. This is one point that particularly attracted my attention, not regarding differences in age, but in patients of the same age it was noticed that there was this discrepancy of observation, and this, too, in cases where normal children were examined. This point was especially brought out by Rosenstein, and I believe, emphasized by still earlier observers, that the apex-beat does not indicate, as it does in the adult, the exact left border of the heart. Some observers claim that the apex-beat does not represent the extreme cardiac border; that the apex is constituted more of the right than of the left side of the heart. The heart is twisted or assumes such a position that to a large extent the left ventricle is hidden beneath the lung, hence the relative dulness of the heart will have to be considered. All the foreign authors whom I have consulted, among them German investigators, have mentioned the fact that the right heart is to the right of the right border of the sternum.

Finally, I think the point should be brought out that has been touched upon already, viz., the method of percussion. Deep percussion of such a small chest, and percussing with anything like the strength we employ in outlining the normal adult, would bring out resonance of other portions of the lung, or would bring out the deeper portions of the heart, so that great care would have to be exercised in this particular in percussing children, so that it may have a definite place in outlining the heart in infancy and in adults.

Dr. Joseph M. Patton—My experience in the examination of children has been mostly limited to those from 8 to 12 years of age. The usual statements made on the subject of the size of childrens' hearts by various observers vary notoriously, yet my own experience does not differ materially from the statement that the relative dulness of the child's heart is usually greater than that of an adult; also that the apex is much farther to the left and higher than in the adult. It is usually in the neighborhood of the mamillary line and under the rib, or in the fourth interspace. I have always accepted that as being a normal condition and due, as Dr. Billings has remarked, more to the oblique position of the heart in the child. It is remarkable what a great variety of results we will get from percussion, by different observers, on subjects in an identic condition. These results vary so much that inferences drawn from the percussion area of dulness have been regarded by many men as in some degree fallacious. Some authors have even stated that percussion is not to be regarded as of any great value in determining the size of the heart, and is not to be compared with the position of the apex-beat. Taking these statements by different men into consideration we have to admit that there is room for great variation in results. I believe that we can make out the area of a child's heart with much greater facility than we can that of an adult.

One particular point of interest to me in the paper was the right border of dulness as given in these statistics. It emphasizes the fact that in children the right border of dulness extends farther to the right than in the adult. It is particularly important, because it may be taken to indicate the presence of Rotch's sign of pericardial effusion, for instance. I recently saw a boy, 9 years of age, who had a very rapid, irritable heart action, with elevated temperature, dyspnea and restlessness, in which a diagnosis of pericarditis was made, and in whom the right border of dulness was one-half inch to the right of the right border of the sternum in the fifth intercostal space. This would indicate, according to Rotch, pericardial effusion. For other reasons, I did not think there was any pericardial effusion. The case came to autopsy, and there was well marked pericarditis with plastic exudate, a typic so-called hairy heart in which there had never been any effusion into the pericardium. This illustrates what Dr. Billings has said about the possibility of pathologic states modifying the percussion area, and these conditions ought to be excluded, as far as possible, in any such investigations as those to which this paper applies. It illustrates, too, that we ought to be very careful in accepting the extension to the right of the dulness as being indicative of effusion.

Dr. BUTLER (closing the discussion)—With reference to the possibility of an old adhesive pericarditis accounting for the increased cardiac area in children, I will refer briefly to some statistics given by Dickinson. Of twenty-eight cases that had died from other causes than that of pericarditis, but in which adhesive pericarditis was found, in very few was the heart enlarged as the direct result. The majority of the cases were over 15 years of age. In twelve a history of pericarditis was obtained as having occurred after the fourteenth year. Only five were children. Four of these also had valvular lesions. Dickinson concluded that pericarditis in children was almost always rheumatic accompanied by endocarditis. Da Costa, on the other hand, states that rheumatic pericarditis is less frequent in childhood than at a later age. The cases selected for examination were as near normal as it was possible for us to determine. In each case the heart was tested as to its mobility, with a view to eliminate concretio pericardii as a cause for enlarged cardiac area. It is not easy to make a diagnosis of healed-out adhesive pericarditis, and according to Kolisko the physical conditions are not present to produce physical signs that might lead to its diagnosis, and that the same first becomes accessible to diagnosis where the process has extended to the extrapericardial tissue, resulting in adhesions that fixed the heart to the chest wall, rendering the heart in great part, or entirely, immovable with change of position of the patient, and also the systolic retraction of interspaces or of chest wall.

With reference to the term, "accidental murmurs," Sahli includes all cardiac murmurs, not valvular or functional insufficiency murmurs, under the general term of "accidental murmurs."

Concerning the early diagnosis of endocarditis and pericarditis, mentioned by Dr. Billings, which might account for some of the enlarged cardiac areas observed, we will concede to Dr. Billings the anticipation of pericardial or endocardial changes from clinical symptoms; but, on the other hand, remembering the not infrequent deceptions occasioned by neuroses, we do not feel justified in making such diagnoses unless supported by positive physical signs.

With reference to the apex not indicating the limit of the heart to the left, Neusser accepts the apex as the left limit. I do not know whether he makes any distinction between the child and adult heart in this matter, but I might mention the important physical sign in a pericarditis with effusion, namely, the extension of the left limit of dulness beyond the apex beat. As to the apex of a child being more frequently in the fourth than fifth interspace, it would seem that Gierke and Sahli's investigations would not confirm this.

(*To be continued.*)

Chicago Medical Society.

Regular Meeting, Jan. 4, 1899.

Dr. ARTHUR D. BEVAN, the president of the Society occupied the chair.

Dr. FENTON B. TURCK read a paper on

MOTOR INSUFFICIENCY OF THE STOMACH

and the subject was formally discussed from the standpoints of pathology, bacteriology and chemistry, by Drs. EVANS, GEHRMANN and WESENER, respectively.

Dr. TURCK said in part: The motor power of the stomach is by far its most important function, not only because the food can not be absorbed until it reaches the intestines, but also because the pepsin digestion is enormously retarded if the churning process of the stomach should cease. This was conclusively shown by means of artificial pepsin digestion experiments in rotating rubber bags. The contents in the thicker and less flexible bags would be digested much more rapidly than the contents in the thinner and more flexible bags. The latter, in revolving, would disturb the contents less.

In addition to the lack of nutrition and final starvation produced by motor insufficiency, this also produces serious vasomotor disturbances of the splanchnic area: 1. Because uninterrupted dilatation and distension of the stomachs of dogs produced collapse, and as the stagnation of the food contents gives rise to gases it is quite possible that these together with the stomach contents will produce similar results. 2. The food remnants may themselves act as irritants, especially such remnants as adhere to the stomach walls. 3. In stagnant food remnants there are unquestionably formed toxic substances through the action of the numerous bacteria that infest the stomach, and the author's experiments have indeed shown that such stagnant stomach contents are far more toxic than the normal ones. The toxins so formed make probably a powerful factor in the production of the vasomotor disturbances that accompany motor insufficiency.

In connection with the etiology of simple motor insufficiency, the author emphasizes the fact that all the causes that produce it do so by overtaxing the stomach muscles without allowing them sufficient periods of rest. In accordance with the laws that govern all muscle contraction, this must sooner or later result in fatigne. Fatigue inevitably results in retention, and long-continued retention results as inevitably in permanent weakening of the muscles and in dilatation. Such weakening of the stomach muscles was produced by the author on dogs by introducing permanent loads in the form of silk bags filled with shot. From an etiologic point of view, motoric insufficiency may be divided into two classes: 1, Such as are due to some mechanic obstruction, and where the motor insufficiency is secondary to the obstruction. These, whether malignant or benign, demand the earliest possible surgical interference, and on the part of the physician call for an early diagnosis. 2. Those in which the gastric myasthenia and dilatation are the primary conditions.

Motor insufficiency is often produced after other general and acute diseases, because of the weakening of the stomach muscles and the tendency to disregard the proper dietetics during the convalescent stages. The author points out that the early gastric symptoms in cases of tuberculosis are not due to disturbances of secretion, because hyper- and hypo acidity and other anomalies of secretion are not constant factors, as is the lack of motor power in the stomach, and when this motor power is restored, the nutrition of the patient is increased and the general condition shows marked improvement. The author therefore emphasizes the fact that in the treatment of tubercular patients due regard must be paid to the improvement of the gastric motility. The author has also had occasion to investigate the gastric condition in various forms of diabetes, and has found that nearly all such patients have this lack of motor power. This is true even in cases where there are seemingly no gastric symptoms. The author would have special attention given to this in the treatment of diabetic patients.

Diagnosis.—The author calls attention to a few aids to the diagnosis of motor insufficiency of the stomach. Leube's method, as most commonly used, is the examination of the stomach contents in the morning, after an evening meal, and if food is found, the conclusion is reached that motor insufficiency exists. Even where the pylorus is patulous and the bulk of the food passes into the intestines, remnants of food may remain adherent to the stomach walls. This condition is not revealed even by lavage, but the food detritus is readily removed by the use of the gyromele, and thus a condition of motor insufficiency, otherwise unobserved, may be detected.

It is often necessary to determine the location, size and capacity of the stomach, as well as the character of the stomach walls, as displacement and prolapsus, dilatation or distension is so frequently associated with motor insufficiency. The distension of the stomach with air, Ruenberg's method, or the introduction of water, Diho's method, followed by percussion, are the methods most commonly used. To facilitate the method and overcome the many objections that often defeat the most skilled diagnostician, the author has devised a method by the use of a thin rubber bag firmly attached to a double tube. One end of the double tube reaches to the bottom of the bag, the other only to the opening. The bag fits closely around the tube and does not materially increase the size, but when fully distended has the capacity of 1500 to 2000 cm. The bag and double stomach tube are introduced into the stomach, and water in fractional quantities is forced into the bag within the stomach until a liter of water is introduced. The area of dulness that is found each time that one-quarter liter is added is marked with a pencil upon the abdominal wall. If air is now forced into the bag, the upper portion of the stomach, the fundus and lesser curvature are similarly determined by percussing the tympanitic area. If the small tube which leads to the upper portion of the bag containing the air is now connected with a manometer, any movements of the stomach will be indicated by the rise and fall in the manometer. The water may be siphoned off and diagnosis confirmed by retracing the steps. Thus, the location, size, capacity, and motor power of the stomach may be very accurately determined.

A more direct and rapid method of determining the location, size and condition of the stomach is by the use of the gyromele, which traverses the entire circumference of the stomach, the lateral as well as the vertical extent, including the greater and lesser curvature. By palpating the revolving cable upon the abdominal wall, the gastric outline can be accurately determined. By using cables of different degrees of flexibility, the degree of distensibility of the stomach can be accurately determined. From its distensibility the motor power can be quite accurately estimated in cases where there is no pyloric obstruction, as has been repeatedly found by experiments. The pyloric obstruction is discovered in the process of sounding the stomach, pylorus and duodenum.

Dr. HOMER M. THOMAS read a paper on the

MECHANISM OF NEBULIZATION IN THE TREATMENT OF PULMONARY TUBERCULOSIS.

The general interest which is taken in the subject of nebulization at the present time, particularly in its application to the treatment of pulmonary troubles, leads him to call attention to a few of the mechanic appliances that are used in the production of nebulæ. A difficulty, which has appeared to lie in the direction of this treatment, has been in the imperfect construction, and hence inefficient action, of various nebulizing instruments. Appreciating this mechanic difficulty, he has devised a nebulizer which for his own use has been eminently satisfactory. This nebulizer he described in detail, as well as the method of its use. He said that the latest addition to the facilities for treating disease in Cook County has been the erection of a consumptive hospital at Dunning. This institution is devoted exclusively to the care and treatment of tubercular patients. In the treatment of tuberculous cases there, one of the measures used is nebulization of the essential oils, such as cinnamon, oil of wintergreen, oil of pine needles, Merck's oil of cloves, oil of eucalyptol, beechwood creosote, thymol, and any others that may be considered efficient. He thinks the compressed air mechanism in the new hospital is probably the most complete of any in this part of the country. Extreme care has been used in providing absolutely pure air for the application of these treatments. The capacity of the hospital, when full, is about 380 patients, and with the present piping arrangement he thinks it will be possible to nebulize at the bedside probably fifty or sixty patients' special nebulæ, as may seem needed for each case. In addition, there are rooms sufficiently large to accommodate ten or fifteen patients at a time, in which the air is supersaturated with the antiseptic nebulæ. In these rooms patients gather for from fifteen to thirty or forty minutes, and breathe this highly charged antiseptic air. By this means it is hoped, with the very efficient mechanic appliances in operation at Dunning, to greatly assist in the amelioration, if not extinction, of pulmonary tuberculosis.

Dr. GEORGE W. JOHNSON of Dunning, in the discussion of Dr. Thomas' paper, stated that from June 1, 1897, to Oct, 1, 1897, he persistently treated 260 tuberculous patients by the inhalation of vaporized oils, such as beechwood creosote, oil of cloves, and eucalyptol, using albolene as a vehicle. These oils were vaporized by compressed air (hydrostatic) of from fifteen to twenty-five pounds pressure per square inch. The vapors were respired from a mask fitting tightly over the face and for a period of fifteen minutes each morning and evening. While inhaling the vapor, the patients were required to breathe as deeply as possible and about the normal number of respirations per minute. From these 260 patients a careful clinical record of forty cases was kept on such points as quantity and character of sputa, microscopic examination, temperature, pulse, respiration, cough, night sweats, physical examination, and body weight. A study of such a clinical record for four months showed fairly good results. In each particular case the weekly examination of the sputa showed a marked diminution in the number of tubercle bacilli. The sputa was diminished in quantity, the cough greatly alleviated, the body weight increased, with marked relief from night sweats and dyspnea. The patients took kindly to the treatment, for it was applicable to every case. From Oct. 1, 1897, to Oct. 1, 1898, he had admitted 333 patients to his tubercular ward. Of this number, 236 were given the vapor treatment, persistently. Of the 236 patients receiving treatment, 118 were so much improved that they left the institution to seek employment. While the inhalation of antiseptic vapor is not a specific for tuberculosis of the lung, yet, as Dr. Adolph Schmid states, it plays the rôle of a supporting means to other methods of treatment. To the unprejudiced mind there can no longer be doubt of the penetrability of properly compounded and vaporized medicaments. Their value in the treatment of pulmonary affections is solely determined by the amount respired. Clinical experience has proved their value when but moderately used. If such an apparatus as Dr. Thomas has suggested is used, and the patient made to live, while in the house, in an atmosphere that is sterile and laden with proper medicaments, great benefit must result. Dr. Johnson is of the opinion that inhalation therapy has a bright future.

Dr. ARNOLD C. KLEBB said that he had always held that inhalation of vaporized medicaments in any form is very valuable in the treatment of diseases of the respiratory tract, but only in a limited way. It is doubtful whether such extensive and complicated apparatus is really valuable in the treatment of poor consumptives, and he is inclined to think other means can be brought forward which will do the work just as efficiently and be less expensive. He does not believe that vapors of such strength as will exert an antiseptic influence on the bronchioles or alveoli can penetrate the lung. He had made some experiments upon this subject, and has found that in order to vaporize 10 c.c. of any oily substance, under high pressure, it takes one hour with the ordinary apparatus, and there is very little active substance in this quantity, and nearly 50 c.c. is inhaled again. He has not used the apparatus of Dr. Thomas, but the principle is the same in all of them.

Denver and Arapahoe Medical Society.

Regular Meeting Dec. 27, 1898.

Dr. T. MITCHELL BURNS contributed an interesting paper on the

TREATMENT OF PUERPERAL PHLEGMOSIA ALBA DOLENS.

He said in part: As soon as the condition is diagnosed, the uterus or any infected area in the birth canal should be thoroughly curetted. Three times a day, or oftener if necessary, the limb should be bathed in hot water in the following manner: Bring the patient's hips to the edge of the bed, rest the heel on a chair, place a bowl of hot water beneath the leg, and cover the limb with one wrapping of woolen cloth, then dip a woolen rag into the hot water and wring it out on the anterior surface of the leg. This should be kept up for half an hour at least, increasing the temperature of the water as fast as the patient can stand it. When through with the bathing, the limb should be wiped dry, turpentin and lard or camphorated oil gently applied, then cotton batting and a bias cut flannel bandage put on and the limb placed to rest on a pillow. The bowels should be kept moving two or three times a day by the use of saline cathartics. Tonics and a good liquid diet should not be forgotten. He also recommended rubbing with the dry hand, toward the patient's heart. He thinks that the use of hot fomentations relieves the congestion and mitigates the pain. He has found that some patients resist the use of hot water, and so used cold water instead with very good results. Dr. Burns recited the histories of 10 cases, in which milk leg commenced on the first, twenty-fifth, tenth, first, twelfth, first, fourth, first, eighth and fourteenth days and terminated on the fifty-fourth, thirtieth, forty-second, one hundred and eightieth, thirty-fifth, fortieth, seventieth, fifty-fifth, and thirtieth days respectively. The tenth case was a patient who six months after her confinement was still bandaging her leg because of swelling. He advised curettement. The result was excellent. Half the illustrative cases were seen in consultation.

Dr. E. R. AXTELL, in discussing the paper, said that the treatment advocated does not agree with his knowledge of pathology. He took exception to curettement in milk leg, believing it dangerous to bend the leg for the operative procedures. For the same reason he thinks that the hot fomentation should not be used, as the patient must be moved to the edge of the bed. He keeps his patient absolutely at rest. He agree that counter-irritation should be applied.

Dr. T. E. TAYLOR read a paper on the

SERUM TREATMENT OF PUERPERAL SEPTICEMIA, WITH REPORT OF CASES.

Prefacing the report of cases he said: The undisputed efficacy of the antitoxin treatment in diphtheria prepared the profession to give a cordial reception to other similar serums, and to hope that a new principle of treatment has been discovered, capable of being extended to all germ diseases. Since reading the first reports of the use of streptococcus serum in septicemia he had wished for an opportunity to test it, and such occurred in his practice during 1897.

Case 1.—A primapara, 20 years old, was confined October 25, in a rather quick labor, lasting only six hours, with a moderate tear in the cervix. She had a normal puerperium, save that the lochia persisted abnormally. At the end of two weeks she felt so well that she moved to a house at least one mile distant, doing much of the work herself. Thirty-two days after her confinement the doctor called to see her and found that she had a bloody and slightly offensive discharge from the uterus, moderate tenderness around the uterus, pulse 100 and temperature 102. Two days previously she had had a chill, with nausea and pain in her pelvis, which she supposed to be due to piles. Turpentin stupes were ordered, and the uterus irrigated with 1 to 5000 solution of bichlorid. Small doses of calomel were administered internally. On the following day the pulse was 90, and the temperature 100.5, with much pain in the right side toward the diaphragm. The discharge was less offensive. The uterus was again irrigated and the other treatment continued. On the third day, the discharge being offensive, irrigation was discontinued, a saline cathartic administered and a 1/30 of strychnin given every three hours. On the fourth day pain in side was gone; tenderness, however, was so great that she could not move; no tympanitis; pulse was 100, temperature 102. On the fifth day she complained of chilliness, bowels locked, urine retained, very great abdominal tenderness; pulse was 118 with temperature 101. He injected 10 c-c. antistreptococcus serum (P. D. & Co.) on the following day; in the morning the pulse was 106 and temperature 100.5; she had been sweating; tenderness less. In the afternoon the pulse was 100, temperature 100, and she felt much better and had eaten more. On the third day after the injection the pulse was 115 and temperature 102. He injected 10 c.c. of the serum. In the evening the pulse was 100 and temperature 99.5, patient feeling better. From this time the patient made a steady recovery. Dr. Taylor, in commenting upon the case, said: "Her desperate condition had improved so noticeably after each injection that I could not but credit her improvement to the new agent, and was more ready to use it again."

Case 2.—The wife of a physician in a neighboring town, 22 years old, and mother of two children, reported that three days before she was seen, while pumping a pail of water, her membranes ruptured. The husband, upon making a vaginal examination found but slight dilatation. He gave her a bichlorid douche and put her to bed. Thirty hours later pain set in and a three-months' fetus with membranes passed entire. Next pay she was bright, but toward nightfall had a chill. She did not feel cold, but could not help shivering. It was thought to be nervousness, and bromid and chloral was administered. At 10 o'clock the following day she was found still sleeping, pulse 78; at 11 o'clock, pulse 120, temperature 103.5. When Dr. Taylor reached her at 3 p.m. the pulse and temperature were found the same as at 11 o'clock. He at once curetted the uterus with a sharp curette, and removed a moderate amount of shreddy tissue. An hour after curettement the temperature fell to 101.5 and the pulse to 110. Three hours after curettement she had a hard chill, the pulse rose to 150 and the temperature to 105.5. It was decided to inject 10 c.c. of serum (Mulford's). Two hours later the temperature fell to 102, pulse to 110, and four hours later both were normal. On the following day there was no rise in temperature, and she made an uninterrupted recovery.

In concluding the paper, Dr. Taylor said: "The same general rules which obtain in diphtheria antitoxin apply here. Its early use offers the best prospect of benefit, before the general disorganization of tissue renders all means of cure alike hopeless."

PRACTICAL NOTES.

Prophylaxis of Puerperal Infection.—Döderlein urgently recommends that the accoucheur wear rubber gloves, proclaiming their efficacy in preventing infection, from his experience with two hundred cases.—*Berlin klin. Woch.*, 1898, 50.

Abdominal Incisions.—Wolkowitsch urges the necessity of incising between and parallel to the muscular fibers, to insure a solid cicatrix.—*Munich Med. Woch.*, Dec. 20, 1898.

Foreign Bodies in the Nose.—Felizet reports sixty cases of foreign bodies in the nasal passages, extracted by syringing thoroughly the free passage, which expels the obstruction by the mechanic pressure of the water.—*Semaine Méd.*, Nov. 23, 1898.

Tuberculous Peritonitis.—Lejars calls attention to a form of tubercular peritonitis, commencing abruptly and stormily, completely simulating ileus, but responding very favorably to prompt intervention.—*Echo Méd.*, Dec. 18, 1898.

Sero-Diagnosis of Tuberculosis.—Mongour and Buard obtained positive sero-reaction in four cases of tuberculous pleurisy and nine of tuberculosis. They also discovered latent phthisis by this means in twenty other patients.—*Echo Méd.*, Dec. 18, 1898.

Anti-Gout Remedies in Glaucoma.—If iridectomy is refused, much benefit can be attained in severe cases of glaucoma by administering piperazin and ordering an anti-gout diet, as a gouty tendency is frequently the basis for the eye affection.—*Ophthmol. Klinik*, 1898, 21.

Eosin in Ophthalmology.—Dr. Sorigner calls attention to the advantages to be derived in cases of ulcerations, foreign bodies, etc., in the eye, from a drop or so of a 2 per cent. solution of eosin, which stains the altered tissues, etc.—*Anales de Oftalmol.*, December, 1898.

Enema for Diarrhea.—Four per cent. solution of boric acid 400 gm., tannic acid 3 gm., tincture of opium 15 drops. Mix a quarter of this solution with boiled water to make an enema at 36 degrees C. One enema a day after purging with castor-oil.—Lieberson: *Jour. de Méd. de Paris*, Dec. 18, 1898.

To Arrest the Pain of a Burn.—The most painful burns are assuaged in a moment by the application of the following, according to the *Medical Record* of Oct. 1, 1898: Cocain hydrochlorate grs. v; camphophenique, ʒss; olive oil ʒss. Rub up the cocain and the camphophenique and add the olive oil.

Eruption from Use of Sulfonal.—Leick observed a generalized bullous eruption follow the use of two grams of sulfonal in an alcoholic subject, and he suggests caution in prescribing this substance where there are alcoholic antecedents.—*Semaine Méd.*, Dec. 14, 1898.

Malarial Respiratory Affections.—A physician writes from Batum describing the peculiar coughs, bronchitis and dyspnea observed there, which are evidently of a malarial nature, as they are cured with quinin, while rebellious to all the ordinary narcotics and antispasmodics.—*Bull. de l' Acad. de Méd.*, Nov. 22, 1898.

Hydatid Cysts of the Kidney.—Eight cases operated by the Recamier-Simon method resulted in three deaths and five recoveries; five died in six operated by nephrectomy, while all the fourteen cases treated by nephrotomy recovered (eight lumbar and six transperitoneal).—G. Houzel in *Revue de Chir.*, 1898, 8 and 9.

Radiographic Stereoscopy.—Chabaud notes that the inversion of the plates in the stereoscopic apparatus enables a foreign body to be located in the tissues with extreme accuracy. A hand examined with the apparatus will be seen with the dorsal or plantar side uppermost as the plates are inverted or not. This phenomenon, due to the fact that nothing is absolutely opaque to the X-rays, is of great importance in radiographic stereoscopy.

Ethyl Chlorid Anesthesia.—This anesthesia has been used in 170 operations, at Haeker's clinic. The Breuer inhaling apparatus is preferred; dose 8 to 10 grams. The anesthesia commences very rapidly; a period of agitation was only observed in 13 per cent. The anesthesia lasts five to ten minutes, and its after-effects are insignificant. Vomiting occurred eignteen times.—*Munich Med. Woch.*, Dec. 20, 1898.

Nitrate of Silver for Thrush.—It has been demonstrated that infants' mouths tolerate perfectly a 3 to 5 per cent. solution of nitrate of silver, which rapidly destroys thrush. A rag slightly moistened with the solution is given the child to suck once in twelve hours. Two or three applications will cleanse the mucosa completely.—*Semaine Méd.*, Nov. 23, 1898.

Colpitis Gangrenosa or Necrotica.—O. Busse reports a case in which liquor ferri sesquichlorid was applied to the vagina to arrest sheet hemorrhage, resulting in the expulsion of the entire necrotic vaginal sheath. A similar process has been observed after certain cases of typhus and pneumonia, which has been called "perivaginitis phlegmonosa dissecans," but this term is incorrect, as the phlegmon is the secondary, the necrosis the primary affection of the vagina.—*Munich Med. Woch.*, Dec. 20, 1898.

Thyroid Treatment for Ear Troubles.—G. Heerman advises thyroid treatment of certain cases of chronic catarrh of the tympanum, as he considers it probable that a number of chronic ear troubles proceed from arteriosclerotic changes, and Vulpius has established that thyroidin possesses the property of overcoming certain resistances in the circulation. He describes a number of cases illustrating the benefits to be derived from this connection between ear troubles and general pathology, in the *Deutsche Med. Woch.*, 1898, No. 49.

Pneumatic Prothetic Apparatus.—A young woman whose leg had been amputated found it impossible to walk in the boot provided on account of atrophy of the stump. A mechanic friend of hers contrived another apparatus, the same as the boot on the outside, but containing a bicycle pneumatic tire, with a valve on the outside to pump it full of air. This support holds the stump to perfection, and Ussing, who describes it, suggests that the same principle might be applied to a number of prothetic appliances.—*Revista de Anat.*, Mexico, Nov. 1, 1898.

Therapeutic Isolation of Nerves from their Sheath.—Anzilotti observed a severe case of ischialgia remarkably improved after isolation of the nerve from its sheath, which alters the anatomic and physiologic conditions, and may prove therapeutically valuable in the entire field of neuralgia. The isolation of a sensory nerve leads sooner or later to paralysis of sensation, and the restoration of sensibility follows after a longer or shorter interval, depending upon the anatomic and functional conditions.—*Gaz. degli Osp.*, Dec. 18, 1898.

Cystitis and Pyelitis.—G. Rosenfeld summarizes his experience as follows: The reaction is not alkaline in uncomplicated pyelitis. The limit of albumin contained is .1 per cent., maximum, .15 per cent. in the most advanced cystitis. Numerous indentations in the pus cells indicate pyelitis. If the red corpuscles show much alteration in shape or chemic constitution, pyelitis is indicated, if the hemorrhage is only microscopic and there is no tumor in the bladder. Flakes of the epithelial cells of the upper urinary passages confirm the diagnosis of pyelitis. —*Berlin klin. Woch.*, 1898, 30.

Importance of Waves in a Pyopneumothorax.—R. Kienbock calls attention to the waves observed in a left pyopneumothorax with the Roentgen fluorescent screen, caused by the contraction of the heart in the fluid, whatever the position of the subject and the change in its horizontal surface. The waves are also visible in a right pyopneumothorax, but are produced by a different mechanism. The diaphragm is paralyzed under the effusion, but the sound half is working normally and forces the intestines down and over the paralyzed side at each inspiration. The intestines raise the passive diaphragm and thus produce the waves.—*Vienna klin. Woch.*, Dec. 22, 1898.

Treatment of Corneal Opacity.—Corneal opacity is first a round-celled infiltration, with later spindle-celled and fibrous transformation. The more advanced the fibrous transformation and the fibrous tissue incorporated as a fixed constituent of the substance of the cornea, the less favorable the prospects of cure, consequently the necessity of early treatment. The healing process can only be a reabsorption and reorganization, and all medical treatment is futile. The only means of hastening and promoting the process is massage of the bulbus and of the region surrounding the eye. Vehmeyer massages through the closed lid, for fifteen minutes, two or three times a day, until there is a sensation of "burning heat," with a bandage over the eye afterward to enhance the effect of the massage.—*Munich Med. Woch.*, Dec. 20, 1898.

Pleural Effusions in Chronic Heart Affections.—Besson describes the baneful effects that follow the compression of the heart by a pleural effusion, especially where there is already chronic trouble sufficiently compensated under normal conditions, but frequently assuming alarming proportions when the new task is laid on the already overburdened organ. He urges thoracocentesis early and often in such cases, particularly with hydrothorax, and vigilant supervision over the renewal of the effusion.—*Jour. des Sci. Méd. de Lille*, Sept. 10, Oct. 1 and 8, 1898.

Therapeutic Value of Lumbar Puncture.—Lenhantz describes the case of a boy 4 years of age, with acute suppurating cerebrospinal meningitis. Lumbar puncture released 30 c.c. of thin pus under great pressure, in which the Jäger-Weichselbaum diplococcus was found. The puncture was repeated twice, and each time the effect on the general condition was remarkable, the boy improving from the first and promptly recovering. He also considers lumbar puncture directly beneficial in severe chlorosis and serous meningitis.—*Munich Med. Woch.*, Dec. 20, 1898.

Yolk of Egg in Infantile Anemia.—In anemic and athreptic infants subcutaneous injections of fresh yolk of egg mixed with one-third its weight of physiologic salt solution, filtered through absorbent gauze and injected into the buttock, caused an increase in weight, number of red corpuscles and amount of hemoglobin, much more rapid than with injections of lecithin. Commencing with 1 c.c., the dose is increased to a maximum of 10 c.c., averaging twenty injections with light local massage after each.—Professor Forlanini of Turin, *Semaine Méd.*, Nov. 2, 1898.

Gelatin as a Local Hemostatic.—Siredey warmly recommends local applications of gelatin to arrest hemorrhage, "effective and absolutely harmless," confirming the recommendations of Carnot and others, mentioned in the JOURNAL. It has never failed him once; the benefits were especially noticeable in nine severe metrorrhagias of various etiology. After cleansing the vagina with boiled water, he paints the inside of the uterus with a cotton tampon dipped in gelatin and leaves a strip of gauze dipped in gelatinized serum in the cavity. Formula for the serum: sodium chlorid 7 gm., gelatin 50 gm. to the liter of water, sterilizing it in the autoclave, but not allowing the heat to pass 105 degrees C. The serum can be kept some time by the addition of a thousandth part of sublimate or a hundredth part phenic acid. No tight packing is required.—*Revue Méd.*, Dec. 21, 1898.

Subphrenic Abscesses.—The abscess is usually secondary to some other suppurating process elsewhere, and develops under the diaphragm with the formation of gas. Maydl noted appendicitis antecedents in twenty-five out of 179 observations collected in literature. Sonnenburg found only five cases out of 230 operations for perityphlitis. Expectant treatment results in the perforation of the diaphragm, as occurred in twenty-two out of Sachs' forty-one observations. Only very rarely does such a perforation heal spontaneously. Prompt evacuation and drainage is imperative. Cahen reports a case that recovered after a second operation, disclosing a second pus pocket, only to be reached by resection of the twelfth rib.

Prurigo in Children.—H. Wolf reports that the two best methods of treatment are injections of a Pravaz syringe of a 1 per cent. carbolic acid alternating with injections of a 1 per 1000 solution of pilocarpin, or Monti's method, which possesses certain advantages: The skin is cleansed and thickly covered with zinc-salicylic acid powder. Mosetig batiste is then wound around it and fastened with a tight bandage. This dressing is changed every forty-eight hours, and the macerated skin cleansed. The prurigo is rapidly improved and heals in five to fourteen days. It is still too soon to decide in regard to relapses.—*Munich Med. Woch.*, Dec. 20, 1898.

Powders and Salves the Color of the Skin.—A combination of white, red and yellow or brown is necessary in order to obtain this desirable effect. Unna uses zinc oxid, bismuth oxichlorid or cerussa for the white; white ochre, ichthyol or umber for the yellow or brown and vermillion or red bole for the red, but Rausch finds eosin the best red for the purpose. Unna uses frequently the following application for the uncovered parts of the body: Zinc oxid 2 gm., magnesium carbonate 3 gm., white bole 3 gm., red bole 2 gm., rice starch 10 gm. Sift through old linen. This is especially valuable in seborrheic eczema, acne rosacea and oily hyperyidrosis.—*Journ. de Méd. de Paris.*

Bazy's Treatment of Chronic Cystitis.—If a fluid of less specific gravity than the urine is introduced into the bladder, it will float on top and not be expelled with the urine until the latter has all been ejected, when the patient can retain it if desired. Bazy utilizes this fact for local application of iodoform, by injecting twenty to thirty grams of a twentieth solution of iodoform and oil of vaselin. Patients can thus retain the iodoform two to five days, restraining it as soon as the oil appears in urinating. He found iodoform still in the urinary passages up into the pelvis, at a necropsy fifteen days after the injection. As a palliative this method affords excellent results.—*Presse Méd.*, Nov. 26, 1898.

Doleris' Method of Treating Retroversion.—Whenever there are lesions of the annexes requiring laporotomy, he picks up the two round ligaments with a pair of forceps or a string, about the center, that is, three or four centimeters from the uterine cornua, and pulls the loops thus formed into the inferior angle of the parietal wound, which is close to the superior edge of the symphysis, to get the benefit of the fibrous pillars there for a solid support. The loops are then sutured with catgut to the layers of the abdominal wall in this angle of the wound, and the wound is closed as usual. Seven cases thus operated during the last year proved very satisfactory (nine to five months). The weakened portion of the ligament is supplanted by the stronger lower portion, and if pregnancy supervenes, the ligaments hypertrophy and stretch as in normal conditions. He tabulates his cases with details in the *Jour. de Méd. de Paris*, Dec. 18, 1898.

Tumor Cerebelli: Position Test.—A couple of cases of pregnant women, observed at Professor Neusser's clinic, are described in detail in the *Vienna klin. Woch.* of Dec. 22, 1898, in which the classic symptoms indicated some cerebellar trouble, and the absence of knee-jerk militated against hydrocephalus. The peculiarity of each case was that lying on a certain side, even long after the pregnancy had terminated, produced buzzing in the ears, vertigo and vomiting, relieved by turning over. In both cases the diagnosis was tumor cerebelli with subsequent chronic hydrocephalus, but the necropsy disclosed in each an angiosarcoma of the half of the cerebellum on the side opposite the "vomiting side." The "position test" therefore indicates, with some probability, compression of the aqueductus Sylvii and especially of the vena magna Galeni, also the unilaterality of the lesion, and the nearness of a heavy tumor starting in one hemisphere of the cerebellum, to the median line.

Massage for Asthenopia.—Pagenstecher observes that the treatment of diminshed functions of the eye, with normal or nearly normal vision, is difficult and complicated. Tenotomy and "darkness cures" are seldom needed. Careful examination, glasses and local treatment of the conjunctiva are important, but the remedies used must not be too powerful. Massage is most important of all. The points to be massaged are the bulbus, the lids, and the nerves emerging from the orbit, particularly the supraorbitalis. A large number of cases have been cured with massage alone, due to neuralgia (reflex) or to circumscribed sensitiveness of the ciliary body, also asthenopia caused by defective tension in one eye or by resections of the ocular muscles. Slight paresis of the ocular muscles can also determine asthenopia. Reflex asthenopia may be caused by affections of the nose or frontal sinus. Treating the general health proves frequently of the greatest importance. Relapses may occur even after the most brilliant successes.—*Munich Med. Woch.*, Dec. 20, 1898.

Duret's Operation for Inversio Uteri.—As illustrated in the *Jour. des Sci. Méd. de Lille*, November 5, this operation "narrows the indications for vaginal hysterectomy which need only now be applied when the losses of blood forbid a conservative operation," according to its author. It consists essentially in a posterior colpohysterotomy, allowing the inverted uterus to be turned inside out again, as follows: 1, incision of the posterior vaginal cul-de-sac; 2, complete posterior colpohysterotomy; 3, turning forward the two halves of the vertically divided posterior wall of the uterus, connected by the still intact anterior wall, bringing the incised edges around and together in front, and suturing them in two stages; 4, double hermetic suture of the fundus down to the isthmus; 5, reduction and reposition of the uterus, very easily performed under these circumstances; 6, suture and remaking the cervix. Successfully applied by Duret, a somewhat similar method suggested by Piccoli has been also successfully employed by Morisani and Fava. These three cases reported establish the value of the operation, and show that the inverted uterus can be opened vertically its entire length, vertically turned inside out, closed with sutures, and replaced in the abdomen without danger.

Zinc Sulphate in Chronic Gastric Catarrh.—Caporali of Naples has treated certain chronic gastropathic conditions by irrigation with weak solutions of sulphate of zinc. The cases to which he would apply this treatment are those forms of gastric catarrh attended by an excessive flow of mucus. Four cases are mentioned wherein the results were highly satisfactory. These patients had suffered for more than a year (in one instance four years) with epigastric pain, anorexia, eructations and vomiting. The fluid withdrawn from the stomachs of these patients after a test-meal, contained little or no free hydrochloric acid or organic acids, but was loaded with glairy mucus. Lavage was practiced every day or alternate days. At first a solution containing .10 to .20 gms. (1.5 to 3 grains) of zinc sulphate per liter of water was used, then with each washing out the proportion of this salt was augmented .05 gm., arriving finally at a dose of .55 to .80 gms. (8.5 to 12 grains) per liter. Lavage was carried out with the stomach completely empty, and immediately followed by irrigation with a solution of bicarbonate of soda 2 or 3 per cent., with the object of converting any slight quantity of sinc sulphate remaining in the stomach into carbonate of zinc—an innocuous substance. Lavage with zinc sulphate conducted in this manner was always well borne by the patient and exercised a real curative action on the stomach catarrh, as manifested by a rapid diminution and finally disappearance of all morbid symptoms and progressive increase in the patient's weight. The cure was not temporary, but maintained. He also employed this treatment in three patients suffering from gastric trouble without hypersecretion of mucus; the results were negative.—*Treatment*, October 13.

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ACUTE INTERSTITIAL NEPHRITIS.

Acute interstitial lesions of the kidneys, characterized by exudation into the interstitial tissue, of diffuse as well as focal nature, accompanied by, but not dependent upon, degeneration of the epithelium, have been observed commonly in scarlet fever, diphtheria and other infectious diseases. The condition is regarded by some authors as the most frequent pathologic change in the kidneys in scarlet fever.

This form of disease of the kidney is generally accompanied by great enlargement of the organ, which is soft, grayish and opaque on section. In many cases the change occurs in circumscribed areas, located by preference either beneath the capsule, around the glomeruli, or at the bases of the pyramids. The changes above referred to have been previously described as acute interstitial nephritis, productive nephritis, granulating nephritis, and as lymphomatous nephritis. The writings of COUNCILMAN have dealt quite extensively with this interesting form of nephritis. In the Reports of the Boston City Hospital for 1897 he records several cases of this lesion in the kidney, and regards the cells in the interstitial tissue as coming from proliferation of the fixed cells, particularly of the vascular endothelium. Since then the continued microscopic examination of kidneys from a large number of cases of diphtheria, scarlet fever and other acute infectious diseases, the results of which are embodied in an article in the *Journal of Experimental Medicine*, September, 1898, has led to results that throw new light upon the lesion in question.

As to the macroscopic appearances, it may be stated that in most cases COUNCILMAN found that the kidneys were but slightly, if at all, enlarged, although the size to which a kidney may reach is sometimes quite extreme. The capsule is usually thin and easily removed; the surface is pale, grayish, opaque, mottled with hyperemic areas, and in some cases irregular, due to the projection of nodules more opaque than the surrounding tissue. The increase in size is principally in the cortex, the markings of which are indistinct; there may be opaque areas and lines on the cut surface. The tissue is soft and moist.

To come directly to the essential point in the results of the careful microscopic studies of COUNCILMAN, it was found that the general and focal infiltration of the interstitial tissue of the kidney, which gives rise to the nodules and other macroscopic changes, is composed of cells which correspond to those elements which UNNA first described under the name of "plasma cells." The focal nature of the cell accumulation is a general characteristic, so that often even in those cases in which there may be interstitial cellular infiltration in all parts of the kidney, the cells will be most abundantly crowded together in certain foci. As already stated, the foci are found in the subcapsular region, around the glomeruli, and at the bases of the pyramids. COUNCILMAN finds that the plasma cells are due to emigration from the blood-vessels, and are further increased in numbers by repeated division of the emigrated cells. In quite a few cases the blood-vessels at the base of the pyramids and elsewhere were found to contain lymphoid and plasma cells, without any emigration into the surrounding tissue. The cells may emigrate either as plasma cells or as lymphoid cells, COUNCILMAN agreeing with JADASSOHN, KROMPECHER and other writers, in regarding the plasma cells as being derived from the so-called lymphocytes.

The plasma cell, which it has become possible only recently to separate from the other cells in the cellular accumulations in inflammation, by means of certain technic methods, first devised by UNNA, is characterized by the blue stain which the protoplasm of the cell takes on when it is colored with alkaline methylene blue, by the constant eccentric position of the nucleus, the periphery of which stains deeply and often shows projections at certain points into the interior of the nucleus, from which an intranuclear network starts, connecting points within the nucleus with the points on the nuclear rim. The eccentric position of the nucleus may be so marked that it apparently projects from the protoplasm. In many cases the cells may have an irregular outline, due to the protrusion of knob-like protoplasmic masses resembling leucocytes fixed while engaged in ameboid movement.

One of the most important additions to our knowledge concerning the plasma cell brought forward in COUNCILMAN'S study of their occurrence in acute interstitial nephritis is the fact he has shown that they may emigrate from the blood-vessels. Heretofore the lymphatic elements of the blood have not as a rule been regarded as capable of ameboid movements. Some of the illustrations accompanying COUNCILMAN'S article show these cells in the act of passing through the vessel wall. He is also, it seems, the first one to demonstrate that these cells may multiply quite rapidly within the vessels as well as in the tissues around them, by means of karyokinetic division. Many of the previous authors who have written about these cells have not been able to reach any definite conclusion as to whether the plasma cell should be looked upon as a normal, physiologic cell or as a pathologic one. COUNCILMAN makes the statement quite definitely that, in the normal individual, plasma cells may be found in the mucous membrane of the intestine, where they apparently constitute the entire tissue between the epithelium and the muscularis mucosa, and also in the spleen. In diphtheria, scarlet fever, and probably a number of the infectious diseases, the plasma cells are formed in great numbers in the spleen, bone marrow, and to some extent in the lymphatic glands. In the spleen he found them to develop from the cells of the Malpighian bodies, which are often principally composed of them, and to some extent from the lymphoid cells in the pulp.

Any adequate explanation of the focal character of these interesting lesions in acute interstitial nephritis can not yet be advanced. There are reasons for believing that certain circulatory conditions may play some part in the accumulation of these cells in the vessels at certain places. It is also possible that there may be soluble substances present in the interstitial tissue which exert positive chemotaxis upon these cells, and lead to their focal accumulation. Such substances may be present in the urine, which may exert its influence in different places. One thing seems quite certain, namely, that the foci are not explainable as due to primary degeneration of the epithelium, which is always degenerated in these cases, but the degeneration is diffuse. COUNCILMAN also noticed that where the degeneration of the epithelium is most intense, polynuclear leucocytes occur in the degenerated epithelium and in the tubules, so that the polynuclear leucocytes, not plasma cells, are attracted by the degenerated tissue.

Careful bacteriologic examination of the kidneys and other organs in these cases show that the foci of cell accumulation are not due to the local action of bacteria. In a number of cases of interstitial nephritis the kidneys were sterile, as shown both by cultures and microscopic examination, and when bacteria were found, their connection with the cellular foci could not be demonstrated. Where there was definite bacterial disease of the kidney the plasma cells found in the interstitial tissue occurred at the periphery of the purulent foci.

THE CONVULSIVE FACE.

The profoundly disturbing effect which epilepsy has upon the whole organism, altering its vital functions and secretions, has been an object of close study for years. From time to time various writers have portrayed the characteristics of epilepsy and its effects upon the physique. We have seen that the convulsive habit may manifest itself in many ways: in gait, in posture and purposeless acts. It appears logical to us that often repeated patho-physiologic phenomena, as seen in epilepsy, should leave behind it an impress of the convulsive habit. We frequently see in children, and even in adult epileptics, the convulsive hand, consisting of a flexing grasp of the fingers in the palm over the flexed thumb. And often after a severe epileptic fit the patient remains as in a mold fashioned by the convulsion. The arms and feet remain in strained and contorted postures, a more or less perfect cast of the last throes of the seizure. Nowhere in the physique is this phenomena more plainly seen than in the facial features. For days after a convulsion the facial muscles are incapable of acting in unison in emotional and purposeful acts. The lips have an uncertain tremulous movement in speech, from which action alone epileptologists are often able to declare that a seizure has occurred.

The activity of the so-called convulsive face produces a blurred image of the normal profile. The often repeated disarray of facial movements may produce in time a diseased physiognomy pathognomonic in epilepsy. Certainly there is as much evidence in declaring the entity of a convulsive face as that of a convulsive hand. Aside from the influence of neurasthenic states in epileptics, it is by no means rare to have patients of refinement and culture declare that their features bear the impress of the disease, especially about the eyes and mouth. The muscles about these parts most frequently participate in the seizure. To the casual observer the face in this disease may give no impression beyond a possible one of premature aging or a dulling of the facial appearance in those most afflicted, but experienced observation will disclose a peculiar sharpening of the naso-labial fold, persisting most in action; a lack of unity of expression about eye and mouth, in which probably the most signal failure lies in the discord of cerebral impulses. For years the speech of the epileptic has been known to be highly diagnostic, due for the most part to its arhythmic character. We might describe the epileptic face best if we were allowed to say that the arhythmia of sound in speech finds counterpart in the disordered play of expression of the face.

We are pleased to note from time to time that the more careful scientific studies on epilepsy do not tend to isolate it from other pathologic states of the nervous system for which there is no analogy or reasonable explanation. The malady finds expression not only in the epileptic seizure involving the involuntary muscles at the time of the convulsion, but it also includes the whole organism in its disease-process, of which the facial appearance may present a fair index.

THE BEDBOROUGH TRIAL.

Dr. HAVELOCK ELLIS of London is a lawyer as well as a trained medical scientific man. He is the author and compiler of many valuable works on medicolegal topics. His papers on criminality and his studies of sociologic questions have given him a wide reputation in both this country and in Europe, and he published in 1894 a remarkable work "On Man and Woman," which was a pioneer study on the psychologic and anthropologic differences of the sexes. This was followed in 1897 by the first volume of a series of works on the general study of the psychology of sex. This work was called "Sexual Inversion," and was confined to the physiology and psychology of the normal sex impulse. It was translated into German and published at Leipsic, and was read with great interest by jurists and criminal anthropologists. Soon afterward it appeared in London and was very highly praised for its conservative, scientific tone. Finally, in May last, one GEORGE BEDBOROUGH, a bookseller, was arrested for having sold a copy of this book to a detective, and was charged with publishing and circulating an indecent, obscene book. He was speedily committed for trial and had some difficulty getting liberated on bail, which was fixed at the enormous sum of $2500. The injustice of this procedure, in holding the poor dealer accountable when the author and publisher were well-known prominent men, indicated a confused idea of the prosecution. The author and publisher prepared to make a sharp defense, and had accumulated the testimony of most of the leading medical scientists and foremost men in Great Britain to show that the work was no more obscene than the ordinary text-books on obstetrics. Over a hundred journalists had reviewed the work and had not discovered the least impropriety in its statements.

The trial took place in October last, and the dealer, fearing great loss, pleaded guilty to the principal charge and asked the mercy of the court. The judge with a great show of words, found him guilty and released him on heavy bail bonds to appear when called for to be sentenced. The author and publisher could not be heard by counsel or otherwise, and the judge asserted that the "strong arm of the law should be used to stop all such efforts to break up the morals of the English public."

The publicity of this trial roused up a wide-spread interest to see the work, but the author and publisher refused to sell any more copies. The few which were in the hands of the specialists and journalists were brought out and reviewed again with great praise. Both the *British Medical Journal*, the *Lancet*, and the *Medical News*, declare that it is a strictly scientific work and did not pander to morbid tastes. The editors of the *Journal of Mental Science* commend the treatment of the subject in this work for its high tone and medicolegal interest. Many foreign celebrities support the author, and the police judge and his friends have raised a storm of indignation which they little expected. The author is so thoroughly disgusted that he has decided to have the other volumes of the work published in this country, and the plates of the condemned book will be sent to New York and put into use at once. The narrow-minded zealots made a blunder which has been turned to a great profit by the publishers in many ways.

The assumption of judges on the scientific nature of works of medicine, and the blind zeal of ardent reformers, are a study in morbid psychology, of great interest. In contrast to this trial, some years ago a Philadelphia physician was arrested for writing an obscene book of advice to married people. The judge sent the work to a noted physician, who declared the work to be correct and scientific. The case was dismissed, but the prosecutor had a dealer arrested on the same charge. This was also dismissed by another judge. The agent of a society who made the charge wrote inflammatory articles in the press on the professions of law and medicine pandering to crime.

In the BEDBOROUGH case; the timidity of the dealer was an error which gives encouragement to the foolish efforts of unwise persons who would correct evils where they do not exist. The circulation of Mr. ELLIS' work in this country may rouse up a similar prosecution, but it is to be hoped that wiser counsels may prevail, and the merits of the work be made clear to all. The unrestrained publication of the works of KRAFFT-EBING and others in this country would seem to afford a precedent, and it may be said here that the treatment of the delicate subjects involved by Mr. ELLIS is altogether less open to objection than that of some of the other works above mentioned.

A FACTOR IN PROSECUTIONS FOR THE PRODUCTION OF ABORTION.

Perhaps there is no class of cases connected with medical practice that so often come into the courts as those having to do with the proper or illegal interference with pregnancy. On the one hand, the physician who, after consultation with a colleague, produces abortion for good and sufficient cause, is sued by an ungrateful patient, or husband, because it is claimed that unnecessary interference has been practiced. Such cases are usually of the character of blackmail. On the other hand, illegal practitioners are frequently put under arrest because they are accused of having produced this condition for improper reasons. In both instances the patient may be an important witness, and her testimony may result in the acquittal or conviction of the defendant.

This being the case, it is to be decided how competent she is as to her ability to testify. Her testimony as to her conversation with the physician may be competent, but is she competent to tell exactly what that person did to her genital organs in the technic practiced by him? Can her statement that an instrument was passed into the uterus be relied upon in proving that its presence was responsible for the abortion that followed? The supposition is that her ability to so testify is competent, but as a matter of fact, there is grave doubt as to how much reliance can be placed upon it. Thus, in a case recently reported, a woman asserted that a midwife had caused her to abort by passing a catheter into the uterus, whereas the nurse asserted that she had simply passed it into the bladder and that the abortion which followed was a coincidence.

Because of this case CALMANN has attempted to determine how well developed is the localizing sense of the female in regard to her genitalia, and he asserts that it is surprisingly indifferent. Thus he claims that the average woman is unable to tell whether a foreign body is introduced into the urethra, the bladder, or the vagina with any degree of assurance, unless force is used, and that when this is done to the vagina, cervix or uterine cavity her ability to make a distinction utterly fails. CALMANN (*Archiv für Gynecologie*, lv, 2, 1898) also finds that there is no tactile sense in the cervix and fundus. He finds that pressure sense is present to a moderate degree in the urethra, but less so in the vagina and is absent in the uterus and that the same facts hold true even with temperature sense. He also asserts that while it is possible for a woman to have some idea of the circumference of a body introduced into the vagina, she can not as a rule judge of its length.

This typically German research on the esthesia of interior portions of female genitalia may be of great value in the medicolegal conditions we have just mentioned, and while it may aid in throwing doubt on the testimony of the chief witness in a truly criminal case, it will also serve to protect the regular practitioner who is prosecuted with deliberate intent to blackmail him or whose patient really believes herself maltreated, as in the case above named.

TOXINS AND ANTITOXINS.

Some months ago the JOURNAL referred editorially to some experimental researches on toxins and antitoxins by two English investigators, Drs. MARTIN and CHERRY, by which it seemed to be demonstrated that the counter-action of these substances is a chemic and not a vital one, it occurring as well *in vitro* as *in corpore*. Dr. MARTIN has recently published (Proc. Royal Soc., lxiv, 88) some further investigations, which supplement the above and throw additional light on some of the practical questions involved.

His experiments were made, like some of his earlier ones, with the venom of an Australian snake, *Hoplocephalus Curtus* and with a corresponding antitoxin prepared by CALMETTE. In his former researches he had found that there exists a decided difference in the molecular sizes of venoms or toxins and antitoxins, and had conjectured that while the former are albumoses, the latter may be globulins. That snake venoms are albumoses seems reasonably certain; their molecules are large, but not so large as those of the native proteids; they dialyse more rapidly than the latter, and are therefore more rapidly absorbed by the tissues. In experimenting upon rabbits, MARTIN found, in accordance with these facts, that when both venom and antivenin are injected, the former hypodermically and the latter into the veins, the same amount was required for neutralization as *in vitro*, while if both were injected hypodermically, then ten to twenty times as much of the antivenin was required. This shows that the venom is much more rapidly absorbed by the tissues than its antidote, they acting, as it were, as natural filters, while with the start it gains by direct introduction into the circulation, the antivenin is on equal terms with its antagonist.

The practical deduction from these results is in accord with those elsewhere obtained, in the antitoxin treatment of tetanus for example; we must find the special point of attack of the toxin and anticipate it as far as possible with its antidote, keeping in mind all the time the fact that, owing to peculiarities of molecular composition, the toxin may, under equal conditions, outstrip its competitors, and the effect of the antitoxin be practically lost. In this, as in human warfare, success is dependent upon facilities of transportation; the army wins its victories with its legs.

Naturally, each individual infection may have its own peculiarities, and in some cases, as, apparently, in diphtheria, it may be possible to overwhelm the toxin by administration of its antidotal serum by the hypodermic method. The indications of these studies, however, are that only by careful study of the molecular and chemic constitution of the special toxins and antitoxins and thorough physiologic researches as to their selective action in the organism, can we hope to to reach a really scientific and successful serumtherapy. The bio-chemist and the physiologist must work together to ascertain the facts that the therapeutist can rationally utilize.

MEDICO-MILITARY RANK.

The fault of the HULL bill (H. R. 11022) in dealing with the Medical Department of the Army lies in its failure to do justice to the medical officers, who have devoted the energies of a long life to the service, and who are looking forward to compulsory retirement at 64 years of age without having attained the highest grade outside of the surgeon-generalcy. At the present the provision made for the senior officers of the department is inadequate to do them justice. Six colonelcies are allowed to the corps of 192 medical officers; and that these are insufficient is shown by the retirement of Lieut.-Col. J. V. D. MIDDLETON as a lieutenant-colonel, on December 15, 1898, after nearly forty years of service, during the last year of which he was chief surgeon of the Department of the Pacific, and was charged with all the responsibilities of caring for the troops of the Phillipine expeditions. In the other staff corps an officer is sure of retiring as a colonel after forty years of service. In these corps the increase proposed by the HULL bill preserves the relative proportion of colonels so that retirement with this rank continues to be assured to those who survive to the age of 64 years. In the case of the Medical Department, however, the relative number of colonelcies is diminished. Instead of retaining the proportion of six colonels to 192 officers, the bill in increasing the numerical force to 501, provides only ten colonels, thus increasing the likelihood of the occurrence in the future of such injustice as has recently been meted by existing law to Dr. MIDDLETON. The HULL bill provides that 2 per cent. of the personnel of the Medical Department shall be colonels, while it provides that 8.3 per cent. of the other staff corps shall have this rank. The Spanish-American war has shown that the duties of the Medical Department are of the highest importance. There should therefore be no discrimination against its officers. It is to be hoped that when this bill goes to the Senate some effort will be made to amend it in this respect. The whole of the medical profession is interested in this, as the rank and dignity of its military members are reflected on the status of the doctor in civil life. It is true, as BURNS says, "the rank is but the guinea's stamp," but this stamp enables the coined metal to have a greater efficiency than the crude nugget, and besides, in this instance, the rank is associated with increased pay, power and position while in active service, and with greater comfort and consideration during the declining years of life. Such of the members of the ASSOCIATION as have congressional influence would do a good work by bringing the subject to the notice of the Military Committee of the Senate, of which Gen. JOSEPH R. HAWLEY is chairman.

SANITARY RECOMMENDATIONS OF THE SURGEON-GENERAL OF THE ARMY.

The Surgeon-General has recently addressed to the Adjutant-General of the Army three communications which should have an important bearing on the medical history of our military camps and garrisons, whether in the United States or in the islands that have been brought under the protection of our flag. The first deals with the subjects of water-supply and the disposal of excreta in all camps. Portable filters, for the proper use of which company commanders should be made responsible, are recommended. In the disposal of excreta it is suggested that the expense of a sewerage system for a camp of some permanency is small as compared with that of an outbreak of typhoid fever, as clearly shown during the past summer; but as an alternative, when the camp is not to be occupied long enough to justify the establishment of a complete system of sewers, the Surgeon-General recommends the use of special receptacles in which disinfection shall be effected. In his second communication he discusses the insanitary conditions which experience has shown to be inimical to the health of unacclimated troops in the Island of Cuba, and makes special recommendations for the protection of the large force which will be exposed to danger during the coming unhealthy season in that island. The third and last communication relates to the advisability of authorizing the Commanding General at Manila to provide a hospital ship for the use of the troops in the Philippines and to establish a convalescent hospital at Nagasaki, Japan, or some other suitable locality, if in his judgment these are necessary for the restoration of the health of the sick and convalescent soldiers belonging to his department.

These communications are given in full on another page of this issue of the JOURNAL.

CORRESPONDENCE.

Precordial Area in Children.

BUFFALO, N. Y., Jan. 4, 1899.

To the Editor:—Although rather late, I would like to discuss the paper of Dr. H. B. Whitney on "Precordial Area in Children," published in the JOURNAL of Nov. 5, 1898. Although my work does not include attendance on many children—for some reason, children remain in the hands of the general practitioner when adults would seek a specialist—yet it seems that such a peculiar variation with age as Dr. Whitney assigns to the precordial area would have attracted attention. While agreeing with Dr. Hall's remark that percussion should be made with the fingers—personally, I rarely use more than the one finger—and with Dr. Musser's observation as to the possibilities of palpation in the intercostal spaces, I should like to urge the more general use of auscultatory percussion. By this method, the mapping out of organs is rendered very simple and positive. It is rather easy to outline the left and upper limits of the cardiac area by ordinary percussion, but the drawing of the right boundary is a difficult matter and often an impossibility, except by auscultatory percussion or one of the modifications, such as tuning-fork or friction, in connection with the stethoscope. If Dr. Whitney will use this method, I believe he will find the right limit of the cardiac area practically always to the right of the sternum, ignoring marked displacements of the organ. The heart, like the liver, and probably most other viscera, is relatively larger for the child than for the adult. Dr. Whitney is also correct in noting a change in the relations of the heart, after the age of about 8 years. I have noted somewhat analogous conditions in a paper now in course of preparation on the location of the stomach in children. The reason is that, with the development of the child, its habits of life change markedly at about this period; it begins to exercise violently, as compared with its former relative quietude. Thus, there is physiologic hypertrophy of the heart and, at the same time, both the natural tendency to increase of stature and the increased exercise tend to change the figure from the rotundity of early childhood to the leanness of youth. In other words, the apparent great change in the cardiac area is partly natural and partly due to the greater ease of physical diagnosis. Auscultatory percussion, being relatively more exact and subject to less interference by thickness of the body wall, difference between fleshy and bony covering, etc., shows the areas of contact of organs with the body wall much more in accordance with the anatomic facts than do other methods. Thus, the changes noted by Dr. Whitney will be much less conspicuous. For several summers, it was my privilege to make physical examinations of thirty or forty up to eighty or ninety boys, ranging from 5 to 18 years of age. I did not pretend to locate the organs of all, but, in many instances, when the heart was beating forcibly or when there was a slight murmur, the area was also marked out. In such instances, it would usually be found to extend at least to the very top of the third rib, half a centimeter or more outside the left nipple, and a centimeter or two to the right of the right margin of the sternum. In a few cases, among the younger boys, these limits would be slightly exceeded. But, by auscultatory percussion, there was no such conspicuous difference among boys of different ages, nor between children and adults, as made out by Dr. Whitney by ordinary percussion. Very truly,

A. L. Benedict, M.D.

Treatment of Colles' Fracture.

Boston, Mass., Jan. 2, 1898.

To the Editor:—You recently published an abstract from an English journal stating that an English surgeon (Hutchinson?) taught his hospital internes not to use splints on this form of fracture, "unless there was a tendency for the malposition to return after cessation of extension upon the wrist" (vide Journal, xxxi, p. 1424). This variety of Colles' fracture, by the way, is extraordinary, at least on this side of the Atlantic. Roberts of Philadelphia says, in his admirable monograph on "Fractures of the Lower End of the Radius": "The displacement (in Colles' fracture) is the result, not of muscular action, but of the vulnerating force," and further, that "the muscular surroundings have little to do with the causation or continuance of the distortion." I think most surgeons will agree with him. Practically, therefore, this English surgeon advises that cases of Colles' fracture be treated without splints. It would be very unwise to follow the advice of this surgeon in private practice, though in hospitals a wide latitude must be allowed as to what is justifiable treatment. Seldom or never is a lawsuit instituted against a hospital, and therefore treatment that may be barbarous is tolerated by the hospital patient. In private practice, however, the law shields the patient, and the surgeon does not forget it—but to his cost. To tell a patient his wrist is broken and to send him off without a protective appliance would certainly invite a lawsuit. Even though in the case of a broken wrist, there be no absolute need of a splint to hold the parts in apposition, while reunion takes place there is need of a fixative appliance because of the comfort it gives the patient, and the protection it affords the wounded tissues from a fresh injury, ever liable, to occur. Permit me to quote from an article entitled "The Treatment of Colles' Fracture," read before the American Medical Association at the Philadelphia meeting (vide Journal, xxix, p. 1044): "It can then be seen that, since the recognition by Colles of the real nature of this injury, there has been a marked tendency till within recent years to overtreat it with more or less harmful results. Sir Astley Cooper advised that four or five weeks be let elapse before passive motions be attempted in the aged. He remarked that recovery is slow, it sometimes being six months before the finger motions were restored. Agnew, Bryant, Moullin, Walshe and McClelland all recognize that the stiffness of the wrist and fingers is due to fibrinous exudation around the tendon sheaths about the seat of the fracture. Bryant states that passive movements ought to be employed by the surgeon at an earlier period than has been wont, but he does not specify the time. Moullin advises passive movements of the fingers from the first day, stating that this generally prevents stiffness of them. With the wrist, he states, it is generally more difficult (to prevent stiffness), but on several occasions I began gentle manipulations of the wrist on the fourth or fifth day wlth an excellent result." The writer's practice for several years has been, after reduction of the fracture, to mould a piece of wood-fiber splint material over the back of the forearm, wrist and hand, and to bandage it thereon, invariably he employs passive motion of the fingers and thumb from the first day of the injury, and of the wrist carefully from the fourth day. Generally the splint is discarded on the fifteenth day—good reunition having taken place between the fragments during that time. The splint lies directly next the skin, and is easily removed and reapplied—because there is no padding or upholstery to be cared for. It is extremely light and worn with real comfort. The writer uses this splint form because he has found it most efficient and convenient; but any protective appliance has his favor that permits of the *essential* of the proper treatment of Colles' fracture, i. e., passive movement of the fingers and thumb from the first day and of the wrist carefully from the fourth day; omission of splint from the fifteenth to the twenty-fourth day, according to the condition of the joint. This treatment of Colles' fracture is very efficient compared with the older methods. It is not in the text-books, with the exception of Moullin's. It undoubtedly will get into them all in time, for the treatment is rational, safe and efficient in practice. Respectfully,

Edward A. Tracy, M,D.

Removal of Superior Maxillary Branch of Fifth Nerve Under Cocain, for Relief of Neuralgia.

Fairmont, W. Va., Jan. 2, 1889.

To the Editor:—I was called, Dec. 29, 1898, to see a man 76 years old, who was suffering from a most intense neuralgia in the right side of the face. He gave a history of neuralgia for twenty-five years and, as usual, had gone the rounds for medical relief. He told me that if I did not succeed in relieving him he would be compelled to commit suicide, as he would not suffer longer. I gave him two deep injections of chloroform, eight minims each, and relieved him for a few hours. On the return of the pain I proposed removal of the nerve, to which he readily consented.

On beginning to give ether, owing to his having taken much morphin, to make life bearable, his respiration ran down to six per minute, and I at once discontinued the ether and used cocain over the line of proposed incision. I cut down over the nerve, tied off the artery and had but slight hemorrhage. Enlarging the opening below and extending into the foramen with a chisel, I reached back beyond the anterior dental branch and removed the whole trunk of the nerve. I then irrigated with a 1 to 1000 bichlorid solution, sutured with black silk, applied iodoform gauze, which remained five days, when dressing and stitches were removed, the wound having healed by first intention.

My patient remarked while I was doing the operation that the pain was very slight and nothing compared to his neuralgia. He walked from the operating-table to his bed, and after an hour sat up and ate his dinner and slept the whole of the following night, which he had not been able to do for many months, and has been comfortable ever since.

The above only shows what can be done for these sufferers five miles in the country, under cocain, and in a house with but two rooms. Jno. R. Cook, M.D.

ASSOCIATION NEWS.

Board of Trustees Meeting.—At the special meeting of the Board of Trustees, held in Chicago, January 2, the selection of an editor to succeed the late Dr. John B. Hamilton was postponed until a future meeting, and in the meantime the Journal will be issued by the Trustees, under the direction of

Dr. Truman W. Miller, Chicago, Chairman of the Publication Committee. An appropriation was considered to defray the expenses of the Committee on Public Health, of which Dr. Wingate is chairman. He will visit Washington, D.C., in connection with proposed public health legislation.

SOCIETY NEWS.

Golden Belt Medical Association.—The annual session of this association was held at Salina, Kan., January 5.

Camden County (N. J.) Medical Society.—This Society held its annual meeting January 3, and elected the following officers: President, Joseph L. Nicholson; treasurer, William H. Pratt; secretary, Edward A. Y. Schellenger.

McLean County Medical Society.—This society held its monthly session at Bloomington, Ill., January 5, with "Some Observations of the Medical Side of Army Life," by Dr. Bath, and other papers by Drs. Fulwiler and Fenelon.

Schuylkill County (Pa.) Medical Society.—This Society recently elected Drs. G. H. Halberstadt, president, W. C. J. Smith, vice-president, G. W. Farquhar, secretary, and David Taggart of Frackville, treasurer.

Kansas City Academy of Medicine.—The Academy will hold its annual banquet February 7. The recent election of officers resulted in: President, Hal. Foster; vice-president, J. W. Kyger; treasurer, C. Lester Hall; secretary, Ralph J. Brown; censor, J. Herbert Austin.

New Haven (Conn.) County Medical Association.—At the recent meeting, Frank W. Wright was chosen president of this association; Arthur N. Alling, first vice-president; N. R. Hotchkiss, second vice-president; R. A. McDonnell, secretary and treasurer.

Lucas County Medical Society.—At the annual meeting of this Society, held in Toledo, Ohio, January 6, Dr. Gillette was re-elected president. Other officers chosen were: William A. Dickey, vice-president; Dr. Wright, recording secretary; Geo. F. Suker, financial secretary, and D. E. Haag, treasurer.

Miami and Shelby County Medical Societies.—A joint session of these two Societies was held at Sidney, Ohio, January 5. Dr. J. E. Shellenberger of Piqua presented a paper on "Malarial Fever," and Dr. J. R. Caywood of Lexington a paper on "Chronic Constipation."

Warren County Medical Society.—At the January meeting of this Society, held in Monmouth, Ill., January 6, Dr. Wm. M. Harsha of Chicago, spoke on "Diagnosis in some Abdominal Surgical Cases." The program also included papers by Dr. Graham of Little York and Dr. Linn of Monmouth.

Lancaster County (Pa.) Medical Society.—The following officers have been elected by this Society for the ensuing year: President, William Blackwood; vice-presidents, I. N. Lightner, T. B. Appel; secretary, P. P. Breneman; corresponding secretary, J. R. Lehman; treasurer, George R. Rohrer; librarian, P. P. Breneman.

Jasper County Medical Society.—At Joplin, Mo., January 3, this Society chose the following officers: C. M. Ketcham, Carthage, president; R. L. Neff, Joplin, vice-president; J. H. Parseghian, Joplin, secretary; L. I. Mathews, Joplin, treasurer. The February meeting will be held in Webb City, and the March meeting in Carthage.

Medical Society of the State of New York.—The ninety-third annual meeting of this Society will be held in Albany, January 31 and February 1 and 2. The preliminary program has been received, and any communications relating to papers or any changes in the program, should be addressed to Dr. W. G. Macdonald, chairman of Business Committee, 27 Eagle Street, Albany, N. Y.

Fayette County Medical Society.—This Society will hold its thirtieth anniversary in Pittsburgh, Pa., May 18, 1899. The recent election of officers resulted as follows: President, W. N. Smith; vice-president, E. L. McDaniels; secretary and treasurer, L. S. Gaddis; assistant secretary, J. D. Sturgeon; censor, N. B. Lowman.

La Crosse County (Wis.) Medical Society.—The annual meeting of this Society was held January 4, and a committee appointed to confer with the Board of Health in regard to quarantining of diseases. Officers for the ensuing year were as follows: President, D. S. McArthur; vice-president, E. Evans; secretary and treasurer, J. A. L. Bradfield.

Johns Hopkins Medical Society.—The regular meeting of the Johns Hopkins Medical Society was held January 9, in the assembly rooms of the hospital. The program included an "Exhibition of Medical Cases," by Dr. T. B. Futcher, and papers on "Hemorrhagic Infarction of the Intestine," by Dr. W. H. Welch, and on "Acute Gonococcus Peritonitis," by Dr. H. W. Cushing. Dr. T. McCrae acted as secretary.

International Tuberculosis Conference.—According to the *Presse Méd.*, the German Central Committee for the Erection of Sanatoria is organizing an International Congress to discuss measures for the prophylaxis of tuberculosis, to be held at Berlin May 23 to 27. The Chancellor, Prince von Hohenlohe, is to preside, and Professor von Leyden and the Duke of Ratibor are actively engaged in promoting the work. Fifty sanatoria have already been erected through the efforts of the Committee.

Western Ophthalmologic and Otolaryngologic Association.—The fourth annual meeting of this Association is to be held in New Orleans, La., February 10 and 11. The preliminary program announces a large number of papers by leading practitioners in ophthalmology and otolaryngology. The officers of the Association are: J. Eliott Colburn, Chicago, president; W. Scheppegrell, New Orleans, first vice-president; Casey A. Wood, Chicago, second vice-president; H. Gifford, Omaha, Neb., third vice-president; Thomas A. Woodruff, Chicago, secretary; W. L. Dayton, Lincoln, Neb., treasurer.

Detroit Academy of Medicine.—At the meeting held January 10, Dr. Andrew P. Biddle read a paper entitled "The Influence of Parental Syphilis on the Offspring." He limited the very broad field of hereditary syphilis to a consideration of one phase, i. e., its etiology as acquired in utero. The much mooted question of whether an infected father can through diseased spermatozoa infect the offspring without infecting the mother also was discussed, and the plausible explanation, that by repeated inoculations through the placenta the mother is rendered proof against syphilis by seven or eight months of Pasteurization, accepted. A paternal luetic inheritance is less severe than the maternal, and especially than where both parents are infected. The severity is in inverse ratio to the duration since infection; after four or five years little danger of inoculation exists. A mother infected before conception is almost sure to infect the offspring; while infection at conception is very destructive to the offspring. When both parents are diseased at the time of conception many fruitless pregnancies will result.

Wayne County Medical Society.—At the regular meeting, January 12, Dr. J. R. Kestell read a paper on "Consumption: Its Cause and Treatment." The Doctor undertook to prove that the prime cause of pulmonary consumption is not so much in the condition of the lungs themselves, as in the general constitutional weakness of the person who contracts the disease. This constitutional dyscrasia he laid primarily at the door of a faulty diet, the eating of potatoes, pork, veal and other indigestible foods which clog the intestinal canal, ferment, and allow of the prolific multiplication of the tubercle bacilli; these readily find their way into the lacteals, and thence through the circulation into the lungs, already weakened by poor nutrition, the foul air of overcrowded cities and the lack of expansion and vigor, from the sedentary habits of the patient; here they multiply and produce the dread disease. The treatment outlined was stated to be one which should be directed less against the bacilli than toward the building up of the patient by proper methods and the preventing of further infection; the prohibiting of potatoes, pork, veal and fats to the patient; good air and good surroundings; exercise; creosote and phosphates internally, and the careful attention to the alimentary tract. The etiology of the disease, as laid down by the author, was vigorously attacked by several of the members during the discussion.

St. Joseph (Mo.) Medical Society.—At the first regular meeting of the year, January 10, the following officers were elected for 1899: President, P. I. Leonard; vice-president, J. M. Richmond; treasurer, J. H. Flynn; secretary, J. M. Bell. A paper was presented by J. F. Owens on "La Gripe," outlining the differential diagnosis between it and influenza; and the treatment of la grippe. The points of analogy were noted and the differential symptoms dwelt upon; the latter being principally the muscular pains and prostration of the onset, absence of mucous congestion, involvement of the nervous system and atypic course of the fever. In treatment, the essayist avoided all coal-tar derivatives as too depressing, and confined himself to cathartics, as calomel, followed by quinin and Dover's powder. Dr. Jacob Geiger, in opening the discussion, called attention to the prevalence of appendicitis during an epidemic of la grippe, and accounted for it by the fact that the germs found in the diseased appendix, beyond the ordinary intestinal bacteria, are identic with those infesting the mucous membranes of the respiratory tract during la grippe. The treatment he adopted was a rational one of hygiene rather than any specific method, viz., warm drinks, keeping the emunctories active; rest and warmth in bed, and for gastric irritation, small doses of sodium salicylate. He regarded pronounced pain in the calf as almost pathognomonic. Dr. W. E. Elam regarded the disease a catarrhal fever differing mainly from other forms in its sudden onset and wide range of symptoms, the involvement of the respiratory and digestive tracts being too sudden to admit of the theory of extension, the etiologic factor being therefore a bacterium; the sudden and broad range of symptoms due to ptomain absorption. The speaker advocated stimulation with hot whiskey, together with the cautious inhibition of antipyrin for temperature. Dr. J. H. Flynn regarded an initial chill with abdominal pain—winter cholera so-called—pathognomonic of la grippe; a daily recurrence of the chill a common occurrence; pain in the flexors of the limbs and biparietal headache the most distressing features. He used free catharsis, followed by quinin and opiates. Dr. M. F. Weyman thought the moist skin and pallor of the face which Dr. Owens cited as an unusual factor in the presence of high temperature, due to nausea which persisted in gastric cases, and not, therefore, charactoristic of la grippe. Dr. P. I. Leonard holds the disease to be an acute infectious one, involving, primarily, the nervous system, as evidenced by the variety of nerve symptoms, hyperesthesia and anesthesia; frequency of the complications and slow convalescence. Dr. O. B. Campbell considered the subject one that required close study and observation; while it is rarely fatal in a well-balanced physique, it often develops capillary bronchitis in young children, which is serious; it is an unfortunate disease in those suffering from cardiac troubles, from its depression, and is equally fatal to the aged and exhausted. It is a disease that attacks mucous tissue primarily, and from the fact that meningitis is not an uncommon sequel, it is equally hard on the nervous system. Dr. J. M. Richardson considered la grippe an acute, specific, self-limited disease, requiring the attention of a good nurse rather than the physician. In regard to the vast array of coal-tar derivatives, Dr. Richmond was vehement in condemning their lauded virtues; he obtained better results from old and tried materia medica.

PUBLIC HEALTH.

Freire's Vaccinations for Yellow Fever.—Dr. A. Ramos is urging the Rio Janeiro Nat. Acad. of Medicine to request the "Government to put an end to Freire's vaccinations, as these inoculations are prejudicial to the health of the populace, keeping alive the germs, which without this would have been already banished from the country."—*O. Brazil Méd.*, Dec. 1, 1898.

Health in Indiana.—The report for December, 1898, indicates an enormous increase in influenza, with slight increase in bronchitis, pneumonia, tonsillitis and rheumatism. The diseases which decreased in area of prevalence were typhoid fever, intermittent fever, diphtheria and croup, scarlet fever, pleuritis, whooping-cough, inflammation of the bowels, dysentery and puerperal fever.

Incubation Period of Rabies in the Dog.—The generally accepted assumption that if a dog shows no symptoms of rabies after forty days, the danger is past, Abba refutes, with a number of instances, showing that the incubation period is extremely variable and has been known to last 246 days; several months in other cases. The only safe measure is to kill a suspected dog at once, as he may prove dangerous even after months have passed.—*Gaz. degli Osp.*, Dec. 18, 1898.

Isolation of Lepers.—The committee appointed by the Mexican Government reported adversely to isolation, observing that there was no question of isolating persons with syphilis, and yet that this was very much more contagious than leprosy and as serious in its results at times. In Colombia, on the other hand, every effort is being made to induce the Government to establish a leprosery, and a beautiful island off the coast, Coiba, eight miles long, is warmly recommended for the purpose of a leper colony, where they could be self-supporting to a certain extent. The *Revista Med. de Bogotá* for August urges prompt action and the erection of iron houses on the island, as the fame of Carrasquilla's leprosy serum has attracted many lepers, and the need of prompt isolation to protect the well is imperative.

Alcoholism.—Bonne scores the physicians of Germany for their apathy in regard to the question of alcoholism, observing that while wonders have been accomplished in the prophylaxis of cholera, typhus, diphtheria and smallpox, yet the most serious endemic plagues, syphilis, tuberculosis and alcoholism, are accepted as a matter of course. They form a terrible *circulus vitiosus* as syphilis is almost invariably contracted in connection with an acute alcohol intoxication, and the organism predisposed by alcoholism is much more liable to contract tuberculosis in jails, hospitals, etc. The family at home are also deprived of sufficient nourishment on account of the expenditure for drink, and hence are much more liable to succumb to tuberculous infection. He mentions the blessing that the Good Templar societies have proved in Scandinavian countries, where so much has been accomplished in combating alcoholism. Fourteen members of the present National Legislature are members of this society.—*Deutsche Med. Woch.*, December 15.

La Grippe.—The present epidemic or recrudescence of the "grip" appears likely to rival the original invasion of the disease in 1889-90. From all parts of the Northern States come reports of its prevalence; its march across the country has been exceedingly rapid, it appears to have reached San Francisco as early as January 1, though it was not announced as epidemic at some intermediate points till some days later. From the regions south of Baltimore and Washington or St. Louis we have fewer reports, but the disorder appears to be present in a mild form at New Orleans. It will be an interesting study for sanitarians to take up the propagation of this epidemic in connection with transportation lines and climatic conditions; it is possible some useful results may be obtained. From abroad we hear that the disease is increasing the death rate in London, and probably other European capitals have had or are having a like experience. The real cause of this exacerbation of influenza has not yet been elucidated: the fact that we have since 1890 had it more or less with us renders it needless to suppose a new introduction of the infection, and we have before us an interesting sanitary problem to explain the apparent especial severity of the disorder at the present time. Let us hope it is a last flurry, a dying kick, premonitory of its final disappearance.

Construction of Isolation Hospitals.—In the course of an article dealing with the subject of "Sanitary Principles in the Construction of Isolation Hospitals," contributed to the current issue of the *Engineering Magazine*, Mr. Middleton points out the importance of having the floor, wall and ceiling surfaces impervious and easily cleanable, and the necessity of freedom from places where dust can accumulate. To mention the former is enough to secure attention to it: but the latter necessitates that there shall be no flat ledges or sharp re entering angles anywhere, the junctions between floor and wall, and between wall and ceiling, and the corners of the room all having to be rounded. Doors must be made without panels, fitting into circular rebates in the frames: keyholes must be omitted and all woodwork especially sectioned. There must be no spot, in fact, where a duster can not get with ease.—*Sanitary Record*, Nov. 11, 1898.

Royalty Against Tuberculosis.—It is reported by cable that the Prince of Wales has presided at a private meeting at Marlborough House, convened by him to take steps to check the spread of tuberculosis. The Marquis of Salisbury, the Earl of Rosebery and a number of notable physicians spoke of the urgent necessity of educating the people in the means of preventing consumption, of checking the spread of tuberculous disease among cattle, and of erecting open air sanitaria. The Prince of Wales, who has promised his heartiest support to the good work, called upon Great Britain to follow the good example set before her in the United States and Germany, in the effort to stamp out the disease. He mentioned the fact that the Queen had ordered the destruction of thirty-six of her dairy cows, which had been found to be suffering from tuberculosis, an example, he urged, such as other farmers ought to follow.

Health Reports.—The following cases of smallpox and yellow fever have been reported to the Supervising Surgeon-General of the United States Marine-Hospital Service, during the week ended Jan. 14, 1899:

SMALLPOX—UNITED STATES.

Alabama: Catherine, January 6, cases reported present, 1: alerine, cases reported present, 1: Mobile, January, 3-6, ases reported present, 2.

Illinois: Bethel, January 7, cases reported present, 2: Media, anuary 7, cases reported present, 1.

Nebraska: Nebraska City, December 12, cases reported present, 3: Nebraska City, January 7, cases reported present, 3.

SMALLPOX—FOREIGN.

Belgium: Antwerp, December 3-28, cases reported present, : deaths, 6.

Brazil: Rio de Janeiro, November 26 to December 2, cases eported present, 8: deaths, 6.

England: London, December 17-24, 1 death.

Mexico: Monterey, December 23, 1 death.

Russia: St. Petersburg, December 3-10, cases reported resent, 3.

YELLOW FEVER.

Mexico: Monterey, December 3 to January 5, 3 deaths.

Sanitary and Medical Inspection of Camps.—By direction of the ecretary of War, orders for formal and systematic medical nd sanitary inspections of all military camps, posts and hositals were promulgated from Headquarters of the Army, Dec. 1, 1898. The requirements of these orders are as follows:

A sanitary inspection of all military camps, including regimental, brigade, and division hospitals, will hereafter be made on Saturday of each week, and on the last Saturday of each month a medical inspection will also be made. A similar inspection will be made on the last day of each month of all military posts and general hospitals. The senior medical officer present will make these inspections for detached commands, military posts and general hospitals: brigade surgeons will make them for troops that are organized into and serving as brigades, and when special occasion requires and the general commanding orders, division, corps, or department chief surgeons will make them. A report of these inspections, with such recommendations as are deemed proper, will be made to the commanding officer, who will return it after indorsing thereon his views and action or his objections. The medical officer will then forward the report through military channels to the Surgeon-General of the Army. All commanding officers are directed to facilitate the prompt transmission of these reports to their proper destination. The sanitary inspection will consist of an examination of the quarters, their cubic air-space per man, space between tents, ventilation, lighting, drainage and general police: of the clothing and bedding, its sufficiency, adaptability and general condition: of the food-supply, its quality, variety and quantity, its preparation, cooking and method of serving: of the water-supply, its quality and quantity, for cooking, bathing and laundry purposes: of the disposal of excreta, by what methods, character of disinfection and cleanliness: of the habits, exercise and recreations of the men, and of the site of the camp, hospital or post, with reference to its healthfulness. The medical inspection will include an examination of the records of the hospitals as to their completeness and accuracy, and the promptness in forwarding them: of the medical, surgical and hospital supplies: their quality, quantity, condition, whether properly used, and if timely requisitions are made to avoid deficiencies: of the food-supply for the hospital, especially with reference to light diet for the sick: of the management of the diet kitchens: of the methods of day and night messing for attendants, male and female: of the public funds provided by existing regulations for the purchase of food: of the tentage, wheel transportation, and other articles furnished to the hospital by the Quartermaster's Department, their amount, usage and condition as to repairs: of public animals, their number and condition. Inquiry will be made into the character and causes of prevailing diseases and what steps have been taken to prevent them: into the attention to duty of medical officers, contract surgeons, enlisted men and female nurses, and into the discipline, instruction and efficiency of the Hospital Corps. Recommendations will be made for the correction of unsanitary conditions or of abuses that may exist, and note made on the next report of the action that has been taken regarding them. Special report will be made of professional incompetency, neglect of duty or general inefficiency of any medical officers. Forms for the inspection reports will be supplied by the Surgeon-General.

The Annexation of Hawaiian Leprosy.—The *British Medical Journal* recently referred to the problem presented by the prevalence of leprosy in Hawaii, a question which has become of pressing importance now that Hawaii has been annexed by the United States. Till 1848 leprosy was unknown in the Sandwich Islands. In that year, according to tradition, there landed in Hawaii two Chinese sailors, both of whom were lepers. The disease spread rapidly, and today it is estimated that nearly 10 per cent. of native Hawaiians are lepers, while many thousands have died of leprosy since the introduction of the disease fifty years ago. Unless the progress of the scourge is checked there can be little doubt that the native race will in no long time be entirely swept away. Now, however, that the United States Government has assumed the responsibility of the welfare of Hawaii, there is every reason to hope that vigorous measures will be adopted to avert this consummation. Dr. Burnside Foster suggests first of all that a department of public health, with a cabinet minister at its head, should be added to the existing administrative machinery of the United States Government. Next, a leprosy commission should be appointed to investigate the subject on the spot. This commission should be instructed to make an accurate census of the lepers in Hawaii, now estimated as not fewer than 3000, and to see that all infected persons are completely segregated. The laws at present in force in Hawaii authorize the segregation by the health authorities of all known lepers, and it is believed that the laws are strictly enforced, but is known that for various reasons many lepers escape detection. The number of those with pronounced leprosy who remain at large is probably small, but there are undoubtedly several thousands of persons who have already become infected, but in whom the disease has not yet produced symptoms making its nature manifest. It is among such cases that the great danger of disseminating the disease lies. Among the early results of annexation will probably be a largely increased immigration to, as well as emigration from, the islands. Many of those who either know or suspect that they have the disease will undoubtedly attempt to escape to the United States, while immigrants who settle in Hawaii will be thrown into more or less intimate relations with the already infected but unrecognized lepers.

Vermont Medical Practice Act.—Through the secretary of the Vermont State Medical Society we have been favored with a copy of the Medical Practice Act approved by the General Assembly, Nov. 22, 1898. This Act is the result of long-continued and persistent effort on the part of the Vermont State Medical Society. The three State medical societies, viz., the Vermont State Medical Society, the Homeopathic State Medical Society, and the Eclectic State Medical Society, all of which are chartered societies (and none other), may issue licenses, after an examination, to physicians holding a diploma from a medical college or university. The act is as follows:

It is hereby enacted by the General Assembly of the State of Vermont:

SECTION 1. Section 4633 of the Vermont Statutes is hereby ameded so as to read as follows:

Section 4633. Each board of censors shall issue certificates, without fee, to physicians and surgeons who present to such board a diploma from a medical college or university, and who also by examination satisfy said board of censors that they are qualified to practice the branches mentioned in such diploma.

SEC. 2. Section 4630 of the Vermont Statutes is hereby amended so as to read as follows:

Section 4630. State medical societies organized under a charter from the General Assembly, shall, at each annual session, elect a board of censors, consisting of three members, who shall hold their office until others are elected. Such board may examine and license practitioners of medicine, surgery and midwifery.

SEC. 3. This act shall take effect from its passage.

Casualties Due to Vehicles.—The quarterly reports of the New York City Board of Health show the number of fatalities caused by vehicles to be far in excess of the number caused by railroad, cable, electric, steam, or horse cars, notwithstanding the fact that there are fewer vehicles in New York than there used to be, and a much larger number of street-cars of all kinds. The recurrence of distressing accidents caused by vehicles seems to make proper some inquiry into feasible methods for their abatement, for it must be obvious that no good reason exists for the increase of such accidents at a time when the popularity of bicycles has had the effect of reducing on the streets the number of private equipages, curtailing the business of livery stables, and diminishing the number of cabs. Fast driving is less general in the crowded parts of New York City than was the case a few years ago, and one of the large dry goods houses has recently adopted, in part, the automobile method of propulsion for its delivery wagons. The accidents of which there is a serious complaint are due primarily to the fact that a considerable number of wagons for the delivery of merchandise in New York, and, particularly, the "light-rigged" wagons in which groceries are delivered are not driven by men capable of controlling horses and familiar with the rules of the road and the city ordinances for the protection of pedestrians, but, to a great extent, by boys, lacking the necessary physical strength and without the requisite understanding to avoid preventable accidents. These youths, chosen presumably for such service on account of nominal wages which they receive or the board and lodging which, as newcomers to the United States, they are glad to accept in lieu of wages, are the promoting cause of a majority of the accidents which arise from their inexpertness.—*Insurance Herald.*

Sanitary Recommendations of the Surgeon-General of the Army.—The recommendations referred to in our editorial columns are as follows:

1. *In relation to water-supply and the disposal of excreta.*—I have the honor to make the following recommendations with reference to the protection of our troops in permanent camps in this country and in the islands at present occupied by our forces from the infectious diseases which are liable to prevail where insanitary conditions exist:

a. No camp should be established unless there is an abundant supply of pure water for drinking, bathing and culinary purposes. Experience shows that reliance upon filtration or upon sterilization by boiling is very uncertain, owing to the difficulty of enforcing the use of the appliances provided for this purpose. Nevertheless, I recommend that portable filters of an approved model be supplied to troops in camp for use when on the march or under any circumstances where it becomes necessary to use water which may possibly be contaminated by the germs of any one of the infectious diseases which experience has shown to be most dangerous to troops in the field—typhoid fever, cholera, dysentery, camp diarrhea, yellow fever. Company commanders should be responsible for the proper use of these filters, and as they require frequent cleaning and careful using in order to preserve their efficiency they should be placed in the immediate care of a reliable and properly instructed noncommissioned officer, who should have a suitable detail to assist him in operating them for the filtration of all water used for drinking purposes.

b. Disposal of excreta.—It has been demonstrated that the germs of typhoid fever, cholera, dysentery and camp diarrhea are present in the discharges of those suffering from these diseases, and the propagation of these infectious camp diseases results to a large extent from failure to properly dispose of excreta. These diseases are frequently not recognized in the earlier stages or when the cases are mild in character, and the discharges of such persons thrown upon the ground or in sinks which are not properly disinfected almost inevitably lead to a propagation of the disease and often to a general camp infection. This can only be guarded against by a complete system of sewers and water-closets connected with them, by some efficient method of removing excreta from the camp, or by its prompt and complete disinfection in situ if sinks are used. Experience shows that the latter method is difficult to carry out and requires the most constant and intelligent supervision. The first cost of a complete system of sewers for a camp which is to be occupied for several months would be small compared with the expense resulting from an epidemic of typhoid fever, yellow fever or cholera. It may be safely said that the expense resulting from the large number of cases of typhoid fever in our camps during the past summer has been greatly in excess of the cost of a system of sewers, where this would have been practicable, or of some other efficient method of disposing of excreta. As the best alternative where a camp is not to be occupied long enough to justify the establishment of a complete system of sewers, or where for any reason this is impracticable, I would suggest the following method of disposing of excreta: I would provide a sufficient number of cylindric galvanized iron receptacles, eighteen inches in diameter and eighteen inches deep, provided with a galvanized iron cover and having a trough around the outside of the vessel, three inches deep, for the purpose of containing a disinfecting fluid, in order that when the cover is in position this may serve as a valve, preventing the entrance of flies or the escape of foul odors. A second cover of metal, having a proper aperture to serve as a privy seat, should be provided. When about to be used the enclosed cover would be removed from the iron receptacle, leaving the seat exposed. After use the cover should be at once replaced. These cylindric vessels could be partly filled with a solution of carbolic acid, or the contents could be treated with quicklime, dry earth or ashes. They should be removed at regular intervals, and the contents emptied into a pit far removed from the camp, or disposed of by cremation. There should be a sufficient number of these vessels to put a clean one in position when those requiring removal are taken away to be emptied and cleaned. These vessels should be cleaned by the use of boiling water (or by incineration if practicable).

2. *In relation to conditions in Cuba.*—In view of the occupation of the Island of Cuba by United States soldiers, a majority of whom will be subjected to climatic conditions to which they are unaccustomed, and to local insanitary conditions which past experience shows are very inimical to the health of

unacclimated troops, I have the honor to make the following recommendations:

a. The number of unacclimated troops should be no greater than is imperatively called for by the military occupation of the island, and so far as is practicable colored troops or native Cubans should be enlisted for this service.

b. Unacclimated troops should not be stationed in any of the yellow fever infected cities of the Island, and after the first of April they should not be permitted to visit these cities unless an urgent military reason makes their presence necessary. Camps should be located so far away from these infected cities that unauthorized intercourse will be difficult, and stringent orders should be made and enforced to prevent such intercourse. Every camp should have a quarantine camp and hospital for the detention under observation of all persons who have been exposed—either with or without authority—in a yellow fever infected locality. All suspicious cases of fever should at once be removed to the hospital at the quarantine camp.

c. The most stringent regulations should be enforced to preserve the health of the troops. As a basis for such sanitary regulations I respectfully call attention to the following extract from my Circular No. 1, dated April 25, 1898: "In Cuba our armies will have to contend not only with malarial fevers and the usual camp diseases—typhoid fever, diarrhea, and dysentery—but they will be more or less exposed in localities where yellow fever is endemic and under conditions extremely favorable for the development of an epidemic among unacclimated troops. In view of this danger, the attention of medical officers, and of all others responsible for the health of our troops in the field, is invited to the following recommendations: when practicable camps should be established on high and well-drained ground not previously occupied. Sinks should be dug before a camp is occupied, or as soon after as practicable. The surface of fecal matter should be covered with fresh earth, quicklime or ashes three times a day. New sinks should be dug and old ones filled when contents of old one are two feet from surface of ground. Every man should be punished who fails to make use of the sinks. All kitchen refuse should be promptly buried and perfect sanitary police maintained. Troops should drink only boiled or filtered water and coffee or tea (hot or cold), except where spring water can be obtained which is pronounced to be wholesome by a medical officer. Every case of fever should receive prompt attention. If albumin is found in the urine of a patient with fever it should be considered suspicious (of yellow fever) and he should be placed in an isolated tent. The discharges of patients with fever should always be disinfected at once with a solution of carbolic acid (5 per cent.), or of chlorid of lime (6 oz. to gallon of water), or with milk of lime, made from fresh quicklime. Whenever a case of yellow fever occurs in camp the troops should be promptly moved to a fresh camping ground located a mile or more from infected camp. No doubt typhoid fever, camp diarrhea, and probably yellow fever, are frequently communicated to soldiers in camp through the agency of flies, which swarm about fecal matter and filth of all kinds deposited upon the ground or in shallow pits, and directly convey infectious material, attached to their feet or contained in their excreta, to the food which is exposed while being prepared at the company kitchens, or while being served at the mess tent. It is for this reason that a strict sanitary police is so important. Also because the water-supply may be contaminated in the same way, or by surface drainage. If it can be avoided, marches should not be made in the hottest part of the day—from 10 A.M. to 5 P.M. When called upon for duty at night or early in the morning, a cup of hot coffee should be taken. It is unsafe to eat heartily or drink freely when greatly fatigued or overheated. Ripe fruit may be eaten in moderation, but green or over-ripe fruit will give rise to bowel complaints. Food should be thoroughly cooked and free from fermentation or putrefactive changes. In decidedly malarious localities from three to five grains of quinin may be taken in the early morning as a prophylactic, but the taking of quinin as a routine practice should only be recommended under exceptional circumstances. Light woolen underclothing should be worn, and when a soldier's clothing or bedding becomes damp from exposure to rain, or heavy dews, the first opportunity should be taken to dry it in the sun or by fires.

d. When cases of yellow fever occur in a camp or barracks under such circumstances as to indicate that the locality is infected, the troops should at once be removed. The disastrous mistake has frequently been made of removing the sick and leaving the well in an infected locality. To repeat this mistake in the light of our present knowledge would be unpardonable. The most dangerous towns upon the island of Cuba, so far as yellow fever is concerned, were pointed out by me in a letter to the Honorable the Secretary of War, dated March 25, 1898. This list includes all the principal seaport cities—Havana, Matanzas, Cardenas, Cienfuegos, Sagua, Manzanillo, Nuevitas, Santiago and Guantanamo. The disease is also endemic at Puerto Principe, Remedios, Jaruco, San Antonio, and certain other inland towns.

3. *In relation to troops in the Philippine Islands.*—I have the honor to invite your attention to the following extract from a report made by Lieut.-Col. Henry Lippincott, chief surgeon at Manila, dated Oct. 23, 1898: "I may remark that convalescence from all diseases, and especially from typhoid fever and dysentery, is exceedingly slow in this climate on land, and consequently the necessity for a hospital ship is felt. It is surprising what effect five or six days on the water has upon such convalescent patients when otherwise properly cared for. I was informed that the *Scandia* was coming as a hospital ship, but the Board of Medical Officers who examined her find that she is unsuited for the purpose without extensive alterations, which can not be made here and must be done in Hong Kong. I am, therefore, compelled to keep patients on land, and see convalescents accumulate until the hospitals are filled to overflowing." The following suggestion is made in a communication addressed to the Honorable the Secretary of War by Samuel W. Belford, assistant adjutant-general: "If hospitals could be established—I have no doubt as to the feasibility of the project—at the ports outside of the Philippine Islands, the health of the men would be vastly improved and the losses considerably lessened. For instance, if hospitals could be built on the European concession at Nagasaki, and the sick men taken from Manila when they are able to travel, it would be of considerable advantage to the army. Cases that are reported to be sick in quarters could be removed from Manila on Government transports and sent either to Japan or Hong Kong. In my judgment it would have a very salutary effect for many reasons. In the first place, it would take men out of Manila, and that in itself would be as essential in restoring health as any course of treatment could be. Two weeks or a month spent in Hong Kong or Nagaski would improve the spirits of the men immensely, and they could return to duty and be serviceable instead of being sent home to the United States." I respectfully recommend that these suggestions be brought to the attention of the Commanding General at Manila, and that he be given authority to equip a hospital ship and also to establish a convalescent hospital at Nagasaki or some other suitable locality, if, in his judgment, this is necessary for the restoration of the health of sick and convalescent soldiers belonging to his army.

BOOK NOTICES.

The Sexual Instinct. Its Use and Dangers as Affecting Heredity and Morals. By JAMES FOSTER SCOTT, B.A. (Yale University), M.D., C.M. (Edinburgh University), New York: E. B Treat and Co., 1899.

This volume contains little or nothing of medical value that ought to be new to a well-posted physician, and there might be some question on some accounts as to its value for indiscriminate circulation among the laity. The really useful information it contains could probably be best communicated personally by parents and instructors. To these classes and to the clergy, when not otherwise informed on its subject, it may be useful. Still these are matters for personal judgment; the book is certainly better than many of those now extant on its special subjects.

An Atlas of Bacteriology, containing One Hundred and Eleven Original Photo-Micrographs with Explanatory Text. By CHAS. SLATER, M.A., M.B., M.R.C.S. Eng., F.C.S. and EDMUND J. SPITTA, L.R.C.P. Lond., M.R.C.S. Eng., F.R.A.S. Pp. 120, excluding plates. London: The Scientific Press, limited, 28 Southampton Street, Strand, 1898. Price $2.50.

This work, which is patterned after Fränkel and Pfeiffer's large "Atlas der Bakterienkunde," aims to be a laboratory handbook to direct the attention of the student to certain points he should observe in his preparations, at the same time as it helps the teacher by providing a series of grouped illustrations; whilst, on the other hand, it is thought it may find a place in the library of the medical officer of health and other practitioners, as an atlas to which on certain occasions he may find it convenient to refer. The book is no sense a text-book, the letter press serving merely to link together and emphasize the teachings of the photographs. Bearing this avowed aim of the book in mind it may be safely said that the authors have done their work well. The photographs are clear, truthful and pleasant to look at, the reproduction being skilful and painstaking. The book is cordially recommended to those who are in need of a handy collection of excellent photographs of the important micro-organisms.

Transactions of the American Orthopedic Association.—Vol xi. Cloth. Pp. 461. Illustrated. Philadelphia: Published by the Association, 1898.

This volume contains the proceedings of the twelfth session, held at Boston, Mass., May 17-19, 1898, and includes the following papers: "Pathology in its Relation to Orthopedic Surgery"; "Traumatisms of the Spine Simulating Pott's Disease"; "Hallux Valgus Extremus"; "The Boot as an Orthopedic Appliance"; "Observations on Morton's Painful Affection of the Fourth Metatarso-Phlangeal Articulation"; "Arch of the Foot in Infancy and Childhood"; "Sitting Posture and a Proposed Apparatus for Patients Shortened by Pott's Disease"; "Brace for Cervical Spondylitis"; "Orthopedic Appliance Shop"; "Correction of Spinal Deformity by Stages"; "Immediate Correction of Deformities from Pott's Disease," with others by leading orthopedists of this country.

A Syllabus of Materia Medica.—Compiled by WARREN COLEMAN, M.D., instructor in Clinical Medicine and Materia Medica in Cornell University, Medical Department. One Vol. 16mo. Pp. 175. Polished buckram. New York: William Wood & Company. $1.00 net.

This pocket volume is the outcome of several years' classroom experience and an attempt to aid the memory by presenting the facts in condensed form, with special grouping of the drugs. White's "Materia Medica and Therapeutics" furnishes the basis for the doses cited here, and much of the other material.

Medico-Chirurgical Transactions. Vol. lxxxi. Cloth. Pp. xcix and 461. Illustrated. London: Longmans, Green & Co., 1898.

This volume of transactions of the Royal Medical and Chirurgical Society of London, done on excellent paper, and well edited, contains many papers of value to the practitioner of medicine and surgery, with numerous full-page plates in colors, and much miscellaneous information. Among the papers are the following: "Calcareous Metamorphosis of the Tracheal Lymphatic Glands," by Sidney Phillips; "Pathology of the Pernicious Malarial Fevers of Sierra Leone," by George Thin; "Obscure Cystic Tumor of the Bladder," by P. J. Freyer; "On Mesenteric Cysts," by Frederic Eve; Discusion on the "Prevention of Enteric Fever;" "Latency and Freedom from Recurrence after Operations for Reputed Carcinoma of the Breast," by A. Marmaduke Sheild; "Removal of the Entire Upper Extremity for Recurrent Carcinoma, after Removal of the Breast," by Clinton T. Dent; "Epidemic Malarial Fever of Assam," by Leonard Rogers; "Case of Cyst of the Urachus," by Alban Doran; "Five Cases of Acute Leukemia," by J. Rose Bradford and H. Batty Shaw; "Influence on Gout of the Mineral Constituents of Various Vegetables," by Arthur P. Luff; "Acute Dilatation of the Heart in Rheumatism and Chorea of Chilldhood," by D. B. Lees and F. J. Poynton.

Doctor Therne. By H. RIDER HAGGARD. Cloth. Pp. 209. New York. Longmans Green & Co., 1898.

"Doctor Therne" is a fascinating story and a well-painted picture of the results liable to accrue from the antivaccination agitation which so recently led the British Parliament "under the guise of a 'graceful concession,'" to yield to the anti-vaccinationists and place the health of the country, without appeal, in the hands of the "conscientious objector." It will repay reading by every physician. We highly commend the taking up of the right side of a question of this importance, by a popular novelist.

Diseases of the Skin: An Outline of the Principles and Practices of Dermatology. By MALCOLM MORRIS, Surgeon to the Skin Department St. Mary's Hospital, London, etc. With 10 colored plates and 26 engravings. New and Revised Edition. Philadelphia: Lea Bros. & Co.

The revised edition of this compendious handbook indicates the favor with which it has been received by the profession of two countries. Mr. Morris has won a deserved reputation for his thoroughness as an investigator, for his fearlessness as a critic of the work of other men, for his scholarly attainments, and for his lucid style. The book as it is offered today furnishes a careful summary of what is generally accepted in the field of cutaneous medicine, and it commends itself thus especially to the student on the benches of the medical school. The chapter on the Principles of Diagnosis is one of the best ever written on the subject, and commends itself to every diagnostician in the field of inner medicine.

We regret that our English brethren still cling to their old-time fondness for the term "rodent ulcer" which has again been summoned to the bar of international criticism and condemned. There is no "rodent ulcer" which is not a typic epithelioma in its origin, career, and pathologic exhibit throughout. The claim made by A. Jacob that its exceedingly slow evolution, the conditions of the edges of its ulcer, its insignificant subjective symptoms, and its incurability save by extirpation, establish its individuality, is so flimsy that one wonders how Mr. Morris, usually so clear-sighted, should fall under the sway of British traditions in this matter. None of these considerations should weigh for a moment in assigning to its proper category a disorder which is demonstrated daily and without exception to belong in all particulars to the domain of pure and simple epithelioma.

One naturally turns to the subject of ringworm in examining a treatise from the hand of an author who has supplied so good a monograph on that subject. Of Mr. Morris' 126 cases selected for study, 92 per cent furnished evidence of the presence of the small-spored fungus (*Microsporon Audouini*): figures much higher, as the author admits, than those of Sabouraud, who has been a pioneer in the cultivation of this interesting field. Comparing Mr. Morris' figures with those very recently published by Dr. Charles J. White of Boston, we learn that of 279 cases seen by the last-named observer, only 52 per cent. represented the incursions of the Microsporon Audouini: figures far nearer the French exhibit, and suggesting that in Boston and Paris there is a greater tendency than in London to the transference of the disease to men from the lower animals. Considering the preponderance of the disease in the male sex, as shown by the Boston statistics, this hypothesis secures a reasonable foundation. Decidedly the most obstinate and extensive of the instances of ringworm of the head seen in Chicago are of the large-spored class.

Mr. Morris' work is enriched with plates, many of which admirably illustrate the diseases described in the text. A few, such as the contrasted faces labeled "lupus vulgaris," "rodent ulcer," and "tuberculous syphilide" accentuate their contrasts more by definition than by color, too few stones having been employed to exhibit in due suggestiveness the delicate hues peculiar to each malady.

The work of the publishers is highly satisfactory.

NECROLOGY.

JOHN PETER SHARER, M.D., Albany, N. Y., 1846, College of Physicians and Surgeons, New York, 1848, died of cardiac disease, January 7, aged 75 years. He was a general practitioner for over fifty years, at Little Falls, N. Y., of which town he had been president and afterward supervisor. He was active in the New York State Medical Association, of which he was an original member.

Newton G. Tucker, M.D., Nashville, Tenn., professor of Theory and Practice, Meharry Medical College, died January 8. He was graduated from the University of Nashville in 1861 and a member of the American Medical and American Public Health Associations.

John Teare, M.D., Chicago, died January 9. Dr. Teare was born in the Isle of Man in 1818, was graduated from the Royal College of Physicians and Surgeons, London, in 1845, and in the early '50s came to Chicago, where he practiced his profession up to within a short time of his death.

John William Warth, M.D., College of Physicians and Surgeons, New York, 1868, died in Brooklyn, N. Y., Jan. 8, 1899.

H. De Valson Pratt, College of Physicians and Surgeons, New York, 1881, of Elmira, N. Y., died there January 12, aged 42 years.

Daniel Lucius Adams, M.D., Harvard, 1834, once a practitioner in New York City, but who retired in 1865, died in New Haven, Conn., January 3, aged 84 years.

Howell Y. Mangum, M.D., Metropolis, Massac County, Ill., died Dec. 26, 1898.

Edward G. Field, M.D., Castleton, Vt. 1847, died of cardiac disease in New York City, January 8, aged 76 years. Although well educated, he never became an active practitioner and for many years was a member of the N. Y. Stock Exchange. He died unmarried.

Charles C. P. Clark, M.D., College of Physicians and Surgeons, N. Y., 1849, died at his home in Oswego, N. Y., January 11. He was an alumnus of the Middlebury College (Vt.) class of 1843, and spent some time in Paris in professional studies. After his return to America he became known as a man of wide culture, with a bias toward philanthropic and economic affairs. He was a Collector of Customs from 1869 to 1871, and became author of the Clark Election bill which twice passed the N. Y. State Legislature. He was born in Middlebury, Vt., in 1822.

Clinton L. Armstrong, M.D., Cincinnati, Ohio, was buried January 7 . . J. Barton Cox, M.D., St. Genevieve, Mo., Dec. 31, 1898 . . J. W. Dawson, M.D., Canon City, Colo., Rush Medical College, 1871, January 8, aged 65 years . . John J. Diet, M.D., New Orleans, La., January 9, aged 45 years . . Alexis Carl Hartmann, M.D., St. Louis, Mo., January 10, aged 30 years . . Moses D. Hoge, M.D., Richmond, Va., January 6, aged 81 years . . J. Chester McPherson, M.D., Brunswick, Mo., January 4, aged 42 years . . Thomas R. Moss, M.D., Dyersburg, Tenn., January 7 . . Thomas H. O'Connor, M.D., Boston, Mass., January 1, aged 41 years.

MISCELLANY.

Physician Elected Mayor.—Dr. John W. Bean has been elected mayor of Ellensburg, Wash.

Dr. G. Frank Lydston.—Dr. G. Frank Lydston, Chicago, has een seriously ill, but is now reported convalescent.

Seattle Health Officer.—Dr. M. E. A. McKechnie has been ppointed health officer of Seattle, Wash., to succeed Dr. C. A. mith, recently resigned.

State Medical Corps.—The medical corps of the Minnesota National Guard was recently reorganized with Dr. Chas. E. Dutton of Minneapolis as chief surgeon with the rank of major.

Pathologist Resigns.—Dr. Florence H. Watson, pathologist at he Pennsylvania State Hospital for the Insane, Norristown, as resigned.

Toledo Hospital Staff.—The recently chosen staff for the Toledo Ohio) Hospital is as follows: Drs. L. H. Bodman, Jas. A. Duncan, G. W. Newton, and L. C. Grosh.

Dr. Joseph Grindon.—At the annual election of officers of the St. Louis Medical Society, recently, Dr. Joseph Grindon of St. Louis was chosen President.

Sanitary Relief Association.—At Atlanta, Ga., an association to be known as the Atlanta Sanitary Relief Association has just been organized.

Chicago Eye, Ear, Nose and Throat College.—Dr. Horace M. Starkey, Chicago, has been elected to a professorship in ophthalmology in this college.

Dr. E. R. LeCount.—Dr. E. R. LeCount, assistant professor of pathology in Rush Medical College, Chicago, who has been seriously ill for several weeks, is reported much improved.

Banquet to Dr. Dwight.—At the Carney Hospital, Boston, a banquet was tendered January 3 to the out-going president, Dr. Thomas Dwight, and the incoming president, Dr. H. L. Burrell.

Yale Medical Incumbent.—Assistant Professor Benjamin Moore, of the University College, London, was recently called to the Yale Medical School, New Haven, Conn., to take the professorship of physiology, held last year by Prof. Graham Lusk.

Memphis Physician Remembered.—Dr. N. F. Raines, superintendent of the Shelby County (Tenn.) Poor and Insane Asylum, was presented recently with a Scottish Rite Masonic gold ring by his medical staff and employees.

Johns Hopkins University.—According to press reports, the trustees of this institution have accepted the resignation of Dr. Wm. H. Welch as dean of the medical school and have elected Dr. Wm. H. Osler as his successor.

Philadelphia Polyclinic.—Dr. F. R. Packard has been appointed Dean of the College Department of the Philadelphia Polyclinic, an office newly created in order to facilitate the arrangement of time and work by the students. Dr. Thomas S. Kirkbride, Jr., has been appointed director of the laboratories.

Michigan College of Medicine and Surgery.—The Board of Trustees of this institution have just established a new chair of military hygiene and dietetics, and elected Dr. Jno. F. Bennett to the chair. Dr. R. H. Honner was elected professor of materia medica.

Chinese Medical Journal.—According to the *British Medical Journal*, the first number of a new magazine, *A Medical Journal of Medicine, Surgery and Hygiene*, has just appeared in China, edited by Wan Tün Mo, a diplomate of the Imperial Medical College, Tien-Tsin, at present surgeon at the Alice Memorial Hospital of Hongkong.

Association of American Medical Colleges.—On account of the increasing interest in this Association, the secretary, Dr. Bayard Holmes, wishes to inform the medical profession of the country that the library of the College of Physicians and Surgeons, Chicago, has been made the depository of the Association, and that the librarian, Miss Grace W. Bryant, is preparing a bibliography of all publications of the Association and of all that have reference to it. This includes a duplicate list from which any of the included publications will be sent to libraries or the officers of societies asking for them. The list is not absolutely complete as yet, and any contributions will be thankfully received. The secretary expects to be able to publish, early in March, the substance of the rulings of the judicial council made in answer to questions actually submitted by colleges or medical students. Any information required as to desiderata or other particulars can be obtained from the secretary, Dr. Bayard Holmes, 104 East Fortieth Street, Chicago.

"Alienist and Neurologist."—The January, 1899, number of this quarterly will be an anniversary number, and in honor of its twentieth anniversary the issue will contain many special papers by prominent writers.

Prizes Awarded by Paris Academy of Medicine.—The annual distribution of prizes, in which thousands of dollars are awarded, recently occurred at Paris. Few of the prizes were presented entire; none came across the Atlantic to this country, but some were awarded to persons outside of France. Among them we note the names of Czerny and Trunecek of Prague, 1200 francs for their treatment of epithelioma of the face with arsenious acid (vide JOURNAL, xxx, p. 1116). A. Rondino of Naples received the Capuron prize of 1500 francs for the best article on experimental studies on some obstetric subject. The Herpin prize of 1200 francs was awarded to Jules Janet of Paris for his article on "The Abortive Treatment of Gonorrhea." The Mège prize of 900 francs, subject, "Hay-fever," was divided between Garel, Lyons, and Guder, Geneva. The Orfila prize, 2000 francs, was awarded to Guinard and Dumarest for their excellent research on picrotoxin (vide JOURNAL, xxx, p. 1585). The Tremblay prize of 7200 francs was divided between Albarran and Motz (vide JOURNAL, Jan. 7, 1898, "Sexual Operations for Hypertrophied Prostate"), Bazy, Delore and Guiard. The female sex was honored in the person of Madame Hervieu of Sedan with an enamel medal for her great work in promoting hygiene among children, also by a number of silver and bronze medals for the efforts of women in promoting vaccination. Several prizes were not awarded on account of the non-reception of competing articles. The Audiffred prize, an annuity of 24000 francs for an absolute cure for tuberculosis, in connection with which Hirschfeld's results with oxytuberculin were mentioned last year, was not awarded, but 2000 francs "encouragement" were bestowed upon J. Auclair of Paris and a smaller amount upon Auché and Hobbs of Bordeaux.

Students' Club-House.—Our foreign exchanges refer admiringly to the handsome and well-equipped students' club-house, gymnasium and natatorium erected and endowed at Königsberg, Prussia, by Dr. F. Lange of New York, as a gift to his Alma Mater. The endowment includes a fund to loan to deserving students.

Board of Health for Indian Territory.—Congressman Little of Arkansas has presented a bill before Congress for a Board of Health for the Indian Territory, granting jurisdiction over the proposed Board by United States courts of the Territory and appropriating $2000 for the purpose.

Bequests.—According to the *Outlook* of January 14, Lord Iveagh has presented $1,250,000 to the corporation of Dublin, Ireland, for the improvement of the very unsanitary district in that city near St. Patrick's Cathedral and $1,250,000 to the Jenner Institute for the appropriation of researches in bacteriology and other departments in which researches tend to prevent diseases.

Object to Word "Lunatic."—By section 23 of chapter 433 of the Massachusetts Acts of 1898, the word "lunatic," wherever it occurs in the names of the several hospitals and in the laws of the commonwealth relating to the insane is stricken out, and the term "insane," or "insane person" is substituted therefor.

Lectures for Hospital Patients.—The Paris Union for Social Education has inaugurated a series of lectures in the hospitals for the benefit of patients who are not confined to their beds. Interesting and instructive subjects are selected in all branches of science, history and literature.—*Jour. des Sci. Méd. de Lille*, Dec. 17, 1898.

Advisory Staff of Cook County Hospital.—President Irwin of the Board of County Commissioners, has appointed sixty physicians on the staff of the Cook County Hospital, Chicago, whose privileges are to inspect the hospital at all times and see that the rules of the institution are enforced.

Myoma.—Carefully investigating the vascular system in seventy-one cases of myoma, Strassman and Lehman find that degenerative conditions in the heart musculature accompany the myoma, and also that the development of the myoma seems to be dependent upon primary heart and vascular alterations. "The proliferation of uterus tissue (myoma) and the alterations in the heart, vessels and uterus, possibly all proceed from a single affection causing vasomotor disturbances." *Munich Med. Woch.* from *Arch. f. Gyn.*, lvi 3.

Norwegian Hospital, New York.—Lucian McCollum, for many years house surgeon, has resigned, and Dr. Lange, the ambulance surgeon, has been promoted to fill the vacancy. Dr. Lange is succeeded by A. E. King, a graduate of the Long Island College. Dr. McCollum will take up private practice in Brooklyn.

Hospitals.—Secretary Alger has transmitted to Congress an estimate for the erection of a modern hospital for the army at Fort Leavenworth, Kan. The estimate calls for an appropriation of $11,000. . . The report of the special commission of the senate of New York, to investigate the question of the spread of consumption and the establishment of better sanitary conditions for consumptives, has been presented to the Legislature in session at Albany, and an accompanying bill provides for an appropriation of $200,000, recommending that the State establish a hospital or hospitals for the treatment of tuberculosis, same to be located somewhere in the forest reserves of the Adirondacks . . St. Mary's Hospital, Quincy, Ill., reports for the year 1898, 1070 patients treated, of which 54 died, 932 were discharged and 84 remained at the end of the year. . . Mercy Hospital, Burlington, Iowa, eleven deaths during the year 1898, and the total number of patients treated, 347; of these 29 remained in the hospital at the end of the year. . . St Joseph Hospital, Joliet, Ill., reports 751 patients treated during 1898, of which 525 were discharged cured, 92 improved, and 85 remained in the hospital at the end of the year, and 49 had died. . . A new general hospital has been opened at Green Bay, Wis. . . The St. Francis Hospital for Incurables, Cincinnati, reports 284 inmates Jan. 1, 1898, 529 admitted during 1898, while 395 left the hospital and 111 died, 307 being in the hospital Jan. 1, 1898. . . Alexian Brothers' Hospital, Chicago, has added a new department for treatment of disease by water electricity, massage and Swedish movements.

State Board of Medical Examiners.—At the recent meeting of this Board, Indianapolis, Ind., officers were elected as follows: President, W. A. Spurgeon of Muncie; vice-president, J. C. Webster of Lafayette; secretary, W. P. Curryer of Indianapolis; treasurer, James M. Dinnen of Ft. Wayne.

State Board of Health Examinations.—Dr. J. A. Egan, secretary of the Illinois State Board of Health, held the quarterly examination of candidates for practice of medicine, surgery and midwifery, in Chicago, January 10-14.

Pure Food Bill.—It is announced that Senator Dunlap of Champaign has just completed his work on the pure food bill and will introduce it in the Senate at Springfield, Ill., within a few days.

Kansas Medical Legislation.—A bill has just been introduced in the Kansas Legislature to regulate the practice of medicine and the sale of drugs, nostrums and medical preparations by itinerant venders.

Experimental Traumatism of Tendon Sheath.—E. Arcoleo concludes from tests with six rabbits and dogs that the sheath is necessary to the nutrition of the tendon, and the latter reacts with inflammatory lesions to traumatisms of the sheath, but that they are transient and are followed by *restitutio ad integrum*. The surgeon can therefore proceed with his operation on the sheath without compromising the vitality of the tendon. —*Gas. degli Osp.*, Dec. 18, 1898.

Absorption of Bacteria from Fresh Wounds.—J. Halban communicated to the German Congress of Surgery in 1897 the results of extensive experimentation, establishing the fact that the bacteria are absorbed by the lymphatic system and that the blood plays a very subordinate part in their absorption. He invariably found the bacteria first in the lymph glands and in quite large numbers, whence they passed out into the blood. The interval before their appearance in the lymphatics varied very much with different bacteria (spores were not included in his tests). The anthrax bacteria remained localized at the spot, so that amputation of the limb, even after two and a half hours, saved the animal, while the control animal died in thirty-six hours. He observes that bacteria can not be absorbed by an open artery on account of the outward current, and that the current is also outward from the peripheral end of a vein, while the central flow stops on account of loss of the *vis a tergo*, and only rarely do bacteria find their way upward in the central end. Further research has confirmed his assertions, which he now repeats with added emphasis in the *Vienna Klin. Woch.*, Dec. 22, 1898, adding that Albrecht and Ghon have recently experimentally established that infection of the blood with bubonic plague bacillus occurs absolutely and solely by way of the lymphatics.

Hygroma of the Subdeltoid Bursa.—Blauel reports a personal case and reports the fifteen on record of corpora oryzoidea hygroma of the subdeltoid bursa, and concludes that it is of tuberculous origin. He considers injections, incisions, etc., unreliable, and recommends prompt, total extirpation as the simplest and only certain cure—nine days in his case.—*Munich Med. Woch.*, from *Beiträge z. klin. Chir.*, xxii, 3.

Appendicitis vs. Epityphlitis.—Professor Küster writes to the *Cbl. f. Chir.*, December 17, to protest and reject with horror that "verbal monstrosity, appendicitis, half Latin and half Greek, which starting in America, is now invading and conquering the whole world." He suggests instead, epityphlitis as more appropriate in every sense.

The Cicatrix After Laparotomy.—The *Arch. f. Gyn.*, lvi, 3, contains a study by G. Abel, of the ultimate fate of the cicatrix in 665 laparotomies performed at Zweifel's clinic. He has traced all but three to date, and personally examined 586, or 97.5 per cent. This undertaking required 2390 letters and 201 journeys to examine cases residing at a distance. The most important result of his investigation is that subsequent hernia is best prevented by careful adaptation of anatomically related tissues, especially suture of the fasciæ, and by securing prima intentio with asepsis. If recovery ensues under these conditions, even leaving the bed early will not interfere with it, but if these conditions are not present, the wearing of a bandage will not positively prevent subsequent hernia. The *Munich Med. Woch.* comments that the present improved technic in laparotomy sutures is due in great measure to the works of Winter and Abel, particularly the latter's address at the German Congress of Gynecology in 1897, when he denounced the method then in vogue of suturing the entire abdominal wall at once.

Total or Partial Abdominal Hysterectomy.—F. Terrier confirms the "benignity of supravaginal abdominal hysterectomy, established by the American surgeons," and reports a mortality of only 10 per cent. in fifty operations of the kind, and a mortality of 24 per cent. in twenty-five total abdominal hysterectomies, 1896 to 1898.—*Revue de Chir.*, Dec. 10, 1898.

Intestinal Occlusion.—Notwithstanding the extreme weakness of the patient, Témoin performed laparotomy in the fifth month of pregnancy, and severed the bridles that had caused incarceration of the ileum. The fetus was expelled the same night; smooth recovery.—*Revue de Chir.*, Dec. 10, 1898.

Cystic Enlargement of Bladder end of Ureter.—J. Englisch reviews the fifteen cases in literature and adds another. Ten were females, mostly young; six were males, all older. The ureter was obliterated in six. A defect in the urethra was frequently present with open, double ureter; and harelip or fingers grown together were noted in the cases in which the single or double ureter was closed. The size varied from that of a walnut to a cyst containing 50 c.c. of fluid. The disturbances are evident in increased desire to urinate, with pain in the effort, retention, enuresis or transient incontinence. All cases suggesting a diverticulum or pyonephrosis should be investigated for a possible cyst formation in the ureter. The treatment must consist in incising, after endoscopy, or ligating after cystotomy.—*Cbl. f. Chir.*, Dec. 24, 1898.

Results of Female Castration.—A. Pfister reports a study of 116 women castrated: the menopause appeared in 94.8 per cent.; molimina menstrualia in 30 per cent.; sexual desires were extinguished in 43 to 52 per cent., diminished in 30 per cent., undiminished in 26 per cent. Atrophy of the uterus was constant, of the vagina and vulva less frequent. Atrophy of the mammary gland was noted in twenty-nine women. Tendency to obesity is increased. The disposition is frequently changed for the worse for quite a while after the operation, but only exceptionally permanently. The former disturbances were cured by the operation in eighty-seven cases, improved in eighteen and not affected in six. The best successes were obtained in myoma and dysmenorrhea. Hysteria and hystero-epilepsy were least benefited.—*Munich Med. Woch.*, from *Arch. f. Gyn.*, lvi, 3.

Death from Poison.—Is a death from poison accidentally taken under the mistaken belief that it is a harmless medicine a death from poison? This is the question which the United States circuit court of appeals had before it, in the recent case of McGlother vs. the Provident Mutual Accident Company of Philadelphia, where Dr. McGlother died a few months after taking out a policy of accident insurance, and an action was brought to recover thereon for his death, which was caused by his drinking poison under the mistaken belief that it was a harmless medicine, which he had prescribed as a drink for his patients. The policy excluded death from poisoning. Thus the question stated was raised. To ask the question, the court declares, seems to answer it. Its reasoning is: If death from poison unconsciously taken under the belief that it is not poison is not a death from poison, what is it a death from? The whole is greater than any of its parts and includes them all. Death from poison is greater than, and necessarily includes death from poison taken in any particular way, because it includes death from poison taken in every way. It includes death from poison taken intentionally or unintentionally, consciously or unconsciously, voluntarily or involuntarily, with or without knowledge that the draught is dangerous, because every species of death from poison is included within the generic term. In accordance with this, and much else it has to say upon the subject, the court holds that the death of the insured referred to fell within the exception expressed in the policy, and that the insurance company was not liable for it, under its contract.

Must Pay Taxes.—In the case of the Medical Society of Kings County against Neff, the second appellate division of the supreme court of New York holds that a medical society organized under the provisions of "An act to incorporate medical societies for the purpose of regulating the practice of physic and surgery in this State," is not exempt from taxation under a law providing that "the real property of a corporation or association organized exclusively for the moral and mental improvement of men and women or for religious, charitable, missionary, hospital, educational, patriotic, historic or cemetery purposes, or for two or more of such purposes, and used exclusively for carrying out thereupon one or more of such purposes shall be exempt from taxation." In its comments, the court says of the medical society in question that it is, in effect, a medical clubhouse, where the members of a single profession meet for "mental improvement" and such incidental benefits as flow from association and co-operation of effort. One of the results of these medical societies has been to establish a practically uniform rate of charges, or at least a minimum rate, and to afford a degree of protection to individual practitioners which would be practically impossible without an organization empowered to enforce obedience to by-laws and respect for professional ethics. It is not necessary, continues the court, to ascribe selfish motives, and it is undoubtedly true that the society in question is performing many charitable and commendable acts, in common with mankind, in every walk of life; but this is not, of itself, a justification for the State to relieve it of the burdens which are common to good citizenship generally, and, accepting this society's own statement of the case, there are no facts to bring it within the provisions of the law quoted.

Function of Experts.—The ordinary function of experts, says the supreme court of Minnesota, in the case of Moratsky vs. Wirth, November, 1898, is to assist by their superior knowledge the jury in reaching a correct conclusion from the facts in testimony before them. Their opinions are not, as a rule, conclusive upon the jury, but mere items of evidence for the consideration of the jury. But in a case where the evidence, and the facts to be deduced therefrom, are undisputed, and the case concerns a matter of science or specialized art or other matter, of which a layman can have no knowledge, the jury must base their conclusion upon the testimony of the experts. In such a case the court concedes that it would be error for the trial judge to instruct the jury, in effect, that the weight to be attached to the expert testimony was a question for them, and that their conclusion as to any question of fact was to be based upon a consideration of the whole testimony, expert and non-expert, and that they were not to surrender their conclusion so formed because the opinion of the experts did not coincide with such conclusion; that to do otherwise, and accept the opinions of the experts as to what had been proven by the evidence, would make them, and not the jury, the triers of the cause. Such, however, was not this case, wherein both the expert and substantive evidence were conflicting, and the supreme court holds that it was not error to give here an instruction of that character.

Bacterial Etiology of Torticollis.—Heller of Berne has experimentally confirmed the theory accepted by Dieffenbach, Volkmann, and lately by Mikulicz, that a severe infective myositis is the base on which *caput obstipum* develops. Kader has also induced contraction and degeneracy in the muscles by injury and infection.—*N. Y. Med. Woch.*, December, 1898.

Aerobiosis of the Tetanus Bacillus.—Valagussa of Rome asserts that the comparative rarity of tetanus, in spite of the universal presence of the bacillus, is due to the fact that it is only toxic when developing anaërobically, and that when exposed to light and air it loses its toxicity, although continuing to develop aërobically, under the proper conditions. It is impossible to isolate it from the surface of the soil, as it is rapidly killed by the action of air, sunshine and heat. The transformation from anaërobic to aërobic conditions is easier accomplished than the reverse transformation, which requires an old aërobic culture that has developed a long while on its own products, also the action of common saprophytes, symbiosis with common saprogenic germs, a constantly favorable temperature, darkness and lack of air. Without these conditions the cultures are sterile. The aërobic germ regains its toxicity as it becomes anaërobic again, but the toxicity is transient. These researches explain the significance of passages through the intestines of animals in which all the required conditions typically occur, and also the fact that a harmless non-toxic bacillus entering the intestines emerges toxic and dangerous.—*Gaz. degli Osp. e delle Clin.*, Dec. 18, 1898.

Leucocytes in Experimental Pneumococcus Infection.—N. Coco inoculated animals with attenuated cultures of the pneumococcus and found that this produced a hyperleucocytosis with a majority of large mononuclear leucocytes without granulations, a moderate number of polynucleated leucocytes and a small number of lymphocytes. Then succeeded a period of leucocytolysis and consequent hypoleucocytosis. He confirms the statements of others that there is a proportion between the increase in the acidity of the urine and the increased number of leucocytes and their destruction, as the acids of the urine are derived in a large measure from the nuclein, and this comes from the leucocytes. Virulent cultures inoculated failed to produce any marked hyperleucocytosis. The number and virulence of the pneumococci in the blood are always in inverse proportion to the number and the changes in the leucocytes: the weaker the cultures and the more resistant the animals, the more important is the production of leucocytes and their destruction in the blood. He concludes that this establishes the fact that the nucleins liberated by the destruction of the leucocytes, possess bactericidal properties. In cases of marked leucocytosis he observed an abundant production of cells in the marrow with all the characteristics of large mononuclear leucocytes of the blood.—*Presse Méd.*, from *Cbl. f. Bact.*, Oct. 12, 1898.

Illustrations Provided For.—Chapter 34, as it is called, of the Resolves of Massachusetts of 1898 authorizes the State Board of Health to expend out of the appropriation for the Board a sum not exceeding $950 for the purpose of reproducing microscopic illustrations of the disease known as epidemic cerebrospinal meningitis.

Bacteria in the Salivary Glands.—Calvello finds, after much experimentation, that pathogenic and nonpathogenic bacteria pass into the salivary glands, but are never eliminated by them, and hence that they must be destroyed by the epithelium of the gland.—*Gaz. degli Osp.*, 1898, 121.

Melanosis Lenticularis Progressiva.—Rotch (*Archives of Pediatrics*, November, 1898) reports two cases of this condition, in sisters, aged 6 and 7 years, and of healthy parentage. The disease is present on the face, neck, extensor surfaces of the arms and legs, in the clavicular region and above the spines of the scapulæ.

Large Calculus per Urethram.—Possibly the largest oxalate stone on record extracted per urethram without injury (female) is illustrated in the *Munich Med. Woch.* of Dec. 20, 1898. It had grown on a "lyra climax" pencil eleven centimeters in length, and was five and a half long by nine in circumference; total weight over forty grams (Windelschmidt).

Varices of the Stomach.—Two cases are described by M. Letulle in the *Presse Méd.* of Nov. 26, 1898, in which the necropsy after fatal hemorrhage from the stomach disclosed the presence of a ruptured varicose tumor. He adds that these lesions must be frequent and overlooked at the necropsy, as they are almost impossible to distinguish until the stomach wall has been immersed several hours in plenty of Müller's fluid. It is difficult to differentiate them during life; they are evidently absolutely incurable.

Society for Prevention of Tuberculosis.—The committee recently appointed by the Chicago Medical Society to make arrangements for the formation of a society for the prevention of tuberculosis, in Chicago, held a recent meeting and appointed a sub-committee consisting of Drs. F. T. Riley, Frank Billings, F. S. Johnson, F. Henrotin, Jno. A. Robison and N. S. Davis, Jr., to prepare a report on the plan, scope, method and object of the society.

Pyrogenic Action of Fowl Serum.—Behring announced at Madrid that the manifest pyrogenic action on tuberculous patients of serum obtained from a mammal is absent from serum from birds. Maragliano has been testing the truth of this assertion with domestic fowls, hens, chickens, ducks, pigeons, geese, and finds that their serum has the same pyrogenic effect as that from the mammal, rousing latent fever, although varying much with individual cases. This fever can not be imputed to the serum per se, as even the injection of an indifferent fluid, like Hayem's artificial serum, excites fever.—*Gaz. degli Osp. e delle Clin.*, Dec. 18, 1888.

The Renewal of Youth.—To drink of the waters of the fountain of youth is still, in the opinion of some, within range of possibility. A recent writer observes that man began in a gelatinous condition and ends in an osseous or bony one. He is soft in infancy; he is hard in old age. Aging is a process of ossification. After middle life has passed, a more marked development of the ossific character takes place. The arteries become thickened with calcareous matter, and there is interference with circulation, upon which nutrition depends. The whole change from youth to age is one of steady accumulation of calcareous deposits in the system. Entire blockage of the functions of the body is a mere matter of time, and the refuse matter deposited by the blood through the system stops the delicate machinery we call life. The blood contains compounds of lime, magnesia and iron. In the blood itself are these earthy salts. In early life they are thrown off; in age they are not. Almost everything we eat contains these elements for destroying life. Earthy salts abound in the cereals, and bread itself, mistakenly called "the staff of life," is one of the most calcareous of edibles. Nitrogenous food also contains these elements, hence a diet made up of fruit is the best for people advanced in years. The daily use of distilled water is, after middle life, one of the most important means of preventing secretions and derangements of health. Diluted phosphoric acid is one of the most powerful influences known to science for shielding the human system from the inconveniences of old age. Use it daily with distilled water, and so retard the approach of senility. To retain perpetual youth avoid all foods rich in the earth's salts, use much fruit, especially juicy, uncooked apples, and take daily two or three tumblerfuls of distilled water with or without fifteen drops of diluted phosphoric acid in each glassful. Thus will our days be longer in the land.—*Medical Age*, Nov. 25, 1898.

Syphilitic Origin of Tabes.—In an investigation of 814 patients, including 214 with tabes—Berlin—syphilitic antecedents were noted five times more frequently among the latter, which confirms the Fournier-Erb theory in regard to the significance of syphilis in the etiology of tabes. Leyden and his school take the opposite view, citing the frequency of syphilis among the Bosnians, Kirgizh, and the natives of east and southeast Africa, where syphilis forms 50 per cent. of all the sickness, and yet tabes is unknown. Grimm also found only five cases of tabes in 60,000 patients at Yeddo, although syphilis forms 10 per cent. of all the sickness there.—*Derm. Ztft.*, November, 1898.

Dermothermostat.—Saalfeld claims to have much improved the original American apparatus for applying heat and moisture to the face. A higher temperature is attained, and extremely favorable results have been secured in acne, seborrhea, eczema of the scalp, etc. Massage following the steaming is much more effective. The patient holds his face inside the open end of a large funnel with double walls, the space filled with water kept at a temperature of 55 degrees C., by a spirit lamp beneath. A layer of asbestos helps to retain the heat. The medicinal solutions are vaporized and the face sprayed through the small end of the funnel. This treatment is repeated every day or week, and for five to fifteen minutes as indicated.—*Derm. Ztft.*, *November.*

Massage of the Prostate.—E. Sonnenberg uses an instrument that resembles a long glove finger, fitting over the forefinger and extending down over the front and back of the knuckle, made of German silver. The length of the cylinder is 11 cm., diameter 6.5 cm., entire length 17 cm. The gland can be very effectively massaged through the rectum with the broad rounded tip of this appliance, which reaches farther than the finger, and can be worked in nearly every direction.—*Derm. Cbl.*, December; illustrated.

Smallpox Quarantine Raised.—Dr. J. A. Egan, secretary of the State Board of Health, has raised the quarantine against the town of Biggsville, Ill., where there have been nine cases of smallpox.

Chill Penury and a High Death-Rate.—If we may pharaphrase the lines of Gray, we might say of the unfortunates, who are referred to below, that "chill penury had marked them for her own." Every one has heard of Blackest Birmingham, with its Parish of St. Laurence, one of the blots on our boasted civilization. One of the local papers speaks of the poverty of it as "not only probably the poorest parish in Birmingham, but one of the poorest in England. The poverty of the poor is appalling. Between 7000 and 8000 struggle for existence; some as button stitchers, paper box makers, hook and eye stitchers, salt sellers, waste paper gatherers, stove grate paper makers, etc. The death-rate is twice as high as in some parts of this city, and in some streets it is 40 per 1000. As to the court life, the majority of the population live in overcrowded courts. In St. Laurence the real horrors of court life reach their zenith, and the cup of misery is full." The vicar of the parish is endeavoring to form, in the midst of this misery, a nurses' home. Two nurses have already been engaged, and the work is so eminently necessary that the vicar thinks that, when it is known, funds for their maintenance will be forthcoming.—*Sanitary Record*, Dec. 9, 1898.

Cerebrospinal Meningitis Among Troops.—An outbreak of cerebrospinal meningitis has been reported as having occurred during the first week of December, 1898, on board the United States transport *Manitoba* while en route with troops from Savannah, Ga., to Casilda, Cuba. The men affected belonged to the Fourth Tennessee Infantry and were quartered on the orlop deck forward. A private of Company H came on board at Savannah feeling not very well on the morning of December 1. He reported sick on the evening of the following day and was moved into an extemporized hospital on the hurricane deck. On Monday, December 5, the case was recognized as undoubtedly cerebrospinal meningitis. The man became unconscious on Tuesday, pupils contracted and left side paralyzed. He died on Wednesday, the 7th. The second case occurred on the morning of Saturday, December 3, in the person of a corporal of Company G. He was taken sick, apparently with seasickness, while on guard and was moved into the hospital. In the evening he became unconscious and remained so until the end. About midnight, December, 5, both lungs were found to be consolidating. He died about noon of the next day. A private of Company E was the next victim. He was admitted into the hospital on the morning of Sunday, December 4, complaining of pains all over the body. On Monday night he became unconscious. He could be aroused at times but immediately relapsed into an unconscious state. He died on the morning of December 9. The last case reported was a private of Company L, who was admitted on the evening of Monday, December 5. He was conscious until noon of December 7, but from then up to the next afternoon he had periods of unconsciousness, from which he could be aroused. During the night of December 8 he passed into a state of deep coma. His lungs became congested and he died the following morning. None of these cases developed a high temperature. In all a low pulse-rate was noted. No autopsy was held for want of proper facilities. The medical officers on board were convened on December 9, to consider the outbreak and determine its cause. They were Chief Surgeon John C. Martin, Brigade Surgeon Lewis Balch, Capt. V. K. Earthman, asst.-surgeon Fourth Tennessee, and Acting Asst.-Surgeons W. P. Lawrence and H. A. Hayes. The ship had made six voyages with troops from Newport News, Va., to Porto Rico, and thence again to New York; from Savannah, Ga., to Neuvitas, Cuba, and again from Savannah to Casilda, Cuba. In addition to these trips she moved troops from Montauk Point, L. I., to New London and Weehauken, carrying the Third United States Cavalry and the Twenty-fourth United States Infantry. The cavalry regiment was on board two days and the infantry regiment three days. After each voyage the ship was thoroughly washed down and then whitewashed; but she was not fumigated. She was inspected at Savannah before the embarkation of the Fourth Tennessee and was found to be in as clean a condition as could be expected for a ship coaling at the time. Prior to her use as a transport the ship was a cattleship. She carried a crew of 116 men, most of whom occupied quarters much more restricted than those of the troops, and none of the crew suffered. The board of medical officers recommended: 1, that the men be taken off the ship (which was then lying off Casilda, Cuba) and quartered on shore; 2, that the ship be thoroughly scraped and cleaned in the quarters occupied by the troops; 3, that after cleaning by scraping and washing, disinfection be practiced with the bichlorid of mercury, if possible to obtain it, and failing that with the chlorid of lime; 4, that before the ship be used again for the carrying of troops, proper changes be made in her and thorough disinfection be done by fumigating and disinfectant washing.

Gleanings.—Coincidence of tabes, Basedow's disease and epilepsy in case observed by Ingelrath (*Echo Méd du Nord*, Nov. 27, 1898) . . . Two severe cases of metritic iritis appearing with an endometritis and subsiding as the former yielded to local treatment (*Progrès Méd.*, No. 47) . . . Dr. Voges, assistant at the Berlin Institute for Infective diseases has been invited to take charge of the government bacteriologic institute at Buenos Ayres . . . Syphilitic foundation noted in case of "black hair tongue," observed by Vollmer; also noted in others of the five cases on record (*Deutsche Med. Woch*., December 15) . . . Fresh syphilitic infection on top of secondary lesions, reported by Casalmi, similar to De Amicis' case (*Riforma Méd.*, No. 196) . . . A severe case of exanthema in his child and a tedious nephritis in an older member of the family, have induced Baginsky to advise "waiting with the syringe in your hand until some manifestations of diphtheria are evident before making a preventive injection" (*Arch. f. Kinderh.* xxiv) . . . Bayet considers elephantiasis due to an infection of the lymph-glands, consecutive to syphilitic, tuberculous, leprous or other severe infection. The lymph glands then secrete a "more plastic" fluid than usual (*Deutsche Med. Woch.*, December 15) The *Rheumatics' Review* is the suggestive title of a new Paris periodical . . . Fulminating gangrene of penis and scrotum in young man, without known cause, probably bacterial infection; spontaneous recovery in a couple of weeks; scrotum restored by flap from adjoining region and the entire penis covered with skin taken from the abdomen (*Munich Med. Woch.*, December 13) . . . Bright's disease sometimes commences insidiously with merely cephalalgia, nausea and vomiting, as Mathieu had occasion to observe in a recent instance, the patient dying in coma (*Echo Méd. du Nord.*, Nov. 20, 1898) . . . Absolute permanent baldness following the administration of a quarter of a gram of thallium reported by Jeanselme . . . Naphthalin salve found effective in acute and chronic eczema, painting the surface with olive oil five minutes before (Achvlediani: *Semaine Méd.*, Nov. 23, 1898) . . . In migrain due to hypertrophied rhinitis, instil a few drops of a 3 to 5 per cent. solution of cocain and give a saline purgative . . . Marked improvement in Bright's disease observed after the administration of a tablespoon every two hours of a solution of 4 to 8 grams Iceland moss in 180 grams water, associated with milk diet . . . De Cyon reports a child with acromegalia remarkably improved with hypophysin . . . Possibility suggested that cerebrospinal meningitis may have been confounded with tetanus in cases of the latter disease reported cured . . . The existence of fever is a formal counter-indication to symphysiotomy (Varnier: *Revista de Anat.*, Oct. 1, 1898) . . . Death of infant reported from intoxication with phenic acid and glycerin applied to the umbilic wound (*Gaz. degli Osp.*, Nov. 22, 1898) . . . "A 'Basedowian' from childhood is affected after 50 years of age with tabes and epilepsy, possibly of syphilitic origin." He queries: "Is the bulbar lesion, the origin of the affection, the result of the tabetic phenomena?" and quotes Marie: "An alteration of the great sympathetic, in the course of tabes, would explain a number of the symptoms of that affection, the gastric disturbances, exophthalmic goiter, etc." (*Echo Méd. du Nord*, Nov. 27, 1898). . . . Dr. Mounier relates in *France Noire* that the natives of the French Soudan take rectal injectious daily, the syringe a calabash with a pointed tip. The subject lies on his belly across the lap of a friend, who inserts the tip and blows into a small hole on top. The friend then takes his turn across the other's lap . . . Ruggi of Bologna has only had five deaths in 343 vaginal hysterectomies for all kinds of severe affections. . . . C. E Todd reports five cases of epilepsy in which the seizures subsided upon the administration of sixty centigrams of borax four times a day. One patient has had no recurrence for over a year (*Austral. Med. Gaz.*, July 20, 1898) . . . Morelli reports a stone the size and shape of a raspberry, expelled from the bronchi after long dry catarrh (*Rev. Heb. de Laryng.*, Dec. 1, 1898) . . . Ether spray found effective in neuralgia and headache (*Therap. Monats.*, 1998, 10) . . . Tattooing forbidden in the name of health and morality in the French Marquesas Islands in the Southern Pacific, under penalty of fine and imprisonment (*Presse Méd.*) . . . Cramps in the calf noted as premonitory symptom of pneumonia in a couple of recurring cases (*Rev. Méd.*, December 21) . . . Alsberg reports a couple of oxalate stones in the kidney distinctly visible with the Roentgen ray and easily extracted, although the diagnosis had previously been very uncertain . . . Aly found a hair from the moustache and Köster a tooth-brush bristle in recent cases of appendicitis (*Munich Med. Woch.*, Dec. 20, 1898) . . . The Shah of Persia has conferred the Order of the Sun and Lion, the highest honor in the land, upon his physician, Dr. Holmes, an American established in Persia since 1874 (*Presse Med.*, Dec. 21, 1898) . . . The St. Petersburg Academy of Military Medicine and Surgery has recently celebrated the centennial of its foundation. The University of Berlin was represented by Professors Bergmann, Waldeyer and Dr. Grassnich . . . Jamin reports a case of severe (bac.-confirmed) tuberculosis of the bladder entirely cured five years ago with intravesical injections of 5 per cent. iodoformed oil of vaselin; sixty-two injections in the first four and a half months, and about twenty during the following year (*Jour. de Méd. de Paris*, Dec. 18, 1898).

St. Joseph, Mo.

DIPHTHERIA.—The termination of the epidemic of diphtheria, which has raged here for two months, is attributed to the closing of schools, the general use of antitoxin, house fumigation by formaldehyde and disinfection of the entire sewer system by burning sulphur.

SMALLPOX.—City Physician J. R. Graham, reports twenty-eight cases of smallpox during the past two months. It was brought here by a traveler from the South. The cases were confined to the poor classes. An epidemic was prevented by prompt and energetic quarantine of each household, guarded by policemen.

HEALTH ORDINANCE.—An ordinance was passed by the city council last week against spitting in cars and public conveyances. This step in the right direction is commended by the local profession. Such reforms are much needed here, since the present municipal administration has abandoned both the chemic and bacteriologic city department.

Traumatic Tuberculosis. — Two deaths from traumatic tuberculosis were reported recently. One was a wood-worker, in whom it was excited by the constant use of brace and bit. Tubercular foci were first observed at the base of each lung at the site of the pressure exerted by the brace. The disease became general in two months, and in three terminated fatally. The other case was that of a young woman, whose illness developed as an acute tuberculosis within a few days after having a tooth filled. After four months of rapid emaciation and constant expectoration, she coughed up a fragment of toothpick one-fourth inch long, twisted about the end of which was a mass of absorbent cotton. Death followed in two weeks.

Louisville.

Medical Colleges.—The annual openings of the spring and summer medical colleges took place January 2 and 3. The inauguration of the four years' course has cut down the large number of students who usually attend the opening of the several colleges, but the attendance is very satisfactory. Kentucky University, medical department, began January 2, in the building formerly occupied by the Louisville College of Pharmacy, corner of First and Chestnut Streets. Owing to their resignations from the Kentucky School of Medicine faculty the following gentlemen have just been elected to fill the same chairs formerly occupied by them in that school in the medical department of Kentucky University: Drs. J. B. Marvin, professor of the principles and practice of medicine and clinical medicine; C. W. Kelly, professor of anatomy; J. M. Holloway, professor of surgery and clinical surgery; S. E. Woody, professor of chemistry and diseases of children. Dr. Henry E. Tuley, who was announced as professor of medicine in the first college catalogue, will teach obstetrics and diseases of children. Dr. J. B. Marvin has been elected president of the faculty. The Hospital College of Medicine began its session January 2, its medical and dental departments, with a very satisfactory attendance. Dr. L. S. McMurtry was elected president of this faculty, vice Dr. J. B. Larrabee, deceased; and Dr. J. M. Mathews, president of the American Medical Association, has been elected professor of surgery and clinical surgery, and lecturer on diseases of the rectum, Dr. Mathews formerly held the same position in the Kentucky School of Medicine. Dr. Philip F. Barbour is now professor of diseases of children in this college, the chair formerly occupied by Dr. Larrabee. Kentucky School of Medicine, which has been torn by dissensions in its faculty and board of regents, opened on the 3d inst. This was made possible by Drs. Marvin, Kelly, Woody and Holloway, the majority of the faculty, selling their interest in the building of the School and in the College charter to the three remaining members of the faculty, Drs. Wathen, Coomes and Orendorff. This College is running as the Kentucky School of Medicine, but with an entirely new faculty, with the exception of the three just mentioned.

Philadelphia.

Dr. Joseph Price Tunis' condition is such as to give considerable anxiety to his many friends.

Henry Norris has returned from a vacation spent in Virginia, and will be at 230 South Twenty-second Street during the winter.

Dr. Ernest Laplace, who makes an annual trip to New Orleans during the holidays, will return for duty within a few days.

Dr. Walter L. Pyler, who has for several years occupied offices in the Professional Building on Chestnut St., has removed to 1806 Chestnut.

Dr. Edward Randall, formerly of 1806 Chestnut St., has removed to his new location on Walnut Street.

Dr. Judson DaLand's new home will soon be completed.

Dr. John Ashhurst's condition has considerably improved, but he is still unable to resume his duties at the University.

Appointment.—The Board of Charities and Corrections have appointed F. S. Bowman outdoor physician for the second ward, instead of Dr. John D. Ward (homeopath), resigned.

Successor to Dr. Pepper.—Senator George F. Edwards is prominently spoken of as the probable successor of Dr. Pepper as president of the Philadelphia Commercial Museums.

Further Report of Soldiers Treated.—Major D. C. Peyton, who has been acting in the capacity of supervisor for the Government of all the soldiers treated at the different hospitals of the city, has completed his report and has tendered it to the proper authorities in Washington. Of the total number of cases treated in the different hospitals, 65 per cent. were typhoid fever and 20 per cent. malarial fever. The death-rate in all cases was about 3 per cent. It has been estimated that the amount of money which will be disbursed among the different hospitals will be about $150,000.

Change in Staff.—At the last stated meeting of the staff of St. Mary's Hospital, the following were elected for 1899: President, John J. Maylan; vice-president, Louis F. Love; secretary, J. M. Shellissey.

New Hospital for Children.—Dr. Charles E. Myers of Manayunk, one of the northern districts of this city, has now a plan on foot which, if accomplished, will be instrumental in erecting a hospital for children in that section of Philadelphia.

New Hospital for Jefferson.—The trustees of the Jefferson Medical College announce that within a short time they propose erecting a new, enlarged and well-equipped hospital.

Charity Cases in City Hospital.—According to the report of the Bureau of Charities and Correction, there are at present in the Philadelphia (Blockley) Hospital a total of 4068 cases, the exact number in the institution at this time last year. Of this number, there were 1105 in the general hospital, 1374 in the insane department, 1377 in the out patient department, and 212 children being cared for.

Endowment for a Hospital.—Miss Jennie Schofield and Mrs. John Dearnley have notified the officers of St. Timothy's Hospital that they have agreed to endow that institution with a contribution of $5000 for a free bed in memory of their father. A memorial tablet will be placed in the hospital bearing the names of the donors.

Annex to Episcopal Hospital.—Through an anonymous bequest of $100,000 recently made, this institution will now be able to erect a handsome annex to be used as a nurses' home for the accommodation of 78 persons. This building will be separate from the hospital proper, but will be connected by means of subterranean passages.

Gift to German Hospital.—Mrs. Schemm, widow of Peter E. Schemm, has been furnished by the officers of the German Hospital a certificate of the endowment of a free bed in that institution, in honor of her husband.

Changes at Philadelphia Polyclinic.—The former faculty of the polyclinic having decided not to stand for re-election, the Board of Trustees will hereafter transfer all these duties to the lay members and devote their entire time to the duties imposed upon them in connection with the teaching faculty and management of the cases admitted. The following lay members have been unanimously elected: William E. Donovan, Hon. William N. Ashman, Henry K. Boyer, Franklin B. Kirkbride, J. E. Sterrett, George T. Lippincott, Nathaniel B. Grenshaw, William F. Read, C. S. W. Packard, Harry B. French, Nelson Z. Graves, John Scott, Jr., and Cheesman A. Herrick. During the year just closed 749 cases have been admitted to the hospital. Of these 354 were charity cases, while 395 were pay cases. In the dispensary there were 19,799 new cases and 68,586 visits, a total of 88,385. There were held during the year 195 clinics each week, in which 140 professors and adjunct professors and assistants aided; 126 students from different States were matriculated during the year.

Report of Children's Hospital.—According to the last report of the above-named hospital, it has been found that there has been a steady increase in the number of cases treated during the past year, the total being 1026, against 904 for the year 1887. The number of cases treated in the different dispensaries was 16,501. Owing to lack of more convenient accommodation, the Board of Managers will only permit 70 cases to remain in the hospital at one time. Managers elected for the ensuing year were as follows: Richard Wood, Edward S. Sayres, T. H. Bache, Bobert M. Lewis, Francis W. Lewis and E. Hutchinson. The officers elected for the year were: F. W. Lewis, president; Charles Platt, vice-president; Charles W. Cashman, treasurer; E. Hutchinson, secretary.

SMALLPOX, TYPHUS FEVER, LEPROSY.—Medical Inspector Taylor has reported a case of smallpox, a little girl living on Amity Street below Thirtieth. . . . The patient recently taken to the Municipal Hospital with a diagnosis of typhus fever was kept under observation for several days and was finally found to be typhoid. . . . The two cases of leprosy now at the Municipal Hospital will be kept under close observation for some time to come.

FIGHTING TUBERCULOSIS.—An application has been filed with the State Board of Charities, by the Society for the Prevention of Tuberculosis, for the erection of a hospital for the treatment of consumption. In order to make the plan successful, a bill will be introduced into the State Legislature asking for an appropriation of $150,000. The Board of Charities favorably reported a similar bill at the last legislature, but the appropriation was never made. In this city it is proposed to erect a special hospital for the treatment of these cases, and an impetus has been given the movement by members of the Philopatrian Institute, who propose devoting for this purpose the proceeds arising from the Philopatrian ball to be given soon.

NATIONAL RELIEF COMMISSION.—The commission has assisted a total of 500 families, representing 2000 individuals. The Relief Commission asks that the Council make a present of $50 or $75 to each soldier's family in which death occurred. The Ways and Means Committee report that the $15,000 placed in their hands has been expended as follows: Aid of the destitute $5,213.58; burials $1,436.86; hospital trains $,7,817.87. Of the total amount of money expended, all but $2000 has been contributed by the residents of this city.

MORTALITY STATISTICS.—The total number of deaths reported to the Bureau of Health for the week just closed was 642, a decrease of 71 over last week, and an increase of 153 over the corresponding period of last year. Of this number 185 were children under the age of 5 years.

IN HONOR OF NATIONAL RELIEF COMMISSION.—A resolution of thanks having been adopted in Congress in favor of the Red Cross Society, it is stated that Senator Penrose of this city will introduce a similar resolution in behalf of the National Relief Commission, which has for the most part been an organization supported by Philadelphia people.

MEDICO-CHIRURGICAL COLLEGE.—The trustees of the above-named institution have created a chair of military and naval surgery, and tendered this honor to Major D. C. Peyton.

DR. PEARSON TO BE COMMENDED.—Dr. Leonard Pearson, who has done so much for the eradication of tuberculosis among cattle throughout the State, is to be highly commended to Governor-elect Stone for the valuable services he has rendered the State at large. The State Live Stock and Sanitary Board has most heartily approved his contribution to medical science, and will commend him for reappointment to the position which he now so satisfactorily occupies.

THE PUBLIC SERVICE.

Movements of Army Medical Officers by Adjutant-General's office orders to Jan. 12, 1899.

To Cuba: Acting Asst.-Surgeon Baen Street to report to the commanding officer 7th U. S. Cavalry, to accompany the first detachment of that regiment.

To San Juan, P. R., the following lieutenants, asst.-surgeons U.S.A.: Walter Cox from Washington, D. C., Frederick F. Russell from Brooklyn, N. Y., and Williard F. Truby from Otto, Cattaraugus Co., N. Y.

To Manila, P. I.: To report to the commanding officer 3d U.S. Infantry, to accompany the regiment, Lieut. Richard B. Westnedge from duty at the Josiah Simpson Hospital, Va., and Acting Asst.-Surgeon Arthur B. Smith from duty at Ft. Snelling, Minn. To report to the commanding officer 4th U.S. Infantry, to accompany the regiment, Acting Asst.-Surgeons Percy M. Ashburn from Ft. Thomas, Ky., and Alexander C. Ghiselin from Ft. Myer, Va.

To duty at posts: To Ft. Reno, Okla., Acting Asst.-Surgeon Samuel T. Weirick from Kansas City, Mo.

To transports: To the *Massachusetts* at Brooklyn, N. Y., Acting Asst.-Surgeon James H. Halloway.

To general hospitals: To Ft. McPherson, Ga., Acting Asst.-Surgeon John C. Haskell from duty at Ft. Bliss, Texas.

Leave of absence granted or extended: Capt. Henry A. Shaw, asst.-surgeon U.S.A., and Capt. G. I. Cullen, asst.-surgeon 1st Ohio Infantry, to enable him to complete the settlement of his accountability for public property.

Sick leave granted or extended: Lieut. Leigh A. Fuller, asst.-surgeon U.S.A.

Resignation accepted: Major O. P. Barber, surgeon 35th Michigan Infantry.

Marine-Hospital Changes.—Official List of Changes of Stations and Duties of Commissioned and Non-Commissioned Officers of the U.S. Marine-Hospital Service, for the seven days ended Jan. 12, 1899.

Surgeon C. E, Banks: Detailed to attend meetings of the National Pure Food and Drug Congress at Washington, D. C., Jan. 18 to 21, 1899.

P. A. Surgeon J. J. Kinyoun: Detailed to attend meetings of the National Pure Food and Drug Congress at Washington, D. C., Jan. 18 to 21, 1899.

P. A. Surgeon W. G. Stimpson: Granted leave of absence for two days, Jan. 12, 1899.

Asst.-Surgeon A. R. Thomas: Upon being relieved from duty on U.S. transport *Obdam*, to proceed to Stapleton, Staten Island, N. Y., for duty and assignment to quarters, Jan. 6, 1899.

Asst.-Surgeon J. B. Greene: Detached from duty on U.S, revenue str. *McCulloch*, and directed to report to medical officer in command, San Francisco quarantine, Angel Island, Cal., for temporary duty, Jan. 12, 1899.

Asst.-Surgeon S. B. Grubbs: To report at Washington, D. C., for special temporary duty, Jan. 12, 1899.

J. C. Rodman, sanitary inspector: Granted leave of absence for twelve days from Jan. 12, 1899.

E. S. McGuire, hospital steward: Granted leave of absence for thirty days from Feb. 4, 1899.

F. S. Goodman, hospital steward: Relieved from duty at the Cape Charles quarantine station and directed to proceed to Philadelphia, Pa., and report to Surgeon H. W. Austin for duty and assignment to quarters on the barge *Protector*, en route to Havana, Cuba, Jan. 6, 1899.

C. G. Carlton, hospital steward: To proceed to Chicago, Ill., and report to the medical officer in command of the Service, for duty and assignment to quarters, Jan. 6, 1899.

Frank A. Southard, hospital steward: To proceed to Stapleton, Staten Island, N. Y., and report to the medical officer in command of the Service for duty and assignment to quarters, Jan. 7, 1899.

John Purifay, Jr., hospital steward: To proceed to New Orleans, La,, and report to the medical officer in command of the Service, for duty and assignment to quarters, Jan. 7, 1899.

CHANGE OF ADDRESS.

Berry, J. A., from Chicago, Ill., to 631 Kansas Ave., Topeka, Kan.
Clark, I. S., from Dexter, Mo., to Tyler, Wash.
Griswold, B. W., from 73 Adams Ave. E. to Harper Hospital, Detroit, Mich.
Griggs, A. T., from Prudential Bldg, to W. Baker and Williams St. Atlanta, Ga.
Huff, S. M., from Lamar to Milesburg, Pa.
Keath, J. W., from 2405 Columbia Ave. to 3100 N. 16th St., Philadelphia.
Martin, W. F., from 21 E. Platte to 801 N. Nevada Ave., Colorado Springs, Colo.
Miller, J. W., from 2 Central Ave. to Armour Sta., Kansas City, Mo.
Miles, W., from Littleton to Chandlerville, Ill.
Mercer, W. H., from St. Louis to Raymond, Ill.
Noyes, W. B., from 164 W. 73d to 28 W. 61st St., New York City.
Paquin, Paul, from St. Louis, Mo., to Asheville, N. C.
Palmer, G. T., from Poplar Grove to 31st St. and Indiana Ave., Chicago.
Pardee, G. C., from 526 N. Montgomery St. to Chronicle Bldg,, San Francisco, Cal.
Wesley, C., from Science Hill to Ansel, Ky.

LETTERS RECEIVED.

Ambler, C. P., Asheville, N. C.

Bundy Lamp Co., Frank E., Elmira, N. Y.; Brewster, Q. E., Boston, Mass.; Brown, Mark A., Cincinnati, Ohio; Buck, E. R., Hudson, S. D.; Bell, J. M., St. Joseph, Mo.; Bevan, A. D., Chicago, Ill.

Church, E. O., Chicago, Ill.; Chicago Medical Book Co., Chicago, Ill.; Chivers, H. C., St. Louis, Mo.; Chance, H. C., Tazewell, Tenn.; Curl, J. L., Osa, Mo.; Cordier, A. H., Kansas City, Mo.; Cornell, C. W., Knoxville, Iowa; Clark, L. P., Sonyea, N. Y.; College of Physicians and Surgeons, Chicago, Ill.; Conly, J. B., Woodward, Iowa; Cambridge, P. H. M., Highland, Ill.; Candell, L. B., Barnett's Creek, Ky.; Channing, W., Brookline, Mass.; Curtis, A. B., Ferry, Mich.

Dohme, Chas. E., Baltimore, Md.

Electro Medical Mfg. Co., Chicago, Ill.

Felmlee, T. T., Chicago, Ill.; Fisher, A. F., South Lake Linden, Mich.

Gamble Shoulder Brace Co., Chicago, Ill.; Gifford, H., Omaha, Neb.; Goldstein, M. A., St. Louis, Mo.; Grimes, J. F., Blue Hill, Neb.; Griffin, J. F., Tiptonville, Tenn.; Grube, W. W., Toledo, Ohio.

Holmes, Bayard, Chicago, Ill.; Hinchman, J. V., Hebron, Neb.; Hawley, Geo. F., Chicago, Ill.; Hummel, A. L., Adv. Agency, New York City, (2).

Jelks, J. T., Hot Springs, Ark.; Jenkins, M. B., Knoxville, Tenn.; Johnston, Jr., T. V., New York City; Jones, L. A., Williamstown, Mass.

Kreissl, F., Chicago, Ill.

Loyer, A. E., New Washington, Ohio; Lindley, J. S., San Carlos, Ariz.; Lehn & Fink, New York City; Layne, E. R., Windsor, Cal.; Louis, Dr., Aniwa, Wis.

Mulford Co., H. K., Philadelphia, Pa.; Mereness & McGovern, Milwaukee, Wis.; Messenger, W. E., Prescott, Iowa; Merrill Chemical Co., The Wm. S., Cincinnati, Ohio, (2); Mead, L. C., Yankton, S. D.; Merchants' Publishing Co., Chicago, Ill.; Martindale, J. H., Minneapolis, Minn.; Macneady, J. H., Huntsville, Ala.; Meyen, C. & Co., New York City; McSherry, J. W., Martinsburg, W. Va.

Noble, H. B., Howard, S. D.; Nowland, G. B., N. Cambridge, Mass.; Newman, R. A., Detroit, Mich.

Osborn, J. W., Dyersville, Iowa.

Publishers' Collection Agency, Chicago, Ill.; Putnam's Sons, G. P., New York City; Parmele Co., Chas. Roome, New York City; Purdue, R. W., Prophetstown, Ill.; Perry, T. P., U.S. Marine-Hosp., San Francisco, Cal.

Resinol Chemical Co., Baltimore, Md.; Raylor, P., Dayton, Ohio.

Stubbert, Dr. J. E., Liberty, N. Y.; Simpson, D. G., Warren, Ohio; Squier, A. D., Springfield, Mass.; Schering & Glatz, New York City, (2); Smith, Kline & French Co., Philadelphia, Pa.; Store, H. R., Newport, R. I.; Smart, W. W., Muskegon, Mich.; Swartz. R., Mfg. Co., Pine Bluff, Ark.

Trochet, G. B., Detroit, Mich.; Tucker, J. C., Chicago, Ill.; Turner, R. L., Meridian, Miss.; Thorington, J., Philadelphia, Pa.; Theil, A. K., Marquette, Mich.

Wilson, J. S., Johnson, Neb.; Wells, E. F., Chicago, Ill.; Wessinger, J. A., Ann Arbor, Mich.; Williams, H., Passaic, N. J.; Woldert, A., Philadelphia, Pa.; Widmer, W. A., Philadelphia, Pa.

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ADDRESS.

SOCIAL FORCES OF TODAY AND THE FUTURE OF THE MEDICAL PROFESSION.

President's Address read before the Detroit Academy of Medicine, Oct. 11, 1898.

BY DAVID INGLIS, M.D.

DETROIT, MICH.

Fellows of the Academy:—The annual presidential address is, by common custom, devoted to the consideration of general rather than special matters, and it seems, therefore, fitting, tonight, to consider such a subject as I have stated.

Our fathers in theology hewed each other valiantly in trying to reconcile the problems of free will and foreordination; our scientific friends are even now in an endless contention over the relative influence, on the individual, of heredity and environment. Insoluble problems as these are, there is yet a compromise solution. We can not separate the two factors; both work their results together. Life and conduct are the tangential results of double sets of forces. Today the struggle of individualism and socialism affords another illustration of two apparently opposing principles working out a common result.

What influence does the present trend toward socialism seem likely to exert upon the medical profession? I say the present trend toward socialism, for both the friends and foes of socialism agree that the trend toward socialism exists. Herbert Spencer sees the inevitable advent of socialism in sorrow, and calls it the "coming slavery." Morris sings the coming socialism as the dawn of happier days. The enlargement of the functions of society to the lessening of the play of the individual, is a fact not to be ignored. The public school, the postoffice, the steady centralization and unification of our States into a Nation: these, and many similar examples, serve to demonstrate how inevitable is the great movement of our time by which the individual is compelled to become but a part of an organic whole. The rapid taking over by the State, of railroads, telegraph, telephone, insurance and other businesses in Great Britain and Europe, and the growing sentiment in this country in favor of such enterprises, shows a world-movement. Not by dreamers nor by agitators is the movement either begun or kept up; these are but products of the movement. In itself it is simply an evolution, and like other phases of evolution, it is rresistible—no man can hasten nor retard it.

How does this movement affect the medical profes-ion? In many ways. It is affecting us at the outset n the very matter of being allowed to practice at all. From the standpoint of the individualist there should be no infringement of the liberty of any individual to ractice medicine, or to employ any other individual he pleases to practice upon him. Moving along on the broad current of the times, however, State examining boards are gradually reducing the area of the medical individualist. In almost all civilized countries the State control of the right to practice medicine is acknowledge and established. In our own country, despite occasional struggles of the individualists, the progress seems to follow the current, so that it seems practically inevitable that society will limit the right to practice medicine to qualified practitioners. To those whose souls are disturbed by the liver-pad, blue glass, Christian Science, and the unborn ephemera of medicine, the confidence that, no matter how rough the eddies, the stream flows on, may lend some encouragement.

Michigan physicians, it is true, need some cheering up on these lines, for Michigan seems to be a pretty big eddy, a sort of Sargasso Sea, in which drift about a lot of weeds and wrecks, washed in from all the neighboring seas. As the biologist finds in the Sargasso Sea a most interesting and varied collection of vagrant plants and animals, so in Michigan, the observer can find the most varied collection of vagrant practitioners of medicine. Still we may take heart and hope that the steady stream of socialism may reach us and purify us. While disclaiming any desire to make socialists of you, I think it may not offend if I urge you to use your influence to further the movement for a State examining board.

Another phase of the social forces of today is seen in the steady substitution of combination for competition. The trusts are here, and I doubt not they have come to stay. Notwithstanding all the hard feelings and hard language which the trusts have excited, the trust is practically invincible, and it is so, for the reason that it is a logic evolution. As soon as men see that competition is likely to end as the play of Hamlet does, "everybody dead," and agree to work together, the trust is evolved. It is impervious to criticism.

How does this affect the medical profession? In several ways. The Marine-Hospital service was the first attack which combination made upon individualism, then came the surgeon to the miner, who soon developed into the medical man to the miner and to his wife and babies, then came the railroad surgeon and other surgeons to the great shops, then the railroad hospital, the sickness and accident insurance company, the lodge physician, and last, but by no means least, the hospitals and dispensaries. Every one of these has been met with the same strenuous outcry with which the small dealer has met the department store. The cry has been justified, but has not prevailed in either case. It is easy to find objections, but it seems impossible to find any successful obstacle to the steady progress of combination. As a part of the great social movement I think we must recognize these facts and adjust ourselves to them.

Indeed, in spite of recognized disadvantages, I think we are compelled to accept the results as, upon the whole, beneficent.

The private practitioner undoubtedly suffers, but that these various devices work well for the entire public can hardly be disputed. In order to put the matter plainly, let us state it thus: "We will abolish the Marine-Hospital, the railroad and contract surgeon, the dispensaries and hospitals, and return to individualistic relations." Put this way, the thing is unthinkable. So we may as well plan for a future for the medical profession in which combination plays a larger and larger part. Any young man contemplating beginning the study of medicine will do well to keep this state of affairs in mind.

Another social force of the day is the economic law of wealth concentration. This is practically only a phase of the action of combination. Economically the impregnable position of the trust is due to the, fact that larger capital makes cheap production possible—it necessarily follows that large capital gathers to itself the lion's share of profit—concentration of wealth must occur.

How does this affect the medical profession? Very seriously. In England, where the concentration of wealth has been going on until it may be said to have reached perfection, the bulk of the population lives not far, either way, from the subsistence wage. The inevitable result is that the great majority of English physicians eke out a precarious existence, not very far from the subsistence wage themselves. It can not be otherwise. In Europe, on the continent, things are even worse. In Russia, so impossible is it for the peasantry to pay a physician enough to recoup him for the outlay necessary to procure a medical education that the thing is not attempted. Large communities live and die without the aid of any physician. In Germany, men who have completed a university education, passed the State examination, and are fully qualified to practice medicine, can be found earning a meager living as couriers, interpreters and hotel waiters. The same economic law is working in this country, although more slowly, as our country is new. When the Cuban war broke out, why was it that the Governor was simply overwhelmed with applicants for appointment as army surgeons? A sure income, and that not a great one, made men eager to go to unhealthy camps and torrid climates. There was no hope of building up a paying practice in Cuba or Florida or Manila, no likelihood of long enjoyment of the sure income, but it was sure while it lasted. One of the New York medical journals said, a couple of years ago, that fully two-thirds of the physicians in New York were living a life of "dignified starvation."

These economic laws have no respect for the individual. There are no better trained medical men in the world than those of Great Britain and Germany, but fine preliminary training makes no difference. We may raise the standard of medical education higher and higher, but if the income of the average man decreases, the income of the average physician must decrease also. The *Iron Age* has recently stated the case in a way to make physicians think. It says: "Prosperity has returned, but it is prosperity based on a permanently lowered rate of wages." If this be so, then the medical profession must adjust itself to a permanently lowered income until the point is reached when the professional career is less attractive than some other. The experience of England and Germany shows that this purely economic law works slowly—that many young men go on and get a college and professional education, of which they can make no use. The disturbing factor is this: success in one of the professions gives a desirable social standing. Ambition nerves men to risk failure for the chance of social elevation. The end is, however, the same—the medical income will be reduced to its lowest terms. This, too, is food for reflection for intending students.

It may be worth while, in passing, to note that when the concentration of wealth is once an accomplished fact, the social position of the physician follows the universal law. He can maintain no social position which his wealth does not give him. There are physicians in England who hold high social position, but the average English physician on starvation income occupies precisely his proper social level. That the social position of the physician, even when he has members of the nobility on his visiting list, is somewhat dubious is shown by a recent controversy in the English medical journals. The question was this: If called to attend one of the servants in the house of a person of title, should the physician enter at the master's door or at the servants'? Think of such a question being discussable! Another was this: Ought the physician, calling upon a distinguished patient, ring the bell or use the knocker? A medical man of experience decided that the use of the knocker would imply an unwarrantable familiarity with his lordship, it were better always to use the plebeian bell-pull. These are odd and amusing things to be seriously discussed in a medical journal, but the fact that they are discussed is not amusing, but gives food for serious thinking. When we think of the future of the medical profession all these things need to be remembered.

Even in our own favored land medical men have been known to do some careful wirepulling. That high ethical ideal which we have carried about from olden times, like the sacred ark, has had some rude shocks. "Business" has forced its way into the profession; medical men send bills, vulgar bills, instead of accepting a fee as of old. We are even so badly tainted with the spirit of the age that we form a "collection agency." Combination for commercial purposes again. It had to come.

Ethics again has been scratched at least, if not broken, by advertising. We have, to be sure, managed to keep the form, but the substance of the ethics of the old days is, we all know, rather tenuous in the matter of soliciting trade. (It pains me to use the word.) The rivalry to secure medical appointments to hospitals, colleges, dispensaries, manufactories, railroads, insurance companies and lodges is not based so much on actual as on advertising value. There is no use disguising the facts. Commercialism is here. We are carried resistlessly by it; the nobler souls who cherish the old traditions struggle in vain; they are defeated or exhausted.

It is not a pleasant thing to look at. I invite you to turn and look forward—it is a more pleasant prospect.

There are many who deplore the results of industrial evolution, many who grow indignant, many who cry out against it, but when you ask the questions: Can we return to the old ways? Can the shoemaker again take the place of the shoe factory? they are dumb. To return is unthinkable, and we must go forward. What is the goal of industrial evolution? One of two things it must be. Either combination of capital, with its control of wealth production, will lead to complete concentration of wealth, or the people will rise up and say: "Yes, combination of capital, organization of production and distribution are admirable things, but it is disastrous and wrong that a few should reap all the benefits, should possess all, and the multitude live by sufferance. We will all take possession of the combinations; all will share in the benefits of organization." This is socialism.

These are the alternatives. If we go forward to the first we will but follow the track which other dead nations followed. When wealth concentration is complete society rots at both ends; the hopeless poor become vicious, indifferent, cowardly and lazy. The rich rot with licentiousness, become vicious, indifferent, cowardly and lazy also. The other alternative is a new organization in which there will be evolved a wider self-interest than we have yet known. Man has already gone through these stages in the progress. Man loves himself first; the barbarian gets no farther. Man learns to love wife and children, includes them with himself; he has evolved a wider self-interest. Thus primitive races evolved the family. So men have developed wider self-interests in the formation of the tribe, the petty state—one's country. The last step remains to be taken. "Thou shalt love thy neighbor as thyself" is not the expression of an arbitrary law, but the prophecy of the evolution of the race.

Out of competition we have evolved combination; out of commercialism we are steadily developing an organization in which the fundamental rule shall be,

> From each according to his ability,
> To each according to his needs.

Do you say this is visionary? Why it is the glory of our own profession that it has already proven the reality of the motto.

I spoke of noble souls who cling to the old traditions of the ethics of the profession. Let us take courage in this: even in the midst of commercialism the members of our profession, with singular unanimity, have lived by the rule,

> From each according to his ability,
> To each according to his needs.

Where is the physician so base as to keep secret anything which he has learned which will help save or better life? Freely, without price, we give to each according to his needs. Jenner, Sims, Lister, Simpson, McDowell, Senn, Murphy, Osler, Charcot, Virchow—why continue the list? It takes in every honorable man in our profession, the world over. We habitually give whatever we can—each according to his ability. Who have done the marvelous works of preventive medicine? Medical men without number. Every step of preventive medicine has been a testimony to the practicability of an organization based upon the rule: "Thou shalt love thy neighbor as thyself."

The Roman Empire had no public schools. Rome evolved to an absolute plutocracy and so ended. The American people read, they agitate, they have a magnificent self-control—let us hope that they will evolve omething better than plutocracy. If they do, the medical profession will take the place which at once ppeals to every honorable man in the profession. Preventive medicine, in a socialistic state, will have ree play. Much as we have accomplished in spite of ndividualistic opposition it is safe to say that the eld offers fine possibilities. Imagine the possibilities in the way of sanitation and prevention of communicable diseases when the State controls cash capital and administration. In the new state the tendency, now so strongly marked, will increase—I mean the use of hospitals and sanitariums for the well-to-do as well as the poor. We have already reached the point when, in cities, almost all surgical work is done in hospitals rather than in homes. In the future almost all the seriously sick will be cared for in hospitals.

Again, in the coming society, what remains of private practice will be done by fully equipped medical men who will not be annoyed by the miserable necessity of sending out bills, but who can put into their work all the enthusiasm for scientific medicine and all the zeal for doing good which have been the most glorious attributes of our profession in all time.

If socialism is impracticable, then medical men can not rail at it, for we have always been impracticable. If socialism is visionary, it is but the carrying out, by all men, of the principles by which the medical profession, at least, has always lived.

21 State Street.

ORIGINAL ARTICLES.

NURSING AND NURSES IN WAR.

BY N. SENN, M.D., Ph.D., LL.D.
Professor of Surgery, Rush Medical College, in affiliation with the University of Chicago; late Lieutenant-Colonel U. S. V., and Chief of the Operating Staff with the Army in the field.

One of the grave problems of modern warfare is the proper care and nursing of the sick and wounded. Our recent experience during the war with Spain has brought the subject prominently to the attention of the military authorities and the people of the United States. The war just ended has furnished the most instructive and forcible object-lesson, in demonstrating the importance and necessity of making adequate preparation for the proper care and management of the disabled soldiers in war time. The motives which precipitated the war were of the purest, noblest kind, arising from the desire to bring freedom and liberty to the legitimate owners of our neighboring islands, who, under the iron rule of an effete, bankrupt monarchy, had been deprived of their liberty, happiness and prosperity for centuries. On our part, the war spirit was aroused by a sense of duty to our neighbors and to advance the cause of humanity on our own hemisphere, and not for gain nor conquest. It is not strange that our liberty-loving people responded so promptly to the call of the Chief Executive for volunteers. It required no special foresight to predict with certainty that a war with Spain, in Cuba, would result in greater loss of life and suffering from climate and disease than from the Spanish bullets. The result of the war has shown that this expectation has been fully realized.

The short, brilliant campaign on land and sea has taught the outside world the strength of our arms, and resulted in a victory over a foreign foe, which is well calculated to stimulate the pride and patriotism for our government and its various departments and institutions. The war just ended was characterized by the humane treatment of our vanquished enemy, and the desire on the part of the government and the people to provide the invading army with all the necessities and comforts compatible with active warfare. The war cloud came upon us so unexpectedly that a certain amount of confusion and unpreparedness in the management of the campaign had to be expected. Considering what has been accomplished, we have every reason to feel grateful that the prize secured was purchased at no greater cost of life and suffering. It was our first experience in fighting a foreign foe in a foreign land, and the many lessons taught and learned will prove of the greatest value should we again be called to cross swords with a nation beyond the limits of our country. Many of the well-founded complaints of the management of the war arose, not from any dereliction of duty of the heads of the different departments, but were due to a faulty organization, and this is particularly true of the medical department, which has been so severely criticised. The executive power of the Surgeon-General is indeed an extremely limited one. Everything of importance has to pass through the hands and by sanction of the Secretary of War. The Secretary of War is a busy man in keeping track of what is going on in his department outside the Surgeon-General's office. Again, the medical department depends entirely on the quartermaster's department in forwarding and distributing medical and hospital supplies. No wonder that many collisions between these departments occurred during the war with Spain. Our experience has taught us in a most forcible way that the medical department should have charge of everything pertaining to the care of the sick and wounded, in order to accomplish that for which it is intended. The Surgeon-General should be given higher rank and be clothed with more executive power, to enable him to discharge his duties with credit to himself and greater benefit to those who are now only nominally under his charge. The Secretary of War is not supposed to possess much knowledge of sanitation, medicine and surgery, or other wants of the sick and wounded, and yet the Surgeon-General is powerless in the execution of his orders without his co-operation. If the forwarding and distribution of the medical and hospital supplies were directly under the control and management of the medical department we would have heard less of criticism regarding the scarcity of medicines and hospital supplies. To make a department strong and efficient it must be independent, and invested with the necessary power it is expected to wield, and charged with a corresponding weight of responsibility.

The proper care of the sick and wounded in war is a subject as old as warfare itself. It is a subject that has attracted the liveliest interest of the most famous and successful commanders, and that has taxed severely the ingenuity and mental resources of the most famous military physicians. The soldier who risks his life in the defense of the honor of his country, when disabled from duty by wounds or disease, is entitled to the most humane treatment and the best of care on the part of those in whose charge he is placed. The moment he is disabled from performing his duty he comes under the care of the medical department, subject to its rules and regulations. The transportation and proper care of the sick and wounded are under the management of the medical department. The immensity of the labor which devolved upon the Surgeon-General and his limited staff of assistants during the war just ended must become apparent to the general public, when we consider the enormous number of the sick in an army of 300,000 men distributed from Porto Rico to Manila—nearly one-half the circumference of the globe. Hundreds of the recently enlisted men had to be detailed for hospital duty and were placed in charge of the sick. No wonder that among so many some proved absolutely useless in performing the trying duties of an army nurse. Nursing in the army in times of war is an occupation which is always attended by many difficulties, and particularly when the seat of war is in a foreign country. The unrest incident to the mobilization of troops, the moving and erection of hospital tents, the limited facilities for cooking and often for working, the occasional overcrowding of the allotted hospital space, the uncertainty of supplies, are some of the inconveniences which the army nurse must expect to meet and correct as far as lies in his power to do so. Patience, obedience, perseverance and devotion to duty are a few of the most essential virtues conducive to satisfactory and successful nursing in war. The army nurse, from the very beginning of his philanthropic career, places himself beyond the reach of any glory and distinction to be gained on the battlefield. His duties are more arduous and taxing than those of his comrades of the line. Being constantly in contact with infectious diseases he exposes himself to more danger than on the battlefield. It requires more courage to serve in a yellow fever or typhoid fever hospital than to face the enemy on the battlefield. The army nurse, with his inadequate pay and no rank, has little else to expect but a full measure of ingratitude. His greatest devotion and best efforts are never fully realized and appreciated. If he is competent and devoted to his work, his greatest satisfaction must consist in the consciousness of duty well performed. He is a Samaritan in every sense of the word, whose sole object is to serve his disabled combatant comrades. Few men are born with intrinsic qualities which constitute an efficient successful nurse. A true nurse is born, not made. Most male nurses lack the gentleness of manner and touch which exercise such a soothing influence over the fretful, nervous, impatient patient. The male army nurse should know something about cooking to enable him to prepare some special palatable dishes for the sick—an accomplishment which but few can claim. To utilize the ordinary army rations for this purpose requires tact and skill. It is wonderful what can be made out of bacon, beans, canned meat, hard tack, salt, spices and water in the hands of one skilled in the preparation of special diet. It is in this department of nursing that women excel men beyond comparison.

It must be conceded on all sides that the nursing in the field during the last war, as well as during any of the preceding wars, done almost exclusively by male nurses, leaves much to be desired. Many of the men enlisted for this special purpose, others detailed from the line for the hospital corps, lacked entirely the necessary qualifications by nature and training for such an important and responsible position. The haste with which the war was planned and finished precluded the possibility of making a careful selection. The tact to make patients comfortable under the most adverse circumstances is rarely found in men. To anticipate the wishes and carry out the directions of the attending physicians, requires more knowledge and training than belonged to the average hospital-corps men. The hospital-corps men of the volunteer forces, mostly new men in the service, did the best they could under the circumstances, but their work showed a decided lack of discipline and special training at a time when their services were most needed. With additional experience many of them would come up in a comparatively short time to the standard of requirements. An earnest willingness to learn and improve must be accorded to most of them. It takes months of hard work to make a soldier; it takes a much longer time to make a good nurse. The members of the hospital corps of the regular army are selected with great care, and are required to undergo a thorough and systematic course of instruction, hence they had an advantage over their comrades of the volunteer forces, and acquitted themselves more satisfactorily in the discharge of their duties. But every medical officer is conscious of the fact that even many displayed shortcomings which were too conspicuous to be easily overlooked. The average male nurse, in private, as well as in military life, works for money, and not for the dignity and good standing of his profession, or the welfare of his fellowmen.

The sunny side of the hospital-corps service was to be found in the transportation of the sick and wounded. No fighting army in the world ever enjoyed better ambulance facilities. No army is supplied more liberally and with better litters and ambulances than were in use during the recent war by our troops at home and abroad, and no better or more efficient men could be found anywhere than those who were placed in charge of the transfer of our sick and wounded. The manner in which our sick were conveyed from ambulance to hospital and from hospital to ambulance, commanded the attention and elicited the highest praise from our foreign visitors. After my return from Porto Rico, on my way from New York to Montauk, I was joined by Lieutenant Commander Tomatsuri of the Japanese naval medical service and two staff surgeons of the German army, who, upon arrival at the camp, watched with the greatest interest this part of the work of the hospital corps. One of the German surgeons freely admitted that our hospital corps men were far more efficient in this part of their work than those of the German army, and, what commended their work to him the most was the gentleness with which the patients were handled. He was astonished that a hundred or more patients could be transferred without hearing a rough or angry word, which he assured me was rather the exception than the rule in the German army. Hospital construction as witnessed by these distinguished foreign observers of our war, during the early history of Camp Wikoff, was another source of surprise and admiration to them. It was difficult for them to comprehend that in less than three weeks excellent hospital accommodations were furnished for nearly two thousand patients. I doubt if any of the old countries, always in a state of armed neutrality, could repeat what was accomplished by our medical department in this direction. Our foreign observers will never forget the impressions received in Camp Wikoff, with special reference to the transportation, care and treatment of the sick of our returning army from Cuba. Such object-lessons are best calculated to impress foreigners with the magniude and resources of our country and the patriotism of our people.

A new phase in nursing was initiated during the ast war by the use of hospital ships. The medical department of the Army and Navy recognized at the proper time the necessity of employing ships adapted or the transportation of disabled soldiers from the seat of war back to their own country, where they could receive better care and nursing and escape a prolonged stay in a malarial, semi-tropic country. The hospital ships *Relief*, *Solace* and *Missouri* were the means of saving hundreds of lives which, without such means of transportation, would have perished in Cuba and Porto Rico. The horrors enacted on some of the transports are more than balanced by the comforts, and even luxuries the sick and wounded enjoyed on these floating hospitals on their homeward journey. Nothing has done more in saving life and alleviating suffering than these messengers of mercy on their hasty errands to and from the seat of war. It was on these vessels that the nation's patients were in the care of competent female nurses. Ask any of the sick soldiers who returned on any of these ships, and you will find him ready to praise and bless the female nurse under whose care he was placed on his return from the seat of war. He will always remember with gratitude her gentleness and devotion to the sick under her care. During the four trips I made on the hospital ship *Relief*, to and from Cuba and Porto Rico, I had ample opportunity to compare the work of the male and female nurses, and I have no hesitation in speaking in decided terms in favor of the latter. Nursing is woman's special sphere. It is her natural calling. She is born a nurse. She is endowed with all the qualifications, mentally and physically, to take care of the sick. Her sweet smile and gentle touch are often of more benefit to the patient than the medicine she administers. The dainty dishes she is capable of preparing, as a rule, accomplish more in the successful treatment of disease than drugs. Her sense of duty and devotion to those placed under her care are seldom equaled by men. The sick soldier, far away from home, relatives and friends, realizes keenly the superiority of female over male nurses, and especially so, if his illness is tinged, as is often the case, with homesickness. It is under such circumstances that the professional female nurse is greeted in camp, on board ship and in the hospital as an angel of mercy, and every look and move she makes are of the keenest interest to the expectant sick. For the time being she takes the place of the deserted wife, the loving mother or the dear sister at the bedside. She watches the progress of the disease by day and by night, and her heart rises and gladdens with the approach of symptoms denoting improvement; deep sorrow and tender sympathy take possession of her when, in spite of all her exertions, the shadows of death advance. Woman is the natural nurse, and nowhere does she appear grander or nobler than when she is ministering to the sick and dying of an army in active warfare. The American woman, above those of any other nation, is peculiarly well fitted for such a post of duty. She is enthusiastic, energetic, tireless, devoted, and, more than all this, intensely patriotic. Our sick and convalescent soldiers owe a lasting debt of gratitude to the small army of female nurses who left their homes with no expectations of pecuniary gain and served their country in camp and field, in fever-stricken districts, and in common with them, suffered the privations incident to an active campaign without a word of complaint.

The demand for trained nurses during the war with Spain came suddenly and rather unexpectedly, owing to the prevalence of typhoid fever in the National camps and later by the return of the sick and wounded from Cuba and Porto Rico. From the very beginning of the war the Surgeon-General's office was overflooded by applications for service in the hospitals from all parts of the country. The material to select from was enormous, but the task of making a careful selection proved to be a difficult one. The Surgeon-General was overburdened with the various details of his important office and soon found it impossible to attend to this part of his duties in person or through his assistants. In his desire to supply the sick with competent nurses he assigned this duty to Dr. Anita McGee of Washington, who was commissioned acting assistant-surgeon, probably the first time this honor was conferred upon a woman in this country. The services of Dr. McGee proved of the greatest value in selecting from the thousands of applicants a sufficient number of trained, competent female nurses for duty in the hospitals at different points. The American Red Cross Society did excellent work, not only in furnishing supplies of all kinds where and when they were most needed, but also in supplying nurses when emergencies arose. Miss Clara Barton, the Florence Nightingale of this country, president of the society, has performed her onerous duties during the entire war with a devotion and earnestness that merit recognition at home and abroad. She has been tireless in her efforts to bring comfort to the soldiers at times when her service were most urgently in demand. The *State of Texas* and the little steamer *Red Cross*, under her command, made their appearance at Siboney at a time when outside help was most required. Ice, medicines, dressing and hospital supplies were freely distributed among the sick and wounded. Miss Barton and Mrs. Porter, wife of the secretary of the President, went to the front, a distance of eight miles, over one of the roughest roads imaginable, in an army wagon, and extended the work of the Red Cross to the very trenches before Santiago. A female nurse and a number of male helpers ministered to the sick in the Division Hospital in charge of Major Wood. I found representatives of the Red Cross in El Caney, in the vestry of the old village church, dealing out hardtack and flour to the hungry crowds of refugees. After the surrender of Santiago the *State of Texas* was the first vessel to enter its harbor on its errand of mercy in bringing food for the hungry Cubans, and medicines and delicacies for the sick of the victorious and vanquished armies. The Red Cross Society established supply depots in all of the large camps, and the good work done everywhere will live in the memories of all who were engaged in the conflict. I was told by a representative of this society that in Montauk alone for a number of weeks, supplies to the amount of $2000 were distributed daily. The Red Cross female nurses at Siboney did heroic work when the sick and wounded of our army were in the greatest distress. Several of these nurses were among the first of the yellow fever victims, and had to be taken to the first hospital for treatment. The sick and wounded Spanish prisoners at Siboney were almost exclusively cared for by the Red Cross.

Miss Barton has the confidence of the American people, and she has sustained it through the present war by the thoughtful and timely distribution of the innumerable and liberal donations to the society she so well represents. After peace was declared, Miss Clara Barton immediately sailed for Havana to bring much-needed aid to the starving reconcentrados of the long-besieged city, while her numerous helpers continued their faithful work in the home camps. The work of the Red Cross received the moral and substantial support of the charitably disposed citizens throughout the United States, and liberal donations from abroad. Recent experience has again demonstrated that this society is the most important auxiliary in war as well as other National disasters in bringing prompt relief to the sufferers. It seems to me that the Red Cross Society is the proper organization from which to recruit the nursing force should we be confronted by another war. This society should be made stronger and extend its influence to every part of the country. Under the supervision of its representatives, educated, trained nurses should receive additional training preparing them for military service and other emergency work. A list of names of nurses who had satisfied the proper authorities of their special proficiency for this kind of work should be kept, and the selection made from it, should a request be made by the medical department for service in the army. Provision for competent male nurses for army duty should be made by a more thorough training of the hospital corps of the National Guard of the States, a much neglected subject west of the Alleghany mountains. In addition to this, it would be advisable to establish training schools for young men in the principal cities of the United States, on the same plan and for the same purpose as the Samaritan organizations in Germany. The training of such men should be of the most practical nature, including the transportation of the sick and wounded, first-aid dressing, the art of nursing and cooking, with special reference to diet for the sick. An education of this kind would be of the greatest value and profit to the pupils as well as the respective communities, and would be the means of furnishing desirable material for the hospital corps in case of war and efficient aid in case of accidents and National catastrophies necessitating a sudden call for competent nurses. It appears to me that such a school of instruction for Samaritans could be made attractive and interesting to the pupils, and would become a reliable source from which to make selections for army nurses and the hospital corps.

The Sisters of Charity stood in the front rank of volunteer nurses in the Spanish war as well as in nearly all of the great wars during the last two hundred years. It is the oldest and best working order in the Catholic church. President McKinley became familiar with their efficient and faithful services during the Civil War and gladly accepted the offer of the Order to furnish nurses, made soon after the war broke out. All of the principal hospitals in charge of the Sisters of Charity sent representatives to the front. They were on duty in nearly all of the National camps in Cuba and Porto Rico. The first six sisters were sent to the Naval Hospital, Portsmouth, Va., July 16. The whole number of sisters on duty September 24 was 232. The annex and the surgical wards and operating tent at Montauk were exclusively in charge of 100 members of the order. Their work in that great camp was a source of gratification to and admiration by the medical officers and all of the visitors and relatives of the sick. Several of these brave sisters have gone to their final reward in the service of their country, others are lying dangerously ill in the different hospitals. Too much can not be said in praise of this noble order, as it has always made itself felt in a modest but most efficient way in all of the great wars, without regard to nationality or creed of the contending armies.

Among the distinguished lay nurses special mention must be made of Miss Chanler of New York. I met Miss Chanler in Ponce, Porto Rico, where she did most excellent service in the military hospitals. Her numerous patients will always remember with deepest gratitude her arduous, unselfish work. The Misses Wheeler, daughters of Major-General Wheeler, accompanied their heroic father to Cuba, nursed him when he was ill and labored earnestly among the sick of his command. They continued their labor of love at Camp Wikoff, where many a sick soldier owed his restoration to health to their unremitting, tender care. Diet kitchens were established at Camp Wikoff under the supervision of Mrs. M. H. Willard of New York, which proved of the greatest benefit for the sick and convalescent soldiers. I take the liberty to quote from a letter recently received from Mrs. Willard, dealing with this subject: "For six weeks I was at Montauk, representing the Red Cross Society Maintenance of Trained Nurses, which, together with the Massachusetts Volunteer Aid Association, established diet kitchens in connection with the General and Division Hospitals. On my arrival at Camp Wikoff I found the kitchen department in a very serious condition. The officers, doctors, nurses, orderlies and employees, as well as the patients, were procuring their food from a small wooden building, presided over bý an army cook, and everything in and around the mess hall was in a dirty condition. Rice and oatmeal were the principal diet for the sick, and this was so often burned and badly cooked that the patients were unable to relish or retain it. The first diet kitchen was established August 27, and those at the three Division Hospitals soon followed, and this, with one at the Detention Hospital, made a system of five kitchens, covering a radius of three miles, with a force of fifteen cooks, several dieticians, ten volunteers and twelve detailed men. These kitchens supplied carefully and scientifically prepared food for the sick and convalescent, and the physicians and nurses were able to procure for their patients, not only liquid diets, but light and special diets as well. One of our prominent physicians remarked that his patients were better fed at Camp Wikoff than in any hospital in New York City with which he had been connected. The Government soon realized the value of the work, and two weeks after the opening of the kitchens they were turned over to the officials, and from that time, with no cost to private enterprise, the sick soldiers of all the hospitals were served, not only with home-made broths of beef, mutton and chicken, but also with oysters, broiled chicken, tenderloin steaks, chops, jelies, custards, etc."

This new enterprise in caring for sick soldiers deserves to be brought to the attention of the general public and should receive the strongest encouragement n the event of another war.

The different relief societies, National, State and ocal, did noble work in aiding the Government in properly caring for the sick and wounded. The names of Miss Helen Gould, Mrs. Ellen Hardin Walworth, and scores of other noble-minded, patriotic women will always be prominently mentioned in the history of the short, decisive war so gloriously ended. The charity that has been practiced so bountifully and so generally, must satisfy our victorious army that the patriotism they carried into the field has been cultivated at home in words and action to a degree and xtent unparalleled in the history of the world. War in a just cause begets patriotism, and nothing can demonstrate this more clearly and forcibly than our experience in the field and at home during the last eventful six months.

IMPLANTATION OF URETERS IN RECTUM.

A METHOD HAVING FOR ITS OBJECT THE MAKING OF SUBSEQUENT INFECTION OF THE URETERS AND KIDNEYS IMPOSSIBLE.

BY FRANKLIN H. MARTIN, M.D.
CHICAGO.

For two years I have been experimenting on dogs with the object of determining whether the complete removal of the bladder can be made a justifiable operation. In order to make removal of the bladder an acceptable procedure it is necessary to dispose of the ureters in a manner so that the substitute receptacle for the urine will have reservoir room, contractile power under the control of the individual, and, most important, a perfect sphincter outlet, also under the complete control of the individual. Reserving the history of the work already done in this comparatively new field for a subsequent paper which I now have in preparation, which also will give my many experiments in detail, I will simply state that the rectum seems to offer a reservoir which fulfills the above indications.

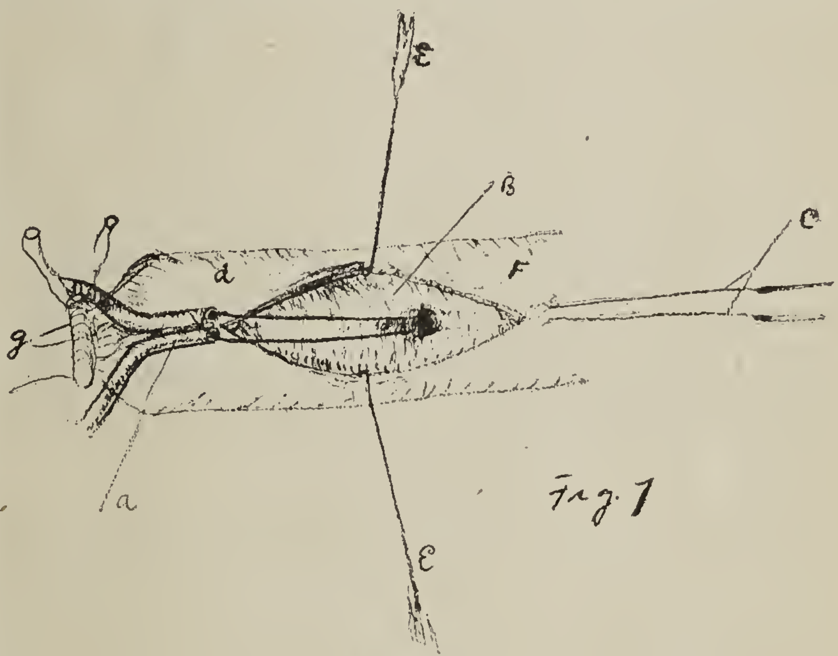

FIGURE 1.

The reason why the lower bowel does not make an ideal bladder is because it is not clean, and almost all experiments in which the ureters have been implanted in the rectum in dogs have ended—when they have survived the ordeal of the primary effects of the operation—in infection of the kidneys and death from nephritis.

Several ingenious methods have been offered by experimenters, the most of which I have undertaken on animals. The procedure which I now offer is unique and simple of accomplishment. When I say simple I am speaking in comparative terms. Ureteral-rectal anastomosis is a very delicate and difficult operation under any circumstances.

The principles of my operation are as follows: 1. The ureters empty into the bowel in the direction of its long diameter, and from above downward, so that the urine is discharged in the direction taken by the fecal current. 2. The ureters are buried in the walls of the rectum for a distance of an inch or more longitudinally, so that in the act of defecation the fecal mass will squeeze the caliber of the ureters closed by its pressure on the mucous membrane, and that pressure is exerted from above downward in the direction of the onward flow of the urine, thereby emptying the ureter by a milking process. 3. The ureters are further protected by the muscular coat of the intestine. This is accomplished by surrounding them in their longitudinal course through the intestine to the extent of two centimeters by the circular coat of the bowel. This muscular coat of the bowel, in acting from above downward, milks the urine downward and holds the ureters closed when the rectum is aiding in defecation. When the contraction and closure due to defecation is over, the urine will spurt forth with considerable force, acting as its own cleanser. 4. The ureters are implanted in the lower bowel, which is normally empty except at defecation.

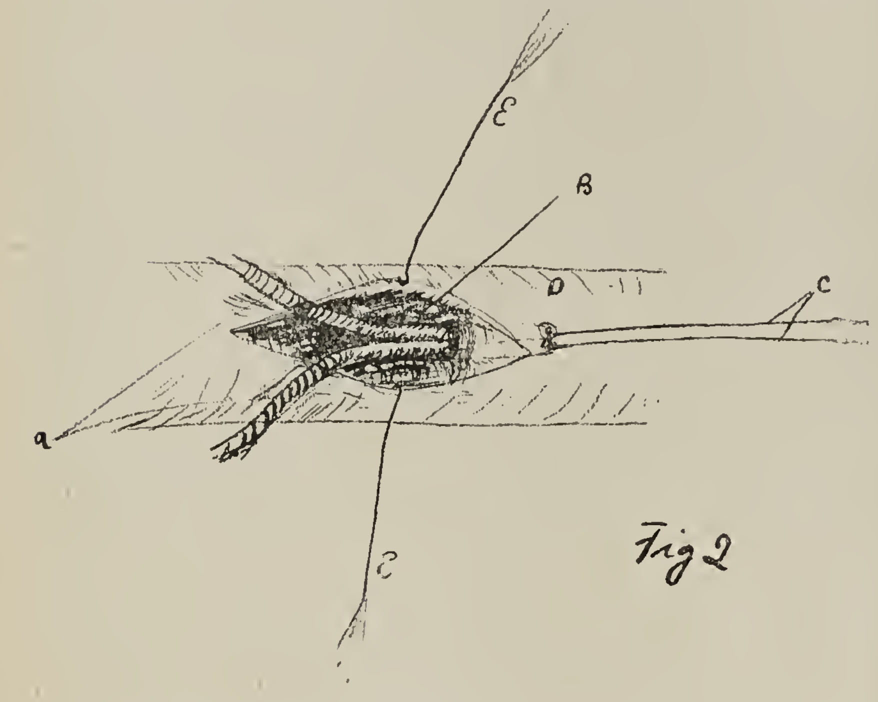

Figure 2.

OPERATION.

1. Place patient in Trendelenberg position; make the abdominal incision so as to expose the rectum; pack back the omentum and intestines; make a longitudinal incision of the peritoneum over the ureters down to their insertion into the bladder, and dissect them out with the finger to a height of about three inches; tie each ureter near the bladder with strong silk and sever them above that point. 2. Bring each ureter forward and approximate in front of the rectum by including the wall of each in one fine silk suture armed at each end with cambric needles (Fig. 1C); approximate the ureters further by two fine silk sutures passing through the outer walls of the ureters only, securing the two tubes parallel, as shown in Fig. 1. Place severed ends of the ureters on a gauze sponge while executing the next step. 3. Make a longitudinal incision two inches long through the peritoneal and subperitoneal tissue of the upper wall of the bowel, and dissect back this tissue so that an oval surface of the muscular coats of the intestine is exposed, the length of the primary incision in the bowel and one inch wide at its center. The flaps are held apart by silk stays, tenacula or small retractors. 4. After making sure that the bowel is free of fecal matter and having secured it above by a clamp or rubber tubing, make a small incision through the remaining coats of the bowel about large enough to admit the two ureters without pressure and about one-third the distance from the lower end of the oval denudation; pass through this opening into the interior of the bowel the double threaded suture previously placed in the ends of the two ureters and bring the needles out a short distance apart, slightly below the lower end of the denudation, about one inch from the opening made for the ureter (Fig. 1C), and draw the ureter through the opening and to the point at which the stay silks found their exit (Fig. 2C). 5. Elevating the two ureters at right angles to the bowel, they should be secured to the fibrous and mucous coat of the bowel by a number of closely-applied sutures of fine catgut or silk, great care being necessary not to penetrate to the mucous coat of the ureter or to apply the sutures so as to constrict the ureters. The ureters are now laid parallel with the bowel on the denuded portion, the handling silk is made taut and additional sutures passed, securing the ureters to the muscular coat of the intestine as it is rolled in by the tension on their ends. 6. The ureters are now buried in the muscular coats of the bowel by folding those coats over them for a distance of one inch (Fig. 3B.B.) and securing them to the ureters by fine silk sutures. 7. The peritoneal coat of the bowel is now closed over the ureters to the point where they separate and then below them above that point. This is accomplished by a running inversion stitch of silk. A few additional interrupted sutures of silk attach the peritoneal coat to the outer coat of the ureters (Fig. 4). 8. Close the abdomen with a small gauze drain, passing down to the bowel in the lower angle of the wound.

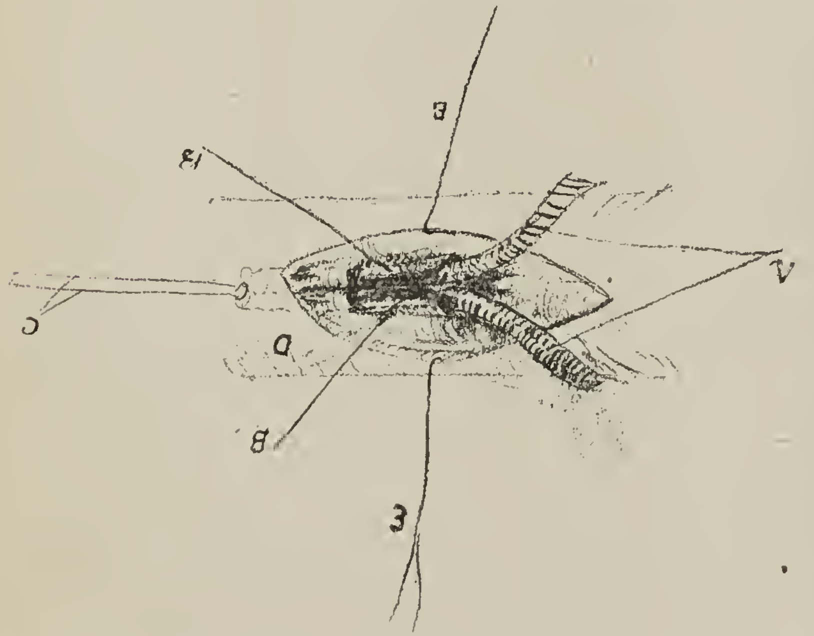

Figure 3.

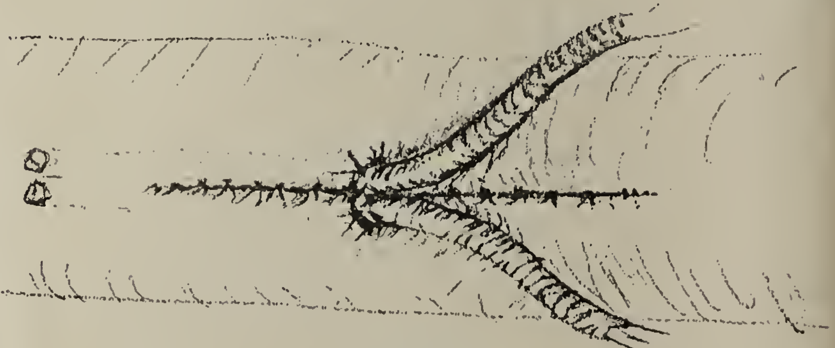

Figure 4.

REMARKS.

This method is the outcome of experiments on thirty-seven dogs and three operative procedures on human beings. Of the latter there was one removal of the bladder which lived three years, and one more of exstrophy of bladder in which the ureters were implanted in the rectum with only partial success. Of the experiments on the dogs four lived for indefinite periods, two with both ureters in the rectum. These experiments in detail will form a subject for a further communication.

SCHOTT TREATMENT OF CHRONIC HEART DISEASE.

WITH REPORT OF CASES.

Read before the Medical Society of the City Hospital Alumni, of St. Louis, Nov. 3, 1898.

BY ELSWORTH SMITH, Jr., A.M., M.D.
INSTRUCTOR IN PHYSICAL DIAGNOSIS, AND PHYSICIAN MEDICAL CLINIC,
ST. LOUIS MEDICAL COLLEGE, MEDICAL DEPARTMENT OF WASHINGTON UNIVERSITY; CONSULTING PHYSICIAN,
ST. LOUIS CITY HOSPITAL.
ST. LOUIS, MO.

By way of preface, I should like to recall certain fundamental principles in the management of diseases of the heart upon which rests the rationale of this method of treatment by baths and gymnastic movements. At the outset it is important for us to distinctly remember of how slight importance, from a prognostic standpoint, is a valve lesion, as evidenced by a murmur and the other physical signs, for the discovery of such a lesion does not in itself consign the victim to a certain or early grave any more than it does per se call for the administration of the class of remedies known as cardiac stimulants. Indeed, many persons with marked physical evidence of valvular defects live out actively and usefully their allotted life expectancies, uninfluenced apparently by these cardiac maladies. Lauder Brunton relates that when he was a student of medicine, one of his professors was the subject of adherent pericardium, and consequent dyspnea, but is now quite strong and well after thirty-five years of professional work. Balfour states that many cases of aortic regurgitation run along comfortably and perfectly free of symptoms for thirty or forty years, and one of his friends, the subject of mitral regurgitation from the age of 30 years, led an active and useful life up to his death, at the age of 70 years; but these are but two of innumerable such examples which go to prove that the destiny of a case of valvular disease of the heart does not depend upon the valve lesion itself, so that we must look elsewhere for the pernicious results that do often occur in these cases; and in so doing we discover that it is the condition of the heart muscle which determines the future course of these cases. So long as the cardiac muscle remains sufficiently strong to carry on the circulation in spite of valve defects, just so long will the patient be perfectly comfortable and entirely free of symptoms, he having then, as we say, a compensated heart lesion; but allow this muscle to grow weak from any cause, to become, for example, the seat of fatty degeneration, then it will soon find itself unable to propel the proper amount of blood beyond the obstruction into the arterial system; resulting in damming up of the vital fluid in the venous trunks, and giving rise sooner or later to the picture of an uncompensated heart lesion, with which we are all so familiar.

We may, therefore, say the treatment of chronic heart disease practically resolves itself into the proper development and care of a muscle; and how does the athlete acquire his powerful muscles? Simply by a process of training, with the object, through a nutritious diet, of supplying his entire system, muscles included, with a sufficient quantity of rich, arterial blood, so that by systematic, regulated exercise he may cause his muscles to enlarge or hypertrophy, and thereby gradually become capable of doing more and more work. Perfectly analogous to this should be the care of the heart muscle, called upon through disease to do extra work; and in reality this is just what, and only what, the subject of beginning cardiac disease needs. He must be enabled through attention to rules of hygiene, proper diet, etc., to supply his heart with an abundance of good, rich blood, and through properly regulated exercise, he must gradually accustom his heart muscle to meet the increasing demands on its force and strength. This is the only medication such a case should receive during the formative stage of compensation, and even afterward, in maintaining this condition of compensation in a comparatively healthy heart muscle. We should be no more justified in giving heart stimulants or tonics to such a case than we would be in beating the animal which is faithfully drawing along a heavily laden wagon; for in either case we would be doing more harm than good.

A striking example of the capabilities of muscular power through training is the classic one of the wrestler of Milo, who, it is said, was able to carry about a bull by beginning to carry him as a calf, and continuing to do so daily from that time until grown. On the other hand, in one devoid of gymnastic training, a sudden great effort beyond what has been his custom, may cause distress and dyspnea; so we see the strength of the cardiac and other muscles is, in fact, largely relative, and stands in relation to the work ordinarily demanded of them. The heart muscle also resembles those of the athlete in that they all require a definite amount of rest to prevent their becoming fatigued. This all-important fact is very graphically put by Brunton as follows: "To walk one thousand miles in six weeks can hardly be called any feat at all; but to walk one thousand miles in a thousand hours is a very different proposition, and may be regarded even now as beyond the capacity of most men. There is no more actual work involved in walking twenty-four miles in one day than in walking twenty-four successive hours, one mile for every hour, the difference between the two being the short period allowed for rest and recuperation between each period of exertion in the latter. Now, the action of the heart is like that of the athlete who has very short periods of rest between his periods of action, and just as the athlete's work is rendered more difficult by shortening his period of rest, so is that of the heart by increasing the rapidity of its pulsation."

In order, however, to thoroughly appreciate this very apt comparison of Brunton, we should recall for a moment how the heart obtains its rest. The cycle of its action is, as you know, divided into systole, diastole and pause, and it is during the two latter periods that the ventricles, the most important muscles of the heart, secure their much-needed rest. Should the action of the organ be accelerated, what is the result? Why, the time occupied by the systole remains as great as ever, while that of the diastole and pause is shortened, so that abnormal rapidity of the heart always means that the organ is doing more work with less rest—a condition in which we nearly always find it in disease.

This résumé of fundamental principles would, however, be incomplete without a few words concerning the manner in which the muscles of the heart are nourished, without recalling, for example, that the nourishing fluid is carried to them through the two coronary arteries. Now the blood probably enters these channels most freely during the diastole and pause because of the obstruction during the systole offered by the contraction of the ventricular walls, and the consequent compression of the lumen of these vessels and their branches, which, while it may favor the distribution of the blood already within them, must, nevertheless, offer a serious impediment to the inflow of a fresh supply from the aorta. How much more rational it would appear to suppose that these coronary vessels receive their greatest influx of blood during the diastole, for then, through the relaxation of the ventricular muscles, their lumen would be entirely patent. Certainly, the tension in the aorta, which is then high enough to, as a rule, close the aortic flaps with force, would naturally then be sufficiently high to overcome the pressure in the coronary artery. It would seem natural, therefore, to conclude that the quantity of blood going to the ventricular muscles would be largely measured by the length of the diastole and pause, and as we have seen that the time occupied by these two periods is always less in an abnormally rapid heart, it follows, as a matter of course, that the quantity of nourishment must also be greatly curtailed in the muscles of such a heart. The pneumogastric nerve, therefore, at once becomes perhaps the greatest factor in the control of the nutrition of the heart muscle, for it is the cardio-inhibitory nerve of the organ, keeping down the rate of its action, so as to insure it the rest and nutrition which result from a full and complete diastole and pause, while it, at the same time, exerts moreover certain specific trophic influences over its muscular fiber; and it is, in fact, to the power possessed in varying degrees by certain remedies of stimulating this nerve that these remedies mainly owe their titles of heart tonics and stimulants; such, for example, as digitalis, which ranks certainly first, followed by strophanthus, convallaria, adonis vernalis, and several others—nux vomica being an exception in that it exerts its influence mainly on the cardiac ganglia themselves—and also nitroglycerin, whose most important action is that of a vasomotor dilator, whereby peripheral resistance is reduced, and the work ahead of the weak heart thus made easier.

With the foregoing facts in mind, we may now proceed to consider briefly the treatment of chronic heart disease. Cases in which compensation is in the formative stage, and those in which it is fully established, have already been alluded to. Those in which compensation is failing require, in addition to hygienic care and carefully regulated exercise, the administration of some of the well-known cardiac tonics with due regard to the needs and indications in each case. Where the failure of compensation is complete, so that the least effort leads to great distress, complete rest in the recumbent position must be insisted upon, and the exercise required for healthy general nutrition supplied in a passive manner by massage. In this way alone, the pulse-rate may be reduced from five to ten pulsations per minute, which even in five minutes would mean the sparing of a laboring heart many beats; so that absolute and complete rest in the recumbent posture can not be too strongly insisted upon in such cases to permit the flagging and almost worn-out organ to somewhat regain its strength, to be followed later on by carefully graduated exercise. But there comes a time in the history of these cases where the above plans of treatment fail to restore compensation, where the general anasarca, dyspnea, and the resulting great distress steadily increase, in spite of every effort on the part of the physician, and when dissolution seems to be inevitable. Fortunately, however, even at this critical juncture, we still possess one more remedy that may save life in a certain proportion of these most unpromising cases; and this remedy is the system of medicated baths and resistant movements, which have been so extensively developed and successfully applied by the brothers August and Theodore Schott at Nauheim, Germany, a small town in the Duchy of Hess, near Frankfort and Hamburg.

The credit, however, of the discovery of this method should not be given to them, but rather to Beneke, who first discovered it as far back as 1859. Though from 1870 to 1890, the Schott brothers were frequent contributors in the German press, and the springs were, during all this time, being visited by thousands of sufferers, it was not until 1894 that England gave the subject any serious thought, when presented in the *Lancet* by W. Bezley Thorne; since which time the method has there become very popular. Babcock of Chicago and Heineman of New York were the first to apply the method in this country, and were followed later on by some few others. In November, 1896, at the suggestion of Dr. William Osler of Baltimore, his first assistant, Dr. C. M. B. Camac, visited Nauheim to study thoroughly the treatment as carried on there, and his comprehensive report appeared soon after in the *Johns Hopkins Hospital Bulletin*. So that you see the treatment is not new, but an old method which appears new because so long neglected.

According to Schott, these natural springs at Nauheim contain, among other ingredients, sodii chloridi 2 to 3 per cent.. calcii chloridi 2 to 3 to the thousand, various salts of iron, and very large amounts of carbonic acid gas. These mentioned ingredients are the active agents in the bath, and their action is a reflex one. The carbonic acid gas entering directly into the skin, and the salts by imbibition, they all exert an influence on the cutaneous nerve-endings, which is carried to the nerve centers and results, first, in stimulation of the pneumogastric nerve with a resulting tonic influence on the heart and slowing of its rate of action; and, secondly, there is produced by these chemic ingredients also a reflex excitation of these terminal nerves in the skin, which results in a vasomotor dilatation of the arteries of the skin and muscles; and as the skin and muscles are capable of containing as much blood as all the internal organs combined, we have thus a relief of internal congestions, and also a relief of blood tension ahead of a crippled heart. As a result of these influences on the circulation, we have, in favorable cases, besides an amelioration of all the symptoms, an actual reduction in the size of the dilated heart, as is evidenced by a carrying inward of an outwardly displaced apex, and a reduction in the area of cardiac dullness on percussion.

These baths can be prepared artificially according to the ensuing formulæ, and are generally employed in the following six strengths:

Bath No. 1. Sodii Chloridi 4 lbs., Cal. Chloridi 6 oz.
Bath No. 2. Sodii Chloridi 5 lbs., Cal. Chloridi 8 oz.
Bath No. 3. Sodii Chloridi 6 lbs., Cal. Chloridi 10 oz. Sodii bicarb. 6 oz., HCl. 7 oz.
Bath No. 4. Sodii Chloridi 7 lbs., Cal. Chloridi 10 oz. Sodii bicarb. 8 oz,, HCl. 12 oz.

Bath No. 5. Sodii Chloridi 9 lbs., Cal. Chloridi 11 oz. Sodii bicarb. 1 lb., HCl. 1 lb.

Bath No. 6. Sodii Chloridi, 11 lbs., Cal. Chloridi 12 oz. Soda bicarb. 1 lb., HCl. 2 lbs.

To the foregoing different strengths of these ingredients are added forty gallons of water. The bath is to be given every other day, preferably in the morning, when the stomach is most apt not to be full.

Strength No. 1 is given as long as there is any improvement. Should the case come to a stand-still, begin to lose ground, or if after three or four baths of No. 1 strength, there should be no improvement, then the next strength should be tried, and so on up to the third and fourth strengths. The last two strengths, however, are rarely used. The temperature of the first bath should be about 96 degrees F., decreased every third bath from one to three degrees, down to 82 degrees. The patient remains in the first bath five minutes, increasing two minutes every second or third bath until twenty or thirty minutes is reached.

If, during the course of the treatment, the patient should grow steadily worse, or if after fifty baths, there should be no improvement, the treatment should be stopped. The patient should be carefully watched during the entire bath, and upon the appearance of any great increase of dyspnea, or cyanosis, should be removed from the tub immediately, well rubbed and given some diffusible stimulant. A cup of hot milk, cocoa or bouillon should be administered before and after the bath. After the bath, the patient should be put to bed for an hour or two of rest. Ordinarily the effect of the bath is most grateful. Respiration and pulse both improve, and after leaving the tub the patient generally feels inclined to sleep. On alternate days the resistant movements, as introduced first by Schott, are administered. They are nineteen in number, and involve all the larger muscles of the body. They consist of slow movements executed by the patient and gently resisted by the operator. The movements are divided into different groups, as for arms, legs, trunk, hands, feet, etc. At first, only a few of these movements are given, which are to be afterward carefully increased according to the patient's ability to stand them. The object of these exercises is: 1, they train the heart muscles; 2, they cause more blood to pass through the muscular arteries, and thereby help the circulation of blood away from the heart; 3, through the valves in the veins, they favor the venous current toward the heart; 4, they improve general nutrition. In their administration, however, they must never cause any undue fatigue. They rest somewhat on the same principles as Oertel's system of mountain climbing.

As to the class of cases in which the baths and exercises are indicated, the reply would seem to be: in every case where there is failure of cardiac compensation, whether the result of valvular diseases, lesions of the kidney, or those affections primarily of the myocardium. They seem to accomplish most in cases of mitral regurgitation; less in aortic cases, and in he hearts of renal lesions. However, I believe the ast class of maladies present a good field for the method in selected cases.

Statistics of results of this method of treatment seem as yet somewhat meager and difficult of attainment, in this country at least. On June 24, 1893, Dr. Robert H. Babcock of Chicago, a well-known authority on diseases of the heart, placed himself under Schott's care at Nauheim for disturbance of compensation, the result of a mitral stenotic lesion. In the report of his own case, published in the JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, November 11, 1893, he says that at the time he consulted Schott he was suffering with dyspnea on exertion, some cyanosis, a feeble pulse, but no edema. Schott diagnosed a mitral stenotic lesion. He received baths and movements from June 24 to July 29, 1893, and returned home free of symptoms, and in his own words, in excellent health. Camac has reported ten cases from the wards of Johns Hopkins Hospital in the June number, 1897, of this Hospital's *Bulletin* as follows:

Name.	Diagnosis.	Treatment.	Condition during treatment.	Result.
A. H., colored..	Aortic Insufficiency.	Baths only.	Improved.	Death.
Mr. C	Cardiac Dilatation.	Baths and exercises.	Marked improvement.	Death.
I. A	Chronic Nephritis.	Baths only.	No improvement.	Death.
G. L.	Mitral Stenosis.	Baths and exercises.	Marked improvement.	Death.
G. S..	Glycosuria and Dilatation.	Baths and exercises.	No improvement.	No improvement.
B. C..	Dilatation and Chronic Nephritis.	Baths and exercises.	No improvement.	No improvement.
Miss B.	Dilatation and Tachycardia.	Baths and exercises.	Improvement only during treatment.	
W. W., colored	Dilatation and Sclerosis.	Baths only.	Marked improvement.	Well.
J. H..	Mitral Insufficiency.	Baths and exercises.	Marked improvement.	Well.
Mrs. L, ...	Tachycardia.	Exercises only.	Marked improvement.	Well.

Summary: Four deaths; in two no improvement; in one, improvement during treatment only; and three continued improvement.

My cases comprise seven, with five deaths, one marked improvement during treatment and one complete recovery, understanding, of course, by recovery, not repair of valve damage, but simply complete restoration of cardiac compensation.

I desire, however, to state that in none of these cases was the bath treatment begun until all other methods had been given a fair trial and had failed, and that five of the patients were inmates of our city hospital, placed at my disposal through the kindness of Dr. Otto Sutter, so that we must make allowance here for the kind of humanity that drifts into our public institutions, and for the kind of hygienic influences to which the patients are there exposed, as to shelter, food, air, etc., in the present temporary and unfatisfactory buildings our city hospital has been obliged to occupy since the tornado two years ago. Especially is this latter consideration important, for in one or two of my cases, I think the fatal result attributable in a measure to the draughts and chillings to which the patient was unavoidably exposed after the baths. The abbreviated notes of these cases are as follows:

Case 1.—E. B. male, aged 22, entered the City Hospital Dec. 2, 1897. Had symptoms of cardiac disease for the past three years; for past four months failure of compensation has gradually increased, and is now complete, with general anasarca and great dyspnea. Diagnosis, mitral stenosis and regurgitation, small amount of albumin in urine. Given baths No. 1 strength on December 4 and 5 with apparently no improvement in his symptoms. Failure of compensation steadily increased. Patient died Dec. 9, 1898.

Case 2.—J. O'R. male, aged 35, entered the City Hospital Oct. 14, 1897. Diagnosis, mitral regurgitation; feet edematous, dyspnea marked on exertion; no renal lesion. Given baths (No. 1 and 2 strength) and exercises from June 27 to July 29, 1898, during which time the apex-beat changed from 9.75 cm. on June 29 to 8.5 cm. on July 18 to left of median line. Urine rose from 450 c.c. on June 29 to 2700 c.c. on July 29.

Circumference of ankle was reduced from 29 to 27 cm., dyspnea had also greatly decreased and patient looked and felt much improved. Unfortunately, exposed to draught on night of July 29, he developed croupous pneumonia, from which he died July 31. But for such an unfortunate complication this case promised a good result.

Case 3.—A. W., male, aged 41, entered City Hospital Oct. 13, 1897. Had some cardiac symptoms for three years; considerable disturbance of compensation for past three months. Diagnosis, aortic regurgitation: no renal lesion. Given baths from October 26 to November 16. Apex beat reduced from 16 cm. on October 26 to 11.5 cm. on November 12. On October 29, he was able to lie down, which he had been unable to do for two weeks. From November 3, however, he began again to fail and finally succumbed, November 22.

Case 4.—J. H., male, aged 45, entered City Hospital June 10, 1898. Diagnosis, double lesion of aortic and mitral orifices. Given baths and movements from June 29 to August 17, urine increased from 325 c.c. July 7 to 1400 c.c. July 28. Apex reduced from 10.5 cm. June 29 to 9 cm. August 6. Appeared to improve somewhat up to about August 1, when edema increased, and patient gradually went downward toward a fatal termination.

Case 5.—W. McG., male, aged 32, entered the Hospital Aug. 27, 1897. Diagnosis, mitral and aortic insufficiency. Died Sept. 20. Baths given from September 12 to September 17. Beyond a transient reduction of edema, and a change of apex-beat from 13 to 11.25 cm. the course of the disease did not seem to be in any way influenced. As is often the case in aortic regurgitation, the end in this case came suddenly, during an effort at getting from the bed to the bathroom.

Case 6.—H, S., male, aged 42 years; seen in consultation with Dr. John P. Bryson, Feb. 27, 1898. History of more or less dyspnea, dating back for five or six months. Heart enlarged and dilated, but impossible to determine exact outlines or position of apex, due to amount of adipose tissue and feebleness of heart's action. Pulse sclerotic, no cardiac murmurs; urine contained on several examinations from .25 to .5 per cent. albumin, and a few hyaline and granular casts. Lower extremities enormously edematous; has been confined to house for weeks, and for about a week has been unable to lie down in bed. What little sleep he has had, has been in snatches while sitting up in an easy chair. Diagnosis, chronic interstitial nephritis, artero-capillary sclerosis, hypertrophied and dilated heart. Given baths and movements from March 2 to April 20, 1898, during which time compensation was sufficiently restored that patient obtained a good rest at night in recumbent posture; could get in and out of tub by himself, when at first he had to be lifted. All edema completely disappeared except some occasional slight puffiness of feet. He was soon able to get out for a drive and get down again on a visit to his place of business. Amount of urine for twenty-four hours, which on March 5 was only 13 ounces, increased to 87 ounces, as the maximum quantity on April 4. In fact, the effect of the treatment on the secretion of urine seemed almost, in this case, marvelous. For example, on April 2, patient urinated just before bath, and in thirty minutes after the bath passed 18 ounces, and within an hour passed altogether 22 ounces. Within one and one-half hours after the bath on April 4, 42½ ounces of urine were passed. So marked, indeed, had been the improvement in every way in this case, that the patient unfortunately imagined himself a well man, and suggested discontinuance of treatment. Later on, symptoms recurred, and under treatment by other methods and in other hands he finally succumbed, some time, I believe, in the latter part of September.

Here then, in this case was certainly obtained a marked relief of symptoms for a considerable period of time, which perhaps, might have been greatly extended had the patient submitted his case entirely to his physicians. In the seventh and last case a result was obtained that, I think, you will grant me was truly ideal.

Case 7.—A. D. female, aged 17 years. Seen Jan. 30, 1898, at St. Mary's Infirmary, through the courtesy of Dr. W. A. McCandless. More or less heart symptoms since an attack of intermittent fever in 1891, which symptoms were aggravated by an attack of rheumatism, of one month's duration, in 1896. Entered hospital about Jan. 10, 1898, since which time had been steadily growing worse, in spite of most appropriate treatment until condition had become most pitiable. Edema of lower extremities very great. Had sinking spells in which she was every minute expected to expire; could not leave her chair day or night. Diagnosis, mitral regurgitation with complete failure of compensation; patient very anemic. Given baths and later on movements from February 1 to March 15, 22 baths in all. After second bath, on February 4, she spent a better night than she had since entering hospital. February 10, slept well from 10 P.M. till 5 A.M.; February 15, had been sleeping from seven to eight hours without awakening, since last note. February 28 had been sleeping all night and eating everything offered her. Could now get about the wards and halls. March 16. Patient menstruated today, first time in two years. Pulse was reduced from 140 February 4 to 70 March 15; respiration from 42 to 20 in the same time; apex-beat from 5¼ to 3¼ inches. Urine increased from 26 ounces on February 4 to 53 ounces on February 13; entire disappearance of edema; on leaving hospital, patient was entirely free of symptoms.

Chart for Case No. 7, Showing Method of Recording Observations.
Diagnosis.—Mitral Insufficiency with Complete Failure of Compensation.

Date, 1898.	Bath temperature.	Bath number.	Time.		Before.		First half.		Second half.		Immediately after.		10 minutes after.		Point of maximum impulse in inches.			Urine in 24 hours.		Remarks.
			Beginning.	End.	Respiration.	Pulse.	Respiration.	Pulse.	Respiration.	Pulse.	Respiration.	Pulse.	Respiration.	Pulse.	Before.	During.	After.	Amount.	Specific gravity.	
February 1 . .	98	1	3:15	3:21	30	130	44	138	40	138	34	136	28	132	5¼	4¼	4¼	26½	1020	
February 4 . .	96	1	2:50	2:57	37	118	42	140	42	124	48	128	44	128	5¼	4½	. . .	26	1020	Best night since entering hospital
February 7 . .	98	1	2:42	2:49	23	105	32	126	36	114	. .	. .	20	110	4¼	4	4	28	1025	Can rest comfortably in recumbent posture
February 9 . .	92	1	3:36	3:45	24	110	28	110	32	116	26	112	20	108	4½	. . .	4¼	14	1025	
February 11 . .	92	1	2:46	2:55	14	110	30	122	24	118	16	114	17	110	4⅛	4	4	28	1030	Patient asleep ten minutes after bath.
February 14 . .	92	1	3:20	3:28	15	114	22	120	22	120	18	116	. .	. .	4¼	4¼	4¼	42	1010	Slept well from 8 P.M. to 5 A.M.
February 17 . .	. .	. .	3:03	3:14	18	116	. .	. .	22	122	20	122	19	112	4½	4½	4¼	38	1010	Only now slight edema over tibiæ,
February 21 . .	90	2	3:01	3:14	18	110	. .	. .	22	111	20	111	19	108	4	4	4	42	1012	
February 24 . .	88	2	2:59	3:15	26	85	. .	. .	23	98	26	105	24	98	3⅝	3⅝	3⅝	48	1010	
February 28 . .	90	2	4:08	4:24	20	98	28	100	28	104	23	92	20	94	4	4	4	43	1010	
March 3	88	2	2:15	2:31	22	100	23	97	25	98	21	93	. .	. .	. . .	. . .	. . .	35	1012	
March 7	88	2	4:46	5:04	22	88	20	88	15	96	20	91	22	88	3¾	3¾	3¾	.	. . .	
March 9	88	2	3:01	3:19	24	98	21	93	22	98	23	91	22	88	3¾	3⅔	3⅔	40	1010	
March 12 . . .	88	2	2:56	3:14	20	89	22	87	22	90	20	85	20	82	3¾	3¾	3¾	45	1012	Pulse regular.
March 19 . . .	90	2	1:40	1:58	22	82	24	85	22	90	21	74	21	88	3¾	3¾	3¾	. .	. . .	Digitalis stopped, owing to symptoms of gastric irritation.
March 21 . . .	89	2	3:04	3:22	18	91	22	97	19	93	19	90	20	80	3¾	3¾	3¾	. .	. . .	Apex-beat well defined; relative dulness at mammary line; entirely free of symptoms.

She was at my office on July 10, when she had gained 16 pounds in weight, weighing 134 pounds, which is more than she had ever weighed before. She appeared the picture of health; had been menstruating regularly every month since leaving hospital. Had also been completely free of symptoms, and had been able without discomfort to remain steadily at her work, that of a bookbinder.[1]

One very striking effect of the bath in this case was the quieting, soothing influence exerted, causing the patient as soon as put to bed to fall almost invariably into a tranquil nap of one or two hours' duration, from which she awoke refreshed and strengthened.

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[1] She was at my office again on Nov. 20, 1898, when she was perfectly well, and stated she had been so since her last visit. She stated she then weighed 136 pounds.

Of the beneficial result of the bath treatment in this case, I am satisfied beyond any question, and had the girl not received the baths and movements, she would have, I am thoroughly convinced, succumbed to the heart affection.

In estimating the efficacy of the method in the preceding cases, we must take into consideration besides what I have already alluded to, the fact that three out of the five fatal cases had aortic regurgitation, and it has been the observation of the advocates of the method that this class of cases have not responded well to the treatment. One of the remaining fatal cases had mitral stenosis, which is also notably an unfavorable lesion under any plan of treatment. Case 2, which was one of pure mitral regurgitation, gave every promise of a favorable result before the onset of pneumonia, which complication might, I think, have been avoided under different surroundngs; nor can the fatal result in Case 6, that of nephritis and arteriosclerosis, be attributed to the bath treatment, for under it the patient's condition had improved marvelously, and the end only came after he had abandoned the method for some time; so hat properly speaking we should only classify four of my seven cases as apparently not being at all conrolled by the bath method. On the other hand, it must be understood that reliance was by no means placed on the bath and exercises alone, to the excluion of the older and better-known remedies, which were employed as the indications arose for their use, n conjunction with the bath treatment.

A brief summary of the foregoing seven cases with esults is as follows:

Diagnosis.	Treatment.	Condition during treatment.	Result:
Mitral stenosis and regurgitation.	Baths only.	No improvement	Death.
Mitral regurgitation.	Baths and exercises.	Marked improvement...	Death.
Aortic regurgitation.	Baths only.	Improvement at first . . .	Death.
Double aortic and mitral lesions.	Baths and exercises.	Improvement for a while .	Death.
Aortic and mitral regurgitation	Baths only.	No improvement	Death.
Chronic interstitial nephritis, arterio-capillary sclerosis, dilated and hypertrophied heart.	Baths and exercises.	Marked improvement .	Death some time after abandoning treatment.
Mitral regurgitation.	Baths and exercises.	Marked improvement .	Well.

But even a plan of treatment that will save one life nd bring complete, though temporary, relief of all mptoms in another must be certainly looked upon s a valuable aid to us in dealing with a group of ses such as those just described, all which were mpletely uncontrollable by any of the older methods; hile, on the other hand we have just seen that mac was fortunate enough to save three out of his ries of ten cases.

In conclusion, I desire to acknowledge my indebtness to the valuable contributions of Brunton, bcock, Camac and Gibson; also to thank Dr. Sutter d his corps of physicians at the City Hospital, pecially Drs. Dean and Amyx, for their kind operation, and Drs. Hoge and Bryan for much uable assistance in supervising the work in my sence.

16 North Grand Avenue.

LOOMIS SANITARIUM FOR CONSUMPTIVES.

ANNUAL REPORT.

BY J. EDWARD STUBBERT, M.D.

PHYSICIAN IN CHARGE.

The following report represents the work of the Loomis Sanitarium, located at Liberty, Shawangunk mountains, Sullivan county, N.Y., for the year ending Nov. 1, 1898:

The number of patients in the sanitarium Nov. 1, 1897, was 78; admitted since, 126; total, 204. The number of patients in the sanitarium Nov. 1, 1898, was 47; patients discharged cured having numbered 28, discharged with disease arrested 11, discharged improved 67, discharged who remained stationary 6, discharged unimproved 41, while 4 had died.

As to the condition of patients when admitted, 17 were in the incipient stage,[1] 58 in the incipient stage with bacilli, 102 moderately advanced,[2] and 27 far advanced[3].

Class 1 (patients who remained three months or less in the sanitarium).—The condition when admitted showed: Incipient stage without bacilli, 9; incipient stage with bacilli, 23; moderately advanced, 31; far advanced, 12; total 75. The condition when discharged showed: Cured, 10; disease arrested in 5; improved, 35; stationary, 4; unimproved, 19; deaths, 2; total, 75.

Class 2 (patients who remained in the sanitarium more than three months)—The condition when admitted showed: Incipient stage without bacilli, 4; incipient stage with bacilli, 24; moderately advanced, 44; far advanced, 10; total, 82. The condition when discharged showed: Cured, 18; disease arrested in 6; improved, 32; stationary, 2; unimproved, 22; deaths, 2; total, 82.

The number of patients whose sputum contained bacilli on admission was 187, with 37 whose sputum was free from bacilli on discharge, while 53 had hemorrhage before admission, 10 had hemorrhages in the sanitarium, 153 gained in weight, 25 remained stationary in weight, and 26 lost weight. The average gain per week per patient was two pounds, the average loss per week per patient was one pound, the greatest monthly gain was fourteen pounds, the greatest monthly loss ten pounds, and the greatest gain for one patient thirty pounds.

During the year there were in the infirmary 83 patients, of whom 12 were in the infirmary twice.

A summary of the condition of patients still in the sanitarium shows that the bacilli disappeared in 3 cases, diminished in number in 11, while cough decreased in 32 and disappeared in 2 cases, and the physical signs improved in 33, weight was gained in 38 cases, remained stationary in 3, and was lost in 6.

By comparing these figures with my annual report for 1897, published in the *Philadelphia Medical Journal* of March 12, 1898, p. 467, the following increase in good results among patients discharged during these two years will be noted: During the first year 8 per cent. of the patients discharged had lost their tubercle bacilli; during the past year 23 per cent. of those discharged had lost their tubercle bacilli. During the first year 73 per cent. of those discharged gained in weight, while during the past year 97 per cent. of those discharged had gained in weight. During the first year 13 per cent. of those discharged were cured, while during the past year 17 per cent. of those discharged were cured. During the first year 10 per cent. of those discharged had their disease arrested, while during the past year 7 per cent. had their disease arrested. It is interesting to note that of those patients discharged after a residence of three months or less at the sanitarium, 6 per cent. were cured, while among those remaining longer than three months, 11 per cent. were cured.

The basis of treatment in all cases has been *climatic, hygienic and dietetic*. The climate of Liberty is well adapted to the treatment of tuberculosis throughout the year, but there is even more marked improvement among the patients during the winter months than in summer. The elevation, 2300 feet, is within those limits generally conceded to be most advantageous for lung troubles; this altitude, with the peculiarly dry atmosphere and abundance of sunlight, furnishes all the conditions necessary in the climatic and hygienic treatment of incipient cases of tuberculosis. Malarial fevers are unknown here excepting when imported. A clinical fact that has struck me rather forcibly is that while strong winds are generally supposed to be detrimental to the class of patients under consideration, our patients brave with impunity cold and northwest winds. I have seen eighty patients gather for their meals three times a day, from their various cottages at the Administration Building when the snow has been one to two feet deep, and almost a blizzard blowing, without the least detrimental effects. On the contrary, it seemed to improve their appetites and digestion. I have not seen one case of bronchitis or influenza among our patients that could be attributed to braving the elements. The experiences encountered and the results obtained during three cold seasons at this Sanitarium seem to tend to revolutionize the popularly accepted ideas of the injurious effects of winds and stormy weather upon incipient cases of tuberculosis. In this connection I wish to refer to the question of exercise. Much has been said and written against allowing tuberculous patients to walk or exert themselves to any great extent, especially if the temperature ranges above the normal point. It is a rule with me to allow all patients whose evening temperature does not reach above 100 degrees F. to walk moderately, and if the temperature is not above 99 degrees F., no restrictions at all are placed upon them in this respect; but they are encouraged to gradually accustom themselves to pedestrian tours extending from two to ten miles daily. I have never seen any untoward result from this exertion on the part of patients, and I am fully convinced that it is a mistake to encourage any such patients in taking the rest cure. We are seeking to improve the general nutrition of our patients in order to enable them to overcome a specific poison, and it would seem unwise to impair their general nuturition by compelling them to no nothing but eat, sleep and sit.

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[1] Incipient stage.—Slight localized involvement of lung, with little or no constitutional disturbances.

[2] Moderately advanced.—More general consolidation of lung, with constitutional disturbances and beginning of softening, or single cavity.

[3] Far advanced.—Softening and excavation, with marked constitutional disturbances.

In the way of auxiliary treatment of individual cases the following remedies have been used; antitubercle serum, antistreptococcic serum, ichthyol, ichthalbin, kalagua, creosote, guaicol, cod-liver oil, oil of cinnamon, hot medicated air inhalation, pneumochemic treatment, multinebulizer, ozone inhalations and electric treatment.

SERUM.

Our investigations in the use of antitubercle serum have been continued with the following results:

Of the 48 patients treated, 18 were in the incipient stage, 30 moderately advanced. The physical signs improved in 38, remained stationary in 2 and were unimproved in 8. Expectoration decreased in 40 cases, and remained stationary in 8, while the temperature decreased in 26 and was unchanged in 22. Cough decreased in 40 and remained stationary in 8, while the appetite improved in 40 and remained stationary in 8. Tubercle bacilli disappeared in 10 cases, while 3 had none, 21 decreased and 14 remained stationary. Weight increased in 38, was stationary in 7 and 3 lost weight. Summary: Cured 27 per cent.; improved, 43.75 per cent.; stationary, 23 per cent.: unimproved, 2.25 per cent.

As will be seen from the foregoing table, 13 of the 48 cases treated, or 27 per cent. have lost their tubercle bacilli; in 43.75 per cent. the tubercle bacilli have decreased, as against 20 per cent. of last year. I have lately examined between 15 and 20 cases treated with serum, and have not found one that had redeveloped the disease; on the contrary, all have been enabled to remain in their homes and at their work; all these cases have been away from the Sanitarium for periods varying from 6 months to a year and a half. The general effects of this United States Government serum of de Schweinitz during this year upon cough, expectoration, temperature, tubercle bacilli, etc., are more or less the same as reported last year. As I stated at that time, I am not ready to pin my faith to serotherapy in tuberculosis; but in view of the fact that as far as bad results are concerned it has proved negative, and that a comparatively fair number of cases have apparently improved under its administration, I believe it to be the duty of the profession to continue clinical investigation along this line.

A few cases that have been treated in New York City with this serum have been examined periodically by Dr. Loomis and myself, without our being able to arrive at any positive opinion. Dr. Loomis' experience with serum among hospital patients has been, I believe, absolutely negative as far as good results are concerned. Concerning those patients treated in private practice in this city and Brooklyn, reports of attending physicians have varied. It is difficult in these cases to separate either climatic or moral influences from any that might be exercised by the serum. The three apparent effects noted above all others, from the use of this serum, have been *reduction of temperature, decrease of tubercle bacilli, and possible immunity* conferred upon patients after returning to their homes. I have discarded its use at the Sanitarium in all but incipient cases. To my mind the effects of this serum are: 1, not deleterious; 2, patients show a better percentage of results than under creosote or any other drug, without their deleterious effects; 3, the moral effect is such that even if we gain nothing in the way of specific action by its use, we are contenting the patient while he is under good climatic and hygienic environments.

Fischer's serum.—During the year we have placed four cases upon Fischer's serum, but as none of them did well upon it, they were placed upon other lines of treatment.

Oxytuberculin.—Dr. Hirschfelder very kindly forwarded us some of his oxytuberculin, which was faithfully tried in one or two cases, until the patients rebelled against having such a large quantity of fluid injected. The Doctor has informed us that if we we would use hot water massage after each injection, the patient would not complain of any discomfort: hower, it has been impossible to devote the time for this purpose.

Antistreptococcic serum.—While the results from the antitubercle serum have been somewhat gratifying, its use would generally seem to be restricted to the incipient stage and those cases showing a pure culture. The most alarming symptoms and trying complications with which the physician meets in tuberculosis are due, not to the tubercle bacillus, but to the cocci of mixed infection. The most virulent one of these seems to be the streptococcus, and the profession is watching with great interest the result of the use of Marmorek's antistreptococcic serum, in the hope that in tuberculosis with mixed infection (the most common variety met with), the disease may be reduced to one of simple tuberculous infection that might more readily yield to antitubercle serum. This hope is a legitimate one in view of the excellent results reported from its use in erysipelas, active abscesses, pelvic inflammation, otitis media, and acute and chronic suppurative processes generally. With this end in view we were led to employ, in ten cases, Pasteur's antistreptococcic serum (selecting, of course, only such cases as showed streptococci), believing that, if we could neutralize the secondary infection, we would leave a clear field for the supposed action of the antitubercle serum. In the first case only one injection was employed; expectoration ceased immediately for a number of days, and then returned in diminished quantity; on examination the streptococci were found to be far less numerous and smaller in size. The next case had suffered from chronic bronchitis for three or four years, and developed tuberculosis a short time before entering the Sanitarium, about two years ago. Tubercle bacilli disappeared under treatment, but bronchitis remained. The sputa were mucopurulent in character and contained streptococci. One injection of the antistreptococcic serum was given after which the expectoration increased materially. After a few weeks the patient began to improve, expectoration decreased somewhat in quantity and became very markedly less purulent in character. This patient is now living in New York and I have lost trace of her. The next patient had a dry cavity at the apex of one lung, and had done very well here at the Sanitarium. She was given four injections of the antistreptococcic serum, after which the streptococci disappeared. This patient is still an inmate of the Sanitarium, and the sputa still contain tubercle bacilli. The next case was that of a young lady whom I had treated first as a private patient, then as an inmate of the Sanitarium for fifteen months. Tubercle bacilli disappeared from her sputum, the physical signs cleared up, and she was about to return to her home cured of tuberculosis. However, she also had a history of chronic bronchitis, but with scanty expectoration. About the time she was about to be discharged from the Sanitarium, numerous and long chains of streptococci were discovered in her sputa, and she was immediately given an injection of 10 c.c. of antistreptococcic serum, and two days later, a second injection of 10 c.c. After the first injection a slight increase of expectoration was observed, but a few days after the second injection no streptococci could be found; they remained absent about four months, at which time they reappeared. In a fifth case three injections were given, but without effect. The sixth case was given two injections at intervals of ten days; after the first injection the streptococci were greatly reduced, and after the second they disappeared entirely; they had not reappeared at the end of six weeks, when the patient returned home. Case 7 had one injection of antistreptococcic serum, after which the streptococci disappeared and remained absent for two months, then reappeared in large numbers. About half an hour after the injection the lobes of both ears swelled; this condition lasted about an hour, and then subsided. Case 8 had one injection of the serum, after which the streptococci disappeared; however, after a few weeks a few were again found in the sputum. Case 9 was a man with numerous streptococci; he was given three injections of the serum at intervals of two days; the streptococci gradually decreased in number until none were found. In this case, however, annoying neuralgic and rheumatic pains followed the use of the serum; they were finally relieved by purging and massage. Case 10 was a patient whose sputum contained a moderate number of streptococci, which entirely disappeared after two injections of the serum; cough and expectoration decreased materially, while tubercle bacilli remained numerous. If, as some of the advocates of antitubercle serum contend, the cause of failure in many cases is due to mixed infection, the successful use of Pasteur's serum would solve a great part of this riddle before us. One point that I suppose will be immediately noted is the apparent slowness of action of this serum upon the streptococcus in these cases of chronic infection, as compared with the reports from time to time of its rapid action upon the same germ in cases of acute infection.

Throat cases.—During the past year forty cases of tuberculous laryngitis have been treated at the Sanitarium; twelve of these patients are still in the Sanitarium, and twenty-eight have been discharged. The combined statistics that I have been enabled to gather from all points in Colorado show 25 per cent. of cures among cases of laryngeal tuberculosis in the ulcerative stage. It is gratifying to be able to report that at the Loomis Sanitarium 43 per cent. of the ulcerated cases were discharged *cured*, as follows: fourteen cases were infiltrated and ulcerated; of these six were healed; in three the ulceration was lessened; three remained stationary, and in only two was the ulceration worse. Of the remaining fourteen discharged, namely, those with infiltration without ulceration, four, or 29 per cent. were cured; five, or 35 per cent. were improved; two remained stationary, and three were unimproved.

In 40 cases treated the infiltration and ulceration healed in 6, improved in 3, was stationary in 3, and worse in 2, a total of 14 cases, while in infiltration without ulceration the cured cases were 4; the improved, 5; the stationary, 2; the unimproved, 3, a total of 14. Of the 28 discharged, weight was gained in 16, lost in 5, and 7 remained stationary in weight. Of cases still in the Sanitarium with infiltration and ulceration, 2 healed, 2 improved and 1 remains stationary, while of those with infiltration without ulceration, the cured numbered 1, the improved, 4, and 2 remain stationary.

Ichthyol.—Ichthyol in enteric coated pills has been used with very satisfactory results. This remedy seems to be indicated, not only in pulmonary tuberculosis, but in cases involving the intestines and genito-urinary tract. Very large doses of this drug can be tolerated by most patients without any gastric disturbances ensuing, as high as 4 grams daily may be taken in most cases. Ichthalbin seems to act better in some cases than ichthyol, and may be given in daily doses of from 3 to 6 grams.

Of the 34 cases treated, 7 were in the incipient stage, 17 moderately advanced and 10 far advanced. The physical signs improved in 23, were stationary in 5 and increased in 6, while tubercle bacilli were not present in 2, disappeared in 3, decreased in 14, remained stationary in 15; and expectoration decreased in 22 and remained stationary in 12. Again, cough decreased in 22 but was stationary in 12, while weight increased in 24, was stationary in 4 and 6 lost weight. The general condition improved in 26, but was unimproved in 8. *Summary:* Cured, 15 per cent.; improved, 53 per cent.; stationary, 15 per cent.; unimproved, 17 per cent.

Kalagua.—During the latter part of the year covered by this report a South American drug named "kalagua" was brought to my notice, at the same time that it was placed in the hands of specialists in Belgium, and one or two in this country. The merits claimed by the advocates of this drug are: 1, that it has no deleterious effects upon the alimentary canal;

2, small doses of the drug very soon produce saturation of the patient, evidenced by its odor in the breath, urine and perspiration. In view of the statistic report forwarded to me by the president of the Medical National Society of Colombia, I employed this drug in a few cases which had failed to improve under every other mode of treatment, with the following results:

The cases treated numbered 6, and of these 1 was in the incipient stage, 3 moderately advanced and 2 far advanced. The physical signs and general condition improved in all of the 6. Expectoration decreased in 4 and remained stationary in 2, while cough decreased in 4, remained stationary in 2, and the bacilli disappeared in 1, decreased in 3, were stationary in 2. The weight increased in all the 6 cases.

Creosote.—Creosote and its derivatives have been used in very few cases; as I stated last year, I am not at all favorably inclined to the use of this drug, on account of its deleterious effects upon the stomach, intestines and kidneys.

The cases treated were 23—8 in the incipient stage, 13 moderately advanced and 2 far advanced. The physical signs and general condition improved in 16, but were unimproved in 7. Expectoration and cough decreased in 16 and remained stationary in 7, while the bacilli disappeared in 4, decreased in 10, and remained stationary in 9. The weight increased in 16, remained stationary in 5, and 2 cases lost weight.

Guaiacol.—Twelve cases were treated, 3 being in the incipient stage, 5 moderately advanced, and 4 far advanced. Of these, the physical signs improved in 9, remained stationary in 2, and increased in 1 case. Expectoration decreased in 8, remained stationary in 4, and cough decreased in 9 and remained stationary in 3. The bacilli disappeared in 1 case, decreased in 7, remained stationary in 4, while weight increased in 9, remained stationary in 2, and 1 case lost weight under this guaiacol treatment. The general condition improved in 9, but was unimproved in 3.

Cod-liver oil.—This has been used in some cases during the colder months, but no series of cases has been placed upon it.

Oil of cinnamon.—This, in daily doses of 30 to 40 drops, has been used with fairly good results.

Three cases were treated, 1 being in the incipient stage, 2 moderately advanced. The physical signs and general condition was improved in 3, expectoration and cough decreased in 3. The bacilli disappeared in 1, but remained stationary in 2, and weight increased in 2, remaining stationary in 1 case.

Hot-air inhalations have been used in 61 cases with the following results:

Cough decreased in 47, increased in 4, and remained stationary in 8; treatment stopped on account of hemoptysis, 2. Expectoration decreased in 49 and remained stationary in 12.

The following are some of the drugs which have been used, either singly or in combinations that seemed indicated in individual cases in these inhalations: Ichthyol, thymol, eucalyptol, creosote, oil of gaultheria, benzoic acid, oil pinus sylvestris, oil of peppermint, oil of camphor, terebene, naphthalin, menthol cryst., oil tar, tincture of iodin, and oil argentum.

Pneumochemic treatment.—This form of treatment has been used in very few instances. It seems to be indicated in a few cases suffering from bronchorrhea and excessive and irritable cough; owing, however, to the fact that it deprives the patient of an out-door life for three or four hours daily, it has been used only in extreme cases, and until such time as the bronchorrhea was sufficiently decreased to allow the patient to be treated by other methods.

Ozone.—Inhalations of ozone and static electricity have been used as general tonic treatment, with apparently good results.

THE CLIMATE OF COLORADO.

ITS INFLUENCE ON DISEASES OF INFANTS AND CHILDREN.

Presented to the Section on Diseases of Children at the Forty-ninth Annual Meeting of the American Medical Association, held at Denver, Colo., June 7-10, 1898.

BY C. F. GARDINER, M.D.
COLORADO SPRINGS, COLO.

I had intended to prepare a paper for this meeting upon the difference, if any, that exists between the life history of infants and children in Colorado, and that of infants in lower and more humid climates, such, for example, as our Middle and Eastern States. I had hoped to derive my data from comparing the statistics of boards of health, both East and West, thus insuring a reasonable amount of accuracy, or, at least, an approach to accuracy, far more desirable than the often misleading deductions taken from a few observers. This work, however, I was forced to abandon —at all events as first outlined—from the fact that with the material available it was clearly impossible to construct a series of comparative tables that would be reliable or sufficiently extensive for my purpose. However, a few comparative data that fulfilled the requirements as regards number and accuracy, and which I will mention later, were obtained by this method. I then endeavored to secure the census of opinion from the medical profession of Colorado, and sent out a circular letter to nearly all the members of the State Medical Society asking their opinions, first, in regard to the effect of the climate of Colorado upon the growth and development of infants and children, as compared to lower and more humid climate, and, second, if the climatic conditions in Colorado modified in any way the diseases of children. I enclosed a list of twenty-two questions concerning the diseases of children most frequently seen. From the answers received to this circular I selected only thirty-three letters as combining enough experience and accuracy for reliable data.

No one can, I think, exercise too much care in placing reliance upon statements made regarding effect of climate. Especially is this true in the case of children, who, being in formative or developmental zones of life, are much more susceptible to the different factors of environment than the adult. Also, racial characteristics and tendencies, food, habitation, etc., have to be considered before climatic effects are studied; and even the climatic effects vary in a State like Colorado. It is true that the rainfall is scanty all over its entire area, that the excess of sunshine is unusual, and that generally speaking, all the State is at least a mile high; but during some years spent in a country practice in Colorado covering a wide area, when I often included in my professional trips the deep snows of the high passes and then, suddenly, the heated and dusty low valleys, I was frequently struck by the variations in temperature, humidity, soil, wind, etc., that exist within comparatively small sections. The sunshine, dryness and altitude are, it is true, pretty constant factors all over the State, but when in a trip of some fifty miles I have used with comfort a buffalo coat at 2 A.M. and been suffering with the heat under the shade of an umbrella, in shirt-sleeves at noon, it is needless to mention the severe and abrupt changes due to altitude or other causes in our climatology.

In our State we have people of all kinds and conditions. Far from the railroads, or in thickly-settled regions, we have a people whose children inherit a robust physical constitution, and whose environment, though no doubt faulty in details of food, personal hygiene, etc., has the great health-giving properties of the best air all the time, day and night, and constant physical exercise. Such communities are, however, entirely too limited in number to draw conclusions from, even if their study were practical; and it is, no doubt, far more practical to study the life history of children in relation to altitude, dryness, etc., from settled communities or cities, where the climatology is carefully recorded and children intelligently observed. I have, therefore, as a rule, taken testimony regarding children's diseases only from such sections of the State that I felt certain could furnish data based upon numbers enough and local climatologic data sufficiently accurate to be reliable, such a condition being found in cities. From the thirty-three answers received, the following general indications covering the influence of Colorado's climate upon infants and children could be very clearly made out:

There was a very strong and constant opinion regarding the effect of climate in development; 32 out of 33 answers received clearly stated that the influence of this climate was generally favorable to the growing child. And such a result was not unexpected, because with a dry soil and excess of sunshine, open-air life is induced, and other conditions remaining the same must influence the physical development of children favorably as compared to other and more humid climates.

The diseases of the respiratory system seemed to be uninfluenced. This was a surprise, as one would naturally expect, at least in pneumonia, capillary bronchitis, etc., to have increased severity due to altitude embarrassing respiration, if nothing more.

In diseases of the heart, the general verdict was that the climatic effects were unfavorable, although two answers were that the climate was favorable, and four reported no effect due to climate.

In all diseases of the gastro-intestinal tract, characterized by diarrhea, such as enterocolitis, cholera infantum, dysentery, simple diarrhea, etc., the testimony was all overwhelmingly in favor of the climate of Colorado exerting a specific effect, both in rendering all such diseases much less frequent and in diminishing their virulence when they did occur, the fatality in such cases in infants and children being small in Colorado as compared to States with less favorable climatic conditions. This unusually small number of diarrheal diseases and the low mortality from the same in Colorado is, however, not at all surprising when we consider the etiology of such diseases. Their time of greatest prevalence and destructive effects upon infants is during the summer months, when continual heat is enervating, and fermentive changes in all foods are apt to be active. The heat in Colorado is never the humid, relaxing, long-continued physical depressor found in many of our arge cities, and even rural districts, elsewhere. The sun is hot, withering and fierce, at times, but in the shade, and at night, the air is cool and comfortable. The milk-supply, due to non-septic dry air, moderate thermometric range, and, in most cases, better physical condition of our cows, insures a better nutriment in bottle-fed babies; while the mother who nurses her baby has also this great advantage of environment, nd gives to her child the vigor imparted by air and unshine.

The reports from nervous diseases were to the effect that chorea was more frequent in Colorado than had been observed elsewhere. Cerebrospinal meningitis, to the average observer, was unknown. Tubercular meningitis, rheumatism, measles, and scarlet fever were practically negative, from reports. Diphtheria was also negative.

Tuberculosis was affected favorably, and the infrequency of the occurrence of all kinds of tuberculosis, non-imported, I have already shown.[1]

To compare as nearly as possible the mortality due to diseases of children, the above records are as complete as I was enabled to obtain, and, for the ground they cover, are accurate.

Briefly, then, the influence of Colorado's climate upon child life is that the normal physical development of the child is encouraged and rendered more perfect. The great scourge of infant life, the diarrheal diseases, consequent upon humidity and prolonged heat, is much modified, both infrequency and mortality, the average rate of mortality from cholera infantum in Denver being 29.6 per 100,000 inhabitants in 1895, Chicago, 75.01 in 1896, and in some cities more. The infrequency of all forms of tubercular trouble originating in Colorado is well known, and need not be mentioned. Malaria, which, in many sections, directly or indirectly influences the infant and child life, is actually unknown in Colorado.

In criticising the above it may be suggested that possibly there are also disadvantages incident to Colorado's climate which are fully as fatal to child life as some of the dangers escaped. To this there is no answer. While the popular impression seems to be that the high dry climate induces rheumatism and nervousness, and is fatal in many forms of heart disease, etc., the carefully observed facts do not bear out any such inferences, and a child born in Colorado certainly has a positive physical advantage. The lungs are more fully expanded. The blood has a more powerful germicidal action. The circulation is better, from a physiologic stimulation due to altitude. The muscular system, from exercise in the open air, is vigorous, and gastro-intestinal diseases, tuberculosis and malaria, are not only less frequently encountered, but when they do occur are not so fatal.

PELVIC MASSAGE.

A GENERAL OUTLINE ACCORDING TO R. ZIEGENSPECK, M.D., PROFESSOR OF GYNECOLOGY AND OBSTETRICS, ROYAL MAXIMILIAN UNIVERSITY, MUNICH.

BY F. H. WESTERSCHULTE, M.D.
CHICAGO.

No remedial agent dates from such a venerable epoch, no other has gained so much renown and found such widespread, useful application as has massage. In ancient times the uncultivated tribes of Africa and America, the Chinese and the Hindus used it to a great extent as the universal remedy for manifold ills and defects. From those prehistoric nations this mode of treatment seems to have been transmitted to the Greeks and Romans, who used it for therapeutic and hygienic purposes. Hippocrates was one of the first to recognize the value of the curative effects of massage, especially in diseases of joints. Having sunk more or less into oblivion during the Middle Ages it gradually came to the front again in the sixteenth century. From France it then spread to the other European countries in the eighteenth century, and Sweden became the center of gymnastic movements and massage, which were extensively used in institutions and clinics. Billroth, Esmarch, Von Mosetig, Thiersch, Bergman, Von Mosengeil and others recommended massage very highly, and by degrees it found its way among the therapeutic measures for diseases of the internal organs.

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[1] The Dangers of Tubercular Infection and their Partial Arrest by Climatic Influences. Amer. Jour. Med. Sciences, February, 1890.

In the last decade a new field for the employment of massage has been opened, and the results gained by it have unquestionably been so astonishing that it has conquered the recognition of the whole medical and scientific world. I mean massage of diseased female genital organs and adhesions, at once a happy and logical idea. These adhesions caused by cicatricial tissue—the sequelæ of previous inflammations of the uterus, its adnexa and surrounding tissues—glue the different organs together, thereby not only retarding their mobility, but often, in unison with other factors, producing a displacement of such organs. Since pelvic massage has exerted its influence, the treatment of female diseases has entered a new area; diseases which had before been regarded as incurable or only accessible to operations, have been cured by massage in a comparatively short time.

To Major Thure Brandt principally is the credit due of introducing massage into gynecology, and considering the fact that he was a layman, and consequently had to overcome almost insurmountable difficulties, we can but give him the highest credit. The method invented by Brandt as a layman was—as is usually the case in the beginning—jeered at and regarded with skeptical eye, but it soon demanded consideration and recognition, especially after Brandt had demonstrated the curative effects of his method on a number of female patients in the clinic of private-councillor Prof. Dr. Schultze at Jena.

There is no reason why the technic of pelvic massage can not be acquired by the aid of a good description, and practiced by every learned gynecologist and physician. An accurate diagnosis, however, is essential, and whatever manipulation is applied has to be done lightly and without using any force.

It was to be regretted, particularly by the general practitioner, that no special work on massage-treatment in diseases of women had heretofore appeared until Prof. Ziegenspeck issued his work, thereby filling out this gap in gynecologic therapy.

In order that this very valuable but much neglected therapeutic measure in gynecology might find its way more readily among the physicians in this country I have undertaken the task of translating Ziegenspeck's work into the English language and have taken special pains not to alter a word or sentence in such a way that it might convey a different meaning from that which the author wished to express. This method gains more and more in importance according as we are forced to acknowledge the not infrequent disappointing results of operative gynecology. It is especially gratifying that Prof. Ziegenspeck—who, by the way, has treated thousands of cases *successfully* with this method—on account of his extensive knowledge, experience, and manner of writing, knows how to adapt himself to the needs of the general practitioner. There are no means by which one can acquire diagnostic dexterity so quickly and so surely as by the practice of Brandt's method, and as soon as one is enabled to diagnose correctly he will, by the aid of Ziegenspeck's work, very often dispense with a specialist and gain excellent results, as above all, chronic cases will be of less frequent occurrence.

Ziegenspeck's work differs from other works on this method in so far that not only the method per se, but also the diseases in which it is indicated are described, and as the only disadvantage of the method consists in its tedious details, he has striven to omit everything superfluous and irrelevant. In such cases only in which the method cures more surely, quickly and pleasantly will it assert itself and stand the competition of more convenient methods.

After a short discussion on "Hygienic Gymnastics" as general treatment, the author proceeds to local treatment, and describes the diagnosis, and then the technic of massage. In the following chapters he gives the indications and contraindications for massage, together with a detailed description of those diseases in which this method promises best results. This part of the book is most valuable, as it gives indeed excellent illustrative descriptions of the special forms of diseases, symptoms, etiology, pathology, anatomy, and treatment, by massage and stretching, together with the competitive methods.

I wish to call attention to the chapters on "Chronic Peritonitis," "Retrodeviations," "Prolapse," and "Chronic Parametritis" particularly, and in the latter affection this method records the most positive results and the most signal victories. This disease, with the exception of endometritis, being the most common of female diseases, the gynecologist or physician using this method can do the most good to women afflicted with this ailment. In reality parametritis very seldom occurs alone, but is accompanied by, and in most cases is the consequence of, endometritis. These two conditions form the picture of pathologic anteflexion. Intrauterine manipulations ought, therefore, not be undertaken before the inflammation beside the uterus has been removed. In case of pathologic anteflexion and retrodeviation the uterus is fixed in the majority of cases by adhesions following the course of lymph- and blood-channels. These adhesions can be found to extend either along the ovarian, uterine, or obturator vessels, and in order to restore the mobility of the uterus and to relieve congestive dysmenorrhea, we have to subject these bands to massage and stretching, liberating thereby at the same time vessels and nerves from constricting, cicatricial tissue. The conscientious physician is not allowed to let the disease take its own course and to confine himself to the alleviation of symptoms as soon as we learn of methods that will lead us to an etiologic treatment of these troubles. In spite of the enthusiastic eulogies of some authors, we are fully convinced that mechanical disturbances can be cured only by mechanical therapeutic methods. A chemic remedial substance that removes shrinking bands and elongates shortenings does not exist, nor will it ever exist.

The most common type of retroflexio uteri is the one in which the cervix is fixed in front by a band running from the cervix toward the left, and anteriorly to the left obturator foramen, in which case the fundus lies posteriorly to the right of the promontorium. The fixation anteriorly is perceivable by the sense of touch, and if a Sims speculum is used in knee-chest position, is plainly noticeable to the eye.

Displacement of the cervix forward and downward, in rare cases also forward and upward, and displacement of the corpus uteri backward, cause retrodeviation, however different the displacing forces may be. The duty of therapeutics, therefore, consists simply in removing those alterations in the pelvis which displace the cervix forward and the corpus backward. Every effectual treatment of retrodeviation has to begin with a replacement of the displaced organ. It is surprising that some physicians still practice instrumental replacement—a treatment that ought to be rejected by all physicians, as it is not only unscientific but even dangerous. Only in cases in which an excess of adipose tissue or an exceedingly large pelvis renders replacement difficult may we use instrumental replacement. Ziegenspeck devotes an entire chapter to the technic of manual replacement of the uterus and describes in a clear and complete manner the different methods of replacement for the various forms of displacements.

Posterior adhesions of the uterus are not the cause but the consequence of retrodeviations. In these fixed retroflexions, too, we must endeavor to replace the uterus as soon as possible, and as this can be accomplished only by severing the adhesions, the latter manipulation is the first step in our procedure, and is done by means of massage or by loosening them under anesthesia. People who abhor the surgeon's knife and generally dread an operation are easily persuaded to submit to such a treatment. Ziegenspeck claims never to have seen any harm accruing from this method of loosening. After loosening allow rest for some days; perhaps the use of an ice-bag may be valuable, and as soon as possible remove any parametritic bands—the real causes of retrodeviations—by means of massage and stretching. To avoid relapse the introduction of a pessary may be indicated. Generally speaking, in cases of fixed retrodeviation the prognosis as regards a permanent cure is a very good one, a majority of them finding permanent relief. But only after the removal of those *parametritic* fixations which gave rise to the retrodeviations does the uterus remain in normal position.

Under the head of "Competitive Methods for Treatment of Retrodeviation," Ziegenspeck describes the different operations suggested for retrodisplacement, together with other therapeutic methods generally used.

Although Thure Brandt himself claims that the curing of prolapse constitutes the weakest part of the whole of his therapeutic method, yet no case should be treated in another manner before Brandt's method has been given a trial, and as it is an unanimous sentiment of the most experienced gynecologists, corroborated by a large part of the cases examined by Professor Ziegenspeck with this particular object in view, hat but few prolapses occur without inflammations being found in the adnexa, a permanent benefit is always secured even if the prolapse itself remains uncured. A selection of the most varied views conerning the genesis of prolapse precedes the descripion of symptoms, pathologic anatomy and treatment by Brandt's method, with a description of the different perations for the supposed cure of prolapse.

In regard to the indications for massage, we may tate in general that in all those affections in which perative procedures lead *more quickly and without vil consequences* to a certain cure, these ought to be ndertaken; furthermore, that any acute inflammatory condition and the existence of an infectious focus trongly contraindicate massage. As some of the pecial indications for pelvic massage, however, may e mentioned: old exudates, the sequelæ of pelvic cellulitis; chronic affections after perioöphoritis and oöphoritis, and displacements of the uterus. In chronic metritis and endometritis the results of pelvic massage are also very favorable. In the last-mentioned affection massage will, however, sometimes constitute the after-treatment of curettage. In subinvolutions of the uterus, undeveloped conditions of the pelvic organs, where, in the majority of cases we do not succeed with other means, excellent results have been achieved by massage. Tenderness of stumps after operations, or any tenderness in the pelvis will be effectually removed by this method.

684 W. North Avenue.

REPORT ON MASSAGE.

MASSAGE AMONG THE NAVAJO INDIANS—EFFECTS OF MASSAGE UPON THE SECRETION OF THE GLANDS —MASSAGE AND FARADISM AS ANALGESICS.

BY DOUGLAS GRAHAM, M.D.
BOSTON, MASS.

A method of curing the sick amongst the Navajo Indians of Arizona is given by James Stevenson in the "Ceremonial of Hasjelti Dailjis," in the eighth annual report of the Bureau of Ethnology, Washington, 1891, from which the following abstract is made. For a prehistoric, antediluvian performance in modern times it surpasses anything I have yet found:

During his visit to the southwest in the summer of 1885 it was Mr. Stevenson's good fortune to arrive at the Navajo Reservation a few days before the commencement of a Navajo healing ceremonial. The ceremony was to continue nine days and nights. The occasion drew to the place about 1200 Navajos, on an extensive plateau near Keane's Canyon, Arizona. A variety of interesting occurrences attended the great event, such as mythologic rites, gambling, horse and foot racing, general merriment, and curing the sick, the last being the prime cause of the gathering.

A man of distinction in the tribe was threatened with loss of vision from inflammation of the eyes, which was supposed to have arisen from his looking upon certain sacred masks with an irreligious heart. He was rich and had many wealthy relatives, so they "soaked it to him." A celebrated theurgist was solicited to interfere. He arrived Oct. 11, 1885.

A bright light burned in the lodge, and shortly after dark the invalid appeared and sat upon a blanket in front of a song-priest. Three men personated the gods, Hasjelti, Hostjoghon, Hostjobokon, and one the goddess, Hostjoboard. They left the lodge and put on their masks.

On the second day, after singing and chanting and pouring medicine from a gourd on heated stones, Hasjelti lifted the coverings from the entrance to the sweat-house, and the patient, having donned his breech-cloth, came out and sat on a blanket. Hasjelti then rubbed the invalid with the horn of a mountain sheep held in the left hand and in the right a piece of hide from between the horns of the sheep. The hide was held flatly against the palm of the hand, and in this way the god rubbed the breast of the invalid while he rubbed the back with the horn, occasionally alternating his hands. After this Hostjoghon put the invalid through the same "course of sprouts." The gods then gave him drink four times from the gourd containing medicine-water, composed of finely chopped herbs and water, from which they had first taken a draught themselves.

On the third day the same procedures, with variations, took place. This time Hasjelti began with the limbs, and as he rubbed down each limb he threw his arms toward the eastern sky and cried "Yo, Yo!" He also rubbed the head and body, holding the hands on opposite sides. After this the sick man again drank from the bowl of medicine-water.

On the fourth day, after the invalid had drunk of pine-needle water and been bathed with the same, Hasjelti manipulated the right leg with the sheep's horn and hide, rubbing the upper part of the leg with the right hand and the lower part with the left; then the sides of the leg in the same manner, each time giving a hoot. The arms, chest, face and head were similarly manipulated, and every time he changed the position of his hands he gave a shout.

On the eighth day the hands were placed to the soles of the feet, varied with hooting, then "the heart of the invalid was touched" with the palm of the right hand, the left being placed upon the back. The body was pressed in this way four times amid loud cries. After touching each figure of a sand-painting, the right hand was placed to the forehead of the invalid and the left hand to the back of his head and the head pressed this way on all sides.

Many other details are given, but quite enough has been said. Whether the invalid was killed or cured does not appear. At any rate his pocket must have been touched, seeing that he had to pay for all this racket, including the entertainment of the 1200 Navajos.

ACTION OF MASSAGE UPON THE SECRETION OF THE GLANDS.

We now turn from the weird, superstitious and grotesque to the sunny light of science. M. Carlo Colombo of Turin, before the Société de Biologie on Jan. 25, 1895, gives an abstract of experimental researches which he made in the laboratory of M. Francois-Frank at the College of France. These experiments were done upon dogs in order to find out the effect of massage—applied locally in the region of each gland or collection of glands—upon the secretion of gastric juice, of bile, of saliva, of urine, of semen, of tears and of sweat. He has collected directly the secretion from each organ studied; the gastric juice by means of a gastric fistula, the bile by a biliary fistula; the saliva, the urine, the sperm, the tears, by means of canulas introduced into the canals of Steno and Wharton, into the ureters, into the vasa deferentia and into the naso-lachrymal canals. The sweat was obtained from a man by means of a hot bath. He ascertained the quantity and the chemic composition of the secretion which was produced by each gland, or collection of glands, in a certain lapse of time *without massage. After massage* he made the same examination of these secretions which had flowed in the same length of time.

Gastric juice.—In consequence of massage, the quantity of liquid which flowed through a gastric fistula for two hours was more than double that which flowed in the same time without massage. A part of this was mucus, the remainder gastric juice. Massage for five minutes caused but little variation in the secretion; but continued for fifteen minutes, the maximum of secretion was produced. When the massage was prolonged beyond this time, the proportion of hydrochloric acid and pepsin did not increase any more, but the mucus became more abundant and the gastric juice was more diluted.

Bile.—The quantity and the chemic composition of the bile secreted during four hours did not vary appreciably after ten minutes of friction upon the hepatic region and of *pétrissage* or kneading of the lower border of the liver. But after ten minutes of *trepidation* (shaking or vibration) and of *tapotement* or percussion, the quantity of bile increased considerably in the next four hours. The cholesterin and the biliary soda salts were more abundant. After twenty-five minutes of friction and of *pétrissage* the same results were obtained as after ten minutes of *trepidation* and *tapotement.* The maximum result was obtained by combining ten minutes of *trepidation* and *tapotement* with ten minutes of friction and *pétrissage.*

Saliva.—The submaxillary glands were more sensitive to massage than the parotid—their secretion began to increase after five minutes of massage, and after ten minutes of massage the maximum secretion was obtained either in the submaxillary glands or the parotid. The saliva which flowed from the glands was similar to that which was obtained by exciting the chorda tympani; it was clear liquid, very watery and rich in alkaline chlorids.

Urine.—The quantity of urine secreted by the kidneys during four hours, the region of which had been submitted to massage for ten minutes, was increased. There was a diminution of the specific gravity, and at the bottom of the vessel there were abundant deposits of epithelial cells, and slight traces of albumin were found. The other constituents did not vary. Subsequent examinations showed that the albumin existed in the urine only during the five minutes after massage; later it was not found.

Sperm.—The testicle that had been *masséed* secreted during twenty-four hours almost double the quantity of semen that was secreted by the other testicle that had not been *masséed.* The sperm collected from the divided vas deferens was reduced to that of testicular juice. The quantity was small and showed an increase of water, of chlorid of sodium and of phosphate of spermatin. The spermatozoids were numerous and active.

Tears.—Massage applied to one of the lachrymal glands produced, by a reflex bilateral action, an equal increase of secretion of both glands. The liquid which was secreted during six hours in consequence of massage was of the same chemic composition as that secreted by excitation of the trigeminus, it was clear and watery, and the chlorid of sodium in it was considerably increased.

Sweat.—The perspiration collected after massage was more profuse than without massage, in the same length of time, twenty minutes. Its density was diminished; it showed a slight alkaline reaction and was relatively deficient in potassic salts, in urea and acids. It also presented a deposit of superabundant epithelial cells.

General Conclusions.—According to these results, viewed collectively, it would seem that we observe not only an increase of the specific elements of each secretion in a constant measure, but also a still more considerable increase of the water in which these elements are dissolved. We can therefore, it seems to us, infer that the massage acts by a double process—on one hand it accelerates the function of the glandular epithelium; on the other, and perhaps in a still greater measure, it determines in the organ a more abundant afflux of blood, which favors filtration.

MASSAGE AND FARADISM AS ANALGESICS IN THE LOOSENING OF JOINT ADHESIONS.

The *London Practitioner*, Vol. li, No. 2, and the *Revue d'Hygiene Thérapeutique*, May, 1895, have given the experience of Douglas Graham with massage and the faradic current in relief of pain caused by loosening adhesions about joints. It was in 1884 that he began using a strong faradic current for the immediate relief of pain caused by forcible stretching and loosening of adhesions, and he has continued to do so ever since, with, in almost every instance, more speedy relief than could be obtained in any other way. Partial relief is usually immediate, and complete relief soon follows—in from thirty to forty hours—so that the stretching and rupture of adhesions can be repeated several times at one sitting—a procedure to which patients willingly submit, knowing that the pain can be so quickly stopped. Massage accomplishes the same purpose, but in general not so quickly.

His plan in these cases is first to ascertain how much active motion the joint is capable of, then to find the limits of passive motion, after which he proceeds with massage, alternating with gradually increasing passive motion until the limits of the latter without breaking adhesions are reached. If these can be started without putting the patients under ether he does but little at a time; then having a faradic battery in action at hand he applies a strong current by two tolerably large electrodes, covered with sponge or absorbent cotton, to each side of the painful joint or to its anterior or posterior aspect, or wherever the current is most accessible to the seat of pain, and usually in from thirty to sixty seconds there is complete relief. Then he proceeds with massage, gentle pressure and passive and resistive motion for ten minutes or so, after which he increases the passive motion to the extent of tearing adhesions a little more, and follows this by the same means of relief. In this way patients have immediate use of all the motion thus gained, and for adhesions that are neither too deep nor too strong, it is preferable to breaking them under ether. Under anesthesia so much is likely to be done at one time that the joint is lame and sore and useless for weeks or months often; or what is more and worse, the adhesions may re-form stronger than before, unless massage and passive motion be early applied to prevent this, which is seldom done. Furthermore, this plan of massage and passive motion gradually increasing to the extent of loosening adhesions will quickly show whether these are so deep and strong or the involuntary tension of the muscles so great, that they can not be entirely overcome without putting the patient under anesthesia. In doing this time is not lost, for massage with passive and active or resistive movements is the very best means to use preparatory to breaking adhesions under ether; for they facilitate the motion of the joint and the relaxation of the muscles as far as the adhesions will allow.

Graham had supposed that this method of using the faradic current for the relief of pain caused by the breaking of adhesions was in common use, but inquiry and research have failed to reveal to him that the analgesic effect of the faradic current had been used by anyone else for this purpose. When adhesions are slight and yield easily to moderate force, massage alone will prove sufficiently palliative; but where hey are moderately strong and stubborn the faradic urrent would seem to afford the quickest means of relief after stretching or tearing them; while for firm deep adhesions, with obstinate contraction, there is nothing but the forcible breaking of them under ether. In these last cases gentle massage alone has afforded immense relief as soon as ten hours afterward.

The use of massage, movements and faradism here outlined is particularly applicable to periarthritis of the shoulder joint, and troublesome cases of this kind can be worked out to a satisfactory termination. One case of this sort is referred to, where the faradic current was intensely disagreeable, but after an upward pull of the humerus so vigorous as to stretch or tear the adhesions, pain was speedily relieved by the immediate application of the current; and as soon as the pain had gone the disagreeable sensation of the current again became felt.

An excellent procedure in these cases and one which the author has never before heard of, is to tire out the stronger opposing muscles by means of resistive motion; as, for instance, in the case of the shoulder joint, the muscles that pull the humerus down, by making resistance at the elbow while the patient pulls this down. After a dozen or twenty-four pulls in this manner, the deltoid, which has long been weak from inactivity can often raise the humerus much higher, and thus shows much more clearly to what extent adhesions, if they exist, limit motion. This is taking advantage of the physiologic principle, that by increasing the contraction of muscles we at the same time increase their relaxation. A contracted muscle with a weight attached to it extends more than it does when relaxed with the same weight attached to it.

More recent experience proves to Graham that many of these cases get complete relief from the faradic current in from ten to twenty seconds after breaking adhesions. With practice and experience come skill. He has also tried the plan of attempting to stretch adhesions, shortened and indurated tissues while the faradic current is passing, and finds that it works well, lessening the pain considerably. In the case of the knee-joint, patients can apply the poles themselves.

(To be continued.)

THE PASSING OF ALCOHOL.

Read before the New York State Medical Association at the meeting held in New York City, Oct. 20, 1898.

BY JOHN M. FARRINGTON, M.D.

BINGHAMTON, N. Y.

In April, 1889, I presented a paper before the Medical Society of the County of Broome, this State, entitled "The Use of Alcohol in Medicine." This paper was published in the *New York Journal of Medicine*, Sept. 28, 1889. At that time I took the position that our text-books on materia medica and therapeutics needed revision, since their statements relative to the effects of alcohol upon the human system had been proven by modern research and observation to be erroneous.

In my article I made many quotations from our standard authors, a few of which I here repeat. "Alcohol is a useful food." "An important remedy in the various forms of pulmonary phthisis." (Bartholow.) "The early administration of the preparations containing alcohol furnishes our best means of counteracting the depressing action of disease in general." (Bidwell.) "Alcohol is the savings bank of the tissues.

He who eats little and drinks alcohol in moderation retains as much in his blood and tissues as he who eats more and drinks no alcohol." (Moleschott.) "In the form of wine or distilled spirits, alcohol is the universal and familiar remedy for debility of every kind." (National Dispensatory.) "In acute diseases associated with debility, alcohol is often an invaluable remedy. Taken along with food in small quantities it favors digestion by its local effect upon the stomach. (U. S. Dispensatory—latest edition.)

These represent but a few of the quotations I copied in the paper to which I have previously made reference, and they not only gave expression to the views of the writers at that time, and prior to that period, but were accepted and adopted by most of the members of our profession, and influenced their practice accordingly. Yet these views are no longer defensible, and while I had reason to feel that I stood practically alone among my local associates, when I read the paper referred to and expressed my opinion, formed from careful personal observation and experience in the use of alcohol as a medicinal agent, I am quite confident today that the class of physicians I then represented has so far increased, that now those of the profession who believe in the general use of alcohol as a remedy are in the minority. With the light which has been thrown upon this subject during the past few years, a physician subjects himself to adverse criticism, and has need to apologize for using alcohol in cases in which but a few years ago he would have been censured had he refrained from using it.

One of the most honored physicians of our time, N. S. Davis of Chicago, has said: "Step by step the progress of science has nullified every theory on which the physician administers alcohol. Every position taken has been disproved." Alcohol is not a food, and does not nourish but impairs nutrition. It is not a stimulant in the proper acceptation of that term; on the contrary, it is a depressant. Hence its former universal use in cases of shock was, to say the least, a grave mistake. It has been proved by recent experiments in the physiology of alcohol that "it retards, perverts and is destructive, either in large or small doses, to normal cell growth and development." (Hodge.) Alcohol has been dethroned from the exalted position it formerly held in therapeutics. The amount prescribed today relatively to population is perhaps not a tithe of what was used forty years ago when I entered upon the practice of medicine in this city of New York. And I am led to believe from published reports, which I have recently seen, that the administration of alcohol both in private and hospital practice is steadily and rapidly decreasing. Life insurance companies have become convinced, beyond question, that alcohol, used in moderate quantities, impairs the vital powers and shortens life. The companies require their solicitors to question candidates for insurance more closely than ever before in reference to their habit in the use of intoxicants, and they decline to accept a risk, or accept it only with qualifications on a party who habitually uses any form of spiritous or malt liquor. Railroad corporations have learned that even a moderate use of alcohol affects unfavorably the brain and muscular power, and therefore these companies require all engineers, conductors, brakemen and switchmen to be total abstainers. Religious societies who formerly made use of alcoholic wine in the celebration of the Lord's Supper have discovered that its use at the communion service has, in many instances, aroused the appetite for intoxicants in reformed persons and thus started them again on the declivity to ruin. Churches have likewise learned that the use of alcohol as a beverage is the greatest barrier to the progress of religious truth. Therefore a majority of the Christian societies have banished intoxicating wine from their communion rites and use only the unfermented juice of the grape. Public state ceremonies, such as the inauguration of the President of the United States and of the Governors of States, which were once scenes of bacchanalian revelry, have so far been modified in deference to public sentiment, that in many instances no kind of alcoholic beverages are furnished. Social gatherings and banquets, where formerly champagne and other mild intoxicants flowed freely and were considered essential, are now frequently conducted without any form of alcoholic drink.

It is our positive conviction, that notwithstanding the drinking usages of our times, there never has been a period in the history of the world when the use of alcoholic liquors, as a beverage, was as disreputable as it is today, and no man or woman can indulge in their habitual use and not suffer depreciation in business and social position.

The attention of the civilized world has been called to the conspicuous fact of the accuracy of the firing of the gunners on our battle-ships in the recent war with Spain. The contrast between the firing of the men of our navy and that of Spain was chiefly due, no doubt, to the custom that prevails on the ships of the latter where daily rations of grog are given at all times, and when an action is going on or anticipated, double rations of grog are furnished to the men, while since 1862, when that custom was abolished by our government, no rations of liquor are allowed at any time on board our ships. The custom just alluded to as followed by Spain is true of all the navies of the world but ours. Yet Great Britain has abandoned the double rations of grog when a fight is on and then no liquor is allowed, but in place of it supplies of water and oatmeal are arranged all over the ship to satisfy the thirst resulting from the heat, exertion, and smoke inseparable from a naval combat.

Perhaps the most notable evidence of the progress of enlightenment on this subject of the effects of alcohol on man has been given recently by the War Department of Great Britain.

I am indebted to the *New York Tribune* (Supplement May 20, 1898) for the following statements, which I have necessarly condensed when not quoting verbatim:

By order of Field-Marshal Lord Wolseley, British commander-in-chief, careful and exhaustive experiments were made with a view to ascertaining the relative effects of alcohol and of total abstinence upon the physical endurance and staying qualities of the troops. One regiment was deprived of every form of alcoholic drink, while another belonging to the same brigade, was allowed to purchase as usual malt liquor at the canteen, and another would receive a daily ration of whisky. In each instance the experiment showed that whereas at first the regiment which had received an allowance of grog, surpassed the others in dash, and in impetuosity of attack, yet that after the third or fourth day its members began to show notable signs of lassitude and a lack of spirit and endurance. The same manifestations, though in a minor and slower degree, were apparent in the regiment restricted to malt liquors, whereas, the men who had been kept from every form of alcoholic drink increased in staying power, alertness and vigor every day. The results of these experiments led the British War Department to decide, not on the ground of principle, but solely for the sake of maintaining the power of endurance of the troops now engaged in the Soudan campaign, not to permit a single drop of alcohol in camp save for hospital use.

"Spirits, wine and malt liquors have been barred from the officers' mess table, as well as from the regimental canteen, and from generals in command down to the drummer boys and camp followers, liquid refreshments have been restricted to tea and oatmeal water."

When one remembers how devoted the Englishman is to his beer, and the Scotchman to his whisky, which are regarded, not as luxuries, but as actual necessaries of life, the boldness and likewise the difficulties of the innovation will be appreciated.

"But the scheme has fulfilled all expectations. Thanks to total abstinence, the men have been able to make forced marches of the most extraordinary character across the burning desert and under a blazing sun, the heat of whose rays can only be appreciated by those who have lived under the equator. The Soudan is famed for its deadly climate, which either kills or prematurely ages the majority of white folks who penetrate beyond its frontiers. Yet in spite of this, there has never been a campaign where there has been so little sickness, where so few men have been compelled to fall out, even on the longest marches, and where the troops have been got into such magnificent physical and moral training that they would actually cover thirty miles of sand with empty water-bottles, without slaking their thirst once from the beginning to the end of the march, at the close of which they would still find themselves sufficiently fresh and vigorous to win a hard-fought victory such as that at Atbara under Sir Herbert Kitchener."

In the line of progress Major-General Miles issued, July 2, his General Orders No. 87, in which he states that "in order that the army may perform its most difficult and laborious duties with the least practicable loss from sickness, the utmost care consistent with prompt and efficient service must be exercised by all, especially by officers. The history of other armies has demonstrated that in a hot climate, abstinence from the use of intoxicating drink is essential to continued health and efficiency."

The writer will always believe, from his personal observation, that one of the most important and best-planned battles of our Civil War was lost to the Union Army because of the fact that at a critical period of he engagement, the commanding General was incapacitated and unable to properly direct the movements of the troops, he being under the influence of intoxicating drink.

It has been my design in this paper to state, simply and briefly, some prominent facts and some of the esults of the use of alcohol, rather than to enter into ny elaborate or argumentative discussion of its nature. t is, alas, useless to disguise the fact that many noble members of our honored profession have been victims f the blighting influence of this agent. As our athers in medicine and we in turn have been largely esponsible for giving mankind great confidence in lcohol as a most valuable agent in the saving of life nd the promotion of health, and thus have secured its almost universal use throughout the civilized world; since we have discovered the error into which we were led, and that we have been deluded most seriously in this matter, does it not become our imperative duty to arrest, so far as we may, the devastation it is causing, and decry its use as evil, only evil, and that continually.

In conclusion, permit me also to ask this question: Ought we not henceforth to be leaders in all proper measures to banish from use this baneful agent which so long deceived both our fathers and ourselves, and rejoice in the better light that has dawned upon us, as did the aspostle Paul? Should we not be as active, yes more active, in securing the passing of alcohol from the domain of medicine than our ancestors and we were in conscientiously placing it there?

OTITIS MEDIA PURULENTA CHRONICA.

CLEANSING THE EAR THEREIN.

BY CHEVALIER JACKSON, M.D.

PITTSBURG, PA.

Otologists the world over are agreed that perfect cleansing is the first essential in all cases of otitis media purulenta chronica. This cleansing is often no easy matter if thoroughness is the aim. In those cases characterized by epithelial proliferation, cheesy pus, and detritus impacted in the deeper parts, the work of cleansing is difficult and the result imperfect. Yet the success of any form of treatment, and sometimes the very life of the patient depend upon the clearing out thoroughly of this mass that produces pressure or blocks the exit of pus. The foregoing is my apology for the following description of a method of cleansing that has yielded me good results:

First, cleanse as thoroughly as possible with a Harrison Allen cotton-carrier, armed with a mop of cotton. Then apply hydrogen peroxid with a mop of cotton and wipe out as thoroughly as possible. Next, syringe with a warm solution of hydrogen peroxid, followed by warm sterile water. Finally, dry out thoroughly, and, if there still remains any accumulation, insufflate a finely-powdered digestive preparation of carica papaya. This routine is to be repeated daily until the ear is thoroughly clean.

Such is the method in brief, but here, as elsewhere, efficiency depends upon careful attention to detail. The instrumental cleansing with the cotton mop can be done most efficiently with the Harrison Allen cotton-carrier, varying the amount of cotton from a mere covering of the metal to act as a probe in dislodging solid masses, to a larger fluffy tuft to absorb fluid.[1]

The value of hydrogen peroxid has been doubted by some. One writer of an excellent text-book states that beyond being visible in action he can see no advantage over other antiseptics. Its advantage, however, does not lie so much in its antiseptic power as in its leavening action on pus, which not only gives it greater penetrative power, but by lessening stringiness and ropiness, facilitates the removal of the pus by the mop and syringe.

The syringing must be done properly. The usual way is by some form of large thick-nozzled affair, whose total claims to merit are that it holds an unnecessarily large quantity of water and that the nozzle is too large to enter the meatus, where it might do harm (?) Such at least was the writer's syringing outfit until taught a better method at the clinic of

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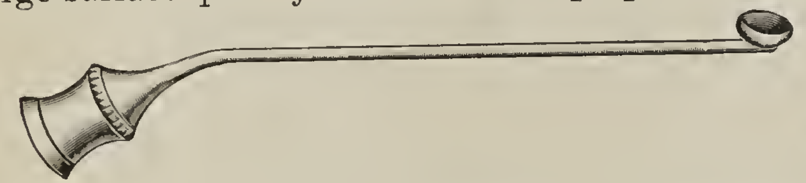
[1] Harrison Allen Cotton-Carrier in Otology and Rhinology: B. Alexander Randall in Philadelphia Medical Journal, Feb. 19, 1898.

Dr. Randall of Philadelphia. The instrument used there is the one usually sold in shops under the name of "Pocket Aspirator" or "Veterinary Hypodermatic," two-dram size. The canula serves excellently for syringing of the meatus and general fundus, and, being slender, enables the aurist to see exactly what he is doing, thus insuring a proper directing of the stream. Being introduced far into the meatus, the stream is not interfered with by the return flow. The longer needle, after blunting the point, serves as an intratympanic syringe by bending it abruptly at its tip so that the stream may be directed to the attic or toward the antrum. Any aurist who will try this method of syringing will never willingly waste his time with any cumbrous, inefficient substitute.

Another important point gleaned is the temperature of the water, which should not be less than 105 F., which is almost as hot as the hand can bear. This is not only for cleansing but for therapeutic effect. Sterile water should, of course, be used for all ear syringing. In the writer's office is a nickel-plated copper tea-kettle, coated inside with block tin, such as is sold at all kitchen hardware shops. A small bunsen gas-burner keeps the water in this kettle boiling all day with steam constantly escaping from the spout. This stream of steam will sterilize the blades of cutting instruments, snares, Bowman's probes, etc., at the moment of use, or the instruments may be put in a dish and scalded. When an ear is to be syringed, a half pint or so of the water is poured into a china finger bowl where the evaporation from a relatively large surface quickly cools it to the proper temperature without the necessity of adding cold unsterilized water to it.



To remove what neither dry cleansing nor syringing alone will bring away has been accomplished very efficiently in the writer's experience with a digestive powder of carica papaya, the South American digesting melon. Of this there are a number of preparations on the market, some of them trade-marked, some not. All seem about equal in efficiency, the chief requisite being a finely-powdered condition. It will "digest" the pus, mucus, detritus, cholesteatomatous formation, and to some extent break it down so that these come away more readily on the following day. It seems quite efficient not only in the atrium but in the more inaccessible parts, the attic, auditus, and possibly in some cases, the antrum, if the powder is properly applied. These applications in the direction of the antrum are to be made with an intratympanic insufflator, which is simply a small bell-mouth canula attached to the syringe above described or to the middle-ear pipette, or to the ordinary intratympanic syringe. The bell-mouth or cup is made at almost a right angle with the axis of the canula, and the canula is bent at the usual angle with the barrel of the syringe, or it may be parallel for those accustomed to working in the ear with straight-shanked instruments. From the cut, which is actual size, any instrument maker can make one to fit such syringe as the aurist may have.

The glass or metal middle-ear pipette may also be made to serve by flaring out a little cup or bell-mouth to hold a mass of powder as large as a No. 8 shot. Possibly the especially deft can get along without a special instrument, but this intratympanic insufflator has served well for applying other powdered remedies. Even if the membrana tympani, malleus, and incus be totally absent, there is little hope of getting any useful quantity of the digestive powder beyond the atrium with the ordinary insufflator, because the air compresses into a cushion in all the nooks and corners, and the return current carries the powder out again.

Small compressed masses of the powder may be worked into place with the small curette and probe. Of course, as with all powders applied to the ear, it is unwise to blow in a great mass that will plug up the channel for the escape of pus, though more of the digestive powder is necessary than is the case with boric acid, iodoform, etc. A warm, freshly-made solution of the ferment was injected with the intratympanic syringe with fair results in cases where the aperture in the drum membrane was small. Of course, the care necessary in any intratympanic injections must be observed in cases with defective outlet for the injected fluid. Doubtless such cases would fare better in any event if operative measures were used to establish a free egress for pus and a free ingress for cleansing and remedial solutions and powders.

The digestive powder of carica papaya has little solvent action on a ceruminous plug, but the writer has not felt the need of a solvent for this condition since learning, as before mentioned, how to syringe the ear. With the syringe and method spoken of with canula nozzle in view and properly directed, the most stubborn ceruminous plug may be brought away with three ounces of water in three minutes, and usually fewer ounces and minutes are sufficient.

It is hoped that what has been written here will not be looked upon as advocating the use of carica papaya for the cure of otitis media purulenta chronica. It is merely for cleansing, not for therapeusis, that it is recommended, though my cases of this trouble get well in less time now than they did before using it. So far as known to the writer it has not been used for this purpose before, and was hit upon by him in the search for a harmless solvent for inspissated pus and cholesteatomatous formation. It has served the purpose better than anything else tried. It does not act on living tissues, neither the healthy nor the granulation tissue, but it assists materially in removing cheesy and foul pus, which is a factor in producing caries in cases not already carious, and which is the irritating stimulus producing granulations. To the skeptic it is suggested to take a test-tube containing a dram or two of pus and add thereto a scruple of any good digestive preparation of carica papaya melon, cork it up, and carry it in his waistcoat pocket for twenty-four hours. He will find the physical condition of the pus changed, and it will be much easier to wash out than it would have been when he put it in. Neither pepsin nor pancreatin, nor any of the chemic solvents tried yielded results worth considering.

Balsam of Peru in Scabies.—M. Descouleurs, St. Lazare Hospital (*Med. Press and Cir.*; *Medical Age*), after the methods of Petters, Nothnagel and Rossbach, treats itch with frictions of balsam Peru. He does not think the preliminary soap bath necessary. There exists no counter-indication to its employment, not only on account of its simplicity but also for its agreeable odor.

ACUTE GONORRHEAL MENINGITIS.

REPORT OF A CASE.

BY JOE S. WOOTEN, B.Sc., M.D.

MEMBER OF THE AMERICAN MEDICAL ASSOCIATION, TEXAS MEDICAL ASSOCIATION, AND FELLOW OF THE TEXAS ACADEMY OF SCIENCE.
AUSTIN, TEXAS.

In Taylor's "Venereal Diseases" we find brief references made to gonorrheal affections of the spinal cord (cap. xxvi). Citations are here made to two cases reported by Hamen and Parmentier, in which "spinal symptoms supervened upon gonorrheal rheumatism"; by Tixier and Stanley, respectively, of paraplegia resulting from similar infection; to a case reported by Panas of a "man in the declining stage of gonorrhea who, after exposure to cold, had a severe headache lasting for ten days, and the loss of the sight of one eye"—from optic neuritis; and finally, to the study made of the various published cases by Dufour, which shows the most common clinical picture to be one of dorsomyelitis, with the course of the disease similar to all infectious myelites, and termination in death in one-third of all cases. In the light of such facts, these authorities are of one opinion, that gonorrhea *may cause* myelitis and meningomyelitis like other infectious diseases. But aside from these few references, medical literature—so far as my researches extend—is silent upon the subject, and Taylor concludes his chapter with this statement, that "we have no knowledge of the involvement of the cerebral meninges by the gonorrheal process." In the report of the case to follow, no autopsy was allowed, but the clinical picture was so striking that error in diagnosis would seem impossible.

Case 1.—A man, aged 36 years, weight 175, in perfect health up to the day of his recent illness. Temperate in all his habits, with family and individual history negative as to tuberculosis, syphilis, nephritis or trauma. Five days after exposure to gonorrheal infection, he experienced a burning and itching in the urethra, the meatus became red and swollen, a discharge appeared, and the case developed into a typic, acute, anterior gonorrheal urethritis. Social conditions deterred him from consulting a physician. Local injections were resorted to and in a few days an acute gonocystitis was the result. It was not until now that he sought the advice of a physician. When first seen, the tongue was heavily coated; the bowels constipated; there was considerable fever. He reported having had two chills the evening and night before with rigors, coming on several hours apart. He now complained of excruciating pain; backache, headache, pain over region of bladder, perineum and down the thighs; there was a profuse, purulent urethral discharge, and the two-glass test gave in addition blood in both. The patient was ordered to bed and all local treatment prohibited. Hydragogue-cathartics, hot sitz baths and mild alkaline diuretics were prescribed. The following day, another chill having appeared, quinin was administered in 5-grain doses every three and one-half hours, three doses a day for three days. On or after the sixth day, the fever subsided, the bladder and urethral symptoms improved, though the discharge was still profuse, and the patient was beginning to sit up. Directions were given to remain quiet, to keep the bowels open, to continue with the hot sitz-baths, the alkaline diuretic, and to drink freely of water, and that so soon as the acute symptoms subsided, irrigations and local treatment would be commenced.

Three days elapsed before the patient was again seen, and on being called, I found that the patient had been seized during the night with a rigor and chill; the temperature was then 103, the skin bathed in perspiration, the pulse full, quick and bounding. The condition of patient's mind had alarmed his wife; he was very hilarious, excited and talked at random, though when spoken to was fairly rational and gave satisfactory answers to most questions, but could give no explanation for his happy frame of mind. He complained of headache, vertigo and intense nausea—vomiting even water; the bowels were acting freely from the laxatives given, but owing to sick stomach no other medicines had been given during the past thirty-six hours. The urine was scanty, high-colored, mucopurulent and still discolored by blood, and micturition was extremely painful. In spite of all sedatives, the restlessness increased. No opiates were given, owing to the already existing inactivity of the kidneys. This restlessness and hilarity increased to a condition of acute mania, the patient grew violent, and restraint became necessary. This extreme condition lasted for about three days, when the patient gradually became less obstreperous, and violent only when disturbed or aroused. During this period of marked excitement the temperature ranged from 99.5 to 101; the pulse was full, tense, and the rate ranged from 78 to 84. The face was congested, the pupils tended toward dilatation rather than contraction, and reacted but slowly to light; the reflexes were exaggerated, there was marked tremor, the skin was hyperesthetic, there was beginning trismus and commencing rigidity of the neck muscles, and the patient evidently suffered great pain. The mental disturbance, however, was, up to this time, the most significant and marked peculiarity; though apparently wide awake, it required at times considerable effort to arouse patient to his sensibilities, and when touched or loudly spoken to, he would jump as though frightened. Near the end of this period of excitement, *gonorrheal arthritis* developed in left elbow and right knee-joint; the trismus became marked, the head drawn back, the eyes rolled in and up, and marked deafness supervened; there were hiccoughs and muttering delirium, and the patient gradually passed from this condition of sopor, which lasted about ten days, into coma and death. Early in the disease the urine and feces were voided in bed. So soon as cerebral excitement was observed, on my second visit to the patient, urethral and bladder irrigations with a quart of hot Thiersch's solution were practiced once a day and kept up until quite near the end. Under these washings, the secretion of urine became more free, and the urine itself much less purulent. Owing to the violence and strength of the patient and the aversion—from the very beginning—to all medicines, water or food, the administration of all nourishment necessitated the use of chloroform and the naso-esophageal tube. In this manner he was fed twice a day, and at one of the feedings, advantage was taken of the anesthetized condition to give local bladder and urethral treatment. At no time did the fever run over 103, and during the greater part of the disease, morning remissions were 99, with evening exacerbations of 100; there were no sweats. During the last twelve hours the pulse became more rapid and soft, the temperature rose and remained at about 102 until death. Rational treatment had little or no effect upon the course of the disease. The duration of the meningitis was about twenty-one days.

107-109 E. Tenth Street.

NEW METHOD OF NEPHRORRHAPHY.

BY J. F. BALDWIN, M.D.

PROFESSOR OF OPERATIVE GYNECOLOGY, OHIO MEDICAL UNIVERSITY;
GYNECOLOGIST TO PROTESTANT HOSPITAL, ETC.
COLUMBUS, OHIO.

The following modification of the method of Dr. George Ben Johnson I have been using for some time, and think it is a decided improvement over any other method of anchoring the kidney with which I am acquainted.

The usual incision being made in the loin, the kidney is forced into position by the hand of an assistant and stripped of its posterior investment of fat, so as to expose the true capsule. This is incised longitudinally, care being taken not to wound the substance of the kidney. The edges of the incised capsule being caught with the forceps, the capsule is separated from the kidney with the finger, so as to give a flap on each side from two to two and one-half inches in length and about three-fourths of an inch wide. The flaps are cut or torn with the finger at each end, so that they can be brought out at right angles to the substance of the kidney. With a pair of scissors an incision is then made through the fascia and muscular tissue on each side of the original incision, parallel with it and about half an inch away, and of nearly the same length. A pair of forceps is passed through each of these incisions, and the corresponding flap of kidney capsule drawn through. Each flap is now apposed on each side by muscular tissue, and is fastened in its new position by three or four straight catgut stitches. The two columns of muscular tissue which now lie together on each side of the original incision are in contact with the naked kidney, while the capsule upon each side is firmly held by the sutures. The incision through the superficial parts is now closed in the usual way and without draining.

While less than a year has elapsed since my first operation by this method, so that the test of time can not be adduced, the technic seems so reasonable and satisfactory that I can scarcely imagine any giving way of the parts after adhesions have once formed.

SOCIETY PROCEEDINGS.

Chicago Society of Internal Medicine.

Regular Meeting, Dec. 22, 1898.

(*Concluded from page 128*).

Dr. ROBERT H. BABCOCK presented a report to the meeting of

A CASE OF HEART DISEASE WITH INSTRUCTIVE LESSONS WHICH IT TAUGHT.

A. D., male, aged 12 years, was seen by me in consultation Oct. 20, 1894. There was history of typhoid fever two years before, succeeded by acute articular rheumatism and endocarditis. In the spring of 1894 he had one day taken an unusually long ride on his bicycle, after which symptoms of failing compensation appeared. During the summer he had been in Germany and received hydropathic treatment with benefit, but during the return voyage had contracted a severe bronchitis, which completely broke down whatever compensation had been gained. Ten days before my visit edema had appeared and rapidly increased. An eminent consultant had given an unfavorable prognosis and ordered small doses of tincture of digitalis and nux vomica.

The patient was found in bed and his condition was, briefly, as follows: moderate anasarca; great abdominal distension from tympanites and ascites; signs of fluid, probably transudate, in the right pleural cavity as high as the inferior angle of scapula; hepatic engorgement, the lower border of the organ reaching the level of the umbilicus. The heart was greatly dilated and somewhat displaced to the left, its apex being in the sixth left intercostal space near the anterior axillary line. Superficial dulness extended transversely from a little to the right of the right sternal border to the left anterior axillary line, and from the second left costal cartilage to the liver dulness below. The pulmonic second sound was greatly accented and reduplicated, aortic second, feeble, and in the mitral area the first sound was replaced by a loud, harsh, systolic murmur that was transmitted to the back. There was also a diastolic murmur following the second sound but not running into the next ensuing first sound. Venous stasis was also shown by cyanosis and the distended right external jugular; but the vessel did not pulsate. The pulse was from 114 to 120, regular, small, very compressible and extremely dicrotic, as shown by the pulse tracing. The case was plainly one of mitral insufficiency in the stage of destroyed compensation. The urine was reported negative, but a subsequent examination (Dec. 29) disclosed albumin, granular casts and 1 per cent. of urea.

Notwithstanding the unpromising condition, some hope of improvement was held out and the patient was put on diuretin (Knoll) and saline purgatives. An eighth of a grain of morphin with a two-hundredth grain of atropin was given hypodermically to induce sleep. The diet was restricted to milk. November 1, two days later, a note records that edema had disappeared from the legs, ascites was less, the jugular no longer distended, the pulse fuller and stronger, and the right ventricle less dilated. The frequency and vigor of the purgation was now reduced and diuretin discontinued. During the next week convallamarin, digitalis and strophanthus were successively tried, but, according to a note made November 9, failed to improve the circulation. Tuesday evening, November 7, patient had a fainting spell, which was twice repeated the following evening. On my arrival in response to a hasty summons the patient's condition was very critical. The pulse was not very rapid, being about 110 to 112, but was extremely weak and small, and irregular in force. Cardiac pulsation was palpable in the third, fourth and fifth intercostal spaces immediately to the right of the sternum, and over this area there was a distinct gallop rhythm, while a soft systolic whiff was audible in the tricuspid area which, together with the pulsating right external jugular, plainly indicated that the tricuspid valves were leaking. The liver was still more greatly enlarged. Digitalis was promptly ordered stopped, for it was evident that the ventricle was pumping blood through the stretched and dedefectively closed mitral opening back into the left auricle, greatly in excess of the amount it was able to discharge into the aortic system. Under this increased strain the right ventricle had become dangerously over-distended. The problem confronting us was how to restore, in part at least, the lost equilibrium between the arterial and venous systems. It was decided to sustain the myocardium by hypodermic injections of nitrate of strychnia, one-thirtieth of a grain every four hours. The engorged portal and systemic veins were to be unloaded by vigorous hydragogue cathartics and a return to diuretin (Knoll) without digitalis. While thus depleting the veins the arterioles were to be opened by nitroglycerin 1 to 100 every four hours, so as to bleed the patient into his own vessels, as it were. Absolute physical rest was insisted upon. This line of treatment proved so successful that on the morning of November 9 it was noted that "this morning the liver is smaller, external jugular collapsed, pulse fuller and 92. November 13, it is again recorded: pulse 86, fuller and not dicrotic, right ventricle decidedly smaller and heart's action regular, liver two inches below ribs, urine forty-two ounces in twenty-four hours, condition markedly improved." November 26, one dram of infusion of digitalis (t.i.d.) was added to the diuretin, 60 grains of which were given per diem. November 30 the urine had risen to 112 ounces in twenty-four hours, but the pulse was from 120 to 125, and so small that the digitalis was again discontinued. In the next few days convallamarin was administered in increasing doses, and under its effect the pulse grew fuller and stronger, but no less rapid. About this time the patient developed an obstinate and frequent cough, which again so threatened to overtax the feeble right ventricle that morphin was administered by hypodermatic. Examination of the lungs revealed slight but distinct dulness in the left infraclavicular region above and to the left of the heart. There were in addition broncho-vesicular breathing and copious fine moist râles throughout the impaired area. There was no fever and no pain was complained of. Consequently the condition could not be inflammatory, as pneumonia or tuberculosis. Nevertheless the unilateral distribution of the physical signs rendered me uneasy. Pondering over the possibilities, I was led by a process of exclusion to believe the condition due to pressure of the greatly enlarged left auricle upon that portion of the left lung, by which it was crowded upward and backward, its expansion hindered and bronchial secretions retained. Accordingly the patient was taken from the supine and placed in the semi-recumbent position, so as to allow the heart to fall away from the lungs, so to speak. The result confirmed the correctness of the opinion, for expectoration increased, cough diminished and resonance returned to that portion of the lung.

The patient's condition henceforth improved slowly but progressively, and before Christmas he was up and around his room, although the heart had not diminished in size nor the liver lost much of its engorgement. His abdomen was distended out of all proportion to his emaciated thorax with its stooping shoulders, flattened infraclavicular regions and prominent precordium. Respirations were extremely shallow and he crept about like a little old man. He was taking small doses of digitalis reinforced by adonis vernalis and, t.i.d., received a hypodermic of a 1/60 of strychnin. His appetite was good, but digestion defective, and as his urine was of poor quality, his dietary was selected with great care. Symptoms of indigestion were met as they arose. He seemed to have reached a standstill; no amount of catharsis seemed to affect the liver further than to keep it from growing larger, and I realized that if he were to make more progress the chest would have to be expanded to give room for the enlarged heart, while the stasis in the portal system would have to be overcome by some means or other. It was decided, therefore, to have him inhale oxygen for the double purpose of improving hematosis and increasing the depth and force of inspiration. He was also made to go through the system of light exercises against resistance offered by the nurse, after the plan introduced by Schott of Germany. The results were surprising. A month later the notes record that the abdomen had begun to assume quite a natural appearance, and the lower hepatic border had retracted from the level of the umbilicus to but little more than an inch below the lower costal arch. The apex-beat was in the sixth intercostal space a quarter of an inch outside of the nipple line, while the superficial dulness reached scarcely to the right border of the sternum, and deep-seated dulness to but an inch to the right of that bone. The chest had filled out, and although the precordium was still too prominent, there was no longer such a marked contrast between it and the corresponding region on the right side. The medication consisted of small daily doses of the usual heart tonics, digitalis, adonis vernalis and nitrate of strychnia.

From this time forward until the middle of April the boy's improvement was steady and highly encouraging. Indeed, he was able to make weekly visits on me in my office. Suddenly he developed an acute follicular tonsillitis, so characteristic in the appearance of the throat and the attendant symptoms that, although cultures were not made, the diagnosis was clear and easy. To protect myself, however, against the possibility of error, I had the throat examined by Dr. T. Melville Hardie, who declared there could be no thought of diphtheria. Appropriate treatment speedily allayed the throat manifestations; not so, however, with the fever, which continued of moderate severity and irregular type. And the patient's condition grew steadily but slowly worse. To make a long story short, the infection from the throat led to an acute endocarditis engrafted on the chronic valvulitis already existing, as shown by the change in the apex murmur. Parke, Davis & Co.'s solution of yeast nuclein was administered per rectum in daily doses of 80 minims, in the hope of thereby combating the infection. Whether or not this was the case, the temperature subsided to normal after about three weeks. Anorexia was so pronounced that the boy was sustained by large doses of somatose in beer, for which beverage he expressed a decided craving. Notwithstanding the subsidence of constitutional symptoms the heart grew steadily worse, and stasis in the portal system again began to assume alarming proportions. It looked as if the end would come through gradual cardiac asthenia. Suddenly, however, on the morning of May 22, after the patient had voided urine, he sank back on the pillow gasping for breath. When I reached his bedside an hour or two later it was evident that the end was near, the pulse being irregular, feeble and but moderately accelerated. Respirations were labored and consciousness was imperfectly retained, and he died about four hours after this last attack of cardiac failure.

These lessons are to be drawn from the case:

1. It was brought out in the history that the patient's symptoms really dated from a bicycle ride in the spring of 1894. It is needless to emphasize the importance to individuals desiring to ride the wheel, of an examination of the heart to determine whether or not such exercise be safe. But it may be well to call attention to the fact that children with grave cardiac lesions are peculiarly tolerant of conditions which in an adult would give rise to pronounced symptoms. The family physician, therefore, should decide the question of permitting a child to ride a wheel, and should guard himself against being deceived by the child's statements that the exercise does not produce shortness of breath or palpitation of the heart.

2. The second lesson taught by this case pertains to the administration of digitalis. It is in mitral disease that this remedy exerts its most benign effects by enabling the left ventricle to discharge a greater volume of blood with each systole into the aortic system, and thus deplete the surcharged pulmonic vessels. Yet in this patient, digitalis, although cautiously given, repeatedly aggravated the condition and once brought about dangerous dilatation of the right ventricle. Why was this? Did its constricting effect on the arterioles interfere with the free discharge of the ventricle's contents, and thereby intensify the regurgitation? Or was it because, as stated by Huchard, the overdistension of the cardiac cavities nullified the usual influence of the drug upon the muscle-fibers of the heart? Or was it to be explained on the theory advanced by Openchowsky? This experimenter came to the conclusion that digitalis affects chiefly or wholly the left ventricle, and only indirectly the right, by aspirating the blood, as it were, out of the lungs and thus lessening the labor of this latter ventricle. The wall of the right ventricle is so much thinner than that of the left that there is less muscle fiber to be affected by digitalis, and when it is once damaged in its integrity, it is much less able to establish compensatory hypertrophy. It yields more readily to dilating influences, and I am inclined to the opinion that in this instance the injurious effect of digitalis was owing to its unequal influence on the two ventricles, aided by the great patency of the mitral orifice. The left ventricle was made to contract with disproportionately greater vigor than did the right. Regurgitation was increased, tension within the pulmonary vessels was augmented and proved too much for the thin-walled right ventricle, which had to dilate still further.

3. The third point of particular interest was the compression of the left lung by the enlarged heart. As already stated this produced physical signs which might readily have been mistaken for those of a serious pulmonary affection had it not been for the absence of pyrexia. One lesson, at least, which it teaches, is the necessity of chest development in these little sufferers that compensatory hypertrophy of the heart may be secured without seriously encroaching upon the respiratory capacity of the left lung. This must be accomplished by means of appropriate respiratory gymnastics under the supervision of a skilled trainer. I can recall more than one instance in which nature's attempt in this direction was shown by disproportionate enlargement of the left half of the thorax and scoliosis. Some of these patients were treated for spinal curvature by means of suitable orthopedic appliances, which, though they corrected the deformity, materially hampered the already overburdened heart. Which, I ask you, is the more important, a straight spinal column or compensatory cardiac hypertrophy?

4. This taught me that efforts directed toward chest expansion and gymnastic exercises made against resistance according to Schott's method were an efficient means of overcoming chronic hepatic engorgement. As previously stated, the engorgement of the liver persisted, in spite of severe and frequent purgation, the enlarged organ extending below the level of the umbilicus and causing great abdominal distension. After the boy had practiced deep breathing and performed the light gymnastic exercises for four weeks the appearance of the abdomen became noticeably changed for the better, while palpation of the liver disclosed an appreciable reduction in size and firmness. A few weeks subsequently the organ reached scarcely a finger's breadth below the costal arch. That this was due to the thoracic movements I was convinced at the time, while a similar experience in a second case, a year later, so satisfied me of the efficiency of this plan of treatment that I now regard it as second to no other means, in appropriate cases, for the reduction of hepatic engorgement. The rationale of its action is simple. Two great factors in the maintenance of venous circulation are respiratory and muscular movements. It is very common to observe cardiac sufferers sitting all day long in an easy chair, shoulders bent forward, chest retracted, the abdominal viscera crowded up against the diaphragm and scarcely a perceptible movement of the chest in respiration. This very attitude favors astasia within the portal system. If now the patient be made to stand erect and expand his thorax in forced inspiration several times a day, the effect is to aspirate blood out of the venæ cava into the right heart, and if the right ventricle be adequate, the hindrance at the mitral orifice not too great, a better filling of the left ventricle and ampler discharge into the aortic system must result. In a case of great mitral stenosis it is possible for the blood to be sent into the right ventricle more rapidly than this chamber could forward it through the lungs past the point of constriction; but in mitral insufficiency no such theoretic objection holds, and I can only repeat that as a matter of fact in this and one other case of predominating mitral regurgitation these exercises produced results to me truly astonishing. It is but an attempt to voluntarily augment what physiologically obtains —an increased force and fulness of the pulse during inspiration, and consequently the patient must not hold his breath at the end of inspiration, but let expiration follow promptly and easily. Moreover, the attendant who applies resistance to the extension, flexion and rotation movements of the patient's extremities and trunk must be skilled to detect the first evidences of dyspnea or cardiac embarrassment and instantly bring the movements to a stop. Without such care these exercises may be as powerful a means for harm as they are for good when properly performed.

It might be remarked, incidentally, in connection with such physical training, that the patient's clothing should be carefully adjusted or revised so as to avoid constriction of either chest or abdomen. Unduly tight corsets or skirt bands belting in the waist may nullify all attempts to overcome visceral engorgement.

The last point to which I desire to direct attention is the attack of follicular tonsillitis and its influence upon the subsequent history of the case. Although there was no postmortem examination to substantiate the existence of a fresh endocarditis, there was but small room for doubt of the correctness of the diagnosis. Not only was general infection shown by the low fever persisting for several weeks, but a gradual change took place in the character and rhythm of the cardiac murmur. Whereas, this had previously been purely systolic, it now took on a rougher timbre in its first portion, which, on being closely compared with the apex impulse, was found to be presystolic. *Pari passu*, with the development of this auriculo-systolic murmur, pulmonary congestion became increased, as shown by greater respiratory embarrassment and more apparent dilatation of the right ventricle and engorgement of the liver. Numerous observations have established the microbic nature of follicular tonsillitis, both acute and chronic. The microorganisms most often present are streptococci and staphylococci, which may reach the tonsils by way of blood and lymph-channels from the nares or elsewhere.

In chronic vegetative endocarditis conditions are present always favorable to a lighting up of fresh inflammation upon the occurrence of any general infection. Therefore, given a chronic valvulitis, a tonsillitis lacunaris acuta and a systemic infection by the way of the cervical lymph-glands, we have all the conditions necessary to the development of a fresh endocarditis. In the present instance the channel of infection was evidently the cervical lymphatics, which, upon the occurrence of the tonsillitis, became indurated, enlarged and tender, and never again resumed their former size. Vaughn's yeast nuclein, as prepared by Parke, Davis & Co., was administered per rectum in a daily dosage of eighty minims. Sulphate of strychnia in full doses by the mouth, as the patient's excessive hyperesthesia prevented its hypodermic administration, was relied on as the cardiac tonic. Laxatives were exhibited cautiously, and the diet was as nourishing as possible, but much of the time it consisted almost exclusively of somatose in a glass of beer, for which the boy manifested a decided craving. Whether or not the systemic infection was favorably influenced by the nuclein, the fever gradually subsided, disappearing altogether a fortnight or more before death. The immmediate cause of the fatal termination was not quite clear, but seemed due to gradual cardiac asystole in consequence of failure of the right ventricle. In conclusion, it may be stated as a general proposition, that if any acute infection, no matter how mild apparently, arise in the course of chronic valvular disease, it may unfavorably affect the whole subsequent history of the case, and no matter how trivial the ailment may appear to the patient or his friends, it should at once be made a subject for the family practitioner's most careful attention.

DISCUSSION.

Dr. N. S. DAVIS, Jr.—There are several points in Dr. Babcock's paper that are extremely interesting. First, in regard to the effect of bicycle riding upon the heart. Unquestionably it is possible to cause dilatation of the heart by excessive bicycle riding, even when it is not weakened or modified by a chronic valvular lesion. Riding too far, or too fast, may cause it. I have seen several examples of such dilatation. It is rare, indeed, that such dilatation occurs in those who have valvular lesions which are well compensated for, or in those who have not valvular lesions, provided the distance ridden is moderate and the rate of speed is a moderate one. I have seen a weak heart strengthened by bicycle riding, and a healthy one dilated by it. I recall the case of a young lady who was confined to her bed for a number of weeks by acute dilatation of the heart, brought on by excessive bicycle riding, combined with some other causes. She did not have a chronic valvular lesion of the heart. Her heart up to that time was sound and strong. She had had when a child an empyema upon the left side, after which only partial re-expansion of the lung took place. A mild degree of shortness of breath had always existed and prevented her from taking part in active sports during the period of growth. She was at a house-party in the country; took an excessively long bicycle ride which necessitated hill-climbing. While riding, she suddenly experienced a moderate degree of dyspnea and felt faint. This feeling subsided in a few moments, while she rested. However, she again took her wheel, rode some distance farther slowly and carefully, and returned to the city by rail. She went immediately to a distant part of the city to another social gathering, hurried to catch a train, running part of the distance; she felt very tired when she retired at night, and the next morning, on trying to rise, she found that she was extremely dyspneic on slight exertion and that her heart beat with great rapidity. She felt faint and confused whenever she arose from a recumbent posture.. Physical examination showed dilatation of the heart, particularly of the left ventricle. A systolic murmur had also developed. It was heard clearest at the apex. This murmur persisted for several weeks; and the palpitation for several months. At first the heart was very irregular as well as fast. I relate this case as one in which evidently bicycle riding, combined with lessened nerve and muscular tone, resulting from the excitement and mild dissipation incident to a house-party, overexertion immediately following the bicycle ride, brought about cardiac dilatation.

I recall another case, one of chronic valvular lesion of the heart in which there was imperfect compensation, no edema, no passive congestion of any of the viscera demonstrable, but the heart beat rapidly and irregularly and was moderately dilated. The patient had been under observation for many months, and had materially improved under careful treatment. The anemia which originally had existed had mostly disappeared, still there was evidence of lack of compensation. She asked if she might be allowed to ride a wheel, and I advised against it, warning her of the great danger of overdoing, and especially of the temptation which the exhilaration of wheel riding creates to ride too fast and too far. In spite of the warning, she learned to ride a wheel and rode persistently all summer, but was careful to ride slowly and only moderate distances. Wheel riding did her good. Her heart improved steadily during that summer; it became normal in rate and diminished in size. Wheel riding proved in this instance a beneficial mode of exercise.

Next let me say a word or two with regard to the effect of digitalis. I was very much interested in the history of the particular case which Dr. Babcock has related, especially in the point which he makes as to the possibility of its administration so as to cause the left ventricle to pump an excessive quantity of blood backward into the right ventricle instead of relieving the latter of its over distension by forcing the blood into the aorta in larger amounts. We can conceive that this is quite possible. We know that the relative amount of muscle fiber in the left ventricle is greater than in the right. I have long thought that the effects of digitalis were proportionate to the amount of muscle fiber. My attention was first called to the possible relationship of the effect of digitalis upon the heart to the amount of muscle fiber, by an experience with one case of enormously hypertrophied heart in a young girl. In this case there was absolute intolerance to digitalis in any form whatsoever. If given in minute doses, it would produce irregularity, nausea, and other symptoms of poisoning by the drug. Several other cardiac tonics could be given in moderate doses without producing these effects. I have seen similar effects produced by digitalis in other cases of hypertrophy, but none so striking. If it is true that digitalis produces its effects largely in proportion to the bulk of muscle fiber present, we would expect to find a greater effect produced by it on the left side of the heart than upon the right. And, if, as in the case described, the wall of the right ventricle had been most exhausted, the uneven effect of the drug upon the two ventricles could easily be produced. The left might then force blood against the stream propelled by the right.

It has been urged by some investigators of the action of digitalis, that it affects only the left side of the heart, by others that it affects the right side chiefly. I had occasion recently to look over the literature of the subject, and it does not seem to me that these contentions have been sustained. The majority of therapeutists today, those who have given special attention to the action of digitalis, agree that it affects the whole heart.

I frequently suggest respiratory exercises to patients suffering from cardiac disease, particularly if there is dilatation of the right side of the heart and venous congestion. I began to make such suggestions before attention was generally attracted to Schott's description of the beneficial results obtained from general exercise, performed slowly and in a graduated way. It is universally understood that to a considerable extent the movement of the venous blood is due to the suction effected by changes in intrathoracic pressure upon the great veins within the thorax, and it is surprising that the beneficial effects upon heart disease of respiratory exercises by increasing this suction or aspiration were not thought of earlier and used more generally than they have been. If respiratory exercises are practiced, it is desirable that deep inspiration, and complete expiration be made slowly. If practiced rapidly, it produces a degree of faintness and disturbs the circulation in a detrimental way. Moreover, the breath should not be held at the end of inspiration. At first, the inspirations should only be made moderately deep, but should be gradually deepened. These respiratory movements should not be repeated to close together. An interval should elapse between them.

Just one word with reference to the Schott method. I have had experience only of the effect of his exercises. I have not observed the effects of baths, as prescribed by him. The effect of the exercises is certainly most beneficial, and I believe it enables us in very many cases to get along without digitalis or other cardiac tonics, to the marked benefit of our patients.

Dr. GUSTAV FUTTERER—From what has been said by Dr. Babcock, I will consider three points: 1. The possibility of over-stimulation of the left ventricle of the heart at a time when the myocardium of the right ventricle, on account of its thinness, has become more degenerated than the former, should always be borne in mind. 2. I also would consider it of great benefit if we accept the suggestion of Dr. Babcock in reference to relieving the lungs affected by pneumonia from the weight of the heart by bringing the patient into a suitable position. 3. Dr. Babcock has pointed out a relation between tonsillitis and endocarditis, and his observation is also in this respect a very valuable one. While it has long been supposed by some that there exists a relationship between tonsillitis and general rheumatic infections, the subject has not been studied very much, although general septic and pyemic infections originating from infected tonsils are surely not rare occurrences. Pericarditis, endocarditis, pleuritis and pneumonia, etc., often originate from this source. While I have observed this again and again, let me mention to you in short a few cases which have been reported by Jessen of Hamburg. In his Case 4 the clinical picture was mainly one of double pneumonia which originated from a tonsillitis. The patient, a girl of 24 years, first had an angina, then a pericarditis, then a double pneumonia, and after this general sepsis developed. Both tonsils had been reddened, swollen, and showed a whitish-yellowish covering along the crypts. The bacteriologic examination of this exudate revealed staphylococcus pyogenes aureus, short chains of small cocci, and large bacilli of an unknown kind. At the postmortem, all organs, the tonsils, lungs, spleen and kidney, were bacteriologically examined and staphylococci were found. In his Case 1, a man of 30 years of age became sick with general grave disturbances and pains in the joints. He was comatose. One tonsil was covered with a dirty greenish, and the other with a yellowish exudate. The bacteriologic examination of this exudate revealed staphylococcus aureus and streptococci. In his Case 3 there was an angina with streptococci, then a migrating pneumonia developed, and after this, pericarditis, pleuritis and nephritic irritation. But it is not even necessary that changes on the surface of the tonsil should be visible to prove a connection such as referred to. This I have been able to demonstrate through the observation of the following case, which was published in *Annals of Ophthalmology and Otology*, No. 23, 1898:

George K., a gentleman of 42 years of age, who has been under my care for some years past, had enjoyed a long period of perfect health, when on Dec. 20, 1895, he commenced to feel feverish, his temperature that day varying between 99.5 to 100.3 degrees. He also complained of a pressure in his head and of some headache, a condition which remained about the same, the temperature several times rising to 102 degrees, until December 28, when double vision appeared. During this time I saw the patient daily, but the most thorough examinations failed to reveal the cause of the above-mentioned symptoms. I then referred the patient to Dr. J. Elliott Colburn, who kindly furnished the notes referring to the condition of the eyes. On Jan. 2, 1896, Dr. Colburn reported: "O. D. marked flushing of the nasal side of the disc, most prominent at the lower side; flushing of entire nasal and lower portion of the retina; arteries enlarged and slightly tortuous; V. $^{20}/_{60}$; total loss of color sense for red, lower and contracted for yellow, white and green about normal. O. S. slight flushing of nasal side of disc; no change in arteries; small central red scotoma, field otherwise normal; pupil normal in reaction; paralysis of the external rectus of the right eye; extreme abduction, only drew it to 2 mm. of the median line.

During all this time I felt considerable apprehension about the nature of the trouble, the more so, as the patient five years ago had a tuburcular affection of the apex of the right lung, with tubercle bacilli in his sputum. He had recovered from tuberculosis entirely, but as I was at a loss how to explain the symptoms, I feared that a tubercular basal meningitis, or a solitary tubercle, might be at the bottom of the present condition. I therefore felt much relieved, when on the morning of January 8 the patient complained of sore throat, and on his eft tonsil could be seen a whitish membrane, lying in a furow, which ran in a vertical direction, measuring about 2 cm. n length and 4 or 5 mm. in width. There was no exudate on he surface of the other tonsil, nor on any other parts.

I took some of the membrane and brought it on different media into culture-tubes, with the result that in the incubator. treptococci, staphylococcus aureus and staphylococcus albus were cultivated. Loeffler's bacilli were not found. Right after aring for the bacteriologic examination, I treated the diseased onsil with a disinfectant, and then injected 1000 units of Behrng's antitoxin. At 3 P.M. the patient's temperature was 101.4, t 8 P.M. he had a severe chill, the temperature then being 103, nd at 11 P.M. the thermometer registered 103.6. On the next ay, January 9, the temperature ranged between 100.6 and 02; on the 10th between 99 and 101.2, and on the 11th, beween 97.6 and 99.4. Then it became normal. On the evening the day on which the membrane had been discovered on the ght tonsil, the exudate had spread so rapidly that both tonls had become covered with it. On January 12, all exudate ad disappeared. On January 13, the patient went to his business, and after a few days more the headache had also disappeared entirely. On January 15, Dr. Colburn reported: "Paralysis of the right abducens more marked, slow action of levatores palpebrarum, with hesitation of the superior rectus." On January 23, the temperature again rose, ranging between 100 and 101, while the eye trouble increased, both eyes becoming affected, and severe headache set in. This condition continued until February 1, when another tonsillitis made its appearance, which was accompanied by very severe headache and much increase of the eye trouble. The right eye almost became closed. Diminished sense of taste and paresis of both right extremities. This state continued for about a month, only the exudate on the tonsils disappearing after a few days. The temperature ranged between 99 and 101 for the whole month, and the headache, which could not be relieved, became unbearable. There was a severe pain behind the right ear and a deviation of the tongue to the right side. On February 10, Dr. Colburn reported as follows: "Complete paralysis of all the muscles governed by the right third, and partial paralysis of the left abducens. Headache, confusion of vision and rotation of the image of the left eye; partial paralysis of the throat muscles and deflection of the tongue. From the date of last infection, the paralyzed muscles have slowly regained their activity, and are now performing their function almost perfectly." Until March 23, the patient improved steadily, having normal temperature right along. Then came a third attack of tonsillitis, which lasted for three days without, however, increasing the eye trouble. After this attack Dr. Colburn reports: "The fundus has become perfectly normal, the color sense returned and binocular vision for most ranges obtained. The treatment of the paralyzed muscles has been faithfully carried out from the beginning."

At last some rheumatic pains appeared in the extremities, and a lumbago developed with very severe pains. No specific history. Our patient is now perfectly well, and but slight disturbance of abduction of the left eye, and equally slight disturbance in the function of the superior rectus, are the only abnormal conditions which remain.

In conclusion, I would say, that the septic material which caused the first ocular disturbances was enclosed in some crypts of the left tonsil for several weeks, and without causing any visible changes on the tonsil, it could cause such far-reaching effects. As soon as the crypts opened up, the microorganisms could multiply, and within hours they caused the formation of an exudate which soon covered both tonsils. This fact certainly makes our case very instructive, especially when we also remember the severity and multiplicity of symptoms, particularly the lumbago, which no doubt has also been caused by those infections that entered by way of the tonsil.

Jessen's Case 2 demonstrates the same as my own case.

Case 2.—A woman of 28 years of age was admitted to the hospital in a comatose condition, with the diagnosis of typhus abdominalis. Widal's reaction gave a negative result. In the mouth, on the tonsils, and in the pharynx nothing abnormal was found except strong epithelial desquamation on the tongue. The patient was quite cyanotic and in the skin of the extremities some hemorrhages were found. Roseola. Spleen could be palpated. The lungs seemed not affected; heart not enlarged, and its sounds absolutely clear. Temperature 40.8. The urine contained no albumin, but numerous epithelial casts. There were twitchings in the left arm. The patient died after about twelve hours, without any particular change in her condition. The diagnosis was sepsis and uremia. Postmortem revealed the following: Left lung adherent; numerous small hemorrhages on the pleura of both sides; small degree of hypostasis; no changes in the lungs. The pericardium showed numerous ecchymoses, while the heart was enlarged and the myocardium contained small abscesses. On all valves fresh ulcerative changes were found without any fibrinous covering. The left false vocal ligament showed a small ulcer. The tonsils show a smooth surface, but the cut surface reveals thickened abscesses on both sides. The liver showed fatty degenerated; spleen very large and soft; kidneys soft, containing numerous small abscesses and hemorrhages. The uterus and the ovaries also contained a great many small abscesses, while the intestinal channel was normal. This case shows: 1, a general acute pyemia originating from the tonsil; 2, the exterior of the tonsil was apparently normal, and only the cut surface revealed foci; 3, a fresh ulcerous valvular endocarditis originating from the tonsillar infection.

Such observations would also be indicative of early removal of the tonsils. As to medical treatment, I have very frequently found that the symptoms accompanying acute tonsillitis yield to treatment with oil of wintergreen, which in an adult I administer by mouth, giving two No. 1 gelatin capsules filled with it, every two hours, until deafness, dizziness, or disturbance of the stomach becomes well marked. Then I would stop the treatment for a day and again proceed in the same way. If the patient can not take capsules, the oil may be applied to the skin, a teaspoonful of it being rubbed into the skin of the back every two hours until general symptoms become marked. In children the external application is generally preferable, and from eighteen to thirty drops should be rubbed into the skin of the back, every two hours.

Chicago Gynecological Society.

Regular Meeting, Dec. 15, 1898.

Dr. Nicholas Senn, the president, occupied the chair.

Dr. Henry Banga exhibited a specimen from a case of carcinoma of the fundus of the uterus.

Dr. Reuben Peterson showed a specimen from a case of uncomplicated myoma of the uterus. He did a panhysterectomy.

Dr. Charles S. Bacon read a paper on the "Etiology of Movable Kidney."

Dr. Gustav Fütterer discussed the

SYMPTOMS AND DIAGNOSIS OF MOVABLE KIDNEY.

He said that movable kidneys are rather common, generally occurring as a part of a group of symptoms, as represented by enteroptosis. Our knowledge of movable kidney only dates back to the last century, when anatomists were the only ones to call attention to displacements of the kidney. Bauhin found a left kidney in the left side of a small pelvis, where it was situated on the last lumbar vertebra and the upper part of the sacrum, its own upper pole being adherent to the lower portion of the right kidney. Sandifort also found a kidney in the pelvis. Drouin reports a very interesting case of a young girl, 17 years of age, who had died after a hemorrhage from the womb lasting for three months, but which had suddenly stopped. She then vomited blood until she died. Drouin found the right kidney, which was very much hardened and cartilaginous, weighing one and a half pounds, lying on the cecum, where it had strongly compressed the aorta and the vena cava. The kidney contained eight calculi, the largest of which was the size of a pigeon's egg.

Heusinger, Guignon, Hebenstreit, Eustachi, Trew, Hommel, Loeseke, Lejeune, Vidal, Chambau de Montaux and a few others have found a kidney located in the pelvis. Boinet saw one pressed transversely between the rectum and the bladder. Hohl reports the first case in which a floating kidney was found in a living human being, but it was not recognized during life. In two confinements of the woman whose case he reports, the midwife found a tumor in the left part of the pelvis, which, at each contraction of the uterus, caused a constant and increasing pain and retarded the progress of the head. During the first confinement, after noticing the tumor, the midwife sent for a physician, but the confinement ended happily and the afterbirth soon followed, before he arrived. At the second confinement, two years later, the midwife again found the same tumor, but trusted to the forces of nature, and again everything ended happily. The woman died at the age of 75 years, and the postmortem revealed a floating kidney behind the uterus.

Rayer was the first to observe and describe the clinical picture of the floating kidney. He says: "The movability of the kidneys, or the condition which allows them to descend, or to move forward or backward or upward behind the liver, is the source of various symptoms, especially of habitual pains in the abdomen and the corresponding organ—pains which have been mistaken for nervous colics, for hypochondriac phenomena and even sometimes for neuralgia in the lumbar sciatic region. It is a long time since I have called attention to this affection by giving cases. "Velpeau and Gerdy, my colleagues at the Hospital de la Charité, Bell, Donne, Thirial and De Bang, have observed several cases in my clinic. I brought this affection of the kidneys to the knowledge of two physicians who were very anxious to find out the nature of continual pains which they themselves felt in the right lumbar region, where they had diagnosticated a movable tumor of the nature of which the most contradictory opinions had been given. Many years back a few remarks were made concerning the movability of the kidneys and of the displacements which they can undergo, but these remarks, besides being very incomplete, mostly given by anatomists, did not at all call forth the attention of the physicians. Mesné in a vague manner, has mentioned the displacement of the kidney and bladder, which, according to him, can be caused either by external violence or by internal causes. Most of the authors who followed his opinion, emphasized that the kidneys may be displaced either by a tumor of the liver, the spleen, etc. Nevertheless, the following passage extracted from Riolan deserves to be mentioned: 'Although the kidneys seem to be strongly attached to the loins, they are, nevertheless, liable to leave their places, to become displaced, to fall forward, sometimes even descending to the lower abdomen, which can not happen without endangering life. The truth of this can not be questioned. The cause is not only the melting of the fat capsule, but also its enlargement and gain in weight, either by a tumor which originated there, or by a calculus of the pelvis of the kidney. The kidneys are carried down by their own weight, as their ligaments are not strong enough to keep them in position, whence it happens that after having remained for a certain length of time in the place to which they had descended, they begin to rot and become filled with abscesses.' "

Dr. Fütterer then briefly reported eight cases of movable kidney by Rayer, and he also gave a short report of eighteen cases that he had himsef observed. In every one of the cases a general examination was made, and he considered them all uncomplicated, except probably two.

Dr. H. B. Stedman followed with a paper on the same subject. He said that in considering the symptomatology of movable kidney, in a certain percentage of cases it is found that compensation is so effective and reflex disturbances so slight that no symptoms appear. The kidney may be displaced to a degree that the whole organ can be recognized by palpation below the costal arch, and yet the patient be entirely free from any distress; or the organ may attain to a size sufficient to be easily felt by the patient, and still it may cause no inconvenience, much less pain or distress. The symptoms, however, which are most generally associated with this condition are pain, gastric distress and nervousness, and the order in which they are stated is the relative frequency in which they occur. In a large majority of cases these symptoms are associated with impairment of the general health; the patient is ill-nourished; anemic; has loss of appetite; feeble digestion; functional gastric and cardiac disturbances; nausea and vomiting; is extremely emotional, becoming even at times hysteric or melancholic. In some of these cases it is found that a primary disturbing or deep-seated constitutional affection which has interfered with assimilation and nutrition, bringing with it that train of symptoms which is associated with anemia, and also the lesions which follow great distension of the abdominal wall in consequence of frequent pregnancies, mask the condition of the kidney at present under consideration. But in that class of patients who are afflicted with movable kidney in consequence of some traumatic cause, cases in which the perinephritic condition has not become masked through any constitutional disease, or in which the peritoneal support has not been withdrawn in consequence of a distended abdominal wall, the affection is more easily recognized. Here the primary affection is the displaced kidney; it stands out alone, and is not masked by lesions of neighboring organs. It is in these cases that replacement not infrequently relieves the pain, and nephrorrhaphy effects an entire cure.

In the diagnosis of movable kidney the physician relies to a great degree upon palpation and percussion. Palpation can only be successful in the great majority of cases where displacement is not very marked, by placing the patient in a position to insure the greatest relaxation of the abdominal muscles. In percussion we have a most valuable aid in diagnosis. For example, the percussion note over the lumbar region in displaced kidney is frequently more tympanitic and the resistance over the same area is lessened, and with these conditions there exists in this region a depression which is effaced when the organ is replaced. Percussion is of great value in determining whether an organ that is recognized by abdominal palpation is intra-abdominal or postperitoneal, for example, to differentiate between the kidney and the spleen, or the kidney and the liver, or any other body within the abdomen that possesses a certain degree of solidity. The use of percussion may also be most helpful in those cases where examinations by palpation are difficult, in consequence of the depth of the thorax, the thickness of the trunk, and the accumulation of fat in the abdominal walls. This is especially so, if the kidney be but slightly movable, but, as stated above, it becomes of value only as being additional evidence added to facts that have been previously settled through a process of exclusion. Valuable information from a diagnostic standpoint is gained by an examination of the urine. A quantitative as well as qualitative analysis may throw much light upon an obscure point, but if the study includes the catheterization of the ureter or the use of the Harris segregator, one is frequently able to demonstrate, beyond all possibility of doubt, the true nature of the lesion.

The following lesions may at times be confounded with a movable kidney: A solid ovarian tumor which occupies the median line, a displaced spleen or liver, the gall-bladder, an echinococcus cyst of the liver with a pedicle, the accumulation of feces in the flexure of the colon, carcinoma, and sarcoma of the abdominal organs and omentum, not excluding the kidney itself, perinephritic abscess, growths in the abdominal wall and appendicitis.

In considering the subject of differentiation, there are several anatomic and pathologic facts which, if kept in mind, will help one materially:

1. The postperitoneal position of the kidney as compared with the liver, spleen, gall-bladder, various cysts and growths within the abdominal cavity, which can be easily demonstrated by combining percussion with inflation of the bowel.
2. The reniform shape of the kidney in comparison with the characteristic shape and feel of the spleen, liver, gall-bladder, etc.
3. The immobility of the displaced kidney during inspiration and expiration, as compared with the descent and ascent of the spleen and liver and growths connected with them during respiration.
4. The pulsation of the renal artery, which, if felt at all, will always be recognized as part of the pedicle, for it must be remembered that the range of motion of the kidney is determined by the vessels, nerves and ureter.
5. The ease with which the organ can frequently be moved from place to place and restored to its normal position, in comparison with organs or growths whose positions are fixed.
6. Tenderness on pressure, and the sickening sensation which is produced by compressing the organ between the two hands.

In ovarian cyst the development of the tumor and recognition of its origin may be determined by vaginal examination. In echinococcus cyst, that is, pedunculated, differentiation may be quite difficult, unless a hydatid fremitus can be felt; otherwise recourse can be had to aspiration. In fecal impaction, copious enemata with the liberal exhibition of cathartics, will rarely fail to clear up the diagnosis; and if the coprostatic mass envelops the kidney, by dislodging the same the bean-like form of the organ will stand out in plain relief.

It should constantly be borne in mind that, excluding the symptom of pain, the movable kidney has little in common with ordinary inflammation, and thus in the presence of the characteristic symptoms of appendicitis or the edema, redness, tenderness upon pressure, with probable fluctuation of a perinephritic abscess, the physician should hardly fall into the error of confounding either of the two with displacement of the kidney.

Dr. L. L. McArthur followed with a contribution on

THE SURGICAL TREATMENT OF MOVABLE KIDNEY.

Admitting that not every case of movable or floating kidney requires operation, and after due consideration, having concluded that the case in question requires surgical intervention, basing such a conclusion upon the facts: 1, that all palliative treatment has failed; 2, that the sufferings of the patient are having a progressive, injurious influence on his (or her) physical or psychic being; and 3, that the temporary reposition of the organ affords at least partial relief, the question to be decided remains as to what surgical procedure is to be selected.

In the effort to produce cicatricial tissue in operations for movable kidney, the essayist stated that Bassini, in addition to introducing sutures of catgut, painted the posterior aspect of the fibrous capsule of the kidney with 8 per cent. chlorid of zinc; Albarran used 95 per cent. carbol, or 4 per cent. $AgNO_3$; Koenig, by packing gauze to the exposed surface, with the idea of developing a large mass of cicatricial tissue from the posterior aspect of the kidney to the skin, succeeded in curing many cases, but kept his patients from six to twelve weeks in bed with a discharging wound. McBurney's efforts to cure hernia by the open method teach the futility of relying upon cicatricial tissue, and failures by all the methods enumerated led to the next step toward the ideal, namely, that of substituting living, healthy fibrous tissue for that of cicatricial tissue, and induced Poullet to suture the kidney to the lumbar wall by means of tendons taken from the long dorsal muscles, detached at one end, sutured through the kidney, then fixed in the wall of the wound. On animals, fourteen months later, the kidney was found still in place and tendons bright and shiny. Veulliet likewise did the same. Krieger recommended the use of a bundle of muscular tissue from erector spinæ, the idea being the same: that of fixation by normal living structures. The evolution of this idea still progressing, led Péan to suture after the usual perpendicular incision; the posterior flap of the inner layer of lumbar fascia to the loosened fatty capsule of the kidney, thus creating a band or bridle of tissue over which the pedicle of the kidney might ride. The essayist believes he takes the next step in advance toward the ideal by a procedure with which all perforating sutures of the kidney parenchyma may be abandoned while supplying a fair substitute for the folds of peritoneum and transversalis fascia which normally hold the kidney in place. It has seemed satisfactorily accomplished in this manner:

1. A curved transverse incision below the last rib is made through all the structures at once down to the peritoneum anteriorly.
2. The peritoneum is then loosened from lateral parietes by blunt dissection sufficiently to permit boldly enlarging the posterior angle of the wound without fear of injury to important structures quite back to the quadratus.
3. The fatty capsule of the kidney is loosened by blunt dissection.
4. The anterior layer of the lumbar fascia is then loosened from the tissues on which it lies to such an extent as will admit the kidney in the pocket thus made. The lower flap of the wound now has a compartment for the lower half of the kidney.
5. Prior to inserting the kidney in the new compartment, the cut edges of the transversalis aponeurosis have inserted in them two or three stitches which serve to pucker the pocket containing the kidney.
6. The kidney having first been dislocated upward, its lower end is slid into the pocket.
7. Closure of the stitches in the aponeurosis of the transversalis now fixes the lower half of the kidney external to one of the layers of the abdominal parietes, supporting the same by so broad a surface that no injury to the kidney can result, and no displacement occur, and employing a normal (not transplanted) tissue.

The essayist has found it sufficient to make the pocket for the lower half of the kidney, and suggests its use in the movable cases, where a very complete arrest of its wanderings can be secured, two or three stitches can be made to hold the kidney until adhesions form. By this arrangement, too, the movements of the other abdominal organs can not dislodge the kidney in question, it being external to one of the layers of the abdominal wall, and pressure from above tending to drive it deeper into the pocket thus formed.

Since surgeons only recommend operation in those cases in which palliative treatment, internal medication, orthopedic appliances, etc., have failed, and since by any of the various methods proposed a cure can not be effected in most of these otherwise hopeless cases, he believes we are justified in recommending operation, remembering always that progress so far has been greatest along those lines which seek to interpose living normal substitutes for the relaxed ligaments of the kidney instead of sutures.

San Francisco County Medical Society.

Regular Meeting, Jan. 10, 1899.

Dr. J. Henry Barbat presented to the meeting a report of

THREE CASES OF ECTOPIC PREGNANCY.

Dr. Barbat states that he was led to report the following cases through a firm belief that ectopic pregnancy is a condition of much more common occurrence than is generally thought; and as the general practitioner sees these cases in almost every event before they reach the hands of the gynecologist or surgeon, it is well to emphasize again and again their common occurrence, comparatively, and their diagnostic features. Diagnosis is not always easy, but it should be made in all cases if the subjective and objective symptoms are weighed with sufficient care.

Case 1.—A married woman, with two children living, and a history of several abortions, the last of which she confessed to having brought about herself, was seized with a sudden and violent pain in the left side of the abdomen, low down, and commenced to flow profusely. Examination revealed a slightly enlarged uterus in the left part of the pelvis, but no temperature, abnormal pulse, or other indication of grave condition. There were no symptoms of pregnancy. He prescribed a uterine sedative and left instructions to be called should any new symptoms arise. He was called again on Aug. 14, 1898, having first seen the case on July 29, 1898. When examined at the second visit, the patient still gave no indication of pregnancy, there was no abnormal pulse or temperature, the tongue was clear and the digestive tract in good order. She had been flowing since July 29, and there was still considerable pain—indeed, the pain and the flow were the only symptoms. Bimanual examination located a tumor about the size of an orange in the left side of the pelvis, and a smaller tumor on the right side. Diagnosis of ectopic pregnancy was made, and operation decided upon. The uterus was first curetted and the curettings saved for microscopic examination. On opening the abdomen about a pint of fluid and clotted blood escaped. The left tube was enlarged at its central portion to a diameter of about one inch; the extremities were normal. After removal, pressure on the enlarged portion of the tube expressed dark fluid blood from the two ends, showing the lumen of the tube to be intact. On opening the tube, a clot, but no fetus, was found. The appendix was somewhat inflamed, so it was removed. The right ovary was the seat of some slight cystic regeneration, but it was not removed. The curettings were examined and showed broken-down embryonic tissue. The patient made a rapid and uninterrupted recovery.

Case 2.—The patient was married, 30 years old, and had one child 8 years of age, and gave history of an abortion eighteen months before seeing Dr. Barbat. She had been in bed suffering considerable pain and constant flow for three months. The case was very much like Case 1, in that there were absolutely no symptoms of pregnancy. There were masses on both right and left sides of the pelvis, with pain and tenderness. Diagnosis of ectopic pregnancy was made and immediate operation decided upon. The left ovary was found to be cystic, the right tube was swollen about its center, much as the tube in Case 1. There was considerable dark fluid and clotted blood in the abdomen and pelvis, which was cleaned out. No fetus was found, but the swelling of the tube was seen to be due to a clot. The curettings showed evidences of a previously developing ovum.

Case 3.—This patient was married, and 33 years old. Health previously had always been good. She had one child, 7½ years old. She failed to menstruate on Oct. 2, 1898, and subsequently developed signs of pregnancy; had morning sickness, tender breasts, etc. On Dec. 14, 1898, she felt a sudden violent pain in the abdomen. Abortion was at first diagnosed, and the uterus curetted; no ovum was found. The case was carefully watched, and the elevated temperature, rapid pulse and pain continuing, it was decided to examine bimanually, under an anesthetic. Such examination was difficult, owing to the size of the woman and the amount of fat on the abdominal walls. A mass was discovered, however, in the right side of the pelvis, the diagnosis of ectopic pregnancy was confirmed, and operation decided upon. Dec. 24, 1898, the abdomen was opened and a large amount of fluid and clotted blood escaped. Near the right cornu of the uterus was found a large mass of tube, ruptured membranes, and a two months fetus. The whole was at once clamped and removed. Hemorrhage was controlled without much effort, though everything had to be done with great rapidity, owing to the extremely low condition of the patient. While washing out the abdomen, a second fetus was found. The abdomen was filled with normal salt solution and closed. There was marked and immediate improvement in the condition of the patient, following the operation. Before, her temperature had been uncertain and she had been extremely nervous; afterward she was very tractable and cheerful. Recovery was uneventful.

Dr. Barbat said that he thought there were many cases of ruptured tubal pregnancy in which the patient partially recovered, but that there was always some pelvic or abdominal trouble which remained for life. The diagnosis, though not easy in many cases, should always be made. Signs of pregnancy were not always present, and were not necessary to make a diagnosis. Pain, sudden sharp pain in the abdomen, low down, leaving tenderness, should point suspicion to the possibilities of ectopic pregnancy. It could be mistaken for appendicitis or a passing renal calculus, but bimanual examination would clear away these possibilities. Medical and electric treatment of the condition, once diagnosed, he conceived worse than senseless—operation was absolutely the only course. In operating, the vaginal route was to be strongly condemned, for it did not permit sufficient freedom, nor could the abdomen be packed in case of severe hemorrhage.

Dr. E. E. Kelley said that sometimes these cases were extremely puzzling, and he thought identic symptoms might be caused by the presence of a hematoma. He was undecided as to whether a hematoma was always caused by a previous ectopic pregnancy or not. He cited a case at the present time under his observation, in which he had operated two months ago for ectopic pregnancy. Six weeks later the patient menstruated, but while walking about again experienced severe pain, etc., only this time it was on the opposite side of the abdomen. Previously the pregnancy had been on the right side, and at the time of operation he had examined the left tube and ovary, and they were normal. Now there is pain, tenderness and soreness on the left side, and constant flow. He was uncertain as to whether he had to deal with another ectopic pregnancy or a hematoma.

Dr. McCone mentioned his recent experience with three cases of ectopic pregnancy. In two of them the diagnosis at first made was that of an incomplete abortion. There were no signs of pregnancy. He had found the menstrual histories did not agree, and that but little importance was to be given to that question; the same would also hold true of the signs of pregnancy, for they were most unreliable. Having made the diagnosis, operation was the only thing to do, and operation through the abdomen, not by the vagina. He asked whether both ovaries had been examined with the idea of determining whether both ova came from the same ovary or not, this being still an open question in the embryology of twins.

Dr. F. B. Carpenter said that as he had been interested with Dr. Barbat in these cases, he must emphasize Dr. Barbat's plea to the general practitioner to be always watchful for this conditions. Of the treatment there could not be two opinions, but he had found many men who were so obstinate that they were unwilling to change their diagnosis, or alter their treatment even when the indications were most clear. He should consider any man who would attempt to operate by the vagina in these cases as either incompetent or insane.

Dr. Kukim said diagnosis was not always made by the gynecologist, and in one case within his recollection, a gynecologist had laughed at such a diagnosis, made by a general practitioner, but was convinced by operative demonstration.

Dr. Ford said that he had recently had a stitch-hole abscess, following operation, which he attributed to some of the fibers from the cotton sponges used. He had, therefore, used a silk handkerchief for sponging in his last operation and had had no trouble.

Dr. Hess had not before heard of the use of a silk handkerchief, but thought it might be very good.

Dr. Barbat, in closing the discussion, thought it doubtful that a few microscopic cotton fibers could produce a stitch-hole abscess or a "bellyache." He was of the opinion that hematoma always was caused by an extrauterine pregnancy. In the third case the unaffected ovary was not examined because of the weak condition of the patient, transfusion of salt solution having been required as it was. No terms could be too strong in which to condemn the operation by vagina.

SELECTION.

Experimental Pathology.— Prof. P. Knoll's inaugural address on assuming the chair of general and experimental pathology at Vienna was an eloquent plea in favor of increased facilities for experimental research on animals. This science, he observed, is still in its infancy, but by producing disturbances in the functions of animals, by observing them and applying remedies—possibly inapplicable to man—by studying the conditions of their origin and their effect on the general organism, we have learned the essential conditions and been able to comprehend a number of morbid processes previously inexplicable. He mentioned as an instance the irregularities in the pulse observed in elderly persons, or with angina pectoris, or with severe neuralgia, sometimes in persons apparently normal, which were always a mystery until personal experimentation demonstrated that they were caused by an over-filling of the heart cavities, the result of a lack of proportion between the resistance in the circulation and the functional capacity of the heart. . . . It has been proven by experiments on animals that these irregularities consist partly in the weakening of the rhythmic heart-beat, but principally in a premature single systole, usually very much weaker than normal, followed by a heart-pause, just as much longer than the normal heart-pause as the previous heart-beat was premature. It had been further demonstrated on animals that the irregularity may be limited to the left half of the heart, when the increased resistance is only in the arteries of the larger circulation and the weakening of the heart is only noticeable in the left ventricle, such as can be produced in animals by a moderate degree of dyspnea. This at once explained the mysterious "hemisystolic cordis" in man, in which the venous pulse is twice as rapid as the arterial. These and similar experiments have proved of incalculable benefit in explaining and suggesting rational methods of treatment for a large variety of heart troubles, and have also led to the discovery of sensory heart nerves. When irritated by compression of the heart as from effusions in the pericardium, they affect the vagus and increase the pulse, thus explaining the pulsus paradoxus in mediastino-pericarditis. After referring to the important facts in regard to the respiration established by experimentation, he concluded with a summary of the interesting information derived from experimental study of the striped muscles: 1. That the amount and distribution of the interfibrillary substance and the arrangement of the fibrillary, differ not only with the animal, but throughout the striped muscles of the same individual. 2. That in any pathologic process the primary changes occur in the interfibrillary substance and only secondarily affect the fibrillary, which opens quite a new horizon for the pathologic histology of the striped muscles, the more important as, according to Weigert's statements in regard to fatty degeneration of the human musculature, the processes seem to be analogous. 3. That in the muscles of cold-blooded animals, at certain seasons of the year, fat accumulates in the interfibrillary substance, to disappear again at other seasons, which enables us to appreciate the peculiar changes that accompany the changes in the seasons in cold-blooded animals, and when we recall the moulting of birds, the shedding of the fur and the hibernation of mammals and also the fact that man is more liable to certain diseases at certain seasons of the year, and that the muscles are more easily tired in the spring, there is every reason to believe that these observations open up a line of research which may bear rich fruits for human pathology in the future. . . . "We hesitate now before we attribute the exclusive formation of certain cells of the blood to certain organs, when we learn that these cells are found in lower animals in whom the organs are entirely absent." . . . "After all, we are still standing on the threshold of that 'grand independent and sovereign science of facts and experiments: pathologic physiology.' "—*Vienna klin. Woch.*, Dec. 22, 1898.

PRACTICAL NOTES.

The Florence Sperm Test.—Perrando has established that the lower the the temperature, the more distinct the reaction, especially if the fluid is much diluted.—*Gaz. degli Osp.*, Dec. 18, 1898.

Abortive Treatment of Gonorrhea.—Janet has been most successful with copious irrigation of the urethra with plenty of water and extremely weak solutions of potassium permanganate.—*Bull. de l'Acad. de Méd.*, Dec. 13, 1898.

Sterilizable Insulators for Electrolysis.—It is difficult to sterilize ebonite and rubber without injury, and Lucas suggests making the intrauterine electrode of glass. For cases requiring greater flexibility he uses an insulator made of woven asbestos, which can be sterilized in the fire.—*Bull. de l'Acad. de Méd.*, Dec. 20, 1898.

Sympathicotripsy.—Chipault suggests crushing the superior cervical ganglion, an operation which produces the opposite effect to sympathectomy and may prove valuable in the therapeutics of a large number of mental affections originating in intermittent or chronic congestion of the brain.—*Bul. de l'Acad. de Méd.*, Dec. 28, 1898.

Oil of Wintergreen for Chorea.—Fornaca reports seven cases all rapidly cured with the oil of gaultheria procumbens, administered per os or by absorption through the skin. "It deserves a place beside sodium salicylate in the treatment of chorea with or without rheumatic complications, and can substitute it when the latter is not tolerated.—*Gaz. degli Osp.*, Dec. 25, 1898.

Nephritis of Bronchial Origin.—J. Seitz has observed four recent cases in which an acute bronchitis was followed a few days later by nephritis, and numerous pyogenic staphylo and streptococci were found in the kidney, the same as had been abundantly noted in the bronchi. The respiratory passages can thus serve as a culture-medium for the pathogenic germs of nephritic processes as well as for those involving the lungs and tonsils.—*Semaine Méd.*, Dec, 28, 1898.

Value of Preparations of Hemoglobin.—Prof. V. Starck concludes from a series of experiments that hematin and hemoglobin preparations are less readily absorbed by the organism than the ordinary iron preparations, which he found diffused throughout the tissues, while the former passed away comparatively unaltered, per rectum.—*Deutsche Med. Woch.*, Dec. 22, 1898.

Cerebellar Abscess of Otitic Origin.—Picqué acknowledges that the best means of entering these abscesses has yet to be discovered. He considers Wheeler's method entirely inadequate, and prefers the application of the principle of the large craniectomies successfully adopted for the lateral surface of the skull. He observed that the conditions in childhood and adult life are so diverse that no conclusions from one can be applied to the other.—*Semaine Méd.*, Dec. 28, 1898.

Rupture of the Suprapatellary Tendon.—Vergely describes a case of traumatic rupture of the tendon, just above the patella, in an elderly man. The smooth cut ends were not far apart, and massage every day for fifteen minutes, followed by a compressing bandage and immobilization resulted in a complete cure in thirty-two days, the patient resuming his business in forty-five. He adds that he has only been able to collect forty similar ruptures in the literature.—*Archives Clin. de Bordeaux*, September, 1898.

Anterior and Posterior Gonorrhea.—To differentiate the two, Dr. E. Sehrwald copiously irrigates the anterior urethra with a 1 per cent. solution of boric acid and then injects a 0.25 per cent. solution of pyoktanin, which is retained five minutes in the canal and then washed out with the boric acid solution until there is no trace left. The subject is then ordered to urinate. If the urinary filaments are stained violet, it indicates that they come from the stained anterior portion, and the reverse if unstained.—*Cronica Méd. Mexicana*, January 1.

Agoraphobia and Ear Troubles.—Lannois and Tournier conclude a study of agoraphobia with the statement that it is not a primary affection, but a syndrome developing on a special neuropathic soil. The soil may be a neurosis or a psychosis. One occasional cause of agoraphobia is an affection of the ears, causing vertigo and subjective noises. When the inciting cause was a fright not associated with vertigo (an epileptic seizure, chill, colic, hysteric attack) an affection of the ear is very frequently the cause of its persistence.—*Rev. Heb. de Laryng.*, Dec. 24, 1898.

Ferrous Arseniate in Malarial Infection.—Valvassori-Peroni reports constant success with citro-ammoniac ferrous arseniate in severe cases of malarial infection, some rebellious to quinin. It was administered in subcutaneous injections in the buttocks, and was well tolerated, even by infants. He cured twenty-three cases with thirty to forty injections. The solution used represented .05 gm. ferrous arseniate per c.c., graduating the injections from a third or half to a whole syringeful a day. He is enthusiastic over the rapid improvement and the disappearance of the parasites from the blood. Every case treated was cured.—*Gaz. degli Osp.*, Dec. 20, 1898.

Guaiacol for Erysipelas in Children.—Villa arrested and cured a severe case of erysipelas around the umbilicus in a new-born infant, by painting the region with a 20 per cent. solution of guaiacol in oil, after cleansing with warm boric acid solution. The fever fell almost at once, and as it rose again the painting with guaiacol reduced it each time a degree and a quarter. To prevent irritation the applications were alternated with inunctions of Peruvian balsam. The process was arrested the second day, and cure complete by the sixth day of treatment. Similar results were obtained with a four-months child, using a 30 per cent., and with a four-year-old girl, with a 40 per cent. solution. He consequently recommends the application of this method to children as well as adults, extolling its efficacy and harmlessness.—*Semaine Méd.*, Dec. 28, 1898.

Treatment of Chronic Cutaneous Affections.—W. P. Serenin announces brilliant results in the treatment of nevi, lupus, cicatricial ulcerations and a few kinds of cutaneous ulcerations, with elastic dressings. The affected surface is wrapped in an elastic bandage which exerts a constant slight pressure. The dressings are removed in twelve to twenty-four hours, washed, the surface carefully cleansed and the dressings applied again after a short interval. One and a half to several months may be required, but the slight pressure, the warmth and moisture, the keeping quiet and the protection from external injury conquer the affection in time.—*Cbl. f. Chir.*, Dec. 31, 1898.

Calomel in Typhoid Fever.—Andrievsky treated seventy-one cases of typhoid fever and a parallel series of forty-nine, the first series with .3 grams of mercurous chlorid three times a day, and the second series with quinin. The patients treated with the calomel continued taking it until the evening temperature was normal, the total varying from 8 to 20 gm., without any indication of stomatititis or aggravation of the diarrhea. All the cases proved benign, frequently abortive, the fever was arrested more rapidly and the mortality (2.82 per cent.) was less. None of the patients died who had been treated with calomel from the first week.—*Semaine Méd.*, Dec. 28, 1898.

Modified Tarnier Method of Inducing Delivery.—Sobestiansky uses a metallic tube instead of Tarnier's soft tube. One end terminates in a sac which is inserted empty into the uterus, the other end extending to the thigh, to which it is fastened. The end on the thigh is then connected with an irrigating receptacle and the sac filled with water, which induces contractions of the uterus. As the uterus contracts it empties the sac, which fills again in the intervals, and thus exerts an intermittent action much more effective than constant pressure. As the contractions become more violent, the water receptacle is raised to insure greater pressure, thus preventing the expulsion of the sac.—*Semaine Méd.*, Dec. 28, 1898.

Soap Prophylaxis of Soft Chancre.—Professor Giovannini produced an abrasion on the external genitals of a number of persons of both sexes already affected with soft chancre, and inoculated the abrasion with pus from a chancre. In ten minutes to an hour the spots were rubbed with common soap (Marseilles), and washed thoroughly with cold water from a running faucet. In eleven out of twenty-one the abrasions healed without infection (ten out of fifteen in which they were washed in less than fifteen minutes). In other tests with water, but without soap, infection was constant. As a prophylactic measure, therefore, washing with soap is valuable, but only when occurring within a few minutes of contagion.—*Semaine Méd.*, Dec. 28, 1898.

Utero-Intestinal Fistula.—F. L. Neugebauer has collected twenty-eight cases in the literature. Twenty-one were pregnant or recently delivered. In eleven cases the fistula was caused by the retention of the dead fetus. In nine the fistula appeared immediately after delivery or consecutive to an obstetric operation, or a gangrenous puerperal metritis. Fourteen recovered and fourteen died. Among the fourteen recoveries the fistula healed spontaneously in eleven, after the retained fetal fragments had been evacuated by the vagina or rectum. Celiotomy resulted in two cures. Among the fourteen deaths, nine succumbed to pyemia, two to tuberculosis, one to yellow fever, and two died after celiotomy.—*Semaine Méd.*, Dec. 28, 1898.

Aqueous Suprarenal Extract.—Swain (*N. Y. Med. Jour.*, Dec. 24, 1898), writes on the local use of aqueous extract of the suprarenal glands of the sheep in the nose and throat. His observations go to show that this extract is a powerful local vasoconstrictor agent and a contractor of erectile tissue, and safe to use in considerable amounts without any local deleterious effects. The local effects can be reproduce in the same individual apparently any number of times, without entailing any vicious habit either to the tissue or to the individual, and with reference to any drug which may be locally used following it, the extract seems to strengthen the effects. He considers its widest application and greatest opportunity for good in acute indigestion, and also in certain chronic conditions of the hay-fever type, where edematous tissue seems prone to develop. Its objections are difficulty in producing it in quantities and prevention of decomposition in standing (vide JOURNAL, Nov. 19, 1898, p. 1246).

Zinc Glue Dressings for Ulcus Cruris.—Dike reports very satisfactory results with the zinc glue dressings applied to ulcers at Cracow for a year or so. The ulcer is first cleansed in an antiseptic solution, requiring an hour bath and frequently, for several days; then the edges, the leg and the foot are smeared with zinc glue (zinci oxid., gelat. albæ āā 20 gm., aq. dest. and glycerin āā 80 gm.) warmed in a water-bath. A piece of sterile gauze is laid over the tumor (atonic ulcers or those with an excess of granulations are first touched with nitrate of silver and excessive secretions dried with dermatol). The leg is then wound to the knee with several layers of a bandage, repeating the application of the glue two or three times. The bandage is left undisturbed until it becomes soaked with the secretions: three or four days at first, to several weeks later. The patient can go to his busness from the first. A small ulcer requires about as much time to heal as does a large ulcer. Among the fifty thus cured were a number that would have required amputation otherwise.—*Vienna Med. Woch.*, Dec. 17, 1898.

Operations on Syphilitics.—From a study of a hundred operations on syphilitic patients, Michailow draws the conclusions that the syphilitic diathesis is principally noticeable in a diminished elasticity of the vessels and diminished coagulability of the blood. Wounds bleed a great deal, especially in the tertiary period; granulations are scanty, and succumb to fatty degeneration or become hypertrophied, edematous and pale. Wounds heal very slowly, with much serofibrinous or seropurulent secretion. The wound edges atrophy at the slightest pressure. Chemic antiseptics have to be avoided; moist warmth best favors healing. Plastic operations and Thiersch transplantations frequently fail. This diathesis commences in the condylomatous period and is especially pronounced in the gummatous, and with insufficiently treated syphilis. He never noted any typic efflorescence at the wound. In a few cases severe pains in the tibia disappeared after trephining the tibia. He urges further study of this diathesis, which was only absent in a few rare cases in his experience.—*Cbl. f. Chir.*, Dec. 17, 1898.

Appendicitis and Pregnancy.—E. Fraenkel concluded an address on this subject, recently, with the remark that pregnancy has no specific influence upon the course of appendicitis, and appendicitis does not necessarily affect the pregnancy unfavorably, although abortions and premature deliveries are more frequent. The interruption of the pregnancy is not the cause of death, but the severe local infection, which is the cause of the abortion. Extensive adherences with the genital organs only rarely induce abortion. There is a possibility of disturbances during the postpartum period from adherences. Perforation of the abscess may occur during contractions of the uterus. Exacerbations of the appendicitis may lead to puerperal infection, and there is also a possibility of parametritis. The prognosis is "not favorable" for the mother; "unfavorable" for the child. The diagnosis is best confirmed in narcosis, patient on the left side. With a first slight or moderate attack, expectant treatment is indicated, but recurrence always calls for an operation, which does not differ from the usual intervention.—*Deutsche Med. Woch.*, Dec. 22, 1898.

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SATURDAY, JANUARY 28, 1899.

THE BRITISH ANTI-VACCINATION AGITATION AND ITS RESULTS.

When the British parliament passed the act permitting an evasion of compulsory vaccination on the ground of "conscientious objections," it was contended, in answer to its opponents, that this clause would be taken advantage of by but a very small proportion of the population, and that whatever evil consequences might ensue would be minimal at the very worst. Since the passage of the act, however, the number of claimants for exemption on the ground of conscience has, if we are to trust a London dispatch, become alarmingly large—some 500,000 certificates have, it is estimated, been already given out, presumably to heads of families. The magistrates, it seems, have no discretion in the matter, but must give the certificate to whoever is willing to swear that he or she is actuated by conscientious scruples against vaccination.

When we consider the comparatively short time that has elapsed since the passage of the act, and the activity of the anti-vaccination propaganda, which includes in its numbers all classes of the population, and even a scientist like A. R. WALLACE, the prospects of large additions to this number must be contemplated. Instead of 500,000 families escaping vaccination there may be many millions if the fad spreads, and it is one that is certainly liable to spread for a while, until checked by bitter experience. The English people have been so long free from smallpox in an epidemic form that they do not realize the alternative they risk in rejecting vaccination, and the result may be, as RIDER HAGGARD'S "Dr. Therne" says, that before very long they may find that they are not quite so numerous, and that many of them are not so good looking as they were. To speak more considerately, however, of such a misfortune, induced by ignorance and stupidity, there is certainly a real danger of very serious epidemics of smallpox in Great Britain if this law is not amended, or at least shorn somewhat of its possibilities of evil by the united action of the more intelligent and sensible portion of the population. That such is possible is shown by experience in this country, where there is no general law on the subject, and in many parts of which there are no special laws, yet, general public opinion and occasional smallpox panics, have made vaccination general by a sort of common law. Almost everywhere also, school authorities demand vaccination certificates of their pupils, and if, as stated, the English law only affects infants, it would seem possible that some regulations of this kind, at least in the higher grade schools, might be practicable to some extent also in England.

That something is being done we have the evidence of the dispatch quoted. It is said that school boards are enforcing an article in the education code requiring that all candidates for appointment as pupil teachers shall have been vaccinated, that a vast majority of householders are requiring vaccination of their domestic servants, that the trustees of the great Peabody bequest have demanded that their tenants, over 5000 families, shall have their children vaccinated, that many insurance and benefit societies are making vaccination a requirement, and that the practice bids fair to became general. As England is a country of landlords, and one where, as TAINE estimates, more than half the population are in one way or another in domestic service, it would seem possible to practically nullify the act to a very large extent, leaving unfortunately, however, a certain contingent with seriously threatening possibilities until the present vaccination law is repealed, which it is hoped is probable in the near future. In the meanwhile, evil enough may be done to give the advocates and legislators of the present measure some unpleasant reflections in case they come to their senses and have any conscience left.

It is said that the leading anti-vaccination agitator is about to come to this country on a missionary trip on behalf of the anti-vaccination fad. That he will secure some adherents is to be naturally expected, but he will be unable to do the damage he and his coadjutors have effected in England, as any general legislation on the subject affecting the country as a whole is apparently impossible. The day of the anti-vaccination agitator will soon be past in England also, judging from the amount of evidence that is reported as pouring in to show the absolute uselessness and harmfulness, not to call it idiocy, of the recent act. A well-developed smallpox epidemic would be a national calamity, but it will be, if it occurs, an object-lesson that will be heeded in the future.

RUPTURE OF THE SPLEEN.

SAVOR[1] describes the case of a thirty-one-year-old woman, who, while in her fifth pregnancy, was stepped upon several times in the left side of the abdomen, by a drunken man. Two hours later she was brought to the clinic, and as there were no specially urgent symptoms discovered, absolute rest was ordered. Fifteen hours later there had appeared some dulness in the left flank, and a couple of hours still later anemia appeared to be developing rapidly, while the dulness in the left flank had increased. These symptoms led to the diagnosis of hemorrhage, due to the rupture of some internal organ, and an operation was immediately undertaken. There was found much blood in the peritoneal cavity, and a long tear in the anterior surface of the spleen, filled with coagulated blood. The spleen was then extirpated, and complete recovery ensued, a healthy child being eventually born. The extirpated spleen was somewhat enlarged; there were several subcapsular hemorrhages, in addition to the tear already referred to, and also a larger extravasation which had caused a protrusion and a threatened secondary rupture of the capsule.

From this brief sketch it may be concluded that the blunt trauma, which left no external marks, caused a crushing of the deeper tissues of the spleen, with rupture of large blood-vessels, the hemorrhage taking place into the splenic tissue, the pressure of which, together with other factors, stopped it for a time. Soon the hemorrhage began again, the capsule could no longer resist the pressure, but ruptured, and free hemorrhage took place into the peritoneal cavity.

The literature contains a number of observations that point to this course of events. ROKITANSKY observed in cases of rupture of the spleen that not infrequently the capsule was lifted up from the parenchyma, the space between being filled with blood. In TRENDELENBURG'S case, which was operated on sixteen and one-half hours after the injury, the capsule was lifted up quite extensively, and at the hilus was a large transverse rupture of the anterior margin. In the case described by SAVOR the spleen was somewhat enlarged—another observation pointing to the fact that there is a certain degree of enlargement of the spleen in pregnancy. This enlargement may be looked upon as favoring traumatic rupture, because there are a few cases recorded of spontaneous rupture of the spleen during pregnancy. The diagnosis of traumatic rupture of the spleen is a difficult one. The localization of the trauma, the signs of internal hemorrhage, the increase of the dulness of the spleen without any change of position, are some of the diagnostic signs. The first two are the most convincing. If there is no change in the dulness on altering the position of the patient this only proves that coagulated blood has collected in the left flank, but it does not show where it came from; and if the dulness changes, then this does not speak against rupture of the spleen because the blood may be fluid. The treatment of traumatic rupture of the spleen is splenectomy. Suturing of the tear has been often recommended, but so far it has been performed only once, and with unfavorable results. The sutures would be liable to tear out, for the same reason as we observe the rupture of the capsule of the spleen secondary to hemorrhagic extravasation into the spleen substance. Extirpation of the spleen, the seat of traumatic rupture has been done in eight cases (this number includes only the subcutaneous ruptures, not those which were due to penetrating wounds). SAVOR'S case is the ninth case, and his is the first case of extirpation of ruptured spleen during pregnancy. Splenectomy has 66.6 per cent. recovery. The three first cases terminated in death, but the last six cases recovered. Three cases were operated on shortly after injury, that is to say, two or three hours later. Two of these died and one recovered. Five cases were operated upon between ten and sixteen and one-half hours after the injury, and four recovered. In one case the spleen was removed five days after the injury, with recovery. In two fatal cases the spleen was extensively disintegrated, so that a very severe hemorrhage had taken place. Unfortunately it is probable that the majority of cases of splenic rupture belong to this category, because VINCENT[2] has shown that of seventy-seven instances, fifty-eight died within from two to twenty-four hours, and forty-one of these died within the first two hours. But even such dangerous ruptures with large primary destruction may be successfully operated upon, as shown by the case of PITTS and BALLANCE[3]. The cases of primary splenic hematoma with secondary rupture of the spleen are therefore those which offer the chance for a reasonably certain diagnosis, as well as for successful operation. The nature of these cases demands the most careful and continuous observation of the patient after the injury. In SAVOR'S case the removal of the spleen did not seem to have any unfavorable influence upon either the mother or the child.

A NEW SYMPTOM OF SOME CEREBELLAR TUMORS.

In his monograph on "Tumors of the Brain," in Nothnagel's *Special Pathology and Therapy*, Vol. ix, Oppenheim makes the statement that the duty of the clinician is not ended when he has diagnosticated an intracranial neoplasm, but he must go further and determine its precise situation in order to furnish a basis for prognosis and treatment. In pursuance of this thought Schmidt (*Wiener klinische Wochen-*

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[1] Centralbl. f. Gynäkologie, 1898, No. 48.

[2] London Lancet, Feb. 22, 1896.

[3] Revue de Chirurgie, 1893.

schrift, Dec. 22, 1898, p. 1170) reports two cases of cerebellar tumor presenting symptoms of increased intracranial pressure, especially vomiting and vertigo, when the lateral decubitus was assumed. The one case occurred in a woman, 24 years old, in the eighth month of her third pregnancy, whose parents had been tuberculous and who had herself been rachitic and had suffered from measles and articular rheumatism. For several months there had been headache, especially occipital, sometimes radiating to the forehead. For a month there had been vomiting, both after the ingestion of food and independently, but especially on assuming the right lateral decubitus. The vomiting was preceded by some headache and followed by exhaustion. For three weeks the patient had been in bed and took no interest in her surroundings. Memory had failed. On account of the vomiting and headache, premature labor was induced, with transitory amelioration of the symptoms named. The pupils were full, but reacted tardily. The urine contained albumin. The optic nerves were inflamed and the seat of hemorrhages at the papillæ and the maculæ. There was infrequent closure of the lids, divergence of the visual axes, rigid fixation of the eyes, lateral nystagmus and injection of the conjunctiva of the left eyeball. Tapping of the head, especially in the right parietal region, as well as rotation of the head, induced pain. The skin of the chest was hyperesthetic. *Taches cerebrales* were marked, and slight opisthotonos existed. Respiration was irregular and abnormally slow. Marked general hyperesthesia developed. There was, at first, increased irritability of the facial muscles on the right side, which was followed later by paresis. In the further progress of the case, there developed bilateral abducens paresis, loss of knee-jerks, biceps-jerks, and triceps-jerks, slight ataxia and weakness in the left upper extremity, alternate incontinence and retention of urine, left-sided labial herpes, dyspnea, cyanosis, and finally pulmonary edema, leading to death six months after the appearance of the first symptoms. During much of the time the patient lay upon her left side, with the thighs flexed. At no time were febrile symptoms present. Upon postmortem examination a tumor of the left cerebellar hemisphere was found that proved on histologic examination to be an angiosarcoma.

The second case occurred in an unmarried seamstress, 25 years old, with a history of rachitis and of some injury of the vertebral column leading to scoliosis, who, fourteen months before coming under observation, while in the fourth month of pregnancy, was seized with vomiting of progressive intensity, which did not diminish after delivery. The vomiting recurred in attacks about twice weekly, being preceded by tinnitus aurium, and if the former did not set in at once the patient was compelled to arise from bed, hough under these conditions a drawing sensation was felt in the abdomen and was soon followed by vomiting. The patient related that she had formerly had diplopia. For three months there had occurred daily attacks lasting from five to fifteen minutes, in which the woman was seized with some pain in the parietal region, followed by pain in the nape of the neck and contraction of the muscles in this situation. Sometimes, though not always, the attacks were attended with vomiting. Headache was present daily with slight intermissions. Walking was difficult, being attended with vertigo. For a short time there was improvement, but the symptoms returned, together with diplopia. Roaring in the ears was almost constant. The patient occupied the right lateral decubitus, maintaining that the left lateral position was attended with vomiting, vertigo and tinnitus aurium. Tapping of the head occasioned no pain, although pressure on the mastoid process on either side did. When the eyes were rotated far outward distinct nystagmus appeared; when the eyes were rotated upward it was only suggested. The right eye appeared somewhat turbid. Choked disc was present on either side and the corneal reflex was diminished. On innervation of the orbicularis oris the right nasolabial fold appeared the more pronounced. A subjective sense of heat in the face and mouth existed. Flexion and extension of the neck, as well as rotation, were painful. The upper portion of the dorsal segment of the vertebral column was tender on pressure. The abdominal reflex was enfeebled, the knee-jerks pronounced. The pupils were at times full, at other times narrow; sometimes they reacted to light, sometimes not; sometimes the right, sometimes the left, was the larger. The attacks recurred from time to time, although for a short period there was temporary absence of the symptoms. In some attacks the pulse was slowed, in some the respiratory frequency, and sometimes sweating occurred. Paresthesia was present on the left side of the face and tongue and was followed later by anesthesia. The left corneal reflex became enfeebled. Death resulted finally from respiratory failure, nearly two years after the appearance of the earliest symptoms. Postmortem examination disclosed the presence of a cystically degenerated glioma in the right cerebellar hemisphere, obstructing the aqueduct of Sylvius and giving rise to internal hydrocephalus.

A careful analysis of the symptoms presented by the two cases here briefly described in outline would seem to demonstrate that the occurrence of symptoms of increased intracranial pressure, especially vomiting and vertigo, on the assumption of the lateral decubitus is indicative of the existence of a tumor of the opposite cerebellar hemisphere of considerable size and close to the median line. These phenomena are probably attributable to obstruction of the aqueduct of Sylvius and pressure on the great veins of Galen from change in the position of the growth.

SANITARY PRECAUTIONS IN CUBA.

The War Department seems to be thoroughly alive to the dangers which threaten our troops in their occupation of Cuba during the coming summer and autumn. The prevalence of yellow fever, as of all infections, is proportioned to the number of susceptible individuals exposed during the period when the climatic and local conditions are favorable to its spread. The medical records of the Spanish troops are instructive in this regard. In the calendar year 1896, when so many recruits and new regiments arrived from Spain to increase the military strength of the island, two-thirds of the deaths which occurred among the troops were due to the infection of yellow fever, or 6610 deaths in a total of 10,191 deaths. On account of the presence of so many susceptible individuals, deaths from yellow fever occurred during every month of the year, March and April having the smallest numbers, 74 and 86 respectively, and October and November the largest numbers, 1063 and 1214 respectively. During the following year, 1897, when a large proportion of the troops had become immune by reason of a previous attack, only about 4 per cent. of the total number of deaths were the result of yellow fever, or 563 deaths in a total mortality of 14,718. During both years the fever was more prevalent in the period July to December, inclusive, than in the period January to June, inclusive.

To protect our troops as much as possible from experiences of this kind the War Department sent a board of officers, the Medical Department being represented thereon by Lieut.-Col. R. M. O'REILLY, chief surgeon, volunteers, to investigate the measures taken by the British authorities for the protection of their garrisons in Jamaica. We have not seen the report of this board, but we understand that isolation of the non-immune troops, in barracks built at an elevation of three or four thousand feet above the sea level and some miles distant from the localities liable to be infected is the measure on which the main reliance is placed. Inspector-General J. C. BRECKINRIDGE is under orders for the West Indies with several points specified for his investigation: 1, as to the changes which it is desirable to have made in the ration in view of its use in tropical climates; 2, as to the kind of clothing best suited for the use of the troops garrisoning the islands; 3, as to the character of the shelter to be provided, and, lastly, as to changes in the Army Regulations, sanitary orders and circulars, etc., which may seem to be called for in view of the changed environment of the troops.

The Army ration is a most liberal one. It suffices for men under conditions of active service and of extreme cold; it must, therefore, be sufficient under conditions which call for the expenditure of less energy. But the criticism is frequently made that the regulation ration provides more of the hydrocarbons than is needful in tropic climates and that these articles might with advantage be reduced in quantity, and the carbohydrates correspondingly increased. While this may be granted as true, there does not appear to be any need to alter the composition of the ration until an extensive experience has shown just what changes are assuredly desirable, for the system of rationing in our army places the ability to vary the diet within wide limits in the hands of local commanders. Because bacon is one of the components of the ration it does not follow that the men must eat the bacon or go hungry. Those articles of the ration which are not used by the men are credited to them, and the money values of these regulation articles can be used for the purchase of such other articles as are considered to be desirable under the conditions.

As to the kind of clothing for tropic climates, cotton or linen for outer garments is certainly better than woolens during the hot period of the day; but a warm woolen blouse is a good thing for the soldier to have as a protection against the chills after nightfall, particularly when the undergarments are damp from perspiration. For undershirt and drawers, light-weight woolen or woolen mixtures are preferable to cotton or linen, as these become so cold and chilly when wet.

Surgeon-General STERNBERG'S recent visit of inspection to Havana and other points in Cuba appears to have settled the general question of shelter for the troops, for in a communication, dated Jan. 17, 1899, to the Adjutant-General of the Army, he states that after the first of May, and possibly before that date, we have every reason to expect a considerable increase in the amount of sickness among our troops stationed in Cuba. The so-called rainy season is from May to September, and it is the general opinion of physicians who have practiced in the island that troops should be sheltered in barracks of some kind during this season, and that a large amount of preventable sickness may be expected if the troops are obliged to pass through the unhealthy season in tents. In the interior, malarial diseases, diarrhea and dysentery prevail in many of the localities to which troops have been ordered. Yellow fever also prevails occasionally at some of the interior cities and it is endemic at most of the principal seaport cities of the island, the season of prevalence being from May to December. In the opinion of the Surgeon-General it is very important from a sanitary point of view that troops remaining in Cuba during the unhealthy season should be quartered in barracks rather than in tents. In certain places the barracks formerly occupied by the Spanish troops, after being thoroughly disinfected and repaired, will answer the purpose admirably; in other places it will probably be necessary to build temporary frame barracks; in certain localities it may be practicable to use private houses or public buildings; suburban villas and country houses are sometimes of such dimensions that they may be used as barracks for one or more companies. He, therefore, urges that prompt action be taken with reference to the shelter of the troops to remain in Cuba in order that this may be accomplished before the first of May.

The character and extent of the changes desirable to be made in Army Regulations with the view to lessen sickness and promote discipline among the troops serving out of the United States is a subject which is veiled in obscurity at the present time on account of our ignorance of the local conditions at the various new military stations. There is therefore reason to anticipate that the mission of Inspector-General Breckinridge will be productive of valuable additions to our knowledge of unsanitary conditions and their rectification.

AUTO-INTOXICATION.

The repeated observations that in the various infectious diseases toxins were produced by extrinsic bacteria, which toxins were in the main responsible for the symptoms, caused pathologists and clinicians to direct their attention to the bacteria normally present in the body, particularly in the intestinal canal. These observations amply repaid them, indeed almost too well, when we consider that it is about as common now to ascribe obscure symptoms to auto-infection as it was formerly to a touch of malaria; although that latter idea has not yet been entirely dispelled from the professional mind. Nevertheless, all are now convinced that auto-intoxication does play a most important rôle in many troubles as yet but little understood. Looking at the subject from its present aspect, which covers a much larger field than formerly, auto-intoxication may be regarded as including several different processes: The effects of toxins that are manufactured within the economy either as the result of normal or of abnormal chemic activity; toxins stored up in the body as the result of some interference, total or partial, with organs that produce substances which are essenial to the maintenance of health, as for instance, the hyroid gland, the congenital absence of which occurs n the disease known as cretinism; while the total exirpation or total abolition of function, as by tumor, is ollowed by myxedema, both affections that in one ense may be regarded as the results of auto-intoxicaion; thirdly, the germs that invade the intestinal ract and other portions of the body produce toxins hat may be taken up into the general system. In ddition, Albu adds the auto-intoxications that take lace where there are metabolic processes not specificly located, as in gout and rheumatism; auto-intoxitions that occur as the result of the retention in the ody of substances produced by physiologic metabolic hanges, which substances ought to have been excreted, for instance, death or the manifestation of toxic mptoms occurring when a large area of skin is deroyed, or the production of uremia when the kidneys are unable to functionate properly and allow to accumulate in the body poisons that in their healthy condition would be readily excreted; auto-intoxications dependent upon "the over-production of physiologic and pathologic products of the organism," such as is manifest in diabetic coma, and particularly in acetonuria. Under this latter heading, too, may be placed that very prolific source of auto-intoxication, the gastro-intestinal tract. In the intestinal canal auto-intoxication results from the delay in the canal of the food taken in, and the subsequent fermentative and putrefactive changes that ensue. Not always is constipation necessary for this intoxication, however, as for example, in cholera, where toxins are being continuously absorbed, regardless of the diarrhea that is draining the life of the patient; yet coprostasis is the rule in these cases. When fermentation of carbohydrates ensues, we have produced the various fatty acids, while with the decomposition of the albuminous substances, ammonia, sulphuretted hydrogen, indol and skatol, leucin and tyrosin, and some other products are the results. Aaron and others have shown that there is a constant formation of ptomains and toxins in the intestinal canal by bacterial action. The retention of all these injurious products would naturally, if absorbed—and experiment has proved that this absorption does take place—work harmful changes in all parts of the body. The nervous system, being the most delicately organized, is usually the first to suffer. While we do not know positively that such is the case, yet reasoning from the fact that a cleaning out of these poisons, i. e., of the intestinal tract, often causes a prompt disappearance of the symptoms, we have at least strong presumptive evidence. The kidneys, if not functionating properly, are also a most important factor in the production of auto-intoxication. Bouchard states that in the normal urine of an adult man there is present each day a sufficient quantity of several poisonous products he has himself isolated, to have caused the death of the individual if not excreted. We can readily determine from this how small an amount of kidney disturbance may be required to produce symptoms that might be classed with those of auto-intoxication. In this instance, as in the intestines, the nervous system suffers the most, afterward the circulatory, the tegumentary, and finally, the kidneys themselves.

Among nervous symptoms, probably the most common is headache. Almost all of us are acquainted with it, and with the relief that follows a thorough evacuation of the bowels. Vomiting of the so-called cerebral type occasionally occurs. Among psychic symptoms, disinclination to work, a distaste for society, depression of spirits and melancholia, are all of the most frequent occurrence. Neurasthenic symptoms are often present, and we must now look upon these symptoms as frequently secondary to the auto-intoxication, not the reverse, as has heretofore been supposed. We all recognize the influence that extrinsic poisons, alcohol, nicotin, lead, and others have in the production of severe affections of the nervous system, as mania, epilepsy, insanity. The question naturally arises: If these poisons are capable of so serious results, are not the poisons developed in the body just as liable to produce corresponding deleterious actions? At any rate, careful examinations of urine in the above states, in which no other causes have been found, have demonstrated that in almost all cases the urine is greatly increased in toxicity—a most significant fact to say the least. Among circulatory disturbances may be mentioned tachycardia, and other forms of vasomotor alteration. Skin affections are not uncommon as the result of auto-intoxication. The occurrence of urticaria as the result of the ingestion of certain foods, particularly lobsters, strawberries, and tomatoes, while at one time ascribed to idiosyncrasy, we now know to be due to auto-intoxication, for in so-called susceptible individuals, the urticaria has been prevented by keeping the intestinal canal free and active. Albuminuria may occur as a result of auto-intoxication: in the various forms of acute and chronic intestinal obstruction, the exit of toxins being prevented along the *prima via*, they are absorbed and finally excreted to a considerable extent by the kidneys, on which latter they exert their poisonous action. We can readily see that albuminuria might result, or even an acute nephritis. Lastly, we must regard chlorosis as due to a large extent to auto-intoxication. "Sir ANDREW CLARK believed that constipation plays an important rôle, and the condition is really a copremia due to absorption of poisons, leucomains and ptomains, from the large bowel" (OSLER). In the treatment of this disease, too, while we must pin our faith to iron, all authorities insist on the necessity of keeping the bowels moving freely; indeed, Sir ANDREW CLARK was so imbued with the idea of the importance of constipation, or as we now know, of auto-intoxication in the etiology of this disease, that he declared "that if limited to the choice of one drug he would choose a purgative."

CORRESPONDENCE.

Appendicitis: A Criticism.

SAN FRANCISCO, CAL., Jan. 5, 1899.

To the Editor:—It seems unfortunate to find articles published in an up-to-date medical journal which may lead to serious loss of life by misinforming a number of the younger members of the profession, and giving them a feeling of false security in being able to invariably cope with a disease like appendicitis, by medicinal means alone. I refer to an article in the *Medical Record* of Dec. 17, 1898, by T. J. Hutton, M.D., of Chicago, entitled "A Cheap Cure for Appendicitis," in which the author claims to cure all cases of appendicitis by giving the patient a calomel and bicarbonate of soda purge. I do not like to open up the old controversy as to whether appendicitis is a surgical disease or not, but I can not let go unchallenged such wild statements as the worthy Doctor makes in the article in question. The gentleman claims to have been practicing medicine twenty-seven years, and yet has never seen a case of appendicitis which required operation. Either he has had a very peculiar run of cases, or else is a poor diagnostician. He states that, in his experience, "appendicitis and all other bellyaches for which men now operate are promptly amenable to proper medical treatment." This statement is too ridiculous to necessitate a detailed reply to all its phases. Does the Doctor cure all his cases of intussusception and volvulus with calomel?

With regard to his curing appendicitis by purgation and hot applications, I must admit that there are a few cases of slight catarrh of the appendix which may be cured by this method. Dr. J. B. Murphy of Chicago removed the appendix from one patient who had been cured (?) twenty-one times before the Doctor operated on him. From Dr. Hutton's description of the cases which he has treated by his infallible method, it appears to me that the Doctor calls all his cases of bellyache, "appendicitis." The Doctor is evidently not familiar with the ordinary symptoms of the malady, and usually allows the patient to make a diagnosis for him. The ridiculous position in which the Doctor places himself is clearly shown by examining the pathology of this disease.

As I pointed out in a paper read before the San Francisco County Medical Society, February, 1898, the cases may be divided into two classes: those in which the disease is confined to the mucous membrane, and those in which it has extended through the wall of the appendix and involved the peritoneal coat. Everyone will admit that a certain number of cases of the first class will get well and have no recurrence, whether they are treated or not; another portion will have recurrent attacks which may eventually render the patient's life so miserable that the removal of the offending organ is imperative. In the second class of cases, in which the peritoneal coat of the appendix is involved, whether it be by the extension of an ulcer or by pressure necrosis of an appendolith, or by gangrene due to the cutting off of the circulation, we are immediately confronted by a condition which demands the opening of the abdomen to prevent its extension of the disease to the general peritoneal cavity. While nature is often kind enough to temporarily wall off the diseased area and give us time to prepare for an operation, we are still compelled to evacuate the pus which invariably accumulates in these cases, or nature will attempt to do so for us, usually with disastrous results. In two cases which came under my notice, where the patients had been pronounced cured by their respective physicians, the abscesses which had formed ruptured into the general peritoneal cavity, with immediately fatal results. Cases in which concretions are present—and I find that they occur in about 50 per cent. of my operative cases—are unquestionably surgical from the beginning, and I doubt that even Dr. Hutton will admit that calomel will extract a stone from the peritoneal cavity, and close the hole in the appendix, through which it got out. If the Doctor will hunt up a little in the voluminous literature of appendicitis, he will find that the physician has not yet been discovered who could determine positively whether in a given case the disease was confined to the mucosa, whether a calculus was present, whether the disease was amenable to medical means alone, or whether the immediate removal of the appendix offered the only hope of recovery, and until such time as we can definitely tell which condition is present, we are justified in treating all cases as though they were the most dangerous form, and by a simple operation place our patient out of danger not only for the present, but for the future.

I will admit that I would personally prefer to trust to the tender mercies of *vis medicatrix natural*, than to the hands of some gentlemen styling themselves physicians and surgeons, who do not know the first principles of surgery, and who have had patients die from their faulty technic. These gentlemen are prone to condemn surgical measures on account of their own inability to obtain good results by those means, but when we look over the results of our clean operators, and find that practically all cases recover and are cured, when the surgeon has had the case from its inception, we must admit that a properly performed operation for the removal of the diseased appendix is comparatively harmless. The fatal results following properly conducted operative procedures are almost invariably due to having too long delayed the opening of the abdomen, while we do find a few cases which are fulminating from the start, and in which nothing can avert the fatal issue.

There is no question but that a number of operations have been performed in which the appendix has been found comparatively free from disease. These cases illustrate the necessity of being able to make a diagnosis before attempting treatment. I have seen a number of cases in which I was called to operate for appendicitis which did not show any of the characteristic symptoms of the disease, but proved to be either an impacted cecum, typhoid fever, colitis, passing of renal or biliary calculi, or extra-uterine pregnancy. I have also been called after the patient had been treated by the attending physician with calomel, castor-oil, epsom salts and even croton-oil to relieve an obstruction of the bowels, due to adhesions around an appendiceal abscess; of course, a correct diagnosis had not been made and the patients usually succumbed to the improper treatment. Operations in these cases would have been followed by recovery and cure if done early in the disease.

It will be noticed that I distinguish between an actual *cure* and a failure to die; there is a material difference, and the unfortunate patient who has been treated by the calomel method is not cured except in a few cases, the majority having recurrences, which, while they rarely terminate fatally, render existence so miserable that an operation is sought after to get rid of the offending organ.

I think that if Dr. Hutton would familiarize himself with the etiology, pathology and symptoms of appendiceal disease, he would discover that the cases which he has been curing with calomel were not appendicitis, but cases of constipation which needed a mercurial purge. Furthermore, if the Doctor will take the trouble to witness several operations for the removal of diseased appendices, he will come to the conclusion that calomel is incapable of freeing adhesions or causing the absorption of infectious pus or removing any foreign body which s not within the lumen of the intestines.

I am sorry to have to take up the space of any medical journal to answer a paper of this caliber, but it is unwise to allow any such article to stand before the profession without criticism, as the titles of its author would certainly have some weight in convincing a number of medical men that they had an infallible panacea for all abdominal pains, regardless of their origin.

I trust that I have made clear the utter absurdity of such views. J. HENRY BARBAT, M.D.

Homing Pigeons as Medical Messengers.

ELIZABETH, ILL., Jan. 7, 1899.

To the Editor:—Readers of the JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION will find my former article on "Homing Pigeons as Medical Messengers" in the JOURNAL of March 31, 898 (p. 872). Though much interest was manifested in the ubject at the time, not many doctors to my knowledge undertook to secure for themselves the service of these wonderfully lever aerial messengers. I can now speak with more assurance that they are indeed feasible. I receive messages from my patients in the country every day, in addition to my daily isits to them. My plan usually is to leave a pigeon the day I make a visit and direct that the pigeon be liberated the next morning about 8 o'clock, with such a message as I may desire, e. g., the record of temperature, pulse, number of stools, etc. With a little care in the instruction of the nurse, I am quite well informed of the condition of my patient before I start to make my next visit, just the same as the doctor becomes informed of his hospital patient, by first examining the record of the patient kept since his last visit. In a country practice this is even more important, as it enables the doctor to judge what will be needed for his patient the next twenty-four hours, for we country doctors must act as our own druggists. Then again, country doctors can not often make more than one call in twenty-four hours, and by an aerial messenger service he can get practically the same information as the doctor in city or hospital practice, who makes several calls, by simply leaving two pigeons and getting an evening and morning report. The doctor who has a country practice is often called from his country patient to other persons sick in the neighborhood. This will make him late in getting back to his office, and it will be a great convenience if he can send this information home, practically with the same speed as the city practitioner through the medium of the telephone system. That we can remain in closer touch throughout an illness of our country patients, there can remain no doubt, a fact that will be appreciated by most patients and their friends.

Further information concerning homing pigeons as medical messengers will be cheerfully furnished by the writer on receipt of a stamped and addressed envelope. But I would suggest that physicians wishing to take this matter up in earnest and receive benefit and pleasure from these aerial messengers, first of all purchase only the best kind of Belgian homing pigeons, one or two pairs well mated. No reliance can be placed in young birds shipped to you, for message carriers. The young birds must be hatched from your own loft. The old birds that you secure for breeding must not be given their liberty until they have hatched one or two broods from your own loft. The youngsters, at a certain age, can be trained as stated in my former letter. Fraternally,

PHILIP ARNOLD, M.D.

ASSOCIATION NEWS.

Section on Ophthalmology.—Dr. Edmond Landott of Paris, the well-known ophthalmologist and author, has accepted the invitation of the Section on Ophthalmology to give an address before that body in Columbus next June. Dr. Landott has chosen the title: "Some Disturbances of the Ocular Movements."

Among other arrangements is a joint session with the Section on Otology and Laryngology, that will occupy the whole morning of the second day. The subject for discussion is "The Relation of Ocular Diseases to Affections of the Nose and Neighboring Cavities." It will be introduced by an address from Dr. Charles Stedman Bull of New York, on "Some Points in the Symptomatology, Pathology and Treatment of the Sinuses Adjacent and Accessory to the Orbit," followed by Dr. Bryson Delavan of New York, on "Nasal Stenoses in their Relation to Ocular Disturbances"; Dr. J. A. White of Richmond, Va., "Eye Troubles Attributable to Nasopharyngeal and Aural Diseases"; and Dr. J. H. Bryan of Washington, "Diseases of the Accessory Sinuses in their Relation to Diseases of the Eye." Three Symposia: "Sympathetic Ophthalmia," "Diagnosis and Treatment of the Rarer Forms of Ametropia," and "Chronic Glaucoma," have been also arranged. For the greater convenience of members who desire to attend sessions of both sections two commodious and adjoining halls have already been secured on the second floor of the Y. M. C. A. building in Columbus. A preliminary program furnishing further details of these and other matters will be published in April.

SOCIETY NEWS.

Muskingum County Medical Society.—At the January meeting of this Society, Zanesville, Ohio, J. G. F. Holston discussed hypnotism.

El Paso Medical Society.—The election of officers of this Society, at Colorado Springs, Colo., recently, resulted as follows: President, W. F. Martin; vice-president, Gerald Webb; secretary-treasurer, Dr. Reddie.

Medical Research Club.—At the meeting, January 25, at the Cincinnati Medical College, Dr. Alfred Friedlander read a paper on "Rarer Tumors of the Kidney, Microscopic Specimens," and Dr. Henry Bettman one on "Some Gross Stomach Specimens."

Cuyahoga County Medical Society.—At the recent meeting in Cleveland, Ohio, this Society chose the following officers for 1899: President, Howard S. Straight; vice-presidents, Charles F. Hoover and B. O. Coats; secretary, R. J. Wenner; treasurer, F. C. Taylor.

Washington Microscopical Society.—The January meeting of the Society was held January 10. Dr. Bartsch read a paper entitled "Slime Molds of the District of Columbia," and presented a large number of microscopic slides from the gross specimens presented.

Cincinnati Academy of Medicine.—At the meeting of January 12, Dr. B. F. Lyle read a paper on "Hemoptysis," and at the meeting of January 16, a review of Dr. William Beaumont's Experiments on Alexis St. Martin, with a photograph of the house and a description of the room in which the latter was wounded, was presented by Dr. S. C. Ayers, and "Modern Views of the Physiology of Gastric Digestion," by Dr. B. K. Rachford.

New York County Medical Association.—The annual election, January 16, resulted as follows; President, Frederick Holme Wiggin; vice-presidents, Parker Syms and Edwin Gaillard Mason; recording secretary, Ogden C. Ludlow; corresponding secretary, Charles E. Denison: treasurer, John H. Hinton; executive committee, members for three, two and one year respectively, George Tucker Harrison, Francis J. Quinlan and John Shrady.

Central Texas Medical Association.—At the eleventh annual session of this Association, held at Waco, Texas, a paper entitled "Has Ergot a place in Obstetric Practice?" by R. C. Fisher of Bilton, was presented, also one on female insanity, by J. M. Fort of Paris. F. D. Thompson and E. D. Knapp of Fort Worth also read papers, and J. W. Hale of Waco discussed "Dislocations." The following are the officers elected: Marven L. Graves of San Antonio, president; J. C. J. King of Waco, vice-president, and N. A. Olive of Waco, secretary.

Philadelphia Medical Club.—The quarterly meeting of the club was held January 13, and the following officers were elected: President, J. M. Anders; first vice-president, C. W. Burr; second vice-president, George E. de Schweinitz; secretary, Guy Hinsdale; treasurer, John W. Lock; members of executive committee, Drs. Ernest Laplace, T. Chalmers Fulton, H. Augustus Wilson and G. W. Crosky. The question of a permanent club-house was discussed, but no definite action was taken.

Ninth International Congress of Ophthalmology.—This Congress will be held at Utrecht, Aug. 14, 1899. A large attendance is anticipated. There will be three sections: 1, anatomy, pathologic anatomy and bacteriology; 2, optics and physiology; 3, clinic and operative methods. English, French and German are to be the official languages. The Committee of Organization consists of D. Argyll Robertson, president of the last Congress, held at Edinburgh in 1894; G. A. Berry; Prof. M. E. Mulder of Gronigen; Prof. M. Straub of Amsterdam; Prof. W. Koster of Leyden, and Prof. H. Snellen of Utrecht. The membership fee is 25 francs. Apply to Prof. H. Snellen of the University, Utrecht, Netherlands, for further particulars. He requests members to inform him as early as possible in regard to the communications they intend to present, and whether members are to be accompanied by ladies, and also which language they prefer for the discussions.

Washington Obstetrical and Gynecological Society.—The 291st meeting of the society was held at the residence of Dr. Samuel S. Adams, January 6. The paper of the evening was read by Dr. E. E. Morse, entitled "Leucorrhea in Women." A discussion followed, participated in by Drs. Cook, Stone, J. T. Johnson, H. L. E. Johnson and E. A. Balloch. Dr. J. T. Johnson presented a breast which he had recently removed from a negro patient. The gland contained a large mass or growth, and was referred to the Microscopic Committee for report. He also presented a small ovarian growth with the accompanying tube, which he removed from a white patient. Dr. Stone presented a fibroid tumor for which he had performed a hysterectomy, the patient dying within two weeks, from embolism; he also presented a very interesting ovarian tumor which was intimately adherent in the cavity of the pelvis. The patient died from uncontrollable hemorrhage at the close of the operation.

Orleans Parish Medical Society.—The annual meeting of this Society took place in New Orleans, La., January 14. The reports of outgoing officers showed a prosperous condition; there are on the rolls 163 active and 2 honorary members; thirty original papers were read at the bi-weekly meetings held in 1898; the library comprises 3001 bound volumes, and 479 reprints, all catalogued according to library bureau methods, and receives more than 100 medical publications. During 1898 the Transactions for 1896, 1897 and 1898 were published. Much credit is due the outgoing officers, and especially the retiring president, Dr. John Callan, who has just completed his second year as executive. The following newly elected officers were inducted into office: President, Isadore Dyer; first vice-president, E. Denegre Martin; second vice-president, T. S. Dabney; third vice-president, W. Scheppegrell; recording secretary, Hamilton P. Jones; treasurer, J. A. Storck; corresponding secretary and librarian, S. P. Delaup. Mr. E. M. Hummel is assistant corresponding secretary and librarian. The incoming president, in his address, outlined the work to which special attention is to be devoted: ownership of the Society's domicile, the prosecution of quacks and of prescribing druggists' through the Judiciary Committee, the publication of the Transactions, month by month, the introduction of social features, with refreshments, at least on one of the two meetings held each month. The annual orator, Mr. Wm. Beer, librarian to the Howard Library and to the Fisk Free and Public Library, entertained the members with a discourse on the "Relations of Public Libraries to Public Men." Adjournment was followed by a "smoker," with the usual accompaniments suited to the inner man.

Washington Medical Society.—At the stated meeting held January 2, the following officers were elected: President, Samuel C. Busey; vice-presidents, G. N. Acker and Z. T. Sowers; secretary, Francis P. Morgan; corresponding secretary, Thomas C. Smith; treasurer, Charles W. Franzoni; censors, S. S. Adams, C. W. Richardson and W. C. Woodward. Notwithstanding the fact that Dr. Busey did not desire re-election, the Society honored him with the office for the eighth term. . . At the meeting of January 11, Dr. Walter E. Wells reported an interesting case of paroxysmal sneezing in a white girl, aged 16 years. The sneezing lasted several weeks. It is estimated that she sneezed 223 times in five minutes and 50,000 times in the day. The patient slept very little at night on account of the sneezing. Various remedies were tried, such as morphin, chloral, cocain and the actual cautery; the latter seemed to be a curative agent. The cause of the trouble was supposed to be from local trouble and hysteria. Dr. D. S. Lamb gave the history and presented some specimens of typhoid fever and Texas cattle fever. Dr. S. S. Adams presented some specimens of typhoid fever. Interesting discussion followed each topic. . . At the meeting of January 18, Dr. Lamb presented a specimen of tubercular vasa deferentia and a specimen showing tuberculosis in cattle. Dr. John F. Moran reported three cases of puerperal septicemia successfully treated with antistreptococcus serum. The adminstration of the serum was followed by: 1, lowering of temperature; 2, reduction of pulse; 3, diaphoresis and diuresis. He said the serum was of value in true septicemia, but not indicated in sapremia, where local measures suffice. The paper was discussed by Drs. J. Ford Thompson, Poole, Stone and others. Dr. Moran also reported a case of symphyseotomy for contracted pelvis, the measurements of which were, between anterior superior spines, 21 cm.; between crests of illii, 22 cm.; circumference of pelvis 68 cm. The pubic bones were separated two and one-half inches. The case recovered promptly. This is the first symphyseotomy performed at the Columbia Hospital.

Philadelphia County Medical Society.—At the meeting of January 11, Dr. George Shoemaker read a paper on "Minor Gynecologic Operations." He referred to the beneficial effects which many patients derive from many minor operations upon the genitalia. In those cases marked by a neurotic tendency he thought that the condition primarily arose from a pathologic cause, such as fissure of the anus, which might frequently be overlooked as a causative factor in the production of uncontrollable nervousness, though when the fissure was relieved the nervous symptoms also abated. In malpositions of the uterus, too, he thought, lay a frequent source of harm, and on the correction of this the patient would be restored to usefulness and health. Dr. R. C. Norris said that the general practitioner should be skilled in the diagnosis of these conditions and that much good might be obtained by a simple plan of treatment. In many cases of greater importance he thought, however, that much valuable time might be lost and slight harm ensue from prolonged treatment at the hands of the general practitioner, whereas, if the patient was referred to a skilled gynecologist, he might sooner be restored to health. Dr. Massey concurred in the opinion as expressed by Dr. Norris, that the general practitioner should be a skilled diagnostician, but would not advise that the patient be too quickly transferred to the gynecologist, on account of the prevailing tendency to operate too soon. Dr. J. Madison Taylor, speaking from the standpoint of the general practitioner, thought it was a duty the physician bore to the patient to have the best treatment possible in the quickest manner possible, and he concurred in the opinion as expressed by Dr. Norris. He thought the day was fast approaching when a feeling of trust could be depended upon when the patient passed from the hands of the general practitioner to the gynecologist. J. H. McKee spoke of two cases of measles in which there had been a secondary attack. In one of these it was fully known that the contagion was carried by a third person and for a considerable distance. In both cases Koplik's sign was absent.

NECROLOGY.

Dr. Harlon McVey, M.D., a graduate of the Miami Medical College of Cincinnati, Ohio, and afterward assistant-surgeon in the regular army, died at Manila, January 4, from typhoid fever.

Julius A. Roth, M. D., Bellevue, N. Y., 1852, died in New York City, his birth-place, January 15, aged about 40 years. A widow and two children survive him.

Timothy J. McGillicuddy, M.D., N. Y. University, 1882, an active practitioner of New York City, somewhat known for his original contributions to medical literature, died of pneumonia after a short illness, January 17. He was a member of the American Medical Association and other scientific bodies.

Arthur E. Bate, M.D., Philadelphia, Pa., born in Birmingham, Eng., and graduated from the Jefferson Medical College, is dead. At the time of his death he was on the staff of the Nose and Throat Department of the Jefferson Hospital and a member of the County Medical Society.

T. William Birkey, M.D., Philadelphia, Pa., died a few days ago of heart disease. He was a graduate of the University of Pennsylvania, class of 1851, and well versed in his profession. He was born in Philadelphia in 1831.

William S. Frick, M.D., Philadelphia, Pa., died recently of pneumonia. He was born in Chester County, Pa., Nov. 19, 1826, and was one of the oldest members of the Alumni Association of the Jefferson Medical College, having graduated from that institution in 1849.

James Beckett, M.D., Chicago, Ill., was buried January 18. He was born in England in 1854, and came to Chicago in 1891.

Stephen Henry Webster, M.D., Troy, N. Y., died January 6, aged 33 years. He was graduated from the Albany Medical College in 1886 and studied during 1888 in New York and in 1891 in Vienna, Prague and Berlin. He was city physician of Troy one year.

Reuben J. Almond, M.D., Carlinville, Ill., died January 8, aged 81 years. He was graduated from Jefferson in 1839 and practiced in Delaware until 1849, then in Ohio until 1853, when he located in Illinois.

A. H. Mitchell, M.D., Warm Springs, Mont., for many years a member of the American Medical Association, died Dec. 20, 1898, from a tumor at the base of the brain. He was a native of Kentucky, aged 67 years.

Walter H. Marble, M.D., Chicago, Ill., attending physician at the German-American Hospital, died at that institution January 13, of appendicitis. Dr. Marble was a native of Ashburnham, Mass., graduated from Dartmouth College in 1883, and from the Chicago Medical College in 1886.

W. W. Cochrane, M.D., Atchison, Kans., died January 14, aged 79 years. He was graduated from the Louisville Medical College in 1848, and after practicing in Louisiana and Mississippi for eleven years, removed to Atchison in 1859. He had been a member of the Kansas Medical Society since 1868, and was its president from that year until 1872, and its treasurer from 1872 until 1890.

Myron N. Chamberlain, M.D., Cheshire, Conn., died January 10, aged 63 years. He was graduated from Yale in 1857, then entered the Yale Medical School. When the war began he left his studies and enlisted as a private in the 27th Connecticut Volunteers. He was soon after transferred to the medical department and became a regimental hospital steward. At the battle of Chancellorsville he, with many others of the regiment, were taken prisoners. He was almost immediately paroled and he then went on duty in the prisoner's camp at Annapolis, Md. After the war he completed his medical studies and was graduated from Yale Medical School in 1866.

Thomas D. Hope, M.D., a medical examiner of the Soldiers' Home at Hampton, Va., died suddenly of cardiac disease, January 20. He was a nephew of James B. Hope, the poet, and a brother of Capt. Geo. W. Hope of the Fourth Virginia Infantry, now with his command at Havana, Cuba.

Alcee Chastant, M.D., Tulane University, New Orleans, La., 1852, died in New Orleans, January 20, aged 63 years. He was a surgeon on the staff of Gen. Braxton Bragg of the Confederate army and at the end of the war a surgeon-major of the Army of the Tennessee.

Horace Burr, M.D., Wilmington, Del., January 10, aged 82 years. . . Thomas Calbreath, M.D., Cleopatra, Mo., January

9. . . B. D. Copp, M.D., Menomonie, Wis., Rush Medical College, 1871, January 11. . . Atteson M. Haven, M.D., Pennellville, N. Y., January 7, aged 42 years. . . A. S. Hyatt, M.D. Lansing, Mich., January 12, aged 38 years. . . Charles Hunter, M.D., Colorado Springs, Colo., January 14. . . Robert A. Irwin, M.D., Sisterville, W. Va., January 14, aged 29 years. . . William M. Miller, M.D., Findlay, Ohio, January 14, aged 80 years. . . J. H. Nichols, M.D., Wapakoneta, Ohio, January 9, aged 55 years. . . H. De V. Pratt, M.D., Elmira, N. Y., January 12, aged 42 years. . . George W. Thompson, M.D., Mt. Union, Pa., January 4, aged 85 years. . . William Youker, M.D.. Belleville, Ont., January 12, aged 52 years.

DEATHS ABROAD.

Alfredo A. Kanthack, professor of pathology Cambridge University, died Dec. 21, 1898, aged 36 years. . . Prof. A. Laboulbéne, Paris, aged 74 years. He occupied the chair of history of medicine, but was chiefly distinguished for his entomologic research and its application to the etiology of diseases. . . Dr. W. Narkiewicz-Iodko, professor of ophthalmology, Medical Faculty of Warsaw. . . Dr. Gluge, emeritus professor of physiology, University of Brussels, aged 86 years. . . Dr. C. Eloy, Paris, editor of the *Journal des Praticiens*, aged 50 years. . . Dr. Hubert Boëns, Brussels; editor of *Le Médicin*, president of the International Anti-vaccination League, aged 73 years. . . Dr. H. Lotar, professor of pharmacy in the University of Lille, aged 62 years.

BOOK NOTICES.

Transactions of American Climatological Association. Vol. xiv. Cloth. Pp. 243. Illustrated. Philadelphia: 1898.

This volume contains minutes of the meeting held at Maplewood, N. H., in August, 1898. The following papers are included: "Auenbrugger and Laennec, the Discoverers of Percussion and Auscultation"; "Common Errors of General Practitioners in Dealing with Pulmonary Tuberculosis"; "Suggestions, the Result of Recent Experiences with Phthisic Patients"; "Value of Systematic Physical Training in Prevention and Cure of Pulmonary Tuberculosis"; "Pretubercular Stage of Phthisis"; "Note on Position of Lower Border of Heart"; "Dissecting Aneurysm of Aorta Rupturing into Pericardial Sac"; "Asthma and its Treatment"; "Ergot in Chronic Malaria"; "Clinical Uses of Roentgen Light"; "Inhalation of Oxygen in Acute Affections of the Lungs"; "Sanatoria and Special Hospitals for Poor Consumptives"; "Distribution of Tuberculosis in New Jersey"; "Definite Records of Physical Signs"; "Variations in Pathogenic Activity Among Tubercle Bacilli"; "Infection from Hands in Phthisis"; "Virulency of Sputum Kept Many Months"; "Sero-Therapy in Tuberculosis"; "Climatology of Nudity: Partial and Complete."

The Treatment of Wounds: Its Principles and Practice, General and Special. By Lewis Stephen Pilcher, A.M., M.D., etc. New York: William Wood & Co., 1899.

In 1883 the author contributed a volume on "The Treatment of Wounds" to Wood's Library of Standard Medical Authors. The present volume is developed upon the same lines as the first. The ground, however, has been more completely covered and brought up to date. The author quotes from Professor Humphrey: "The treatment of wounds is undoubtedly not merely the first stone but also the corner-stone of surgery," a truism which can not be too often repeated. In spite of the fact that it is now more than thirty years since Lister first gave to the world his great discovery, antiseptic surgery, the majority of the wounds treated by medical men throughout the country suppurate as they did in the old days of "good and laudable pus." This is largely preventable, and is due to the fact that the average practitioner has not as yet grasped the principles or mastered the technic of clean surgery. This fact furnishes not the excuse but the good reason for the writing of such a book as Pilcher's "Treatment of Wounds." The principles and the practice of wound treatment in general, and the subject of special wounds and wounds of various regions, are clearly and ably handled by the author. The work is peculiarly well fitted for the use of the busy general practitioner who has not the time nor opportunity to obtain from current literature the valuable and accepted improvement in wound treatment.

Saunder's Pocket Medical Formulary. By William M. Powell, M.D., author of "Essentials of Diseases of Children." Fifth edition, thoroughly revised. Leather. Pp. 290. Philadelphia: W. B. Saunders, 1899. Price $1.75, net.

In this edition many old formulæ have been replaced by others of more recent origin and established value, and the dose table modified. An effort has been made to introduce into the prescriptions, where possible, the more important of recently discovered drugs. Besides the formulæ, poisons and other antidotes are considered, and pelvic diameters, obstetric table, diet lists, etc., included.

Manual of Clinical Chemistry. By Elias H. Bartley, B.S., M.D., Ph. G., Professor of Chemistry and Toxicology in the Long Island College Hospital. Cloth. Pp. 150. Illustrated. Philadelphia: P. Blackiston's Son & Co., 1899. Price, $1.00.

This volume aims to give the essentials of chemic diagnosis, and comprises the last 88 pages of the author's "Text-book of Medical and Pharmaceutical Chemistry," with the addition of notes on urinary diagnosis, and experiments with carbohydrates, fats, proteids and milk; also a scheme for qualitative analysis of prepared foods.

The Pocket Therapist: A Concise Manual of Modern Treatment for the Physician and Student (arranged alphabetically for ready reference). By Thos. Stretch Dowse, M.D. New York: Wilbur B. Ketchum. Price $1.50.

This is a republication of a little handbook that seems to have won popularity in its original English edition. According to the publisher, it has been "thoroughly revised in the essentials necessary to meet the wants of the American profession." It will undoubtedly be a convenient ready reference book for those that feel the need of such a work.

Pamphlets Received.

Abdominal Operations, Sequelæ of; a Case of Thyroidectomy. By Wilmer Krusen, Philadelpia, Pa. Reprints.

Aneurysm, Treatment of, by Galvanism. By D. D. Steward, Philadelphia, Pa. Reprinted from Phila. Med. Jour.

Angioneurotic Edema; Neuralgia and Nerve Cries. By Charles H. Lodor, Chicago. Reprints.

Apocynum Cannibinum. By T. S. Dabney, New Orleans, La. Reprinted from Therapeutic Gaz.

Appendicitis; Closing Cecal Fistula; Echinococcus of the Lungs: Ueber die Bedeutung der Röntgenstrahlen bei der Spina Bifida. By Carl Beck, New York City. Reprints.

Appendicitis, the Surgical Treatment of; Treatment of Cardiac Endometritis. By G. T. Meriwether, Asheville, N. C. Reprinted from Charlotte Med. Jour.

Argument of E. N. Dickinson of the New York Bar before the Commission to Revise the Patent and Trade-mark Laws of the United States. Paper, pp. 23.

Association of American Medical Colleges, Proceedings of Denver Meeting. Reprinted from Bul. Am. Acad. of Med.

Bone-Clamp in Ununited Fractures. By Clayton Parkhill, Denver, Colo. Reprinted from Annals of Surg.

Bronchitis, Treatment of Acute; Consideration of Renal Insufficiency; Home Treatment of Pulmonary Tuberculosis; Modern Methods of Diagnosis. By John A. Robison, Chicago. Reprints.

Castrates Capable of Procreation, Are Complete? By F. R. Sturgis, New York City. Reprinted from Med. News.

Cataract, Course and Management of. By J. H. Woodward, New York City. Paper, pp. 17.

Child, Stimulants and Narcotics on Development of. By E. Stuver, Rawlins, Wyo. Reprinted from Journal Am. Med. Association.

Consumption: Cases that Should Go to Colorado; Bleeding Polyp of the Septum: Perichondritis of the Larynx; Technic of Tonsillotomy. By George L. Richards, Fall River, Mass. Reprints.

Consumptives, State and Municipal Control of. By S. A. Knopf, New York City. Reprinted from Med. Record.

Diabetes Mellitus. By James T. Whittaker, Cincinnati, Ohio. Reprinted from Louisville Jour. of Surg. and Med.

Electro-therapeutic Clinic, Record of Three Years in. By Margaret A. Cleaves, New York City. Paper, pp. 32.

Food for the Regiment. By T. E. Bunts. Reprinted from Cleveland Med. Gaz.

Fracture of the Leg: Shortening and Deformity After Union. By J. F. H. Sugg, Clinton, Iowa. Reprinted from Railway Surg.

Gastro-Intestinal Disease, Neurasthenic Symptoms of. By G. W. McCaskey, Ft. Wayne, Ind. Reprinted from Med. Record.

Gastroptosis; Intestinal Auto-intoxication; Chronic Catarrh of Stomach; Transillumination of Stomach, By C. D. Aaron, Detroit, Mich. Reprints.

Hernia, Cure of; Surgical Treatment of Uterine Myomata: the Aseptic Animal Suture in Surgery. By H. O. Marcy, Boston, Mass. Reprints.

Hernia, Inguinal: Radical Cure of by Fowler's Method. By H. O. Walker, Detroit, Mich. Reprinted from the Leucocyte.

Hydatids of the Liver. By Jacob Frank, Chicago. Reprinted from Am. Jour. Med. Science.

Hypnotism, Medico-Legal Aspects of. By Sydney Kuh, Chicago. Reprinted from Am. Jour. Med. Science.

Illinois Medical College, Fifth Annual Announcement. Paper, pp. 22. Chicago.

Intestinal Invagination, Physiologic, in Child of Fourteen Months; McBurney's Point; Disorders of Motility of Stomach vs. Myasthenia, Atonia and Ectasia. By Adolph Rosenthal, Chicago. Reprinted from Chicago Medical Recorder.

Kentucky School of Medicine Register. Paper, pp. 23. Louisville, Ky.

Laboratory of Neurology and Psychology at University of Pennsylvania. By Charles K. Mills, Philadelphia, Pa. Reprinted from University Med. Magazine.

Malpractice. By G. W. Thomson, Winamac, Ind. Reprinted from Cleveland Med. Gaz.

Medicine in Germany, Study of. By Emil Amberg, Detroit, Mich. Reprinted from Leucocyte.

Medizinisch-Hygienische Bakteriologie und tierische Parasitenkunde. By A. C. Houston, St. Bartholomew's Hospital, London. Reprinted from Centralb f. Bakteriol. Parasitenkund Infectionskr.

Memorial from National Pure Food and Drug Congress. Senate Document No. 233, 52th Congress, 2d session. Paper, pp. 15. Washington. D.C.

Nasopharyngeal Adenoids, Death following Operation for. By Frank Whitehill Hinkel. Reprinted from N. Y. Med. Jour.

Pediatrics, Problems in Study of; Study of Case of Rickets; Urethritis in Male Children. By J. A. Abt, Chicago. Reprints.

Report of Central State Hospital of Virginia, 1898. Paper, pp. 60. Illustrated. Richmond, Va., 1898.

Report of Health Department, San Antonio, Texas, 1898. Paper, pp. 41. Maps.

Report of Eye, Ear, Nose and Throat Hospital, 1897. Paper, pp. 52. New Orleans, La., 1898.

Report of New York Infirmary for Women and Children, 1898. Paper, pp. 53. New York City, 1898.

Report of Committee on Public Health of Medical Society of Washington, D. C. Senate Document No. 183, 55th Congress, 2d session. Paper, pp. 34. Washington, D.C., 1898.

Tuberculosis, Pulmonary, Causes and Conditions of and How to Avoid Them. By E. O. Otis. Reprinted from Am. Jour. Med. Sciences.

Tuberculosis, Pulmonary, Sanitarium Treatment of. By J. E. Stubbert and S. W. Wells, Liberty, N. Y. Reprinted from St. Louis Med. Gaz.

Tuberculous Diseases of Hip-Joint, Relation of Suppuration to Shortening of the Limbs in. By R. A. Hibbs, New York City. Reprinted from N. Y. Med. Jour.

Trade Pamphlets.

Caspar's Classified Catalogue of Medical Books. C. N. Caspar Co., Milwaukee, Wis.

Catalogue. Edison Mfg. Co., New York City.

Catalogue. Western Medical Supply Co., Chicago.

Catalogue of Works Pertaining to Medical Science. Chicago Medical Book Co., Chicago.

Concerning Hemaboloids and Anemia, etc. Palisade Manufacturing Company, Yonkers, N. Y.

Hunyadi-János Natural Mineral Water. Cloth, pp. 113. Illustrated. Budapest: Andreas Saxlehner, 1898.

Maltzyme Preparations. Malt-Diastase Co., New York City.

Manual of Nauheim Treatment. Triton Co., New York City.

"Medical Books," 1899. P. Blakiston's Son & Co., Philadelphia, Pa.

"Oliver Typewriter." Oliver Typewriter Co., Chicago.

Physician's Memorandum for 1899. Cloth. M. J. Breitenbach, New York City.

Successful Essays in Borolyptol. Palisade Mfg. Co., Yonkers, N. Y.

The Twentieth Century Movement. Am. Electric Vehicle Co., Chicago.

PUBLIC HEALTH.

Smallpox in Rochester, N. Y.—Two cases of smallpox were located in a hotel in Rochester, N. Y. The health officer, Dr. George W. Goler, put the hotel with its forty guests under quarantine and announced that no one could enter or leave for two weeks from January 15. A recruit of the regular army later sent to Fort Niagara, N. Y., constituted the original case. He was sick over a week before the nature of his illness was discovered, and was one of a number boarded at the hotel by the Government until the designated posts could be reached.

Consumption and Canaries.—Dr. Tucker Wise (*The Hospital*) says that, from his own observation, he is of opinion that in many instances diseased caged birds, such as canaries, communicate tuberculosis to a serious extent among human beings. As about four hundred thousand canaries are reputed to be sold every year in the United Kingdom, and as it is stated that tuberculosis is one of the most common diseases of birds, it does not seem unlikely that the canary may have considerable influence in the distribution of tuberculous infection.

Scarlet Fever in Bellevue Hospital, N. Y.—The authorities at Bellevue Hospital are somewhat in dread of an epidemic of scarlet fever. An interne of the first medical division, after his usual duties in the institution, developed scarlet fever, and was sent to the Minturn Hospital, a private institution. Not long after the physician's removal, a nurse reported a suspicious case in a male patient, aged 27 years, who was admitted at the request of a female companion, address unknown. A second message to the Board of Health ended in assigning the patient to the Willard Parker Hospital, which is a public institution, adjacent to the former mentioned.

Beriberi in the Brazilian Navy.—The Brazilian cruiser *Benjamin Constant* recently arrived at Bahia from Para, after having left Rio on a long practice trip. Beriberi had broken out suddenly among the crew, and twenty had died on the return trip. The Brazilian navy has always suffered much from beriberi. A. Britto tabulates the cases treated at the Marine Hospital from 1869 to 1881, a total of 425. In 1883 the *Nictheroy* arrived at Bahia from Rio with 111 cases on board. Pereira then proclaimed that naval vessels should not be ordered on long trips with an extensive crew, in those latitudes, when the temperature and the humidity are high. The ventilation should be better, and the clothes adapted to the climate.—*Gaceta Méd. da Bahia*, October, 1898.

Charities of New York State.—From an Albany (N. Y.) clipping we learn that the inmates and other beneficiaries of the institutions, societies and associations included within the jurisdiction of the State Board of Charities, aggregate over 2,500,000, and the expense of their maintenance amounts to nearly $22,000,000 annually. The following statistics show the number and classification of beneficiaries in institutions subject to the supervision of the Board, Oct. 1, 1898: Aged and friendless persons, 6627; almshouse inmates, 11,788; dependent children, 31,090; disabled soldiers and sailors, 1354; epileptics in almshouses, 193; epileptics in Craig Colony, 322; hospital patients, 9622; idiotic and feeble-minded in almshouses, 1085; idiotic and feeble-minded in State institutions, 1288; juvenile offenders, 3514; inmates of reformatories, 1686. Total, 71,013.

Non-Virulence of Dust in Military Barracks.—Kelsch has renewed his experimental inoculations with dust taken from barrack floors, and on the surface and neighborhood of cuspidors. He reports that not a single guinea-pig out of 122 thus inoculated showed the slightest trace of tuberculous lesion; 58 are in perfect health today, the rest succumbed to encysted peritonitis or septic phlegmasia, with the exception of 12, which were killed in the search for tuberculous lesions. Another series of ninety-one animals was inoculated with mucus from the nasal passages. Only one died of an acute generalized tuberculous infection, and this one had been inoculated from a vigorous cuirassier in perfect health; forty-one died of acute peritoneal phlegmasia; seventy-seven are still apparently well.—*Bull. de l'Acad. de Méd.*, Dec. 27, 1898.

Yellow Fever in Mexico.—Reports recently presented to the Mexican Government by experts sent to investigate the recent small epidemic at Tampico assert that the disease was not imported. No ships had entered the port from infected points, and the quarantine was too strict to allow any cases to enter the city. The disease also broke out in the center of the town, among persons who had recently come from the central tableland, and not in the shipping district. They conclude that in all Mexican ports the germs of yellow fever are always lying dormant, and that the combination of the necessary conditions with an appropriate "soil" may induce an epidemic at any time. Sanitary prophylaxis is the only means to put an end to this constant menace.—*Bol. del Consejo Sup. de Salubridad*, Dec. 21, 1898.

Dual Life Cycle of the Malarial Plasmodium.—What Surgeon-Major Ross has apparently established in regard to the proteosoma of the sparrow, that this parasite runs a part of its life cycle in the sparrow and the other or complementary part in the mosquito, has been applied to the malarial plasmodium by A. Davidson, and this theory affords a plausible explanation of many of the inconsistent facts observed in regard to malarial infection. The parasite runs the first part of the cycle in man and the second part in some variety or varieties of mosquito, or vice versa. If man is not present, there must be some animal in malarious regions which serves as the alternative host. He cites a number of instances in which domestic animals offered every symptom of malarial infection, but the only scientific report based on examination of the blood, is that of Dionisi, who "has at last found in certain mammals (bats), a malarial infection due to parasites resembling those of human malaria. The amebæ in these animals are present in great numbers; young annular forms are chiefly seen, but some pigmented forms are also present." He concludes his communication: "Observers in malarious countries should seek for the host in which the parasite normally runs the first part of its cycle. The diffusion of malaria will be found to depend largely upon the presence of this alternative host."—*Janus*, December, 1898.

Illinois State Board of Health.—At a recent meeting of the Illinois State Board of Health at Springfield, according to the press dispatches, the Board considered several recommendations of the secretary to be brought before the State legislature. One of the most important of these was the creation of a State board of medical examiners. The bill as prepared provides for a board of seven members and a secretary. Another calls for the creation of a local board of health in every city, village and town, and every county not under township organization, to make bi-monthly reports to the State Board, while a third provides that the board shall have the supervision of water-supplies and sewerage in all cities, towns and villages of the State, and that all plans for the introduction of new systems shall be submitted to the State Board of Health for approval. The following officers were elected: President, C. B. Johnson, Champaign; secretary and executive officer, J. A. Egan, Springfield; treasurer, R. F. Bennett, Litchfield.

Life-Saving and First-Aid Activity in Europe.—At the instigation of the Empress of Germany, who takes the greatest interest in the work of the ambulance societies, the Kaiser has founded a new decoration to be conferred on members of both sexes who have distinguished themselves in the interests of the Red Cross Society. This new order consists of three classes, that of the third and lowest class being a bronze medal, one side of which bears the red cross, with the initials of both their majesties; while on the other side are the words *Für Verdienste um das Rote Kreuz*, encircled by a branch of oak leaves. The order of the second class is in silver, with the cross in red enamel; and that of the first and highest class a medal in gold, also with a cross in red enamel, finely outlined with white enamel. Among some of the remarkable features at the Exhibition of Ambulances and Life-Saving Apparatus held lately at the Palais Royal, Paris, was a life-belt, hardly any larger than an ordinary waist-belt, but so constructed that in time of danger one has only to blow air in a tube and the belt gradually gets inflated, allowing one to float steadily on the surface until help arrives. This belt, the invention of Mr. Jean of Nevers, France, does away forever with the large and cumbersome cork belts, which, even in some instances are somewhat a source of danger—as it unfortunately happened at the terrible Margate surf-boat disaster. This new belt certainly meets a long-felt want.—*First Aid*, December, 1898.

Diphtheria in Schools.—For some years a professional controversy has been conducted between the medical officer of the London School Board and the medical officer of the London County Council with regard to the prevalence and spread of diphtheria among school children. Professor Smith rides a pretty high horse; he holds that school influence plays but an unimportant part in the enormous increase of diphtheria during recent years in London, and acting on his advice the school board has refused to allow medical officers of health to examine children in the board schools. Now Dr. Shirley Murphy has presented a valuable and almost conclusive report on the subject to the Public Health Committee, showing that the full recognition of compulsory school attendance in regard to the spread of diphtheria is absolutely necessary if efficient preventive and remedial measures are to be adopted. One fact alone is striking—during holiday periods the diphtheria rates fall remarkably, and rise again when the students reassemble. This is no isolated case, but conditions which have prevailed over a series of years. Anyhow, most people would think that Professor Smith would be only too pleased to have the co-operation of any medical officer in so important a matter as this. But no, his board will not budge, and so the London County Council is approaching the Local Government Board and the Education Department. In order to spare the feelings of the school board as much as possible, a preliminary conference has been suggested, but possibly acting on advice, the board may even refuse to send delegates to the Public Health Committee, preferring to spend all their time in academic and theologic discussions.—*Sanitary Record*, Dec. 9, 1898.

Plague in India.—From the *Lancet's* special correspondent in India (*Lancet*, January 7) we gather that in the city of Bangalore, with a population of 60,000, up to Dec. 2, 1898, there had been 2985 cases of the plague with 2361 deaths, the highest total on one day being on Nov. 11, 1898, when there were 122 cases reported. Up to Dec. 17, 1898, Madras city reports 4609 persons inoculated. The returns from the Bombay Presidency show a decline in the deaths, as well as in the number of cases, the death-rate still keeping at about 75 per cent., and the total number of cases from September, 1896, 196,458, and the deaths 155,054. The deaths in Bombay City for the week ending Dec. 17, 1898, were 61. Acting on the supposition that the rat is an active agent in propagating plague, the Bombay Health Department recently organized a systematic destruction of rats, and in the week ending Dec. 17, 1898, destroyed 5263. After the first outbreak the rat population was nearly exterminated, but during the interval preceding the next outbreak, the rat population being partially regenerated was again reduced by the plague. Recognizing their failure to limit the disease, the Government has concluded to encourage voluntary reporting of cases and hopes to achieve this by making the hospitals attractive and taking measures to eliminate the lesser discomforts and loss resulting from disinfection, and obviate the hardships of the temporary removal of the poorer class from infected houses and streets. It is believed that as long as hospitals are regarded with suspicion and dislike there will be concealment of cases, so the hospitals are to be ornamented with flowers, plants and hakims, and the patients will be permitted to employ native practitioners. Again, in the poorer classes the family of the bread-winner is to be supported during his incapacity, and in the event of death supervening, funeral expenses will be paid. Also compensation is to be made for the destruction of any clothing, and the expenses of temporary removal from the infected home are to be paid.

The Pocono Region as a Health Resort.—The advantages offered by the State of Pennsylvania and the question of health resorts have never been brought prominently before the people of the United States as they should be, while the Adirondack Mountains have been lauded to the skies. As a result, thousands from this State, as well as from others, have flocked thither. In Pennsylvania there could be found regions just as health-giving, and at the same time easy of access. During the year 1896, the Pocono district has been free from epidemics of any serious character. Only two cases of typhoid fever have been reported, both unquestionably imported, returning from a distance to be nursed at home. Four cases of diphtheria and five of scarlet fever constituted the only contagious diseases. No malaria existed. This region has in its borders a large number of resorts, resulting in a large transient as well as permanent population. The population is 3950. The altitude of Mount Pocono, the most central station on the Delaware, Lackawanna & Western Railroad, is 1800 feet above the sea, while within a radius of two or three miles from this point, accommodations could be found ranging from first-class hotels to comfortable farm houses, at altitudes varying from 1400 to 2200 feet. The soil, being composed of sand, gravel and broken stone, provides a natural filter-bed. For this reason the drainage in most sections is perfect, and all surface water disappears very rapidly after a heavy rain. Streams of crystal clearness and uniformly cold abound in all the valleys, while the hillsides are full of springs. Bacteriologic examinations of a sample of spring water proved it to be sterile and free from germs even of a harmless nature.—*Public Health*, December, 1898.

The Purgation of Havana.—The high cost of cleansing a chronically filthy city is indicated in the recent report by the late Colonel Waring, who was an expert particularly well fitted to take a wide and full view of the needs of a city like Havana. For more than a century Cuba has not only been a pest-hole for the natives of the island, but has been likewise a distributing center to every one of the Southern States doing business in its ports. Dr. Bruner, the officer of the Marine-Hospital Service stationed at Havana, and a gentleman well qualified to give an opinion on the subject, has stated that during the last hundred years the South has lost more in property and treasure as the result of the pestilences imported from Cuba than could be covered by all the pecuniary calamities inflicted upon it by the Civil War. And this damage will doubtless go on so long as Havana remains in its present state of pestilence-breeding activity. The *New York Times* says of the report of Colonel Waring, that it leaves no doubt in regard to the duty of this country in respect to the sanitation of Havana. Our duty is also, as the report points out, our interest. We should have been entitled to interfere to expel Spanish misgovernment from Cuba in order to prevent Spain from keeping up a chronic menace, occasionally fulfilled, of the epidemic of a filthy disease, as we were in interfering to prevent her from starving the Cubans to death. Colonel Waring's estimate of the cost in mere money of a single epidemic of yellow fever at $100,000,000 does not seem extravagant. And this chronic danger he considered that we could remove absolutely and permanently by an expenditure of $10,000,000, including a complete system of paving as well as of sewerage. For this sum we can clean Havana, and provide the means of keeping it clean, convert it from a pest-hole into a place not only habitable for its own immune population, but safe for strangers to visit for business or pleasure, at all seasons of the year.

Boards of Health in Porto Rico.—Gen. Guy V. Henry, military commander of the Department of Porto Rico, has issued a general order establishing boards of health in the islands. The Board constituted at San Juan is composed of: 1. Capt. L. P. Davison, Fifth U. S. Infantry, the president of the Board and Executive Officer and Sanitary Inspector of the Island; 2. The health officer of the port; 3. The health officer of the city, and, 4 and 5, two members of the City Council to be selected by that body, one member having special interest and knowledge of street cleaning, policing, etc., the other member having knowledge of public works, water-supply, sewerage, etc. Military commanders of districts are required to have similar boards organized in their towns. In the absence of troops the alcalde will be the head of the Board; the number of councilmen may be reduced to one, and at towns not on the sea the health officer of the port will be omitted. These Boards will gather vital statistics and other information, and will make recommendations, which they will forward to the Board at San Juan. This Board will keep the department commander informed of all matters needing his attention. The Board at San Juan will formulate regulations governing sanitary surroundings, overcrowding of buildings, policing of houses inside, front and rear, throwing of refuse matter of any kind into the street or on the ground, and the proper clothing of men, women and children, or exposure of person. The Board will also fix a fine for the violation of such regulations, said fine to be collected and turned into the municipal treasury for charitable purposes. In the event of failure to pay this fine, an imprisonment for a fixed number of days will be imposed and carried out by each alcalde. The regulations fixed by the Board at San Juan to govern at other places as well will be complied with, and any failure to carry out its orders will be reported, so that other action may be taken.

Governor Hastings' Proclamation and Health Matters.—The proclamation of Governor Hastings of Pennsylvania has been made public and contains items of interest to medical men as follows: "The humane and economic care of the different classes of the indigent insane, as well as the proper management of the penal institutions of the State, will, I doubt not, call for additional legislation. The State hospitals contained at the close of 1897 over 1500 patients in excess of their capacity and 250 more than during the previous year. The annual increase in the number of indigent insane in all the institutions in the State is about 550 new cases. If they were all to be provided for in State hospitals, considering the increasing number of new cases, it would reqire the erection of a new hospital every three years at a cost of from $2,000,000 to $3,000,000 for each new institution." "There is now urgent need of separate hospital care for indigent epileptics and the epileptic insane. There is no chronic brain malady, insanity excepted, that renders helpless so large a proportion of our citizens or that appeals more powerfully to human sympathy. It is suprising to know that there is one epileptic in every 1000 persons in this commonwealth. In the five State hospitals for the insane there are now confined 520 cases of epilepsy in its different forms. Epileptics have no true place in the hospitals for the insane. If all epileptics were to be placed together, without opportunity or space for classification, they would react unfavorably upon each other. They should be gathered together in institutions specially designed for their care, such as in the States of Ohio, New York, Massachusetts and California. The State should do well to purchase a farm of 500 acres in extent and erect thereon a hospital on the cottage plan, each cottage to contain a limited number of inmates suitably classified." "The present average per capita cost for maintenance in the State hospital ranges but little less than the $3.75 fixed by law. While this sum is not extravagant as applied to treatment of acute cases and those requiring hospital care, it certainly is extravagant and unnecessary as applied to the actual requirements of the quiet chronic cases. The quarantine for the port of Philadelphia should, in my judgment, receive enlarged powers and facilities, and if the treasury will warrant it, should have a quarantine boat, to be made of steel, constructed to meet the emergencies of the service and with a high rate of speed." The latter suggestion is offered by the Governor in view of the fact that there will soon be increased trade with the West Indies, with a consequent danger in the introduction of yellow fever and smallpox.

Study of Tropic Disease as an Aid to Civilization.—According to custom, we mention in our columns the medical subjects that events may bring to the front from time to time. Among the more important of those claiming not only public but medical attention during the last few months is the subject of tropic disease. It is, therefore, with much gratification that we note the aims of our British kinsmen in establishing the London School of Tropical Medicine, which is justly claimed to be an aid to civilization. The school is an extension of the Seaman's Hospital Society of their branch hospital already existing and is to be established in the neighborhood of the Albert Docks as an addition to the hospital already existing. We are told that this establishment of this school is an idea very largely due to the initiation of Mr. Chamberlain, as Colonial Secretary, who has lately given more than one proof of his conviction that the study of diseases, to which Europeans living in tropic countries are specially susceptible, is a duty of the State, and more especially the duty of so great a colonizing State as Britain. One evidence of this conviction has been the appointment of a Commission to investigate the subject of tropic malaria. Three medical officers have been selected for the work in Africa—Dr. Daniels, of the Colonial office medical service, Dr. Stevens, and Dr. Christopher. Dr. Daniels has already sailed for India in order to make himself acquainted with the recent observations of Surgeon-Major Ronald Ross, of the Indian Medical Service, concerning the spread of malarial disease with certain species of mosquitoes. The two other investigators will go direct to Nyassaland in British Central Africa to study malarial disease in that locality, and will be joined eventually by Dr. Daniels. With the knowledge acquired in a comparatively temperate climate, where, however, fever has of late years been comparatively fatal the three medical officers will at a later date visit West Africa, possibly on the Niger. The investigations are expected to last two years, and they will report at intervals to a committee jointly appointed by the Royal Society—a contribution—and by the Colonial Secretary. It is to investigations such as this that the training to be received at the School of Tropical Medicine will be a preliminary and a preparation. The necessity for it is clear. In its absence medical men go to all parts of the world, and are there confronted by diseases, both in Europeans and natives, such as they have never seen before, and which in the great majority of instances they have no opportunity to study. One can soon run up a deadly list. There is, to take the case nearest England, Malta fever—in which a satisfactory means of fighting the herpetomonas parasite has not yet been found. There is malaria in Central Africa, in West Africa, and another variety off the coast of New Guinea. There is "black-water fever," which Dr. Koch, in an opinion diametrically opposed to most observers, has declared to be due to quinin poisoning, but which every other investigator believes to be due to a parasite. There is leprosy, there is cholera, there is dysentery, there is Madura foot, there is the growing terror, enteric fever; and there is the plague. How vitally necessary information is with respect to some of these scourges, and the kind of information that will have to be undertaken some day with respect to them, can be gathered from the Commission now investigating the plague in India. It includes Dr. Fraser, F.R.S., Dr. Wright of Netley, and Dr. Rüffer, late head of the Egyptian Sanitary Department, and it is investigating; 1, the origin of the different outbreaks; 2, the manner in which the disease is communicated, and 3, the effect of certain prophylactic and curative serums that have been tried or recommended for the disease. The last clause of the last sentence indicates to some extent what will be the work in the "bacteriologic laboratories of the new school. Such a laboratory is necessary for the hospital's equipment. The Albert Docks branch of the Seaman's Hospital is, in spite of some opinions in detraction of the scheme, a very good nucleus for the school, because although the number of cases actually suffering from the more obscure or less well-known of tropic diseases is not large, still there are some. For one cause or another the twenty-three beds which the hospital provides are always full, and there is every reason to believe that the demands on the forty-five beds to which the number is to be brought up will be equally pressing. The total cost of the scheme of enlargement of the hospital and construction of the school will be upward of £16,000, and it is estimated that the expenditure will be £3000 a year. The Colonial Office has headed the list with a sum of £3,500 as a contribution toward the cost of erecting and equipping the school. It is estimated that the students sent by the Government will contribute toward the cost of the maintenance of the school about £1000 a year. Public subscriptions and arrangements for the scheme are making satisfactory progress, as evidenced by the appointment of a highly competent sub-committee who are perfecting the details of the curriculum and of the new building which it is announced will be completed by next October. Believing that the foregoing scheme has much suggestiveness of a practical character that may benefit many of our countrymen interested in the subject, we take pleasure in bringing it to the attention of the readers of the JOURNAL.

MISCELLANY.

Milwaukee (?) Physician.—Some time ago the Treasurer received from some physician in Wisconsin, a communication with $5.00, but the physician neglecting to sign the letter or give address, proper credit could not be given. The same person now writes to inform us that his dues have not been credited, but again neglects to give his name or address.

Surgeon-General Sternberg.—Dr. Sternberg has returned to Washington, D. C., from his recent tour of inspection in Cuba.

Dr. Thomas G. Lee, of the Medical Department of the University of Minnesota, Minneapolis, has gone to Paris on leave of absence.

New Orleans Physician Honored.—We learn that Dr. Fred Loeber, has been decorated with the Order of the Crown, by the Emperor of Germany.

Ohio Medical University.—We learn that George W. Matson, M.D., has been made professor of materia medica, Andrew Timberman, M. D., professor of laryngology and rhinology, E. F. Wilson, M.D., professor of therapeutics, Thomas G. Youmans, M.D., professor of dermatology, the former incumbents of these chairs having recently resigned from the faculty.

Memorial to Feulard.—A portrait tablet has been erected at the Saint-Louis hospital at Paris, to the memory of the talented young physician, H. Feulard, who lost his life at the Charity Bazaar fire, trying to save others. His pet projects, the foundation of a central library for the hospitals and the installation of a complete photographic laboratory to supplement the wonderful museum at the Saint-Louis, are approaching realization as further tributes to his memory.

Health Officer, Port of New York.—Dr. Alvah H. Doty has been renominated by Governor Roosevelt for a second term of four years as Health Officer of the Port of New York. The annual salary of the office is $12,500. Dr. Doty was first appointed by Governor Morton in 1895 and his term expired Jan. 1, 1891. He would have been re-appointed before had not this fact been overlooked. The Governor considers Dr. Doty one of the most efficient and faithful officers in the State service. They were together on the New York Board of Health and their relations have always been cordial.—*N. Y. Sun.*

"Ohio Medical Gazette."—We learn that Dr. James M. French, editor, will accept the police surgeonship, Cincinnati, Ohio, succeeding the late C. L. Armstrong, M.D.

"Tri-State Medical Journal and Practitioner."—Dr. James Moore Ball has severed his connection with this publication, as chief editor, retaining an associate editorship. Dr. Warren B. Outten, St, Louis, succeeds him.

"Kansas City Medical Index."—Dr. Charles B. Hardin, professor of physical diagnosis in the Medico-Chirurgical College of Kansas City, has become associate editor of the *Kansas City Medical Index.*

New Publications.—A new periodical, the *Zeitschrift für Augenheilkunde*, devoted to ophthalmology, is to appear during January, 1899, published at Berlin and edited by Geh. Med. Rath Kuhnt, of Königsberg, Prussia, and Professor von Michel of Würzburg . . *Climate*, a magazine of medicine which began publication in November, 1898, has been received. This quarterly is edited by S. Claiborne, Jr., M.D., of St. Louis, and published at $1.00 a year.

A Journal Change.—The *Kansas Medical Journal*, Topeka, Kan., has been discontinued, and its former editor, Dr. W. E. McVey, will have editorial control of the *Medical Monograph*, which will be published monthly in place of the *Kansas Medical Journal.*

Experimental Hydronephrosis.—Hildebrand and Haga confirm Tuffier's experience that if the ureter is crooked by being drawn up with a loose thread, the portion above dilates and hydronephrosis inevitably results, as follows when the ureter is ligated. But hydronephrosis failed to follow the making of a wandering kidney by shelling the organ out of its capsule, even when it was twisted with the ureter twice on its axis.—*Cbl. f. Chir.*, Dec. 24, 1898.

Tuberculosis of Mammary Gland.—In a paper on this subject (*Annals of Surgery*, December, 1898), LeCount considers the history, symptomatology and clinical course and presents cases. He points out that in the beginning there may be no recognizable symptoms. In the disseminated nodular or discrete type, in only a few cases is the volume of the breast augmented or its contour changed, and the skin covering the gland is normal in appearance, non-adherent to the intraglandular mass, and with no fistulæ opening on its surface. Palpation reveals one or more nodules, movable, hard, and but slightly painful on pressure. At times ill defined, their outline is usually distinct and slowly increasing in size, they soften, caseate and in the end form fistulæ. Where a simple nodule is present it is usually in the upper and outer quadrant of the organ; where a number are present, they are usually distributed through the gland. The most characteristic features of this disseminated form are the extreme chronicity of the process and its painless and insidious development. In the confluent form of the disease there is more acute onset, greater pain and rapid enlargement of the gland.

Anatomic Investigation of Hypertrophied Prostate.—B. Motz reports the results of the examination of 130 cases in Guyon's clinic with the necropsies of those who died. He found that no subject was under 50 years of age. The size of the gland was nearly normal in one-fourth of all the cases, which indicates that the disturbances are not all to be ascribed to hypertrophy of the gland. There seemed to be no connection between the size of the gland and the age, but on the other hand, a decided hypertrophy was always accompanied by advanced arteriosclerosis. He also considers the assertion justified that the size of the prostate is always in direct proportion to the size of the testes, concluding that true hypertrophy of the prostate is a normal, although rather tardy development, consequent upon the increased energy of the genital apparatus.—*Cbl. f. Chir.*, Dec. 24, 1898.

Gunshot Wound of the Head.—Barritt (*Lancet*, January 7) reports a case of penetration of the brain by an iron ramrod, in a boy 15 years of age. A complete recovery followed, clearly showing, like other lesions previously reported, that the brain can sustain injuries which one would consider to be absolutely atal and yet will recover without any apparent detriment to ts structure, although the parts injured were in the left fron-al lobe of the brain, where some loss of function might be considered almost certain.

Gastric Origin of Rachitis.—L. Raulin states that the condiions of digestion in rachitic children are decidedly abnormal. The secreting function is extremely defective, and also the uality of the secretions. The chloro-organic compounds, instead of being normally acid, are neutral or even ammoniac. he amount of chlorin is below the average. There is no free ydrochloric acid. The organism suffers from the lack of roperly digested nourishment, and the stomach is the seat of bnormal organic ferments generating acids, principally lactic cid, which affect the bone substance unfavorably, especially he phosphates. The abnormal chloro-organic compounds robably aid in forming digestive toxins which disturb the utrition of the cells throughout the organism. He urges furer research in this line, as his material was limited.—*Archives in. de Bordeaux*, October, 1898.

Quinin in Fever.—G. M. da Silva Jones of Lisbon considers e ordinary sulphate of quinin the essential treatment of fever, on account of its chemic affinity for carbon dioxid. He has noted that the calorification of fever is distinguished from normal, as far as the secretions are concerned, by an excess of carbon dioxid, and consequently too many non-saturated alkaline phosphates, and an excess of acids, hydrochloric, phosphoric acid, etc., and also by an excess of oxygenated water which, by exaggerating the organic combustions, keeps adding to the excess of carbon dioxid. Quinin, especially the sulphate, seizes the carbon dioxid, whether it is free or combined with an alkaline base, and eliminates it as these bases and the hemoglobin eliminate it in normal conditions, but to a much greater extent, and it also decomposes the dimetallic phosphates which are dissolved in a larger proportion during fever, forming with the soluble chlorids an excess of hydrochloric acid. The action of quinin in fever is more marked, as the stomach and lungs are working normally. This communication was presented at Moscow, but is published in full in the *Jornal das Sci. Méd. de Lisbon*, 1898, 4 and 5. Van Marter recommends Warburg's tincture, as it affects the toxins and the malaria plasmodium in some unknown way, and enables the organism to derive greater benefit from the quinin, which has no effect upon the toxins. He considers quinin valuable in every form of intermittent fever, but that it fails in a continuous fever. Hemoglobinuria is a counter-indication for quinin.—*Louisville Med. Monthly*, September, 1898.

Uterine Infection.—Rondino of Naples has produced postpuerperal infection in guinea-pigs, by injecting cultures of microbes into the uterus—streptococcus, bacterium coli, Lœffler and anthrax bacillus. The diapedesis of the leucocytes can even take place through the epithelium of the healthy mucosa, without puerperal conditions.—*Bull. de l'Acad. de Méd.*, Dec. 13, 1898.

Fatty Matters in Tubercle Bacillus.—Auclair isolated the fats and wax that form 27 per cent. of the body of the tubercle bacillus and injected them, dissolved in ether, chloroform or benzin, into animals, subcutaneously, producing each time a nodule and chancrous ulceration, which healed after a longer or shorter interval. This process occurred with each injection and more rapidly as the injections had been more numerous. Injected into the trachea he succeeded in producing a genuine caseous pneumonia, histologically the same as in man.—*Bul. de l'Acad. de Méd.*, Nov. 22, 1898.

Treatment of Uterine Fibroids.—E. E. Mongomery (*Penn. Med. Jour.*, December, 1898) maintains that there are many uteri from which a sessile, submucous, an interstitial fibroid, or multiple growths, can be removed by enucleation, leaving a healthy functionating organ. "This practice," he says, "under proper aseptic precautions, is attended with less shock and discomfort to the patient than the apparently more simple operation of extirpation of the organ. Whether the growth shall be attacked through the vagina or by way of abdominal incision will depend upon its situation, size and the previous condition of the patient. Pedunculated or sessile, submucous and interstitial growths which have not attained too large a size to pass through the pelvis should be attacked through the vagina unless the patient is unmarried and the vaginal orifice undilated. When the growth is so large as to rest above the pelvis, the uterus is occupied by multiple growths, possibly comprising every variety, or the vagina is small, the abdominal route is preferable. Necessarily, not every patient will present conditions favorable for such an operation. The uterine structure may be so extensively involved as to preclude its successful retention, or be complicated by disease of the appendages, so severe as to render restoration of function impossible. In such cases a sacrificial operation must be done."

Disappearance of Poisons from the Blood.—Professor Heymans of Ghent has been studying the interval that elapses after a poison has been introduced into the blood until its entire disappearance from the circulation: while minimal for fulminating poisons, like prussic acid, it may last hours or even days in the case of others. Gradually removing two-thirds of the blood from an uninfected animal, he found two to six minutes the average length of the period during which an animal could be saved after an intravenous injection of "either of the dinitrites, succinic, malinnic or pyrotartaric," although death followed an undisturbed intoxication after an interval that varied from an hour and a half to four hours. He is inclined to attribute this difference in the length of survival to the varying length of time before the cells succumb to the effect of the different poisons. He has also established that tetanus and diphtheria toxin and venom pass almost immediately from the blood into the cells, and that withdrawing large amounts of blood will not save the animal except immediately after the inoculation. On the other hand, it is abundantly proven that the diphtheria and tetanus serums are able to save animals even hours after the infection, which shows that the serum must follow the toxin into the cells and neutralize it there. These facts seem to render dubious the efficacy of lavage of the blood in infections. —*Gaz. Méd. Belge.*, Dec. 15, 1898.

Mineral Salts and Thermogenesis.—Insinna and Dolce have been investigating the effect of the ingestion of mineral salts on the production of heat, and find that salt, for instance, while promoting the oxidating processes, renders possible an increased production of heat with a diminished supply of combustible material. This may be due to the combination of the salt with other mineral salts, thus generating heat, or possibly to its promotion of oxidation or other chemic processes that can not take place without a certain amount of mineral elements. In either case they exert a vital energy in a potential state in the organic material.—*Gaz. degli Osp.*, Dec. 18, 1898.

Physical Training in Pulmonary Tuberculosis.—Ingals (*Dietetic and Hygienic Gaz.*, December, 1898), in discussing the value of systematic physical training in prevention and cure of pulmonary tuberculosis, says: One of the first injunctions we should place upon the patient who has any reason to anticipate the development of pulmonary tuberculosis is that he should expand the lungs thoroughly several times every day. We must also personally inspect his mode of breathing to see that he knows how to carry out our instructions. In order to expand the lungs the patient should be directed to draw in the abdominal walls and take a long, deep breath, while the shoulders are carried gradually backward, and the ribs and sternum elevated as far as possible; he should hold his breath for a few seconds and then blow it out slowly and forcibly through a small opening between the lips. In this way not only the air-cells which can be reached by direct inspiration are inflated, but also those at the apices and along the border of the lungs, which otherwise might not be distended. One has only to try this method a few times when out of breath after active exercise to ascertain how much more effective it is than the ordinary method of respiration employed by those who have had no physical training. By a few deep inspirations, such as just described, the healthy individual who has exhausted his breath will find that he can speedily recover it; whereas, by the usual respiratory efforts, he will pant for several minutes before he can obtain relief.

School of Medicine at Beyrout.—According to the *Brit. Med. Jour.* (Dec. 31, 1898, p. 1961), there is a medical school which rejoices in the unique privilege of having a Jesuit as its Director, the French Medical School at Beyrout, Syria. The teaching staff consists of eight French medical men, all former internes of French hospitals and holding the doctor's degree of the Universities of Paris, Lyons and Montpellier. There are departments of chemistry and pharmacy and a laboratory of microbiology, all under the direction of French men of science. Recently a midwifery clinic has been added. The number of pupils is 130. It is only recently that the school has begun to grant diplomas, and at present the average output is about ten a year. A prolonged struggle has been carried on to get these diplomas recognized as valid by the Turkish Government; but now, it is stated, the matter is on the point of being settled in a satisfactory manner.

Rupture of the Bladder.—Drappier reports the case of a farmer kicked by a horse, after being thrown, rupturing and emptying the bladder. The perforation must have been small, and, occurring when the organ was very much distended, was closed by the contraction of the empty organ, and rapidly healed. The harmlessness of so large an amount of urine in the abdominal cavity confirms Tuffier's assertions in regard to the rapid absorption of aseptic urine by the peritoneum.—*Journ. des Sci. Méd. de Lille*, December 10.

Rupture of the Heart.—P. Hampeln has observed seven cases, all fatal, and notes that rupture of the pericardial portion of the aorta is accompanied by greater pain in the epigastrium than rupture of the heart proper. In both, the predominant symptoms are extreme weakness of the heart, and pain. There is no severe anemia as the loss of blood is slight. Death is not due to hemorrhage but to compression of the heart by the acute pericardial stretching and tension in case of rupture of the aorta. As the tension in case of rupture of the heart is not excessive, death must follow the extensive destruction of the heart musculature by the rupture. It is impossible to differentiate a rupture from any other fatally tending acute affection of the aorta, such as occlusion of the coronary or dissecting aneurysm. Aspiration of the blood might be attempted in rupture of the aorta, but measures to quiet the organ and soothe the pain are required for rupture of the heart. Stimulants are counter-indicated in each case.—*St. Petersburg Med. Woch.*, December 10.

Congenital Luxation of the Hip.—Kümmel has been investigating the ultimate results of forty-five cases in which he reduced the luxation by the Pravaz-Lorenz method during the last two and a half years. He has been surprised and gratified to find the functional results much better than he had anticipated. Radiographs taken before and after treatment showed the entire absence of an acetabulum in many cases, and yet a firm support has developed in the pelvis, holding the head in such a position that the gait and movements of the limb are most satisfactory. The aim is to fix the head, which puts an end to the abnormal movements. Whether the head is in the spot where it anatomically belongs is not so very important. The essential point is to hold it firm. In most cases the screw is unnecessary; the limb is merely stretched and the transposition o the head affected. He advises against treating both limbs a once. The operation failed in only a few isolated cases, i which the head could not be held firm. In nearly every cas with or without an acetabulum, there is no fatigue, the hea is "fixed," and the lordosis compensated.—*Munich Med Woch.*, Dec. 20, 1898.

Concerning Children.—In a "Chat Concerning Children' (*Dietetic and Hygienic Gaz.*, December, 1898), Dr. I. N. Lov of St. Louis says, among other things: "The physical training should be begun at birth, if not before, and continued til adult life and after; the mental can be left pretty well t itself for the first few years. Indeed there is danger in premature mental training, but the moral education should be begu in the cradle. The regularity which we physicians insist upo in the daily life of the infant for physical reasons helps it moral education. . . . Systems, rules and regularitie which develop directness and certainty of conduct are helpfu morally and intellectually. . . . Their emotional impulse need to be constantly controlled, kept in check. Childre large and small, are always in much more danger of losin their head than their heart. We can not too strongly impres the mother with the fact that the systematic régime for her babe is then not only helpful, necessary, physically, but that it is in fact the first step in mental and moral education, developing self-control and obedience."

Hysteria a Vigilambulism.—According to a recent theory, "hysteria is a physical, functional disturbance of the brain, consisting in a torpor or actual sleep, local or generalized, transient or permanent, of the cerebral centers, with manifestations that vary with the centers affected, vasomotor or trophic, visceral, sensorial or sensitive, motor or psychic, and according to the degree and permanence of the disturbance, causing transient seizures, permanent stigmata or paroxysms. A confirmed hysteric is a vigilambulist, sleeping more or less profoundly, and more or less extensively."—*Bull de l'Acad. de Méd.*, Oct. 18, 1898.

Delirium from Auto-intoxication.—Prof. E. Régis contributes a careful study of eight cases in literature and two personal, in which an acute psychosis appeared, similar or identic with what is known as "delirium acutum," but without the fever or the remissions usual with the latter, terminating fatally in eight to fourteen days, with heart failure, or cured in a few of the cases with heroic measures to abolish the coprostasis. (Alessi's case was mentioned in the JOURNAL at the time, cured with .8 gm. calomel and .6 gm. of scammony.) The pathologic anatomic characteristics are a hyperemia and edema of the brain, a great afflux of blood to the lungs, and a parenchymatous degeneration of the kidney, liver and heart, with a tendency to secondary formations in the intestine.—*Archives Clin. de Bordeaux*, October, 1898.

Arterial Sclerosis.—Two important and almost pathognomonic signs of hypertension of the arteries are, according to Professor Huchard (Paris letter: *Med. Press and Cir.*, London, Jan. , 1899), diastolic sonorous bruit heard at the base of the heart and on the right side of the sternum. i. e., on the aorta, and the stability of the pulse, regardless of position. In the normal state the pulse diminishes by six to eight beats in the horzontal position of ordinary individuals, but in sclerosis the pulsation remains the same as in the vertical position. Treatment should have reference to the cause and the effect of the hypertension.

Antitetanic Serum by Intracerebral Injection.—In the *Brit. Med. Jour.* (Jan. 7, 1889, p. 10), Sempeke reports a case of tetanus n which he used tetanus antitoxin intracerebrally, by the Roux and Borrel method (vide JOURNAL, Jan. 7, 1899, p. 83), ut in addition the patient received 20 c.c., hypodermically, n the flank, daily for three days. The intracerebral injection was 2.5 c.c. in each frontal lobe of the brain, of doubly strong antitetanic serum. He describes the operation in detail. Reovery followed.

Etiology of the "Lymphatic Temperament."—Camescasse ascribes his condition to an ordinary infection in early childhood, when he lymph-glands are larger than later in life. A simple infecon of the nasopharynx may lead to infection of the cervical ands, which in turn affect the entire lymphatic system, procing the "scrofulous" condition, preparing a soil for future berculous and other infection. "Avoid ordinary infections. hey may prove more disastrous than the most dreaded infecon later in life. The presence of a single child with impetigo, n a school, may lay the foundations for the lymphatic temperment in countless others." Kalach considers his statements aggerated.—*Bul. de l'Acad. de Méd.*, Nov. 15, 1898.

Mice in the Intestines.—W. Fritz of Bischofsheim relates in e *Munich Med. Woch.* of December 27, that a three-year-old ild brought to him with every indication of ileus from invagation, responded to a copious enema and castor-oil by the acuation of two putrefied mice. He does not attempt to exlain how the mice arrived in the intestines, but merely inires if any other confrère ever had a similar experience.

Influenza not Contagious.—Dr. Curtis, of the N. Y. State Board of Health, claims that influenza is not contagious from the fact that its onset is too sudden, simultaneous and far-reaching. Probably a humid and loaded atmosphere, along with the absence of sunshine as a snow melter, is the chief factor of its universality. Hence sanitation of city streets needs prompt attention. The people may sometimes be right.

Trichinosis.—Cases of trichinosis were recently reported at Croton, Ohio (*Ohio Sanitary Bul.*, January), the seven members of one and nine members of another family being more or less affected. Indications tend to show that the diseased meat came from hogs which had been fed a number of rats, which animals are frequently affected with trichinosis.

New Method of Disinfection.—According to the *Sanitary Record* of January 6, a mixture of formaldehyde and glycerin is sprayed into a room to be disinfected, until a thick fog results, by means of a specially constructed apparatus. For 1000 cubic feet, about four pounds of the mixture are needed. The room need not be hermetically closed during the disinfection, the circulation of air assisting in spreading the disinfectant. Three hours' exposure was found to be sufficient to kill all germs in the room experimented on, though the test-objects were purposely chosen of the most refractory nature. For instance, pieces of linen thickly coated with a paste of white of egg and garden soil, dried in an incubator; layers of soil three or four millimeters thick with potato skins under and above them. These were placed open and covered at various heights in the room, in recesses in the wall, on the floor, under furniture, in tall glass cylinders, or in shorter cylinders under a layer of wadding, in the pockets of thick clothing, etc. Live guinea pigs and rabbits were found to be freed from bacteria in their skins, their bedding straw, and their excrement. The advantageous effect of adding the glycerin to formaldehyde is attributed to its hygroscopic character and its power of adhering and penetrating.

Low Official Standards of Milk Purity.—Dr. Harold Scurfield, medical officer of health of Sunderland, England, in his last annual report adverts to the low milk standards that have been established. It is practically impossible for the mixed milk of several cows to be as poor in quality as the governmental standard, unless the cows are improperly fed, or are unfit for dairy purposes, and it is much to be hoped that the standard for genuine milk will ere long be raised. So far as the consumer is concerned, it matters little whether the milk is made watery by feeding the cow poorly, say with an excess of brewers' grains, or by actually adding water to the milk. To avoid the risk of injustice being done by the adoption of a higher standard for milk it might be made permissible in doubtful cases, for the dairy farmer to state from what cows the dubious samples came, and for a second sample to be taken, the cows being milked in the presence of the inspector. Then, if two samples corresponded, this would be considered a valid defence against the charge of adulteration. The proceedings alone would be sufficient punishment for the poor feeding.

Sanitation in Havana.—At a meeting of one hundred physicians, in Havana, Cuba, January 18, it was determined to make a house-to-house canvass of the city, one physician being assigned to each of the 100 districts into which the city is to be divided for this purpose.

Concerning Antitoxin.—The potency of Mulford's antitoxin, known as Standard and formerly containing 100 units per c.c., has been increased in unit strength to 350 units per c.c. All the sizes of Standard (Special), excepting No. 4, containing 3000 units, will now be furnished in the new package. Standard containing 100 units in each c.c. will be supplied in glass-stoppered vials on order specifying this strength. Concentrated antitoxin contains from 500 to 800 units per c.c., and is to be preferred because the smaller bulk insures quicker absorption and more prompt results.

Examination for Funeral Directors and Embalmers.—The third examination was held in East St. Louis, Ill., January 24. Dr. Ludwig Hektoen of Chicago, J. C. Sullivan, of Cairo, H. D. Sheldon of Chicago, W. V. McKinstry of Delavan, Frank Ketchum of Chicago and Dr. J. A. Egan, secretary of the State Board of Health, constitute the Examining Committee. The result of the examination held in Chicago, Dec. 6 and 7, 1898, was as follows: Applicants present, 340; took examination, 306, of whom 265 passed the written and practical examination, and 4 passed the written but did not take the practical.

Missouri Medical Legislation.—A bill has been introduced in the legislature, which aims at better regulation of medical practice in that State.

Fees of Expert Witnesses.—According to the ruling of a New York judge, this subject may become a matter of inquiry. He gave his opinion in the following language: "But, with the imperfections that are conceded to exist in expert testimony, we think that the plainest dictates of justice require that the opposing party should have every opportunity to inquire into the fairness and interest of the expert, as well as into his scientific skill and knowledge. Plainly, the size of a fee a witness is to receive for his testimony may, in the case of a weak character, bias his judgment, and the parties and the jury are entitled to know just what compensation an expert witness has received or is to receive."

Report of Cooper Hospital.—The following is a report of the Cooper Hospital, Camden, N. J.: Number of new patients received, 584; discharged cured, 410; improved, 90; unimproved 10; died, 59. Patients treated, 12,972.

State Hospital for Consumptives.—According to press dispatches, the Michigan State Board of Health has decided to ask the Legislature to establish a State hospital for consumptives and to enact a law providing for the better reporting of consumption to local health officers and also for a law providing for a board of State medical examiners.

The Wisconsin County Asylum System.—Dr. C. B. Burr has had occasion to inspect the insane asylums of that State, and it is reported in the *Charities Review* for December, that they were found open to great improvement. The county system of that State has been greatly praised in some quarters, but according to Dr. Burr it can not be favorably considered in comparison with the system of State care. Dr. Burr sums up his objections to the county asylum system as follows: 1, absence of the hospital idea; 2, lack of medical oversight; 3, the inadequate care of patients, particularly of the filthy and feeble classes and epileptics; 4, lack of sufficient attendants, which necessitates patients remaining too much indoors, particularly in the winter time; 5, lack of standards of care prescribed and enforced by central authority, superior to politics, as shown in the extreme variation in per capita cost and differences in beds, furnishings and attendance; 6, lack of sufficient State supervision, and 7, frequent lack of discriminating local supervision, this due chiefly to absence of knowledge of the requirements of the insane and the desire to make favorable financial showings to the Board of Supervisors. The above conclusions show that in Wisconsin there are conditions that call to mind the state of affairs that existed in New York previous to the "State Care Act," when although there did exist some well-conducted county asylums, there existed many others that were a disgrace to the name. There was no standard of care for the inmates which could be used as a basis of comparison with other systems. In New York, for instance, the care of all the chronic insane is absolutely uniform, and an investigation of one institution will show the standard of a [illegible] It remains to be proven that in any State, under the county care system, there exists a uniform standard.

Hospital Concert.—The fourth annual concert for the benefit of the Presbyterian Hospital, Chicago, was given in the auditorium the evening of January 23. The soloists were Mme. Sembrich, Sig. Campanari, and Willy Burmeister, with the Chicago Orchestra. The financial benefit to the hospital will be large.

N. Y. State Board of Charities.—Statistics covering the previous fiscal year, collected by the Board from the officers of charitable institutions, show that the public and private charities in the State of New York, which are subject to the supervision of and report to the Board, had an annual income exceeding $23,000,000, that they expended nearly $22,000,000, and owned real and personal property conservatively estimated to be worth $103,000,000; also that within the year in question they administered charitable assistance of various kinds, more or less costly, to a great army, reported as numbering over 2,500,000 beneficiaries.

Hospitals.—The Stickney Memorial addition to St. Luke's Hospital, Chicago, was dedicated January 26 . . The Margaret Welsh Dulles Memorial is a new addition to the Presbyterian Hospital, Philadelphia . . The Kingston (N. Y.) City Hospital is the recipient of $5000 from Mrs. John Wesley Shaw. . . The University Hospital, Kansas City, Mo., was slightly damaged by fire, recently.

Pharmacy for Women.—Moscow has inaugurated a course to train women to serve as prescription clerks and assistants in drug stores.—*St. Petersburg Med. Woch*,, Nov. 20, 1898.

Centenarians Rife.—The public prints, now that the century is nearing completion, are recalling much past history in the matter of incidents and localities by reports of decedents who have lived up to and beyond 100 years of age. The colored race in the main carry off the palm, perhaps according to Tesla's theory of sleepfulness and a happy indifference to worriment.

The Great Opportunity Neglected.—The *Philadelphia Medical Journal*, Vol. iii, No. 1, in a series of short editorials regarding medical grievances, makes not a few telling comments. A paragraph says: "It has become the fashion, this so called nihilism; the rise of surgery, the reactions from quackery and over-drugging, have generated a false contempt of drugs that is as dangerous as the former extremes. It plays straight into the hands and pocket books of the nostrum folk. While we are physicians, curers and not preventers of disease, we must dispense, and not dispense with, drugs. Our duty is thus clear: more, not less, intellect; greater, not less, discrimination in clarifying the professional and legal conceptions as to the powers and uses of drugs." Much more as regards the "trade-mark abuse" is trenchantly and wisely said, but restricted space is a barrier against quotation.

Loss of Life Through the Christmas Tree.—Christmas has been followed this year, as always, by the arrival from many quarters of reports of panics, some fatal and all dangerous, resulting from the ignition of church Christmas trees by the candles used in their decoration. The peril arising from the close proximity of fire and fuel of the most inflammable sort has long been recognized, but the precautions taken are inadequate, as numberless tragedies have demonstrated, and it would seem that the time has come for compelling by law the adoption, at least in cases where the festal tree is to be surrounded by a crowd of people, of a safer illuminant than candles. The incandescent bulb supplies that safer illuminant. It is as convenient and more effective than its predecessor, and it is not so much more expensive as to warrant a refusal to make the change. The Christmas tree at home may set the house on fire, but it rarely causes loss of life, so its owners may be allowed to light it as they please. The Christmas tree of churches and societies, however, is another thing, and means to decrease its dangers may very properly be taken.—*New York Times*.

Condition of Troops at the Hawaiian Islands.—A Honolulu correspondent of the *Medical Record*, in commenting upon the physical condition of our troops at that place, makes statements that ought to be interesting reading to sundry officials in the War Department. He says that when the volunteers leave San Francisco on the transports their constitutions have already been undermined by the unaccustomed hardships of camp life, by forced marches, and by poor diet. While on shipboard, overcrowding and food both bad in quality and insufficient in amount, work further havoc among the men, and in almost every instance there have been well-developed cases of typhoid fever to be taken ashore when the islands are reached. The work began on the transports is continued on land. Honolulu is in the midst of a vast plain of alluvial soil. Its elevation above the sea is slight; its few sanitary devices are of the crudest character; the water-supply is of more than questionable purity, and malaria is so common that only people of strong natural immunity escape it. Indeed, the typic resident of the city shows the effects of this disease in complexion and bearing. Yet the climate of the island is good, and perfectly salubrious camping-grounds could easily have been found at comparatively short distances from the city. There seems to have been no attempt to do so. Instead, the soldiers have been kept in the town and its suburbs, and chiefly in Independence Park, a place of high repute—for malaria—and surrounded by morasses, ponds, and rice and banana fields. Bringing the seeds of typhoid with them, and occupying a site where people with little or no knowledge of hygienic principles have lived for many years, it is far from wonderful that the health of the American troops, stationed temporarily or permanently at Honolulu seems to discredit the familiar tales about the excellence of the Hawaiian climate.—*New York Times.*

The Quick Lunch.—According to an Englishman about to return to his own country—so characterized by a lay journalist in the gossip column of the *New York Times*—the Americans are not a nation of fast eaters. He says that "they may not sit at the table as long as some other nations do, but they take more time at the actual work of eating than the Germans or the English. They are very likely to get up and leave the table when they have finished, but when it comes to a question of slowness and deliberation in actual eating they are not behind any of the foreign nations, unless it be France. The fast-eating tradition belongs to the school which taught that all Americans chewed tobacco and talked through their noses."

Difficulties of Practice in India.—Dr. Roger A. Chew, Calcutta, India (*Medical World*, Vol. xviii, No. 1), among other things writes that "Fuss is the religion of India. To 'cut a dash' and live at the rate of about $180 per mensem for nigh a twelve month before he secures his first patient from the 270,000 practitioners in competition, is the doom of the interloper. Calcutta alone contains 7000 to its 6,700,000 inhabitants, or one doctor to 957 persons, of whom at least 850 are too poor to pay for medical attendance. At least 450 of the Calcutta doctors draw government pensions or salaries which help them under-bid the non-official doctor in the field of private practice." The government assistant-surgeon, with a four dollar license, attends out-door calls for sixteen cents *per caput* outside his stated salary. In the Bengal province alone there are 417 government institutions giving attendance and medicines for the asking. Add to this that an American diploma is without a status, and the wide-spread belief that American physicians are too stupid to hold their own at home.

The Census of Japan.—A Tokio letter in the *Chicago Record* vouches for the subjoined official statistics for Japan, exclusive of Formosa, which have just been published and are as follows: Population: nobility, 4423; gentry, 2,089,124; commons, 41,135,306; total, 43,228,863; male, 21,823,651; female, 21,405,212; dwellings, 8,058,474. This shows an increase over 1896 of 53,625 in the number of dwelling-houses and 520,599 in population. The number of marriages for the period is 365,207, and of divorces 124,075. Those persons whose ages range from 100 to 110 number 257. The population of the principal cities is as follows: Tokio, 1,948,851; Hyogo (Kobe) 1,652,366; Osaka, 1,503,771; Kyoto, 957,260; Yokohama, 870,256; Nagasaki, 845,441.

Rabelais, Not Franklin.—Ford, in the December *Century*, in his article on "The Many-Sided Franklin," credits that American celebrity with the original statement that "There are more old drunkards than old doctors." To this as a counter-statement, Dr. Wm. Lee Howard, Baltimore, Md., in the *Philadelphia Medical Journal* quotes from Rabelais. Book I, Chapter xli, the following: "O rot your physicians," said the monk, "a hundred devils leap into my body if there be not more old drunkards than old physicians." As Rabelais died in 1553 and Franklin in 1790, we are more than gratified at the detection of the plagiarism, even at this late day.

Cincinnati.

Health Circular.—In order to prevent as far as possible the spread of contagious diseases, especially diphtheria, the following circular letter has been issued by the health department of this city:

1, The first culture must be made on the day the physician has notified this department that the patient has been dismissed.

2. If the examination of the culture is negative, the quarantine will be raised in fourteen days from the time of the examination. If the culture shows the Klebs-Loeffler bacillus the physician will be informed and another culture must be made in not less than one week after the first culture. If still positive, weekly examinations must be made until negative results appear.

3. In any case where the physician in charge does not desire to make the culture for raising the quarantine the health department will make the culture.

Health Regulation.—A regulation of the Ohio State Board of Health relative to diphtheria and membranous croup orders: For the patient, isolation for fourteen days after recovery and disinfection of premises. For persons associated with or in the house with patient, quarantine until after death or recovery of the patient and disinfection of the premises.

Uncontrollable Epistaxis.—Uncontrollable epistaxis resulted in the death of a boy at the Cincinnati Hospital a few days ago. The blood count was remarkably low, 525,000 reds per cubic millimeter, whites were 7000.

Dr. Percy Ashburn, who recently passed as assistant-surgeon in the regular army, has been ordered to Manila.

Detroit.

For the City's Health.—The Scientific Committee of the Health Board of Detroit met on January 20. Dr. John Flinterman read an interesting paper on "Tuberculosis and Isolation," in which he laid special stress on the dangers which arise from deposits of sputum from diseased persons, which, after drying, are dangerous and are liable to be blown around and so disseminate consumption. Dr. A. W. Imrie offered a resolution that it be the sense of the committee that cases of tuberculosis should be reported (provided the names of the patients be kept secret), and the houses where there are such patients should be disinfected. The Board of Health and the Advisory Committee are agreed on the desirability of reporting cases of the disease and keeping statistics.

Medical Legislation.—There will be an effort made at the present session of the Michigan legislature to secure the passage of a bill for the establishment of a State examining board for physicians. A bill drafted by the secretary of the State Board of Health and adopted by the Board, will be presented and an effort made to have it enacted.

Washington.

Woman's Clinic.—The semi-annual meeting of the Board of Directors of the Woman's Clinic, was held January 7. The report showed for the past month that 222 patients were treated, of which 53 were new cases; 321 prescriptions were compounded and 64 operations performed. The Clinic has been in existence eight years, and has done an immense amount of work in its limited field—diseases of women and children. The directors intend to increase the scope of the hospital and make many and extensive improvements during the coming year. The attending staff is composed of women physicians, and is a credit to the medical profession of Washington.

Physicians Appointed.—Dr. James R. Church, who recently passed the examination and was appointed an assistant-surgeon, U. S. A., has been ordered from this city to Santiago de Cuba. . . Dr. S. Clifford Cox has been appointed surgeon, with the rank of lieutenant, in the District Naval Battalion. . . Dr. Molineaux Turner has been appointed an acting assistant-surgeon in the army, and assigned to duty at Atlanta, Ga. . . Dr. E. A. Gorman has been appointed resident physician at the Washington Asylum Hospital. . . Drs. Church and Turner were formerly resident physicians at the Central Dispensary and Emergency hospital.

Returned from Porto Pico.—Dr. Wm. E. West, acting assistant-surgeon, U. S. A., formerly resident physician at the Central Dispensary and Emergency Hospital, has returned to the city. Dr. West contracted typhoid fever in the service at Porto Rico, but after a serious and prolonged illness has reported at the War Department for duty.

Health of the District.—The report of the health officer for the week ended January 14, shows the total number of deaths to have been 145. The principal causes of death were: Apoplexy, bronchitis, consumption, pneumonia, diseases of the brain, heart and kidneys, diphtheria, typhoid fever and grip. The total number of births reported was 90, of which 60 were white and 30 colored. There were 9 stillbirths, 5 white and 4 colored. At the close of the report there were 143 cases of scarlet fever and 74 cases of diphtheria under treatment. The Commissioners have acted favorably on the recommendation of the health officer and have recommended favorable action on the bill providing for the removal of weeds and rank vegetation in the District. The Commissioners point out the reasons why weeds subsequently decaying on vacant lots, become a menace to public health.

To Check Smallpox.—The health officer has requested the Commissioners to urge a special appropriation of $5000 to be used in protecting the District against the introduction and spread of smallpox. He also asks for a special appropriation of $1000 for the prevention of the spread of scarlet fever and diphtheria. At present there is no smallpox in the District, but the presence of a number of cases in Alexandria and other adjacent points, has decided the possible introduction of the disease into Washington. Scarlet fever and diphtheria appear to be frequent, and the Health Department desires to be prepared for any and all emergencies. He requests that the appropriations be made immediately available.

For Public Safety.—The House District Committee, after a public hearing, have favorably reported House bill 11159 which provides for the protection of life and limb; that rapid transit street railways shall be equipped with safety brakes, The old hand brakes have proved unsatisfactory and some automatic apparatus, with the approval of the Commissioners is to be substituted.

St. Elizabeth's Hospital.—Dr. W. W. Godding, superintendent of the Government Hospital for the Insane, has requested the appropriation of $31,251 to construct cottage buildings for the accommodation of the large increase in patients. Dr. Godding says that since the beginning of the war with Spain, he has admitted 107 insane men from the Army and Navy. They include heroes of San Juan, Santiago and Manila, and he says he expects that at least 100 more cases will come in during the next fiscal year. He reports recovery in probably two-thirds of the cases and says there are now 1927 patients in the asylum, which is woefully crowded. Some of the patients are sleeping on cots in the hall-ways.

Immune Nurses Wanted.—The Surgeon-General of the War Department wants more immune nurses for the yellow fever hospitals in Cuba. The force of female trained nurses in the island is something over two hundred. Yellow fever immunes only are now desired, and circulars are to be sent throughout the South in quest of applicants for such positions. All applications are to be addressed to the Surgeon-General's office, the applicant furnishing written indorsements from her physician, the wife of her pastor or her priest, as the case may be, and a health certificate.

Adulterated Food Law.—Active war is being waged against the sellers of adulterated foods in the District. Quite a respectable number have recently been defendants in the police court. The principal commodities adulterated, or substituted for, include pepper, mustard, butter or oleomargarin, vinegars and candies. The imposition of fines is gradually driving the adulterations out of the Washington markets. In proof of this, the chemist of the Health Department says: "While it is true that there are a number of cases pending, fully 75 per cent. of the samples recently analyzed showed the articles to be pure; while former investigations showed about 75 per cent. of the samples were adulterated."

Freedman's Hospital.—Representative Barrows of Massachusetts has introduced a bill to provide permanent and modern buildings for the Freedman's Hospital. It provides for an appropriation of $250,000 out of all moneys, arrears of pay, bounty and prize money, which are due the estates of deceased colored soldiers who served in the late Civil War and which were in the hands of the Commissioners of the Freedman's Bureau, and which have been covered in the U. S. Treasury. The site proposed is that now occupied by the Freedman's Hospital. The bill further provides that the new hospital shall be maintained as a National hospital.

The District Appropriation Bill.—The District appropri- tion bill for the fiscal year ending 1900, includes the following items: For sweeping, sprinkling, etc., avenues and alleys, $19,500, clearing snow and ice, $4000, Washington aqueduct, 14,500; health department, salaries and expenses, $6720; Garfield and Providence Hospitals, maintenance of isolating wards, $4000; intercepting sewers, not exceeding $238,000. For additional amount to enable the proper officer of the government to make an investigation of the feasibility and propriety of filtering the water-supply of Washington and to submit to Congress a detailed report thereon, $5000; Freedman's Hospital, $54,000; Washington Asylum Hospital, furnishings, $4000; health department disinfecting service, $3000; gratuitous vaccination of indigent persons, $2000; Central Dispensary and Emergency Hospital, $17,000.

Columbia Historical Society.—At the meeting of this Society, recently held, Dr. James Dudley Morgan was elected treasurer.

Central Dispensary and Emergency Hospital.—At the recent meeting of the attending staff, the president, Dr. Burnett, read the report for the month of December: Total number of cases treated, 2423; dispensary, 1898; emergency 525; total operations, 211; total number of ward cases, 51; prescriptions, 2835; ambulance calls, 73; number of deaths, 5 autopsies, 2.

Episcopal Eye, Ear and Throat Hospital.—At the annua meeting of trustees, the following were elected to membership on the Board of Trustees: Drs. W. H. Wilmer, C. H. Alden U. S. A., F. P. Austin, Robert S. Chew, H. T. Frey, R. B Mason and H. B. Noble. The annual report showed that 127 patients were treated during the year, of whom 685 were white and 594 colored; 6237 visits were made; 173 patients were admitted to the house, 93 of whom were free and 80 pay patients; 225 operations were performed, of which 155 were on the eye; 80 operations were performed on the ear and 52 on the nose and throat. The treasurer's report shows $5,096.03 received and $4,632.50 expended during the year. One thousand eight hundred and seventy-three dollars and thirteen cents was collected by the Board of Lady Managers and $1,508 accrued from pay patients.

Philadelphia.

Dr. James Tyson will hereafter conduct his clinics at the Blockley Hospital.

Dr. Frank Haehlen has been elected a member of the Board of Trustees of the Samaritan Hospital.

Dr. J. Clifton Edgar, professor of obstetrics, Cornell, gave an address to students at Houston Hall, under the auspices of the Barton Cooke Hirst Obstetrical Society.

Dr. Norman Roberts, St. Timothy's Hospital, has been promoted to senior resident physician, vice Dr. Clarence Vary resigned.

Dr. J. William White made an address on January 17 before the New England Alumni of the University of Pennsylvania, having as guests representatives of the faculties and graduates of Harvard and Yale Colleges. The meeting was held largely in the interest of athletics and to promote a more friendly feeling among these different institutions regarding intercollegiate games.

Office Remodeled.—Drs. Alfred Stengel and William Pepper, Jr. have remodeled the office of Dr. William Pepper, deceased, at 1811 Spruce Street, for the care and treatment of the clientèle of their distinguished predecessor.

St. Timothy's Hospital.—Mr. Charles W. Gifford, treasurer of St. Timothy's Hospital, announces that up to date and from various sources a total of $6,234.50 has been received for the benefit of this institution.

Health Protective Hospital.—Some time ago an organization was effected for the establishment of this institution in this city, and the following officers were elected: President, Judge William Ashman; vice-president, Justus P. Strawbridge; secretary, Dr. Clara T. Dercum; treasurer, J. Madison Taylor; for directors for three years: Drs. Edwin Rosenthal, William T. Smedley, Edwin E. Graham; directors for two years, Drs. James Tyson and George M. Gould. In order that he hospital shall receive provisional requests a permanent site must be chosen before July next. It is stated that $35,000 is already in hand to begin work.

Woman's Hospital.—The report of the Board of Managers ays: "In the late war the management was not unmindful of duty to tne Nation, and when the sick soldiers were brought o Philadelphia, although the practice theretofore had been to reat only women and children, the Woman's Hospital reeived ninety-seven of the sick soldiers into its wards, two ied from the result of exposure, one from the effects of yphoid fever, and with the exception of two still convalescent, ll have recovered." The report also stated that the clinical aboratory had been opened on December 1, and that the Maternity Hospital had been greatly improved during the past ear.

Medico-Chirurgical College.—For several days past the Medico-Chirurgical College has been awaiting the ruling of he Supreme Court relative to the rights and powers of that nstitution in conferring the degrees of Ph.D., Ph.G., and D.D.S. Several months ago this subject came up before Judge ordon, who expressed the opinion that such right did exist in he granting of the original charter of the Hospital, and stated hat a hospital training and medical education were more conucive to both dentistry and pharmacy. It is stated that there re now 103 students in dentistry, 26 in pharmacy, and if the Supreme Court should rule adversely these men would necessarily be deprived of an entire year of professional studies. The Philadelphia Dental College, according to Dr. J. V. Shoemaker, is the one carrying on the fight against the Medico-Chi.

Grippe Fast Disappearing.—Grippe, which has been epidemic in the city for the past few weeks, now shows signs of abatement, as proved by the mortality statistics for the week just closed, there being a total of 586 deaths against 642 for last week. Of the total number of deaths, 136 occurred in children under the age of five years.

Results of Meat Inspection.—During the year 12 persons have been arrested for selling food from the slaughter-houses; 135,843 cattle and 53,505 calves were inspected, but of this number 230 cattle were condemned, 219 being affected with tuberculosis, 2 with actinomycosis and 9 for causes not mentioned.

Bells on Horses.—One of the latest fads in this city is to have bells on the doctors' horses. Since it is now possible to place rubber shoes on horses and rubber tires on the wheels of carriages, very little noise is in consequence made on our well-paved streets. Therefore, in order to give warning to pedestrians, a number of leading physicians have adopted the English custom of attaching small sleigh bells to the collars of the carriage animals.

Case of Yellow Fever.—Another patient suffering from yellow fever was brought to this port a few days ago on board a vessel arriving from Norfolk, Va. The case was promptly diagnosed by the Government authorities, the patient taken to the Municipal Hospital and the vessel thoroughly disinfected. Two cases of yellow fever are now in the Municipal Hospital of this city.

Smallpox in Philadelphia.—About two weeks ago, as has been previously reported, two cases of smallpox developed in this city and were promptly taken to the Municipal Hospital. This week four other members of the same family showed unmistakable evidence of the disease. A few days later two other cases developed in a section of the city quite remote from the others, and were taken to the Municipal Hospital. During the week the steamer *J. B. Sunderland* arrived, having on board a sailor suffering from the disease, and was taken in charge by the United States Marine-Hospital department of this city. All infected foci have been thoroughly cleansed and fumigated, and physicians generally have been warned to report any suspicious cases. The cases are said to be of a very mild type.

Circular Regarding Smallpox.—An appeal has been made to all local boards to at once take the necessary safeguards against the spread of the disease: 1, by vaccination of all school children; 2, by the free vaccination of all who are unable to pay; by appeals to the general public to give themselves this protection; 4, by warning the public not to expose themselves unnecessarily; 5, by providing proper disinfecting apparatus for the different boards of health; by providing a suitable "contagious disease hospital" in each locality; 7, by adoption of regulations requiring all physicians to promptly report all suspicious cases, as well as to enforce a thorough quarantine in all infected localities.

Milk-Supply.—Mr. W. J. Burns, chief inspector of milk, has filed his annual report, which shows that during 1898 33,555 inspections were made; 468,309 quarts of milk were examined, of which 5710 quarts or 1.21 per cent. were condemned for adulteration with water and 2680 were "skimmed." The good effects of a thorough inspection is shown by the following percentages of adulterated milk from year to year as follows: 1892, 11.15 per cent.; 1893, 6 per cent.; 1894, 3.82 per cent.; 1895, 4.29 per cent.; 1896, 3.81 per cent.; 1897, 2.38 per cent.; 1898, 1.78 per cent.; thus showing a gradual decline in the percentages of adulterated milk. The report also adds that the time-honored method "of cooling milk by the addition of water" has been superseded by safer methods. Recent analysis of the milk found in the wagons and shops shows the average to be 13.09 per cent. total solids, 4.05 per cent. of fat and 9.04 per cent. solids not fat. Attention has been called to the practice of adding chemicals to the milk to prevent souring and to reduce the expense of ice bills. In thirty-four instances in which persons have been indicted for this practice, seventeen pleaded guilty, two were convicted, two were discharged and twenty-one are still pending.

THE PUBLIC SERVICE.

Movements of Army Medical Officers under orders from the Adjutant-General's office to January 18, 1899.

To Manila, P. I.: Acting Asst.-Surgeon Chas. H. Andrews from Huntsville, Ala., to San Francisco, Cal., to accompany troops sailing on the first transport. Acting Asst.-Surgeons Stephen M. Long and Arlington Pond, the former from Baltimore, Md., the latter from duty at the general hospital, Ft. Myer, Va., to New York City to accompany troops sailing on the first transport. Acting Asst.-Surgeon Louis W. Bishop, to New York City to accompany troops sailing on the transport "Grant."

To Havana, Cuba: Acting Asst.-Surgeons F. Medina Ferrer and José M. Delgada, the former from duty in Pinar del Rio, the latter from Ft. Riley, Kan.

To hospital duty: To the Josiah Simpson Hospital, Ft. Monroe, Va., Acting Asst.-Surgeon Chas. B. Mittelstaedt from the transport "Mobile" at New York City.

To special duty: Major Edward O. Shakspeare, brigade surgeon Vols., to Philadelphia, Pa., on official business pertaining to the inspection of certain apparatus for the sterilization of water submitted by the Waterhouse Forbes Company.

Leave of absence granted: Acting Asst.-Surgeon E. S. Grigsby, to report to the Surgeon-General at its expiration.

Sick leave granted or extended: Major Geo. E. Lyon, 3d U.S. Vol. Engineers, and Acting Asst.-Surgeon Henry P. De Forest.

Resigned: Major J. Lewis Strodes, surgeon 4th Pa. Infantry, and Lieut. Wm. F. Dailey, asst.-surgeon 3d W. Va. Infantry.

Movements of Navy Medical Officers.—Changes in the medical corps of the U.S. Navy for the week ending Jan. 21, 1899.

Surgeon J. C. Byrnes, ordered to additional duty on board the "Puritan," Jan. 14.

Asst.-Surgeon W. M. Garton, detached from the "Supply" when put out of commission, and ordered to the Washington Navy Yard. Jan. 14.

Asst.-Surgeon F. M. Blackwell, detached from the "Vixen" and ordered to the "Franklin," Jan. 14.

Surgeon J. R. Waggener, order of Jan. 3, detaching from the Mare Island navy yard and ordering to Washington, D.C., amended; ordered to be examined at Washington, D.C., and then home to wait orders, Jan. 16.

Surgeon S. H. Griffith, detached from the "Mayflower" when put out of commission, and ordered home to wait orders, Jan. 19.

P. A. Surgeon G. H. Barber, detached from the "Glacier" when put out of commission, and ordered to the naval academy Jan. 19.

P. A. Surgeon C. F. Stokes, ordered to the naval hospital, New York City, Jan. 19.

Asst.-Surgeon R. C. Holcomb, detached from the naval academy and ordered to the Washington navy yard, Jan. 19.

Marine-Hospital Changes.—Official List of Changes of Stations and Duties of Commissioned and Non-Commissioned Officers of the U.S. Marine-Hospital Service, for the seven days ended Jan. 19, 1899.

P. A. Surgeon C. P. Weternbaker, to proceed to Clinton, Ga., for special temporary duty, Jan. 14, 1899.

P. A. Surgeon C. H. Gardner, to report at bureau for special temporary duty, Jan. 14, 1899.

Appointment: Geo. A. Gregory of Maine, to be acting asst.-surgeon at Boothbay Harbor, Me., Jan. 14, 1899.

Board Convened.—A board of officers will be convened at the U.S. Marine-Hospital, Chicago, Ill., Feb. 14, 1899, for the purpose of examining candidates for admission to the grade of assistant-surgeon in the U.S. Marine-Hospital Service.

Candidates must be between 21 and 30 years of age, graduates of a respectable medical college, and must furnish testimonials from responsible persons as to character,

The following is the usual order of the examination: 1. Physical. 2. Written. 3. Oral. 4. Clinical.

In addition to the physical examination, candidates are required to certify that they believe themselves free from any ailment which would disqualify for service in any climate.

The examinations are chiefly in writing, and begin with a short autobiography by the candidate. The remainder of the written exercises consists in examination on the various branches of medicine, surgery and hygiene.

The oral examination includes subjects of preliminary education, history, literature and natural sciences.

The clinical examination is conducted at a hospital, and when practicable the candidates are required to perform surgical operations on the cadaver.

Successful candidates will be numberod according to their attainments on examination, and will be commissioned in the same order as vacancies occur.

Upon appointment the young officers are, as a rule, assigned to duty at one of the large marine-hospitals, as at Boston, New York, New Orleans, Chicago or San Francisco.

After five years' service, assistant-surgeons are entitled to examinations for promotion to the grade of passed assistant-surgeon.

Promotion to the grade of surgeon is made according to seniority, and after due examination, as vacancies occur in that grade. Assistant-surgeons receive $1600, passed assistant-surgeons $2000, and surgeons $2500 a year. When quarters are not provided, commutation at the rate of $30, $40 or $50 a month, according to grade, is allowed.

All grades above that of assistant-surgeon receive longevity pay, ten per centum, in addition to the regular salary for every five years' service, up to forty per centum after twenty years' service.

The tenure of office is permanent. Officers traveling under orders are allowed actual expenses. For further information, or for invitation to appear before the board of examiners, address Supervising Surgeon-General, U.S. Marine-Hospital Service.

Detail for board: Surgeon Henry W. Sawtelle, chairman; Surgeo Chas. E. Banks, P. A. Surgeon; S. O. Cobb, recorder.

CHANGE OF ADDRESS.

Adams, C. S., from Wallastown, Mass., to Pinehurst, Fla.
Beem, E. D., from 1117 Holmes to 1301 E. 8th, Kansas City, Mo.
Barbour, L. P., from Tullahoma, Tenn., to Boulder, Colo.
Booth, F. H., from 662 Cortez St. to 281 W. North Av., Chicago.
Durant, G., from 12 W. 46th St., New York City, to Tampa Bay Hotel Tampa, Fla.
Fellman, G. H., from Jersey City, N. J., to 906 North Av., Milwaukee
Grier, M. J., from Philadelphia, Pa., to Apartado 38, Guadalajara, Mex
Hamilton, E. M., from Fairmont to Cairo, W. Va.
Hamly, L. B., from 1349 California St. to 1731 Emerson Av., Denver, Colo
Hodgkinson, C., from 416 E. Cross St. to 317 Hamilton St., Ypsilanti Mich.
Holman, C. J. Johnson, from 626 to 536 Monroe St., Chicago.
Loeb, Leo, from 6329 Woodlawn to 5601 Washington Av., Chicago.
Maus, L. M., from Ft. Hamilton, N.Y., to 7th Army Corps, Havana, Cuba
Mears, D. W., from Ashland to 420 Connell Bldg., Scranton, Pa.
Miner, A. G., from Niles to Warren, Ohio.
McCarthy, J., from Taylor's Gin to Briggs, Texas.
McCown, Dr., from Chalfin Bridge, Ill., to Windsor, Mo.
Neyman, E. H., from Mack Blk. to 1100 National Av., Milwaukee, Wis
Reed, J. H., from Hammond to Monticello, Ind.
Reeve, D. N., from Allison to Hampton, Iowa.
Schaefer, T. C., from 547 to 582 Washington, Blvd., Chicago.
Small, J. W., from Boston, Mass., to 25 St. James Av., North Tarrytown, N. Y.
Sheley, P. A., from 607 5th St. to 706 6th St., Louisville, Ky.
Shortridge, W. R., from La Plata to Meadville, Mo.
White, S. M., from Chicago to State Univ., Minneapolis, Minn.
Wolfe, L. E., from Kinzers to Freeburg, Pa.

LETTERS RECEIVED.

Allen, P. M., St. Johnsbury, Vt.; Andrews, R. H., Philadelphia, Pa. Applegate, J. C., Bridgeton, N. J.; Arnold, P., Elizabeth, Ill.; Atkinson W. B., Philadelphia, Pa.

Bates, W. G., Sapulpa, I. T.; Baxter, J. H., Columbus, Kan.; Beise, C J., Tracy, Minn.; Beeson, H. A., Leesburg, Ohio; Beveridge, T. F., Bridgewater, S. D.; Blakiston's, P., Son & Co., Philadelphia, Pa.; Bogie, M. A. Kansas City, Mo.; Bower, W. C., Box 173, Lebanon, Kan.; Boyd, W. J. Macon, Ga.; Boyles, J. M., Flora, Ill.; Brothers, Samuel, New York City Brunson, R. (2), Hot Springs, Ark.; Bryant, Grace W., Chicago; Bryant B. L., Edom, Texas.

Cable, C., Kansas City, Mo.; Carveth, J. A. & Co., Toronto. Canada Cheney, J. V. (2), Chicago; Chicago Times-Herald, The, Chicago; Clark M. E., Chatham, N. Y.; Clendenin, Wm., Cincinnati, Ohio; Cornell, C. W Knoxville, Iowa; Coulter, C. W., Oil City, Pa.; Cowgill, W. M., Paducah Ky.; Crouse, D. H., Chicago.

Dalton, W. R. Inge, New York City; Dorr, H. I., Boston, Mass.; Duquesne Distributing Co., Harmarville, Pa.; Durant, G., New York City.

Eclipse Bicycle Co., Elmira, N. Y.; Electro-Medical Mfg. Co., Chicago Elliott, H. G., New York City; Etnier, Frederick, Huntington, Pa.

Fellman, G. H., Milwaukee, Wis.; Felmlee, S. T., Chicago; Ferguson L., Frontier, Mich.; Fettonash, D., Des Moines, Iowa; Fitch, W. E Savannah, Ga.; Fithian, P. H., Springfield, Ill.

Gardner, R. W., New York City; Gessner, H. B., New Orleans, La. Gould, G. S., Sully, Iowa; Grace, J., Belleville, Ark.; Graham, H. G., Chicago; Griffin, L. M., Boulder, Colo.

Hamilton, E. M., Cairo, W. Va.; Hatfield, J. H., Flat Rock, Ky.; Haw U. P. (2), Commerce, Mo.; Henry, C. W., Coon Rapids, Iowa; Herzog, M Chicago; Hodgkinson, C., Ypsilanti, Mich.; Hoffman, J. R., Chicago Hummel Adv. Agency, A. L., New York City.

Jacobs, R. H., Stone Church. Ill.; Jones, W. D., Devil's Lake, N. D.

Karger, S., Berlin, Germany; Kellogg Sanitas Co., Battle Creek, Mich. Kester, A. J., Ft. Wayne, Ind.; Keyes, Thomas B., Chicago; Kimmons, H., Tulsa, I. T.; Knox, J. W. T., care Fred. Stearns & Co., Detroit, Mich. Kreider, G. N., Springfield, Ill.

Latimer, J. A., Mayfield, Ohio; Lebensohn, M. H., Jamestown, Tenn. Lentz, Chas. & Son, Philadelphia, Pa.; Lincoln, B. S., Missouri City Mo.; Loughridge, Wm. E., Mansfield, Ohio.

Martin, J. M., Massey, Texas; Matas, R., New Orleans, La.; Mayo, N., De Lemar, Nev.; Meyers, S. N., Martinsburg, W. Va.; Merck & C (2), New York City; Merrifield, O. G. & Co., Chicago; Meyen, C. & Co New York City; Mogk, W. A. (2), Ann Arbor, Mich.; Mulford, H. K. C (2), Philadelphia, Pa.; Munroe, J. P., Davidson, N. C.; McArthur Hyp phosphite Co., Ansonia, Conn.; McCullough, G. T., Missoula, Mont McCullough, M. F., Missoula, Mont.; McEwen, E. L., Chicago; McLai W. H., Wheeling, W. Va.

Orvis, E. J., Oakfield, Wis.; Oppenheimer, S. & Co., New York City.

Parke, Davis & Co., Detroit, Mich.; Parrington, J. M., Durango, Colo. Paul E. Derrick Adv. Agency, New York City; Peavy, J. F. Asheville, C.; Petra, F. J., Chicago; Piper, J. N., Shumway, Ill.; Pillsbury-Washburn Flour Mills Co. (Ltd.), Minneapolis, Minn.; Prentiss, D. W., Washington, D. C.; Proctor & Collier Co., Cincinnati, Ohio; Puloola Chem Co., New York City; Pusey, H. M., Louisville, Ky.

Beeve, M. V. N., Hampton, Iowa; Reeve, D. N., Hampton, Iowa; Richardson, F. W., St. Paul, Minn.; Richardson, M. H., Boston, Mass.

Sahud, M., Chicago; Saunders, W. B., Philadelphia, Pa.; Schoolfiel C. B., Dayton, Ky.; Schuster, Ed. & Co., Milwaukee, Wis.; Shattuck, W., Champaign, Ill.; Sheppard, E. S., Knoxville, Tenn.; Sieffert, A. H. Louisville, Ky.; Sillito, W. H., Xenia, Ohio; Smart, W. M., Muskego Mich.; Smith, H. H. Vincennes, Ind.; Smith, J. Whitefield, Bloomington, Ill.; Smith, D. D., New Richland, Minn.; Smith, Gould, Broadland. Ill.; Smith, Q. C., Austin, Texas; Smith, Thad. (2), Ashton, Ill.; Somer A. B., Omaha, Neb.; Squier, A. O., Springfield, Mass.; Staples, M. Macon, Ga.; Starr, O. F. Hills, Minn.; Stearns, F. & Co. (2), Detroi Mich.; Streets, D. R., Bridgeton, N. J.; Stephenson, R. A., Mancheste Ohio; Sutphin, P. C., Hardyville, Ky.

Thomas, J. D., Washington, D. C.; Torrey, Mrs. C., Rochester, Mich.

Upham, J. H. J., Columbus, Ohio.

Vinnedge, W. W., LaFayette, Ind.

Whalen, C. J., Chicago; Wheeler, R. H., Chicago; Widmer, W. A., Philadelphia, Pa.; Williams, E. B., Boston, Mass.; Wingate, U. O. B., Milwaukee, Wis.; Winters, J. E., New York City; Woodbury, F., Philadelphia, Pa.; Woodruff, T. A., Chicago; Woodruff, E. W., Columbus, Ohi Woldert, A. E. (3), Philadelphia, Pa.

Yandall, Fanny C., Louisville, Ky.: Yates, H. W., Detroit, Mich.; Youn S. J., Terre Haute, Ind.; Yucca Mfg. Co., Jackson, Mich.

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ORIGINAL ARTICLES.

TRACHOMA.

ORIGINAL INVESTIGATIONS ON ITS ETIOLOGIC ORGANISM. I. THE ORGANISM AS SEEN IN THE TISSUES AND SECRETIONS. II. AS SEEN IN THE CULTURES, III. SUCCESSFUL INOCULATION. IV. TOXINS AND ANTITOXINS.

Read before the Chicago Ophthalmological Society, Dec. 13, 1898.

BY EMANUEL F. SNYDACKER, B.A., M.D.
CHICAGO.

Statistics: showing the frequency, gravity and long continuance of trachoma.—Of 324 new patients received as house cases at the Illinois Eye and Ear Infirmary from June 1, 1898, to Nov. 1, 1898, 123, or about 38 per cent. were cases of trachoma. Other patients come and go, but trachoma patients stay on nterminably, so that of 41 patients now under my observation, 23, or 56 per cent., are cases of trachoma. Trachoma can never be called cured. The lids may become perfectly smooth, and the disease seem apparntly mastered, but in the course of a few weeks or months the patient will return with a trachoma which has all the characteristics of an acute disease.

Of 50 cases of trachoma, in which I made careful ecords, 38 were cases where the disease had endured ver two years, 13 where the disease had lasted more han five years, 7 where it had lasted more than ten ears, and in one case it had lasted thirty-eight years. Of the 38 cases which had lasted more than two years, here were only four which had had no corneal involvement; of these, one was employed about the hospital, nd consequently had been under constant medical are, while in another case it was very doubtful hether the disease was trachoma or not. In no case here the cornea has once become involved, either hrough ulceration or pannus, does the patient regain ormal acuity of vision. In my series of 50 cases the verage acuity of vision was 2/7, though this does not low for refractive errors.

Between the dates of June 1, 1898, and Nov. 1, 1898, 2 patients were operated upon at the Infirmary; of ese operations 41, or 34 per cent., were necessitated y trachoma. The figures do not include scarifications.

A patient who has once had trachoma is more or ess unfitted for the active duties of life. Exposure o dust, heat, or bright light, residence in a malarial istrict, unhygienic surroundings, negligence in the e of the proper medicines, may bring on an acute xacerbation of the disease at any moment. In view of such facts as these, and with the present facilities for research at our command, when also we consider the vast amount of material which our dispensaries nd eye clinics furnish, it strikes one as almost incongruous that the disease is so little understood, and our thods of attacking it, in consequence, so empiric.

Literature of trachoma.—Since the days when bacriology became a science, trachoma has been regarded as a bacteriologic disease. Any one watching the phases of the disease, its acute onset, its localization in isolated follicles, which seem to act as centers or foci of the disease, the softening and degeneration of these follicles, the development of cicatricial tissue, which seems to act as a bar to its further progress, the gradual decline, the recurring exacerbations, recognizes that all these point strongly to some insidious micro-organism at work in the tissues, which it is possible to control a while, but which, when a favorable opportunity presents itself, acquires new life and activity. Sattler[1] was the first who investigated the micro-organism of trachoma, and announced his discoveries at the Thirteenth Assembly of the Ophthalmological Society, at Heidelberg. In examining the secretions at different stages of the disease, he found a micrococcus which resembled the gonococcus. The cocci were of biscuit shape, joined in pairs, but separated from each other by an intervening space. They were most frequently seen in groups of two, three and four, at times in clumps. In stains and sections, they could be seen as dark dots. He employed liquid culture-media in the beginning, later solid ones, mainly blood serum, in which the trachoma cocci grew well, but not invariably. At the point of inoculation he was able in seven or eight days to discover pale yellow spots, which developed slowly. On microscopic examination, the organisms in the culture were found to be identical with those of the secretion. The inoculation of animals was negative, but one on the human conjunctiva produced the disease.

If the Egyptian disease and trachoma are identical, we must consider the work done by Koch[2] in Egypt. He judged two etiologic factors to be at work: one a diplococcus, identical with gonococcus, causing a grave type of the disease; another, a tiny bacillus which caused a less severe type of the trouble. Da Gama Pinto[3] was unable to find micro-organisms in sections of the diseased conjunctiva, and in consequence doubted the correctness of the findings of the preceding investigators.

Michel[4] studied the disease during an epidemic at the Aschaffenburger Waisenhaus, where there were 97 boys; of those who contracted the trouble, 55 had a mild type of the disease, 14 a grave one. He studied the conjunctival sections in 30 cases, with negative results, but subsequently, in studying some of these cases from the Aschaffenburger Waisenhaus at the Wurzburger clinic, he found a few cocci in the secretions.

In making sections of conjunctival tissue, Michel found cocci in the follicular contents, never in the epithelium. The work proved very difficult, on account of the minute size of the micro-organisms, and also on account of their scarcity. For the most part, he found them in irregular clumps; at times in rows of ten or twenty. He never found them within cells, but above or between them.

For his cultures, Michel used both conjunctival secretion and the contents of the trachoma nodules, which he either expressed or cut out. Cultures were only made in seven cases, and developed best from the expressed contents of the nodule. In several cases there was no growth. In one case the culture was contaminated by staphylococcus pyogenes aureus. In the successful inoculations on agar there developed after two days an even grayish-white thread-forming growth. On gelatin, at room temperature, there developed a grayish-white, thick layer, which grew rapidly on the surface, but along the stab and at its lower end developed small globules. At the end of four or five weeks a funnel-shaped growth had developed. The gelatin was not liquefied. On blood serum there appeared at the end of twenty-four hours a pale, even streak, which assumed a milk-like hue; at its periphery club-like prolongations appeared, which later assumed a ragged appearance. The pure cultures consisted of small diplococci, which resembled gonococci, but were smaller; their length from one pole to another was .6 to .8 μ.; width .4 to .6 μ. Inoculations on animals were negative, but an inoculation of the human conjunctiva caused the disease.

Schmidt[5] found in the secretions small, round, isolated cocci, surrounded by a clear gelatinous area, and resembling staphylococcus pyogenes aureus. In the sections he found different forms. By staining sections according to Gram's method he found in the tissues round, point-like cocci. For cultures he used the secretion, and in forty-nine cases found a coccus resembling staphylococcus pyogenes aureus, though differing from it in size, motility and action toward gelatin. He claims to have caused the disease in birds.

Kukharski[6] investigated twenty-six cases of trachoma and found numerous bacteria, among which were staphylococcus pyogenes, bacillus subtilis and bacillus mesentericus vulgatus. When these accidental organisms were excluded, his cultures showed one characteristic organism, of the size and shape of the gonococcus and possessed of a springing motion. He arrived at the following conclusions:

1. The etiologic factor of the disease is a bacillus which in some way becomes a coccus.
2. Michel's organism, which resembles a gonococcus, presents no characteristic feature.
3. The organism, in growing on solids, presents a white thread-like membrane consisting of confluent spots.
4. It liquefies gelatin; on the surface a white thread-like membrane forms.
5. The culture may be confused with staphylococcus pyogenes albus and other micro-organisms occurring in the air.
6. Inoculations from culture produced no effect.
7. Inoculation in the eye of a cat with the trachoma nodule itself caused the disease.

Goldschmidt's[7] findings coincide with those of Michel. Washejewski[8] studied thirty cases of trachoma in different stages. He found single cocci and groups of cocci in the lymphoid cells, red-blood corpuscles and epithelial cells. The cocci resembled gonococci. Baumgarten[9] could not see that the specific organism of trachoma differed in any respect from staphylococcus pyogenes aureus. Staderini[10] found similar cocci, as also did Schmidt-Rimpler. Wiltrams'[11] results were for the most part negative. He found various cocci and bacilli, and decided that thus far no one had proven anything definite. His conclusions were:

1. Various organisms are found.
2. In follicles are micrococci which are seen with difficulty.
3. Different authors describe different cultures, whose pathogenic characteristics at best are doubtful.
4. Most observers employed contaminated secretions.
5. The follicle itself should have been employed.

Schongolowicz[12] paid special attention to staining the organisms within the tissues. He used the Gram-Weigert and also the Koch methods, and succeeded in staining the organisms by both means. He found within the tissues bacilli 1 to 2 μ. long, .3 to .5 μ. wide. His cultures in three or four days disclosed on the surface of the culture-media round and oval colonies of granular structure. His bacillus displayed fairly rapid motion. It grew slowly on serum and rapidly on agar. Inoculations under the skin of two white mice, one guinea-pig and one rabbit gave no result. Inoculations of pure cultures on the conjunctiva of various animals produced not trachoma, but a somewhat similar disease. Alt[13] finds round or oval cells containing one, two, three and four eccentrically situated round bodies which look like nucleoli. He thinks that in these bodies we have the organism causing trachoma. He was unable to find the organisms described by Sattler or Koch. Elze,[14] observing that trachoma and malaria seem to thrive under similar conditions, and also observing some amelioration of the disease where quinin was given, judged that similar causes bring about the two conditions. He claims to have found in the secretions and nodules certain peculiar organisms which he judged to be monads and which he called "plasmodia."

As can readily be seen, the literature on this subject affords small help to one desiring to investigate the subject for himself, and still, in one respect there seems to be some unanimity of opinion, i. e., in regard to the presence of micro-organisms within the trachoma nodule. This side of the question also appeals to one from a clinical standpoint. What are these enlarged trachoma nodules? Simply enlarged lymphatics of the conjunctiva. Why are they enlarged? For the same reason, in all probability, that any lymphatic gland enlarges: they are filtering from the deeper tissues such noxious agents as are producing the disturbance, and if these agents are bacteria of any kind, here, in all probability, they are to be found. I therefore decided to start my investigations with the trachoma nodule itself, to subject it to the various methods of staining bacteria within tissues and see whether or not the micro-organisms could be found within that nodule. I employed the two well-known methods for staining bacteria in tissue: 1, staining with Loeffler's methylene-blue and decolorizing with acetic acid, 1 to 1000; 2, the Gram-Weigert method Inasmuch as I slightly modified this latter method, it may be well to give briefly the different steps of the process: After anesthetizing the conjunctiva with a 4 per cent. cocain solution, the nodule is grasped with a small mouse-toothed forceps and snipped off with a sharp-pointed pair of scissors. Then it is: 1, placed in absolute alcohol six hours; 2, in xylol six to twelve hours; 3, infiltrated in paraffin; 4, imbedded in paraffin; 5, the section is cut. (The section must be very thin. I should call a section thicker than 1/150 millimeter worthless.) It is then placed: 6, in xylol; 7

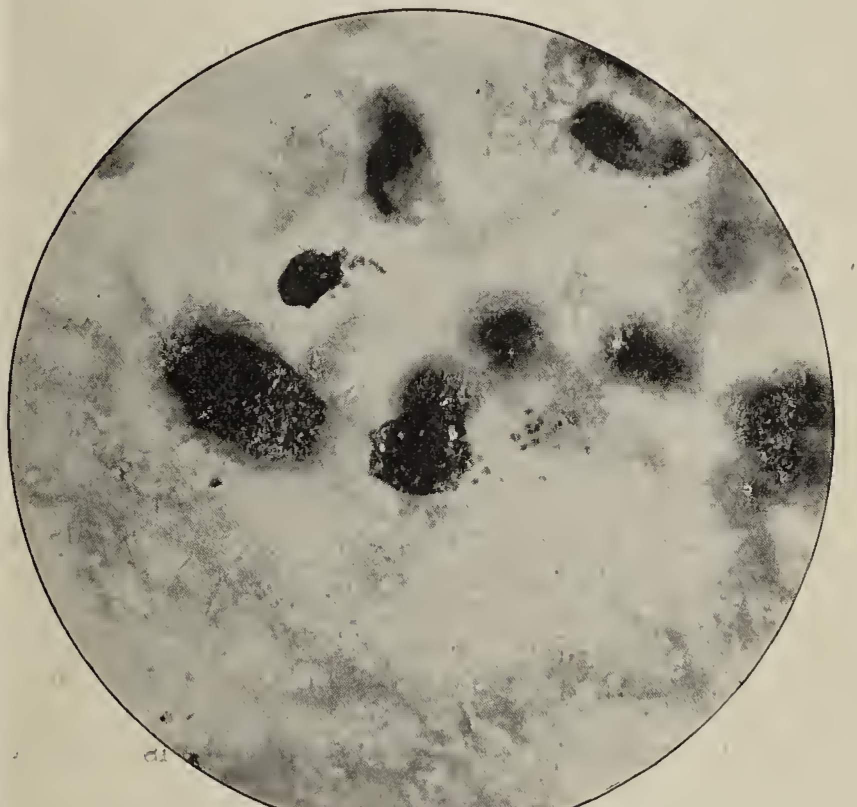
in alcohol; 8, in distilled water; 9, in Orth's lithium carmine twenty-four hours. (The lithium carmine must be well ripened; one must also remember not to fasten the section to the cover-glass with albumin fixative, as the lithium carmine does not stain well where albumin has been used.) Then it is: 10, washed in distilled water; 11, in anilin gentian violet fifteen minutes. (The anilin gentian violet should be freshly made each time. This is conveniently done as follows: a saturated alcoholic solution of gentian violet is kept on hand; in another bottle is kept a 5 per cent. solution of anilin water. Into a small dish 5 drops of anilin water are filtered through filter paper and into this 1 drop of gentian violet is dropped.) Finally, it is: 12, washed in normal salt solution; 13, dried and placed in Lugol's solution one minute; 14, in distilled water; 15, dried and decolorized with anilin oil till all violet color disappears and section looks red; 16, in xylol; 17, in Canada balsam.

When the Loeffler blue stain is used, tissues should appear perfectly colorless, while the bacteria stand out well stained. When the Gram-Weigert method is used, Orth's lithium carmine being employed as a counterstain, a beautiful picture presents itself when the section is placed under the microscope; the tissues are colored a brilliant red, in which the organisms are seen stained a deep violet.

In all, I prepared fifteen different sections according to these two methods. In every case I found within the nodule, organisms which presented striking morphologic characteristics. These organisms were present in greatest numbers in the loose adenoid tissue of the mucous membrane. They were commonly seen in small groups, usually in the intercellular spaces, though I have observed them in the leucocytes, in the protoplasm of the epithelial cells, and at times, in the blood-vessels of the nodule. The organism had a capsule, that I could say with certainty, but whether it was a capsulated diplococcus or a tiny capsulated bacillus with heavily staining ends I was not able to state with any degree of certainty, nor were a number of other observers. Its size could be accurately determined. It varied from 1.5 to 2 μ. in length, from .5 to .6 μ. in width. The organism was not decolorized by the Gram method of staining. I call special attention to this fact. When we remember that, with but very few exceptions, such as gonococcus, typhoid bacillus and a very few others, no pathogenic organisms are decolorized by Gram's method, while practically all non-pathogenic organisms are decolorized, the fact that this organism within the tissues was not decolorized seemed to me of great importance. In the meantime, I had prepared and examined according to the same methods four sections of hypertrophied conjunctiva taken from the upper cul-de-sac; in none of these sections could I find micro-organisms. This seemed to me to indicate quite clearly that the organisms were localized in the nodule.

I next tried to stain the organisms with carbol fuchsin, decolorizing with 10 per cent. sulphuric acid, but when this method was used no bacteria could be found. In three cases I slightly modified my modus operandi. Instead of cutting out the nodule and treating it as a tissue to be fixed, hardened, infiltrated and cut, I squeezed out the contents of the nodules, smeared them on a cover-glass, fixed them in the flame and treated them as smear preparations. In this manner one can study the micro-organisms to very good advantage, and often obtain a far better definition than it is possible to obtain when the organisms are within the tissue. My findings in these last three cases corresponded with those previously described.

I now made a study of the secretions in thirteen cases. My results in these cases were rather unsatisfactory; in nine cases I failed to find the characteristic organism at all. In two cases I found it, but only in scanty numbers and after long search; in two cases it was found easily. One of these cases was one which I had myself inoculated, the other was a recent case, in neither of these two had astringents or antiseptics been used on the conjunctiva. In most of these thirteen cases adventitious organisms were present; not in the quantitity one would expect where diseased tissue is exposed to the air, although in one case I found four distinct varieties of micro-organisms present. It is of interest to note that in four cases cocci were found which were decolorized by the Gram method of staining. In one respect the study of the secretions proved of great benefit, for I was now able to decide definitely and with positiveness as to the morphology of the organism.

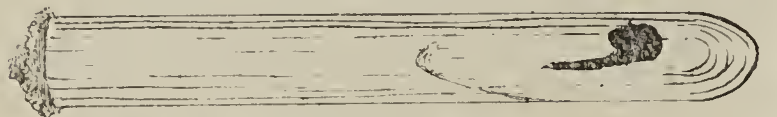


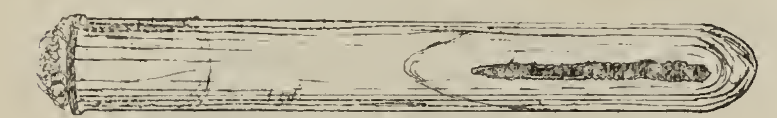
The bacteria seen in the tissues, in the smear, and now in the secretions, were tiny, round, capsulated diplococci; at times it was still almost impossible to decide whether a particular organism was a very small bacillus with heavily staining ends or a tiny diplococcus, but in some preparations and especially those stained by the Gram method, it was possible to decide beyond the peradventure of a doubt as to the morphology of the organism with which we had to deal. These diplococci were surrounded by a clear, gelatinous capsule, which at times was remarkably clear and well-marked, at times almost impossible to perceive; the individual cocci were separated by a septum of the same kind, the septum, however, seemed often to have an affinity for anilin stains, especially Loeffler or Klebs methylene blue, while the capsule did not; the capsule could be especially well seen where the diplococci were turned on end, so that only one coccus could be seen surrounded by its gelatinous envelope. In many respects this organism was a miniature pneumococcus. It was of course much smaller than the pneumococcus and there was no lance shape present, the elongation, if any, being in the opposite axis to that of the pneumococcus; still we must remember that pneumococci, and especially the younger forms, are very frequently round and not lance-shaped.

It may now be well to briefly review and tabulate the results of my studies of sections, smears, and secretions.

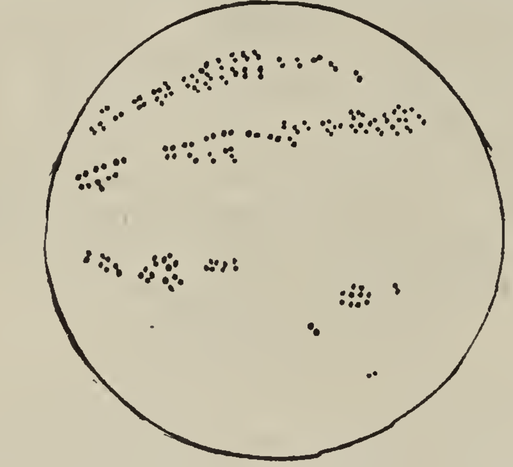
1. I found within the trachoma nodule in fifteen cases an organism varying in length from 1.5 to 2 μ., and in width from .5 to .6 μ.
2. This organism was enveloped in a gelatinous capsule.
3. No other organism could be found within the tissues.
4. This organism was stained by the Gram method.
5. While seen only within the tissues or in smears, it was impossible to positively say whether this organism was a diplococcus or a small bacillus.
6. The organism was usually found in the adenoid layer of the conjunctiva, most frequently between cells, though at times within them, very rarely in vessels.
7. It is quite abundant in the secretion of recent cases where no astringents or antiseptics have been used, but it is almost impossible to find after these have been used some time.
8. In the secretions it was possible to decide that the organism was a dot-like, capsulated diplococcus.

Growth on agar.





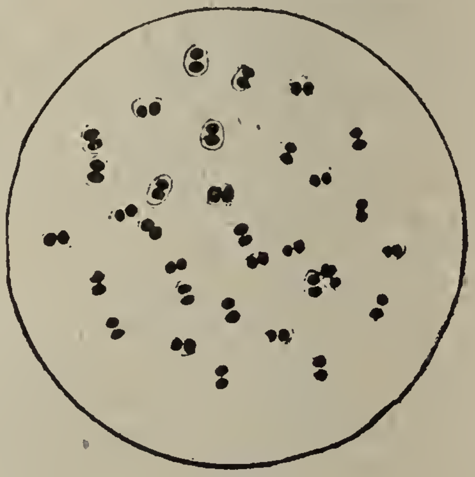
Growth on serum.



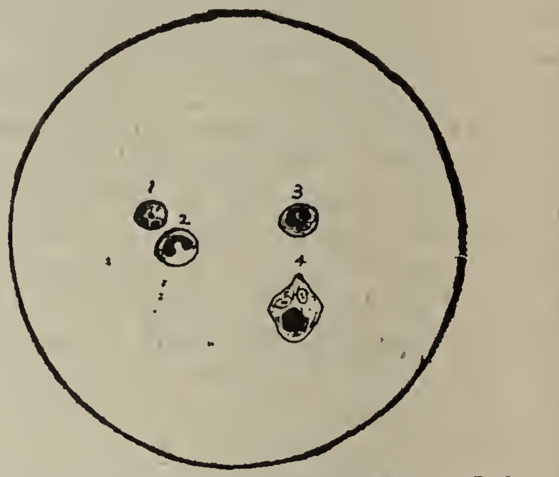
Agar culture, three days. Showing form of staphylococcus (without capsule). Stained by Gram's method.

The next task was to get a pure culture of the organism. This, with the data already in my possession, would, I thought, be a comparatively easy affair. It was a capsulated diplococcus, staining by Gram; these three facts alone almost isolated the organism. For my cultures I determined to again rely on the nodule. The conjunctival sac was well irrigated with a saturated solution of boric acid and then anesthetized with a sterilized 4 per cent. cocain solution. A small mouse-toothed forceps and sharp-pointed pair of scissors were next carefully sterilized, as was also a platinum loop. The lid was everted by an assistant, the nodule grasped with the forceps and snipped off; it was then crushed between the teeth of the forceps, laid on the platinum loop, and placed on the culture medium. By observing these precautions I was very successful in obtaining pure cultures, these being contaminated in only two cases.

My first inoculations were made on agar—2 per cent. glycerin agar and dog's serum. Of the first seven tubes inoculated, I obtained cultures in only two cases; one was a large bacillus decolorized by Gram's method, and the other consisted of clusters of cocci, stained by Gram's method. As was natural, when I saw the grape-like clusters of cocci not decolorized by Gram's method, I immediately thought I had to deal with some form of staphylococcus, which had in some manner gotten into the culture-tube. Somewhat disappointed at my lack of success with solid culture media, observing the same precautions as before, I inoculated seven tubes containing bouillon, taking the precaution of having the tubes warm at the time of inoculation and immediately placing them in the incubator. At the end of forty-eight hours two of these bouillon tubes were turbid and five remained clear. On making cover-glass preparations from the two turbid tubes I found that in one was contained a mixed culture consisting of staphylococci and a tiny diplococcus surrounded by a clear, gelatinous envelope, which seemed in every way identic with the organism observed within the tissues and in the secretions; in the other tube I found a pure culture of this same diplococcus. From this pure culture, observing the greatest precautions so as not to contaminate my cultures, I inoculated one tube of agar, one of glycerin agar, one of dog's serum and one of gelatin. All these, with the exception of the gelatin tube, I placed in the incubator, and at the end of forty-eight hours found growths in all of them. I first made a cover-glass preparation from the growth on agar, and on placing it under the microscope was chagrined to find an organism which seemed to differ in no wise from an ordinary staphylococcus. Evidently I had contaminated my culture in changing from the bouillon



Bouillon culture, three days. Stained by Gram.



Secretion from case inoculated with trachoma. 1. Polynuclear leucocyte. 2. Transitional leucocyte. 3. Transitional leucocyte with diplococcus in cell protoplasm. 4. Epithelial cell with diplococcus in cell protoplasm.

to the agar. I next examined the growth on serum; at the first glance this, too, seemed staphylococcus, yet on closer examination many of the cocci seemed to form pairs and some seemed to have a capsule. A cover-glass preparation was then made from the bouillon tube which had been inoculated from the original bouillon culture. It contained diplococci, although they seemed a trifle larger than the diplococci observed in the tissues and in the first bouillon culture, and the capsule also seemed less well marked. In some places they showed a tendency to form small bunches or clusters, in others to form chains of three or four, although these clusters or chains were always seen to be made up of diplococci. I now began to doubt whether the growths which I had observed on the agar and serum were after all ordinary staphylococci, especially as the macroscopic appearance of these growths was highly characteristic and differed from that of any ordinary staphylococcus; so I again inoculated bouillon tubes from these agar and serum tubes and the new growths in bouillon showed all the characteristic features of the mother bouillon culture, with the exception perhaps that the cocci seemed to have grown larger, and the capsule to have almost disappeared. Here then was a discovery, and one which explained the mistakes of many preceding investigators. The organism was modified in size and form by the character of the culture media; on solid culture media it simulated an ordinary staphylococcus, in bouillon it retained its characteristic morphology, and in the mother culture was of about the same size as when observed in the tissues, and had its capsule well marked, but on reinoculation in bouillon it became larger and lost its capsule. It was possible, however, even on the solid culture media, on careful observation, to observe that though the cocci were bunched like staphylococci, still these bunches were composed, not of groups of isolated cocci, but of bunches of diplococci. Whether this agglutination on solid media was due to the adherence of diplococci with each other or simply an agglutination caused by the medium itself I can not say.

I now inoculated a bouillon tube from the growth which I had obtained, we remember, on agar, in my first series of inoculations, and which I had judged to be staphylococci. The same thing again occurred; on making a cover-glass preparation I found only diplococci, some of them capsulated. My gelatin, in the meantime, had become very slowly liquefied on the surface by my growth, and here the organism was seen in an intermediate form, in some places showing the appearance of staphylococci, in others of diplococci. I now inoculated another series of ten bouillon tubes with trachoma nodules and in two more cases obtained pure cultures of the original tiny diplococcus.

I was now ready to inoculate animals. My first experiments were tried on a rabbit, a guinea-pig and a dove. The method employed was the following: Wrapping a small cotton swab tightly around the end of a probe, and placing some of the pure culture on the cotton, I massaged the conjunctiva till the cotton was tinged red. After the reaction caused by this massage had subsided there was nothing in the condition of any of these animals to indicate in the slightest degree that my inoculation was successful. At the end of two weeks any impartial observer would have pronounced the conjunctiva in the three cases normal. I next tried a rabbit which had been previously used for operative purposes and in each of whose eyes a conjunctivitis existed at the time of inoculation. Here, at the end of a few weeks, I got a condition which somewhat resembled trachoma, but I must confess it had but little the appearance of a frank, acute trachoma, such as one sees on the human conjunctiva. It is true there were, and still are, isolated, enlarged, somewhat gelatinous-looking follicles, with some conjunctivitis, but there is none of that diffuse purplish hue, that velvety thickening of the mucous membrane, abundant secretion, roughening of the lids with enlarged follicles studding the palpebral conjunctiva, especially at the transitional fold, that one sees in an acute trachoma. I remember that, about a year ago, in experimenting on the conjunctiva of a rabbit, with a pure culture of streptococcus, I produced a conjunctivitis which in many respects resembled a trachomatous one. When we remember that one of the chief symptoms of trachoma is a miliary lymphadenitis due to the involvement of many tiny lymph-glands scattered about in the conjunctiva, it seems a very natural thing that any organism which will cause an involvement of these minute glands will simulate one of the chief symptoms of trachoma, although the disease may not be trachoma at all. In view of these facts, and also in view of the fact that I was unable to obtain the characteristic organism again in culture from these nodules on the rabbit's conjunctiva, I shall call my experiments on animals negative, although I still have this rabbit under observation and shall make other attempts to find the diplococcus in the nodules.

It was now my good fortune to obtain a human subject. An old woman, aged 68, blind in both eyes as the result of an explosion, and with a phthisis bulbi of the left eye, on being told that the experiment could in no wise injure her general health or condition, was induced, by the payment of a sum of money, to allow herself to be inoculated with the pure culture. I employed for this purpose a growth on agar, which had been inoculated from a mother culture of bouillon. At first I merely placed the germs in the conjunctival sac with a platinum needle. At the end of one week no reaction whatever had followed. I next employed the same method that I had used with animals. After cocainizing the conjunctiva, I rubbed in the organisms till the cotton was slightly tinged. This time I was successful. For the first week the condition was one of simple conjunctivitis; there was redness, hypersecretion and a slight burning sensation. At the end of one week the picture changed slightly and the condition was rather that of a follicular conjunctivitis; the conjunctiva of both lids was of a deep red, the secretion had become more abundant, and on inspecting the mucous membrane with a convex lens, tiny, isolated, enlarged follicles began to appear. At the end of the second week the conjunctiva had become a deep, purplish red, was slightly hypertrophied and the enlarged follicles especially at the lower and inner border of the tarsal cartilage, had become more marked, and bunches of tiny vessels could be seen running to some of them. The case now presented that doubtful aspect which so frequently puzzles the oculist to tell whether the case is one of trachoma or merely a follicular affair. On the thirteenth day I found in the secretions a very small diplococcus, surrounded by a gelatinous capsule and stained by the Gram method; this organism was identic with the organism seen in the tissues and on the culture media. On the nineteenth day I inoculated several bouillon tubes with the secretion and obtained this organism in a mixed culture. At the end of the third week, while the picture was by no means absolutely characteristic of trachoma, still if the patient had applied for admittance into the Eye and Ear Infirmary I should without hesitation have isolated her in the trachoma ward. At the end of four weeks I squeezed out one of the small follicles, smeared the contents on a cover-glass and found the organism in the smear. At the end of five weeks the diagnosis of trachoma could be made by the most impartial observer beyond a doubt. At the end of six weeks the appearance had become so characteristic, and there were so many of the diplococci present in the discharge, that fearing for the safety of the other members of the household, I began to treat the lids with strong solutions of silver.

I had now found the organism in the tissues and secretions, had obtained it in pure cultures on various culture media, had produced the disease on the human conjunctiva and once more recovered the organism. I will now for the sake of accuracy briefly tabulate and recapitulate all my findings in regard to this organism:

Origin.—Unknown; seems to occur most frequently in malarial districts.

Form.—Round diplococci, which in the tissues and first bouillon culture are enveloped in a gelatinous capsule. In the tissues they lie in small groups, each organism separate from the others. In bouillon they usually are seen as isolated diplococci, at times they are seen in small clusters or short chains, though the clusters and chains are always composed of diplococci. Often the diplococcus is seen turned on end, so that only a single coccus appears; in this position it is possible to see the capsule especially well marked. On solid culture media they simulate staphylococci, on gelatin they show an intermediate form.

Motility.—In the hanging drop the organisms exhibit a slight degree of motility.

Vitality.—Cultures die in bouillon in about two weeks; on agar they live for months.

Anilin stains.—Organism stains well with ordinary anilin stains; also by Gram method. Capsule does not stain, but septum between cocci seems at times to have an affinity for stains, especially for methylene blue, causing the organism often to resemble a bacillus.

Growth.—Grows rapidly in incubator, more slowly at room temperature. Bouillon becomes turbid in thirty-six hours. Abundant growth on serum in forty-eight hours. Grows somewhat slowly on agar, especially at room temperature. *On serum:* White, moist, membranous-like streak with a scalloped edge along line of inoculation. Edge is white, the center yellowish. *On agar:* Resembles somewhat the growth on serum; the edge exhibits the same scalloping. The growth on agar is more raised than that on serum. The difference in color between the center and the borders of the growth is even more marked; the center is distinctly yellow, while the borders are milk white. *In bouillon:* At the end of ten days, white, sand-like deposit settles at bottom of tube. *In gelatin:* Growth somewhat funnel-shaped. White, wavy, thread-like growth along the stab, consisting of small, agglutinated globules. Grows somewhat heavier toward the surface, and on the surface forms a white membranous growth which shows the same peculiar scalloping of the edges, as the growth on serum. The gelatin liquefies very slowly on the surface, but not along the stab.

Oxygen requirements.—Facultative aërobic.

Odor.—After developing one week, on any of the culture media, and especially in bouillon culture, it has a pronounced urinous odor, which, as time goes on, becomes very offensive.

We have now described a capsulated diplococcus not decolorized by the Gram method. It immediately becomes necessary to differentiate it from the only other diplococcus to which this description could apply, i. e., the pneumococcus. This is easily done. The trachoma diplococcus is smaller, has a slight degree of motility, a characteristic appearance on culture media which differs most decidedly from pneumococcus, and a very different pathogenesis.

I shall now compare my findings with those of other men who have investigated this subject, and especially of those whose results have in any measure coincided with my own.

Sattler, we remember, found biscuit-shaped cocci, which he compared to gonococci. Morphologically there is at times a great resemblance between the two organisms, but here all resemblance ceases, and the comparison for this reason was an unfortunate one. Morphology in bacteriology is a notoriously uncertain thing. A capsulated, dot-like diplococcus, staining by Gram's method, has very little real resemblance to gonococcus. Sattler relied too much on secretions. I found them far more apt to contain adventitious organisms than the one in question. Kukharski's criticism of Michel's work, when he says that Michel's organism presents no characteristic feature, applies even more justly to Sattler. Sattler failed entirely to characterize and individualize the organism he saw. He did not identify it, so that it must needs be the trachoma organism and nothing else.

Koch thought the disease a mixed infection. It is easy to understand how this came about; in all probability he saw the trachoma diplococcus. He saw it when it could not be differentiated from a tiny bacillus; again, he saw it when the diplococcus form could be plainly perceived, and consequently judged the disease a mixed infection.

Michel undoubtedly saw the trachoma diplococcus; from his descriptions of it, we can not doubt that fact, but Kukharski's criticism is just and well founded when he says Michel failed to characterize this organism; he also failed to describe the change of morphology on different culture media, a fact easily explained when we remember that he only inoculated seven tubes in all, and in a number of these tubes did not obtain growths.

Schmidt first mentions the capsule. He describes an organism resembling staphylococcus pyogenes aureus, which is surrounded by a clear, gelatinous area. In all likelihood he noticed the yellowish color of the organism on solid culture media; on examining it, found a staphylococcus form, and naturally judged the organism to be the staphylococcus pyogenes aureus.

Baumgarten also describes it as a staphylococcus, having in all probability seen the same form as Schmidt.

Kukharski found a bacillus which somehow became a coccus. He made the same mistake as Koch, only instead of calling the disease a mixed infection, his bacillus somehow became a diplococcus.

Schongolowicz undoubtedly saw the organisms in the tissue; his description of them as seen here is accurate; before I had seen the organisms in the secretions and cultures I leaned toward his view, but from the description of his cultures I doubt very much whether he ever obtained a pure culture of the trachoma diplococcus.

Now, to recapitulate for the last time: The organism of trachoma is a tiny, capsulated diplococcus which is present in the trachoma nodule, which is at times, though not frequently, present in the secretions. It changes its form on different culture media and also its size. It is obtained in cultures with great difficulty, it being necessary, on an average, to inoculate nine bouillon tubes before a culture is obtained; it dies in liquid culture media in about two weeks, but lives for months on solid media.

Clinical significance of this work.—In the early stages of trachoma, and frequently even after the lapse of some time, it is often impossible by means of the methods now employed to state with certainty whether the case before us is one of that disease or not. Can a diagnosis be made with absolute positiveness? Unquestionably yes. If one can find within the secretions or in the contents of the expressed follicles an organism such as I have described, he may with absolute certainty call the disease trachoma; furthermore, he must use every precaution to prevent the patient from infecting others, for that organism, under favorable circumstances, will certainly cause the disease in others, no matter how mild a form of the disease the patient himself may exhibit. Is this method of diagnosis sufficiently reliable—can the organism be found in enough cases to render it valuable? Again, undoubtedly yes. Where one suspects trachoma there are almost invariably enlarged follicles. Squeeze out one of these follicles, smear its contents on a cover-glass, fix them in the flame, stain them by Gram's method, and if a capsulated diplococcus is present the case is undoubtedly trachoma; if it is not present the case is in all probability not trachoma.

In my series of fifty cases of trachoma, in only seventeen cases were members of the patient's family afflicted with the disease. In cases where one of a married couple had contracted the disease the other in nine cases escaped. This seems very strange, when we remember how notoriously infectious trachoma is, and how it has been known to run through camps and institutions like wild fire. There are, in the light of these investigations, several reasons for this. Where antiseptics are used the secretions soon become harmless, and may often with impunity be inoculated into other eyes; then again, the organism is very difficult to cultivate; if the soil is not favorable it soon dies. When I inoculated the human conjunctiva it was necessary to massage it into the conjunctiva; merely placing it in the sac proved of no avail. Undoubtedly the conjunctivæ of debilitated individuals, especially of such as have suffered from malaria, afford a more favorable site for growth than those of healthy people, and undoubtedly where the disease spreads rapidly it is among the former class, and from the secretions of those who have not been treated with antiseptics.

What is the period of incubation of trachoma? This is difficult to answer, even when one has watched the disease develop from day to day. The symptoms caused by the micro-organisms are certainly well marked by the end of the first week. By the end of the fifth week a diagnosis may be made from the aspect of the case.

I had now found the organism of trachoma in the tissues and secretions, had obtained it in pure culture, had produced the disease and again obtained the diplococcus. One task remained unfinished, and that by far the most practical and important of all, i. e., the study of the toxins and antitoxins. A description of my work on this subject I reserve for a future paper; suffice it now to state that I inoculated ½ liter of bouillon with a pure culture of the diplococcus, and allowed it to develop for ten days; this bouillon was then filtered through a Kitasato filter. This filtrate, injected into animals and human beings, causes local pain, redness and edema with a marked temperature reaction; 4½ c.c. of this filtrate injected into the flank kills a guinea pig weighing 300 grams. If a guinea pig is treated with increasing doses of this filtrate, as fast as the temperature from the previous injection has subsided, it may receive twice the lethal dose without showing other symptoms than a temperature reaction. These facts lead me to hope that an efficient trachoma antitoxin may be found. If the action of antitoxin is, as recent investigations tend to prove, a chemic and not not a biologic one, then surely a local disease like trachoma is an ideal one for the application of antitoxin.

I wish here to thank Dr. F. R. Zeit for the valuable advice and assistance which he has rendered me in the prosecution of this work.

Illinois Charitable Eye and Ear Infirmary.

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DISCUSSION.

Dr. Gradle—The Doctor's work undoubtedly represents a great deal of painstaking labor, but claims of having discovered the micobe of trachoma have been put forth by others, and have never received full recognition. There can be no doubt, from a modern point of view, that trachoma is a disease due to some parasite, and the fact that so many competent observers have hitherto failed to detect the characteristic microbe should caution us against having too fervid faith in any statements.

Dr. Hale—One can hardly look at the literature without finding the enthusiasm of one day dispelled by the skepticism of the next. This is not in any sense a criticism of the writer's work, but I mention it to show that skepticism is not ill-founded. It is to be hoped that Dr. Snydacker has reached a true method and has isolated the bacterium of trachoma.

Dr. Gradle.—If I may be allowed, I will lead the discussion into another path, in which perhaps more of the members can participate on the basis of personal experience, although it is somewhat beyond the scope of Dr. Snydacker's paper, viz., the clinical aspects of the difference between trachoma and follicular catarrh. First of all, we must clearly recognize the existence of follicles independent of trachoma. If Dr. Snydacker can verify his claim that the microbe which he has described is characteristic of trachoma, its presence would settle the diagnosis definitely in any given case. Whenever such a microbe is present, we would necessarily have to call the disease trachoma, no matter how it appears clinically, exactly as we call a disease tubercular if the tubercle bacilli is present, no matter how different its appearances may be to the naked eye or under the microscope. But we have not yet arrived at that stage of certainty, and clinically, however, enlarged follicles can be found in a variety of conditions which have nothing to do with trachoma. First of all, in a large number of school children we will find enlarged follicles in the lower retrotarsal fold, to a less extent on the upper lid, or in the upper retrotarsal fold. These follicles persist for months and even years without developing into any of the lesions characteristic of true trachoma, without ever involving the cornea, and without showing any progressive character. All present must have seen this condition, and know that it is sometimes very intractable to treatment, but if we relieve the refractive condition, the patient is materially improved subjectively and the follicles cease to annoy him.

We must recognize, furthermore, the existence of true follicular catarrh, not identic in any way with trachoma from a clinical point of view, the difference being one of progressiveness and the absolute immunity of the cornea in true follicular catarrh.

It is now, I think, about eighteen years since there was a moderate epidemic of this form of conjunctivitis in Chicago, especially on the North Side, where I happened to have had more patients than in other parts of the city. I had a number of cases that were slightly follicular from the start; others were not, but became follicular, most of the cases yielding, however, to applications of nitrate of silver. The follicular and non-follicular cases were due to some virus, because the affection occurred often in the same family. Three or four members of a family were affected within a short time of each other, the process of healing taking place rapidly under appropriate treatment, or sometimes without it in some cases, while in others follicular development took place. Some of the cases subsequently developed a condition which brought up the question as to how far it was identic with trachoma. I recall three cases which, after some months of neglect, presented large follicles, and which, when seen at that time, could hardly have been distinguished from true trachoma. But the subsequent history was entirely different. All these three cases I had originally seen; they had neglected themselves. They were better after a short treatment, but returned after some months, when large follicles were present. The difference between these follicles and true trachoma was this: They were situated more on the tarsal and less on the retro tarsal portion, they were never sago-like, but yet resembling in many respects the follicles seen in trachoma. All those cases were cured by a single expression, with the Knapp roller-forceps. Subsequent observation confirmed the absolute cure.

Dr. **William T. Montgomery**—We have all had experience similar to that related by Dr. Gradle with the follicular form of conjunctivitis, and from that fact I have been led to believe that it is an entirely distinct type of inflammation. In cases of follicular conjunctivitis I have repeatedly relieved the patient permanently of the trouble by a single expression. The cornea is never involved in that form of the disease, which is a feature very different from what we find in true trachoma.

PULMONARY TUBERCULOSIS.

ITS EARLY DIAGNOSIS AND THE LOCATING OF THE LOCAL LESION BY THE USE OF POTASSIUM IODID.

Read before the Chicago Society of Internal Medicine, Dec. 22, 1898.

BY EDWARD F. WELLS, M.D.
CHICAGO.

Cases of suspected tuberculosis of the lungs are occasionally encountered in which, from various causes, the ordinary diagnostic resources fall short of our necessities, and in which additional aids to the earliest possible diagnosis are earnestly called for. Again, there is another class of cases in which the history, symptoms and perhaps bacillary sputum may point unerringly to the presence of pulmonary tuberculosis, yet the location of the lesion can not be demonstrated, although it is desirable, or even important that this be done. In meeting these requirements iodid of potassium has a certain but not a constant value.

When iodid of potassium is administered it is eliminated, in part, by the bronchial mucous membrane, and it has long been known that, as the result of such elimination the bronchial mucus is increased, mainly by the addition of water, cough may occur or be increased, and râles may develop or be accentuated.[1] These effects are especially prone to occur when the doses of the iodid given are small or moderate. With a knowledge of these effects of the iodid of potassium Stricker suggested that the drug might be useful for diagnostic purposes in pulmonary tuberculosis, and Vetlesen[2] put the suggestion to a practical test. He used the iodid in $3\frac{1}{2}$-grain doses three times a day for two or three days in 27 cases, obtaining a positive reaction in 8, and negative results in 19 cases. In the cases in which the reaction was positive, expectoration and râles were increased, the tubercular foci being readily located by the exaggerated râles heard in the vicinity.

As soon as my attention was called to Vetlesen's paper I began a series of observations for the purpose of determining, if possible, whether we have in the iodid of potassium an agent of diagnostic value in pulmonary tuberculosis, and if so, to define as far as practicable its limits of clinical usefulness. The inquiry was extended so as to include the effects of the administration of iodid of potassium upon the respiratory sounds in health and a variety of non-pulmonary diseases; in cases of non-tubercular pulmonary affections, and in cases of suspected or evident pulmonary tuberculosis. These observations have now become sufficiently numerous to permit the formation of definite conclusions, and these are here presented.

In health and in non-pulmonary diseases the iodid of potassium in small doses may produce mucous râles, but these are universally diffused, have peculiar characteristics, and can not lead the experienced auscultator astray. In some cases fine bubbling sounds may be heard at the base only with ordinary respiration, becoming audible over the upper lobes on deep inspiration. Usually cough is not present, but it developed, with any sized dose of the iodid in two of my cases. In ten carefully selected persons the iodid produced râles in only four; they were absent in six. A large number of other cases were observed with practically the same results.

In non-tubercular pulmonary affections the iodid was given in many cases with varying results. In whooping-cough the râles were not materially modified. In acute bronchitis the râles become finer and more uniform in character and distribution. In two cases of bronchitis which persisted for several weeks, with a heavy muco-purulent expectoration, with râles only on forced breathing or coughing, diffused fine bubbling appeared with gradual disappearance of the coarse crackling râles. In one case of hay-fever the râles were not changed. In all of a considerable number of cases of asthma the sonorous and creaking râles gave way to a fine bubbling, or in a few days to the entire disappearance of all morbid sounds. In all the cases of this class the iodid appeared to produce moist râles or modify the morbid sounds present in a large proportion of instances.

It is, however, the effect of iodid of potassium on the respiratory sounds in persons with demonstrable or suspected pulmonary tuberculosis, which is of peculiar interest and importance in this study. Generally speaking, it may be affirmed that in these cases in which tuberculosis is proven to exist, but with inability to locate the lesion, the locality and extent of the affected area may be made evident by the development of râles; that in cases with râles and an apparent ability to demonstrate the extent of local involvement, the observer will be gratified with the clearness of the auscultatory evidence, and astounded at the revealed extent and distribution of the deposit, and that in suspected tuberculosis, râles and bacillary expectorate may be obtained earlier than is possible by any other means. The râles are induced or intensified in the consolidated area because the fluid in the bronchi accumulates here, and with coughing or deep breathing bubbling is produced. In my experience a reaction has been obtained in about two-thirds of the cases in this class. The reaction varies with the individual; in some cases the râles present are simply intensified; in others distinctive râles are developed in localities where they were before absent; in some of these, and in others, fine bubbling sounds are diffused all over the chest, but with a distinct accentuation and definiteness of the râles in the consolidated areas; in yet others no changes are produced.

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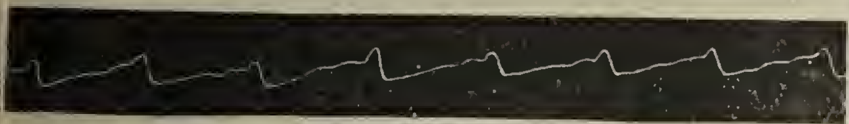
[1] Trousseau: Clin. Med., Phila., 1873, ii, 167; Brunton: Pharmacology, etc., Phila., 1885, 519.

[2] Norsk. Mag. f. Lag., October, 1897.

A study of this kind does not readily lend itself to elucidation by the tabulation or narration of cases, but a few are appended, rather to illustrate the range of applicability and usefulness of this test than to show whence my conclusions have been drawn.

Case 1.—A woman, aged 32, whose mother and sister died of pulmonary tuberculosis, had in 1894, febrile attacks, loss of weight, cough, pleuritic pains and bacillary expectoration and râles at the root of both lungs, and above and below the right clavicle. These symptoms ceased and the signs disappeared within a year, since which time her health has been very good, except for an attack of appendicitis in the spring of 1897, and during this time she has borne and nursed a child. Last winter she had some fleeting chest pains and slight cough, but no expectoration. The iodid test was negative.

Case 2.—A young woman, aged 23, has been under observation for several years. Her maternal grandfather and one uncle died of phthisis. She has always had good health. In February, March and April, 1898, she had a persistent, insignificant cough without expectoration, and for several weeks had an afternoon temperature of 99 to 101, with a normal morning temperature; respiration 16 to 18; pulse 64 to 76, with a negative tracing as follows:



Blood, sp. gr. 1057., hemoglobin 85 per cent., red corpuscles 4,000,000 and no increase of leucocytes. Three grains of the iodid were given three times a day for two days. A frothy expectoration began at once and continued for several hours after discontinuing the drug. Some of the sputum was centrifuged and examined for tubercle bacilli, with negative results. Diffuse moist râles on deep breathing were developed. The cough and evening fever gradually declined and ceased after about six weeks. She has been under close observation since, but neither fever nor pulmonary symptoms have been noticed.

Case 3.—A young girl, aged 15, of good family history, when first seen had had for four months feverish attacks, hemoptysis, cough and bacillary expectoration. There was tenderness of both apices, with râles and high-pitched expiration on right side at the back and above and below the clavicle. No signs could be detected on the left side. After iodid of potassium had been given for four days, râles, with deep inspiration and coughing were distinctly heard on the left side behind, and they were accentuated and heard over a larger area on the right ide. A week later, without the iodid, no râles were audible on the left side. Four months later all the auscultatory signs of pulmonary tuberculosis were present on both sides, in the back, above and below the clavicle and in the axillæ. She had ost much in weight, had constant fever and the other ordinary ymptoms of rapidly progressing phthisis.

Case 4.—A young married woman, aged 20, whose father has sthma and brother has phthisis, had diphtheria at 10 and erebro-spinal meningitis, followed by chorea, at 15; has had a ough with morning expectoration for ten months. She has had asthmatic attacks for two years. On examination there were heard all over the chest loud, sonorous râles, with creaking sounds on deep inspiration. Expiration was prolonged and there was a hyper-resonant percussion note. In addition the right apex was tender on pressure, the pain being referred to the axilla, and the sense of increased resistance was distinct. The sputum contained tubercle bacilli. Three grains of iodid of potassium were given three times a day for two days, but no material changes in the signs were noted, and the asthma was worse. Fifteen grains were now given four times a day, and twelve grains of sulfonal were given at night. Three days later the asthmatic symptoms had subsided and the loud, sonorous râles and creaking sounds had disappeared. There were now to be heard sub-crepitant râles all over the chest, with coarse crackling at the roots of both lungs and finer râles above both clavicles and below the right, with rough inspiration and prolonged, high-pitched expiration.

Case 5.—A young woman, aged 21, all whose immediate relatives have either died with or now have pulmonary tuberculosis, has had hemoptysis at intervals for eight years, with cough, expectoration and febrile attacks. There were abundant evidences of tubercular consolidation, slight cavity formation and fibrosis in both lungs, nevertheless she was given the iodid test. After twenty-four hours the râles had become intensified, and the extent of the infiltration could be made out with startling distinctness, and was discovered to be much more extensive than was at first supposed. On the second day the respiration, which had become serous and frothy, became hemorrhagic and the iodid was discontinued. Tubercle bacilli were present in the sputum before, during and after the test.

In conclusion: I believe the iodid of potassium test, as described, to be free from danger and serious objections; that it lends itself readily to the exigencies of routine practice; that in the early diagnosis of pulmonary tuberculosis and in defining the location and extent of the lesion, it is a useful addition to our diagnostic resources.

4571 Lake Avenue.

DISCUSSION.

Dr. Frank Billings—I had the pleasure of meeting Dr. Wells in consultation over one of his cases in which iodid of potassium was used. I have also practiced it in three cases altogether. Personally, I feel a little afraid of it. In one of the cases in which I used it, the tubercular process became more acute than the history showed it had been before, and I have reason to suppose that the catarrhal process, increased by the use of iodid of potash, led possibly to a more rapid growth of the tubercle bacilli, or at least to a better soil upon which they could grow. I may be wrong in this opinion.

Dr. J. M. Patton—I would like to say that in speaking to Dr. Wells about this matter a couple of weeks ago, before I had paid any attention to it, it brought to my mind a case for whom I had prescribed in my clinic the previous week, in which there was localized apical tuberculosis with an asthmatic condition. This patient was given fairly large doses of iodid of sodium, and was under treatment for two or three weeks with almost complete relief of the asthmatic condition. The apex was involved in this case, and at the next return of the patient to the clinic, I found I was much better able to isolate, by auscultation, the part of the lung involved in the tubercular process than before the administration of the iodid. The extent of the percussion note was not particularly changed, but the pitch of the breath-sounds and the râles were much more clearly made out. The râles were very free and more numerous. We got typic sub-crepitant râles in the collateral areas; whereas the dry, asthmatic râles had almost disappeared.

Dr. M. L. Goodkind—I would like to ask Dr. Billings wherein the danger lies in using the iodid of potash, as recommended by Dr. Wells. I should think by dilating the arterioles it would diminish the danger of hemorrhage, unless there be a possibility of edema of the lungs occurring following its use.

Dr. Billings—It is suggested by Dr. Wells that this remedy increases the secretion in the bronchial tubes, particularly if there be tubercular infiltration of the lung, and it will do so to such an extent that the râles are more easily recognized. This means an increased catarrhal process for the time being. In one case in which I used the iodid of potash, I have every reason to believe that it possibly increased the tubercular infiltration, and that is the reason I fear its use.

Dr. Liston H. Montgomery—Did we understand you to say, Dr. Wells, that the use of iodid of potash in these cases is simply for diagnostic purposes?

Dr. Arnold C. Klebs—I want to say a few words in connection with the paper of Dr. Wells, although I have no personal experience with the potassium iodid test. This drug has certainly the tendency to increase or produce dyspeptic symptoms, and as we have almost invariably such in incipient tuberculosis, its application might produce undesirable by-effects. This speaks against it, inasmuch as we have other methods which give the same results with the same accuracy. Of course, any aid to early diagnosis is valuable, as whatever our preventatative or therapeutic measures might be, much of the success of the latter will depend on early diagnosis. To so many the detection of the tubercle bacillus is the only criterion of the presence of the disease, and this standpoint can not be strongly enough objected to, as the appearance of the bacilli in the sputum can only take place following degenerative tissue changes, "breaking-down," the essential feature of the so-called third stage. For statistical purposes we have to have an exact basis for comparison and here we need the presence of the bacillus for diagnosis.

In cases in which the anamnesis as to heredity or special exposure to infection, the mode of life or occupation, a careful consideration and comparision of data derived by measurement—chest measures, vital capacity, respiratory force, height and weight—are not sufficient, in which repeated physical as well as microscopic examinations are negative, and where there is still reason for suspicion, observation for a longer period and the application of such a test will prove valuable. I have used for this purpose tuberculin, which I find satisfactory and harmless, although not absolutely specific.

The point I wish to make is that *one single* test, which in the simplicity of its application, harmlessness to the patient and indisputable accuracy allows us to dispense with other diagnostic methods, does not exist yet, though the development of radioscopic technic might furnish it.

DR. N. S. DAVIS, JR.—Have you noticed, Dr. Wells, any recommendation of the use of iodid of potash in this way in literature. I remember a few years ago of seeing in one of the French journals the recommendation of its use, I think by Germain Sée, although I am not positive about that. It was recommended as a safe and useful means of diagnosis in the early stages of tubercular disease of the lungs.

DR. BILLINGS—I would like to ask Dr. Wells to tell us in his closing remarks whether he thinks the iodid of potash excites the catarrhal process, or whether any of the patients have been injured by its use.

DR. WELLS (closing the discussion): I have not felt that my patients have been injured by the use of the iodid of potassium. The method of use is as follows: Small doses, two to four grains, are given, three times a day, for two or three days. It is not given for any considerable length of time. To be sure, I appreciate the fact that even a little excess of catarrhal inflammation set up might turn the scale in any case. The secretion induced by the iodid, however, appears to be largely serous, and not inflammatory. The distinction is, I think, important. The same thing applies to iodid of potassium in these cases as a diagnostic agent that applies to the use of tuberculin. It applies to the taking of catarrhal colds, etc. As to its usefulness, I believe it to be a valuable diagnostic agent. The case referred to by Dr. Billings was a good illustration of the value of this method, inasmuch as from first to last, a full year, there was no bacillary expectoration, except during the last two months, and this was clearly from laryngeal and epiglottic ulceration. Early, râles were noticed on the right side, behind. Sometimes they were present, sometimes not. When iodid of potassium was given, the râles were distinct and were heard extensively on both sides. Here is a class of cases in which it is particularly useful.

(At this juncture Dr. Wells went to the blackboard and sketched the position in which the râles were usually found, and pointed out that instead of finding them in a particular location, after giving the iodid of potassium, they would be also found elsewhere, thus enabling the physician to locate the lesion and to define its extent.)

I have under my care one young woman, who has been under observation for several years, who has had tuberculosis for eight years, and for a long time râles were heard over the upper lobe of the right lung and at the root of the left lung behind. After iodid of potassium was given, râles were heard in various locations throughout the upper and middle lobes of the right and left lung. As in this case, the extent shown to exist in these infiltrations is sometimes astounding. The râles, as pointed out by Dr. Patton, are exaggerated, and the diagnosis is rendered clearer in every way.

In reply to Dr. Davis' question, I will say that in my paper I have given the only reference which has come to my notice. Although some of my observations were made prior to Vetlesen's publication, no claims to originality are made. I simply offer my opinions based upon a considerable experience.

ADDENDUM.—Dr. A. C. Klebs calls my attention to the statement by Amet (*Bull. gén. de Therap.*, Feb. 28, 1898), that in latent tuberculosis iodid of potassium excites cough and expectoration, and the ausculatatory signs become more pronounced.

POLLUTION OF THE POTOMAC RIVER.

A PERSONAL INVESTIGATION THEREOF MADE AT PIEDMONT AND CUMBERLAND, MD.

BY ROBERT REYBURN, A.M., M.D.
PROFESSOR OF PHYSIOLOGY AND HYGIENE, MEDICAL DEPARTMENT,
HOWARD UNIVERSITY.
WASHINGTON, D. C.

While on a visit to the city of Cumberland, Md., during the months of August and September, 1898, the writer had the opportunity of examining the condition of the Potomac River water-supply at that city. It was alarming as well as disgusting to an inhabitant of Washington, D. C., to gaze upon the Potomac River water as it is seen at Cumberland. The color of the Potomac River water at that point, when seen in mass, is of a blackish brown; when run into a bathtub for purposes of ablution, its color is that of a pale claret, and when poured into a bottle it is greenish yellow. As you go farther up the river toward the paper pulp mills at Piedmont, the color deepens, and all the stones in the river are covered with a yellow earthy deposit. The taste and odor of the water are repulsive, it is absolutely unfit for drinking purposes, and only very imperfectly subserves the purposes of washing and cleansing. This pulp waste also kills the fish of the Potomac River. The people of Cumberland can not drink it, and are compelled to resort to the use of cisterns, which are used as reservoirs for their supply of drinking water, which is collected during the rainy season from the roofs of the houses. It is only drunk by those who are too poor to pay for cisterns.

The chief of the many causes that contribute to the contamination of the Potomac water at Cumberland is the existence of a large paper mill, for the manufacture of paper from wood pulp, which is located at Piedmont, about thirty miles above Cumberland, and which is also located on the Potomac River. These mills, I am informed, disintegrate the wood pulp by a process which consists largely in the admixture with it of sulphuric acid and lime. These agents disintegrate the woody tissues and free the cellulose in a form fit for its use as paper. The fluid mass, consisting of about 300,000 gallons per day, resulting from this process is, without any attempt at separation or purification, poured into the Potomac River at Piedmont, thus contaminating the water at Cumberland and the many villages and towns located on the Potomac River between Cumberland and Washington, D. C.

But as far as the inhabitants of our capital are concerned, this is not the only cause of pollution. The citizens of Washington not only drink the waste of the paper mills at Piedmont, but all the sewage of Piedmont, Cumberland and all the many towns located on the banks of the Potomac for the 170 miles through which the Potomac flows from Piedmont to Washington. Fortunately, however, for the citizens of Washington, a partial purification of the Potomac River takes place by its admixture with the Shenandoah River at Harper's Ferry, W. Va. The Shenandoah River flows through a limestone country, and the salts of lime contained in it probably precipitate a large portion of the impurities of the contaminated Potomac water. During the course of the flow of the Potomac River the sulphuric acid existing in the wood pulp waste also probably becomes oxidized into sulphuric acid, and combining with the lime present, precipitates it in the form of sulphate of lime, which is nearly insoluble in water. This partial purification of the Potomac River water above mentioned does not remove from it the most dangerous contamination, namely, the poisonous bacteria and germs of typhoid fever and other diseases, which are found in immense numbers in the sewage which is so abundantly poured into the Potomac River from the many sewers which empty into it.

The history of the paper pulp mills of Piedmont is one of the most striking examples that can be given of the utter disregard for the health and lives of their fellow-citizens by men who care nothing what becomes of others, so that they can make money. The Piedmont Paper Mills were started about ten years ago, originally on a very small scale, but now employ a large number of hands and occupy an extensive and valuable plant. It must not be supposed that the people of Cumberland have not resisted these encroachments upon the purity of their water-supply. After trying remonstrances in vain and also failing in appeals to the Maryland State Board of Health, they resorted to legal proceedings to enjoin the owners of the pulp mills from contaminating the Potomac water. The suit finally came to a trial in December, 1897, and after an obstinate and bitter defense by the defendants, a verdict of guilty was rendered against the owners of the paper pulp mills, Dec. 24, 1897. The owners of the paper pulp mills exhausted every legal means possible to prevent the verdict against them, and every possible pressure—personal, social, and even religious—was exerted in their behalf. The Piedmont people, I am informed, generally sided with the paper mill owners, for the reason that a large amount of money was paid, and is paid out in wages by the mills to the residents of Piedmont. The water-supply of Piedmont is taken from the Savage River, and also from a point in the Potomac River above the paper mills, and as their own supply of water was not contaminated they seemed not to think the pollution of the water-supply of Cumberland and the towns lying below them on the Potomac a matter of any importance. It is reported that at this trial those who attended as witnesses for the paper mill owners were furnished railroad tickets for half the usual fare and board at the Piedmont hotels at half the usual rates. Ministers of the gospel, I am informed, also actually prayed in their pulpits for the success of the owners of the paper pulp mills, and called down the anger of Heaven upon those people of Cumberland who were trying to take the bread out of the mouths of the working people of Piedmont, by endeavoring to close the paper pulp mills. The owners of these mills did not attempt to deny their pollution of the Potomac water, and the only defense they could make was, that there were other sources of conamination in the shape of sewers, water-closets, etc., which also defiled the water. The judge, however, very properly charged the jury that this was no just defense, and as above stated, a verdict was given gainst the company. On legal technicalities, however, a new trial was granted, and the case comes up gain for trial in January, 1899.

Mr. Laney of Cumberland, a druggist, rendered most valuable and efficient services as a witness to the eople of Cumberland during this trial, in endeavoring to save the Potomac River from pollution. During the trial he showed to the jury, photographs and antern slides, showing the killing of the fish in the Potomac River and the creeks emptying into it, on being mixed with the waste of the paper mills. I here offer some extracts taken from a paper written by Mr. Laney and published in the *Daily Independent*, July 26, 1898:

"The Luke paper mill was established in 1889, the water-works of Cumberland were put down in 1870. Now, as to prior right, who has the preference? As to riparian rights, we are their seniors by a hundred years, while as to our legal status, the common court of the world says that no one has any right to pollute directly or indirectly any stream so as to divert its proper use by man or beast. When this mill first began, the flow of refuse matter was not large enough to be objectionable in any degree. But it has gone on gradually and assiduously spreading its poison until the evil has become of enormous proportions and intolerable to the people of this city. Let us for a moment examine some of the facts more closely. In this mill there are three pulp digesters, each 38 x 15 feet, holding the material to be converted into pulp, which, according to the testimony at Frederick, was a mixture of sulphur burnt and combined with steam, forming sulphurous acid, that was then united with lime, forming a mass improperly called sulphite of lime.

The digesters are filled with hemlock wood in moderately fine chips, to which the aforementioned liquid is added and steam applied. When the steam enters the chamber, it forces, under enormous pressure, the lime and acid to combine with the intercellular material, thoroughly separating the two, after which the valve of the digester is opened and the contents are allowed to run into the river, nothing but the wood pulp being retained. Now of this material 45 per cent. of the wood, together with all the lime and sulphurous acid is thrown into the river. In the summer time, when the stream is lowest, every drop of water, as far as they can control it, is dammed up and turned through a trough for the use of the mill. The ordinary flow of the river at the lowest is daily about 10,000,000 gallons, of which 6,000,000 is passed through the mill and turned over to us as a by-product.

Of this 6,000,000 gallons about 300,000 are the direct and particular output daily of the digesters themselves; nasty mean, filthy, stinking stuff, worse than the hell-broth of Macbeth fame, which is allowed to mix with the already polluted first deposit, and to fill the banks with slime and foam. No animal life can survive it, and consequently fish, formerly so numerous in the stream, have all been killed. The very presence of these fish, moreover, caused a purification of the water, from the well-known fact that a great deal of deleterious matter is consumed by them and so converted into valuable food products, as well as preventing their transformation into poisonous ptomains. Hence, when the water now issues from the pipes there arises an odor identic with that of the pulp mill, too vile for description, a foam too tenacious for dissolution, a color appalling—in a word, making the water utterly unfit for domestic or mechanic use. When put in a boiler, it jeopardizes life at every turn, for you can never tell whether you have got steam or foam, thereby incurring risk of life and property to all connected therewith. As to taking a bath in it, this is impossible to any one having regard for his own cleanliness. To pen 20,000 people up in a town on a hot day and not allow any the privilege of a bath is something too stupendous for comprehension in the nineteenth century. The odor is too rank for cleansing closets, too obnoxious for washing the streets—indeed, too vile for any use whatever.

To those who may enlarge upon the difficulty and hardship of removing an already established plant, I am willing to admit it, but I have this to say in reply: It is my opinion that by a system of evaporation, consuming about thirty or forty tons of screened coal daily, all the obnoxious water could be distilled and returned to the river much less harmful than now. The coal they have at their door, and the expense would not be so very much. These men do not dare to say that they do not pollute the water, for Mr. Luke himself admitted to me that the product of their digesters made the water entirely unfit for any purpose whatever. German, French, English and American chemists (than whom there are no better) all agree that the products of a pulp digester are highly obnoxious and can not be rendered innocuous except by some such process of distillation as I have outlined above."

Finally, how can this condition of the Potomac River drinking water be remedied? As far as the Piedmont paper mills are concerned this can be done by two methods: the first of these is to treat the paper pulp mills waste by chemic agents which will convert and precipitate the sulphurous acid and lime in the shape of sulphate of lime. The other and preferable method is to distil the water from the pulp waste and thus convert it into a semi-solid material, which can be removed and deposited far from the Potomac River. Either of these methods will entail a considerable amount of expense to the owners of the paper pulp mills, but it will, we think, be universally admitted that no man has a right to make money at the expense of the health and lives of our citizens.

The question of how to prevent the sewage pollution of the Potomac River water from Piedmont, Cumberland and all the towns which line the bank of the Potomac, thence to Washington, D. C., is a much more difficult and troublesome question even than that of its pollution by the Piedmont paper pulp mills. It is my deliberate opinion that while we may palliate and diminish this great evil by other means, yet the only radical and thorough remedy—as far as the citizens of Washington are concerned—is to establish a filtration plant near Washington, capable of filtering and purifying the supply of water required by the citizens of the District of Columbia. The alarming and steady increase of the death-rate from typhoid fever in Washington which has occurred during the past ten years is no doubt very largely due to the contamination of the Potomac River water, by the sewage which flows into it from every town and city situated on its banks. As these cities and towns increase in population, the pollution of the Potomac drinking water that we receive in Washington will inevitably increase, and this condition of affairs demands prompt and speedy action. The filtration and purification of the entire water-supply of Washington can be done just as thoroughly and effectually as it has been done in Hamburg and Berlin, in Germany, and also in Lawrence, Mass., and many other cities of the United States.

GYNECOLOGIC DISEASES.

SOME POINTS IN THE DIAGNOSIS OF THE MORE COMMON ONES.

Read, by invitation, before the Northwestern Ohio Medical Association, Dec. 8, 1898.

BY J. T. WATKINS, M.D.

Assistant Professor of Gynecology, Northwestern University Medical School; Gynecologist to St. Luke's, Wesley and Provident Hospitals.

CHICAGO.

This paper was written with the constant fear that it would contain much that would be commonplace to you, but with the hope that it would contain subject-matter of ample practical importance to recompense you, in part, for the time which you have kindly allotted me. My experience has been that mistakes in diagnosing the more common gynecologic diseases are frequently made from not observing some points, which, with your kind permission, I will consider.

INFLAMMATION OF THE GLANDS AT THE VAGINAL ORIFICE.

This can be determined by detecting redness about the Bartholinian glands, urethral glands, and other glands about the vestibule. Observation of these glands is important, if the seat of inflammation, as an evidence of infection which in most instances will prove to be gonorrheal in origin. The openings into the Bartholinian glands will be found external and in close proximity to the lowest caruncle on either side. The glands can be palpated by placing one finger in the vagina and by making counter-pressure, with the finger near the lower border of the labium majus, over the gland. The size, sensitiveness to pressure and the patency or occlusion of the ducts can thus be determined. The expressed liquid may have the normal appearance, being clear, viscid, sticky and slightly tenacious; may be yellowish from presence of pus, but always contains a large amount of mucus. Often no secretion can be forced out on account of occlusion, as the result of inflammation in the ducts. If the ducts are closed, the glands will usually be enlarged, as the result of accumulation of serum, mucus, blood or pus.

Skene's glands, when the seat of chronic inflammation, will give the feeling of a needle on either side, running parallel in the urethro-vaginal septum, and extending one-quarter to one-half or even one inch from the meatus urinarius. If the seat of inflammation, secretion can be forced from them by pressure, and will usually be found to resemble a milky fluid. If it contains much pus, the color will be yellowish. Inflammation in the urethra and in Skene's glands is less frequent than in the Bartholinian glands, on account of the protection of the meatus urinarius by one or two folds of mucous membrane, which act as valves to the urethra, and tend to guard it from infection from the vagina and vulva.

Microscopic examination of discharges from inflamed glands at the vaginal orifice, will show broken-down epithelium, more or less pus-cells, and may show gonococci and other micro-organisms. In very chronic cases, even in cases of undoubted gonorrheal origin, gonococci can seldom be found. Gonococci may have disappeared from these glands, but continue to exist in the uterine cavity or in the tubes.

The significance of detecting inflammation in these glands is realized in determining the etiology and the treatment of endometritis, salpingitis, urethritis and cystitis, which may be present. Chronic inflammation in these glands is strong, but not conclusive evidence of a previous gonorrheal infection.

REMOTE INJURIES OF THE PERINEUM FROM LABOR.

Only two classes of injuries will be considered, as they include all varieties that are of pathologic importance. They are: 1, injuries involving the sphincter ani muscles; 2, injuries producing relaxation of the pelvic outlet.

1. Tears involving the sphincter ani which extend through the rectal wall are easily diagnosed. In this condition there will be some protrusion of the rectal wall, which will have a deeper color than the vaginal mucous membrane, and may be mistaken for hemorrhoids. The rectum and vagina become one canal. The patient suffers from incontinence of feces and gas. Lacerations may involve the external sphincter muscle without extending through the rectal wall. In this condition there will be no protrusion of the rectum. There will be a loss in continuity of the folds of skin that normally surround the anus. The place where the folds are absent will indicate the seat of injury to the muscle. Near the last fold on either side will be found a small depression which determines the location of the ends of the severed muscle. It is important to find the free ends of the muscle in order to perform a successful operation. The ends of the muscle may also be found by pinching it, so as to induce contraction. The patient will suffer from incontinence of gas, but possibly from incontinence of feces only when they are liquid in character. Symptoms of loss of pelvic support in cases of laceration of the perineum involving the sphincter, or even extending into the rectum, are usually absent, because the injury does not, as a rule, involve the fascia and muscles lateral to the vagina.

2. Relaxation of the pelvic outlet. In this connection it is preferable to use the term "pelvic outlet" rather than "perineum," because the perineum, as usually considered, does not include the portions of levator ani muscle and accompanying fascia which extend from the rami of the pubes on either side of the vagina to the perineal body. These lat-

eral structures are the parts principally lacerated or elongated in relaxation of the pelvic outlet. In relaxation of the pelvic outlet, the following conditions are present, which are of diagnostic importance: 1, backward dislocation of the perineum; 2, bulging of the perineum, which diminishes or destroys the concavities in the perineum; 3, diminished resistance of the perineum on palpation; 4, protrusion of the rectovaginal or vesicovaginal walls.

In relaxation of the pelvic outlet, the skin perineum is often very deep, as the result of stretching, the skin not torn, and the fourchette intact. The perineal body, however, may be small, the skin torn, even to the sphincter ani. The sphincter ring will always be found present when the sphincter muscle remains uninjured. The efficiency of the perineum as a pelvic support does not depend upon its size, but upon its location. A large perineum may give very poor support, and a small perineum may give perfect support. If the perineum, whether shallow or deep, is displaced from beneath the pubic arch toward the coccyx, the pelvic support is diminished, and the amount of loss of support is in direct ratio to the amount of displacement. If the perineum, whether large or small, is close beneath the pubic arch, it gives good pelvic support.

If the perineum is normal, a concavity exists external to the labia majora, and also just anterior to the rectal ring, as the result of its fascial attachments. If there is much relaxation, these concavities disappear, and convexities may result from stretching or laceration of the fascia lateral to the vagina on one or both sides, which normally hold the perineum in position beneath the pubic arch. Palpation is made by placing the examining finger in the pubic arch and by exerting moderate pressure upon the perineum, along the ramus alternately on either side, and in noting the distance the finger traverses. In normal cases the finger will only be pressed back from one-half to one inch. In cases of marked relaxation, the finger may be readily pressed backward two or two and a half inches. By palpation, the size of the levator ani muscle may be noted on either side of the vagina, and also whether the muscle remains joined together anterior to the rectum. If the patient is not anesthetized the amount of relaxation may be underestimated by contraction of the muscles of the pelvic outlet.

The rectovaginal wall may protrude, as the result of loss of the normal support of the perineum to the rectum and from lengthening or laceration of the fascia of the posterior vaginal wall, which normally extends across from one side of the pelvis to the other. The vesicovaginal wall may protrude, as the result of diminished support from the posterior vaginal wall, which may cause gradual lengthening of the fascia of the anterior vaginal wall, or its fascia may be injured during labor, or elongated if subjected to continuous tension. Loss of continuity of the caruncula myrtiformes and scars in the vagina and on the skin indicate that there has been a laceration, but are of no significance in determining if the injury is of any pathologic importance. They are, however, of some importance while operating, to determine he normal contour of the introitus. The symptoms produced by relaxation of the vaginal outlet are inability to walk and stand without discomfort. On much walking or standing the patient will suffer from a feeling of weight in the pelvis, backache, and a dragging sensation in the inguinal regions. Such patients frequently complain of always feeling tired, and the amount of pelvic congestion and dilatation of the pelvic blood-vessels may so affect the circulation and nervous system as to produce headaches and other symptoms of neurasthenia.

In relaxation of the pelvic outlet, it is often difficult to determine if the injury is sufficient to indicate operative interference. If there is considerable relaxation, which apparently produces some or all of the above symptoms, operative treatment should be employed. If there is relaxation, without much accompanying prolapse of the vaginal walls, which does not seem to produce symptoms as above enumerated, or uterine displacement, operative treatment is indicated. Relaxation is more apt to produce symptoms in large plethoric women than in others, and symptoms are more apt to result when the general muscular tonus is below normal than otherwise. To illustrate, a patient came to my clinic at the Northwestern University Medical School, in whom I used repeatedly to demonstrate, to the students, relaxation of the pelvic outlet. After remaining away from the clinic for about a year, she returned suffering from a cyst of one ovary. To my surprise, the perineum was found quite strong, as the apparent result of a large amount of bicycle riding in which she had indulged. The exercise had improved her general muscular tonus, had strengthened the perineal muscles, and she no longer suffered from symptoms of diminished pelvic support. The increased muscular strength had compensated, in part, for the deficiency of the fascial support.

PROLAPSE OF ENTIRE URETHRA.

Usually the displacement is principally or entirely downward. The meatus, instead of being near the arch of the pubes, is on the lower surface of the pubes. The diagnosis is made by pressing the urethra upward in the direction of the cervix, with the palmar surface of the examining finger over the urethral canal. Palpation will usually show that the urethra is not displaced backward from the pubic arch. The amount of prolapse will be determined by the amount of mobility of the canal, as normally the urethra has very limited motion.

Under this heading is not considered the backward displacement of the upper portion of the urethra. which accompanies cystocele. A prolapse of the entire urethra, extensive enough to be of pathologic importance, will produce symptoms of partial incontinence of urine, such as escape of urine on coughing, sneezing, heavy lifting, etc., or total incontinence. In extensive cases, the patient may complain of a protrusion and of irritation due to friction on standing or walking.

DIAGNOSTIC POINTS OBTAINED FROM EXAMINATION OF THE CERVIX.

The lower end of the cervix is normally located about one inch from the sacrum and about two inches below the promontory of the sacrum. The normal location of the cervix is frequently given in text-books, and is often taught, as about midway between the pubes and sacrum. This must be an error, as the anterior vaginal wall averages about two and three-fourths inches long, and the cervix three-fourths of an inch in diameter. The sum of these subtracted from the diameter of the pelvis, gives the distance from the cervix to the sacrum, which is abou one inch. I have frequently verified and demonstrated to students the correctness of these distances, by examination of patients. If the cervix is found in normal location there is no prolapse, and the distance the cervix is found below this location determines the amount of prolapse. With the cervix in normal location, one can definitely say that there is no backward displacement of much importance, as the distance between the cervix and sacrum is not sufficient to accommodate the body of the uterus.

Valuable evidence of the position of the uterus can frequently be obtained by a difference in the length or thickness of the two lips of the cervix, growths of the cervix being excluded. When either lip of the cervix is much elongated or thickened, the body of the uterus is almost invariably on the side of the thickened or elongated lip, that is, if the anterior lip is much thickened or elongated, the uterus will be in anteflexion. If the posterior lip is much thickened or elongated, the uterus will be in retroflexion. These conditions refer almost entirely to cases where there has been more or less laceration of the cervix, as the contour in the non-lacerated cervix is such as to prevent eversion of the lip, or much elongation. In the non-lacerated cervix, however, with marked flexion of the uterus, the lip on the side of the flexure is likely to be somewhat elongated and more pointed than the other lip, giving the condition frequently spoken of in anteflexion of the uterus as "sled-runner" in shape. This change in either lip, from flexion of the uterus, is due to the fact, that when the uterus is anteflexed, the anterior wall of the uterus is shortened and thickened, while the posterior wall becomes elongated and thinned, and vice versa. The thickening in the lip is due to eversion, and the elongation is due, in part, to eversion, and in part to slight sliding of one lip over the other. These changes in the lips of the cervix, will not be found in recent flexions, and are less pronounced in mobile flexions than in fixed ones.

My observation has been that physicians frequently take into consideration the direction the cervix points in determinining the position of the uterus. Absolutely nothing can be told of the position of the uterus by the direction the cervix points, as the cervix may point forward in the direction of the pubes in cases of acute anteflexion and in cases of retroflexion. The cervix may even point in this direction with the body of the uterus at any point between anteflexion and retroflexion.

It is not intended that the above observations should take the place of bimanual examinations in diagnosing the position of the uterus, but should supplement them. The uterine sound should very rarely be used to diagnose the position of the uterus on account of the danger of infecting the uterus.

Examination of the cervix as regards laceration.—Under this head only erosion and glandular degeneration will be considered, as they are the only two results of laceration of the cervix that require treatment. The erosion will be found of a deep red color, with a granular surface covered by muco-purulent discharge. The erosion will usually be confined to the everted portion of the cervical canal, and consequently the amount of eversion can usually be determined by the amount of erosion. The antero-posterior diameter of the cervix will be greater than normal, on account of the eversion of one or both lips of the cervix. Extensive glandular degeneration is detected by increase in the size of the cervix, by a shot-like feel to the cervix on palpation, and by observing the discolorations in the cervix, which the cysts produce.

DIAGNOSTIC POINTS OBTAINED FROM DIGITAL EXPLORATION OF THE UTERINE CAVITY.

Digital exploration of the uterine cavity is indicated in cases of menorrhagia from a large uterus, when gestation can be excluded, and when not the seat of a large tumor indicating hysterectomy.

Technic.—1. Forty-eight hours befere the time set for operation, thorough surgical cleansing is made of the vulva, vagina and cervical canal. 2. The perineum is retracted with the speculum, the anterior lip of the cervix caught with a tenaculum or bullet forceps, and pulled down so as to steady the cervix and straighten the uterine canal. 3. A small sterilized tupelo tent is inserted, and the vagina packed with iodoform gauze. 4. At the end of twenty-four hours the tent is removed, the uterine cavity irrigated with 1 per cent. lysol solution and a large tent, or two small ones, inserted, and the vagina repacked with iodoform gauze. This will produce enough dilatation to admit the index finger. The examination can ordinarily be made without an anesthetic, but it is usually advisable to use one, as generally some operative treatment will be indicated demanding its use. The tents are best sterilized by dry heat and then kept in sublimated absolute alcohol until they are used.

Advantages.—1. A more accurate knowledge of the uterine cavity is obtained than can otherwise be acquired. 2. Polypi may be detected and removed, which may not be discovered by exploration with a sound, curette or forceps. 3. The perfect dilatation secured permits of thorough curettage and establishes good drainage. 4. Dilatation by tents for digital exploration is better than by rapid instrumental dilatation or incision, on account of diminished traumatism, more perfect dilatation and absence of risk of rupture of the uterus.

The advantages of digital exploration, after dilatation with the tents are well illustrated by the two following cases, which recently came under my care:

Case 1.—Mrs. S. complained of menorrhagia, weight in pelvis, and the effects of anemia. Examination revealed an enlarged uterus. The cervix was dilated by tents as above described and the patient was anesthetized. Digital exploration revealed a mucous polypus attached to the fundus of the uterus. The polypus was grasped by a forceps, and as I then supposed, entirely removed. The uterus was curetted. I examined the uterine cavity again to determine if there were other growths present, and to my surprise found that only about one-half of the polypus had been removed. This was then removed with a forceps. In this case, without digital exploration, the polypus would probably not have been detected, and without exploration, complete removal would undoubtedly not have been accomplished.

Case 2.—Mrs. D. complained of menorrhagia, weight and pains in the pelvis, and the effects of anemia. The uterus was enlarged and retroflexed, a small fibroid was detected in the anterior wall of the uterus and there was relaxation of the pelvic outlet. Dilatation by tents, as above described, was made and the patient anesthetized. Digital exploration of the uterine cavity revealed a submucous fibroid in the fundus, near the right cornu, about one inch in diameter. This was grasped with a Museux forceps and removed by torsion. The uterus was curetted, irrigated, and cauterized. The peritoneal cavity was then opened through the anterior vaginal fornix, the small fibroid in the anterior wall of the uterus enucleated, a vaginal fixation made and the pelvic outlet repaired. The advantages of the dilatation by tents and the digital exploration in this case are obvious.

Objections.—The objection to dilatation by tents is the danger of infection. If infection takes place it is due to a faulty technic, or to the presence of infection in the tissues involved before the treatment was commenced. The dangers of infection are such that no one should attempt the operation unless he has an "aseptic conscience," and is the master of an aseptic technic. The presence of infection in the vulva, vagina, or uterus increases very much the danger of dilatation by tents. A purulent discharge from the uterus contraindicates the use of tents, as the dilatation opens up spaces which readily admit infection. The danger of the use of tents in such cases is illustrated by the following:

Mrs. S., suffered from a profuse mucopurulent uterine leucorrhea, the result of an old gonorrheal infection. The uterine cavity had been dilated, curetted, irrigated, packed with gauze, and frequent cauterizing and antiseptic applications had been made, without giving any permanent relief. The cervix was dilated with tents for the purpose of making thorough curettage and for facilitating treatment by gauze packing. She developed cellulitis, whic resulted in a pelvic abscess, and which required incision and drainage of the abscess. In this case it was an error to use the tents; rapid instrumental dilatation would have been preferable.

93 E. Eighteenth Street.

PELVIC SUPPURATION.

PROCEDURE AND PLAN OF ATTACK.

Read before the Medical Society of the Missouri Valley, Council Bluffs, Iowa, Sept. 14, 1898.

BY BYRON B. DAVIS, M.D.
OMAHA, NEB.

If we are to draw our conclusions from society discussions, both in this country and abroad, the conviction is forced upon us that there is a greater diversity of opinion in regard to the management of pelvic suppuration than that of any other surgical lesion. Before asepsis had rendered celiotomy so uniformly successful, large pus collections in the pelvis were merely punctured through the vaginal vault; later the abdominal vault was looked upon as the only method deserving of recognition.

The French and Belgian schools next began the practice of doing almost everything by the vaginal route, advocating hysterectomy in all cases of double tubal suppuration. Several Germans and Americans adopted the same line of procedure, while their teach-ngs were energetically opposed by a large number who advocated the abdominal route of attack.

So dogmatic have become the teachings of men practicing the one or the other of these methods that he adherents of the one plan would lead the credulous to believe that to reach a pelvic inflammatory affection from below is due to unsurgical timidity; while the advocates of the other extreme would have us believe that celiotomy in these cases is actuated by lmost criminal rashness.

The most conservative discussion on the subject yet held was that opened by Cullingworth at the recent meeting of the British Medical Association in Edinburgh. This discussion was participated in by no ess than seventeen eminent surgeons, representing ll shades of opinion. The gratifying feature of the iscussion is that extremists like Doyen and Jacobs ave given up a part of their dogmatism and admit hat celiotomy has its place in selected cases; while he English school are willing to concede that there re many cases in which the vaginal route is safest nd best. After a careful reading of this discussion, ne is forced to the conclusion that safety lies in the ractice of neither of the extreme views, but in the areful selection of the method best adapted to each ndividual case.

No doubt many of us have often been perplexed and in some doubt whether a patient's interests would be best subserved by a radical or so-called "complete" operation from above, or by a safer and less complete operation through the vault of the vagina. A desire to elicit a free discussion on this subject is the purpose of a few remarks today.

In acute attacks of pelvic inflammation, it is often very difficult to decide whether there is greater danger in an immediate operation or in delay. Many cases which seem very serious make symptomatic recoveries, and occasionly I have examined women who had made, so far as could be determined by bimanual examination, anatomic recovery—and even when they had been supposed to have a collection of pus in the pelvis. These experiences have led me to hesitate about advising operation in many of these cases of acute pelvic inflammation.

In only two classes of cases do I uniformly advocate immediate operation: 1, those in which the amount of pus is large and tension great, where there seems to be danger of perforation into the peritoneal cavity, the bladder or the rectum; 2, those cases with profound sepsis, whether the amount of pus is great or small, in which the conviction is forced upon us that unless something is done to stop the septic absorption the patient is bound to succumb.

During the past few months no less than six cases of pelvic suppuration have been met with, in which one or both of these conditions have been present. In each case the patient was in no condition to endure a prolonged operation. All were operated upon through the vagina by free incision and drainage. All made operative recoveries and are now symptomatically well women. Whether any or all may eventually have recurrences it is impossible to say, but in the one case, in which I had an opportunity to make an examination some weeks subsequently to the operation, only the slightest amount of induration remained. Every one of these cases was very weak, with high temperature and rapid, weak pulse, at the time of operation, and to have subjected them to so serious and prolonged an operation as a celiotomy would have surely resulted in a larger percentage of mortality, if indeed any of them would have survived.

It is only just to state that in all but one of these cases convalescence was prolonged over a period greater than in the averaage celiotomy; but surely safety of the operation is purchased cheaply, even at the price of two or three weeks longer in bed. It is argued by Dr. Joseph Price that this is an operation which has its birth in timidity; is never complete, and leaves the patient in practically as bad a condition as she was before. The experience with these few cases has convinced me that it is better to be accused of timidity than to sacrifice a life on account of not having the courage to perform an cperation, because it is supposed to be an indication of timidity.

Of these six cases, the pus was still located in the tubes in four cases, and each tube was opened and drained separately. In the other two cases the pus had broken through the tubes and we had a true periuterine abscess. In three cases the unquestionable cause of the infection was abortion; in the other three it was not determined whether it was abortion or gonorrhea, though the former was probable in all, and in no case could it be positively stated that the infection was gonorrheal. This is, in a small way, evidence in favor of the dictum of A. Martin, who says that very seldom does a gonorrheal infection require an immediate operation, while infections from abortions frequently require operation in the acute attack.

In all my cases the vaginal fistula closed promptly, but it is only fair to state that a permanent fistula is doubtless to be expected occasionally. Recently I met with such a case, operated by another surgeon, in which a fistula was left. The patient, when she came to me, was in such a condition as not to contraindicate abdominal section, which was done and the woman recovered.

Only twice have I removed adnexa by the vaginal route, except when hysterectomy was done at the same time. In one of these cases no trouble was experienced, in the other so many adhesions were met with that I wished most heartily that the abdominal route had been selected. It gave one a thorough appreciation of the truth that the hand directed by the eye is worth much more than one or two fingers groping in the dark. This assertion, of course, labels me as not a skilful operator by the vaginal route, but I have seen a helpless expression on the face of several skilful vaginal sectionists, when I felt positive that one would have had clear sailing had the abdominal route been chosen. In general there can be no question that celiotomy possesses many points of advantage over vaginal section. Not the least of these is that one can see, as well as feel, what is being done. How frequently, in loosening adhesions, do we find the intestines, if not torn, at least so denuded that it is deemed unsafe to leave them without covering with peritoneum by means of Czerny sutures! In doing such work per vaginam we are almost entirely deprived of an opportunity of resorting to this conservative and life-saving procedure, being often left in doubt as to whether the bowels have been wounded or not. Even when the intestine has not been dangerously injured, it is denuded of peritoneum, and when no opportunity has been given to cover the raw surface, troublesome and painful adhesions are likely to form. Several surgeons are advocating conservative work upon the tubes and ovaries through the vagina. The procedure is to draw the tube and ovary through the vaginal incision, examine, puncture, cauterize, or resect, according to the condition present, and then return the parts to the abdominal cavity. If, as I believe, many of the most painful affections of the pelvis are produced by prolapse of the ovaries, with resulting traumatism by uterus and loaded rectum, this forcible dragging down can not but result in an aggravation of the symptoms, for there is no way of insuring the perfect restoration of such ovaries to their normal position by way of the small and deep opening through the vaginal vault. In chronic inflammations in the pelvis, if there is unquestionably a collection of pus low down, at a point easily accessible from the vagina, the vaginal incision is doubtless safer and in every case to be preferred. In all chronic inflammations, unless the collection is low down, the abdominal incision is in every way better, safer, and more likely to result in symptomatic as well as anatomic cure. As previously stated, in acute inflammations it seems usually better not to operate, except in the conditions mentioned. The question naturally arises: How long is it best to wait after the acute symptoms have subsided before a celiotomy should be undertaken? It is claimed that an acute infection immunizes a patient for a short period—the exact time not yet very definitely ascertained. Believing this to be the case, the time of election for an operation, if required, would be within a few days after the subsidence of the acute symptoms.

Regarding the technic, the bounds set for this paper will not permit a discussion. One point only I feel constrained to mention. If there is any pelvic tissue it is the worst kind of treatment to resort to irrigations and thus carry infectious matter into the uninfected recesses of the abdominal cavity. It is much better to wipe out carefully and then drain, either through the lower angle of the abdominal incision, or, what is better, through the vagina. It is very easy to make an incision through Douglas' pouch and thus get downhill drainage. Rarely, it may be necessary to make use of through-and-through drainage.

THE MEDICAL PROFESSION.

IS IT GOING INTO VOLUNTARY BANKRUPTCY?

BY LEWIS SCHOOLER, M.D.

DES MOINES, IOWA.

The plea of an overcrowded profession and low fees, as well as too many medical colleges and free clinics, have each in turn received a great deal of attention, with apparently no results, unless upon the theory of suggestion it has increased the evils that are complained of. This is, no doubt, more perceptible to clinicians than to others; and having conducted a clinic for many years, I may possibly be able to delineate a few occurrences that will prove interesting to the profession at large.

Clinical teaching has been so emphasized by the colleges and by the demands of the profession, that undue importance has been given to that feature in all colleges during the last few years, so much so that the institutions that have advertised the greatest number of clinics have generally obtained the largest classes. That this has been a great gain to the profession in general, the writer emphatically denies, and equally emphatically denies the supposed gain to the students. In acceding to the demands of the profession for strictly clinical teaching, prodigious efforts are put forth in order to obtain the necessary clinical material. The friends of the school are either publicly or privately encouraged, if not absolutely solicited, to act as agents of the school, in order that the material may be abundant. When this is the case it necessarily follows that little or no scrutiny is exercised as to the character of the persons who wish to avail themselves of the advantages of Professor ——'s clinic, and the distinguished professor, being partially intoxicated by reason of his rapidly increasing popularity, and entirely forgetting that a "free show always draws well," continues to operate upon poor and rich alike.

By way of confession, and that I may not seem to have the other fellow constantly in view, to the exclusion of all retrospective researches, I will admit that I have myself, operated upon at least one case who came to the hospital gorgeously bedecked with diamonds worth many hundreds of dollars, besides being clothed in "purple and fine linen," with a sealskin sacque over all. Others may or may not have had a similar experience. That this was a wrong to the profession, I confess. That similar wrongs are being perpetrated daily is not doubted at all by any one familiar with clinical work. The real question at issue is: Who is to blame? For one, I am willing to share a portion of it. There are few, if any, school hat derive all their clinical material from the cities r towns in which they are located. A considerable ortion comes from the country and smaller towns, nd the patients have been directed to the clinic by eir family physician, with the information that verything needful will be done without charge. ur experience is that there never is a week in the ear that we are not called upon by persons abun antly able to pay for medical and surgical attend ace, but who come with either a letter or verbal essage from some practitioner in good standing, king that they be allowed the privileges of the inic.

That their actual financial condition is well known those who advise them to go before the class can t be doubted, and that this practice of sending ch patients to public clinics impoverishes the pro ssion, is equally true. Some have even been known take long trips to distant cities, stopping at high iced hotels, having the patient pay their expenses, d in some instances subjecting the patient to a eater outlay of hard cash than would have been the se had they paid for the operation nearer home, stead of going so far in order to get something for thing.

This is as clearly a wrong toward the profession as ything can be. The money paid to railroads and telkeepers is of no benefit whatever to the profes on. Why any physician should be interested in taining free medical and surgical treatment for ose who are able to pay is beyond my comprehen on, and had I not so often been made the victim of ch practice, I would probably doubt its existence. That there are too many deceptions of this char er goes without saying among those who conduct e clinics. That it is the duty of those connected th the schools to investigate and reject all but the rthy poor, I fully believe. But is there not a duty ally imperative resting upon those who send pa nts to such places? Are they not equally inter ed in the welfare of the profession? Does not a ng done the profession hurt them as well as oth ? I think the above questions must all be wered affirmatively, and if so, let us pursue the ject a little further.

he wrong done the profession does not end with h individual case. It is too often the introduction other cases, and the aggregate has a tendency to oralize the profession, as a business at least. It lso demoralizing to the people. It teaches them xpect gratuitous services, and educates them to belief that we put no value upon our services— if we so educate them, is it any wonder that they onize quackery? For be it said to the credit of quack, he exacts a price for all that he does, and willingly paid.

nother very taking speech with these people is, they have a list of schools where they can get k done for nothing, and if your school will not equally well by them they will move on to the t. In the fierce rivalry between the schools, this have either consciously or unconsciously had e effect in inducing some of us to relax where should have remained firm. The fact probably hat none of us have been so great sinners in this ect as we are generally supposed to be; but that f us have been transgressors to a greater extent is conducive to a high and lofty professional e, is no doubt true. Having intimated a familiarity with a few of the causes that are likely to impoverish the profession, if persisted in, let us next inquire what is the remedy.

In prescribing a remedy, we should not act hastily and without duly considering its effects; in other words, we should exercise the same precaution in this respect that we do in our treatment of disease, viz., study well the difficulty that we seek to correct. Therefore, after fifteen years of observation and study of this question, I have arrived at some conclusions which I think are based upon the right principle, and which, if acted upon, would produce beneficial results—not immediately, but in time, the latter being a prime requisite in all reforms.

In the first place, I would not give clinical teaching such a prominent place as it is accorded at the present day, or as it is generally understood to occupy in the schools.

If clinical teaching is the *sine qua non* of all medical education, why do we prescribe a certain degree of preliminary education before entrance upon the study of medicine? I think that this is necessary and believe that it is. I think that it is equally, yea more, necessary that they have a greater amount of preliminary medical education before arriving at the clinical period of their journey, and when this point is reached it is very important that the student's mind is prepared to recognize what he sees. If he is in this condition, the study of a few carefully selected cases will be more beneficial in properly grounding him in the elementary principles of medical and surgical practice, than a thousand cases merely glanced at. It is not the number of cases seen, but the number studied. If this is not true, then take the young man from the farm, the store or the work-shop, or even from the streets, and set him down in an amphitheater and let him see a thousand or two clinics and then give him a diploma certifying his fitness to hold human lives in his hands. His patrons may then use the old argument in his behalf: "Because he knows nothing else he ought to know something about medicine." If I were to choose between two individuals of equal talents upon entering school and after giving one of them a course entirely clinical, and the other a purely didactic and laboratory course, I would unhestatingly choose the latter, for the reason that he would be well versed in the principles that underlie all rational practice. He would be in a position to be benefited by his observations, when brought into contact with disease, while the other, be he ever so brilliant, would never and could never be more than a case doctor. Just as long as the cases which fall to his care are parallel to the ones he has seen or been impressed by, he would be useful, but in the cases where there was a departure he would fail, and when we recall the fact that departures are the rule, and that typic cases are the exception, it is certainly not hard to predict the outcome in the two cases. True, neither of the above methods is strictly correct; but to which do we most nearly approach in the teachings of our modern medical classes? Evidently the clinical. Therefore, I contend for fewer clinics, better observed and studied, with a greater amount of didactic and laboratory teaching—not more lectures perhaps, but more actual teaching and study. For firmly impressing some things upon the minds of students nothing will ever supersede the lecture. Some things may be well taught by other methods, but in the lecture the student perceives the personality of the lecturer. He receives from him impressions never to be forgotten, and if he be a lecturer of large practical experience, as he should be, those impressions will prove of the greatest value to the student in after years.

Much has been said of late against the lecture and in favor of the recitation method, but to my mind there is about the same relation existing between them that there is between direct testimony by a witness before a jury and a deposition by some one a thousand miles away. I would, therefore, place less value upon a large clinic, indifferently and hastily-conducted, and more value upon a small and carefully-studied one, one where the student would have abundant time and opportunity for examination, observation and diagnosis; where the lecturer would take more time and exercise more patience in properly aiding the students to arrive at correct conclusions than in a hurried effort to see how many operations he can perform in one afternoon. If this course were pursued, there would be fewer people to introduce as residents of distant States and Territories, and there would be fewer patients with abundant means returning from such places, exhibiting their scars and boasting that they were operated at the clinic of Professor ———.

It is generally supposed that cases of this kind are valuable to both the school and the operator. That the school derives some benefit from them is true, but that the operator gains anything in the end is, I think, quite problematic. But that it is a direct loss to the profession there can be no possible doubt.

The failure to discriminate against persons who would deceive as to their financial condition is one of the professional errors of the day. It is one that is not indulged in by any other of the learned professions; even the clergyman gives the Almighty greater praise when he is serving a wealthy congregation than when his lot is cast with one whose aim is to systematically starve him and his family, and is it any wonder that it is so? While our profession is one that is humane to a fault, and we are, and should be, justly proud of our achievements in that direction, we should not take pride in a benevolence that is conferred upon unworthy objects. This is not only detrimental to the interest of the profession, but of the whole people. Every physician, however limited his practice and field of observation, has seen, time and again, how easily people are degraded and pauperized by misapplied sympathy and so-called philanthropists and charity organizations. Once induced to accept the fruits of other people's labors without effort and without price, the descent from self-respect and independence to a life of dependence and pauperism is rendered very easy in too many cases. Let us, therefore, insist upon the payment of a price for our services.

The State pays attorneys for defending the vilest criminals; it also pays the cost of appeals to the supreme court, but makes scant provision for medical attendance upon the poor. Not that our lawmakers think more of the criminal than of the unfortunate poor, but they have been taught by us that we will not neglect a sick person because of his poverty. They have, therefore, surrounded the process with such an abundance of red tape, that the individual is too frequently cured or dead before the physician can secure legal sanction for his services. Hence the increased amount of uncollectable bills on the books of the general practitioner.

In order to avoid the hideous specter of bankruptcy let the colleges reform their methods of teaching; let the members of the profession have a care in sending people to clinics; let practitioners, general and special give their patrons to understand that their services are valuable, and we will then have forsaken the paths that are leading us to inevitable, voluntary bankruptcy.

SOME PHASES OF INTESTINAL OBSTRUCTION.

Read before the Mississippi Valley Medical Association, Nashville, Tenn. Oct. 11-16. 1898.

BY A. H. CORDIER, M.D.
Professor of Abdominal Surgery, Kansas City Medical College.
KANSAS CITY. MO.

Were I asked to name the pathology of the abdom inal cavity demanding surgery for its relief that wa followed by the highest post-operative mortality, should unhesitatingly say acute intestinal obstructio

The causes of this condition are so many an varied that to classify them would require a whol volume. Modern methods of diagnosis, in skille hands, have led to the saving of many cases that few years ago would have been lost by the delay i resorting to the proper treatment. While the diagn sis of this condition can usually be made early, the are some cases in which the pathologic manifest tions are so insidious or vague that their detectio requires time and much careful clinical analysis. very important pathologic fact must be accepted the practitioner if he would make an accurate diagn sis of the diseases of the abdominal cavity. I ref to the generally accepted view that peritonitis almost invariably a secondary process. It is impo ant that complications in the progress of a disea should not overshadow the original disease, for t recognition of the cause usually directs the surger This is not always true, as long-neglected cases m owe their gravity to later complications. This shou be a plea for more painstaking efforts at early dia nosis.

Most cases of acute intestinal obstruction a marked by more or less collapse, the intensity of t shock depending upon the powers of the individual withstand pain, or upon the extent of the traumati and the location and completeness of the obstructi as well as the acuteness of the attack. One indiv ual will possess, in his nervous make-up, a pecul lack of impressionability to pain, while another manifest profound collapse and shock from sli nerve injuries.

In arriving at a conclusion from the interpretat of pain, these possible idiosyncrasies should be gi proper weight and careful thought. An obstructi in a small intestine will, as a rule, be accompanied greater shock than a like process in the colon; thi partly explained by the intimate connection of nerve-supply of the small bowel with the great abd inal ganglia. A large amount of the bowel being c stricted implies a greater damage to the sympath system; this is true of the small bowel, especially its abundant supply of nerves, its thin walls usual empty condition permit its firmer and m complete compression. An opening just large eno to permit a small bowel to creep in will be much n likely to firmly compress the gut than a larger o ing through which a colon had found its way.

The very young withstand injuries to the ner ystem badly. The more nearly the injury approaches crush of the structures involved, the greater the colapse; in other words, the very acute cases are ttended by the most shock.

A correct understanding of the causes of this colapse aids in locating the site of the injury and its haracter in many cases. The pain must of necessity ary in individual cases according to the location, haracter, completeness or acuteness of the attack. The first pain is due to the direct injury to the nerves onstricted; next come the pains of increased peristalis. This pain has not only a peculiar character of ts own, but adds to the constricting pain at the site f obstruction, by its tugging away at the compressed ut, trying to force its contents past the obstructed oint. These peristaltic storms are intensified by the eflex action from the site of nerve injury, so that in nany cases the intestinal movements are very vigorus and extremely painful. In thin subjects and in hronic cases, these efforts of the bowel to overcome he obstruction can be plainly seen through the bdominal walls. In case the obstruction is complete, he pain will be constant, yet periods of intensified uffering will repeatedly come on. If the obstruction s only a partial one, the liquid contents and gases vill be forced past the constriction, and for a time the eristaltic pains will subside and the patient will be ree from suffering until more gas is generated or nother reflex wave is excited.

The character of and the intermittence of the pain rom the peristalsis may aid in diagnosing the nature f an obstruction, as the severity depends largely pon the completeness of the closure of the gut's calier. In intussusception, the closure, as a rule, is not omplete early in the case, hence the peristaltic wave vould not be so severe. Early in these cases there is o tenderness on pressure, in fact, firm pressure is not nly well borne but may give relief from the pain. fter the case has progressed several days, or if a eritonitis should set in, the pain on manipulation in he region of obstruction would be most intense.

Many cases of intestinal obstruction will develop a eptic peritonitis in its progress. An over-distended ut, with the resulting thin walls, permits the ever-resent septic micro-organisms to pass through into he peritoneal cavity, or the bowel wall may perforate bove the site of obstruction or slough at the location f the constriction. An enema may increase the pain y exciting an increase of the peristalsis, when the bstruction is in the small bowel. This has often led mistakes in locating the obstruction in the large ut, the surgeon believing that the increased suffering as due to a distension of the colon at the site of bstruction.

All pain may cease just before death, as the bowel ill often become paralyzed from over-distension or cal toxemia, or the gut may rupture and relieve the tra-intestinal tension, and thereby cause the pain to ase. The location of the pain does not necessarily nply that the obstruction is at the site of pain. In any cases the pain will be referred to a point two ches above the umbilicus at the site of the solar lexus, while if the obstruction is located in the small owel and there exists no adhesion to immobilize the testine, the coil of gut obstructed may be conantly changing its position. If the obstruction is in e colon, the location of the pain might be of some rvice in making a diagnosis of the bowel involved, the colon does not have as much latitude of motion as the small gut, besides a pain having its origin in the colon is not as likely to be referred to the solar plexus, as its sympathetic nerve-supply is not as directly and intimately connected with that center; yet, with the lesion in the colon the pain is often manifested close to the umbilicus. The falsehoods uttered by pain and the truths untold by opium have been very expensive to human life in the management of intestinal obstruction.

When a gut is obstructed or strangulated, that portion of the bowel above the lesion becomes dilated. Brinton has demonstrated that there exist two currents in the contents of the bowel above the site of obstruction; one closely hugging the wall of gut, going in a downward direction, the other passing upward in the center; this mechanism is brought about or increased by the increased peristalsis in the dilated gut.

The contents of the intestines do not become feculent until near the ileocecal valve, hence the vomiting of fecal matter would imply an obstruction in the colon or the lower portion of the ileum. An obstruction in the upper jejunum is usually attended with profuse vomiting of thin bile-stained fluid, non-feculent in character, yet by rapid decomposition or long distension the odor of the contents of this portion of the bowel may become very offensive. Early vomiting may be due to a reflex condition, engendered by the pain at the site of the lesion. This sign of vomiting has no special diagnostic significance.

As a cause of the high post-operative mortality in these cases may be mentioned the uncertainty of the diagnosis in the hands of many, and the prolonged and harmful use of cathartics, both agents of delay and disaster in cases of acute intestinal obstruction. Many practitioners will stand idly by, waiting for the uncertain action of cathartics in a patient in whom a diagnosis of an acute intestinal obstruction has been made; many will be found who will oppose any operative procedure for the relief of an obstruction unless that obstruction be due to strangulated hernia, yet a similar or worse process with more grave symptoms may exist within the peritoneum without a single plea for surgical relief. The high mortality following surgical operations for this condition has led to an unjust condemnation of the surgeon in many cases; in the family physician hesitating to recommend or endorse a procedure promising so few recoveries and so many deaths. This mortality will be greatly reduced as soon as the operation is placed early in skilled hands.

The previous history of the case, where it is enshrouded in mystery, may make the way clear to a positive diagnosis, as a history of old, inflammatory attacks would point to the presence of adhesions, bands, etc.

Every case of intestinal obstruction is an individual, and the diagnostic acumen of the surgeon will often be taxed to tell whether a given case is of a special variety, though it is often possible to predict, with a certainty, the character of the obstruction before operating. The history, in many cases, will aid the surgeon, and in others, mislead him. The character of the pain, its duration, and its location, may come to the surgeon's assistance, but will nearly as often prove misleading. Diffused pain and tenderness indicate peritonitis. A sudden paroxysm of pain in a patient suffering with a obstructed bowel often means a perforation of the gut and an extravasation of feces and gas into the peritoneal cavity; especially is this an indication of perforation if it is followed by a profound collapse and rapid dissemination of the tenderness. A fatal collapse may come on early, and that too, without a perforation. Obstructions from bands, as a rule, are not accompanied by marked meteorism.

In complete intestinal obstruction the vomiting usually becomes feculent after the third day, provided the obstruction be situated low in the ileum or large bowel. The contents of the intestines remain liquid in the small bowel and do not become feculent in character before reaching the lower ileum. Constipation seems to be due more to the paretic state of the bowel below the point of obstruction than from the inability of the contents to pass that point. The truth of this statement is verified by the presence of much fecal matter, in many cases, below the site of the obstruction. Temperature is often subnormal. Even the presence of a peritonitis does not raise the temperature of a collapsed patient.

It is just as illogic to continue giving cathartics and countenancing delay in acute and complete intestinal obstruction, as it is unsurgical to persist in the application of cold and taxis in a strangulated hernia. Can anything be more absurd or unsurgical than not to make a rational effort to relieve these causes by timely surgery? The time to operate on a complete intestinal obstruction is as soon as the diagnosis is made. In the management of these cases the indications for speedy relief must be met promptly. One case may require lateral anastomosis by some of the many methods and devices, another an end-to-end union after an extensive reaction, while a third may demand an artificial one.

To enter into a discussion of the merits or demerits of the many surgical methods for the relief of intestinal obstruction would require too much space for a single article, suffice it to say that the surgery must be early, thorough, and quick. No protracted delays or chronic surgery should enter into the management of an acute intestinal strangulation. These cases stand prolonged anesthesia and slow surgery badly.

A continuous and severe pain means a complete obstruction. A continuous mild pain with exacerbations implies a partial obstruction, as a stricture in a chronic case, or an incomplete closure is an acute intussusception. The location of the early pain does not designate the site of obstruction, unless the obstruction has an acute inflammatory origin.

INTESTINAL RESECTION.

Case 1.—Two years ago I removed a large multilocular ovarian cyst from a lady. The cyst was of slow growth and had been tapped a number of times, followed at each aspiration by a peritonitis. On one or two occasions this came nearly proving fatal. At the time of the ovariotomy, much difficulty was experienced in enucleating the cyst, and many ligatures were required to control the bleeding, from the very vascular adhesions. Her convalesence was uninterrupted. Some months afterward a sinus developed and discharged a number of ligatures, and this sinus has persisted up to this time. Some three or four months ago symptoms of a partial intestinal constriction developed, gas pains, increased vermicular movements and distension of the bowels. The pains would begin to the right of the umbilicus and move about until they arrived at a point just to the right of the old scar and two inches below the umbilicus; here the pains would become more intense until the gas escaped beyond the constriction. The increased vermicular movements could be plainly seen. She was fairly well nourished. One week ago symptoms of an almost complete intestinal obstruction developed, no fecal vomiting, but pains increased, distension more prominent, no bowel movement from salts, calomel, enemas, etc. At this time a fever developed (ptomain poisoning). At my first visit pulse was 96, temperature 102 degrees; no tenderness on pressure, no vomiting. She was cheerful, but looked depressed. She was sent to Scarritt Hospital to be operated on for intestinal obstruction. Anticipating anastomotic operation, I placed in readiness the medium-sized Murphy button. The incision was made in the line of the old scar. The old sinus was curetted and closed by two stitches. On opening the abdomen I at once came to a mass of intestinal coils so firmly and solidly united that it resembled a malignant growth. This mass was immediately below the old sinus tract. It was the right ovary that the original tumor grew from. With great difficulty the bowel was loosened from the parietes, but the difficulty had then only fairly begun, as the mass was adherent on its under side to the sigmoid and pelvic brim posteriorly. The unfolding of the gut was a most tedious process; it was not only folded on itself but was rolled up in the mesentery so that the convex border of the gut in many places was adherent to the mesentery near its spinal attachment. This part of the operation was especially tedious and difficult, as the large mesenteric vessel bled profusely and required ligating.

After the gut was unfolded I found that much of the serous and muscular coat was torn loose, leaving the bowel so ragged that to have attempted its repair would have been surgical foolishness; other coils that were not injured so much were stitched and dropped back. The piece requiring removal was constricted loosely with two large loosely tied ligatures, at a safe distance from the denuded bowel; the mesentery was ligated in sections near the bowel. A triangular piece could not be removed, owing to the shortness of the mesentery. The puckering-string sutures were put in, bowel divided, halves of Murphy button introduced, mesentery cut and resected, piece removed, buttons approximated, and field of operation cleansed thoroughly.

The oozing was so profuse from denuded surfaces that I thought it advisable to pack with plain gauze, leaving the lower angle of the wound open. The patient stood the operation very well. Next day I found her in very good condition; passed some gas during the night; no pain nor vomiting. At the end of forty-eight hours an enema was given; some gas and feces passed. No disturbance, no nausea. At the end of seventy-two hours gauze was removed. Abundance of oozing had taken place. A small piece of gauze was introduced. Liquid food was taken with a relish.

This lady improved from this time on until she left the hospital; her bowels moved naturally, and she left feeling first-rate. Three months later she returned with obstructive symptoms of an aggravated nature. As the button had not been discovered, if it had passed, it was decided that possibly the button was the cause of the obstructive symptoms. I examined her by the aid of X-rays, with the fluoroscope, and made a skiagraph of the pelvic bones and vertebræ, but no button was found, hence I decided that the button was not the cause of the recurrent obstructive symptoms.

INTESTINAL ANASTOMOSIS.

Case 2.—Mr. ——, age 52, white, was taken with severe pains in the right side near the ileocecal region. He had been as well as usual up to that time. This pain was very severe and was soon followed by tenderness, swelling of the right iliac region, accompanied by distension of intestines, elevation of temperature, in fact, the symptoms, as given to me by the attending physician, Dr. Linley, were those of an acute appendicitis. He remained in this condition for several days, when it was decided that an incision be made, which was made by Dr. Linley, liberating a large amount of pus and puriform liquid of a feculent odor. This continued to drain for several weeks when fecal fistula developed at the site of incision. Obstructive symptoms (intestinal) had developed for several weeks prior to the opening of the intestine at the site of operation. A surgeon was called who tried to close this fistula without removing the source of the obstruction. This effort failed, as the incision soon opened and gas and feces continued to discharge. This surgeon diagnosed malignant disease of cecum.

The case was brought to me, and after deciding to do an anastomotic operation, the case was sent to the Scarritt Hospital where, on November 19 the operation was performed No feces nor gas had escaped from the rectum since the first operation several months previous.

Believing that the colon and sigmoid were contracted from disuse, and anticipating a difficulty in bringing the large descending gut into the field of operation if a median incision was made, I made my incision to the left of the rectus. By so locating the opening I reduced the dangers of infection of the peritoneum from the old fistula. I introduced a catheter into the fistula as a guide to the coil of bowel leading into the mass, plainly to be felt in the cecal region. In this I was not successful. Fluids injected into the rectum failed to reach the fistula, thus showing that there existed an obstruction somewhere in the large bowel.

The fistula was sealed with a large layer of absorbent cotton and collodion before making the left side incision. The mass was examined intraperitoneally and found to be quite extensive. A coil of ileum was selected and traced to the mass; this coil was marked by passing a piece of sterilized gauze through the mesentery. The descending colon was now looked for, but much difficulty experienced in locating it, owing to its contracted condition, and even when found the gut could not be brought up into the field of operation. The sigmoid was now located and by careful work raised so that I thought it safe to begin the anastomotic part of the operation. This was done by first pulling up, by means of the gauze landmarks, the coil of small bowel. The opening in this was made, having put in the usual purse string suture, then one-half of the button was introduced. The opening in this button was filled with vaselin to prevent escape of gases, while the sigmoid was opened in a like manner and the other half of the button introduced. The two halves of the button were now pressed together and a few Lembert sutures, as extra safeguards, applied around the button. The incision was closed in the usual way.

The bowels continued to discharge through a fistula all its gases and feces for nearly a week; this I think must have been due to the button getting blocked with some of the hardened feces or else the colon end of the button fitted the lumen of the contracted bowel so snugly that nothing could get through. At the end of a week the bowels began moving naturally and the fecal fistula diminished. Without the button no one could have completed this operation, owing to the contracted condition of the sigmoid in its almost inaccessible position. This man returned to his home and lived several months, the fistula remaining closed up to the time of his death.

RESPIRATORY PARALYSIS.

REPORT OF A CASE RESULTING FROM ADMINISTRATION OF CHLOROFORM—RECOVERY.

BY D. H. GALLOWAY, M.D.

CHICAGO.

The patient, a doctor's wife, 43 years of age, was taken with a severe pain in the abdomen November 17, but as she had been subject to such attacks at intervals for several years, it was not thought serious. Her condition, however, continued to grow worse until on November 27 her husband became alarmed and sent for me to operate upon her, if an operation was thought advisable. Another twenty-four hours elapsed before I saw her. At that time her face was drawn, eyes sunken, temperature 102, pulse 120, tongue dry, brown and heavily furred. She had been vomiting bile; the abdomen was slightly distended, the walls tense and too tender to admit of any but the gentlest manipulation. Pain was referred to the right side, and as it was thought we had to deal with an abscess, it was considered safer to open the abdomen than to try to make a diagnosis by palpation. It was decided to operate at once, and all preparations were made before the anesthetic was begun, as we anticipated trouble from the latter. The patient was put on the operating-table and the administration of the anesthetic was begun by Dr. Rohlf. The chloroform was administered on a piece of gauze stretched over a wire frame, and from a dropper bottle. The patient did well until partly unconscious, when she seemed to voluntarily hold her breath. I made rhythmic pressure on her chest and in a short time she seemed nearly ready for the operation. At this point it was noticed that her face was getting cyanotic, the chloroform was instantly withdrawn, the head lowered, and the jaw held up, but the cyanosis increased at a rapid rate and became alarmingly great, the lips getting nearly black. Respiration had ceased entirely, but the pulse was fairly good and about 140. Artificial respiration was instituted, and in two or three minutes the face assumed a healthy color and the pulse became as strong as it had been before we began. We stopped the artificial respiration, but there was not the slightest effort at spontaneous respiration, cyanosis rapidly returned, the heart began to perceptibly fail, and artificial respiration was quickly renewed, $\frac{1}{40}$ of a grain of strychnia sulphate and $\frac{1}{100}$ of nitroglycerin, which had been previously prepared, was administered hypodermically and ammonia vapor applied to the nostrils. In a few minutes the blood seemed to be perfectly aerated, the pulse was good, and we again desisted. Again there was no effort at respiration on the part of the patient and cyanosis rapidly returned. We waited a few seconds, but there was no respiration and the heart began to fail. We resumed our efforts with the result that in a few minutes cheeks, ears and lips were a healthy pink and heart beating as strongly as before. Again and again we repeated the above procedure—except the hypodermics—and always with the same results, stopping for a few seconds every few minutes, but quickly resuming when the color of the face began to change. After twenty or thirty minutes there was a feeble respiratory effort, when we stopped and the patient was put in the horizontal position. Respiration slowly became stronger and the patient showed signs of returning consciousness. We then held a consultation as to whether the operation should be abandoned. The unanimous opinion of four physicians was that the patient would die unless she was relieved in some way, and we decided to proceed. Ether was substituted for chloroform, but the respirations did not rise above 10 per minute. The abdomen was opened as for appendectomy, and a large mass of intestines was found adherent together and to the pelvic wall. On cautiously loosening the colon from the wall, I opened a small abscess containing ten or twelve cubic centimeters of pus. The pus was carefully removed with strips of dry gauze, and the appendix found, with the end sloughed away. After making the cavity perfectly dry, we packed it with iodoform gauze and walled off the general peritoneal cavity with the same material. We partly closed the external wound, put on a dressing, and put the patient to bed. When we finished, her respirations were 6 or 7 to the minute and the pulse 160. The patient was covered with hot blankets and surrounded with hot water bags and her body and limbs rubbed vigorously with dry towels, as she was in a profuse cold perspiration. In an hour her pulse was 130, respirations 14, and she was conscious.

A few years ago this patient was prepared for laparotomy on account of pus in the pelvis, but was affected so badly by the ether which was administered that the operation was abandoned and a quart or more of pus was evacuated by the vagina. The pus cavity closed up, but the patient has always remained more or less of an invalid with frequent exacerbations of the abdominal symptoms.

This was an object-lesson in the value of artificial respiration promptly begun and persistently carried out; without it this patient would surely have died. In every case of this kind which has come under my observation, the chloroform has paralyzed the respiration and not the heart.

200 Oakwood Boulevard.

SYPHILIS.

BY JOHN M. BATTEN, M.D.

PITTSBURG, PA.

Remembering the old maxim, that "art is long, experience deceptive, and judgment difficult." I herewith offer some questions which are not clear to my mind in the light of my present knowledge:

1. Is syphilis a curable disease, or is it possible to eradicate all the syphilitic germs from a syphilitic? 2, Is not a person once a syphilitic always a syphilitic? 3. Is the germ of tertiary syphilis the same as the germ of secondary syphilis, and also the same germ that causes the chancre? or is their virulency modified by removal from the chancre? 4. Is it possible to inoculate a non-syphilitic by semen, or secretions from a tertiary syphilitic, and produce a syphilitic chancre? 5. Should syphilitics marry? and when?

In the light of my present knowledge, I believe syphilis is not an entirely curable disease. While it may be modified by specific and timely treatment, I believe it is impossible to eradicate completely all the germs, so that, I think, a person once a syphilitic is always a syphilitic. A syphilitic may seem to all intents and purposes cured of the malady, yet it is apt to make its imprints manifest on some of his or her children. I believe the germ that produces chancre is the same, and has the same virulency, as that which circulates in the system during secondary and tertiary syphilis, and so long as there is a single syphilitic germ in the system, such a person is a syphilitic, and may convey the disease to others in various ways. For that reason, I would say a syphilitic should never marry. It would be better for the State that he never marry. It has been my experience that a syphilitic, no matter in what stage, or how completely cured he seems to be, is liable to inoculate his wife (or her husband) with the disease, or some of his (or her) children may inherit it.

From what I have said, I am induced to present the following cases of the many that have come under my observation:

Case 1.—P. Q. contracted syphilis when he was 25 years of age. He married at the age of 34 years a perfectly healthy blonde of 21 years of age. When married he had not undergone a regular course of treatment, but was in every way, so far as appearances indicated, a perfectly healthy man, except a leaden appearance that he presented. His kidneys and liver often became torpid. He is strictly a temperate man and takes exceedingly good care of himself. The wife has one child by him, a boy nearly 5 years of age. The child is apparently healthy, well-nourished and large of his age. While carrying the child, the mother presented the characteristic symptoms of secondary syphilis, which was either conveyed to her from the father through the child, or from the semen of the father. Mrs. P. Q. weighed 125 pounds when she was married, but was afterward, through the effects of the disease, reduced in weight to 105 pounds. The child has not (even at this date, Sept. 7, 1898) as yet presented any indication of having inherited the disease. A younger child has all the indications of the disease by inheritance.

Case 2.—B. R., a young man of scrofulous diathesis, inherited from his father who had had syphilis, contracted syphilis, after having a very bad ulcerated leg, when he was 20 years old. I treated him specifically for two years. He then contracted it a second time and underwent treatment as before. He married at the age of 25 years and now has two children who were apparently healthy (at this date, Sept. 7, 1898, these two children are dead, but one has been born since which is now living). The wife so far has apparently escaped the disease.

Case 3.—A. B., a young woman aged 21 years, contracted syphilis and underwent mercurial treatment for one year, after which she was married and had two children, a boy and girl now respectively 16 and 18 years old. They appear to be entirely healthy, although in childhood they presented the characteristic symptoms of inherited syphilis and were so treated. The mother has since died of syphilitic disease of the liver.

Case 4.—A. R., a young man aged 25 years, contracted syphilis and was treated with mercury for a period of two years. He then married and the first child was still-born, having died in utero and become macerated before birth. While carrying the second child Mrs. A. R. was treated with mercury, and the second child was born alive and is still living. She has had several children born alive since, all are now living and apparently well. The mother never contracted the disease from the husband.

Case 5.—J. P., a young man aged 21 years, contracted syphilis. He was treated with mercury for a period of two years. He married at the age of 25 years. His wife bore him three children; one died soon after birth, of imperfect development of the heart, and the second died during the second summer, of inherited syphilis, but the third is still living and apparently healthy. The mother does not show any symptoms of the disease.

Case 6.—A young man contracted syphilis when he was 18 years old and was treated with mercury for a period of two years. He then married and had one child. The child has symptoms of having inherited the disease, although the father and mother are apparently healthy.

Case 7.—A man married a woman with tertiary syphilis. The husband contracted the disease from the secretions of his wife in the form of a urethritis, if not a concealed chancre. The husband never had any buboes, but had all the symptoms of the dread disease.

I have said that syphilitics ought not to marry. As far as the disease, in my opinion, is an incurable one, I would adhere to my stated opinion. If it could be cured in such a way that there could be no possible chance of transmission, I would say marry, but my experience and observation have taught me that syphilis is not a curable disease and is oftener than otherwise transmitted to posterity, even when it has received a scientific and prolonged treatment. If with the view of final eradication of the effects of the disease from the posterity of a syphilitic by proper selection, I would say marry, for I believe it is only through proper selection, and for a long term, that the effects of syphilis can be finally eradicated from the posterity of a syphilitic.

Dr. M. O. Jones, an observing and careful practitioner of Pittsburgh, Pa., relates to me two cases of syphilis that came under his observation: A young man contracted syphilis in 1864. He was treated two years by Dr. Jones, then the young man married a healthy woman, but she bore him no children. The wife, soon after marriage, was inoculated with syphilis by the husband. A man inoculated his wife, whom he recently married, two years after his inception of it and for which he had been treated.

Dr. ——— relates to me a case as follows: N., a male, aged 30 years, in May, 1880, contracted syphilis in the usual way, and for which he was treated or was under the care of Dr. —— ten years. At the end of this period he married a healthy woman. In a year after marriage she became pregnant by her husband, and in three months had a miscarriage. Shortly after, the Doctor noticed she had syphilis in its worst form.

Duffield reports a case of syphilis, in the *Medical News*, Sept. 15, 1894, where the husband married a woman nine years after his inception of the disease. His wife and a child which was afterward born were infected.

There are physicians who think differently, for what follows is about what they doubtless believe: "But recently I heard a gentleman make the statement to a medical society that he had treated a patient for syphilis ten years before the patient's marriage, and after the marriage the patient infected his young wife. To me the statement was absurd. I did not deny the contagion, but did the source. The belief by some that the contagious character of syphilis persists for decades is an error, due to faulty observation or lack of observation. Without entering any further into the polemics, I make the assertion, in language more forcible than elegant, that patients may be rotten with sequelar lesions of syphilis and at the same time indulge in intercourse and procreate offspring, without carrying the disease to the one nor transmitting it to the other." (JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, Vol. xxiii, p. 107.)

The above is about a fair example of the teaching of those who believe syphilis is a curable disease. This class of doctors advise two years' treatment of syphilis after its infection, then marry and procreate children and all will be well. How doubly and dangerously absurd. Why do fissure in ano occurring twenty years after the infection of syphilis and 90 per ent. of all skin diseases respond so promptly to mer-ury or iodid of potash? Why do many scrofulous nd weakly children come from syphilitics?

The way of the syphilitic microbe heretofore has een past finding out. Its effects depend much upon he soil in which it operates, the number operating nd the power of the leucocytes to prevent their ruth-ess ravages. I believe a blonde suffers with syphilis nore than a brunette. I have never seen a syphilitic nicrobe (but it has been claimed recently that it has een discovered by Van Niesen), and it is doubtful if nyone else has seen one. We know little of its his-ory, how it acts, or how long it remains in the system. We do know its deleterious effect on humanity when t once gains admission into the blood. The microbe f many other germ diseases, such as scarlet fever, neasles, etc., does its work quickly, either to the death f the patient attacked by it or to the surrender to the eneralship of the mighty host of leucocytes. After onvalescence, in many of these cases, there seems to e no trace of the microbe remaining. It is not so vith the syphilitic microbe. Its effects on an indi-idual can be seen many years after its first inception nd in his posterity.

It may be admitted that the type of syphilis of the resent is of a milder form than formerly. If so, it is ecause the people have been either directly or heredi-arily well syphilized. Still, there are yet different types f the disease, or evidences of its acting differently on ifferent constitutions. I have seen and treated cases here, as yet, the effect of the disease has been con-rolled or lies dormant, for there have been no traces f the disease either in the children or parents. Yet n other families I have observed traces of it still xisting both in the parents and in their children. I ave never treated a case of syphilis in which the itality of the person so affected was not lowered, and is doubtful whether there has been a case in which e person so affected did not have to take a retro-ressive step to a lower plane of development, intel-ctually, morally and physically, and it is probable at such a person would never rise to a plane he ccupied before being inoculated. Just what time e syphilitic microbe departs from the body, or the rm it assumes in injuring the constitution many ears after the inception of the disorder, has not been dicated. Is not the disease, after it enters the blood, able at any time during the lifetime of the patient break out like a volcano? What condition of the lood causes diseases of the mucous membranes and e nervous system many years after the original dis-ase? These are pertinent questions, and questions at must be answered before we can make such veeping assertions "that a patient may be rotten ith the effects of the disease and yet no harm come om it," for the microbe has departed "and there is danger of imparting it to others." What made the tient rotten? Does not a patient recover when the use is removed? This has been my education by perience, which is the best teacher.

Again, will not these conditions of the blood in rtiary syphilis, which cause such destructive con-itutional changes to take place, if transfused to a n-syphilitic, produce the same destructive condi-ons in him? Is not the offspring of a parent or rents a very good register of the health of the rent or parents? Could we expect to breed a strong ople from syphilitics? When the gonococci may ger for so many years in the genito-urinary tract, is it more reasonable to expect the syphilitic microbe, which has a much more extended territory in which to exist, will relinquish its possession sooner? Why is it that syphilitic women are constantly syphilizing men who copulate with them, and vice versa?

Fifth Avenue and Ross Street.

PLEURITIS GONORRHOICA.

REPORT OF A CASE.

BY J. RUDIS JICINSKY, A.M., M.D.

CEDAR RAPIDS, IOWA.

In discussing the question of the causes of secondary pleuritis, and especially of the connection existing between gonococcus (Neisser) and the diseases of the lungs, heart, joints, conjunctiva and serous membranes,[1] it is not my intention to review the work of a large number of observers who have written on the subject during the last few years. It is not even my intention to add anything new on this subject, and, without forgetting the observations of many who have worked in this field, I will simply confine my remarks to what I have observed myself in an especially interesting case. Our text-books say that secondary pleuritis occurs during an attack of pneumonia, pericarditis, rheumatism, variola, scarlatina, Bright's disease, or malarial fever, and chronic pleurisy follows an attack, or is the result of tuberculosis, Bright's disease, or alcoholism. Pleurisy is almost invariably excited by certain micro-organisms, which find access to the pleural membrane. (Lyman.) In our case it was gonococcus attacking the membrane.

Case 1.—Chas. P., male, aged 24, was sent to me for X-ray diagnosis of the chest, by one of my colleagues, who suspected pleurisy as the result of tuberculosis. The disease began with a chill, followed by lancinating pains near the nipple and in the axilla, on the left side, aggravated by coughing and breathing, associated with slight tenderness on pressure. Respiration was rapid and shallow—40 to 42 per minute. There was a short, dry, hacking cough in the beginning, later on harassing, with copious sputum, night sweats and fever; loss of weight; pulse compressible but frequent, ranging between 110 and 120 beats per minute. When dyspnea became aggravated and the cough more distressing, with the cardiac action embarrassed, the countenance wearing once an anxious expression, the aspirator was used, but with a negative result. Inspection: deficient movement of the left side. Palpation: feeble fremitus. Percussion: dulness. Auscultation: vesicular murmur associated with a grazing friction sound. Family history good. Such was the record given to me.

Patient being exposed to the X-ray, took all his clothes off. The apparatus was connected and the switch closed. The current passing through the aluminium plate in the tube gave the green light, while the X-ray was observed with the fluoroscope. In the next moment, when the fluoroscope was laid aside, I happened to look down on the generative organs of our patient, which in the dark room, under the effect of the green light, looked somewhat suspicious. Examination was made and swelling found, outlined at the back of the scrotum and considerable in extent, and also tenderness. On questioning patient he first denied ever having had venereal disease, then said that he had "slight" discharge from the lips of the reddened meatus many months ago. This stopped without treatment, but now the swelling came on, characterized sometimes by pain passing along the cord to the loins. The characteristic symptoms rendered the diagnosis easy, proving only the essential requirement of complete, most careful and thorough examinations of all our patients, which in this case was nearly overlooked. At that moment I never thought that this condition had anything to do with the disease of the lungs.

As to the X-ray examination of the lungs of our patient, it was demonstrated again that in the Roentgen rays and fluoroscope we possessed accurate means for diagnosticating changes of lung tissue. They were used in this case, as in other experiments of mine, as factors corroborative of results arrived at by auscultation and percussion, enabling us to recognize more fully and accurately the degree, position and relation of areas diseased. In our case there were no spots of isolated foci over the lungs, no haziness indicating tuberculous infiltration, no decided shadows of consolidation and no circumscribed spots of bright reflex, surrounded by dark rings, which would point to cavities, but there was darkness on the left at the lower portion of the lungs, indicating pleuritic thickenings. Numerous microscopic examinations of the sputum showed no "bacilli tuberculosi," but micrococci gonorrheæ or gonococci (Neisser) in great numbers.

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[1] Rheumatismus Gonorrhoicus, Endocarditis Gonorrhoica, Pleuritis, Gonorrhoica, etc. "Specielni Pathologie a Therapie Vnitrnich Nemoci." Dr. Emmerich Maixner.

Various theories are offered to explain this condition in secondary pleuritis and its relation to gonorrheal infection, but none of them have yet proved satisfactory. In some cases there seems to be no doubt that the gonococci are carried through the blood and lymphatics to the pleura, finding there, as in this case, a *locus resistantiæ minoris*, for although these micro-organisms have not been discovered in the blood, they have been found in the sputum, and their identity has been fairly well established, as in our case, through their behavior with stains, and through culture experiments on human blood serum, where they gave semblance of a growth, the temperature being between 33 and 37 degrees C. In three days we had a very thin, almost invisible, moist yellowish growth, seeming to be composed of little drops. Under low power, characteristic small processes shooting out from the smooth border were seen. Transferred to fresh media they gave same results.[2]

The patient, being a traveler, was confined to bed immediately, the epididymitis treated with elevation of scrotum and application of evaporating lotions. When acute inflammatory symptoms subsided, the testicle was strapped and patient finally allowed to go to California for substantial rest. All other symptoms of pleurisy under treatment were much better, patient improving. The pleuritic process terminated in eight weeks, patient being convalescent from that disease. Râles were still present, but were higher pitched, and percussion note was far from satisfactory. I would not have been surprised at some other complication, but then another curious feature manifested itself; the discharge from the meatus of the penis returned and continued for several weeks—or at least it was so reported to me—showing that gonorrhea in our case was not only a chronic, specific and infectious disease, with local manifestations, but with a marked systemic reaction.

Hyde, speaking of such cases, says that they seem to be essentially pyemic, and to be due to infection with pus coccus, which gains admittance to the circulation through the urethral or other epithelium that has been damaged or destroyed by the gonococci. Anders, describing the etiology of endocarditis, states: "Acute endocarditis may be of gonorrheal origin. In the inflammatory products of this condition, Hering found the gonococci, as has also Councilman, in the heart muscles. As the result of invasion of the blood by the gonococci, suppurative arthritis may also be occasioned, and now the clinical picture is that of general septico-pyemia. I observed one case in which pleurisy was associated, and among the numerous widespread complications, iritis deserves special mention."

Dr. Aug. Fisher, Chicago, refers in *Ces. Lekarske Listy*, 1898, to a similar "Case of Secondary Pleuritis as a Result of Chronic Gonorrhea."

A man, aged 26, single, machinist, vigorous, family history good, had gonorrhea four years ago; was never sick before. In March he gave all the characteristic symptoms of pleurisy. Two weeks later aspiration was made, with no result. He had occasionally slight discharge from the meatus, as finally admitted, but these stopped during the present disease, which in the third week was marked by increased cough, followed by copious purulent expectoration. Microscopic examination of the sputum revealed a large number of gonococci (Neisser), but no bacilli tuberculosi. In October, when the symptoms of pleurisy subsided, and the patient was feeling well, the discharge from the meatus showed itself again, and the case was referred to a specialist.

I have to say again that my interest in our case arose altogether independently of any intention to investigate the etiology of secondary pleurisy, as regards gonococcus. It was only by accident during the study of the X-ray diagnosis in the diseases of the lungs, that I was led to consider the possibility of a relation of an irritant called "gonococcus"—what is in the name?—or an irritant called "bacillus tuberculosis;" both are and remain to be irritants if finding a soil in the lungs. This subject presented itself to me, as it seems to have presented itself to the minds of others. From the beginning it seemed evident that in investigating this question one was bound to follow the rules usually followed in bacteriologic investigations, but the end, from a pathologic standpoint, remains the same, just as well as the problem, how and through what channels the gonococci went up to the pleura and, irritating the same, caused hyperemia, exudation and then resolution. Malsbury makes a good point in this direction, saying: "The organisms, unless arrested, are prone to multiply, to spread into new territory and transmit their toxic products to the general circulation."[3] If we had had in our case bacilli tuberculosi, the mode of infection could be explained through the respiratory organs, etc., but with gonococci we seem to be at sea.

In reporting the case, I fully realize that one or two cases are very little to build on, but it shows that nature sometimes adapts itself to newly arising circumstances, even at the expense of science, bringing our terms "inflammation" and "infection" very close together.

THE FUNCTION OF BRÜCKE'S MUSCLE.

BY DR. V. FUKALA, WIEN.

Translated by J. W. SHERER, M.D., Kansas City, Mo., from Arch. f. Augenheilk., Bd. xxxvi, p. 65.

In 1864 Brücke published his views in regard to what he calls the "ciliary muscle." As is well known, this muscle consists of two parts, one circular, and one longitudinal. The circular portion escaped his observation, but he correctly apprehended the longitudinal part, and to it his name has been applied. Brücke first demonstrated that the ciliary muscle was unstriated. It had hitherto been designated the "ligamentum scleroticum," "plexus ciliaris," or "ganglion ciliare," according to the different views of its structure. Brücke failed to correctly understand the function of the longitudinal muscle, and this error, to a degree, still prevails. In his "Anatomic Description of the Human Eyeball" he states: "the muscle discovered by me extends from the corneo-scleral junction to the roots of the ciliary process." Unfortunately he did not follow the muscle farther into the choroid, and consequently there escaped him the important fact that it extends nearly to the posterior ocular pole. Brücke's conception that the muscle had the function of drawing the choroid anteriorly is erroneous. He expressed himself regarding this as follows: "This muscle draws the choroid tightly to the retina and vitreous, and reduces the closed space formed by the cornea, choroid and itself. At the same time it draws forward the zonula Zinnii, which is united with the ciliary processes, reducing the tension between the lens and ciliary processes. Whether this causes a forward movement of the lens can not be stated, since we do not know how far such movement would be permitted by the aqueous." Brücke appeared inclined to bring the action of his muscle in consonance with Keppler's views of accommodation in stating that its contraction and relaxation moved the lens forward and backward. He suggested the name "tensor choroideæ."

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[2] Tonton: Der gonococcus und seine Beziehungen zu gonorrhoischen Processen. Berliner klin. Woch., No. 21. 1894. Venereal Diseases: Prof. Dr. Franz Mracek.

[3] Gonorrhea in Male; Journal Am. Med. Assn., July 16, 1898.

Further study by Müller (1857) and Schultze (1867) perfectly elucidated the anatomy of the muscle. We now know that the muscle consists of two parts, an anterior, circular part called "Müller's muscle" and a posterior, longitudinal part called "Brücke's muscle." It is beautifully described and illustrated in Graefe-Saemisch's Handbuch, i, 1874, p. 170. Although the anatomy was so thoroughly worked up, ophthalmologists were still in doubt as to the function. There was not the slightest doubt that the anterior part performed the labor of accommodation. The function of the posterior part has remained unanswered to date. Brücke's views have been given. Cramer, Helmholtz and most other scientists who thoroughly understood accommodation considered that Brücke's muscle assisted accommodation by drawing the choroid forward and relaxing Zinn's zonula. It is so given in the works of most authors, and at first glance is a very enticing theory, but on closer scrutiny serious objections to it appear, particularly if thought is taken of the condition of the two parts of the muscle in the different states of refraction, as first indicated by Iwanoff.

Let us first look closely at the anatomy of the normal muscle. The longitudinal portion extends from the corneo-scleral junction almost to the posterior pole in unstriated bundles which anastomose by lateral processes, the mere presence of which argues against the simple function of drawing the choroid anteriorly. Only in the anterior 2.5 mm. of their course do these fibers not anastomose.

Moreover, Schultze discovered fibers running transversely to the longitudinal ones, and anastomosing with them by numerous star-like branches (Jeropheeff). All researches duly considered, we arrive at the conclusion that Brücke's muscle constitutes a dense meshwork spread over the entire choroid and vitreous, forming what Iwanoff called "Schultze's net." As to the function of this net, I would compare it with the network around a balloon. In both the net prevents overdistension and bursting. *Brücke's muscle supports the globe in every direction, and more especially in the antero-posterior diameter.* The six extrinsic ocular muscles, particularly the obliqui, exert a strong pressure to increase the length of the bulb. This would gradually develop myopia.

I believe that the gradual expansion of buphthalmos depends on an alteration in Brücke's muscle. The contraction of the muscular network *restrains expansion in all directions, and strongly resists increase in length* of the eyeball. Otherwise the normal eye would become myopic, and the myopic eye grow worse. *Brücke's muscle is the direct antagonist of the extrinsic muscles* and may be called the "contractor bulbi."

Let us see how my views agree with Iwanoff's findings. *In the norm* Müller's and Brücke's parts of the ciliary are *equally developed.* If considerable demand is made upon accommodation, a corresponding demand upon Brücke's muscle is necessary, in order to prevent distension and elongation of the eyeball and the development of myopia. *In hypermetropia* Iwanoff found *Müller's* part *hypertrophied* and *Brücke's* part *atrophied.* This indicates that accommodation is vigorously exercised in the hypermetropic eye, and that Brücke's part lies in disuse, since elongation of the ball would not be inimical but would approach emmetropia. *In myopia* the condition of the muscle was found *reversed. Brücke's* part was *hypertrophied, Müller's atrophied.* This is most naturally explained by the fact that the myopic eye needs accommode little, but must guard against elongation and increased myopia. Iwanoff (v. Graefe's *Arch. f. Ophth.*, xv, 3) has expressed his astonishment over this remarkable condition of the two parts of the ciliary muscle. He accepted Donder's theory of accommodation, and thought the whole muscle should *hypertrophy* in *hypermetropia* and *atrophy* in *myopia.*

My view of the function of the ciliary muscle explains this condition in a simple and natural way. However, it combats the opinion of those ophthalmologists who contend that Brücke's muscle assists accommodation. Iwanoff first recognized the fallacy of this theory. "The theory of accommodation which we at present accept (*gegenwärtig geltenden*) is in nowise confirmed, etc."(v. Graefe's Arch., xv, 3, p. 289). If it were accepted, we should be unable to explain why the longitudinal fibers are atrophied in hypermetropia—a condition in which an inordinate demand is made upon the accommodation at all times. On the contrary, if it were correct, we could foretell the hypertrophy of these fibers. How otherwise are we to explain hypertrophy of Brücke's muscle in high myopia, in direct ratio with the degree of error present? The highly myopic eye needs no accommodation on account of the great approximation of its far point. This circumstance speaks with the convincing logic of physiologic fact for my theory, in opposition to those who take the view that Brûcke's muscle participates in accommodation.

No argument can be made in favor of Henke's theory of negative accommodation, which states that the retina is drawn nearer to the lens by the action of Brücke's muscle. Iwanoff, who was at first inclined to accept this statement, later admitted its absurdity and pointed to the fact that myopes practically never have clear distant vision without the aid of concave glasses. The posterior pole is the only place where the choroid is not covered by the meshwork. Here the sclera is dependent on its own elasticity unsupported. Consequently, just here the ocular tunics most frequently give way to the pressure exerted by the extrinsic muscles; here is a favorite site of staphyloma, and here occur the posterior pathologic processes of high myopia.

From the foregoing it is evident that the efforts of many French and German surgeons who, about 1842, tried to cure myopia by resecting the ocular muscles was not entirely unfounded, although they appear preposterous enough.

310-11 Ridge Building.

SOCIETY PROCEEDINGS.

Chicago Medical Society.

Clinical Meeting held Jan. 11, 1899.

Dr. Arthur D. Bevan, president of the Society, occupied the chair.

Drs. A. E. Halstead and Maximilian Herzog reported

A CASE OF LYMPHANGIOMA CYSTICUM.

The parents of Maud Taylor, a child aged 22 months, consulted Dr. Halstead in August, 1898, concerning a growth that had developed in the left side of her neck. Shortly after her birth they had noticed a tumor, about the size of an English walnut, just below and external to the angle of the lower jaw. This had gradually increased in size until it occupied the whole lateral aspect of the neck, extending from a point on a level with the lobe of the ear, to the sternoclavicular articulation, and backward nearly to the median line. Anteriorly, it overlapped the larynx above; below, it did not reach the trachea.

The tumor was soft and fluctuating, and appeared to be made up of a number of parts more or less closely united, and varying in size from a small orange to that of an almond. It had never been painful to the touch and did not present any signs of inflammation. A hypodermic needle was introduced into the upper part of the tumor, and a small amount of straw-colored fluid withdrawn. A diagnosis of lymphangioma cysticum was made and the child sent to the Chicago Policlinic hospital for operation.

Under chloroform anesthesia an incision was made over the anterior border of the sternomastoid muscle from the angle of the jaw to the sternoclavicular articulation. At the upper part of the incision, projecting from beneath the sternomastoid, the tumor presented as a thin-walled cyst. It was found to extend anteriorly in close relation to the lower border of the inferior maxilla, the submaxillary gland and the mylohyoid muscle. In order to free the upper limits of the cyst it was necessary to make a transverse incision along the lower border of the inferior maxilla. The upper part of the cyst was then separated from its attachments. Behind, it was covered by the sternomastoid, and below it was attached to the internal jugular vein. A second cyst placed below this extended downward and forward and covered the lateral and anterior walls of the larynx. A third cyst, about the size of a small orange, and connected with the other two, extended downward and backward beneath the sternomastoid. Three or four cysts of the size of an almond formed a chain along the jugular, down to its junction with the subclavian.

These tumors were all oval in shape, with thin, almost transparent walls. They were arranged in chains, each connected with the one below and above. At some distance from the larger cysts, forming rosary-like series, were numerous cysts not larger than peas. The cysts were all removed by carefully dissecting them free from their attachments to the surrounding tissues. Considerable difficulty was experienced in removing the uppermost one from its position behind the angle and ramus of the lower jaw, where it was adherent to the internal jugular vein. The lower and posterior cyst was removed after the sternomastoid had been divided. In removing the anterior cyst the sac was ruptured. All the others were removed intact. On examination of the cysts after removal, they were found to be closely united, forming a series of cavities, some of which opened freely into the next above or below. The most anterior of the large cysts, the one ruptured during the operation, was about the size of a hen's egg and contained a dark fluid blood. At the time the cyst was ruptured, the escape of this bloody fluid led the author to think for an instant that he had opened a vein of considerable size. The fluid contained in the other cysts varied in color from a light amber to a dark brown. In some of the smaller cysts a gelatinous substance was found. In the cyst beneath the sternomastoid muscle there was a lymphatic gland about the size of an almond, which was soft, and the cut surface of which was grayish-yellow in color, similar in appearance of a tubercular lymph gland in the early stage of inflammation.

The interior of the cyst presented a mottled bluish-yellow color. The lining was smooth and glistening. In the larger cysts and attached to their walls, several small cysts were found, some of which opened into the larger cysts. In all the cysts the walls were extremely thin and delicate, so that it was only with the greatest care that their extirpation could be accomplished without rupturing them. The wound healed quickly and without any incident worthy of notice.

Microscopic examination.—The sections (from paraffin-imbedded material) which were made from the cyst wall happened to be quite oblique, so that a transverse diameter through such a section is very much larger than the true radial diameter through the cyst wall, as it really was. This circumstance proved to be a rather fortunate one, because it showed some details more clearly than would have otherwise been the case. In favorable places, it can be seen that the cyst wall is lined by a layer of flat endothelial cells. Next to this comes a zone rich in young connective tissue cells of a round and fusiform type. The round cells are of the character of lymphoid cells; in some places they were quite thickly crowded together. In this zone, also, there are found a considerable number of giant cells, which are more or less irregularly polygonal in general outline, and which contain from twelve to twenty, and in some cases more, intensely staining vesicular nuclei. The latter are centrally located and are surrounded by quite an abundant body of cell protoplasm, which is finely granular and stains deeply with eosin. Each giant cell, as it appears, lies in an open space, attached only to part of the circumference of this space. On careful examination it can be seen that the open space is the transverse or oblique section of a small lymph vessel which, except at the place where the giant cell it attached, is lined with flat vascular endothelium. The giant cells are evidently derived from the vascular endothelium. That this has undergone proliferative changes may also be seen in some places where lymph-vessels contain desquamated endothelia. In this manner the inner zone of the cyst wall, composed of lymphatics, lymphoid and other connective tissue cells, gives unmistakable evidence of proliferative changes, and one can see that the cystic tumor is indeed a neoplasm, and not a mere lymphangiectatic formation.

The zone next to the one just described, the middle zone of the cyst wall, contains a more uniformly fusiform connective tissue, which is rich in thin-walled blood vessels. There was found in one place, arising from a small capillary, a solid bud of endothelium. So it appears that there has also been going on in the cyst wall a new formation of blood-vessels. Klebs calls attention to the fact that in lymphangioma we frequently find an extensive proliferation of blood vessels, sometimes to such an extent that there is formed a mixed tumor, a hemolymphangioma. This, however, is not the case in our lymphangioma, where the new formation of blood vessels is kept within moderate limits. The outer zone of the cyst wall is formed by old fibrous connective tissue, poor in nuclei, and by areolar tissue. With reference to the histogenesis of this tumor, the following opinion may be expressed: There was present a congenital anomaly of the deep lymphatic vessels of the neck. In the development of the child these lymphatics underwent extensive proliferative neoplastic changes. The collection of lymph in the newly-formed vessels became sufficient to create dilated cystic spaces, and in consequence of pressure some of the partition walls in the multilocular cyst became atrophic, and gave way, so that the tumor finally consisted of a small number of cysts only. Into one of the cysts there occurred secondarily a hemorrhage from dilated or ruptured thin-walled blood-vessels.

Cystic tumors of lymphatic origin, known as lymphangioma cysticum or lymphangioma cystoids, are comparatively rare, and their histogenesis and etiology are by no means as yet perfectly understood. There can be no doubt that some of these tumors are true neoplasms, while others may only represent lymphangiectases. We can not always decide the true character of these cystic tumors since, when they have reached a certain age and size, the histologic examination fails to furnish the evidence whether or not true proliferative neoplastic changes have taken place. That most cases of lymphangioma cysticum are true neoplasms has been shown by investigators whose material was in a favorable stage of development for accurate observation. Tilger, for instance, reports a case of a small cystic lymphangioma in which he could demonstrate proliferative changes of the lymphatic endothelium with new formation of lymph-vessels. Wegner, who was one of the first to thoroughly investigate this subject, considers that there are several ways by which lymphangiomata may originate: 1. As a consequence of an obliteration of the efferent lymph-vessels, either by compression or inflammation, or as a result of some congenital occlusion. 2. Active proliferation of vascular endothelia forming new lymph-clefts opening into pre-existing lymph-spaces (homoplastic neoplasia). 3. By the formation of granulation tissue in a connective tissue matrix, the former undergoing retrograde changes. Into the spaces so formed lymphatics penetrate (heteroplastic neoplasia). Wegner's view that an occlusion of existing lymph-channels may lead to true neoplastic lymphatic changes is disputed by Langhaus, Esmarch and Kulenkempff, and Nasse. The latter, in his exhaustive article based upon studies made on material from von Bergmann's clinic, reports, among others, five cases more or less analogous to the case reported in the present paper. Nasse maintains that a complete occlusion of the efferent lymphatics as the cause of lymphangiomata has never been demonstrated, but he concedes that there may be present a certain degree of lymph stasis which, however, can not be looked upon as the essential cause of tumor formation. The same author supports the view of Virchow that the lymphangiomata are analogous to hemangiomata, and he calls attention to the fact that the former, like the latter, are usually found in the skin and subcutaneous connective tissue of the face and neck. He also calls attention to the fact that many of the true lymphangiomata are either congenital or appear quite early in life, thus showing that they are probably always due to embryonic anomalies or malformations, which have a tendency to later undergo neoplastic changes. Wegner, as well as Nasse, reports cases where the contents of cystic lymphangiomata were not exclusively of a clear lymphatic, but at times of a bloody, character. Both believe that the advent of blood into such a cystic tumor is not of primary but of a later secondary occurrence.

Dr. **Halstead** also reported a case of

GUNSHOT WOUNDS OF LIVER AND KIDNEY.

W. L., American, aged 17 years, was admitted to the Cook County Hospital Sept. 26, 1898. One hour and a half before admission he was shot from behind, the weapon used being a 38 caliber revolver. Examination showed him to be extremely pale, surface of the body cold, with a pulse of 158, and a temperature of 98; respirations 31. The wound of entrance of the bullet was found 2½ inches to the right of the spinal column, just below the twelfth rib. From it there escaped a considerable quantity of blood. Just to the inner side of the right mammilary line, close to the sternum, the bullet could be felt immediately under the skin. He complained of severe pain in the abdomen, which was increased during each inspiration. It was evident from the examination that a large amount of blood had been lost, and that the hemorrhage was still progressing. Judging from the location of the bullet-wound, it would appear that the right kidney and liver were injured, and that probably the liver was the chief source of hemorrhage. Accordingly, after the usual preparations, an incision was made, parallel with, and just below the costal cartilages of the right side, about 8 cm. in length. This was subsequently extended downward and backward toward the anterior superior spine until it was 12 cm. long. On exposing the lower border of the liver, in front, a wound about three-fourths of an inch in length was found on a level with the twelfth. There was a slight hemorrhage from this wound, which was easily checked by a temporary tampon of gauze.

On opening the abdomen it was found to contain a large amount of fluid blood, and a considerable quantity of clotted blood. There appeared to be a continuous hemorrhage from some place deep in the right side of the abdomen. Search for the source of this hemorrhage showed it to be from the right kidney, which, when exposed, presented a wound near the hilus, which readily admitted the tips of two fingers. Jets of bright arterial blood could be seen coming from this part of the kidney. Attempts were first made to check the hemorrhage by packing, and then by securing the bleeding vessel with forceps, but these failed. As the patient was rapidly failing from the great loss of blood, it was deemed best to remove the kidney. This was done by loosening it from its attachments, and then securing the pedicle, in which was the bleeding vessel, with a forcep, and subsequently applying a catgut ligature. The pedicle was then divided, and the kidney removed. After this, fresh blood continued to well up from the right side of the abdomen. On examination there was found a wound of the inferior surface of the right lobe of the liver, about 3 cm. in length, from which the blood poured in jets. This was controlled by packing with gauze. The abdominal cavity was then cleansed by sponging, after which the intestines, stomach and mesentery were examined for perforations; none were found. The wound was closed, with the exception of its lower angle, by interrupted silkworm gut sutures. Strips of gauze were packed in the retroperitoneal space, occupied by the kidney, and the ends brought out through the lower angle of the wound.

During the operation the condition of the patient was extremely bad. Subcutaneous injection of 300 c.c. of NaCl solution was given, but this did not materially improve his pulse. Intravenous injection of 3000 c.c. was then resorted to, which at once greatly improved the pulse.

The patient was placed in bed, with the extremities elevated. Normal salt solution was administered every two hours, per rectum. During the night catheterization of the bladder gave eight ounces of bloody urine. The patient quickly rallied from the condition of shock, and subsequently recovered. The quantity of urine secreted gradually increased, until on the fifth day it reached thirty ounces. At the end of two weeks, fifty ounces per day were passed. Suppuration occurred in the bullet-wound, and later in the lower angle of the operative wound at the place of exit of the gauze drainage. This delayed healing, and kept the patient in the hospital for two months. At present he has apparently perfectly recovered from the effects of this injury and operation.

Dr. **Arthur R. Edwards** reported a case of "Probable Anesthetic Leprosy," and exhibited the patient.

Dr. **Fenton B. Turck** showed

CASES ILLUSTRATING THE DIAGNOSIS AND TREATMENT OF MOTOR INSUFFICIENCY OF THE STOMACH.

In the treatment of motor insufficiency without pyloric stenosis, the history of the case, including all the etiologic factors, with examination of all the organs in the body, must be taken into consideration, and the treatment must necessarily vary as the indications of each case demand. In all the cases there are present, however, two pathologic conditions which particularly require attention; 1, the lack of power to expel it within a normal period of time; 2, vasomotor disturbances, especially of the splanchnic area.

The churning power and the expulsive power of the stomach are closely associated, but are not identic, since they often vary in different directions. Properly prepared food is sometimes not expelled, and the churning process continues longer than is necessary, thus throwing extra work on the stomach; and, on the other hand, the expulsion sometimes takes place before the food has been reduced to proper consistency in the stomach, thereby throwing extra work on the intestines. The latter condition is usually produced by an unusual relaxation or weakness of the musculature of the pylorus, commonly known as the patulous pylorus. This condition is indicated by the fact that while the bulk of the food is rapidly expelled, some remnants may remain for a long time in the stomach, adhering to the stomach walls, and there giving rise to putrefaction and the production of gases in seemingly empty stomachs. This condition is also indicated by the regurgitation of the duodenal contents, such as the bile into the stomach. The churning power, on the other hand, may be deficient because of the relaxation or thinness of the muscle walls of the stomach, because these then lack the necessary resistance and power to churn the food and to expel it into the intestine. We may, however, find thickened stomach walls and still have deficient churning and motor power. This is due to the round-cell infiltration and the formation of increased interstitial tissue which interferes with the muscle contractions, resulting in motor insufficiency of the stomach.

The second fundamental condition always associated with motor insufficiency is the vasomotor disturbances, especially of the splanchnic area. This condition and its relation to motor insufficiency have as yet received but very little attention in the investigations and treatment of the disease, yet it is, in the author's opinion, always present in such cases; is moreover an important factor in the production of the motor disturbances, and must be considered an important factor for treatment, not only because of its local effects upon the abdominal viscera, but also because of the serious general disturbances resulting from splanchnic congestion.

The indications for treatment of motor insufficiency of the stomach are: 1. To restore the muscle walls to the normal, or as near normal as is possible, whereby the muscle strength and activity are sufficient to churn the food and prepare it for its prompt expulsion into the intestines. 2. The reduction of the visceral congestion, whereby there is a more equal distribution of the circulating blood throughout the body.

The treatment comprises: 1. The removal, as far as possible, of the etiologic factors. 2. A system of dietetics which gives an adequate functional activity to the stomach, followed by a sufficient period of rest with due regard to the general nutrition of the patient. A large number of laboratory experiments and clinical observations have convinced me that two meals a day of properly prepared and suitable food meets this indication far more perfectly than does the frequent meal system. 3. Medical treatment, or the use of drugs. 4. Mechanic treatment, comprising: *a*, lavage by the direct method; *b*, intragastric douching; *c*, lavage by the indirect method, protecting the mucous membrane from direct contact with the water by means of a thin rubber bag; *d*, pneumatic gymnastics by intermittent distension and contraction of the stomach by the use of cold or heated air; *e*, gyromele, and *f*, intragastric electrization. 5. General treatment; 1. *a*, physical exercise; *b*, H-extension movement; *c*, outdoor exercise; *d*, massage. 2. Rest method: 3. Baths. *a*, hot and cold general full bath; *b*, footbaths; *c*, sitz baths.

A report of some one hundred selected cases of motor insufficiency was then presented. These had been treated and cured during the last four years, by methods originated by the author. A large number of the cases had previously been treated by many other well known methods without results. Among these cases some were exhibited before the society for the purpose of demonstrating the methods by which the results were obtained, and also to emphasize the fact that the cures were permanent, some of the cases having received this treatment one to three years previously, without subsequent treatment.

Dr. **E. C. Dudley** read a paper entitled

SURGICAL TREATMENT OF UTERINE MYOMA, AS ILLUSTRATED BY A SERIES OF CASES.

He offered for consideration two cases in which two tumors, both apparently springing from the uterus, and each occupying the space between the folds of the right broad ligament, were removed. He briefly described certain points in pathology and operative technic which were peculiar to each case.

Case 1.—Age 60; menopause at 51. The most significant factors in the history were chronic rheumatism, general arteriosclerosis, hypertrophy of the heart, occasionally a faint trace of albumin in the urine, and, as diagnosed upon these manifestations, chronic insterstitial nephritis. Conjoined rectovaginal examination disclosed a semi fluctuating, immobile mass in the right side of the pelvis minor. From this growth there was great distress and steadily failing health. Operation was performed at St. Luke's Hospital, Nov. 16, 1898; the abdominal incision was four inches long. A degenerated cystic tumor, the size of a child's head, apparently springing from the uterus, and occupying the space between the folds of the right broad ligament, was found, removal of which, by enucleation, was tedious and difficult. During enucleation the cyst ruptured, and some thick chocolate-colored fluid escaped. The small senile uterus, which was inseparable from the cyst, was removed with it. A continuous strip of gauze drain was packed into the space between the folds of the broad ligament from which the tumor had been removed and brought out through the vagina. This controlled bleeding from many points which would not readily be secured by ligature; no abdominal drain. On the third day the patient died, comatose. No autopsy could be obtained. All the indications pointed to uremia as the cause of death.

Pathologic findings.—On culture, the fluid gave negative results. Microscopic examination showed the growth to be adenocystoma. The gross indications were that the tumor originated in the uterus and thence developed into the broad ligament. Its connection with the uterus was too intimate to be explained on the supposition of an extrauterine origin and subsequent uterine adhesion. It may have been originally an adenomyoma of the variety described by Recklinghausen and later by Ries, and may, therefore, have originated in a remnant of the Wolffian body. If this be true, the myomatous elements had disappeared, leaving a pure adenoma. He exhibited specimens and microscopic sections. A pure adenoma springing from the outer wall of the uterus is at least rare and interesting.

Case 2.—The patient came to him in November, with the history of an operation for the removal of a uterine myoma eighteen months before. The wound had suppurated and did not completely heal, and about six weeks after operation pus appeared per vagina. Fever and chilly sensations had continued for eight or more weeks after the operation. Abdominal and vaginal sinuses discharging variable quantities of pus, and at times feces, have persisted, and were present when she came under his care. Examination disclosed a tumor in all respects apparently like the one just described. An operation was performed Nov. 19, 1898. As in Case 1, the firmly embedded cyst was enucleated from the space between the folds of the right broad ligament. The abdominal and vaginal sinuses both communicated with the cyst. At one point it was apparent that a communication had once existed between the cyst and the bowel, but the opening had closed by cicatrization. In the enucleation of the cyst care was necessary not to reestablish this opening. The sinus connecting the cyst with the vagina was enlarged by free incision. As in the previous case, a long, continuous gauze drain was packed into the space from which the tumor had been removed, and brought out through the vagina. The edges of the two folds of the broad ligament were then united over this packing by a whip-stitch, and the field of the operation was thereby rendered extraperitoneal. The abdominal wound was closed without drain. No part of the uterus or its appendages was destroyed. At the end of a week the vaginal gauze drain had been gradually removed. The patient made an uninterrupted recovery.

On microscopic examination the tumor proved to be a fibrocyst. It probably originated as a myoma, and through degenerative changes lost its muscular elements and became cystic. The contents of the sac was purulent and swarming with pneumococci. Dr. Dudley presented for inspection the gross specimen and two microscopic slides, one showing the pneumococcus, and the other the structure of the growth. He is not aware that any case has hitherto been reported of uterine fibrocyst with pneumococcus infection.

Dr. Dudley then discussed conservative surgery in myomectomy. The removal of the myoma and the preservation of the uterus with or without uterovaginal drainage is coming to be more and more the operation of election. Eleven years ago he reported a case of myomectomy by abdominal section and drainage from the interior of the uterus into the vagina. In this case no portion of the uterus was removed. Since this time Senn, Kelly and others have, in many cases and with various modifications, made use of the same principle, until now the conservation of the uterus in myomectomy is not only an established, but bids fair to become a frequent, operation.

Intramural tumors, even though quite large, may often, with the greatest ease, be shelled out of their beds and the uterine wounds successfully closed. The tumor cavity, if not too large, may be obliterated by closure with numerous interrupted or continuous buried catgut sutures, and finally the peritoneal margins of the uterine wounds are united by a close row of rather deep Lembert sutures. During the enucleation of the tumor and the closure of the uterine wound, hemorrhage is controlled by a temporary elastic ligature around the cervix uteri. Before closing the abdominal wound this ligature is removed, and a little time is allowed to make sure that there is to be no hemorrhage from the uterine wound. Hemorrhage is usually in a great measure controlled by the uterine contraction which follows the enucleation. The mortality of this method for small tumors, in which the traumatism is slight, is surprisingly small.

In case of a large tumor, and consequently of large traumatism with enormous surfaces to be united by buried sutures, closure of the uterine wound involves too great danger of sepsis, and the technic should be modified as follows: After the tumor has been shelled out from the uterine wall, an opening is made directly from the tumor cavity to the uterine cavity. If the uterine canal is patulous, a continuous strip of gauze is carried from the tumor cavity directly through into the vagina, and the tumor cavity packed with the same continuous strip. The temporary elastic ligature around the cervix does not interfere with the introduction of the gauze. The uterine wound is then closed, as above described, by buried sutures and deep Lembert sutures of catgut. The peritoneal margins of this wound, thus turned in and united, rapidly grow together, and the whole uterine traumatism, now isolated from the peritoneum, is adequately drained through the vagina. No abdominal drain is required. If the uterine canal is not sufficiently patulous, it may be dilated or bilaterally incised by means of a herniotomy knife, or it may be both dilated and incised. The vagina is loosely filled with gauze to meet that which protrudes from the uterus; an absorbent vulvar dressing, to be changed as often as it becomes moist, completes the capillary drain. The gauze is removed in two or three days. Care is necessary in the closure of the uterine wound that the gauze be not caught in a suture, because then its removal would have to be postponed until after the absorption of the suture.

As shown in the two cases reported, the same principles will apply also to an intraligamentous tumor.

His own experience during several years with the above technic shows: 1, almost entire freedom from mortality; 2, prompt and uneventful recovery; 3, the most gratifying permanent results. The method is undoubtedly applicable to a much larger number of tumors than is generally supposed.

Dr. Wm. K. Jaques presented a report of the

DIPTHERIA WORK DONE BY THE CITY HEALTH DEPARTMENT,

saying that as much of the excellent showing of the diphtheria work in the Chicago Health Department is due to the prompt and cordial co-operation of physicians, the department took this means of informing them of the recent results in the charity cases treated by antitoxin.

During the months of November and December, 1898, the antitoxin staff treated 219 cases of bacterially verified diphtheria. Since the report of the last month was made, two of the cases still under treatment died, making a total of nine deaths out of 219. Four of these were intubation cases, there having been 23 intubations during the two months. No deaths occurred on either the first or second day of treatment; only one on the third and that in a child under one year old. The end of the third day seems to be the determining line in antitoxin treatment of diphtheria. On the fourth, or later than the fourth, the deaths occur in the larger proportion. This is the best record ever made in the treatment of charity diphtheria patients, and is a splendid example of co operative effort on the part of the Health Department and the medical fraternity.

Dr. Jaques invited the members of the Society to inspect the collection of slides on exhibition, showing specimens of the Klebs-Loeffler bacilli found in the cases referred to; also some slides showing a bacillus found in cases of influenza.

The total number of cases visited was 364; bacterially verified as true diphtheria, 219; treated with antitoxin, 232; recovered, 210; treated with the immunizing dose of antitoxin, 324; of these subsequently attacked with diphtheria, 2; of cases intubated, 23, and of the total number of intubated cases, recovered, 19.

Chicago Gynecological Society.

Regular Meeting, Jan. 18, 1899.

Dr. Thomas J. Watkins, the vice president, occupied the chair.

Dr. Franklin H. Martin presented the specimens and postmortem findings from three dogs in which the ureters were implanted in the rectum.

Dog No. 1 was operated on and both ureters were implanted in the rectum, at a distance of from four to six inches from the anus. The animal recovered from the primary operation promptly, and lived in apparent comfort until within a few days of May 14, 1898, when he suddenly died. During the months between the operation and death, the rectum of the animal acted as a perfect substitute for the bladder. There was no leakage of the sphincters, and he would hold the urine without apparent irritation for six to eight hours, when he would void it voluntarily. The dog would have a fecal movement of the bowels once or twice a day independently of the urinary movement. The animal died of double septic nephritis with general pyemia. Both ureters remained patulous.

Dog No. 2 was operated on Dec. 17, 1897, and died Nov. 16, 1898. In this animal he picked up at random a small intestine and implanted into it one ureter. The postmortem showed that he had implanted the ureter in the jejunum. The dog lived without discomfort after this operation, the passage of the urine being accompanied by fecal matter. The attendant claimed that the dog got exposed and died of cold. The implanted ureter in this case was patulous, and the kidney of the operative side free from suppuration.

Dog No. 3 was operated on Feb. 25, 1897, and died Dec. 19, 1898. One ureter only was implanted in the rectum; the animal recovered promptly from the operation, was never sick or apparently in discomfort after the immediate effects of the operation passed off until within a week of death, when his appetite failed, temperature developed, and he died suddenly. The animal lived comfortably and passed urine from the rectum about every eight hours. The ureter had remained patulous.

Dr. F. R. Zeit made a brief pathologic report of Dr. Martin's cases in explanation of the macroscopic and microscopic specimens that were shown. Dr. Zeit stated that Dr. Martin's cases of union between the ureter and intestine were technically perfect, and it will be of considerable interest to examine at some future time sections through these parts. No attempt was made in any of the cases to protect the ureters from invasion of bacteria from the bowels by any valve device in the technic. The ureters were implanted singly. The anastomosis of the ureter with the bowel was made in each case perpendicularly or at right angles to the axis of the intestine. The operation of implantation of the ureter in the bowel is a delicate and difficult one. The three dogs represent the successes in thirty-four dogs operated upon; the other thirty-one died within one week after the operation from various causes associated with the technic. He has devised a new operation for implantation of the ureters in the rectum, by which he hopes to prevent infection of the ureters by the colon bacilli and other bacteria from the bowel. The technic of this operation will be published shortly. His experiments have been undertaken with the idea of making removal of the human bladder a feasible operation. This is only a preliminary report to a more formal paper on the subject, in which the author will consider more in detail his experiments.

Dr. E. C. Dudley read a paper entitled

GENERAL PRINCIPLES, INDICATIONS AND CONTRAINDICATIONS OF MECHANICAL SUPPORT FOR UTERINE DEVIATIONS.

After a few preliminary remarks, he dwelt upon the normal position of the uterus, as well as normal movements of the organ. In considering normal supports of the uterus, he stated that the uterus is maintained within its normal range of movements by the pelvic floor, of which the uterine ligaments are an essential part. The uterine ligaments are physiologically in a state, not of tension, but of relaxation; the state of tension would be pathologic; they do not fix the uterus; they only tend to limit its movements through their normal range, and may therefore be likened to the rope which holds the ship to the dock. Backward displacement of the body is resisted by the round ligaments; backward displacement of the cervix by the uterovesical ligaments, and by the vesicovaginal wall. Forward and downward displacements are resisted by the uterosacral ligaments, and excessive lateral motion by the broad ligaments. This restraining power is doubtless greater n the uterosacral than in any of the other ligaments.

In the first degree of descent, the cervix uteri is displaced downward and forward sufficiently to give radial disance and to permit the body to turn back into retroversion. The organ in its normal location can not retrovert, because in so doing it would impinge upon the bony sacrum. As a consequence of the first degree of descent, there are two significant possibilities: 1. As the uterus falls to a lower level, where it would crowd upon and irritate the bladder, its long axis usually changes so as more and more to conform to that of the vagina, the cervix moves forward toward the pubes and the corpus backward toward the sacrum, that is, it turns back away from the bladder into retroversion. This is as if the irritated bladder, in the protection of its own right and territory, had thrown it back. On the other hand, instead of turning away into retroversion, the location of the uterus may simply change to a lower level, while the position remains the same; that is, the organ, still retaining its normal position of anteversion and anteflexion, may only settle to a lower plane. The corpus must then occupy space which belongs to the bladder and must mechanically irritate that viscus. The normally anteverted and anteflexed uterus in such descent is much more palpable to digital examination, and for this reason, the vesical irritation consequent upon the descent has often been wrongly attributed to the anteversion and anteflexion. In this way has arisen much confusion in the effort to draw the line between normal and pathologic anterior positions. The prompt relief which follows permanent replacement of the organ upward to the normal location, even though in so doing its anteposition may be exaggerated, proves that such symptoms depend upon the mal-location of descent, not upon the anteposition. Another cause of vesical irritation is the dragging of the uterus upon the neck of the bladder. This traction occurs not only in ascent, but also when the organ descends below a certain level. In the attempts, therefore, to raise the depressed uterus, one should avoid lifting it above the health level.

The function of any means of mechanic support is to maintain the uterus not only on the health level in its normal location, but also, if possible, in its normal position. This requires the cervix to be about one inch from the sacrum. The cervix in a suitable case being thus properly placed, retroversion is not liable to occur, because in so doing the fundus uteri would encounter the sacrum, and because the direction of least resistance would be forward into the normal anterior position. If the cervix be normally placed within an inch of the hollow of the sacrum, the body of the uterus will, in the absence of complitions, usually take care of itself. Since the vagina at its upper extremity is attached to the cervix, displacement of the latter is clearly impossible, if the upper extremity of the vagina is sustained in its normal location. The pessary restores and maintains the relations of the relaxed vaginal walls by crowding the posterior vaginal cul-de-sac upward into the hollow of the sacrum. It also holds the attached cervix within a proper distance from the sacrum, and thereby fulfills its indication by giving support to the pelvic floor. The Hodge pessary, or some modification thereof, answers this purpose in ordinary cases more satisfactorily than any other. The special function is to supplement the inadequate uterosacral ligaments.

The author next considered the indications and contraindications for mechanic support. The pessary is always contraindicated until the uterus has been replaced. Failure of replacement will cause it to press upon the sensitive uterus, and one of three unfortunate results may occur: 1, the pessary may not be tolerated on account of pain; 2, it may be forced down by pressure from above so near to the vulva that it will fail to do the least good; 3, the uterus, finding it impossible to hold its position against the pessary, instead of taking the proper position, may be be bent over it in exaggerated retroflexion, with the cervix between the pessary and the pubes, or the whole organ may slip off to one side of the instrument into a malposition more serious than the one for which relief is sought. A properly adjusted pessary gives to the patient no consciousness of its presence. If the instrument causes pain, it should be removed and search made for the tender places; it should then, if possible, be remolded into such shape that it will not make pressure upon them. Often a slight indentation at some point will enable the patient to wear it with comfort. If it can not be made comfortable, it is contraindicated and should be abandoned. If relief is not obtained by an instrument which holds the cervix near the hollow of the sacrum, mechanic support is, generally speaking, contraindicated. The intrauterine stem pessary, in his opinion, is a good thing to watch. It is rarely useful, often injurious, always dangerous. The use of a pessary must be restricted to those cases in which the displaced organs are replaceable, in which the pessary is capable of holding them in place and can be worn without discomfort. Failure to recognize and appreciate the contraindications accounts not only for the failures and disappointments, but also for the many evil results which have followed the indiscriminate attempts to treat all displacements by mechanic support. The recognition of the necessity for accurate diagnosis and the exclusion of unsuitable cases is apparent, and the pessary, according to the knowledge, judgment and mechanic skill of the practitioner, will be useful, useless, or injurious. No man can safely apply a pessary until he has fully appreciated its indications and contraindications. Many practitioners are deficient in the natural mechanic skill necessary to its proper adjustment. Of this thousands of unfortunate women bear witness. Its dangers in inefficient hands are in striking contrast with its usefulness when judiciously employed in proper cases. The misguided practitioner should bear the burden of his own fault, the pessary should not be made to do so for him.

Dr. **Franklin H. Martin** read a paper on

ELECTRICITY IN THE MECHANIC TREATMENT OF MALPOSITION OF THE UTERUS.

He spoke of the physiologic effects obtained by an interrupted galvanic current, an inducted current, or the sinusoidal current. The best effects are obtained by the two latter, and each should have automatic regulators which will make interruptions or sinuosities slow or fast. The effects sought from these mechanisms are their power to contract striped and unstriped muscular fibers, and their power to stimulate the nutrition of any part of the body through which they act.

The faradic or sinusoidal current is especially valuable in: 1, simple retroversion without adhesions, without severe laceration of the rectovaginal septum, without cystic disease of the appendages, in which the uterus is movable, or, at least, can be replaced under anesthesia, and which can be temporarily supported in proximate normal position with a Hodge-Smith pessary; 2, acute anteflexion of the uterus in non-developed or infantile uteri in which the principal symptoms are dysuria and excruciating, obstructive dysmenorrhea.

His method of treating an uncomplicated retroversion by electricity is to carefully replace the uterus by bimanual manipulation from vagina and abdomen. If the organ resists his attempts to replace it from the vagina, he transfers the index finger from the vagina to the rectum, as frequently an impacted uterus will yield from this pressure direct on the fundus when the vaginal manipulation fails. If the uterus still does not respond, he places the patient in the knee chest position, distends the vagina with air, and makes pressure on the cervix toward the sacrum with the index finger. Finally, if it is still obdurate, he attempts to dislodge the fundus by pushing it forward with the finger from the rectum while the patient is still in the knee chest position. If this fails, he has the patient prepared for ether anesthesia, and then success is easy.

After the uterus is once dislodged he selects a Hodge-Smith pessary of the proper shape—previously ascertained to be approximately the proper size and shape—and fits it in the vagina in such a way that it will throw the vagina into its normal distended curve, and carry the cervix uteri back into the hollow of the sacrum. This pessary temporarily supports the uterus in normal position. The reasons why it will not remain in that position if the pessary is removed are: 1. Because the sacrouterine ligaments, which contain a few muscular fibers, and whose function is to hold the cervix near the hollow of the sacrum, have been violently and inordinately stretched, and have lost their power of contractility and normal tone. 2. Because the muscles of the anterior and posterior walls of the vagina have been stretched by the uterus sliding up and down between them in the direction of their axis, and the vaginal tube has become shortened from telescoping of the uterus, and in consequence the tone of the muscles has become excessively impaired. 4. The lower bowel, too, soon becomes atonic with a prolonged pressure from a retroverted uterus, and its supporting power becomes impaired. The object is to restore all these muscles to their normal tone, so that they will contract gradually while the abnormal strain is removed from them by the pessary, and finally, again support the womb without pessary aid. Dr. Martin then detailed the method of accomplishing this.

Under separate headings he dealt with bipolar vaginal treatment, combined vaginal and abdominal treatment, time of treatment, and summarized as follows: 1. Electricity in the form of the faradic or the sinusoidal current, slowly vibrated, will cause contraction of the striped and unstriped muscular fibers in the female pelvis. It is also a smart promoter of nutrition. 2. Displacements of the uterus dependent alone on muscular relaxation or muscular non development, if curable at all without operation, can be cured better and quicker by electricity than by any other treatment now resorted to.

Dr. **William H. Rumpf** read a paper on

THE USE OF MASSAGE IN THE TREATMENT OF MALPOSITIONS OF THE UTERUS.

He briefly considered a few questions which have occurred to him in connection with the subject. What malpositions of the uterus may be treated by massage? In this regard he would say that the retroflexions and versions, and the cases in which the uterus is drawn to the left or the right by adhesions are the only ones that are benefited by massage. He has treated a number of pathologic anteflexions and prolapsus of the uterus, but has never seen any material benefit. This, then, would limit the subject to the consideration of the treatment of retroflexions. In retroflexions, massage has given him personally more satisfactory results than any other form of treatment, and this pathologic condition is the most important field for pelvic massage.

As to the indications for the use of massage in malpositions of the uterus, he would answer by saying that all cases in which pus and malignant disease can positively be excluded may be benefited by this treatment. These contraindications are not always easy to exclude, but as has been frequently pointed out, the massage in itself helps to make more thorough diagnoses.

What can be accomplished by massage? Given a typic fixed retroflexion with firm adhesions, thickening and infiltration of all ligaments and large congested uterus, the dysmenorrhea, menorrhagia, backache and vesical symptoms make the patient's life miserable. In these cases he is confident that massage will do more than any other form of treatment to relieve the pain and congestion and to gradually raise the uterus from its fixed surroundings. In all cases in which there is chronic constipation he supplements massage of the uterus by massage of the abdomen. Proper attention to the intestinal tract is in all cases most important.

Finally, he considers massage the most valuable adjunct we possess in the treatment of retroflexions of the uterus. About 50 per cent. of the cases will be completely cured, and the rest will be excellently prepared for further treatment with pessaries or operations. Symptomatically, all cases may be relieved.

Dr. **T. J. Watkins** read a paper on

TAMPONS AND PESSARIES IN THE TREATMENT OF DISPLACEMENTS OF THE UTERUS.

Fine, sterilized lamb's wool is the best material to use for tampons, in the mechanic treatment of displacements of the uterus, on account of its elasticity. The value of tampons depends upon keeping the uterus as near its normal plane in the pelvis as possible, and the elasticity of the tampons elongates any adhesions that may prevent reposition of the lower segment of the uterus. Tampons, in order to be effective, should be used almost continuously, that is, soon after one tampon is removed another should be inserted. It is useless for a patient to wear tampons for one or two days and then go one or two days without them. Tampons are best inserted with the patient in the knee-elbow or knee-chest position. With these positions the weight of the intestines is removed from the uterus and the vagina is distended with air. After restoring the uterus to as near its normal location as possible, by gentle force, the vagina should be packed as tightly as possible without producing any distress to the patient.

Much has been said about the relations of the tampons to the cervix, as to whether they should be placed anterior or posterior to it. This is of no importance, as the most that can be accomplished is to hold the uterus in its normal plane in the pelvis.

The Albert Smith and Emmet pessaries fulfil about all the requirements of a pessary for the mechanic treatment of uterine displacements. Intrauterine pessaries are dangerous to use on account of liability to infection. There is less objection to their use in cases where the uterine cavity is the seat of an infection than in cases where the uterine mucosa is aseptic. Intrauterine pessaries do sometimes relieve dysmenorrhea, but it is questionable if they are of sufficient value to justify one in assuming the risk of infection which attends their use.

The principal of the action of the pessary is to keep the cervix in or near its normal location (about one inch from the sacrum, and the external os about two and one-half inches below the promontory of the sacrum). With the cervix in this location, gravity and intra-abdominal pressure will insure anterior position of the body of the uterus, if mobile, when the woman is in an upright position. With the cervix in normal location there is not sufficient space for the body of the uterus to get between the cervix and the sacrum.

Pessaries are best molded by heating them in water, when they can be easily shaped as desired.

Tampons are valuable in some cases of prolapse of the uterus, due to subinvolution of the uterus or its supports, when it is impracticable or inadvisable for the patient to remain in the recumbent position. The tampons are especially indicated when the uterosacral ligaments are the seat of pain or tender ness on pressure, or when the uterus is much increased in weight.

The class of retroposition of the uterus which is most satisfactorily treated by means of tampons and pessaries consists of those of recent occurrence, without the presence of adhesions, relaxations of the pelvic outlet, or too great mobility of the uterus. In many of these cases the uterus can be replaced and a pessary fitted that will, if the uterus is not much increased in weight, or the uterosacral ligaments sensitive to pressure, entirely relieve the patient of all discomfort. In recent displacements the pessary will result in a perfect cure in quite a large percentage of cases. If the uterus is much increased in size or the uterosacral ligaments are sensitive, these conditions can frequently be relieved by the use of tampons, so that a pessary can be worn that will remove all symptoms.

A pessary should never be used whenever there are present any sensitive points upon which it will press, or whenever the uterus has a marked tendency to return to the abnormal position as soon as it is replaced. The pessary should be removed at once if it produces any pain or discomfort. It should be removed every one to three months for the purpose of cleansing and readjustment. Douches are not necessary, in the absence of discharge, except for cleanliness. Whether a patient should wear a pessary continuously, or submit to some operation of suspension or fixation, will depend largely upon the desires of the patient. The thoughts of continually wearing a pessary are very annoying to some patients, and in this instance an operation is indicated. As a general proposition, a patient with a retroposition of the uterus, who is made perfectly comfortable by the use of a pessary, will enjoy much better health by continually wearing the instrument than she will as the result of any of the operations of fixation and suspension yet devised.

I do not advise the use of pessaries in every case of simple retroposition of the uterus, as many women have retroposition of the uterus which does not produce symptoms, and which consequently requires no treatment.

Pessaries are of especial value in some cases of simple retroposition of the uterus during the second and third months of pregnancy. Retroposition of the uterus complicated by adhesions may be treated with tampons supplementary to massage, and finally relieved by a pessary. These cases, however, have usually been the subject of infection, implicating the tubes and ovaries, and frequently these organs then require operative treatment and indicate hysterorrhaphy.

I prefer to treat cases of retroposition of the uterus complicated by marked relaxation of the pelvic outlet, by vaginal fixation at the time the pelvic outlet is repaired, as I believe that vaginal fixation can be done without materially increasing the dangers of gestation and labor.

The routine use of pessaries, carelessness in studying the indications and contraindications for their use, and negligence in the proper selection of the instrument for each individual case have done much harm and can not be too severely criticised.

Denver and Arapahoe County Medical Society.

Annual Meeting, Jan. 10, 1899.

Dr. C. A. Powers presented a child, 7 years old, with complete cleft of the soft palate and the posterior fourth of the hard palate. The first operation, July, 1897, resulted in complete failure, from some unassignable cause. The second operation, December, 1897, was a complete success. Dr. Powers has operated in Denver on four cases of cleft palate and he achieved success in all except the one presented. "The subject of cleft palate brings prominently to one's mind the exceedingly valuable work done a number of years ago by our fellow townsman, Dr. W. R. Whitehead, who was, if I remember rightly, the first to insist on the importance of the thorough division of the palatal muscles. This early work done by Dr. Whitehead formed the basis for the successful management of this distressing condition, and the gag devised by him is employed today throughout the world." As to the effect of the closure of the cleft on the speech of the patient, Dr. Powers said that the palatal fold will not have normal vibration, and that speech is not apt to become perfect. It is, however, very much improved, and patient education of the patient will render the speech the very best possible.

The second case presented by Dr. Powers was a woman, 33 years old, mother of four children. Six months ago she noticed a small lump in the lower outer quadrant of the right breast. Examined Nov. 14, 1898; revealed a hard nodular mass, irregular in shape, two-thirds the size of the palm of one's hand. This is continuous with a very large mass in the anterior axilla. At the apex of the axilla may be felt several hard movable segregated nodules. The mass itself seems to be fixed to the fibers of the pectoralis major muscle. October 17, at St. Luke's Hospital, the "complete" Halsted operation was done under ether. Because of the large growth in the anterior of the axilla, it was necessary to remove a very large amount of the skin over this. This greatly encroached on the skin flap which should be crowded, forming the fornix of the axilla. The tissues were removed by a sharp knife and in a single piece. Small, hard, cancerous glands were found well up on the subclavian vein, and this fact led to a very dubious prognosis. When the tissue had been removed the remaining wound seemed enormous in size. The small triangular flap which remained was crowded up into the fornix of the axilla and there held in place by carefully applied pressure made on gauze by the fingers of an assistant. A purse-string suture of heavy silk was applied in the wound. This materially lessened the size of the wound, but when tightened as much as could be, a circular space four and one half inches in diameter still remained. This was covered by freshly-cut skin grafts, and a firm, even, copious dressing was applied with scrupulous care. The time of operation was two and one half hours.

The subsequent course was entirely smooth. The dressing was first changed on the seventh day. The wound was found to be absolutely aseptic. The fornix flap had readily united, the wound surface was practically closed by the freshly applied grafts, and all sutures removed. There was complete and solid healing ten days later. From the fifth day the patient was encouraged in the use of the forearm and arm, and on the twentieth day after the operation she could dress her back hair, the functions of the shoulder being practically complete.

Dr. Powers considers Halsted's operation not only extremely radical, but exceedingly difficult, tedious and formidable. The very greatest care should be exercised to spare the patient loss of blood. The patient should be kept thoroughly warm by flannels. The operation is a very long one, Halsted himself taking not infrequently three hours. He believes Halsted is right when he says that not all surgeons should attempt it. When, however, all possible precaution is taken, the patient bears it remarkably well. The case presented may be used in illustration of the statement. At the end of two and a quarter hours the patient had lost but little blood and was in the best of general condition.

The third case presented by Dr. Powers was a boy 17 years old who sustained a fracture of the right patella in January, 1898, and was treated by apparatus with fairly good results. In June he slipped and fell, rupturing the callus, a simple fracture of the patella, the fragments being separated about an inch and a half. There was marked effusion into the joint, two and one-half inches atrophy of the thigh, and one inch atrophy of the leg. The circumference of the joint at the middle was three inches greater than that of its fellow. The patient was put to bed with the limb elevated at an angle of 45 degrees, elastic compression by Esmarch's bandage over knee, and ice caps outside of this, and posterior splint applied. At the end of four days the joint was down to almost its normal size. Two days later the fragments were sutured in the following manner: Aseptic details were carried out to a scrupulous degree. A simple linear incision was made below the lower fragment, the flap well dissected upward and both fragments exposed. The joint was full of clotted blood. The bone surfaces were freshened. Both upper and lower fragments were drilled at about their middle. The fragments could not, however, be brought within an inch of each other, and the quadriceps was thoroughly seated some six inches above the fragment. This permitted the fragments to come within about one half inch of each other. The quadriceps tendon was well divided just above the upper fragment; this allowed the upper fragment to be brought down a little more, so that indeed, on tight stretching, the posterior two-thirds of the freshened bony surfaces could be brought together. There was, however, still a gap at the anterior third. He wired the bones in this position, feeling that it was the best approximation that he could make, and that the fractured surfaces would probably unite. The prepatellar tissue and lateral soft parts were sutured by chromicised catgut, and the wound closed without drainage. The patient's course was absolutely without reaction. The skin sutures were taken out on the tenth day, and the limb kept in a plaster of-paris splint until a week later, at which time it was taken out and a vigorous and systematic massage of the thigh and leg given. Improvement speedily followed, the muscles filled out, flexion gradually increased, and at this time flexion can be made within a right angle, extension being strong and complete.

Dr. Minnie T. C. Love read a paper on

A CASE OF TRACHITIS

in a girl 3 years of age. She had been perfectly well up to the night before Dr. Love called, when she found her with a temperature of 101.5 degrees, brazen cough with lungs and bronchi normal; pharynx red but perfectly clear; tongue coated; bowels congested. Calomel in one-tenth grain doses, and a cough mixture, were ordered. On the third day the temperature was normal, voice not quite natural but in no way alarming; bowels moved once. About noon of the same day she began vomiting, which continued until 2 P.M. The child became drowsy. At 7:30 A.M. breathing was very much labored, no cough, no spasm, temperature (rectal) 100 degrees, voice squeaky. She lay with her eyes open and her breath was that of a child with membranous croup; heart faint; color good. At 10:30 Dr. Robert Levy was called in consultation, when respiration was 40, pulse 160, temperature 100 degrees. Dr. Levy said that it was a curious case; that he believed the trouble was not in the larynx alone, but due to a toxin affecting the respiratory centers. He advised further counsel. Dr. Hall, who was called at 12:30 (midnight) was just as much mystified. At 7:30 the child struggled for breath; skin blue. The child was intubated without giving the slightest relief. Tracheotomy was performed as a forlorn hope, and the result was the same. At 3:30 P.M. the following day, the child died. Postmortem at 5 P.M.: Abdomen and hands were very much discolored; stomach distended with dark fluid; lungs and heart normal; larynx, trachea and large bronchial tubes reddened. There was no perceptible edema. The brain was not examined. A small section of the larynx was removed and bateriologically examined. The report was "staphylococcus pyogenes aureus infection."

In conclusion, Dr. Love said: "I report this case because neither myself nor our consultants at that time had seen just such a case, and in the hope that discussion may show some light that will enable us, should we meet with such another, to save life. I understand that Dr. Packard has since had a similar case, and that a physician died in the city about the same time with the same symptoms."

Dr. Robert Levy said that the voice of the child indicated that it was not a case of laryngeal diphtheria, neither does he think it was a case of trachitis. He thinks the symptoms indicated some kind of a profound systemic poison.

Dr. J. T. Eskridge recited the histories of several cases seen by him in Philadelphia, which resemble that of Dr. Love, and in which the autopsy revealed initial lesions of meningitis. He regretted that Dr. Love had not made an examination of the brain.

Dr. Lobingier said that an autopsy in such cases is not complete without the brain being carefully examined.

Dr. Mitchell exhibited pure cultures of tubercle bacilli, the first ever made in Colorado.

The election of officers for the ensuing year resulted as follows: H. B. Whitney, president; C. K. Fleming, vice-president; E. J. Rothwell, treasurer; Ed. Delahenty, secretary; G. H. Stover, financial secretary. Drs. J. N. Hall, Edward Jackson, E. H. Heshey and J. M. Blain were elected Board of Censors.

Cincinnati Academy of Medicine.

Regular Meeting, Jan. 23, 1899.

Dr. Louis Schwab, the president, occupied the chair.

Dr. Robert Carothers presented a patient, a boy of 12 years, who last April had had an attack of measles. On July 3 he sustained a rather severe fall, and on July 4 he was attacked by a chill, high fever, and its accompanying symptoms, followed by the symptoms of an acute osteomyelitis involving the right hip, severe pain, tenderness, fulness and edema about the joint, with enlargements of the veins. With this diagnosis he had advised amputation at the hip-joint, but at that time the operation was refused. An exploratory incision was, however, allowed, and by this means the diagnosis was confirmed. Some little time after the affection of the right hip, the left began to show an apparently similar involvement. Early in November, the boy's condition not exhibiting any improvement, amputation at the right hip-joint was again advised and accepted. A tourniquet was placed as high as possible, without pins, and anterior and posterior flaps made by transfixion, and on account of the pathologic conditions present the head of the bone was easily dislocated from its socket, the attachments severed and the bone removed. Following the operation a condition of shock supervened that for a week or ten days constantly menaced the life of the patient. Stimulating treatment of all kinds and descriptions was instituted, with the gratifying result that he finally rallied. Amelioration in the condition of the left hip now began to take place, that is as far as the acute symptoms were concerned. A pathologic fracture of the neck of the femur followed; the displaced bone seems during the six months that have elapsed since this accident to have prepared for itself a new socket; motion is fair but limited, and it was thought that the result, everything considered, was so good that, in view of the fact that more or less obliteration of the old joint cavity must have occurred, it would be best to let well enough alone and allow the head of the bone to occupy its new cavity. The boy as presented was considerably emaciated from the long siege of sickness through which he had passed, and the muscles of the left leg and hip were atrophied to some extent by long disuse so that he could with difficulty bear the weight of the body on that member.

Dr. J. M. Withrow presented a specimen of cancer of the body of the uterus in which the diagnosis had been made early by microscopic examination of the scrapings of the corporeal endometrium. He made a plea for the microscopic examination of all uterine scrapings, particularly when the subjects were approaching the climacteric and were afflicted with menorrhagia or metrorrhagia. A second specimen, removed that day, was of a tumor involving the posterior wall of the uterus, the weight of the whole mass being about five pounds. An abdominal enlargement had existed, as far as the patient was able to state, about a year. He thought the tumor malignant, and had advised immediate operation, which had been accepted. The enucleation of the tumor had presented no particular difficulty, the peritoneal covering being intact and without serious adhesions. Microscopic examination was made by Dr. Whitacre, who said that the tumor was a gliomyoma, but that the tissue was somewhat loosely arranged. The fibers did not all run a regular course and there were numerous branched cells present. The blood-vessels particularly, showed signs of rapid growth in that some of them even of the size of goose-quills were composed of but a single layer of cells. He was suspicious of sarcomatous involvement, and from what he had seen of this class of tumors, was inclined to look for recurrence locally in this case.

Dr. N. P. Dandridge exhibited a specimen, from the Mussey collection, of encysted stone of the gall-bladder. He exhibited it for the historic interest alone, believing the specimen to be about fifty years old.

Dr. Ricketts exhibited a specimen of the head of a femur resected from a child, for tuberculosis, which had started in the ligamentum teres.

Dr. Magnus Tate reported a case of hyperpyrexia in a case of double pneumonia. He had seen the case from about its beginning, and for nine days the temperature had not exceeded a point usual with this class of cases of sthenic pneumonia. On the ninth day the fever was but little over 100 degrees, but from that time on the temperature began to steadily climb until just before death, several days after the pseudo crisis, the thermometer recorded a maximum of 108.8. Drs. Orr and Kiely had seen the case several times with him.

Dr. N. P. Dandridge presented the regular paper of the evening, entitled

ACUTE OSTEOMYELITIS.

He thought that the disease could be most readily divided into the direct, that is to say, that class of cases following a severe injury or operation upon the part subsequently involved, as compound fractures and amputations, and the indirect, in which the infective germs entering by way of the gastro-intestinal or respiratory tract, or being already present in some latent focus, were subsequently taken up by the blood stream and conveyed to or deposited in the tissue, made less resistant by injury or by exposure to cold and wet. This latter is what he thought occurred when acute osteomyelitis followed measles, scarlet fever, typhoid fever or perhaps influenza. He did not lay as much stress upon a slight injury, as a blow or fall, as upon exposure as an etiologic factor, because he had been warned by a case in his own experience, in which the patient had himself assigned the disease to a slight injury, but in which, in a careful subsequent questioning, he admitted that he had had the part, the knee, some time previously, involved by what was regarded as acute rheumatism, acquired while he was following his occupation of steamboatman. In this attack but one joint had been involved, and the subsequent history had demonstrated the osteomyelitis to have involved this same joint. He wished to lay special stress upon the prominence of typhoid fever as an etiologic factor, on which point his experience agreed with that of Keen. In the discussion of symptoms and pathologic conditions he followed the rule of most surgeons. As regards diagnosis, rheumatism, osteitis, erysipelas, phlegmonous cellulitis and typhoid fever must be differentiated. He had himself had a case in which the boy's symptoms so greatly resembled an osteomyelitis that after consultation with another physician, he had operated upon the bone only to find it healthy; the boy passed through a typic typhoid infection apparently none the worse for the operation. In conclusion, he expressed the hope that the examination of the blood would in the future help to throw some light upon the subject. During the course of his remarks specimens of bone illustrating the various pathologic lesions were presented.

Dr. Joseph Ransohoff, while concurring in the main in what the essayist had said, took exception to him in one point, namely, that as far as his own personal experience went, joints were not as a rule involved except possibly in the very acute cases. As regards diagnosis, he thought that while as a rule it could be made rather easily, not infrequently anomalous cases would present great difficulty. In the case of a boy in his own practice, in whom there had been no fever and in whom a family history of malignant disease was the most significant that had ever come to his notice, he had made an early operation and had found that, not sarcoma, but osteomyelitis, was the pathologic condition present. Another point to which he wished to call particular attention was the recurrence of the disease, sometimes long years afterward—in two cases of his own after an interval of twenty-five years. He thought it a point for bacteriologists to decide whether in these cases germs or their spores had remained latent all these years or whether the original injury had for all time established a place of diminished physiologic resistance, making it a suitable nidus for the lodgment of germs in some subsequent infection.

Dr. Kennon Dunham spoke regarding the value of blood examinations in this affection. He thought that the Widal reaction would be of the greatest aid in diagnosticating osteomyelitis from typhoid fever; that time had demonstrated that this reaction had come to stay and was, in the large majority of cases, perfectly reliable. The leucocyte count in this as in other suppurative affections, showing as it does a marked leucocytosis, would also be of value. He also said that, in addition to the other germs mentioned by the essayist, the pneumococcus had been found as a causal factor in osteomyelitis, even when there had been no involvement of the lungs.

Dr. A. W. Johnstone spoke of the relation of this disease to insanity. Osteomyelitis had been present in two cases of insanity, in his own experience, and he did not regard this in the light of a coincidence. Recurrences had occurred in both these instances.

Dr. Albert Freiberg spoke of several cases in which, although typic symptoms of osteomyelitis were present, subsidence of the inflammation had supravened without operation, suppuration or necrosis.

Dr. C. E. Caldwell narrated a case along the same line.

Dr. Robert Carothers also narrated a similar case. He had also noticed recurrences. In all his cases the hip-joint had been involved.

Dr. J. C. Oliver spoke of albuminuria and amyloid disease, coming on with long-continued discharge of pus, necessarily ensuing when no operative interference had been instituted.

Dr. Dandridge closed the discussion. He had been particularly interested in the case presented by Dr. Carothers, both because of its bearing upon his paper, and on account of the length of time elapsing between the predisposing cause, measles, and the onset of the acute disease. While he knew of this frequently happening after typhoid and Keen had also reported such cases, he had not been aware that the same was true following measles. He could throw no light upon the relation between osteomyelitis and insanity, if, indeed, any existed. He rather thought that the cases mentioned by one of the speakers in this connection were of tuberculous origin.

Chicago Ophthalmological and Otological Society.

Regular Meeting, Jan. 10, 1899.

Dr. W. F. Coleman officiated as chairman of the meeting.

After the reading of the minutes of the previous meeting by the secretary, the election of officers was proceeded with, the result being as follows: President, Lyman Ware; vice-president, C. D. Wescott; secretary-treasurer, C. P. Pinckard; committee on membership, William H. Wilder, Wm. T. Montgomery, and W. F. Coleman.

EMBOLISM OF THE CENTRAL RETINAL ARTERY.

Dr. Casey A. Wood—The subject of this report is W. H. M., aged 56 years. He has a history of acute articular rheumatism twenty years ago, with subsequent relapses, and has acquired an aortic regurgitation. He never had any trouble with his eyes except the usual presbyopia, until two days before the date of presentation, when he noticed a cloud over his left eye, which came on while reading, without pain or other symptom. He shortly afterward found he could see better with the affected eye by looking sideways. He was seen about sixty hours after the blindness. V. L. = ⅕ eccentrically, and Jaeger XVI, not improved. V. R. = I. and J. I with glasses. There is a well marked edema of the whole left retina, except a small area extending from the temporal third of the disc to within a D. D. of the fovea. The latter is occupied by a small, reddish spot. The veins have a slightly marked, sausage-like appearance. The arteries are smaller than normal and partially covered by the retinal swelling. The sausage-like appearance of the former is seen to be partly due to their occasional burial in the opaque retina. There are no marked changes in the disc. During the following two weeks the edema gradually lessened, the vessels becoming more plainly visible, and the unaffected retinal area seems larger. The point of interest in this case is the presence of several cilioretinal arteries supplying this portion of the fundus. When first seen, the swelling of the retinal elements was quite marked, and seemed to encroach upon and overlie the island of the normal retina, so that with the ophthalmoscope one could appreciate the difference in level between the normal retino-choroidal epithelium and the upper layers of the edematous retina.

The treatment was that of Fischer—deep massage of the globe, prolonged and rather severe, with albolene or plain vaselin, which was put into the conjunctival sac and pressure made, especially upon the equator of the globe, continuously for ten minutes at a time. The results were probably negative, although the massage was persevered in for a week. The fundus picture is by Miss Cleveland, and shows the cilioretinal vessels very well, and the unaffected area of the retina supplied by them. Several confrères examined the case in its various stages, but were not able to find any trace of the embolus. All the signs point to its lodgment behind the globe in the main body of the artery. He presented perimeter charts showing several observations, at regular intervals, of the size and shape of the field.

Dr. C. P. Pinckard—The case reported by Dr. Wood reminds me of the one I narrated to the Society last April—the case of a child with amaurotic idiocy. I heard from the child not long ago, and it is completely helpless, and it does not seem as if it would live long. The appearance in this case was so similar to embolism that it made me think of it.

Dr. F. C. Hotz—These cases are interesting on account of their final outcome. We know that there are no definite means to help these patients. Cases have been reported in which massage has been successful, but my experience coincides with Dr. Wood, that massage has not benefited any of the cases in which I have used it. I would like to ask Dr. Wood whether he thinks iridectomy had anything to do with the result he reported in a case of embolism some time ago.

Dr. Wood—I did not obtain a brilliant result from iridectomy, and I have only treated cases of recent origin. The case Dr. Hotz refers to came under my observation three or four years ago. Inasmuch as the prognosis was gloomy and other treatment had failed, an iridectomy was suggested as a last resort. It was a case of partial embolism of the artery, and a measurable improvement in central vision and in the field of vision certainly followed the iridectomy, but it may properly be given the credit of the improvement.

Dr. W. F. Coleman—Perhaps some of you are not aware that I have reported a case of embolism of one of the inferonasal arterial vessels, with recovery, recently, whilch had a history of loss of vision for about four weeks. The patient came to me about a year ago, when vision was equal to counting fingers at twelve feet. I said to the man that there was very little use of attempting to treat him, as no treatment would seem to offer any prospect of success. At that time I had rather a hobby of trying galvanism in many cases that presented. This I tried in his case. I gave him about a dozen treatments, using from five to seven milliampères daily. At the end of these treatments he could read the second-hand on my watch. His field of vision became largely increased, perhaps within ten or fifteen degrees of normal. While this treatment and recovery may have been simply a coincidence or the case one of spontaneous recovery, I doubt it very much. I saw the man four months afterward, and his vision remained equally good.

Dr. Ware—I recall a case in which I used galvanism with temporary improvement, but it relapsed.

HYSTERIC AMBLYOPIA.

Dr. F. C. Hotz—A young lady was brought to me Jan. 14, 1898, who, six weeks previously had been seized with a violent pain in the forehead, lasting three days, when vision of the left eye began to fade away, so that at the time she could see but little with it. Two weeks previously she also had pain over the right eye, and vision of that eye had several times been obscured considerably for several hours. Three years previously she got glasses for reading. An examination revealed vision $^{20}/_{30}$ in the right eye, and no improvement by glasses. The media was normal, perfectly clear, and the fundus showed nothing abnormal. The caliber of the vessels was normal. The field, however, showed a uniform contraction. The field for white and for colors was markedly contracted, and, as you will observe, the color fields are reversed, that is, the red field is smaller than the green. The left eye had only perception of shadows; pupillary reaction good; media clear; the papillæ well defined, and all I could make out was a fulness of the retinal veins. I did not see the patient again until December. Her physician reported to me that two months after the examination the vision of the left eye returned. She was comparatively free from headaches all summer, so that the parents concluded to send her the Ogontz School. Two weeks after school began the headaches returned, and grew very severe and almost continuous. She kept up her studies with the greatest suffering. When she came home for Christmas vacation, she came to me for an examination (December 27). Vision in the right was $^{20}/_{30}$; in the left eye $^{20}/_{100}$. Refraction tests were made; I put the eyes under cocain and homatropin and found the following: Shadow test of the right eye showed astigmatism of .5D, which was confirmed by the tests; 1D + with 50 cylinder, 90, gave her under homatropin, $^{20}/_{40}$ vision. Left eye, shadow test, did not show any astigmatism, but plain hypermetropia, and 2D gave vision $^{20}/_{40}$ minus. The optic discs looked clear; vessels normal; only the coloring of the discs seemed to have a peculiar glistening appearance. After the effect of homatropin had disappeared, Dec. 29, the test showed that the accommodation was restored, but weak. R. $+1$ with 50 c. 90 $^{20}/_{40}$; but $+1.50 \subset +1$ c. 90 $^{20}/_{20}$. L. $+2$ $^{20}/_{70}$; but $+2.50$, $^{20}/_{40}$.

Ordered R. $+1.50 \subset +1$ c. 90. L. $+2.50$D. for constant use.

These glasses were given with the hope that they would have great influence upon the persistent frontal headaches. She wore glasses continuously for a week, but no relief had been experienced up to that time. The fields of both eyes were again taken in two ways: 1. Starting from the lower margin, I went around the temporal side, and the next time I reversed the order, going around the nasal side, finishing with the temporal side, to see whether the fields showed any difference; and they do in this case. The color fields again are much contracted, but this time the green field was smaller than the red. The left field is a very peculiar one, also taken in both directions without showing very much difference in extent. The field extends downward very much; above it is very much contracted, having a sort of kite-shape. On account of the change in the fields at different days, and from the quick recovery of vision in the left eye and change of vision in the right eye, I regard the case as one of hysteric amblyopia. When I saw the case first, with slight enlargement of the vessels in the left eye, I suspected some retro ocular difficulty; but the examinations in December and January did not show any difference in the vessels, and whether the peculiarity in the color of the disc amounts to anything, I am not prepared to say. The rapid changes of the field and sight certainly point toward hysteria as the cause.

Dr. Wilder—The case described by Dr. Hotz I happened to see in an attack of sudden partial blindness in the left eye. I examined the field and found the characteristics of hysteric amblyopia, and gave a favorable prognosis. She entirely recovered her sight during last summer.

Dr. Hawley—In a case I recently had I found the changes in the violet and blue fields more marked than in the red and green.

Dr. W. F. Coleman—Most of you will recall that at a previous meeting of the Society I exhibited a patient upon whom I performed Mule's operation. Tonight I wish to report the sequel of that case, which is not so favorable. Two weeks after I had shown him to the Society the glass ball began to appear. I freshened the edge of the wound and closed it with sutures, but not successfully. One night before the glass ball escaped there was excruciating pain in the stump. Within two days the eye began to get inflamed, and very soon a well marked case of serous iritis developed, which, I confess, suggested to me a sympathetic origin. The pupil dilated well and regularly under atropin. I gave mercury internally, also hot applications, and recovery is taking place slowly from the iritis. His vision is today $^{20}/_{20}$ minus. I have also inserted a ball in the conjunctival sac, and that behaved itself respectably and made a good stump. I have tried a sponge in the capsule, but that did not gratify me, and suppuration followed. I believe it is difficult to implant a sponge under the tissues and make it remain without suppuration following.

Dr. Clark W. Hawley—I wish to report the condition of the man I exhibited to the Society about a month ago, in whose eye there was a dislocation of the lens after needling. Absorption went on quietly without further operation, and he now has vision $^{6}/_{9}$, with $+10$D spherical. I saw him a day or two ago, there being no disturbance from the dislocation whatever, and the capsule is very clear. I expected a poor result, but it is very good indeed. The spots seen on the anterior surface of the capsule are not now visible.

San Francisco Society of Eye, Ear, Nose and Throat Surgeons.

January Meeting.

Dr. Barkan presented the case he had exhibited at the December meeting of the Society, of specific disease affecting both eyes, with a gumma of the left eye, on the globe, and subconjuctiva (vide Journal, Jan. 7, 1899). The patient had been taking 20 grains KI three times daily, with inunctions of 40 grains ung. hydrarg. daily. The various syphilitic lesions had almost disappeared. The iritis of O.D. was quite gone, the gumma of O.D. had melted away till but a trace remained to indicate what had been; the ulcerations on the forehead, forearm and legs were nearly healed, and the gumma on the right tibia was almost imperceptible. The result of specific treatment was most remarkable.

Dr. Barkan also presented two cases of foreign bodies in the eye in which the foreign material, being iron or steel, had been removed by means of the Haab magnet. In the first case the wound of entrance could be seen, but the posterior chamber was quite dark, no reflex being obtained. It was decided not to attempt to draw out the foreign body through the wound of entrance, so a fresh incision was made in the lower outer quadrant, iridectomy performed, and the wound approached near to the tip of the large magnet. On closing the electric circuit about the magnet, intense pain was felt by the patient, and the particle of steel immediately appeared. The eye recovered without incident, but the sight has not returned. There is no detachment of the retina, nor is the posterior chamber apparently filled with blood, yet there is almost no reflex, and merely light perception on the part of the patient. The Doctor was quite unable to explain the condition as found on examination.

The second case was not seen till one week after the injury to the eye. In the meantime the patient had been in the hands of a general practioner, who assured him that there was no foreign body in the eye. When seen by Dr. Barkan, there was merely light perception, the corneal wound was quite visible, and there was traumatic cataract. That the foreign body was still in the eye seemed evident, so the Doctor made use of the Haab magnet, with most satisfactory result. At the first attempt considerable pain was complained of by the patient, thus confirming the doctor's opinion that a foreign body was located within the globe. After a few closures of the circuit about the magnet, the foreign body was withdrawn through the wound of entrance. The patient made an uninterrupted recovery and the vision was steadily improving.

A third case in which the Haab magnet had been used was presented by Dr. Barkan. In this case the patient presented himself with the front of the eye very badly torn. A piece of steel of large size had struck somewhat above the corneal margin, tearing the cornea, the iris, and wounding the lens. When placed in front of the Haab magnet, however, the patient complained of no pain, and several trials failed to bring forth any foreign body. In this case the total absence of pain was almost enough to indicate that no foreign body could be in the eye, for unless the particle of iron or steel is located in the lens, there is always pain when the eye is approached near to the magnet. Careful treatment had resulted in a good recovery with a useful and not unsightly eye.

Dr. Martin presented a case of tumor of the sclerotic, just to the inner side of the corneosclerotic line, in the right eye. The tumor had existed for several months, though as the patient was an exceedingly ignorant Italian, it was not possible to elicit any exact information from him. The tumor was about 7 cm. long by 2 or 3 cm. wide, the long diameter being vertical. It was whitish in color, plainly beneath the conjunctiva, and apparently not at all movable. About it for a few centimeters was an area of rather deep congestion. It was somewhat tender. Dr. Martin expressed it as his opinion that the growth was malignant in its nature, though he had but that day seen the patient, and so had not had time to remove a portion for microscopic examination.

Considerable discussion was evoked over this case, opinions differing widely as to its probable nature. Dr. Barkan thought it was not a malignant growth, but was more of the nature of a pterygium that had been irritated, and as it were, developed "corns." Dr. Pischel agreed with Dr. Barkan in the opinion that it was merely a pterygium of unusual growth and formation. Dr. Martin was firm in his diagnosis, but said he would operate on the patient at an early date and advise the Society at some future meeting as to the exact nature of the growth.

Dr. Barkan then exhibited a set of tuning-forks known as Bezold's Continuous Tone Series. They were especially designed and constructed for Dr. Bezold, and have been extensively used by him in making very careful examinations of the hearing. The forks are of various sizes and are so made that by changing weights on the forks, vibrations of any number of waves per second may be obtained. The lowest is sixteen, and from that point they run up to the extreme limit of tuning fork usefulness. The series is completed by two pipes and a Galton whistle made with a micrometer screw attachment so that its range may be very accurately gauged. Dr. Barkan said that he had made use of the series in two cases of deaf-mutism with some success, and that he thought results could be obtained. He first very carefully examined the patient to ascertain just what tone could be heard, and then practiced him with that tone and others very near to it. He had also found the set to be useful in a case of sudden loss of hearing in a woman who showed some symptoms of specific disease, but in which case the attendant physician was very loath to admit a diagnosis of syphilis. The woman was apparently perfectly deaf, but on very careful examination with the series of forks, the Doctor succeeded in ascertaining that she could hear tones above a certain number of vibrations. He, therefore, was of the opinion that she had a syphilitic affection involving some of the terminal filaments of the auditory nerve. She rapidly improved in her hearing, and eventually entirely recovered on syphilitic treatment, thus confirming the diagnosis.

Dr. Wagner spoke of some cases of persistent cough which he had recently met with in his practice, and in which a careful examination of the nasal secretions disclosed the fact that the bacillus of whooping-cough was present in large numbers. He urged the necessity in very many cases which fall within the province of the nose and throat specialists, of careful microscopic examination of the nasal secretion.

Dr. W. A. Martin was elected president for the ensuing year, Dr. Pischel, treasurer, and Dr. Cox, secretary.

SELECTIONS.

Congenital Absence of the Clavicles.—Two instances of this rare anomaly are reported in the *Lancet* for Jan. 7, 1899, one by Dr. Gustave Schorstein and the other by Dr. George Carpenter. The latter is additionally interesting from the existence of deformities of the clavicles in five other members of the same family. The first occurring in a girl, 13 years old, presented a history and evidences of rickets. With the child standing still, the front of the chest exhibited no obvious abnormity. The shoulders dropped slightly and fell a little forward, and there was a continuous surface on either side in front and above in place of distinct supraclavicular and infraclavicular fossæ. The thorax itself was fairly well shaped, with a displacement of the sternum backward. On drawing the finger along the side of the clavicle on either side, it was found that the outward two thirds of both bones were absent, with, on the right side, a small spicule of bone about two-fifths of an inch in length articulating with the right acromion, as shown also in a skiagraph. The inner third of each clavicle was present, articulating, apparently, by a good joint with the sternum and ending externally in a fairly sharp point immediately under the skin. This piece seemed to be fibrous or cartilaginous and not bony, and it did not show in the skiagram. To it, on each side, was attached the clavicular portion of the sterno-cleido-mastoid muscle, which was perfectly developed on both sides. On turning the head to the opposite side and pulling on the clavicular head of the sterno-cleido-mastoid, the external end of the clavicle present was made prominent. The first rib and the attachment of the scalenus anticus muscle could be readily mapped out and the subclavian artery could be compressed on the upper surface of the first rib. There was no cervical rib. The scapulæ were small and in alar position, and at first glance they gave the impression that there was no supraspinous fossa. A small supraspinous fossa and a supraspinous muscle were, however, found on either side. The arms and legs were small, but fairly shaped and not bent. All the joints were good. The teeth were much decayed, the enamel of the free edge of the upper central incisors was irregular, but in shape and appearance the teeth did not suggest syphilis. The second case was in a girl, 8 years old, whose brother had a similar deformity on one side, her father a deformity of the clavicle and a depression of the lower part of the sternum, and two older sisters had clubfoot; another child exhibited a depression in the middle of the sternum. In the patient herself the clavicles were represented by two small fragments, thin, tapering and cartilaginous, attached to the sternum by their broader extremities; one was one and one-quarter and the other three-quarters of an inch long. On the index finger being pressed behind the outer extremity of either fragment each could be dislocated so that its direction was nearly straight forward. In this position a depression of the lower part of the sternum was evident and the sternum was seen to be unusually wide at its upper part. As the child stood upright the shoulders were obviously narrowed; they fell downward and forward, the scapular angles projecting backward to a marked degree, and under the acromion was seen a depression as in a subglenoid dislocation. What appeared to be the first rib could be felt with great distinctness on either side, as could also the coracoid processes. Between each coracoid process and the acromion was a well-developed coraco-acromial ligament, and so apparent were these ligaments that they raised the suspicion of acromial clavicular fragments. The sternomastoid muscles apparently had some attachments to the fragmentary sternal clavicles. The clavicular portions of the great pectoral muscles were wanting, but the pectoral portions stood out well when placed in action. The anterior portions of the deltoid muscles were also missing, as were also the clavicular fibers of the trapezius muscles. The child was thin and her muscles were not well developed, but she was not by any means wanting in power. She could approximate her shoulders to an extraordinary extent with the greatest ease, as she could also cross the arms behind the head, with the elbows pointed upward several inches apart. The scapular borders could be made to touch behind and even to overlap. By muscular action the shoulders could be made to touch the ears. The arms could be as readily approximated in front of the body, the elbows being placed anteriorly. When the arms were extended above the head the tops of the shoulders looked downward and the scapular angles projected posteriorly at a much higher level; the elbows and the ulnar borders of the arms looked forward; the neck was bent and the head projected forward. A skiagraph showed the shadow of two fragments lying in the position of the sternal ends of the clavicles, that on the left being the longer. No trace of the outer part of the clavicle could be seen on the right side, but on the left there was merely a faint shadow, suggesting from its size and position a cartilaginous rudimentary clavicle, with a more or less ossified inner end. The enlarged transverse process of the last cervical vertebra was so enlarged as to suggest an approach to a cervical rib. The heads of the proximal phalanges of the fingers were enlarged on the palmar aspect and there was thickening of the skin and subcutaneous tissues in these situations. The joints could be easily overextended. The clavicles of the father of the patient were divided into two parts. On the right the acromial fragment was nearly a finger's breadth lower than the sternal; the tip of the former was internal to the latter, by which it was overridden for one-half inch. Both ends were rounded and the inner was thickened. On the left side much the same deformity existed, except that the inner end of the outer ragmen was not displaced downward more than one-half inch or so. The ends of the bone were slightly movable—the outer fragments less so than the inner. The length of the inner fragments was nearly three inches. When muscular action was brought into play the man failed to approximate the shoulders in front by two and one-half inches. The brother of the patient, aged 14 years, presented no deformity on the left side except that there was a prominent arching forward of the clavicle. On the right side the clavicle was divided into two fragments. The sternal portion was two and one-quarter inches in length, fairly movable upward and downward, but it could not be brought forward. The outer part was one and one-quarter inches inches in length, seated at a lower level and more internal, being overridden by the sternal fragment. Both ends were rounded and there was, as far as could be determined, ligamentous union. The transverse process of the last cervical vertebra appeared prominent on the right side and possibly also on the left. As the boy stood, the right shoulder was at a lower level than the left and both scapulæ were prominent, though there was little difference between them, but what difference there was was in favor of the affected side. In another brother, aged 19 years, both clavicles presented a peculiar kink in the position where the fragments in the other cases were separated. The clavicles stood out prominently at this point. There was no solution of continuity. He presented a sternal depression large enough to admit half of an ordinary orange. The xiphoid projected a little forward, the end of the gladiolus backward, and it exhibited a shallow depression, but the depression was really made by the heaping up of the ribs in the neighborhood. A sister, aged 12 years, was also deformed. Her left clavicle was natural, but on the right side there was solution of continuity. The sternal fragment was a little over two inches in length and the acromial one and one-quarter inches or more. Both ends were rounded and the sternal fragment overlapped the acromial, which was placed much the same as in the other cases. The sternal end was freely movable up and down and to a much less extent forward. On the right side the last cervical vertebra presented an enlarged transverse process or possibly a cervical rib. Another brother, 16 years old, had normal clavicles, but the tranverse processes of the last cervical vertebra seemed prominent. A brother, 7 years old, had a deformed clavicle. This was divided as in the others, but to a much less extent. The outer fragment was one and one-half inches in length and the inner one and three-quarters inches. The bone, at first appeared to be unaffected, but more careful examination revealed an indentation, which was found to be owing to a close approximation of the fragments. Mobility was slight, though apparent, in all directions. The fragments were either united by a ligamentous band or there was a false joint. The sternoclavicular joint was loose, and this end could be moved in a marked manner in various directions. The left clavicle exhibited a depression in the corresponding part, but there was no solution of continuity. The transverse processes of the last cervical vertebra appeared to be prominent.

Atrophic Changes of Old Age: Their Prevention.—Dr. Albert Saitz, in the *Medical Record*, writes that, owing to the atrophic changes of age, not only the weight but the height of the body is diminished, the body as a whole being shorter and lighter, while its individual parts are also lessened in size, with the exception of the heart and kidneys. The heart as a rule is hypertrophied, while the kidneys are at least the size they were in middle life. Changes take place in the skin, rendering it dry and wrinkled, the hair becomes thin and white, the teeth drop out, the body bends. These changes induce a general decrease in vigor; the power of the muscles is lessened; the combustion going on in the body is diminished, as is shown by a decrease in the amount of carbonic acid gas exhaled. The vital capacity of the lungs is decreased, although there is a quickening of the respiratory rhythm. The pulse-rate rises, the secretions are diminished, and the quantity of urine is less. Such, briefly stated, are some of the characteristics of old age. This period of life is more liable to certain diseases, as those due to arteriosclerosis, to certain forms of rheumatism and gout, and so on. What produces these changes, and is there no way to retard or prevent them? If we could obviate them even in a measure, how great would be the benefit, and with what rejoicing would the earth's inhabitants hail the discovery, especially those among them who have begun to enter the shadows which gather about life's evening. In the cycle through which a portion of the material world revolves, from the organic to the inorganic, from the living to the dead and back again to the living, it would appear that, as old age approaches, the material of the animal body takes on more and more the nature of the inorganic and becomes more and more akin to the mineral world. When an individual starts in life he appears to be endowed with a certain power or ability to maintain his status in the highly organized animal world, and to resist largely the tendency of his tissues to become in their chemic nature more nearly akin to the mineral kingdom. What this power consists in I do not know, but it seems to be greatly impaired by age. Now, if by introducing into the body certain agents which might render the excess of accumulating mineral matter more soluble, so that it could be more easily eliminated from the body, we might get rid of one element that contributes largely to the deterioration and degeneration that come with old age. Again, all animal and vegetable tissues when young possess in a large measure this resistance toward the changes that take place in senility. Then, why would it not be a feasible and rational idea for those who are approaching the period of life when senile changes begin to make their appearance to take as nourishment only the tissues of young animals and vegetables, and thereby supplement their waning power of resistance with that of those organisms which contain it in abundance? And also, as we now have a process of treating certain diseased conditions of different organs of the body with the products of the corresponding organs of animal bodies (and I believe with some success), why could benefit not be derived by administering the quintessence of the organs of young and healthy animals to those whose bodies are beginning to show the effects of age, and in that way furnish them artificially with the power to resist the encroachments of time? Two or three times a year, for instance, we might administer this treatment for a week or two at a time, and who can say that we might not retard in this way the capture of life's citadel by the king of the glass and scythe?

An Anecdote of Simpson and Syme.—Dr. Joseph Bell, in the *Scalpel* for November, recounts some of his experiences with the magnates of Edinburgh, a generation ago. He appears not to have been especially partial to Sir James Simpson, but says of him that he probably was the greatest genius of them all, though those who were followers of Syme and admirers of Christison found it hard to believe it. A many-sided, inventive, and versatile being, with a most winning tongue, great industry, and enormous power in getting other people to do the rough of the work for him, while he divided the spoils, he probably bulked much less largely in the eyes of the students and young practitioners than he did in the eyes of the lay public and the world of rank and fashion. His position in the medical faculty of the Senatus was not unmingled bliss. It was, alas, an open secret that the medical professors did not emulate the early Christians in loving one another. From the peaceful distance of another generation, probably a less strenuous one, certainly veneered with a more polished and colder surface, it is difficult to realize the strifes and animosities which broke up the profession of that day into hostile camps. What would be said now were a professor to tear up a scientific pamphlet by a colleague and consign it to the sawdust tray dripping with blood, as its fit receptacle. "I well remember, more than thirty years ago, the absolute contempt with which my teachers regarded this affection, now well recognized as a source of annoyance, even of broken health. Professor Simpson had recognized some cases and had lectured on the subject. One famous case has probably never been described in public. It had been seen and diagnosed by one eminent man as a typic example. The patient was a friend of Carlyle, who knew Syme. Carlyle, was anxious that Syme should verify the diagnosis and give advice. The lady (for all the cases seem to have been in females) came to Syme. He diagnosed a mass of retained feces, ordered castor-oil and suitable injections, the kidney disappeared into the bedpan, the patient was cured, and floating diagnosis received a wholesome stimulus to accuracy. You can fancy the racy Carlylese in which the result was blazoned forth."

Mushrooms in the Regular Army Ration.—In the "Manual for Army Cooks," prepared under the direction of the Commissary-General of Subsistence, may be found directions for the preparation of deviled crabs, apple dumplings and sundry rarer vegetable products, including mushrooms. As to the latter, the Manual gives directions for distinguishing the edible sorts, as follows: "They first appear of a round form on a little stalk; they grow very fast, and as the size increases the under part gradually opens and shows a fringy fur (called gills) of a delicate salmon color. After the mushroom is a day old this salmon color changes to a russet or dark brown. They have an agreeable odor, the flesh is compact and brittle, and the skin more easily peeled from the edges than in the poisonous kinds. The seeds or spores are white and for the most part roundish or oval. An edible mushroom should have not only one of the above characteristics, but should combine them all." This is a pretty safe rule, for if one follows it he will certainly never be poisoned by mushrooms, for he will never eat any. Such a mushroom is not yet known to science. If the Commissary-General of Subsistence thinks otherwise let him ask some mycologic sharp to give him the name of the mushroom that combines all the above characteristics, especially the salmon turning to brown gills with "white spores." In the directions for detecting poisonous mushrooms the Manual says: "If a white peeled onion is cooked with mushrooms and turns black, or if a spoon used for stirring them while cooking them turns black, it is safest not to eat them." Just so, but the converse is not true—if the spoon should not turn black it does not follow that the mushrooms are wholesome. The safest rule for the army boys to follow will be to let the cook gather, prepare and eat the mushrooms. If he eats and lives, all right, but if he does not let them change the cook and try it again. Seriously, the sections treating on mushrooms should be stricken out, or else rewritten by someone who has at least an elementary knowledge of the subject.—*New York Times.*

Mouth-Breathing.—Dr. G. A. Evans (*Brooklyn Med. Jour.*, January) says that he has found a large number of children who become mouth-breathers because the upper lip is unduly short, a condition that may sooner or later lead to catarrh of the upper air passages. As to the question of occurrence of mouth-breathing among the Indians he has met, he says: "Some years ago I saw a number of Indians and I can readily recollect that many of them were mouth-breathers. One thing that may perhaps favor the Indians is that they are not subject to the dust of cities as we are, and, as we all know, a great many infectious diseases are set up by micro-organisms which gain entrance to the body through the respiratory tract. It is practically impossible for them to get into the body through the nasal passages if they are normal; mouth-breathers inhale them and if a predisposing factor is operating at the same time, it is not at all strange that they should become subjects of infectious diseases. The mouth-breather's chest is somewhat different from the form of chest which occurs in children as a result of nasopharyngeal lymph adenoids. In ordinary respiration, children and young adults are pretty apt to use all those respiratory agencies which are found to be the least laborious, and abdominal breathing is the least so. The superior costal respiration is most difficult and tiresome. In mouth-breathing the air-passages and the lungs are filled so rapidly and so readily and with so little effort that abdominal breathing is apt to be indulged in; in such subjects the apices become flattened from lack of use. In cases of obstruction of the nasal passages and pharynx we have a sinking in of the inferior costal portion of the chest. This is due to the fact that the caliber of the nasopharynx for the passage of air is so reduced that the inspiratory muscles, operating powerfully, suck in the lower ribs. If the upper air-passage, that is the space for the passage of air into the trachea, is sufficiently large, then the whole power is exerted upon that column of air, but if the air does not pass in rapidly enough a portion of this power is exerted on the lower ribs and in that way the depression results. My attention has been lately called to cyclists, particularly those who sprint, riding rapidly, especially on an up grade or on a road that is sandy; they almost all of them open their mouths; not because they have nasal obstructions, but because the nasal passages themselves are not sufficiently roomy to admit of a sufficient supply of air for the work they are doing. I have seen a number of cases of pulmonary tuberculosis which have occurred in what are called 'sprinters,' in very powerful young men, which without the slightest doubt have been the result of mouth-breathing occasioned by rapid riding through dusty streets and highways, as I have described."

Chestnuts as a Food in France.—According to *Consular Reports*, December, the failure to raise Indian corn as an article of diet among the poorer classes in France is, to a certain extent, replaced by the popular chestnut. Throughout the center of this country, from the Bay of Biscay to Switzerland, there are large plantations, almost forests, of chestnut trees. These nuts differ very much from the ordinary species indigenous to the United States; they are broad, large, and resemble the American horse chestnut or buckeye (*Æsculus hippocastanum*), and are extensively eaten by human beings and animals. Great care is taken in harvesting this nut before severe frosts touch it, as freezing hastens fermentation. The poor people, during the fall and winter, often make two meals daily from chestnuts. The ordinary way of cooking them is to remove the outside shell, blanch them, then a wet cloth is placed in an earthen pot, which is almost filled with raw chestnuts; they are covered with a second wet cloth and put on the fire to steam. Hot steamed chestnuts are carried around the city streets in baskets or pails; the majority of the working people, who usually have no fire early in the morning, eat them for their first breakfast, with or without milk. Physicians state that, as an article of food. chestnuts are wholesome, hearty, nutritious and fattening. These nuts are often used as a vegetable and are exceedingly popular, being found on the table of the well-to-do and wealthy. They are served not only boiled, but roasted, steamed, purĕed, and as dressing for poultry and meats. Chestnuts are made into bread by the mountain peasantry. After the nuts have been blanched they are dried and ground. From this flour a sweet, heavy, flat cake is made. It resembles the oaten cake so popular among Scotch peasants. They are extensively employed for fattening animals, especially hogs. The nuts are boiled without shelling; only small, inferior fruit is thus used.

PRACTICAL NOTES.

Inhalation in Catarrh of the Upper Air-Passages.—E. Ziffer considers a spray of salt solution the best treatment, also inhalations or sprays with pine-tar preparations. Hot steam is injurious.—*Klin. Therap. Woch.*, Dec. 25, 1898.

Improved Soluble Tablets for Pyrosis.—Magnes. ust. 22.5 gm., borac. 5 gm., gummi arab. 2.5 gm., glycerin 50 drops; aq. citrat. (corresponding to 0.5 gtt. ol. citri) 8 gm. M. F. Pastill, lx.—F. Penzoldt: *Klin. Therap. Woch.*, Dec. 25, 1898.

Mercurialized Artificial Serum in Syphilis.—Mourange injects, every other day, the following: .01 gm. of sublimate to 4 c.c. of a solution NaCl, at 7.50 per 1000. After twenty injections he waits fifteen days, and follows with ten more injections, usually sufficient for the cure. He has been well satisfied with the method during the past five years.

To Disguise the Taste of Quinin. —The *Gazzetta degli Ospedale*, Dec. 27, 1898, publishes the following formula: Quinin sulphate 4 gm., citric acid 10 gm., simple syrup and syrup of orange-peel āā 10 gm., aq. dest. q. s. for 20 c.c. Pour ten drops of this mixture into fifty grams water, and add three grams of sodium bicarbonate. Drink while it is effervescing.

The Hepatojugular Reflux.—If the myocardium of the right auricle is debilitated, bimanual compression of the liver will produce distension by reflux in the superficial jugular vein, especially on the right side. This sign is important in confirming a diagnosis of cardiac insufficiency, and indicates the necessity of treatment to strengthen the myocardium.—Rondot: *Gaz. Hebd. des Sci. Med.*, Nos. 48, 49 and 50.

Fissure in the Bone in Distortion of the Foot.—Reinhardt has found, in twenty cases out of twenty-eight, that by palpating he was able to discover a small fissure in the bone, which prevented the cure; in two cases, as late as twelve years after the traumatism. Small detached fragments of the bone should be excised. Radiography is the best means to diagnose such cases.—*Cbl. f. Chir.*, Dec. 31, 1898.

Symptoms of Pancreatic Lithiasis.—Among the symptoms that indicate a lesion of the pancreas are glycosuria, steatorrhea, sialorrhea, general malaise, vomiting and emaciation, while the presence of calculi in the feces indicates lithiasis. The pain is deep along the costal border, a little inside the mammary line, radiating toward the spine and toward the left scapula.—A. Cipriani: *Therapeut. Monats.*, November, 1898.

Pollutions and Spermatorrhea.—M. Popper has obtained fine results in these cases with faradization of the prostate. He considers the condition the consequence of insufficiency of the sphincter of the seminal vesicle, resulting from venereal excesses, gonorrhea or onanism or possibly a neurasthenic basis. The rare cases due to a central origin were not affected by the faradization.—*Klin. Therap. Woch.*, Dec. 25, 1898.

Nervous Symptoms in Uremia.—Fürstner has been making a study of the pupil and reflexes during uremic intoxication, on animals and man, and announces that when an attack is imminent the pupils contract more and more, the tendon reflexes become exaggerated, the cutaneous reflexes diminished. If his statements are confirmed by others they will prove valuable as indications of approaching danger.—*Revue Gen. de Path. Int.*, Oct. 5, 1898.

Preparation of Mercury for Intravenous Injections.—Papparelli recommends a new preparation having the chemic formula: $C_{10}H_{16}O_6N_2Hg$, for this purpose, as more effective and less painful than the sublimate, and describes his success with injections of .02 gram of this preparation in 1 gm. of physiologic solution. Nine to ten injections resulted in the complete cure of several cases of syphilis, others requiring forty to fifty. The cures were more rapid than with the sublimate; there was no pain and no nodules were formed.—*Gaz. degli Osp.*, Dec. 25.

Backward Luxation of the Thumb.—A case reported by Moty, the result of a bicycle accident, is instructive. The hand was held in flexion and forced pronation, and by applying his two forefingers below the head of the metacarpus, with the thumbs at the base of the phalanx, on the dorsal side, and exerting gentle pressure in two opposite directions, while raising the injured thumb nearly to a right angle, the luxation suddenly subsided and the thumb returned to its normal position. All previous efforts, mechanic, etc., had been ineffectual.—*Revue Méd.*, January 4.

Diabetes and Psychic Disturbances.—Laudenheimer noted sugar in the urine of thirty out of 1250 insane inmates of asylums. He asserts that chronic diabetes frequently coincides with chronic cerebral affections accompanied by dementia, while transient glycosuria occurs with acute psychic disturbances, usually cases of extreme melancholia. It has been established that psychic disturbances may produce diabetes, and there is also an acute diabetic delirium, evidently the equivalent of diabetic coma, and possibly of a purely chemic nature.—*Revue Gen. de Path. Int.*, Oct. 5, 1898.

Antimonium Chlorid on Lupus Patches.—For small, superficial patches Unna has been using, for some time, the following salve, applied with a wooden spatula after cocainizing the region affected: Salicylic acid and antimonium chlorid āā 2 gm., creosote and extract of cannabis indica āā 4 gm., lanolin 8 gm. Cover the region with a zinc oxid adhesive plaster; renew in twenty-four to forty-eight hours. The tuberculous nodules subside very rapidly, and healthy granulations soon take their place.—*Semaine Méd.*, Dec. 21, 1898.

Solid Food in Typhoid Fever.—W. Buschujew reports better results with a series of eighty soldiers with abdominal typhus fed with bread, a chop, boiled meat, eggs, milk, tea, wine (one or two ounces), than with a series of seventy four fed with liquid food. Since the introduction of solid food two years ago, there has been but one death from perforation and two from generalized peritonitis, out of 509 patients. There were no local complications with the solid food; the general health was less depressed and recovery more rapid.—*St. Petersburg Med. Woch.*, Nov. 26, 1898.

Significance of Levulose in the Urine.—Robinson and Marie call attention to the fact that the elimination of levulose seems to coincide with certain disturbances in the nervous system, in which symptoms characteristic of severe neurasthenia predominate: insomnia, the idea of crime, and a tendency to suicide. Early recognized, this form of diabetes yields promptly to treatment, while otherwise suicide or some other tragic occurrence may result. The diagnosis should be based on the urine. Seliwanoff's reagent, estimation of the total sugar, and estimation of the light-rotating power in proportion to the amount of sugar.—*Presse Méd.*, Sept. 17, 1898.

Naftalan.—E. Saalfeld reports 115 cases treated with naftalan in his polyclinic and summarizes his opinion as follows: "It has proved an effective remedy for eczema in all stages, for light cases of psoriasis, especially on the face, also light cases of herpes tonsurans and prurigo, and it exerted a favorable influence in sycosis parasitaria and vulgaris, and the inflammatory swellings accompanying gonorrhea. Extremely rarely does it produce any irritation of the skin."—*Derm. Ztft.*, December, 1898.

Massage of the Stomach Mucosa.—A. Richter has been very successful in cases of persistent vomiting in nervous or hysteric cases, by introducing a flexible sound with a rounded end, into the stomach, and twisting it gently around for three or four minutes, thus lightly massaging the mucous membrane. One hysteric patient that had been tormented for four years, with persistent vomiting, was cured in eighteen days; the massage every day at first, and then every other day, introducing the sound in such a way that the end curved over a loop. This treatment is strictly counter-indicated if there are anatomic alterations in the gastric mucosa, and also in the vomiting of pregnancy or tabes.—*Gaz. degli Osp.*, Dec. 27, 1898.

Natrium Glycerino-Phosphoricum and the Nervous System.—Max Kahane confirms the favorable results attained by others with this substance, derived from glycerin-phosphoric acid, a product of the decomposition of lecithin. His patients were mostly cases of functional neurosis, and all expressed a sense of feeling better and fresher after taking it, although the separate symptoms were not particularly benefited. It seems to have a general stimulating and tonic effect on the nervous system as a whole. His formula was: Natrii glycerino-phosph. 25 gm., aq. dest., aq. naphae, āā 55 gm., syr. cort. aurant. 20 gm. A teaspoonful three times a day in a little water.—*Klin. Therap. Woch.*, Dec. 18, 1898.

Endometrectomy.—By this name Casati has introduced a process of extirpating the entire mucosa of the uterus through the abdomen and incised uterus, as a last resort in cases of hemorrhagic endometritis, and still save the organ. A. Dührssen has performed the operation four times, but by the vaginal route. After incising the anterior vaginal vault, the anterior cervix wall is exposed, and the peritoneum detached from the anterior fundus wall (extraperitoneal method), or the fold incised (intraperitoneal). The anterior wall of the uterus is incised as far as the fundus. A transverse incision is then made and the mucosa of the uterus and of the cervix excised, and the incisions sutured in turn.—*Cbl. f. Gyn.*, 1898, No. 50.

Chlorid of Lime in Gynecology.—Cheap, non-toxic, non-caustic, a solution of chlorid of lime will be found more effective than sublimate as an antiseptic, while it dissolves and sweeps away the mucous secretions, instead of coagulating them, like sublimate, creosote, nitrate of silver, etc., thus forming a protective coating for the micro-organisms in the depths. Prepare by adding 100 grams of well preserved lime to 1200 grams water; shake, let it settle for an hour, filter into a liter bottle of black glass, cork with an emery stopper and paraffin. One glass of this "strong solution" is added to nine glasses of warm boiled water for the "ordinary solution," which is about as strong an antiseptic as a 1 to 1000 solution of sublimate, and is effective in vulvo-vaginitis, cervicitis, inoperable cancers, etc., shortens the course of female gonorrhea (Pettit and Bonnet), and is especially successful in endocervicitis with viscid secretions. —*Presse Méd.*, Dec. 21, 1898.

Cutaneous Affection from Handling a Plant.—A number of cases of a cutaneous affection, irritation of the hands, forearms and face, with redness, swelling and unbearable itching were traced to the presence of that popular plant, a primrose, in the rooms or hothouse. The affection would heal and disappear and then suddenly revive again in all its intensity. Treated with "zinc glue" it rapidly heals, and the removal of the plants or wearing gloves, prevents any further appearance of the affection. The plant does not affect all persons in this way; a certain predisposition seems to be required or an existing seborrhea. E. Wermann, who reports a number of interesting observations in the *Derm. Ztft.* for December, 1898, adds that possibly a number of cases of chronic seborrhea or dermatitis may have originated by repeated intoxication with the *primula obconica*, the cause of the annoying recurring skin trouble unsuspected at the time.

Arsenious Acid in Epithelioma.—Reviewing the twenty-five observations published, Pascal has established the following indications for this treatment, which consists in the application of an aqueous-alcoholic solution of arsenious acid varying from 1⁄150 to 1⁄80 (vide JOURNAL, XXX, p. 1116). "The Czerny-Trunecek method is indicated for a superficial epithelioma, progressing slowly, with slight destructive tendency and without ganglionary propagation, such as are observed on the face, especially in elderly persons. The simple technic, the freedom from danger, the favorable results, testify to its usefulness in these conditions. It is generally contraindicated for a deep epithelioma, with ganglionary engorgement, for recurring neoplasms, and for a marginal epithelioma when it encroaches upon the mucosa. Nevertheless, the treatment can be attempted with some chance of success, in the early stages of a deep epithelioma."—*Annales de Derm.*, November, 1898.

Sugars as Diuretics.—Large doses of sugars frequently produce a diuretic effect, but it varies from one person to another, and even in the same person. The diuresis as regularly follows the subcutaneous injection of sugar as its ingestion. Saccharose or ordinary sugar is the most powerful in this respect. Increasing the amount of sugar does not increase the diuresis, correspondingly. Not being toxic, sugars can be administered for this purpose a long while, combined with other diuretics. Their action is similar to a renal diuretic, but without the slightest nervous disturbances, which gives them the advantage over caffein, for instance. Next in order to saccharose and sugar, come inverted sugar and lactose. Glucose is most effective taken by the mouth. As the sugars act by a sort of dehydration of the blood, they seem indicated in dropsy.—*Revue Gen. de Path. Int.*, Oct. 5, 1898.

The Respiratory Interchanges in Diabetes.—Robin and Binet assert that the interchange of gases is much increased in diabetes, over normal, especially the absorption of oxygen, and all the general interchanges are exaggerated, showing that diabetes is a disease due to exaggerated nutrition. There is a direct and almost constant proportion between the amount of sugar excreted and the amount of the respiratory chemic processes. Dieting and a sedative treatment of the nutrition decrease the respiratory interchanges along with the glycosuria, and as long as the former persist exaggerated, no diabetic can be considered cured, even if the glycosuria has disappeared. If the respiratory interchanges diminish very much in a diabetic, particularly if the glycosuria is not diminishing at the same time, there is danger of coma, and the defective chemic processes should be stimulated by every possible means.—*Rev. Gen. de Path. Int.*, Oct. 5.

Ocular Disturbances Accompanying First Menstruation.—Fachatte's Paris thesis, 1898, is a careful study of the accidents that may occur with commencing menstruation. The ocular disturbances are the least known among them, but are often serious. Puch reports cases of interstitial keratitis, iritis, hemorrhagic choroiditis, optic neuritis and separation of the retina. Caudron mentions cases of double exudative choroiditis and iridochoroiditis, all consecutive to the first menses. Others report embolism from some menstrual cause, and others hemorrhage in the anterior chamber, cured by the first menses. Schevansky has observed six cases of iritis and iridochoroiditis in girls with irregular menstruation, and Pargoire reports a case of an iridochoroiditis developing at puberty, with constant catamenial exacerbations.—*Gaz. degli Osp.*, Dec. 22, 1898.

Surgical Intervention for Facial Neuralgia.—At a recent discussion, at the Paris Society of Surgery, all agreed that this was only to be attempted after the failure of all known medical means. Guinard reported one success after resection of the alveolar border of the jaw bone (Jarre's op.), six after resection of Meckel's ganglion, and one after resection of the Gasserian ganglion (Poirier's op.). Poirier reported the death of a man 63 years old, fifteen minutes after an apparently successful resection of the Gasserian ganglion. Reclus has had one success with the Jarre operation; another, an elderly woman without teeth, relapsed after four months. Reynier has been successful each time with the Jarre operation in the case of toothless elderly subjects, but not with young persons, whose neuralgia is evidently derived from some other cause. "Commence with a slight operation. It may prove sufficient, and if not, is easily enlarged.—*Revue de Chir.*, Nov. 10, 1898.

Casimiroa Edulis.—This rutaceous tree, the "*zapote blanco*" of the "Mexican Pharmacopeia," was made the subject of examination by Professor Maisch of Philadelphia, twelve years ago. He wrote (*Am. Jour. of Pharm.*, April, 1886) that the fruit was anthelminthic; that the pulp of the fruit was said to be hypnotic, though unwholesome; and that the seeds were regarded as poisonous. Now, according to the *Therapist* (July 15, 1898), a new hypnotic, analgesic, and antithermic has been extracted from the seeds. Long experimentation, it says, and tests on several hundred persons, have established its freedom from secondary effects, and determined its toxic dose. It seems "to favor natural sleep, from which one wakes refreshed" in from four to six hours, and its use is especially appropriate in insomnia from cerebral excitement of alcoholism.—*N. Y. Med. Jour.*

"Horn-Skin" for Orthopedic Appliances.—O. Vulpius reviews the disadvantages of all the various materials used in the construction of an orthopedic apparatus (*Munich Med. Woch.*, Dec. 27, 1898) and states that he has been using a new material, "horn-skin" (*Hornhaut*), for two years, in his orthopedic-surgical institute at Heidelberg, and every month adds to his appreciation of the new material, which he recommends in high terms as practically never wearing out or losing its shape, light, odorless, shiny, readily washed off, not affected by dampness, and the weight and the expense about the same as with cellulose. The material is the raw hide of an animal, dried, the hair removed, and impregnated with a varnish. One hide will make a number of appliances. After cutting a paper pattern of the apparatus, a corresponding piece is cut out of the hide, soaked twelve to fifteen hours in water, when it becomes as pliable as wet blotting paper and is fitted over the cast, the edges tacked down and the whole placed in the oven for six days. After the first twelve hours, the perspiration holes are cut, which can be very numerous without interfering with the solidity of the appliance, and a coat of varnish is applied. When dried, it is varnished again inside and out, and, after two more coats, the apparatus is completed. He has made 150 artificial limbs with the thickest skins; 100 corsets with the thinner kind, and found them more satisfactory than any before in his experience.

Hypertrophic Stenosis of the Pylorus.—Boas contributed a study of three cases to the *Arch. f. Verdau. kr.* of April 1, 1898. He observes that this trouble belongs especially to the first half of life, and only becomes serious in the course of years. At first there are indications of dyspepsia, vomiting, usually rather late, at the disturbed compensation period. An important sign is the retention of the appetite. There is never hemorrhage. The stomach is not much dilated. The diagnosis is made from the stagnation with occasionally peristaltic motion toward the stenosed point. The absence of hydrochloric acid and of ferments, indicates a profound alteration in the mucosa, and the duration and improvements noted demonstrate a benign process. This stenosis is distinguished from the cicatricial by the absence of hemorrhage and of hydrochloric acid; from primary atonic dilatation by the peristaltic movements and by the more pronounced indications of gastritis. The youth of the subject militates against cancer, also the duration of the affection. The gastric motility is less with cancer, and there is black vomiting. The presence of a tumor is not decisive. The prognosis is serious; without intervention the stenosis terminates fatally, depending upon the degree and the gastric motility. Usually the subjects can take plenty of liquids without stagnation. If not, an operation is indispensable. If the subject can still eat, an operation is questionable. Irritating foods should be avoided and liquids taken freely. Hydrochloric acid, pancreatin and papain can be given. In Boas' cases gastro-enterostomy was performed, with complete success in two cases, and marked improvement in the condition of the third.—*Revue Gén. de Path. Int.*, Oct. 5, 1898.

Thyroid Treatment in Gynecologic Therapeutics.—Dr. Hertoghe of Antwerp has established that women deprived of the thyroid gland are subject to excessive menstrual discharges; as they grow older the menses last longer and longer, and finally become almost a constant flow. He has also noticed that a hypertrophied thyroid is always accompanied by an early and copious mammary secretion. He has established, by tests on milch cows and other animals, that the secretion of milk is much increased by the ingestion of thyroid extract. He summarizes the results of much study in the following statements: Myxedematous hemorrhage is directly amenable to thyroid treatment, and also hemorrhages due to even an old endometritis or ovaritis. Every menorrhagia is favorably influenced by thyroidin. Cancerous hemorrhages cease after three or four days of thyroidization. The pain, swelling and congestion also decrease to a noticeable extent. Thyroid treatment is especially indicated in cases of frequent abortion, in which the menstrual flow is so excessive that it sweeps away the impregnated ovum. He cites an instance of a woman who was able to conceive and bear a child, thanks to thyroidin, after many years of sterility. Thyroidin is also useful in cases of uterine myoma, prolapsus or retroflexion with hemorrhage, and, in general, in all cases in which it is necessary to reduce the size, sensibility or congestion of the uterus. On account of the peculiar action of thyroidin in stimulating the lacteal secretion, it should be administered if this secretion seems to be diminishing.—*Revue Méd.*, January 4.

Jambul in Diabetes.—Dr. Arthur W. Smyth reports (*American Practitioner*) that he has had good results in employment of this drug in diabetes mellitus. He reports the following case: The patient was a male, white, aged 26 years, and had been sick one year. He was very much emaciated, weighed ninety pounds, the legs edematous, so weak he could hardly walk, the skin undergoing a branny desquamation, teeth all loose, and the odor of acetone on his breath. Report of the urinary examination was as follows: Twenty-four hours, amount eleven pints; reaction, acid; specific gravity, 1028; albumin present; sugar 7.6 per cent.; urea 2 per cent.; microscopically, pus, epithelium and fungi in abundance. He was placed upon codein, which was rapidly increased to tolerance, and at the close of eighteen days was taking eleven grains three times a day, with no decided benefit, urinary examination then showing about nine pints daily, and sugar 7 per cent. The codein was then discontinued and powdered jambul substituted, five grains four times a day and increased, with the result that nine days later he passed but four and a half pints of urine in the twenty-four hours with only 2.6 per cent. of sugar. He felt so much improved at this time that he discharged himself. The experience of the reporter in this, and in a few other cases has led him to look upon the drug as having a decided effect in ameliorating the prominent and disagreeable symptoms. He has seen his patients rapidly gain in weight and strength, without untoward effect or toxic results from the use of the drug, although as much as an ounce of the powder has been daily administered. He says further: "I am convinced that the negative results that have been reported by others were due to one of six causes: The drug was not given a thorough trial; an idiosyncrasy was present; the preparation given was manufactured with the aid of heat; the specimen was inert from being too old; some other disease was also present which was not actively treated; or, lastly, the writers in question did not obtain seeds from the Java plant. Many of the favorable reports included the statement that one very valuable property of jambul was that it rendered dieting the patient unnecessary; however, I think that in some of the cases at least a moderate restriction of starchy substances will be found helpful. Another important point to be remembered is that the existence of any concomitant disease must be determined, and vigorous and appropriate treatment instituted. If the above precautions are heeded, and the drug is taken in increasing doses, evidences of its beneficial effect will appear with a rapidity that is astonishing.—*Am. Prac. and News*, Dec. 1, 1898.

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SATURDAY, FEBRUARY 4, 1899.

THE DANGERS OF INSECT BITES.

One of the most consoling things about the recent advances of science is the surprising way in which they are justifying our prejudices, one after another. It was consoling to have the likings of the natural man for sugar, for white bread and for cold drinks in fevers, for instance, endorsed as rational. But to have our dislikes supported is a positive triumph Our prejudices are the things which we are really proud of.

The unregenerate human being has always had a natural objection to being bitten by gnats, mosquitoes, fleas, and other insects, an objection whose intensity and vigor—and corresponding warmth of expression—is out of all rational proportion to the damage or even discomfort inflicted. The piping of a solitary mosquito will banish slumber as effectually as a burglar-alarm, and the persistent attentions of a single fly will rouse us to a frenzy of irritation and revengeful fury. We never think of saying to ourselves, "Oh well, let him bite and go and be done with it." We invariably waste ten times the nerve-energy and peace of mind that the bite would have cost us, in trying to avoid it.

But is this vivid antipathy so irrational after all, in the light of the discoveries of the last few months and weeks? If, as the experiments of Ross in India, and GRASSI and BIGNAMI in Italy seem to have almost proven, the mosquito is the chief, if not the sole, agent in the spread of malaria, the most widely prevalent and probably most seriously disabling disease of man, do we not well to be extremely sensitive about being bitten? Our swamp-dwelling ancestor, from whom we inherit the aversion, knew nothing about the malarial parasite, but he does seem to have stumbled upon the idea that mosquito bites in excess were distinctly unhealthy, judging from the horrible oils and grease-pastes with which he regularly anointed himself for a protection.

When the mosquito theory of malaria was suggested some ten years ago, by LAVERAN himself, it was at once objected that there were many places where mosquitoes abounded, but where there was no malaria, and for a time this seemed a fatal objection. Now, however, the already famous researches of GRASSI have shown that only a few species act as carriers of the infection, and that the distribution of one of these (*Anopheles claviger*) very closely corresponds with that of malaria. The commonest species of all, *Culex pipiens*, is quite harmless in this regard and often abounds where no malaria is present. Moreover, *Anopheles claviger* is active only for a brief period just after sunset, which, according to the universal tradition of the peasantry of the Campagna, is precisely the time of day when the danger of catching the dreaded "Roman fever" is greatest. From his description, *A. claviger* would seem to closely resemble one of our large American species, known to settlers in the west as the "black head," or the "gallinippers," whose bite is peculiarly dreaded. Old settlers have assured us that they never would take up a farm where "gallinippers" were abundant, as it was sure to prove "onhealthy," and have warned us never even to camp in places where they were to be found.

The question whether mosquitoes do spread malaria is one of the greatest interest to western and southern physicians, and one which their immense fund of practical experience with the disease and a few months' careful observation ought to enable them to settle once for all. If it be true, it would certainly help to explain some of the vagaries of the distribution of malaria. The well-known fact that the houses upon the northern and eastern banks of rivers, even built on high bluffs far above the water, are much more subject to the disease than those upon the western or southern banks, may be readily accounted for by the marked prevalence of south and southwesterly winds during the summer months, which, though they could not carry the plasmodium in any of its forms or stages, could easily drive the mosquito; or, more accurately, cause them to drift inevitably in that direction, as they are quite incapable of making headway against any but the gentlest breeze, and hence must fly with the wind. In a real wind, or even a brisk breeze, they can not fly at all, and this explains the puzzling immunity often enjoyed by houses situated on the "first terrace" of the bottom-lands and quite close to the bank of the river, while those built much higher up on the sides of the river valley suffer severely. There is nearly always a good breeze in the neighborhood of running water, and as the mosquitoes are bred, not in the river, but in the swamps and bayous in the trough of the bottoms nearer the foot of the bluffs, they naturally avoid the brisk current of air along the course of the stream and drift up under the shelter of the bluffs. Furthermore, it furnishes the first satisfactory explanation of the sudden disappearance of the disease after the first sharp frost, which, though it does not freeze over the swamps, or prevent the "malaria" or "ague-fog" from rising, does kill the adult mosquitoes. The months of greatest prevalence of the disease and greatest risk to the "tenderfoot," August and September, are also those of the height of the mosquito season.

It has long been a matter of puzzled conjecture among frontier physicians why, in the early settlements of Iowa, Kansas, Nebraska and Minnesota, ague was abundant and severe, in spite of the rolling surface, clay soil and excellent drainage, while in the course of fifteen or twenty years it rapidly diminished and ultimately disappeared. But here again its variations are absolutely parallel with those of the mosquito. Mosquitoes abound upon the virgin prairie, breeding in the small ponds and "sloughs" which dot its surface. These, however, are drained, one after another, as the country gets settled up, and the mosquitoes disappear and with them the malaria. So that it would really seem as if the general trend of western experience would lead us to attach a good deal of weight to BIGNAMI's few cases of success in healthy and non-malarious convicts by making them sleep in a room containing mosquitoes which had been allowed to bite a patient suffering from malaria. Similar results were also obtained in birds.

There is another curious fact to which we can not resist the temptation to allude, though it may have no real bearing upon the question, and that is the popular belief among settlers of the "river-rat" type that there is a connection between mosquitoes and malaria, but of precisely the opposite character: that the bite of the mosquito in some way protects against malaria. As one of them expressed it to the writer, "every skeeter bite is wuth as much to ye as a dose er quinine, ef ye only knowed it." New arrivals are urged to go and get themselves well bitten so as become quicky "'climatized." We have always regarded this belief as simply a far-wandered survival of the old puritanic idea that whatever was particularly disagreeable must be "good for us" in some way. But may there not be a grain of truth in it after all? There usually is in most popular superstitions. Thousands of the "harmless" species of mosquitoes must suck the blood of malarious patients, and if they do not complete the development of the parasite and transmit it in full virulence in their saliva, like *Anopholes claviger*, is it possible that they may either transmit it in attenuated form, or an antitoxin resulting from its digestion in their stomachs? Certain it is that the hope of the early settlers was not to avoid malaria, but to have it soon after their arrival in their new location, and in a mild form, after which they could reckon upon a certain degree of immunity so long as they remained in that neighborhood.

Nor have we much less reason to be sensitive about the bites of other insects, even of that one which one of those nuggets of the crystallized stupidity of our ancestors, known as proverbs, contemns as the most trifling of all possible incidents—"a mere flea bite." The recent researches of SIMOND, summarized some weeks ago in our columns, have shown conclusively that fleas and common flies are the principal means of conveying the contagion of the bubonic plague from rat to rat, and from rats to man. Indeed, he boldly declares that the plague has usually a definite point of entrance in some region where the skin is thin and vulnerable, which may perhaps throw some light upon the well-known preferences of the buboes for the groin, a specially favorable point for the infliction of flea bites. Bedbugs also act as carriers of the plague virus, and according to several Italian investigators, are capable of transmitting both tubercle and an infectious form of adenocarcinoma from diseased to healthy white mice. It is more than suspected that these two domestic pests may be responsible for some of those puzzling cases of *syphilis insontium* in which there is no history to be obtained or reasonably suspected of sexual infection or a definite primary lesion. The numerous cases of death following a single fly bite, recorded in literature, which we have hitherto dismissed with a shrug of our shoulders, were not improbably cases of some infection transmitted by the bite. There appears to be good reason to suspect that common house flies may carry the poison not only of the plague, but of diphtheria, scarlet fever, yellow fever and anthrax. Nor does the well-known experience of the lower animals in the matter of insect bites, tend in any way to reassure us. The celebrated tsetse fly, that pest of South Africa, has been proved by BRUCE's experiments to transmit by its bite a hematozoon which develops in the blood of the horse, just as the mosquito does with the hematozoon Laveran in our own species. The ingenious experiments of THEOBALD SMITH have demonstrated that Texas fever is transmitted solely by the bite of ticks, and the extraordinary vagaries of the spread of the deadly rinderpest can only be accounted for by flies as the agents in its distribution. In one of these cases something of our own nervous dread appears to be developed; as "salted" horses, i. e., those that have recovered from the bite of the tsetse, are said to be driven almost frantic by the appearance of a single specimen of the fly, even by the sound of the peculiar low buzzing note.

THE VALUE OF THYROID EXTRACT.

Of the many important remedial agents that have attracted the attention of the medical profession, the use of the various body extracts probably ranks second to the so-called serum-therapy. Of all these extracts, none is entitled to so prominent a place as that derived from the thyroid gland. It has long been recognized that the normal thyroid produces a secretion—what it is we do not know—of the highest value to the accomplishment of those uncertain changes occurring in the economy to which we have given the name "metabolic." For pathologists have shown us that in cretins this gland is absent; in myxedema, that closely allied disease to cretinism, either atrophy has taken place or some other pathologic process—tuberculosis or cancer of the thyroid or what not—that has interfered materially with the proper manufacture of its secretion. It was not long, then, until experimental research proved that administration of extracts of the gland to those afflicted with disease in which the thyroid was absent or was non-functionating frequently worked the greatest benefit in that disease—and the chain was complete. On the other hand, when hyperplasia was present in the thyroid gland, the clinical picture completely changed; in the place of lethargy and slowness of movement and thought, even to imbecility, there was activity of purpose and of mind, though often wrongly directed; lastly, when the cervical sympathetic was, so to speak, thrown off its balance, we had presented an exophthalmic goiter with its marked vascular phenomena, its rapid, in place of slow, cardiac action, and that condition of mind to which the title "nervous" has so often been applied. What more probable than that an increase in the amount of normal thyroid tissue should be followed by a corresponding increase in the amount of secretion, an amount in excess of the need of the body for proper metabolic changes? We might go a step further and look upon exophthalmic goiter as a poisoning of the body, if you will, with thyroid secretion, leaving for a moment all conflicting theories out of the question.

The treatment first instituted—removal of the thyroid—often brought about the most disastrous results, aside from the dangers of the operation itself. Might not this be analogous to the condition of a system saturated with alcohol (or other drug-producing habit) suddenly having the drug withdrawn entirely? Delirim tremens or even a fatal termination has not been an unusual sequela of this latter. When a small piece of the gland has been allowed to remain, the results have invariably been more encouraging. We must infer from this, *a priori*, that this remnant is able to supply something very needful to the economy. Perhaps the mistake has been made, not in leaving a small piece, but that too small a piece has been left; that the operation should be to remove a small section at a time, allowing between each operation an interval for the individual system to become accustomed to the withdrawal of the secretion; in other words, to pursue a line of treatment similar to that so successfully employed in the treatment of the various drug habits. The operation itself is no light one, as many mortalities have shown, and this fact alone would militate against frequent thyroidectomies; indeed, many authorities have asserted that the operation is unjustifiable in simple exophthalmic goiter, and should only be instituted for the removal of new growths. It must be admitted that the use of electricity, tonics and the thymus gland have frequently worked unexpected wonders in both forms of goiter, but where such means fail—and they should always be tried—it seems to the writer that a graduated removal, if it may be so termed, as suggested above, would not be an irrational proceeding.

Naturally enough the exhibition of thyroid extract in these goiters increases the unpleasantness of the symptoms; indeed, this might be used as a test in masked cases of exophthalmic goiter, as suggested by Sheve. Nevertheless, up to this time, treatment with thyroid extract has been empiric, though, as has been the case often in experimenting with new substances, great benefit has been derived in channels entirely unexpected; so with thyroid extract in obesity. Many cases of obesity have been reported in which thyroid extract has accomplished wonders, but it has remained for Robert Hutchinson (*British Medical Journal*, July 16) to point out the "why" of the treatment; in other words, to give scientific reasons for the value of this substance in this disease. It has been found experimentally that, by the use of this extract, nitrogen is eliminated with greater rapidity than normally, which means that the substances in the economy from the splitting up of which this element and its body compounds are formed are being burned up, so to speak, with corresponding quickness. Experiment has also demonstrated that increased oxygen is taken up in the combustion of these tissues, which increase we would naturally expect; and that carbon dioxid, less than the corresponding amount of oxygen taken in but greater than normal, is eliminated. This combustion takes place in the body fat, as the latter is eliminated, but not proportionally to the increased elimination of nitrogen. While the extract acts to a great degree upon the fat in the body, it must not be forgotten that the muscles suffer also to a large extent, as proved by the greatly increased elimination of nitrogen. Were only the fat of the body destroyed, we would have an ideal drug for the rapid cure of obesity. As it is, if we direct our obese patients to take large quantities of proteid foods, we can in this way prevent to a great extent, or at least compensate for, the destruction going on among the nitrogenous compounds of the body. Thyroid extract is also claimed by some authorities, when given in sufficient quantities, to render the system unable to use the fat-producing substances that may be introduced. This may explain the good results sometimes obtained when the fats for some reason can not be interdicted.

CRIPPLE MANUFACTURE FOR BEGGING PURPOSES.

The *British Medical Journal* recently stated that the manufacture of cripples to be let out as decoys for the alms of the charitable, is still said to be a flourishing industry in some parts of the Pyrenees. It would appear, remarks the same journal, that this is not one of the many inventions which make the so-called nineteenth century famous in the records of the ages, for Fabricius Hildanus, in his chapter on preternatural tumors, relates the following story: "In the year 1593 there was seen in Paris a boy of fifteen or eighteen months, the skin of whose head was so much stretched that it greatly exceeded the size of a natural hydrocephalus. The father and mother of the child carried him about from place to place as a monstrosity. As the concourse of people was great the magistrate suspected that there was some fraud in the matter and clapped the father and mother into prison. Being put to the question (a euphemism for the torture), they confessed their crime; to-wit, that they had made on the top of the head, right down to the muscles, a small hole, through which having pushed a syringe they blew air between the skin and the muscles in such a fashion that, little by little and repeating the process every day, they had made the swelling. The syringe being taken out, they stopped the hole with wax, or something of the kind."

The manufacture of cripples, not merely for begging purposes, but also for exhibitions, is much older than here indicated by the *British Medical Journal*. The manufacture of dwarfs was a feature of Accadian and Egyptian civilization six thousand years ago. Of the Accadian procedures, China of today is a fossilized representative. Dwarfs are still made in China according to the procedures described in the Accadian clay books. The Chinese take a child two or three years of age, and place him in a porcelain vase of eccentric form, without either top or bottom, so that his head and feet pass through. By day this vase is kept in an upright position; by night it is laid down so that the child can sleep. Thus the child increases in size without growing taller, filling the cavities of the vase with his compressed flesh and distorted bones. This growth inside a bottle lasts many years. At a certain moment it becomes irremediable. When it is thought that it has set, the vase is broken and the child emerges, and there is a man in the shape of a jug.

Ebers, the Egyptologist, founded the medical part of his romance, "Uarda," upon the revelation of the medical papyrus discovered by him. In it he describes the procedure adopted by a sorceress to turn a little child into a dwarf, which closely resembles the Chinese procedure. As quackery always underlies and even overshadows science, in accordance with the law that every truth is overshadowed by a sophism popularly more like the truth than the truth itself, these procedures became systematized and formed the basis of an association for the purchase and remaking of children, its procedures being described by Dr. Conquest in the sixteenth century. With slight exaggeration, the seat of this association is excellently described by Victor Hugo in the novel, with a purpose, "The Man Who Laughs," whose guiding principle turns upon mutilation of children. Hugo, whose data are from historic sources, designated this association as that of the "Comprachicos, or Child Buyers." These child buyers had their center, as the name would indicate, in Spain, and particularly in the Pyrenees. Hugo makes his comprachicos speak Basque; their procedures are described quite fully by Dr. Conquest. The detection during the present year of this brutality in the Pyrenees would indicate that Hugo was in error when he remarked: "The comprachicos were a bizarrely hideous nomad association famous in the seventeenth century, forgotten in the eighteenth, and unknown today. They were honest men. They opened a door, entered, bargained for a child, paid and carried it away. The comprachicos were catholics, and even good catholics, as befits an association which had its origin in pious Spain." The artificial manufacture of "freaks" by these associations, as is evident from the citation from the *British Medical Journal*, lasted much longer than Victor Hugo indicates in the remarks just quoted. The comprachico association had branches in England, Germany, Russia and Italy. Traces of the various branches were and are still to be detected in the countries named.

In the early part of the present century, an advertising quack, "Dr." Harper, was detected carrying on under his advertising quackery an institution for the manufacture of "freaks" for the English and Continental market (*Chicago Medical Review*, Vol. iii). He twisted a child's head in an apparatus devised by himself, so that it would look permanently over one shoulder. He grafted a rat's tail on a child's nose. He manufactured "double monsters" by removing slips of flesh from the backs of two children and allowing the wounds to cicatrize together. After the children recovered, they were taught music, dancing, French and Italian. He was particularly strict about their observance of the Sabbath. He had a regular catalogue of prices to showmen, who were allowed a discount when the subject was furnished.

The investigations of the infamies of the Italian padrone traffic in children give significant indication that mutilation of children for begging purposes is not unknown today among these apostles of organized mendicity. The *Medical Record*, nearly a decade ago (Vol. xlii, p. 26), pointed out that Paris was supplied with artificial cripples from Spain. There were then, the *Record* remarks, in Paris some twenty culs-de-jattes, or beggars without legs, whose condition had been brought about by art. In Spain there are wretches who buy children (generally selecting the infirm, deformed or idiotic) from their parents. When these unfortunates reach the age of 7 or 8 years, their legs are swathed so tight as to stop the circulation. The limbs thus atrophy, but when the child is exceptionally strong one leg is a "success," the other being merely ankylosed. In this cruel business perverted religion plays a part; the children being made to believe that they are gaining paradise. The parents receive a dime a day for a year, this being doubled if their child is blind or has lost an arm. In 1887 the French minister of the interior forbade these culs-de-jattes to enter French territory.

The industry has doubtless fallen off in the English-speaking countries, because of the reaction against indiscriminate alms-giving produced by the exposure of its evils by MALTHUS. The more rigid supervision given the traveling shows, under the influence of the exposure of their abuses during the forties and the reduction of the circus features of itinerant quacks all combine to decrease the market for these freaks. The increase of humanitarian sentiment against the employment of children under 14 years of age also engendered a supervision in the English-speaking countries. Like influences were exerted in Holland, Germany and the Scandinavian countries. In the Latin countries, however, these influences had but little, if any, power. Religious sentiment encouraged indiscriminate alms-giving, thus encouraging the manufactufie of freaks to excite sympathy. Until humane sociology of the type already described be engendered in the Latin countries, it is probable that these hideous brutalities will continue. The padrone industry in Italy is an unmistakably potent source of these infamies. In Spain, as the revenue for the convents from the colonies is now cut off, it is probable that hitherto indiscriminate alms-giving by these institutions will be reduced, and the greater supervision will be exercised over the objects of charity, of a kind tending to diminish this hideous industry.

While gross brutalities of this type are rare in the English-speaking, the German, and Scandinavian-speaking countries a less hideously brutal but equally cruel mode of levying tribute on charity occurs. Homes for children, where they are starved, beaten and half frozen, are created for the benefit of the home head. This has been the case notoriously in the famous New York Shepherd's Home of Shepherd COWLEY, who was sent, by the Society for the Protection of Children, to the penitentiary, in consequence of starvation and other cruelty. These "homes" indicate a still existent spirit of brutality ready to flower into the old cruelties, under favoring circumstances.

One phase of these mutilations, as described by CONQUEST, was the use of some form of anesthesia. Not only, as VICTOR HUGO remarks in a citation from CONQUEST) did the comprachicos deprive the child of his face, they took away his memory also. At least they took away as much of it as they could. The child was unconscious of the mutilation which he had undergone. This frightful surgery left a trace upon his face, not upon his mind. At the most he could remember that one day some men had seized him, then that he had fallen asleep and that afterward they had cured him. Cured him of what? He did not know. Of the burns with sulphur and the incisions with iron he recalled nothing. The comprachicos rendered the little patient insensible under the operation, by means of stupefying powder which passed for magic and suppressed pain. In the late sixteenth and early seventeenth centuries anesthesia was a known procedure among certain surgeons. MIDDLETON, for example ("Woman beware Woman" 1637), remarks:

> I'll imitate the pities of old surgeons
> To this lost limb; who, ere they show their art,
> Cast one asleep, then cut the diseased part.

The comprachicos altered the identity of unwelcome heirs more effectually than any "Iron Mask." The plot of "The Man who Laughs" turns upon the change of a comely legitimate heir to an English peerage into an eternally laughing mask. Today such employment for the comprachicos is out of date.

Mutilations in English-speaking countries are rare, still the importation of cripples (albeit checked by emigration laws) occurs. Societies for protection of cruelty to children, and humane societies, hence could find in the supervision of crippled beggars a much more humane field for their efforts than in attacks on vivisections made for the benefit of the race.

MALTHUSIANISM IN ENGLAND.

The JOURNAL has in times past noted the decrease in the birth-rate in different civilized countries, as a tendency of modern civilization that is worthy of careful attention by sociologists and medical men generally. The condition of affairs in France has been notorious, but the Teutonic peoples of Europe have been generally considered as less inclined toward a static or decreasing population. The latest report of the Registrar-General of England, however, gives figures that would indicate that the national disease, if such it may be called, has infected Great Britain also, as shown in a declining marriage-rate, with a corresponding decrease in the birth-rate, which Mr. HENRY MAY, in an article in *Public Health*, estimates at 15 to 18 per cent. The marriage-rate has been considered in times past an index of prosperity, but England has not been so particularly unprosperous of late years as to account for the decrease on this theory. It would seem more correct to seek for a reason in several conditions and tendencies of the present time that incline men to forego marriage and the raising of families for prudential reasons; in short, to the spread of *quasi* Malthusian ideas more generally throughout the population, with a higher grade of living and culture of a certain sort. The *Medical Press and Circular*, in commenting on the fact, says, "the French sentiment as to marriage and the rearing of children seems to be making its presence felt in this country. It has been said, but we do not know with what truth, that among the upper classes in England the birth-rate has for long shown a declining ratio, and, on the other hand, that it is only within the past few years that a similar decline has been noticed among the lower classes. The moral of this demands no explanation; it may be many years before England finds herself in the position of having a declining population, but, as matters seem now to be tending, it must be confessed that such an eventuality is one which England will one day have to face."

It is commonly said, that at the present time the rich are becoming richer and the poor poorer. But here the poor seem to be approximating toward the rich, and the tendency is the more significant since it implies, if we understand it aright, a higher material ideal of living and a certain foresight, which if more fully developed, would tend to the extinction of the proletariat. It can not be said that the tendency is altogether admirable, though thrifty, and certainly for reasons of state it is to be deprecated, for a decreasing population is, under most conditions, a symptom that a country is on the down grade, if not exactly one of national degeneracy. It is, however, one of the facts that every highly civilized country is likely to have sooner or later to meet, with the present apparent tendencies of our civilization. Its manifestation in England is only a sign of the times.

It does not follow that it means necessarily race extinction in any case, for a population, like a river, will sooner or later find its proper *regimen*, to use an engineering term, and adapt itself to actual existing conditions. It is a sign, however, of the disturbed equilibrium of the present day and one that especially deserves the attention and consideration of our profession.

THE A. M. A. PRIZE COMPETITION FOR MERITORIOUS SCIENTIFIC WORK.

The attention of members of the Association is called to the following extracts from the minutes of the Executive Committee of the Association, dated June 3, 1897, and adopted by the Association, June, 4, 1897:

The proposal to restore the former policy of the Association in favor of offering to members a gold medal for meritorious scientific work, having been approved by the Association and recommitted for elaboration of details, the Executive Committee respectfully recommended:

1. That the design of the medal shall consist in the seal of the United States, or a seal of the Association to be hereafter designed, on one side, and an Esculapian staff on the other, together with the name of the recipient and suitable inscriptions.

2. That the commercial value of the medal shall not exceed $50—amended to $100 by the Association.

3. That a Standing Committee on Prize Essays consisting of members of the Association shall be elected by the Executive Committee as follows: One for one year, one for two years, one for three years, and thereafter one shall be elected yearly, to hold office until a successor has been elected. In no case shall a member of the Executive Committee hold a place on the Committee on Prize Essays.

4. That competing essays shall be typewritten or printed, and shall bear no mark revealing their authorship; but instead of the name of the author there shall appear on each essay a motto, and accompanying each essay there shall be a sealed envelope containing the name and address and the motto of the author, and bearing on its outer surface only the motto of identification. The envelope is not be opened by the Committee until a decison has been reached as to the most deserving essay and the other essays have been returned to their respective owners. The Committee shall have power to reject and return all essays, in case none has been found worthy of the Association medal. Competing essays must be in the hands of a Committee not later than March 1 of each year.

5. The Committee shall report to the Association at the last general session of each meeting, and the medal shall be publicly awarded by the President with suitable ceremony.

In accordance with the foregoing, the Committee request that contributors of essays in competition will forward their manuscripts to the Chairman by March 1. The Committee is composed of Dr. Geo. M. Gould, chairman, 119 South Seventeenth Street., Philadelphia; Dr. E. Fletcher Ingals, Chicago; Dr. T. W. Huntington, Sacramento, Cal.

CORRESPONDENCE.

A New Departure in British Medical Education.

London, N. W., Jan. 5, 1899.

To the Editor:—The medical year in England has been marked by three most significant developments. They may indeed be described as epoch-making, although they will scarcely even be mentioned in the "Annus Medicus" or the year books. First and most important is the founding of the London Polyclinic and Medical Graduates' College; second, the establishment by the Government of the School for Tropical Diseases, and third, the magnificent gift of $1,250,000 by Lord Iveagh to the Jenner Institute of Preventive Medicine (vide Journal, January 21, p. 146). These are not only important in themselves, but significant of profound changes in public opinion. The Polyclinic is the first formal and adequate recognition on the part of the profession of the value of post graduate instruction in English medical education. The School of Tropical Medicine is a partial recognition of the long-ignored duty of the Government toward medical education and medical research, a most niggardly and inadequate one as yet, but still an "official" recognition. That such an idea has penetrated the official diploe at all is a triumph, even if it did get severely flattened in the process. Lord Iveagh is a worthy first-fruits of the awakening of the great donor class to the meritoriousness and public value of provision not merely for the care of the sick, but also for the careful study of disease with a view to its prevention. The hospital idea is a noble one, but the clinical laboratory idea is a saner and a more beneficial one. And whether the new and admirable Anglo-American *entente* has had any share in it, whether our English kinsmen have been consciously influenced by American example, we are especially interested in these developments, in that we may claim with cousinly pride to have preceded our island kin in all three of the advances. So that our own experience of their value gives an additional heartiness to our congratulations.

The departure which has by far the most immediate and practical interest for us is the formation of the Polyclinic. The experience of the American post-graduate student in London hitherto has been one of about two drams of profit and three of irritation to the ounce of exertion. The causes of this are not far to seek. First and most insuperable of all is the geographic one. When Thackeray wrote of the "magnificent distances" of Washington, he had never attempted the round of the London hospitals. They range "from Dan even unto Beersheba," or at least their modern equivalents, Whitechapel and Paddington. From the Great Northern in Camden Town to Guys in the "under-world" south of the Thames is four miles, from the London in the East End to St. Mary's in the West is six, and the remaining hospitals are dotted all over this twenty-four square miles. And this in a city which, with due reverence and appreciation of the difficulties and yet with cousinly frankness, be it spoken, has one of the slowest, and certainly for a stranger, the most difficult and complicated street transit in the world.

The second reason is, that after the visitor has picked the right-colored bus, changed at the proper place and reached the hospital he finds no place prepared for him, scarcely even a niche into which he can slip. If he be surgically inclined he is best off, for then he can at least see operations from the top seat of the amphitheater. But if he be medical in his tastes, as all the clinical work is done literally at the "bedside," he is simply a wandering star at the tail of a comet consisting of from twenty to sixty students, and his view of the case, to say nothing of opportunities for physical examination, can be imagined. Even if he be known to the professor and given a front seat in the operating theater or a position at the bedside in the ward, he has an uncomfortable sensation that he is taking the place of some student or interfering with the view of the class.

Lastly, by the curious regulation in force at all the London hospitals, that every member of the staff *must* retire at the end of his twentieth year of service, he is often deprived of seeing or hearing half the most distinguished and prominent members of the profession. Indeed, as staff appointments are usually obtained between 25 and 35 years of age, it generally happens that just about the time a man has attained an international reputation, he is retired from public teaching and operating. And when a man has belonged to one hospital no other general teaching hospital would elect him to a chair, any more than a French general would appoint a German captain as a member of his staff. "Once a Bart's man, always a Bart's man," or Guys or London, as the case may be, is their motto.

The Polyclinic will remove all these difficulties at one sweep. It is not by any means the first scheme for post-graduate instruction which has been attempted in London. Nearly ten years ago a London post-graduate course was started, which, however, met only one of the difficulties complained of, inasmuch as its clinics were given in the different hospitals in which its faculty held appointments, and hence scattered all over London. It did good work, however, and as many of its faculty are cordially co-operating in the new venture, it is expected that the two will ultimately be merged. Some three years ago the various teaching-hospitals combined in a "League," which issued tickets admitting medical graduates to the practice of all of them. But this met absolutely none of the difficulties except giving the ticket-holder the poor satisfaction of feeling that he had a legal right to compete with the students for a view of the cases. The geographic difficulty has been met by securing a large and commodious building, formerly a boys' school, just off Gower Street station on the Underground Railway, and five or six minutes' walk of three of the largest railway terminals in London. What will be of more practical interest to most of us is that it is not far from the British Museum, and hence on the edge of what is known as the "American Quarter." The institution is organized for the most part upon the effective lines with which we are familiar in similar schools in New York, Chicago and Philadelphia. Short courses of systematic lectures upon the various practical subjects, well illustrated, will be given, classes formed in clinical laboratory work, the use of the Roentgen ray, etc. But the distinctive features of the scheme will be two—the clinical demonstrations and the information bureau. The demonstrations will be held every afternoon, and will be mainly upon the order of public consultations upon difficult, rare or particularly interesting cases, which will be sent up both by private practitioners and the hospitals. Each consultation will be attended by three or four prominent men representing so far as possible different branches of medicine, so that each case will be studied and represented from several different points of view.

The information bureau or central office will be under the charge of the resident medical superintendent and will carefully collect and furnish information as to lectures, demonstrations, operations and operation days at all the hospitals in London and the leading provincial medical centers. A daily bulletin-board will be prepared and a journal published, so that this will become the headquarters for medical information in London. And that such an institution is badly needed, every doctor who has attempted to study in London will emphatically testify.

It has long been a matter of regret to Americans studying abroad that immense resources at London, both of rare clinical material and of able teaching, should have been practically inaccessible to them. Within a few weeks this will have ceased to be the case, and as we have always had a strong feeling that the problems of English medicine were more closely similar to our own, its tone more sympathetic, and its methods of treatment both more practical and better suited for importation than those of the Continent, the tide which has been setting so exclusively in the latter direction is likely to turn, and that the new venture will represent the best and most interesting in English medicine, is sufficiently guaranteed by the fact that such men as Jonathan Hutchinson, Stephen Mackenzie and Sir Wm. Broadbent are the most active promoters, while among the cordial supporters and prospective consultants are Clifford Allbutt, Hughlings Jackson, Sir Henry Thompson and Sir Wm. Gowers.

The new departure will prove of the greatest practical value to us as a profession, but it is even more important as a significant sign of the conversion of the English profession to the value of post-graduate medical education. It has hitherto been content with its magnificent undergraduate course and high standards for admission to practice. It now realizes that these by themselves are not enough and may even encourage the strong tendency of the average graduate to begin to fossilize as soon as he gets into practice. But until it does so realize, with true British insularity it would not go one step out of its way to provide such instruction for foreign students, be they ever so numerous or so ready to pay for it. The difference in the irritability of different nationalities, in their responses to identic stimuli, is always interesting. The thrifty Teuton, the shrewdly practical Gaul long ago saw this "want and promptly made haste to fill" it. Whatever in reason the Western barbarian demanded and was willing to pay for he should have, and it should be served in "portions" or "half-portions" and flavored to suit. The sturdy Briton didn't care for the dish himself and would not trouble to serve it to others.

But his taste has changed, and we may certainly expect the new Polyclinic to both profit by the experiences of others and to reflect the spirit and the genius of its nation, even more truly and deeply than those of Vienna and of Paris. It may be of interest to note that the public-spirited Lord Iveagh, famous for his magnificent gift to the Jenner Institute, is the largest contributor to this new enterprise, also. W. H.

Operation for Hypospadia.

New York, Jan. 17, 1898.

To the Editor: — Operationes mutantur? This question passes into my mind when I read the notice you give my operation for hypospadias (vide Journal xxxii, p. 31), after some non-essential modifications were made of it by Bardenheuer as well as by Hacker, in September, 1898.

Of course, occasionally something can escape the argus-eyed editor, and he will, when his attention is called to it, correct the omission. Therefore, I beg leave to direct your attention to the *N. Y. Medicinische Monatsschrift* for November, 1898, and the *N. Y. Medical Journal* for Jan. 29, 1898, in which I first published my method of mobilizing and displacing the urethra in correcting the deformity.

While it is far from me to dispute any merit that may be due a German surgeon, I have enough American vanity to ask priority for our country, when deserved, even if *I* have earned that priority.

Yours sincerely,
Carl Beck, M.D.

Higher Rank Desired by the Medical Corps of the Army.

The medical officers of the Army have taken exception to the rank provided for their corps by the terms of the Hull bill, reorganizing and increasing the Army, now before the House in Committee of the Whole. They have addressed the Secretary of War on the subject as a means of bringing their views to the notice of Congress.

War Department: Surgeon-General's Office,
Washington, Jan. 14, 1899.

To the Honorable Secretary of War,
(Through the Adjutant-General of the Army).

Sir:—At a recent meeting of medical officers of the Army, we, the undersigned, were charged as a special committee with the responsibility of gathering the views of the Medical Department in relation to those provisions of H. B. 11022, which have in view the increase of the medical corps and of submitting the said views for your consideration, in the hope that they may meet with your approval and be referred to the Military Committees of the Senate and House of Representatives.

Individually, as members of this special committee, we disclaim any bias from self-interest in considering the subject. We submit the following statement, and urge the adoption of the recommendations herein made, having in view only the efficiency of the Medical Corps of the Army and the best interests of the military service.

At the beginning of the recent war, with a military force of less than 30,000 men, the medical corps consisted of 192 officers, of whom 1 held the rank of brigadier-general; 6 were colonels; 10 lieutenant-colonels; 50 majors, and 125 captains and lieutenants, the former grade being reached after five years of service in the latter. It will be observed that of this personnel, 3.1 per cent. had the rank of colonel and 5.2 per cent. that of lieutenant-colonel.

We here respectfully submit that, although our medical officers at no time made any complaint of having failed to receive from Congress as much consideration as the other staff officers of the Army, they were fully cognizant that, under the existing organization, it was possible for a medical officer to pass his life in active service and to be retired, at 64 years of age, with the rank of lieutenant colonel, or even with that of major. In fact, the last four medical officers who were placed on the retired list at 64 years of age, failed to reach the grade of colonel. Few can expect to become the chief of their corps, but it would seem to be a just expectation for an officer to entertain that after about forty years of service, he should go on the retired list with the highest rank in his corps—outside of the chief. Of the four medical officers recently retired as lieutenant-colonels, one, Lieut.-Col. J. V. D. Middleton, was called upon during the Spanish-American War to do the double duty of Chief Surgeon of the Department of California and Medical Supply Officer on the Pacific Coast, involving the great responsibility of outfitting the expeditions to the Philippine Islands.

In his annual report for the last year, the Surgeon-General recommended an increase of the medical corps as absolutely essential, in view of the increase of the enlisted strength of the Army to a total of 60,000 men, and the large number of stations to be garrisoned in the islands acquired and occupied by the United States. He recommended such additions as would give a total personnel of 280, of whom 8 should have the rank of colonel; 16 of lieutenant-colonel and 80 of major, giving percentages respectively of 2.9, 5.7 and 28.5; but he entered the proviso that any increase of the Army made by Congress during its coming session would necessitate a further increase of the medical corps.

Action has been taken by Congress in this latter regard. H. B. 11022 has been returned by the Military Committee to the Committee of the Whole House, and its provisions, as relating to the Medical Department, are as follows: 1 surgeon-general with the rank of brigadier-general; 10 assistant surgeons general with the rank of colonel; 20 deputy surgeons-general with the rank of lieutenant-colonel; 110 surgeons with the rank of major and 360 assistant-surgeons with the rank of captain and lieutenant, amounting to a total of 501 officers, the colonels constituting 2 per cent., the lieutenant colonels 4 per cent. and the majors 22 per cent. of the total.

It will readily be seen that when officers such as Drs. Middleton, Wolverton and Waters have to retire as lieutenant-colonels after a lifetime of service in an organization which has 3.1 per cent. of its members colonels, such retirements would be of more frequent occurrence in the proposed organization, which permits that grade to be held by only 2 per cent. of its members.

The first of the following tabulations presents the absolute numbers of the grades of the various staff corps, as proposed by the Hull bill (H.B. 11022); the second shows the numbers of the various grades as percentages of the totals of each corps:

ABSOLUTE NUMBERS.

Department.	Colonels.	Lieutenant-Colonels.	Majors.	Captains.	Lieutenants.	Total.
Adjutant-General	5	7	11	. . .	. . .	23
Inspector-General	4	5	9	. . .	. . .	18
Judge Advocate	5	4	4	. . .	. . .	13
Quartermaster's	8	16	25	70	. . .	119
Subsistence	4	8	12	37	. . .	61
Pay	4	8	47	. . .	. . .	59
Engineers	10	20	36	41	50	157
Ordnance	6	8	16	26	26	82
Signal Corps	2	3	5	12	15	37
Medical	10	20	110	360	. . .	500
All Staff Corps except Medical	48	79	165	277	. . .	569

PERCENTAGES.

Department.	Colonels.	Lieutenant-Colonels.	Majors.	Captains.	Lieutenants.
Adjutant-General	22	30	48	. . .	. . .
Inspector-General	22	28	50	. . .	. . .
Judge Advocate	38	31	31	. . .	. . .
Quartermaster's	7	13	21	59	. . .
Subsistence	6	13	20	61	. . .
Pay	7	13	80	. . .	. . .
Engineers	6	13	23	26	32
Ordnance	7	10	19	32	32
Signal Corps	5	8	14	32	41
Medical	2	4	22	72	. . .
All Staff Corps except Medical	8.4	13.9	29	48.7	. . .

The rank provided by this bill fails to do justice to the medical profession. It is needless to urge here the question of rank for the medical corps. That appears to be allowed and even high rank for a certain number has already been provided. The duties and responsibilities of the Medical Department have been fully brought out by the events of the recent war. The efficiency of the whole army may, under certain conditions, be dependent on the efficiency of the medical corps. The responsibilities of the corps are as great as those of any of the staff departments. Irrespective of their important duties with troops in the field, the surgeon who has charge of a general hospital containing 1000 sick men, has surely as great responsibility as the colonel of a regiment of 1000 well men, yet during the recent war, the officers in command of general hospitals and hospital ships had, as a rule, only the rank of major. H. R. 11022 gives the rank of colonel to *only 2 per cent. of the officers of the medical department, while 8.4 per cent. of the other staff corps have this rank.* It gives the rank of *lieutenant-colonel to 4 per cent. of the medical department and to*

13.9 per cent. of the other staff corps. Medical officers desire their responsibilities to be recognized and to be endowed with as much rank, power and position as officers of corresponding age and experience in the other staff corps. They desire especially that the organization of their corps should have that percentage of the two higher grades, outside of the Chief of the Corps, which would permit every one to look forward to retirement as a colonel after the honest and faithful service of a lifetime.

We, therefore, on behalf of the interests of the medical corps and their bearing on the efficiency of the Army, recommend that H. R. 11022 be amended so as to provide twenty instead of ten assistant surgeons-general, with the rank of colonel, and thirty (instead of twenty) deputy surgeons general, with the rank of lieutenant-colonel, and to reduce the number of assistant-surgeons, with the rank of captain and lieutenant, from 360 to 340.

These numbers are not chosen arbitrarily, nor for the mere purpose of reaching a desirable percentage in the higher ranks, for it is easily demonstrated, by a consideration of the duties and positions to which the colonels and lieutenant-colonels should be assigned, that even a large number of such officers would be fully and constantly employed. The assistant to the Surgeon-General, the chiefs of the large and active divisions in his office, the Chief Medical Inspector and his assistants, the Dean of the Army Medical School, the chief surgeons of the numerous home and colonial military departments, the officers commanding the general hospitals of from 500 to 1000 beds, the chief surgeons of the large garrisons and camps assimilating a brigade organization, and the medical supply officers should all be of these grades, as such duties require officers of trained experience and of rank commensurate with their service and the responsibility of their work.

We would further recommend that promotions be made by seniority, after passing the examination required by existing law.

In submitting these recommendations we have in view only the evident and urgent needs of the service, as reorganized on the basis of a total membership of 501. Were we to give full expression to our views of what is desirable and would be beneficial to the Medical Department and the Army generally, we would urge the consideration and adoption of those provisions of Senate Bill 4900 relating to the Medical Department, which bill is now before the Military Committee of that body. It provides for a corps of 596 officers, comprising 1 surgeon-general with the rank of brigadier-general, 20 assistant surgeons-general with the rank of colonel, 30 assistant (deputy?) surgeons-general with the rank of lieutenant-colonel, 175 assistant surgeons-general (surgeons?) with the rank of major, 120 assistant surgeons general (assistant-surgeons?) with the rank of captain, and 250 assistant surgeons-general (assistant-surgeons?) with the rank of lieutenant, mounted. This total of 596 medical officers for an army of 100,000 men is relatively not so large as the medical force now in the service of the United States. The present strength of the regular army is in round numbers 55,000, and of the volunteer army 73,000 men, a total of 128,000, for whom are provided 892 medical officers, regular, volunteer and contract, or at the rate of one medical man to 144 soldiers. The 596 medical officers of Senate Bill 4900 provides one medical officer to every 168 men of an army of 100,000.

We would indeed go further than the said Senate bill when we consider the importance of a Medical Department of an army of 100,000. Whether it is viewed in the light of medical supply, involving the expenditure of large sums of money, in the light of sanitation, involving the military efficiency of the whole command, in the light of military administration over so many officers, hospital-corps men, nurses and hospital establishments, or in the light of caring for 10,000 men, or 10 per cent. of the Army, which is an average percentage of sick, in times of active service, the importance of the work and the extent of the responsibilities appear to us to be more than equivalent to those of a division commander who has the rank of a major-general. The Chief of the Medical Department in most European armies has this rank. We, therefore, are of the opinion that in recognition of the great responsibilities attaching to the surgeon-generalcy of such an army the officer holding this position should have the rank of major-general and that the senior of the assistant surgeons-general should have the rank of brigadier-general.

Respectfully,
(Signed) Dallas Bache,
Colonel and Assistant Surgeon-General.
(Signed) Ch. Smart,
Lieutenant-Colonel and Deputy Surgeon-General.
(Signed) Louis A. LaGarde,
Major and Surgeon.

PUBLIC HEALTH.

Spain's Losses in Cuba.—An item in a New York daily of January 25, is to the effect that according to figures published in Madrid, "80,000 Spanish soldiers perished, chiefly from sickness, during the last campaign in Cuba."

Smallpox at Ponce, Porto Rico.—Dr. Monet, Health Officer of Ponce, reports that "so far, the smallpox as an epidemic is confined to the native population and is of the confluent variety. An isolated hospital camp is desirable, but both the government and municipality are unable to provide the tents required."

Smallpox Among Zuni Indians.— A Santa Fe, N. M., dispatch of January 25, says that according to late information from the Zuni Pueblo, in the western part of the territory, smallpox is epidemic. The statement is that since the disease broke out 217 deaths have occurred and 600 Indians are ill, of whom possibly one-half will recover. Accounts vary.

Health in Indiana.—Reports from observers in about forty counties, for the week ending January 21, indicate a decrease in diphtheria, typhoid fever and diarrheal diseases, and indicate a marked increase in la grippe and pneumonia. Fatalities from grip are few. Reports say that a great deal of acute catarrhal inflammation is called grip.

Health in Chicago.—The report of the Board of Health of Chicago for December, 1898, gives the total number of deaths as 1849, 348 of which were persons under one year of age, and 220 between one and five years. The death-rate per thousand was 1.14, as compared with 1.10 for December, 1897. The principal causes were: Pneumonia, 282; nervous diseases, 203; consumption, 200; heart disease, 133; bronchitis, 109; acute intestinal diseases, 78; diphtheria and membranous croup, 77; cancer, 63; typhoid fever, 55.

Circulars Warning Against the Use of Alcohol.—Legendre has had plainly worded circulars describing the dangers and ravages of alcoholism, hung around the walls of his service in the hospital, and others are imitating his example. He wishes to have popular lectures on the abuse of alcohol delivered before the inmates of the hospitals, and the plan is on the point of realization.—*Progres Méd.*, Dec. 24, 1898.

Guayaquil Not a Health Resort.—According to the *Semaine Med.*, Guayaquil, Ecuador, has no quarantine service, as it is recognized that the ports from which the ships arrive can not possibly be unhealthier than Guayaquil itself. The European governments have found it impossible to keep consuls there, on account of the ravages of yellow fever, and are compelled to engage acclimated residents to serve in that capacity.

Tropon, the New, Cheap Albuminous Food.—Nearly ten pages in the *Munich Med. Woch.* of January 10 are devoted to a couple of articles describing tests with tropon (vide Journal, xxxi, p. 941), confirming in every respect the value of this cheap, nourishing, tasteless preparation, to add to soups, etc. For arctic expeditions, military campaigns, etc., it is particularly valuable on account of its small bulk. It is able to substitute completely the albumin in other foods; causes no disturbances; can be taken for long periods without aversion, and costs only four marks a kilogram, much cheaper than meat.

Propagation of Bubonic Plague.—We note in Simond's comprehensive study of the plague (*Annales de l'Institut Pasteur*, October, 1898), that the flea is the means by which the plague is transmitted. The germ thrives in the alimentary canal of the flea and is then inoculated into the rat or man the flea alights on. A temperature of 70 degrees C., for several hours, suffices for disinfection, and protective measures against fleas and rats and persons arriving from infected localities, with prophylactive serum injections, he considers would reduce the number of cases to the minimum.

Regulation of the Sale of Thyroid Products.—The necessity of protecting the public by regulating the sale of the thyroid products, and restricting it to physicians' prescriptions, has been simultaneously proclaimed in France, Germany and England. Prof. W. Ebstein denounces the use of these products in obesity, as illogic, unreliable and unnecessary, "the remedy worse than the disease" (*Deutsche Med. Woch.*, January 12). Franck calls attention to the dangers of thyroid treatment when the normal thyroid gland is working properly, liable to produce somnolence, coma and even death from heart failure in persons with cardiac insufficiency. Lancereaux states that he always watches the pulse when administering it, and suspends it when the pulse is over a hundred.—*Bull. de l'Acad. de Méd.*, January 10.

Sewage as Affecting Food.—The trend of opinion seems now to be that if the soil be gorged to repletion with sewage, then the crops will be surcharged with sewage elements, and unfit for food—the meat and milk of animals derived from such crops will also be like the crops, alike unpleasant to the taste and dangerous to the health. These statements are proved by well-known facts; that is, if a cow is fed on turnips, her milk will within twenty-four hours taste like them, the intensity of the flavor being according to the quantity of turnips taken; in the case of hens and their eggs, a like result follows, for, if fed on decaying matter, which they always eat greedily, both their eggs and flesh will be disagreeable and unwholesome eating. Ducks, too, are still more objectionable in these respects.

Intermittency of Meningitis.—In a recent report on the cerebrospinal meningitis epidemic, lately so marked in Massachusetts. it is officially stated that the whole number of deaths from that disease in that State in nearly twenty years, ending Oct. 1, 1897, was nearly 150 per year. The numbers for the years 1878–1896 were nearly uniform, but in the first nine months of 1897 the number reported was 405, those in Boston alone being 184, and it seems that more than 26 per cent. of this number occurred among young children under one year old. Strange as it may be, after the disease appeared in Geneva in 1805, its next appearance was in Medfield, Mass., and then, shortly after, in other towns in New England, Illinois, New York, New Jersey and Maryland. As a rule, the outbreaks of the disease have been seen as perfectly isolated epidemics in places which had been hitherto free from it, and in almost all cases the epidemics have appeared in the winter and spring.—*N. Y. Tribune.*

Isolation of Tuberculous Patients.—Two hospitals in Paris have set aside a special ward for this purpose, but the deaths still average nearly a third, and the necessity of a supplementary sanatorium outside the city, where the food and fresh air would combine to restore the curable patients to health, is earnestly advocated by Letulle and others. He has succeeded, after much effort, in having the tuberculous patients at the Boucicault supplied with an extra dish at their meals, although this "alimentary debauch" aroused much protest from the finance department at first. He considers that if sufficient reclining-chairs and warm clothing could be supplied, and a sheltered gallery provided, even the hospital tuberculous ward might serve as a semi-sanatorium.—*Presse Méd.*, Dec. 24, 1898.

Water Kefir: A Hygienic Drink for the Army.—Kefir made with milk is the constant beverage of the inhabitants of the Caucasus, and a modified kefir made with water, sugar and kefir grains, produces in six days a sparkling, refreshing drink containing 1.4 grams alcohol, 16 of sugar and 2.10 of carbonic acid to the liter, resembling cider in its appearance, with an acid, slightly wine taste. The expense is less than a sou a liter, and Surgeon-Major Carteret of the French Army has found it a most excellent and popular hygienic, tonic and appetizing drink for the soldiers in his regiment. He observes that the kefir is not a good culture-medium, and is therefore healthier than the water from which it is made. The formula is two liters of water to one liter of kefir grains and fifty grams of brown sugar. Stir in an open pitcher. After three days, stir again, strain and bottle, fastening the corks as for champagne. Drink, after three days in the bottle. The kefir grains can be used again and again, and if well dried can be put away to keep for months.—*Presse Méd.*, January 7.

Insects and the Convection of Contagious Diseases.—P. R. Joly, in a monograph on this subject, quotes instances of malignant pustule, Egyptian ophthalmia, and Delhi boil conveyed by flies. He has also found as the result of careful observations that the legs of flies may be covered by staphylococci and many other forms of bacteria. Tubercle is particularly liable to be disseminated by flies; thus they come in contact with sputa and other means whereby tubercle bacilli discharged from the body of the patient become ingested. The insects then alight on food and deposit the tubercle bacilli, and thus easily contaminate milk, meat, and other substances. The author quotes Yersin as having noticed that the bodies of dead flies collected in his laboratory often contained numbers of the plague bacilli. The influence of various insects, more particularly mosquitoes, in carrying the filaria sanguinis is well known. The mosquito has also been suspected as the agent in the conveyance of malaria, and the writer suggests that the "sleeping sickness" is due to infection carried by insects. Ordinary inflammatory conditions may be produced by the common flea and bug, though the writer has been unable to find that the latter insect carries tuberculous infection, as is stated by some observers. The writer goes on to show the importance of warding off flies as far as possible, especially in cases of the disease mentioned. He suggests a solution of formol as of considerable use for this purpose, and particularly good in cases of phtheiriasis.—*British Med. Jour.*

The Crime of Substitution.—The New York City Board of Health has taken up the subject of drug substitution, a dangerous practice that is believed by that board to have assumed growing proportions. In the recent prevalence of influenza in that city, frequent instances were found where druggists were using commercial acetanilid for phenacetin in prescriptions. The former drug, it is said, can be purchased at fifty cents per pound, while phenacetin is about eighty-five cents per ounce. One of the health officials is reported as finding the legislation against substitution as needing amendment; "the law is wholly inadequate to reach the offenders. The fine for such work can not exceed $50 in each instance, although the fine for adulterating milk is $100. This great evil is felt more by the poor of the city than by anyone else, and they are the ones we are most interested in protecting. I do not mean to reflect on the worthy practitioners who have charge of this class of patients, but rather on the drug clerks, who, in making up prescriptions will stop at nothing to make an extra few cents. Adulteration is not attempted in filling the prescriptions of prominent physicians, for they have their prescriptions put up by reputable druggists, who, in turn, make their purchases from equally reputable chemists. As for the other class of dealers who resort to such practices as I have outlined, I know of no punishment severe enough for such rascals, who are a menace to the lives of the sick. The legislature should pass more stringent laws upon the subject. It is difficult at present to get evidence against the offenders, but once that evidence is obtained the offenders should be heavily punished."

Disposel of Excreta in Cuban Camps.—Surgeon-General Sternberg, in a letter dated Jan. 25, 1899, has invited the attention of the Adjutant-General to certain statements made by Lieut.-Col. O'Reilly, chief surgeon, volunteers, concerning the disposal of excreta at Up Park Camp, the principal military station in the Island of Jamaica. These statements are: "All garbage is removed by contract; is carried a distance of six miles and burned. The excreta are provided for by the dry-earth system. Each barrack has one privy, which is furnished with a number of galvanized-iron buckets, and with dry earth and scoops, so that immediately after defecation a man can cover his excrement with earth. Last year lime was used with the dry earth to advantage. Dry-earth sheds are used to have always a supply of dry earth during the rainy season. A separate place is provided for urination. The receptacle is a wooden tub, which is tarred. These tubs, as well as the buckets in the dry-earth closets, are emptied once in every twenty-four hours, by a contractor, who carries the deposited matters to a point six miles to the leeward of the camp and there buries them." The Surgeon-General fully approves of this method of disposal of excreta when it is impracticable to have a complete system of sewers and water-closets connected with them. He does not, however, approve of Colonel Waring's proposition to use the same earth repeatedly in connection with such earth closets. During his recent visit to Havana he ascertained that neither of these approved methods, nor the method recommended by the board of medical officers, of which Major Walter Reed, surgeon, U. S. A., is president, and which also has his approval, has been carried out in our large camp at Marianao, Cuba. He, therefore again invites attention to this important subject, and recommends that prompt measures be taken to provide for the disposal of excreta at all camps and barracks garrisoned by our troops in Cuba, by one or other of the methods referred to. There is good reason, he says, for believing that yellow fever, as well as typhoid fever, cholera and various intestinal diseases, are propagated through germs contained in the excreta of infected individuals, and the proper disposal of excreta is the most essential factor in the prevention of these diseases. The Adjutant-General took prompt action on this communication, for on the day on which it was written he notified the Surgeon-General that the Secretary of War approved of the expenditure necessary to provide excavators, troughs, etc., for large camps and garrisons. Small commands not supplied with excavators will be required to use the earth-closet system on the lines indicated in the letter of the Surgeon-General of Jan. 25, 1899. The expense of providing the materials for closets and necessary labor for removal of excreta will be borne by the Quartermaster's Department.

England's State of Preparation for a Smallpox Epidemic.—Sir Richard Thorne, the chief medical officer of the English Local Government Board, has prepared a special report for the purpose of showing the receptive condition of the rising generation of his countrymen to epidemic variola. His observations on the increasing percentage of children who escape or evade vaccination are worthy of serious attention. He says that the summary he is able to give of the vaccination officers' returns is concerned with births during the calendar year 1895, the most recent period for which final information, based on repeated local inquiries concerning each child, is procurable. It shows that after deducting from a total of 921,512 births those children who are successfully vaccinated, those who died unvaccinated, those who were registered as "insusceptible" of vaccination, and those who had smallpox before vaccination, there still remained 20.5 per cent. who could not be traced or were otherwise not finally accounted for as regards vaccination. The proportion unaccounted for in the metropolis was 24.9 per cent., that for the rest of England was 19.8, both of which rates show a still further increase and a failure to comply with the provisions of the vaccination acts, which has been steadily growing for some fifteen years. Indeed, if allowance be made for the further falling off in this respect, which is believed to have occurred since 1895, the number of children now born in England and Wales who in one way or another escape vacination, is probably not much less than one-third of the whole. In this way the country is being prepared for widespread epidemics of smallpox such as have been unknown to the present generation, unless, indeed, the invariable rush and clamor for immediate vaccination on the part of those who have neglected or disclaimed against the operation during times of freedom from smallpox, should be capable of being so far met in the moment of emergency as largely to mitigate the impending disaster. It will be observed from the returns for 1895 that 2962 children were registered as insusceptible of vaccination. In this connection I would point out that the number of consecutive primary vaccinations by the Board's own officers without the occurrence of a single instance of so-called insusceptibility now reaches 107,180."

Health Report of Washington, D. C.—The report of the Committee on Public Health of the Board of Trade was read by the chairman, Dr. W. W. Johnston, at the public meeting held January 13. Dr. Johnston said: The death-rate and total number of deaths during the past year had been less than any year since 1875, when vital statistics had first been compiled in the District. There had been a decided reduction in the number of deaths from typhoid fever during the past year and he traced the result directly to the efforts made to lessen the sources of the disease, through the abolition of surface wells and pumps, the removal of sinks and outhouses, the improvement in drainage of the outlying parts of the city, the diffusion of knowledge among the people concerning the danger of contaminated water and impure milk-supply, and the milk analysis and inspection, now rigidly enforced. Referring to the prevalence of diphtheria and scarlet fever, he said "there were 494 cases of diphtheria among whites, with 67 deaths; and 206 cases among colored, with 64 deaths. There were two and one-third more cases among the whites, with about the same number of deaths as in the colored. He attributed the smaller death-rate among the whites to the fact that antitoxin is used more generally and at an earlier period than among the colored; he attributed the spread of the disease to the overcrowded and less healthful houses of the poor and less intelligent class, and urged the passage of more stringent laws governing contagious diseases and also a large appropriation from Congress to enable the Health Department to disinfect all premises where there have been cases of contagious disease." Referring to the water-supply and filtration, he said that the daily consumption of Potomac water averages 47,288,733 gallons, a per capita supply of 168 gallons for an estimated population of 283,782 and emphasized the fact that each year's experience showed an imperative demand for better purification of water-supply than is secured by the present method of reservoir sedimentation. He pointed out that the Potomac River above Washington, the source of the water-supply, drains an area of about 10,000 square miles and receives annually over 5,000,000 tons of sediment, the washings of that surface area. The river is a sewer for nine cities and towns along its banks which are increasing in population and sewage, all of which pollute the river; typhoid fever is prevalent in these towns and cities, and the policy and absurdity of using the same river as a sewer and drinking water-supply, is apparent. He pointed out the impossibility of self-purification of river water and that the removal of organic matter and disease-producing bacteria is possible only through modern filtration. In substantiation of the above he showed that rapid filtration did not satisfactorily remove germs, but that modern methods or filter-beds, when properly constructed, were highly satisfactory; he showed from statistics that typhoid fever was reduced to a minimum in the large cities where filtration was properly carried on. Munich, with filtered water, has a death-rate from typhoid fever of 3 in 100,000 population; before filtration, it was 210, in the same population; Vienna, had 181 before, 6 after: Berlin 100 before, 5 after; Breslau, 113 before, 9 after; Lawrence, Mass., 43 before, 7 after; Buffalo, with unfiltered water, 29; Washington, D. C., unfiltered, 69 per 100,000. He referred to the failure of Congress to make an appropriation for the maintenance of a chemic laboratory for the Health Department; formerly $250 was appropriated annually for this purpose. At present the Health Officer employs an inspector, who is a chemist, to investigate adulterations of food, foodstuffs, milk, water, butter and drugs, and defrays the expenses out of a small appropriation, known as "contingent fund." He pointed out the necessity of a chemic and bacteriologic laboratory, with a suit able force, for the purpose of suppressing disease and detecting alterations; he showed, that, notwithstanding the limited funds and force at the command of the Health Officer, adulterated foodstuffs are being driven systematically from the shops. He also pointed out that while over 40,000 pupils yearly attend the public schools in the District of Columbia, no certificate of health or freedom from contagious disease, or of the ability of the child to begin formal school instruction, is required, except the certificate showing previous vaccination. Children are admitted to the schools who are unfit physically and mentally to begin school life, and cases of contagious skin disease, tuberculosis and other diseases, propagated by contact, are not excluded by the present system. To remedy this evil every child applying to enter school should be required to present a certificate from the family physician setting forth physical and mental fitness to begin school life, and freedom from contagious disease. As the State is responsible for the care of the body and mind of the child, such responsiblity demands the appointment of school physicians to examine such certificates and, in doubtful cases, subject the child to further examination. Referring to the prevalence of malaria caused by the pestilential condition of the Anacostia River and flats, he stated that out of 200 patients in one of the many buildings of the Government Insane Asylum, 49.5 per cent. were ill with malaria between March and November of the past year. Of 229 employes at the same institution, 75 were ill from malaria during the same period, and the surgeon in charge states that the insane are made worse in their mental disorders by malaria. Malaria seriously interferes with the education of the children. From February to June of the past year, absences amounting to 4639.5 days were caused by malaria, while 16,221.05 days represented absences on account of all other diseases. 23.3 per cent. of absences being caused by malaria. During a period of 123 days, 25,694 days were lost, an average of loss to each pupil of about 1.05 days. The report of the surgeon, Maj. W. C. Boarden, U. S. A., in charge of the Washington Barracks, shows that from July, 1897, to July, 1899, with an average population of the post of about 400 men, 135 suffered from malaria. Dr. Johnston pointed out that the schools and institutions referred to were all adjacent to the Anacostia River, and the figures show the danger to the health of the city from the prevalence of the present conditions along that water-course. Among other matters of importance to the health of the community, he said, are the proper disposal of sewage and the removal of garbage, ashes and other waste. The plans proposed in this connection by the officials of the District Government, are approved and recommended by the Committeee and the Board of Trade.

Health Reports.—The following cases of smallpox, yellow fever and cholera have been reported to the Supervising Surgeon-General of the U. S. Marine-Hospital Service for the week ended Jan. 28, 1899:

SMALLPOX—UNITED STATES.

Alabama: Calvert, December 10 to January 20, 10 cases; Clarke County, December 25 to January 1, 2 cases, disease generally prevalent; Mobile, January 20, 5 cases.

Connecticut: New Haven, January 16, 2 cases; origin of the disease, New Durham, N. J.

District of Columbia: Washington, January 21, 1 case; origin, Alexandria, Va.

Florida; Pensacola, January 15, 1 case.

Kansas: Marion County, January 18, 11 cases; origin, Oklahoma.

Missouri: St. Louis, November 1 to January 21, 15 cases, 2 deaths.

Nebraska: Nebraska City, January 9-16, 4 cases, 3 deaths.

New York: Dunkirk, January 7-14, 3 cases; New York, January 7-14, 1 death.

Pennsylvania: Altoona, December 31 to January 25, 1 case; Bedford, December 31 to January 25, 1 case; Brumbaugh, December 31 to January 25, 2 cases; Charlesville, December 31 to January 25, 15 cases; Claysburg, December 31 to January 25, 1 case; Philadelphia, December 31 to January 25, 9 cases.

Virginia: Alexandria, January 20, 1 case; Norfolk, January 16, 90 cases.

SMALLPOX—FOREIGN.

Belgium: Antwerp, December 24-31, 10 cases, 2 deaths; Pretoria, December 24, epidemic suppressed.

Brazil: Rio de Janeiro, December 3-16, 21 cases, 9 deaths.

France: Paris, December 24-31, 1 death.

India: Calcutta, December 3-10, 1 death.

Mexico: Chihuahua, January 7-14, 1 death; Mexico, December 31 to January 8, 4 deaths; Vera Cruz, January 5-12, 1 death.

Russia: Moscow, December 17-24, 14 cases, 8 deaths; Odessa December 24-31, 1 death; St. Petersburg, December 24-31, 1 case, 1 death; Warsaw, December 17-31, 4 deaths.

Turkey: Bagdad, October 22 to November 27, 96 cases, 20 deaths; Constantinople, December 26 to January 2, 11 deaths; Smyrna, December 18-25, 4 deaths.

YELOW FEVER.

Brazil: Rio de Janeiro, December 3-16, 10 cases, 10 deaths.

Columbia: Barranquilla, December 17-24, 1 case, 1 death.

India: Calcutta, December 3-10, 1 death.

Mexico: Vera Cruz, January 5-12, 4 deaths.

CHOLERA.

India: Calcutta, December 3-10, 6 deaths.

ASSOCIATION NEWS.

Section on Diseases of Children.—It is desired that titles of papers to be read in this Section be sent the secretary, Dr. J. Leland Boogher, St. Louis, Mo., not later than March 30. The program is already quite full, and members are urged to attend to the matter at once. A preliminary program will be mailed early in April.

SOCIETY NEWS.

Jasper County Medical Society.—The semi-annual meeting and banquet of this Society was held January 17, at Newton, Iowa.

Scandinavian Medical Society.—The eleventh anniversary of this Society was celebrated with a banquet and ball at Chicago, January 21. The toast-master was Dr. A. H. Wimermark.

Bay County Medical Society.—At the recent session of this Society, the following officers were elected: President, J. McLurg; vice-president, W. C. Bishop; secretary, Wm. Kerr; treasurer, C. H. Baker.

Toledo (Ohio) Medical Association.—At the annual meeting, January 13, officers were elected as follows: President, Walter H. Snyder; vice-president, W. D. Stewart; recording secretary, Nelson H. Young; treasurer, James H. Duncan.

Hospital Medical Society.—The physicians of Rochester, N. Y., have organized a new society to be known as the Hospital Medical Society. S. W. Little is president, C. A. Greenleaf, secretary.

Alumni Association.—At the annual election of the Alumni Association of the Medico-Chirurgical College, Philadelphia, the following officers were elected: President, Henry Fisher; secretary, George W. Pfromm; treasurer, E. S. Gans.

Des Moines County Medical Society.—This Society recently held a banquet at Burlington, Iowa, at which Dr. H. A. Leipziger presided as toast-master. Special toasts were given by Drs. G. B. Little, Carl Stutsman, Barnes and Campbell.

White County Medical Society.—At the recent meeting, Carmi, Ill., the following officers were elected: W. W. Apple, president; L. C. Burdick and Chas Wakeford, first and second vice-presidents; W. A. Steele, secretary, ex officio treasurer.

Los Angeles (Cal.) County Medical Association.—At the regular meeting of this Association, January 20, the address of the retiring president, Dr. W. W. Miller, was delivered. Dr. Wesley W. Becket addressed the Association on "Typhoid Fever."

Beaver County Medical Association.—This Association, Pittsburg, Pa., has elected as officers: President, J. Burt Armstrong, Beaver; secretary, A. S. Moon, Beaver Falls; treasurer, T. P. Simpson, Beaver Falls.

Somerset County Medical Association.—At a recent meeting of this Association, Johnstown, Pa., these officers were elected: R. E. Pollard, Garrett, president; A. J. Welfley, Confluence, vice-president; H. C. McKinley, Meyersdale, secretary; David Gildner, Rockwood, corresponding secretary; W. S. Mountain, Confluence, treasurer.

Kalamazoo (Mich.) Academy of Medicine.—At the annual meeting and banquet, January 17, Drs. F. G. Novy and J. N. Martin of Ann Arbor, H. O. Walker of Detroit and H. T. Patrick of Chicago, were on the program for papers and gave demonstrations.

Cleveland (Ohio) Medical Society.—Sixty members of this Society met for the annual banquet, January 10. Dr. G. W. Crile was toast-master. A. F. House spoke on "Reminiscences;" H. S. Straight, on "Our Aims;" W. A. Knowlton, on "The Ladies;" and Dudley P. Allen on "Professional Ideals."

Dental Society Incorporated.—Articles incorporating the District of Columbia Dental Society have been placed on record. The trustees for the first year are: Drs. R. B. Donaldson, J. B. Teneyck, H. M. Schooley, Henry B. Noble, J. Curtis Smith, Henry C. Thompson and J. Hall Lewis.

Eastern Ohio Medical Association.—This Association met at Steubenville, recently. Dr. Parke of Wellsville discussed "La Grippe"; Drs. B.O. Williams of Bellaire, S. B. McGavaran of Cadiz and Floyd and Elliott of Steubenville gave a history of abdominal sections.

Columbus (Ohio) Academy of Medicine.—At the recent meeting the following officers were elected: C. S. Hamilton, president; Andrew J. Timberman, vice-president; William D. Deuschle, secretary. The retiring president, Dr. Warner, presented a paper on "The Influence of the Columbus Academy of Medicine on Higher Medical Education."

Chicago Society of Internal Medicine.—A joint meeting of the Chicago Society of Internal Medicine and the Chicago Medical Society was held January 25. The program was as follows: Henry M. Lyman, "Acute Articular Rheumatism;" Arthur R. Edwards, "Causation and Symptomatology of Articular Rheumatism"; J. H. Salisbury, "Chemic Theories of the Causation of Acute Rheumatism."

Semi-Centennial of Philadelphia County Medical Society.—This society has celebrated its fiftieth birthday, and, of its present enrollment, only Dr. Alfred still remains of its charter members. The celebration was, therefore, a historic one. There were speeches and well-wishes on every hand. President, Solomon Solis Cohen; first vice-president, John H. Musser; second vice-president, George E. Shoemaker; secretary, Ellwood R. Kirby; assistant secretary, W. S. Wray; treasurer, Collier L. Bower; censor, H. St. Clair Ash.

New Southern Medical Society.—There has recently been organized a society known as the Mississippi Gulf Coast Medical and Surgical Society, composed of the leading physicians of the different coast towns. The principal purpose of the organization is its endeavor to prevent the introduction of contagious and infectious diseases and to aid the State Board of Health in arriving at the correct diagnosis of such diseases, and for the prevention of vicious, retaliatory and useless quarantines. J. K. McLeod, M.D., Moss Point, Miss., is president, and O. L. Bailey, Ocean Springs, Miss., secretary.

Montgomery County Medical Society.—At the meeting January 17, Conshohocken, Pa., the Society elected the following officers: President, D. H. Bergey, Philadelphia; vice-presidents, P. A. Corson, Plymouth, and H. A. Arnold, Ardmore; recording secretary, H. H. Whitcomb, Norristown; corresponding secretary, J. K. Weaver, Norristown; treasurer, S. N. Wiley, Norristown; censors, C. H. Mann, Bridgeport; S. L. Slifer, North Wales, and E. S. Kreibel, Worcester; examiners, S. W. Groff, Harleysville; J. R. Care, Worcester, and S. B. Horning, Evansburg; delegates to the AMERICAN MEDICAL ASSOCIATION, S. L. Slifer, North Wales; H. A. Arnold, Ardmore; G. M. Stiles, Conshohocken; H. H. Whitcomb, J. K. Weaver, J. O. Knipe, Norristown.

Ohio Association of Infirmary Directors.—This Association has just held its annual session at Columbus, Ohio. The president is Richard Shale, Mahoning; the corresponding secretary, M. L. Huss, Sandusky. Among other resolutions was one "that our legislators be requested to make an appropriation to provide suitable buildings in connection with our several State hospitals, so that our county infirmaries can be relieved of their insane and epileptics in accordance with the law passed last winter; also that each member of this Association urge the representatives of their respective counties to this end."

Medical and Chirurgical Faculty.—This organization held a physicians' banquet in Baltimore, Md., recently. Following addresses by Dr. John I. Pennington, the retiring president, and Dr. C. Urban Smith, the newly-elected president, toasts were responded to by Profs. H. H. Beidler and E. Miller Reed, and Drs. Geo. J. Preston, William Lee Howard, Chas. G. Hill, J. D. Blake and Thos. H. Bradshaw. The election of officers resulted as follows: President, C. Urban Smith; vice-presidents, A. K. Bond and M. B. Billingslea; secretary, Eugene Lee Crutchfield; treasurer, Wm. E. Wiegand; executive committee, John I. Pennington, John R. Abercrombie and D. Z. Dunott; committee of honor, Geo. A. Fleming, S. T. Earle and C. H. Dixon.

Cumberland County Medical Society.—This Society convened at Bridgeton, N. J., January 10, with Dr. H. W. Elmer presiding. Papers were read by Drs. E. S. Fogg, on "Stimulation of the Heart," and M. K. Elmer on "The Serum Treatment of Tuberculosis." Both were discussed by different members. This Society celebrated its eightieth anniversary on December 8 last. The following interesting program was given: Prayer, Rev. S. W. Beach; Address of Welcome, W. L. Newell; Response, Prof. W. E. Ashton; Address, Historical, F. M. Bateman; address, "Study of Cardiac Pain," Prof. H. A. Hare; address, "Surgery of the Hepatic Ducts," John B. Deaver; address, "Internal Secretions," David Riesman. A reception was held at Hotel Cumberland, followed by a banquet. After-dinner speeches were made by Prof. H. C. Wood, Drs. W. H. C. Smith, J. Chalmers DaCosta, E. L. B. Godfrey, Charles C. Phillips and Prof. H. A. Hare.

Fourth International Congress of Dermatology and Syphilography.—This Congress is to be held at Paris, at the St. Louis Hospital, Aug. 2 to 9, 1900. By special arrangement with the International Medical Congress, to be held at the same time, the Section for Dermatology and Syphilography will combine with the Congress of Dermatology and Syphilography, and the one fee will admit to both (25 francs). The subjects announced for discussion are: "The Parasitic Origin of Eczema;" "Tuberculides;" "Varieties of Alopecia;" "Leucoplasia;" "Syphilis and Associated Infections;" "Hereditary Syphilis;" "Causes of Generalized Infections in Gonorrhea." Announcements of communications on other subjects must be made before June 1, 1900. Secretary-General, Dr. Georges Thibierge, 7 rue de Surène, Paris.

Washington Obstetrical and Gynecological Society.—The two hundred and ninety-second meeting of this Society was held at the residence of Dr. H. L. E. Johnson. Dr. J. T. Johnson read the essay of the evening, entitled "Operations for Cancer of the Uterus." He referred to the surgical history of cancer of the uterus, citing the statistics of prominent operators. Referring to his individual cases he had operated thirty-two times for this disease, of which number thirty had subsequently died of cancer, by extension of the disease; one was now quite ill from secondary cancer, and in one case the result was doubtful. He was almost prepared to say that operation held out no hope whatever for the cure of this disease, and in advanced stages of the malady he would in the future refuse to operate. Referring to the statistics of others, he said their results almost corresponded with his. He also read a contribution on the treatment and results in the grave forms of vomiting in pregnancy. An interesting discussion of both subjects followed, participated in by Drs. Balloch, T. C. Smith, Fry, Van Rensselaer, H. L. E. Johnson and W. C. Bowen.

Detroit Medical and Library Association.—At the regular meeting of this society, January 16, Dr. G. H. Sherman read a paper on "The Cause and Prevention of Overcrowding in the Medical Profession. He gave as the primary causes for the overcrowded condition of the medical profession: 1, the unnecessary number of graduates from medical colleges; 2, depressed social conditions; 3, less sickness, due to better sanitary conditions; 4, improved methods of treatment. The Doctor said in part that the medical man must recognize that he belongs to the industrial class; that it is impossible to prevent overcrowding in the medical profession, or any other calling, so long as the great leading industries are overcrowded. He then denounced the present profit system in commerce and industry, claiming that it inevitably pauperizes the masses and establishes a capitalist class. To prevent overcrowding in the profession, he argued, we must make labor more remunerative among those employed outside the medical profession, by getting rid of the profit system. He recommended the substitution of a co-operative system, through the instrumentality of the Government, and thus getting rid of the profit system. "This change," he said, "can be brought about only by abolishing profit in the private ownership of land through the operation of the single tax, or making occupancy and legitimate use the only title to land; to abolish profit in the natural monopolies, such as railroads, telegraph, street railways, etc., by establishing public ownership; to abolish profit in all industries that are in control of trusts and combines by having them operated by the Government at cost, and by the Government giving work to all who seek employment, by establishing governmental co-operative industries." The Doctor appealed to the medical men to do all in their power to establish one great co operative commonwealth.

Against Abuse of Alcoholic Liquors.—This Seventh International Congress will be held in Paris, April 4–9, 1899. The preliminary program gives promise of the widest discussion of this topic ever made at any one gathering, where nearly every phase of alcoholic injury and loss will be treated. The morning sessions will be confined to scientific studies; the afternoon open for educational, moral and sociologic studies of the drink problem. The various questions of the relation of alcohol to the higher university training will be presented. The following are some of the speakers: M. Brisson, professor at the Sorbonne; Dr. Brunon, director of the School of Medicine, Rouen; M. Ruyssen, professor at the Lycee, Rochelle; M. Gilbaut, professor at the Lycee, Toulouse. The temperance cause in the primary schools will also be discussed by leading educators of France, Germany, Switzerland, the Netherlands, and other places. Alcoholism among workmen in the city and country, alcoholism on native races and the means of prevention will be considered. The evenings will be open for the discussion of special topics by leaders and specialists. One will be devoted to the work of societies, the other to the influence of law and legislation, the other to women's work, the other to the crime phases of the question. The President of this Congress, Dr. Legrain, is the medical director of one of the largest insane asylums of France, and an author of eminence on diseases of the brain and nervous system. Other officers include many prominent medical teachers, scientists, and government officials, and distinguished philanthropists. It is proposed to have representatives of every society and organization for temperance in the world, and if possible arouse a new interest in this topic. Twelve great countries of Europe have announced delegates to the meeting, and nearly a hundred leading men have been enrolled to take part. Short papers are solicited from American workers in this field, on any one phase of the subject. Address T. D. Crothers, M.D., Hartford, Conn., American chairman of the organization.

BOOK NOTICES.

A Treatise on Unripe Cataract. By WILLIAM A. MCKEOWN, M.D., M.CH., Surgeon to the Ulster Eye, Ear and Throat Hospital, Belfast; Member of the Royal University of Ireland; Lecturer on Ophthalmology and Otology, Queen's College, Belfast. London: H. K. Lewis, 136 Gower St. W. C., 1898.

Fourteen years ago the author addressed the Ophthalmologic Session of the British Medical Association on the treatment of immature cataracts, showing that they could be safely and successfully removed by the use of intracapsular injections and intraocular irrigations, and that therefore cataracts might be operated upon at a much earlier period than has been customary. If this can be done without any special risk for the patient, it is certainly a decided advancement of ophthalmic surgery and a great boon for those half-blind patients who are compelled patiently to wait in their helplessness often for many months and even years, for the "ripening" of their cataracts.

In this treatise the author now lays before the profession the results of his experience in about 700 cases in which the injections and irrigations have been used, during the past fourteen years. While from the nature of the subject this book may not be of great interest to the general practitioner, it will be read with the greatest interest and much profit by every oculist. Since the days of Von Graefe's classic essay on "Cataract Operations," this treatise is the most valuable contribution to the surgery of cataract.

The Crystalline Lens System. Its Embryology, Anatomy, Physiologic Chemistry, Physiology, Pathology, Diseases, Treatment, Operations and After-changes, with a consideration of Aphakia. By LOUIS STRICKER, M.D. Cincinnati: 1898.

This is one of those books which represent an immense amount of work but find only a very limited field of usefulness. It is an extensive compilation of the vast literature on the crystalline lens, and will be a useful book of reference for the student of medical history and for those engaged in making special investigations concerning the lens system. The author deserves high praise and admiration for the amount of labor he must have spent in the preparation of this work.

Twentieth Century Practice. An International Encyclopedia of Modern Medical Science. By leading authorities of Europe and America. Edited by THOMAS L. STEDMAN, M.D. In twenty volumes; Vol. xvii. Infectious Diseases and Malignant New Growths. New York: William Wood & Co., 1898.

This latest volume of the series of "Twentieth Century Practice" covers only a few subjects, but these are important ones. Diphtheria is treated of as to its general pathology and bacteriology, by William Hallock Parker, M.D., of New York, and, as regards its symptomatology and treatment, by Abraham Jacobi, M.D., than whom there could be no better authority, either in this country or elsewhere, on the subject. Both these papers appear to be judicious and satisfactory discussions, and to thoroughly cover the known facts as to the pathology, diagnosis and treatment of this most unfortunate disease.

The article on tetanus is by Babes of Bucharest, who follows Rose closely in his clinical description, adding, quite freely, the more recently acquired bacteriologic and other data. One or two statements here made seem worth noting; in his remarks on diagnosis, and elsewhere, the author lays special stress on the symmetric involvement of the muscles in tetanic trismus, apparently ignoring the fact that reliable observations of tetanus in which the incipient trismus was unilateral have been reported. Another is the view he holds that mild cases of true tetanus often pass on to recovery unrecognized as such. Such a fact is encouraging, inasmuch as it indicates that the infection is not so fatal as has been generally held, and this, therefore, materially modifies the general prognosis of the disease.

The remaining articles by Williams (W. R.), Coley, Bowen, and McGuire, on malignant neoplasms, cancer, sarcoma, etc., are also apparently thorough and up-to-date. The volume is a worthy member of a valuable series.

Self and Sex Series. What a Young Woman Ought to Know. By Mrs. Mary Wood Allen, M.D., and Sylvanus Stall, D.D. Philadelphia: Vir Publishing Co. 1898. $1.

This little work is evidently written with the best intentions, and contains a large amount of sensible advice. It has the merit also of treating some delicate subjects judiciously and of omitting or rapidly passing over others that, when discussed, are as likely to do harm as good. One or two of the authorities quoted have hardly the scientific weight that is here given them, but that is not a very serious defect. While it is probably true that works of this kind are best addressed to parents and teachers who can communicate to the young the information needed, the present volume is a rather wholesome one, and may be of service to some members of the class for which it is written.

NECROLOGY.

Jacob C. Denise, M.D., Omaha, Neb., died January 20, aged 71 years. His medical studies were pursued at Dayton, O., at the Ohio Medical College at Cincinnati and at the Jefferson Medical College in Philadelphia, from which he was graduated in 1855. At the commencement of the Civil War he was appointed assistant-surgeon of the Twenty-seventh Ohio volunteers. In 1863 he was appointed surgeon of the same regiment. He was mustered out in 1864 at his own request, and returning to his home in Ohio, took a contract as acting assistant-surgeon of the United States army and was assigned as executive officer at the hospital at Columbus, Ohio. In 1865 he was transferred to the general hospital near Cincinnati, where he remained until the close of the year, when he was appointed by the governor of Ohio as surgeon of the Soldier's Home at Columbus. He remained at that institution until 1867, when he went to Omaha and began the practice of his profession. In 1869 he was appointed by President Grant receiver of the land office at Grand Island, and served in that capacity until 1872. He was for many years physician for the State Deaf and Dumb Institute, and was the city and county physician from 1868 to 1871. He was later examining pension surgeon and secretary of the Board of the United States examining surgeons. Dr. Denise was one of the original members of the Nebraska State Medical Society and its first secretary. He was also one of the organizers of the Nebraska School of Medicine, and subsequently of he Omaha Medical College, and chairman of the faculty of the ollege.

Judson Clark Smith, M.D., University of Vermont, 1888, f New York City, died there January 28, two days after an peration for appendicitis.

Charles H. Richards, M.D., University of Pennsylvania, 351, of Georgetown, Del., died January 10. He was born ov. 22, 1827.

Charles Fayette Taylor, M.D., Burlington, Vt., 1856, of ew York City, died in Los Angeles, Cal., January 25, in his d year. He was a member of several orthopedic societies nd was an authority in his specialty, to which he had sustained somewhat the relation of a pioneer.

William J. Lytle, M.D., N. Y. University, 1848, of Princen, N. J., died January 22, in his 76th year.

William Wood, M.D., Medical School of Maine, Bowdoin ollege, 1832, of Portland, Me., died there January 22, aged years. He was at one time one of the teaching faculty of s college, and as a medical adviser of several prominent citins had much of a national reputation.

D. D. Spear, M.D., Portland, Me., died January 21, aged 59 ars. In 1864 he entered the Maine Medical School and later e Berkshire Medical College in Pittsfield, Mass. He praced first in Kennebunk and from 1873 to 1897 in Freeport, removing to Portland in the latter year. He was a poet of some note.

Thomas W. Shaw, M.D., Pittsburg, Pa., died January 18, aged 73 years. He was graduated from the medical department of the University of Pennsylvania in 1848 and the same year commenced the practice of medicine on Penn Avenue, where he has been located ever since. He served during the Civil War as a surgeon, although not regularly enlisted in the volunteer service. He was connected with field hospital at the battles of Shiloh and Gettysburg, as well as a number of other notable engagements.

John Brahan Read, M.D., died at Tuscaloosa, Ala., January 20, aged 80 years. He is said to be the oldest alumnus of the University of Alabama, having graduated in 1834, and was the inventor of the iron shell so successfully used in the Parrott gun during the Civil War.

C. M. McDonald, M.D., Princeton, Ind., hospital steward Second Division Second Army Corps, died at Greenfield, N. C., January 23, of heart disease, aged 28 years. Last spring he enlisted in Company K, One Hundred and Fifty-ninth Indiana Volunteers. At Camp Alger he was appointed hospital steward and was placed in charge of the measles ward. From Camp Alger he was sent South with the hospital corps.

Robert S. McCombs, M.D., a trustee of Dickinson College and a member of the County Medical Society, died this week in Philadelphia, Pa. Dr. McCombs was born Nov. 23, 1848, and was graduated from the Department of Medicine, University of Pennsylvania, in 1868. For a while he practiced in Carbon County. In 1855 he received the degree of Doctor of Philosophy from the University of Pennsylvania. He is survived by a widow and son.

Joseph Baldwin, M.D., Austin, Texas, January 13, aged 72 years William M. Catto, M.D., Decatur, Ill., January 26, aged 41 years . . . A. H. Crawford, M.D., Buffalo, N. Y., January 20, aged 58 years . . . Henry M. Fisher, M.D., Akron, Ohio, January 21, aged 57 years . . . B. R. Johnson, M.D., Gowanda, N. Y., January 21. . . . H. Kirby, M.D., Canton, Ohio, January 20, aged 56 years . . . Samuel B. Lynch, M.D., Boston, Mass., January 14, aged 38 years . . . G. W. Murray, M.D., Alvaton, Ky., January 20 . . . Leonard W. Peabody, M.D., January 13, aged 82 years . . . T. J. Primer, M.D., Athens, Ill., January 15, aged 77 years . . . J. M. Riffe, M.D., Covington, Ky., January 21, aged 75 years . . . I. L. Sanderson, M.D., Sturgis, S. D., January 17 . . . A. W. Weismann, M.D., Keokuk, Iowa, January 15, aged 66 years . . . R. J. Johnston, M.D., of Craig, Mo., committed suicide January 24, by taking strychnin. . . . G. W. Bronaugh, M.D., Stanford, Ky., January, 16, aged 79 years.

MISCELLANY.

Dr. John Van Duyn.—At the annual meeting of the Syracuse (N. Y.) Academy of Medicine, January 20, Dr. John Van Duyn was chosen president of the Academy.

Dr. Thaddeus H. Walker.—Dr. Thaddeus H. Walker of Detroit, assistant-surgeon in the United States Army, one of the contract surgeons, has resigned from the Army.

Dr. Arthur R. Perry.—Dr. Arthur R. Perry of Somerville, Mass., has recently been elected city physician to succeed Dr. Wm. F. Holmes.

An Evidence of Colonial Expansion.—New Zealand has twenty-two establishments for freezing meats for European markets. They can handle 4,000,000 sheep a year.

Tuberculosis of Mammary Gland.—The item on this subject in the Journal, January 28, p. 201, should also have given credit to Dr. A. E. Halstead, Chicago, who in conjunction with Dr. LeCount prepared the original paper from which our abstract was made.

Casualties of the Spanish War.—As officially reported to the House Committee on Invalid Pensions, there were: Officers killed, 26; enlisted men killed, 257; officers wounded, 113; enlisted men wounded, 1487. Deaths from disease, May 1 to December 31, officers 111, men 4854.

The Point of Least Resistance.—In New York City, as a sop for the increased rate of taxation, the controller has cut off several alleged charitable societies from the list of organizations aided by the public funds. Outside of New York reforms are believed to be very gradual.

Population and Death-rate of New York City.—A recent weekly report of the N. Y. Health Board estimating the city's population at 3,550,053 gives out the following: in Manhattan Burough the death-rate is 22.70; the Bronx, 26.48; Brooklyn, 21.06; Queens, 24.12; Richmond 22.50.

New York and Quarantine.—According to recent press dispatches, thirty-four members of the House of Representatives, from New York State, have united to fight the bill which seeks to take charge of the quarantine service in New York harbor, taking it away from the State authorities and placing it in the National Marine-Hospital Service.

An International Pharmacopeia.—The Royal Academy of Medicine of Belgium has appointed a committee to consult with the government in regard to the necessary steps to be taken to induce foreign governments to agree and undertake the compilation of an international pharmacopia. Our Italian exchanges express the hope that Belgium's initiative will meet with the support of other nations, and the dream of international congresses find realization at last.

Mistakes in Sales of Poison.—A bill lately introduced before the New York State Legislature, endeavors to prevent these errors. It provides that only duly licensed pharmacists, and not drug clerks, are to make the sales. Another bill has also been introduced providing for the appointment of a State board of pharmacy of nine members, two from Erie, three from New York, and four from the State at large, to grant licenses and regulate pharmacy.

America as a Candy Consumer.—The Executive Committee of the American Confectioners' Association states that about $100,000,000 capital is invested in the manufacture of candy, and that Americans spend more on sweets than on beer, wines and liquors combined. The association claims that poisonous candy has practically disappeared from the market and further aims to instruct the manufacturer regarding the nature of every chemic or coloring material likely to be used.

Hospital Appointments.—Drs. T. L. Savin, A. L. Bossyns and J. Frank Crouch have been appointed additional assistant physicians in the Presbyterian Eye, Ear and Throat Charity Hospital, Baltimore. Drs. J. F. Jones, Charles G. Buck, H. Hardcastle, J. L. Spruill, R. H. Johnston and C. H. Teenken have been added to the medical staff and Dr. G. P. Crawford to succeed Dr. T. L. Savin as resident physician.

The Blind in Russia.—Of 302,000 totally blind persons in Europe, not less than 192,000 are in Russia, or a proportion of 1 to 500 of the population. France, England, Germany, Italy and Spain have a better showing, that of a little less than 1 out of every 1000. The Russian statisticians, and in this case competent physicians, attribute this plight of the inhabitants to the bad hygienic state of peasant life, to the intense cold and to the glare of the sun on the snow. To these causes might possibiy be added the minute foreign bodies carried by high winds.

"Annals of Ophthalmology."—Dr. H. V. Würdemann of Milwaukee, who has been associate editor of the *Annals of Ophthalmology*, in charge of the department of German literature, has accepted the position of editor-in-chief, vice Dr. Casey A. Wood of Chicago, resigned. Dr. Wood will retain an interest in the *Annals* and remain in charge of the department of Italian literature. The staff of the *Annals* will shortly be enlarged by the appointment of six collaborators, and abstracts of Dutch, Russian, Scandinavian, Polish and Grecian literature will hereafter be included. With these, the abstract departments of the journal will cover the ophthalmic literature of all the world.

Money for the Army Medical Department.—The urgent deficiency bill, approved Jan. 5, 1899, for the last six months of the fiscal year ending June 30, 1899, makes the following provisions for the Medical Department of the Army: For the purchase of medical and hospital supplies, including disinfectants for general and post sanitation, expenses of medical supply depots, pay of employes, including civilian nurses, medical care and treatment of officers and enlisted men of the regular and volunteer armies on duties at posts and stations, for which no other provision is made, for the proper care and treatment of cases in the armies suffering from contagious or epidemic diseases, $2,300,000. The posts and stations for which no other provision is made evidently include the many civil hospitals which threw open their doors for the care of sick and wounded soldiers during the past summer and autumn.

A Board on Emergency Rations for the Army.—The Secretary of War has appointed Col. Charles A. Woodruff, assistant commissary-general of subsistence, Lieut.-Col. Charles Smart, deputy surgeon general, and Major Louis A. Craig, assistant adjutant-general, U. S. V., a board to assemble in New York city on February 15 next, to examine, test and report upon the various emergency rations, as to their adaptability for use in the Army, and to compare the present authorized emergency ration with those that may be submitted for consideration The Board is authorized, on application, to make a practical test of the various rations with U. S. troops to be designated when the Board is ready to make the practical tests. Commenting on this order, the *Army and Navy Journal* says that it is not only the composition of the ration that is important but the mode of putting it up. Americans are much given to packing in tins, but this cover offers no facility for dividing a ration. If the soldier does not eat the whole he not only ha the same bulk to carry, but the contact of meat and tin in the open air is not free from danger to health. If the fragment are thrown away, a tin to a soldier, the quantity of cam refuse is increased enormously. The German sausage has no found favor in our army, but there is no doubt that its form gives the soldier a chance to take what he wants without spoiling the rest, and makes the least amount of refuse to be take care of.

Effects of the Arc on Eyes.—The report of Tracinski, in th *Zeitschrift für Beleuchtungswesen* (April 30), gives the resu of investigations in connection with the operation of th Zerener arc welding process, which is now coming into us quite largely. The operator wears a pair of spectacles of dark smoked glass, besides which he looks through a pane of dee red glass, which is connected with the apparatus. The actio of the light is sufficiently reduced by this means, says *Th Progressive Age*. He tried using the red glass alone, but affected his eyes for some time after. The workmen who a using this apparatus at first experience pain in the eyes a night, but later on this disappeared; the sight, however, w not affected. He concludes that no permanent ill effects a produced if proper precautions are taken, and if the operat becames gradually accustomed to the work. It is a mistal to have a new operator work a whole day with the arc, as should begin with a few hours a day until the eyes have be accustomed to it. Only those who have healthy normal ey should attempt this work.—*Scientific American.*

Blindness Among Spaniards.—In a recent communication the Berlin Ophthalmological Society, Hirschberg stated th the large number of blind beggars seen by him in traveli through Spain some years ago led him to investigate the subject. The only official statistics which he could find—those of the government census of 1860—gave the proportion of blind persons as only 11 per 10,000 of the population, a figure which appeared incredibly low in view of the numbers of blind persons seen in the streets and other public places. Further investigation showed that ever since the beginning of the present century travelers in Spain have noticed the large number of blind persons to be seen in that country. The official statistics have, in fact, been so carelessly collected that they are of no value. Diseases of the eye have for a long time been spreading to an alarming extent in the Peninsula. Hirschberg says that he has never seen such marked phthisis bulbi, or so many cases of it, as he usually met with in Spain. Even among well dressed people it is, according to him, quite common to see individuals who have lost an eye, and persons of well-to-do classes who have lost both eyes are by no means rare. At the Congress of Hygiene (vide JOURNAL, xxxi, p. 186), held at Madrid in the spring, Hirschberg uttered a grave note of warning as to the prevalence of such preventable diseases as purulent ophthalmia neonatorum and trachoma, and urged in the interest of the Spanish people, as well as their neighbors, that the medical profession of Spain should pay more general attention to diseases of the eyes.—*British Medical Journal.*

Cicatricial Stenosis Simulating Carcinoma.—Larned (*Phil. Med. Jour.*, Dec. 3, 1898) has a paper on "Cicatricial Stenosis of the Common and Pancreatic Ducts, Simulating Carcinoma," and from the case studied concludes: 1. Differentiation between pancreatic carcinoma and stricture of the pancreatic duct is difficult, and only possible after a careful study of the history and symptomatology, with the aid of laboratory researches, and in certain favorable cases after exploratory celiotomy. 2. Glycosuria is not a symptom of pancreatic disease. 3. Ptyalism will almost invariably be found in cases of pancreatic disease, and, in the absence of its well-known causes, the presence of this symptom should cause us to inquire carefully into the condition of the pancreas. 4. Active surgical interference for relief of the strictures is only of benefit in a limited number of cases when the adhesions are comparatively recent and few and must be limited to measures affording an outlet for the retained secretions. 5. Surgical treatment of the pancreas itself in such cases is unnecessary, as it has been shown by various writers, particularly Senn, that: *a*. in obstruction of the pancreatic duct the secretion is removed by absorption; *b*, that atrophy of the gland from the nutritive or degenerative changes is not incompatible with health, and *c*, that complete obstruction of the duct is seldom followed by the formation of a cyst that might necessitate the formation of a pancreatic fistula. 6. The prognosis is invariably bad.

Dentists and Pharmacists in the Army.—The reorganization of the Medical Department of the Army, now under consideration by Congress as a part of the Army bill, involving as it does a considerable increase in the membership of the department, is creating a flurry of interest not only among the younger members of the profession who hope to fill the vacancies but among those allies of the profession, the dentists and the pharmacists. The Hull bill (H. R. 11022), which went to the Committee on Military Affairs, calling for an increase of 309 medical officers, was returned to the Committee of the Whole House with an amendment providing for 100 dentists, with rank, pay and allowances of a first lieutenant, mounted, who shall be graduates of a dental college and shall pass a satisfactory professional examination. It is extremely doubtful whether Congress, which has heretofore been slow to add to the military establishment, will consider it needful to make such elaborate provision for preserving the teeth of the U. S. soldier as is contemplated by the friends of the dental colleges. It might be claimed that the teeth of the soldier were of more importance from the military point of view a generation or two ago, when he had to bite off the end of a tough paper cartridge prior to driving it home from the muzzle of his firelock, than in these days of metallic cases and breech-loading mechanism; but the Spanish-American war has developed as among the imperative needs of the soldier so many things which the veterans of former wars looked upon as unnecessary or impossible that we would not be surprised if a good many Congressional votes were cast in favor of the amendment. The pharmacists, however, do not appear to have been so prompt in their effort to secure a position in the reorganized Medical Department, for their amendment to the Hull bill has yet to be offered. That bill originally provided for one hundred pharmacists with the status and pay of acting hospital stewards, but this seems to be very far indeed from satisfying those interested in the subject, for, according to the *American Druggist*, it is proposed to organize within the medical department of the Army a corps of skilled pharmacists of high scientific attainments, investing them with commissioned rank and placing them in charge of the Medical Supply Service of the Army; and this is to be accomplished by omitting the hundred pharcists of the Hull bill and providing instead for a pharmaceutic corps, consisting of one Pharmacist-General with the rank of colonel, four Assistant Pharmacists-General with the rank of lieutenant-colonel, thirty-four corps pharmacists with the rank of major, ten division pharmacists with the rank of captain, twenty-five post pharmacists with the rank of first lieutenant, and twelve staff pharmacists with the rank of second lieutenant. The whole of this proposition is based on a misunderstanding of the status of the medical supply officer and of the duties devolving upon him. As illustrating the need for pharmacists of high scientific attainments, the *American Druggist* cites the work of the medical supply officer at New York during the Civil War. That officer expended during the years of the war, in purchasing medical supplies and paying for the services of contract surgeons and nurses, etc., the very large sum of $18,086,569.31. This he did without a flaw in his accounts and to the satisfaction of the Surgeon-General and Secretary of War, and that he did so illustrates the efficiency of the present system rather than the need of educated pharmacists in discharging these duties, for Dr. Satterlee, who then acted as medical purveyor in New York, was a major and surgeon of the Army, specially assigned to the charge of the purveying depot. Purchases are made from wholesale manufacturers, and in making these the services of highly educated pharmacists are not required. The question whether medicines are pure or of standard strength is determined by an expert chemist attached to the surgeon-general's office, in Washington, to whom samples are submitted by the contractors. Besides making purchases of medical supplies, the supply officers of the medical department are disbursing officers, who pay all bills incurred by the department; and pharmacists from civil life, however highly trained in their specialty, would find that their knowledge would be of small practical value in the discharge of the duties devolving upon them as supply officers when compared with that training and knowledge of army methods which is gained by years of service in the ranks of the medical department. The stewards and acting hospital stewards of the hospital corps have, as a rule, all the pharmaceutic knowledge necessary for the management of the army dispensary. They attain their position only after competitive examination, and pharmacy is one of the subjects of their study while in the company of instruction and one of the subjects of the examination which is to determine their subsequent status. It is doubtful, therefore, whether the efforts of the pharmacists to substitute a corps of high ranking officers for the unpretentious provisions of the Hull bill will meet with success.

Report of Lieut.-Colonel O'Reilly.—The following extracts are taken from the report of Lieut.-Col. R. M. O'Reilly, chief surgeon, Department of Cuba, relating to his visit to Jamaica, under orders from the War Department:

The Governor received us very courteously and at once placed us in communication with the commander of the forces in the Island of Jamaica, Major-General Hallowes, who introduced us to his staff, the officers of the garrison at Up Park Camp, and the officers of the various supply departments, medical and otherwise. We were also presented to the commandant of the naval station at Port Royal, Commodore Henderson, R.N. All these officers were most willing to furnish us any information, and to do everything in their power to facilitate the object of our visit. Practically, a certain amount of delay was caused by our arrival during the holiday season, and by the fact that office hours in Jamaica are from 10 A.M. to 1 P.M., and beyond these hours it was not considered proper to trespass on the time of the officers from whom we were securing information.

Although the climate of Jamaica varies greatly with altitude and topographic situation, it is in general pleasant, healthful and salubrious, the cold northern winds which affect Cuba being hardly felt, and the temperature, therefore, being much more uniform throughout the year. The low seacoasts are the warmest portions, the larger part of the habitable island, at altitudes of from one to three thousand feet, being decidedly cooler. The southern coast, at the foot of the Blue Mountain range, is warm and arid, much like the Santiago coast of Cuba. As one ascends the slopes the precipitation increases and the temperature falls rapidly, until, in the higher portions, the climate is wet and cool. The mean temperature at the coast is 78.2; at 2000 feet, 73; at 5000 feet, 62.6; at 5500 feet, 60; at 7400 feet, 55.7 degrees F. At Kingston, one of the hottest and driest places on the island, the highest temperature during ten years was 89.7, and the minimum 70.7, showing a range of only 19 degrees. The climate of the plateau region is especially pleasant, the temperature in St. Elizabeth, for instance, having an annual variation of only 9 degrees, fluctuating between a minimum of 67 and a maximum of 75. The rainfall at Kingston is only 44 inches, while on the north side of the Island it is 88, even reaching 100 inches.

Before entering upon the discussion of the conditions found to exist in the Island of Jamaica at present, it will be instructive to take a glance into its past, and see how well it has earned for itself the title of "Graveyard of the English." The 79th Regiment arrived in July, 1799, 1000 strong, and were quartered at Kingston. During four years they lost 910 men, and 200 were discharged or invalided. The 60th Regiment landed 387 strong in February, 1780. Two-fifths (155) died during the year. A detachment of 200 men were sent upon an expedition to Fort St. Juan, of whom few or none ever returned. The 88th Regiment arrived in March, 1780. During two years they had lost 550 out of 791 men. They were stationed at Rock Fort and Castile Fort. The 85th, 92d, 93d and 94th Regiments arrived in July and August, 1780, and lost heavily, owing to having neither barrack nor hospital accommodations. The sick varied from one-half to two-ninths of the entire force. The 93d lost one-half of their number during the first six months, and of the remainder only 73 were then fit for duty. Only one-seventh of the 94th Regiment remained fit for duty at the end of two years and four months. Of the four regiments, more than two-fifths of the number landed died during the first six months.

During three and one-half years (1779 to 1782) the average number of sick equaled one third of the entire force, and 3500 men died in less than four years, terminating December, 1782.

Still later, from 1803 to 1816, the average annual mortality per 1000 was 157. Vital statistics had not been framed in those early days, and it is impossible to tell what the cause of this heavy mortality was; we can only hazard a guess. It was not until 1817 that any practical attempt was made at a systematic compilation of disease statistics as far as the West Indies is concerned. During the period 1817 to 1836 the average strength, admissions, deaths and ratio per 1000 per annum were as follows: Period 1817 to 1836, average strength, Europeans 2578, natives 286; average admissions, Europeans 4672, natives 92; average deaths, Europeans 313, natives 9; ratio per 1000, admissions, Europeans 1812.26, natives 321.68; deaths per 1000, Europeans 121.3, natives 31.47.

During the healthiest year the mortality amongst Europeans was four to five times greater than in England, and in the unhealthy years was sixteen times as great.

"As to the cause or causes of the heavy sickness described in the foregoing remarks," says Maunsell, "elevated temperature, not being acclimatized, rainfall and temperature combined, absence of trade-winds at certain seasons, geologic formations, the vicinity of marshes and swamps, were all laid under contribution. It was not for many years after the period under review that the true causes became apparent, none of which had been much thought of in those days when sanitation was unknown. 1. Overcrowding. It is stated that at Tobago, in the barracks, which were the best in the whole command, the men had only 250 cubic feet per man of air-space; that each man had a space of only 22 to 23 inches in breadth, and that they slept in hammocks packed as closely as possible. 2. They wore European clothing, thick and tight-fitting, unsuitable to the climate. 3. The night soil, instead of being removed, was collected in large cesspits about the barracks, and these were seldom emptied. Neglect of surface conservancy. 4. No doubt the bad water was also a factor in producing disease. 5. Defective ventilation, and 6, general want of attention to personal hygiene." Yet as early as the year 1788, Dr. Hunter, in his work on "Army Diseases," had made the following very sound observations; "It is further to be remarked that those who are just arrived from cool and healthy climates are particularly subject to fevers, as is daily experienced by all new comers. A regiment always loses a greater proportion of men the first year than afterward, supposing their fitness to be the same. The troops to be sent should consist of well-disciplined and not new-raised men, for the latter being less orderly, and not accustomed to the life of a soldier, suffer greatly more from the climate than men habituated to discipline, as was observable in all the young regiments sent to that part of the world. Besides, it is almost impracticable to discipline men in a country in which they have so many difficulties to encounter, and where the great heat renders it impossible to exercise them in the open air, except for a short time in the morning or evening."

The following statistics show the gradual improvement which has gone on step by step, through giving the European troops sufficient barrack-room accommodation, by attention to general sanitary requirements indispensable to this climate, and by perseverance in the principle of locating them permanently in the hills:

1817 to 1836. Average strength 2578. Total admissions from all diseases, 93,455; average annual admissions, 4673; total deaths, 6254; average annual deaths, 313; ratio per 1000, admissions, 1812.55; ratio per 1000, deaths, 121.3. Total admissions from fevers, 46,922; average annual admissions, 2346; total deaths, 5253; average annual deaths, 262; ratio per 1000, admissions, 910.08; ratio per 1000, deaths, 101.9.

1838 to 1847. Average strength 1538. Total admissions from all diseases, 14,086; average annual admissions, 2348; total deaths, 973; average annual deaths, 97; ratio per 1000, admissions, 1526.66; ratio per 1000, deaths, 63.07. Total admissions from fevers, 6562; average annual admissions, 620; total deaths, 615: average annual deaths, 61; ratio per 1000, admissions, 334.16; ratio per 1000, deaths, 39.66. (N. B.—No record of admissions for 1842 and 1845.)

1848 to 1859. Average strength 734. Total admissions from all diseases, 10,058; average annual admissions, 838; total deaths, 267; average annual deaths, 24; ratio per 1000, admissions, 1141.69; ratio per 1000, deaths, 32.70. Total admissions from fever, 1084; average annual admissions, 153; total deaths, 141; average annual deaths, 14; ratio per 1000, admissions, 208.45; ratio per 1000, deaths, 19.08. (N. B.—No record of admissions and deaths for 1851 and no record of deaths for 1858.)

1860 to 1869. Average strength 706. Total admissions from all diseases, 6670; average annual admissions, 667; total deaths, 151; average annual deaths, 13; ratio per 1000, admissions, 994.76; ratio per 1000, deaths, 21.25. Average annual deaths from fevers, 8; ratio per 1000, deaths, 11.34.

1870 to 1879. All diseases. Average strength, 354; average annual deaths, 5; ratio per 1000, deaths, 13.77.

1880 to 1889. All diseases. Average strength, 390; average annual deaths, 4: ratio per 1000, deaths, 11.36. Fevers, average annual deaths, 1; ratio per 1000, deaths, 4.30.

The measures which led to the improvement of the previously existing conditions may be briefly stated under the following heads: 1. Where practicable, troops are now landed in November, and owing to the introduction of steam navigation and the careful manner in which provisions are made for the comfortable, safe and healthful transportation of the troops, they are landed in the island in good condition. There is now no trouble with scurvy among transported troops, as was the case in former years, when transportation was slower and the men were practically dependent upon salted meats while on shipboard. 2. The white troops, with the exception of the small garrison at Port Royal, are at once sent to Newcastle, at an elevation of 4000 feet above the sea-level, where all proper sanitary precautions are taken. 3. The stations which were known to be unhealthy have been abandoned, or their sanitation has been improved to such an extent that they are considered fairly safe except under unusual circumstances. The only two posts on the low lands now occupied are Port Royal and Up Park Camp. 4. The introduction of the canteen, from which the men can now procure beer, which they drink in preference to spirits. The testimony of the officers is that the canteen is largely instrumental in the disuse of spiritous liquors. 5. Furthermore the men are properly clad, with clothing that is loose, comfortable and adapted to the climate. The European troops wear khakie clothing, with flannel next to the skin. All troops wear cork helmets, which afford the best protection against the tropic sun. The non-Europeans wear a species of Zouave uniform, the trousers of which are usually high in the waist and so afford protection to the abdomen. 6. The sanitation of Kingston and the island generally. . . . The removal of underbrush; the construction of proper surface drainage; abundant supply of wholesome water; the introduction of the earth-closet system; the prompt removal and destruction of garbage in all the garrisons; liberal ventilation, raising dormitories above the ground level and cementing the ground under habitations; providing amusements within the post for the men; using, as far as possible, native, acclimated troops; doing all excavations, etc., by contract.

Up Park Camp, the principal station on the island, is situated about three miles from Kingston, at an elevation of about two hundred feet above the sea-level. The barracks are in three parallel ranges. Some of the buildings have the lower floors resting immediately upon the ground, while others are raised on high arches. The result has been that fever generally originated in the basement floors, and the most fatal cases have been taken from these rooms, especially after heavy rains. Two of the blocks of barrack buildings are raised above the ground on pillars, and it is said that this was done for purposes of architectural design and not for any principle of sanitation. At first the spaces under the raised buildings were used for storage purposes, not only preventing the necessary circulation of air but in themselves generating unwholesome effluvia; from the lower room of the blocks which were not raised above the ground the most serious forms of fever were admitted to the sick list. The principle had not then been mastered which is now recognized, viz., that for health it is a *sine qua non* in this climate that dwelling rooms should be raised above the ground so as to admit the free passage of fresh air, and that the ground should be hermetically sealed by concrete against the passage upward of unwholesome ground effluvia.

All garbage is removed by contract; it is carried to a distance of six miles and burned. The excreta are provided for by the dry-earth system. Each barrack has one privy, which is furnished with a number of galvanized iron buckets, and with dry earth and scoops, so that immediately after defecation a man can cover his excrement with this earth. Last year lime was used with the dry earth to advantage. Dry-earth sheds are used, to have always a supply of dry earth during the rainy season A separate place is provided for urination. The receptacle is a wooden tub, which is tarred. These tubs, as well as the buckets in the dry-earth closets, are emptied once in every twenty-four hours by a contractor, who carries the deposited matters to a point six miles to leeward of the camp and there buries them.

The officers, as well as the men, of the European troops in the West Indies wear the khakie uniform. The opinion of the officers is that khakie is the proper kind of clothing, on account of its cheapness, because it can be easily and cheaply washed, and that by wearing flannels with the material the health is preserved in any climate. Woolen shirts are always worn with the khakie as well as with the blue woolen serge uniforms. The British officers who have seen service in India, Africa and the West Indies, claim that khakie is the best service uniform, but they also say that every man is required to wear the woolen shirt next to the skin. Undershirts are not issued. Practically no attention is given to the cholera band, except during the sickly seasons, and even then the matter is in the hands of the non-commissioned officers.

Conclusions and recommendations.—1. The troops for service in Cuba should, as far as possible, be recruited in the Southern States, and a large proportion of these troops should be colored, with white officers. They should be thoroughly protected against smallpox before embarking for the island. 2. They should be sent there very shortly after the close of the rainy season, say at some time in November. 3. They should be quartered in barracks, the dormitories of which are raised above the ground, the ground underneath cemented, and most liberal ventilation afforded. All underbrush within practicable distance should be removed. The earth-closet system should be used in preference to cesspools, and the excreta removed by contract. The kitchen should be detached and protected against. Mosquito bars should be furnished. Abundant water-supply should be provided, and all drinking water should be filtered or boiled. Each man should be allowed a minimum of 76 feet superficial and 600 cubic feet of air-space. Bathing facilities should be provided and their use made compulsory. Drainage should be carefully provided for. Amusements, games and athletic sports should be provided for the men. 4. Clothing. Although there are objections to the khakie, the testimony is generally favorable to its use, and it is therefore recommended, but the blue flannel drawers should always be worn. Light cork helmets, made so as to shade the back of the neck, should be issued. Waterproof overcoats should be provided in limited numbers for use of the necessary guard and orderlies during the rainy season. The other articles of clothing fulfill the requirements. 5. No improvement on the present ration can be suggested. If it errs at all it errs on the side of too great liberality. So far as possible the troops should be saved from all exposure at night and in the early morning, and no one should be called on for any duty at night or early in the morning without being given at least a cup of coffee. 6. Rigid discipline should be enforced, communication with the towns should be reduced to the minimum, and every means used to impress upon the officers and men the fact that indulgence in spiritous liquors and excesses of any kind are exceptionally dangerous. 7. The sanitary measures to be taken in case of the outbreak of epidemic have already been provided for by the Surgeon-General of the Army, and it is useless to recapitulate.

Hospitals.

A new hospital for consumptives, on the cottage plan, is being talked of for Baltimore, Md . . The St. Elizabeth Hospital, Danville, Ill., reports 383 patients treated during the past year, only 14 of whom died, and 5 of these were in a dying condition when admitted . . Mercy Hospital, Des Moines, Iowa, reports that accommodations have been increased from 50 to 125 patients. The percentage of deaths for the year 1898, of the cases treated, was 4.12 . . The Children's Free Hospital, Detroit, expects to receive $75,000 from the estate of the late Hiram Walker . . To St. Joseph Hospital, Tacoma, Wash., a new addition has been erected at a cost of $21,000, and dedicated January 15. . . St. Joseph Hospital, Denver, is to receive a legacy from the estate of the late Mrs. Eliza Garner. . . Middlesex Hospital, Middletown, Conn., will hereafter be known as the Middlesex County Hospital, and is to receive $1000 from Dr. H. Scovil . . The Hospital for Women and Children, Newark, N. J., has received $1000 from the late Dr. James G. Barnett . . Norwegian Lutheran Tabitha Hospital, Chicago, gave a charity ball for the equipment of the surgical department of that institution, February 1 . . A concert for the benefit of the Passavant Memorial Hospital, Chicago, was given January 26, and it is believed will net $1000 to the Hospital.

New Orleans.

MEDICAL DEPARTMENT TULANE UNIVERSITY OF LOUISIANA.—During the present session another instructor has been added to the teaching force. Dr. Hampden S. Lewis as demonstrator of obstetrics, teaches students in the lying-in wards of the Charity Hospital, besides making demonstrations with the manikin. Dr. George S. Bell has been appointed to fill the position of instructor in physical culture, made vacant by the above appointment of Dr. Lewis.

Baltimore.

MEDICO-CHIRURGICAL FACULTY OF MARYLAND.—A circular has been issued to the profession in this State, calling attention to the approaching centennial anniversary of the "Faculty," the most important in the medical history of the State during the present century. The following is the order of arrangements at present proposed (subject to modification): Tuesday evening, April 25, president's address and reception by the Faculty; Wednesday evening, address of the orator, Prof. W. W. Keen of Philadelphia, after which there will be private receptions; Thursday evening, the annual dinner. At the scientific meetings, 3 to 5 P.M., it is proposed to invite prominent members of the profession from outside the State to read papers. From 10 to 2 daily there will be demonstrations, etc., at the hospitals and schools. It is proposed to have a loan collection of portraits and of relics of interest to the profession. The Medico-Chirurgical Faculty of Maryland was founded with 101 physicians, the leading men of the day, from all the counties of the State, as charter members. The Society has its own building, a valuable collection of books, portraits and curios; a hundred journals are taken regularly. The Frick Fund alone added 342 volumes last year, chiefly new books and valuable reports in English, French and German; 3280 readers visited the rooms during 1898.

Johns Hopkins Medical School.—There are thirty-one young women enrolled in this medical school. The new physiologic and pharmacologic building of the university has been fitted up and occupied. The anatomic bulding will now be available exclusively for the uses for which it was originally intended.

Dr. T. Hayward Hays, after graduating at the University of Maryland, left Baltimore fourteen years ago as a missionary of the Presbyterian Church, for Siam. At Bangkok, he assumed office under the Siamese Government, organized a hospital and medical university and finally became the royal physician. He now returns to spend a year in his native country. In 1894 he received from the king of Siam the Order of the Crown of Siam and also has been made the Surgeon-Major of the Siamese Navy. The success of Dr. Hays shows what may be in store for talented young graduates in the great East, just arousing from its lethargy.

Prof. Julian J. Chisholm, the well-known oculist, who retired from practice eight months ago, will hereafter divide his time between his former home, Charleston, his son's home here (Dr. Francis M. Chisholm), and some Northern health resort.

Dr. James F. McShane, late health commissioner of Baltimore, who was sued by the city for embezzling funds paid into his hands for the care of apparatus at Spring Grove Asylum, while in office, was acquitted.

Washington.

Quarantine Officer Appointed.—Dr. Arthur Snowden has been appointed quarantine officer for the ports of Washington, D. C., and Alexandria, Va., under the Marine-Hospital Service. Dr. Snowden held this position prior to his service in the army of Cuba and Porto Rice.

To Investigate the Washington Asylum.—Senator Gallanger has introduced in the Senate a resolution, which was promptly passed, directing the Committee on the District of Columbia to make a careful investigation of the Washington Asylum, with a view of ascertaining whether or not the accommodations now furnished are adequate for the proper care of the inmates of that institution. He stated that he was reliably informed that there are at present 826 persons in all the departments, and that in the male workhouse there are 286 bunks and 348 inmates, and that the institution is so crowded that they are occupying the hospital dining-room at night for sleeping space for patients.

The Public Telephone and Contagious Diseases.—It is quite pertinent for the profession to determine whether or not the use of the public telephone is a factor in spreading contagious diseases. The question has already been raised in the public press, and is receiving no small consideration. When we consider the fact that the telephone, in drug stores particularly, is used largely to transmit messages to physicians, and that the sender of the messages must necessarily, in many instances, come more or less in contact with persons and places infected by disease, and in many instances be themselves in the early stage of infectious disease, it is quite probable that both the receiver and transmitter of the telephone would become a receptacle for various germs. The moist breath of patients suffering from tuberculosis, scarlet fever, diphtheria, grip and other diseases, would be condensed in the mouthpiece or transmitter, and there drying, subsequently be inhaled by others. The ear-piece or receiver is touched by hands infected with almost everything, and applied to the ear of a more or less infected public, and is in turn handled by the washed and combed gentry and applied to the healthy ear. If parasitic skin diseases are not thus transmitted and clean hands infected, an exception to the generally recognized rule must be noted. This will open a very interesting field for bacteriologic research, and may result in bringing about what is heretofore unknown—the washing and cleansing of the instrument and supervision of its promiscuous use.

St. Joseph, Mo.

Dr. Daniel Morton has been appointed county physician, and Dr. J. F. Cleaves, county jail physician.

New Management.—The hospital of Ensworth Medical College has been placed under the management of the Board of Deaconesses of the Methodist Church, to be maintained as a public Protestant institution.

The Faculty of Central Medical College has added a large amphitheater as a wing to St. Joseph Hospital. All clinical classes will be conducted there, the facilities at the college building being inadequate.

Dr. J. W. Heddens has gone to Philadelphia to take a private course in abdominal surgery with Jos. Price, after which he goes to New York to study gynecology.

Dr. J. H. Flynn has removed to Leona, Kan.

Quackery.—A united effort is being made by the local physicians, endorsed by the St. Joseph Medical Society, to rid the city of advertising quacks, under the penalty of prosecution A similar movement has resulted at Cameron, Maryville Sedalia and Kansas City.

Suit.—A peculiar suit for $10,000 damages for malpractice against Dr. J. P. Kirschner, mayor of the city, was tried this week. The plaintiff, a young woman, ten years ago, while romping, gouged a shoe buttoner into her eye, caught up the inferior rectus muscle and tore it loose from its posterior attachment. When she called on the Doctor the eye was badly inflamed, the muscle protruding over the lid. Realizing the futility of attempting reparation, the muscle was cut off. As a result of the contusion vision was somewhat impaired, and the loss of the muscle left the eye turned up. A number of eye specialists were called to testify. Their opinions, without exception, were to the effect that Dr. Kirschner had done the best thing for the patient, and this fact, coupled with the testimony of the woman, that the accident had been caused by herself resulted in the case being *nolle prossed.*

Dr. J. A. French last week removed from a woman a pessary which had been retained about the os uteri for five years. When removed the instrument was deeply covered with a calcareous deposit.

February 1, Drs. C. H. Wallace, E. S. Garner, B. Pitts, J. B. Reynolds and F. P. Cronkite, will take up their quarters in the Ring Hill Building, and Dr. Charles G. Guger will enter the office of Dr. Jacob Guger as colleague, in place of A. J. Beel, whose relations as such have terminated.

Philadelphia.

Dr. H. H. Brown of the United States Army has been visiting relatives and friends in the city. Dr. Brown is now stationed at Fort Mott.

Dr. Guy Hinsdale has been elected secretary of the Philadelphia Club for the ensuing year.

Dr. William Downs.—Last week the resident physicians of the Pennsylvania Hospital tendered a farewell dinner to Dr. Downs.

Annual Banquet.—The annual banquet of the Judson Daland Medical Society (Univ. Pa.) was held last week at the Hotel Bellevue. Dr. Horatio C. Wood acted as toastmaster. Dr. Judson Daland spoke on "Medical Societies," and Dr. James Tyson on "The University."

Floating Disinfecting Plant.—The fumigating boat, *Protector*, which was stationed at Montauk Point during the summer and did such excellent work, is to be taken to the city of

Havana. This vessel is the first one of its kind ever built, and t is stated that the Government is so well pleased with its work that another contract has been made along similar lines.

MEDICO-CHIRURGICAL COLLEGE CORRECTION.—In the JOURNAL of January 21 (p. 152) we stated that this institution had created a chair of military and naval surgery. We regret that we were misinformed, but no such course is contemplated. This institution is, however, to have a special quiz course for he preparation of candidates for the medical corps of the U. S. Army, Navy, etc.

PHILADELPHIA MEDICAL CORPS.—At a recent meeting of the Philadelphia Medical Corps, the following officers were elected: President, Frank M. Riter; secretary, Green R. Hulsizer; vice-president, William P. Zeigler; treasurer, L. Wessels: medical director, Thomas H. Andrews; commander, Dr. Hulsizer.

TUBERCULOSIS AMONG CATTLE.—At the last meeting of the State Live Stock Sanitary Board, held at Harrisburg, January 4, Dr. Leonard Pearson, State Veterinarian, submitted a eport regarding the work of the Board during the past year. He also read a paper on "The Present Status of the Struggle Against Tuberculosis," in which he stated that during the past ummer he had spent some time in Denmark studying the system of prevention as practiced in that country, which is conidered the best in the world. In Pennsylvania the method has been modified after that of Denmark. In the latter country, infected cattle are not killed, but are isolated in such a way hat they will not infect other animals. Since June of last year 64 herds were tested for tuberculosis, including 4900 head of cattle. Of these, 611 were condemned. The appraisement of cattle during the year was $12,693. One of the proposed changes in the Board consists in placing the authority for the hooting of rabid dogs in the country districts in the hands of he Board, so that it will not interfere with the authority of mayors and burgesses, who now have jurisdiction in these ases. Of the State Board of Agriculture, of which this Board is a part, the following have been elected: State veterinarian, Leonard Pearson; chemist, Dr. William Frear, State College; microscopist and hygienist, Dr. Henry Leffman, Philadelphia.

ANNUAL REPORT OF MEDICAL INSPECTOR.—Medical Inspector . Howard Taylor has recently submitted his annual report to he Board of Health of this city. The report states that yphoid fever cases reported in 1898 more than doubled those f the preceding year.. The soldier cases are included in making up the total cases. Excluding those (1348) we have 4749 as he total city cases. During the year, 4154 cases of diphtheria were reported, 261 cases of membraneous croup, 1900 of scarlet ever, 6097 of typhoid fever and 7 cases of smallpox. There was a decrease of 877 cases of diphtheria, 113 of membranous roup, 1653 of scarlet fever, and an increase of 3103 cases of yphoid fever. There were 998 deaths from diphtheria (23 per ent.); 156 deaths from membranous croup (59 per cent.); 114 rom scarlet fever (5 per cent.); 634 from typhoid fever (14 per ent.), and 2590 deaths from consumption. The condition of very schoolhouse in the city is reported in detail, and proves hat many are in a very insanitary condition and ought to be bandoned. The mortality of diphtheria (23 per cent.) is especially interesting and only goes to show that mortality statistics f cities prove nothing regarding the beneficial effects of antioxin, for various reasons.

RECOMMENDATION FOR LEPER HOSPITAL.—Owing to the fact hat from time to time cases of leprosy are reported in various arts of this country, the Board of Health have recently assed the following resolution: "Resolved, that the Conress of the United States be respectfully memorialized to make provision for the proper care and treatment, at some central point, of all cases of leprosy now existing, or which may ereafter occur in the United States." The two cases of leprosy now at the Municipal Hospital are being closely watched y Drs. Jay F. Schamberg and W. M. Welch.

STUDENTS AND MUNICIPAL HOSPITAL.—There are usually about one hundred cases of diphtheria and many cases of scarlet fever present in this institution, and believing that ultimate good would result to the student if permitted to receive bedside training in these diseases, the County Medical Society has come out in favor of the proposed plan to permit students to visit patients here.

REPORT OF THE GERMAN HOSPITAL.—The total number of admissions to the Hospital and the Mary J. Drexel Home for Children, during 1898, was 3698, with 153 in the wards Jan. 1, 1899. This is an increase of 720 in the number of cases, as compared with the previous year. The visits to the dispensaries were 40,861. Of the 275 soldiers treated at the Hospital during the year, all but four recovered. The cases treated in the different departments were: Medical, 1580; surgical, 1347; marine, 383; children's, 388. During the year 265 deaths occurred.

SMALLPOX IN PENNSYLVANIA.—Dr. Benjamin Lee, secretary of the State Board of Health, has made the following report: Since the last report, Dec. 31, 1898, smallpox has been reported in Pennsylvania as follows: Charlesville, Bedford County, previously reported existing in two families, 15 cases; Philadelphia, 10 cases; Altoona, 1 case; Bedford, 1 case; Claysburg, 1 case, origin Brumbaugh; Brumbaugh, 2 cases. No deaths have been reported.

INCREASE IN TYPHOID FEVER.—During one week in January, 1898, over 200 cases of typhoid were reported, but the report of the week ending Jan. 28, 1989, gave 427 new cases, with 40 deaths. The disease is not confined to any certain section of the city, but is widespread, the twenty-ninth ward, however, still remaining the "banner" ward, with 82 cases. Next comes the fifteenth, with 33 cases, the twenty-eighth, with 26 cases, the thirty-eighth with 23 cases, and the nineteenth with 22 cases. The Board of Health is using every effort to stop the plague, but without any seeming effect. The people *will not* boil the water.

MORTALITY STATISTICS.—The number of deaths for the week ending January 28 numbered 518, a decrease of 64 over the previous week and an increase of 60 over the corresponding period of last year. Of the total number, 133 occurred in children under the age of five years.

NATIONAL RELIEF COMMISSION.—The following is the latest report of the National Relief Commission: Cash previously acknowledged, $80,733.77; interest from Drexel & Co., $175.74; for relief of Pennsylvania soldiers in the field, $386.87; for relief of Tenth Regiment (Pa.) at Manila, $200; value of supplies received to date, $40,345; grand total, cash and supplies, $122,030.17.

Army Mortality and Life Insurance Experiences.—The *Army and Navy Journal* of Dec. 24, 1898, compares the mortality in the U. S. Army during the months May to September, 1898, with the experience of the life insurance companies. It says: The Adjutant-General reports 2565 deaths by disease from the beginning of the war to Sept. 30. In May the whole force was 168,929, in August 274,717. The average at the end of September would be 259,830 for regulars and volunteers together, but the average during the three months of severe sickness was 272,595, or very near the maximum. Probably the average rate of mortality was very close to 95 in 10,000 for five months. We are indebted to Mr. John B. Lunger, managing actuary of the New York Life Insurance Company, for a note upon the average yearly mortality of insured persons who represent a healthy, sound class of persons not subject to unusual conditions of exposure. He takes from the "American Experience Table," constructed by Mr. Sheppard Homans from the experience of the Mutual Life Insurance Company, the figures of mortality from the age of 20, when it is 78 persons yearly in 10,000, to the age of 30, when it is 84 per 10,000. The average of the eleven years of just those ages which are most commonly found in a newly recruited army, is 80.9 per 10,000. The mortality in the Army was therefore two and a half times as great as in the insured lists, but the five months covered by the Army figures included about three months of more or less violent epidemic, which is a larger proportion than the insured would have in any year. This comparison with the rate of mortality among insured lives is the most trying that could be made and it bears out the contention, which the *Army and Navy Journal* has maintained invariably, that the medical service of the Army was conducted with great ability and skill. Remembering that nearly 50,000 soldiers were sent to tropical and sub-tropical countries and obliged to endure field exposure during summer months, this record deserves to receive the most honorable recognition.

THE PUBLIC SERVICE.

Movements of Army Medical Officers under orders from the Adjutant-General's Office to January 26, 1899.

To the Philippine Islands: Lieut.-Col. Alfred A. Woodhull, deputy surgeon-general, from duty as commanding officer of the Josiah Simpson General Hospital, Va., via Washington, D.C., Denver, Colo., and San Francisco, Cal., to Manila, as chief surgeon, Department of the Pacific. Acting Asst.-Surgeons Louis W. Bishop and Gilbert I. Cullen to report at New York City to Major Alfred E. Bradley, surgeon, U. S. A., in command of the Hospital Ship *Relief*, for transportation to Manila and service in that department.

From the Philippine Islands: Lieut.-Col. Lippincott, deputy surgeon-general, on being relieved by Lieut.-Col. Woodhull, to proceed to Denver, Colo., as chief surgeon of the Department of the Colorado. Major Charles E. Woodruff. brigade surgeon, Vols.. to report to the Commanding General, Department of California.

To Cuba: To report at Havana to the Commanding General, Division of Cuba, Major W. Fitzhugh Carter, surgeon, U. S. A., from Huntsville, Ala., and Acting Asst.-Surgeon Madden W. Hamilton from Washington, D. C. To duty at Puerto Principe: Major Robert Burns, brigade surgeon, Vols., from Albany, Ga.

To Porto Rico: To report to the Commanding General at San Juan, via New York City, Acting Asst.-Surgeons Charles G. Eicher from Pittsburg, Pa.; Irvin E. Bennett and R. E. Caldwell, from duty at Camp Forse, Huntsville, Ala.; H. A. Eberle from Savannah, Ga., and Harold W. Cowper from duty at Columbus Barracks, Ohio.

To duty with troops at home camps: To the Second Army Corps at Anniston, Ala., Majors William J. Kernachan and Henry H. Lee, brigade surgeons, Vols., from Huntsville, Ala. To Chickamauga Park, Ga., Acting Asst.-Surgeon Edward S. Grigsby.

To duty at Posts: To Willets' Point, N.Y., Lieut.-Col. Henry S. Turrill, chief surgeon, Vols., from his present duties at Huntsville, Ala. To Fort Logan, Colo., Major Edwin F. Gardner, surgeon, U. S. A., from the Josiah Simpson General Hospital, Va. To Plattsburg Barracks, N. Y., Capt. Henry C. Fisher, asst.-surgeon, U. S. A., on expiration of his sick leave. To Fort Clark, Texas, with the Tenth U. S. Cavalry from Huntsville, Ala.; Major Henry D. Thompson, brigade surgeon, Vols., and Acting Asst.-Surgeon A. M. Brown. To Washington, D. C., as attending surgeon, Major William R. Hall, from the command of General Hospital, Fort Thomas, Ky. To Minneapolis, Minn., as examiner of recruits, acting asst.-surgeon David T. McKinney.

To General Hospitals: To the Josiah Simpson Hospital. Va., as commanding officer. from duty in command of the Railway Hospital Train, Major Charles Richard, surgeon, U. S, A.; Major Charles M. Gandy, brigade surgeon, Vols., on being relieved from his present duties. To the General Hospital, Fort Myer, Va., Major James D. Glennan, brigade surgeon, Vols., from duty at Columbus, Ga.

To special duty: Lieut.-Col. Charles Smart, deputy surgeon-general, U. S. A., to New York City, Feb. 15, 1899, as a member of a board to examine, test and report on emergency rations,

Leave granted or extended: Acting Asst.-Surgeon C. L. G. Anderson.

Sick leave granted or extended: Capt. Henry C. Fisher, asst.-surgeon U.S.A., Lieut. Geo. H. Jones, asst.-surgeon 10th Ohio Infantry, and Acting Asst.-Surgeon Wm. E. West.

Honorably discharged, the following officers of volunteers: Lieut.-Col. Henry S. Turrill, chief surgeon Vols. (Major U.S.A.); Major Geo. E. Bushnell, chief surgeon Vols. (Major U.S.A.), to take effect Jan. 23. 1899; Majors H. P. Birmingham, March 22, Marlborough C. Wyeth, February 22, E, C. Carter, February 22, Peter R. Egan, March 22, Henry S. T. Harris, February 22, Chas. E. Woodruff, March 22, and Chas. F. Mason, March 22, all majors and brigade surgeons Vols. (captains and asst.-surgeons U.S.A.). Majors Chas. M. Drake, John P. Dodge, Chas. R. Parke, John E. Woodbridge, David C. Peyton, all to take effect Feb. 22, 1899, and Majors John J. Archinard and Geo. Groff, March 22, 1899, all brigade surgeons Vols. Also Capt. J. G. Cullen, asst.-surgeon 1st Ohio Infantry, to take effect Jan. 22, 1899.

Wholly retired: Capt. Benj. Munday, asst.-surgeon U.S.A., he having been found by an Army retiring board incapacitated for active service on account of disability which is not the result of any incident of the service.

Contracts annulled: Acting Asst.-Surgeons Howard Switzer and Jas. W. Madara of Lexington, Ky.

Movements of Navy Medical Officers.—Changes in the medical corps of the U.S. Navy for the week ending Jan. 28, 1899.

Medical Inspector D. Dickinson, detached from the "Philadelphia" and from duty as fleet surgeon of the Pacific station. January 20.

Asst.-Surgeon G. F. Freeman, detached from the "Arethusa" and ordered to temporary duty on the "Vermont. January 21.

Surgeon H. G. Beyer, detached from the "Amphitrite" and ordered to the "Wabash," January 7. January 24.

Surgeon J. M. Edgar, detached from the "Cincinnati" and ordered to the "Richmond."

Asst.-Surgeon R. K. McClanahan, detached from the "Southery," when put out of commission, and ordered to the "Richmond."

Surgeon H. L. Law, retired, detached from the "Wabash" and ordered home.

Asst.-Surgeon J. G. Field, retired, detached from the "Richmond" and ordered home.

Asst.-Surgeon Edward G. Parker, appointed Jan. 10, 1899. January 25.

P. A. Surgeon L. L. von Wedekind, detached from the naval academy and ordered to the Asiatic station via the "Solace."

Asst.-Surgeon G. N. Angeny, detached from the naval hospital, Chelsea, Mass., and ordered to the "Indiana."

Asst.-Surgeon R. C. Holcomb, order of January 19, detaching from the naval academy and ordering to the Washington navy yard, revoked.

Asst.-Surgeon H. A. Dunn, detached from the "Cincinnati" when put out of commission, and ordered to the naval hospital, Chelsea, Mass.

Surgeon J. W. Ross, retired, ordered to report to the War Department in connection with one of the hospitals to be established at Havana, Cuba.

Medical Director C. J. Cleborne, detached from duty in charge of the naval hospital, Norfolk, Va., and ordered to the naval hospital, Philadelphia, Pa. January 26.

Medical Inspector N. M. Ferebee, ordered to the naval hospital, Norfolk, Va.

Surgeon D. N. Bertelotte, detached from the "Vermont" and ordered to duty as member of the medical examining board, Washington, D. C.

Surgeon L. W. Curtis, ordered to the "Vermont."

Medical Director G. H. Cooke, retired, detached from naval hospital, Philadelphia, Pa., and ordered home.

Medical Director D. McMurtrie, retired, detached from duty as president of the medical examining board, Washington, D. C., and ordered home.

Marine-Hospital Changes.—Official List of Changes of Stations and Duties of Commissioned and Non-Commissioned Officers of the U.S. Marine-Hospital Service, for the seven days ended Jan. 26, 1899.

Surgeon H. R. Carter, to report at bureau preparatory to detail for temporary duty in Cuba. Jan. 23, 1899.

P. A. Surgeon W. J. Pettus, to proceed to Portsmouth, Va., for special temporary duty. Jan. 26, 1899.

P. A Surgeon M. J. Roseuau, to proceed to Delaware Breakwater quarantine for temporary duty. Jan. 21, 1899.

CHANGE OF ADDRESS.

Bishop, H. M,, 323 to 338 9th Street, Brooklyn, N. Y.
Collie, J. A., Williams Bay, Wis., to 4306 Forestville Avenue, Chicago.
Egleston, J, C., Topeka, Kas., to 440 New Ridge Bldg., Kansas City, Mo.
Heflebower, R. C., Groton Bldg., to Berkshire Bldg., Cincinnati, Ohio.
King, S. H., Naragausett Pier, R. I., to 1529 Bolton Street, Baltimore.
Kern, A., 3745 Langly Avenue to Michael Reese Hospital, Chicago.
McCann, D. B., Sandcoalee, Mont., to Circle City, Alaska.
Mitchell, E. R., County Hospital to McPhee Blk., Denver, Colo.
Mowry, C., 103 Aborn Street to 80 State Street, Providence, R. I.
Moore, H. C., Beeville to Halletsville, Texas.
Pampel, B. L., Omaha, Neb., to Livingston, Mont.
Rodenhius, E., La Fayette to Quincy, Ind.
Rudis-Jicinsky, J., Crete, Neb., to Cedar Rapids, Ia.
Sturver, E. Rawlins, Wyo., to Fort Collins, Colo.
Spearman, W. C,, Texarkana, Ark., to Texarkana, Texas.
Van Duyn, A. C., 2950 Indiana to 3010 Prairie Avenue, Chicago.
Welsh, D, E., 79 Monroe Street to 57 Wonderly Blk., Grand Rapids Mich.
Wandless, H. M., 39 W. 36th to 45 W. 32d Street, New York City.
York, F. A., Denver, Colo., to Trinity, Texas.

LETTERS RECEIVED.

Ambrose, O. A., (2) St. Louis, Mo.; Allen, C. L., Washington, D. C.; Allen & Hanburys Ltd., London, Eng.

Brunson, R., Hot Springs, Ark.; Bymm, J. C., Stewartsville, Mo.; Baker, J. C., Warrens, Wis.; Boyles, J. M., Flora, Ill.; Brack, G. S., New York City; Barnes, F. H., New York City; Bishop Publishing Co., New York City; Beck, C., New York City; Bastic, W. C., Chattanooga, Tenn.; Babcock, L. C., Philadelphia, Pa.

Cale, G. W., Springfield, Mo.; Calcium King Light Co., The, New York City; Chicago Tribune, The Chicago; Cragin, E. B., New York City; Chicago Medical Book Co., Chicago; Crofton, A. C., Los Angeles, Cal.; Carlton, Jas., Chicago; Cincinnati Sanitarium, College Hill, Ohio.

Dolz, William, Gibara, Cuba; Deutsch, Erno, Budapest, Hungary; Dawbarn, R. H. M., New York City; Davis, N. S. Jr., Chicago; Durham, C. E., Galveston, Texas; David, E. L., (2) Louisville, Ky.

Egbert, Seneca, Philadelphia, Pa.

Fougera, E. & Co., New York City.

Grafe, F. A., Cincinnati, Ohio; Gould, Geo. M., Philadelphia, Pa.; Gamble, W. E., Chicago; Goss, O. W., Lakeport, N. H.; Gersten, A. G., New York City; Garrigues, H. J., New York City.

Harriman, W. E., Ames, Iowa; Hous, G. W., Clayton, Ohio; Hammond, J. L., Chicago; Happel, T. J., Trenton, Tenn.; Heitzmann, L,, New York City; Horwitz, S., Peoria, Ill; Horlick's Food Co., Racine, Wis.; Hogue, G. I. Chicago; Hagan, A. U., Buffalo, N. Y.; Halstead, A. E., Chicago.

Instant Cut Off Co., Port Huron, Mich.

Johnson, W. J., East Troy, Wis.; Jeffrey, J., Chicago.

Knox, J. W. T., Detroit, Mich.; Kny-Scheerer Co., The, New York City; Kern, A., Chicago; Kohlmann, W., New Orleans, La.; Kiernan, J. G., Chicago; Koechl, Victor & Co., New York City; Kelley, J. S., Syracuse, N. Y.; Kempsen & Co., J. F., (3) New York City.

Latta, S. W., Trenton, N. J.; Lea Bros. & Co,, Philadelphia, Pa.; Lambert Pharmacal Co., St. Louis, Mo.

Myer, O. A., Louisville, Ky.; Mayo, N., Lowell, Ky.; Miller, M., Newton, Kas.; McVey, W. E., Topeka, Mas.; Mogk, W. A., Ann Arbor, Mich.; Merrick, M. B., Passaic, N. J.; Marchand, Chas., New York City; Mayo, H. N., De La Mar, Nevada; McArthur Hypophosphite Co., Ansonia, Conn.; Morgan, J. F., Jackson, Ohio; Murray, R. D., Mobile Ala.; Maltine Co., The Brooklyn, N. Y.; Muckle Mfg. Co., H. A., St. Paul, Minn.; McCreery, S. W., Westford, Mass.; Munday, B. Columbia, Mo.

Nusum, Geo., Honey Creek, Iowa.

Oman, E. S., (2) Columbus, Ohio; Osborn, B. D., Woldo, Ohio.

Payne, H. O., Leighton, Iowa; Pantagraph Ptg. & Sta. Co., Bloomington, Ill.; Peterson, P. Hyrup, Laramie, Wyo.; Parke, Davis & Co,, Detroit, Mich.; Pilling, Geo. P. & Son, Philadelphia, Pa.; Plummer, H. E. Des Moines, Iowa: Parker, E. W., Gallipolis, Ohio; Preston, G. J., Baltimore.

Rodenhuis, E., Quincy, Ind.; Royce, C. H., San Francisco, Cal.; Riley. H. Lee, St. Louis, Mo.; Rutherford, C. W., Indianapolis, Ind.; Reed, G. D., (2) Topeka, Kans.

Seeley, I. B., Chicago; Sites, J. McKee, Martinsburg, W. Va.; Strader, Geo. L., Omaha, Neb.; Saunders, W. B., Philadelphia, Pa.; Stechert, Geo. E., New York City: Simplex Lamp Co., Brooklyn, N. Y.; Shrady, Jno. New York City: Stillson, H., Seattle, Wash.; Storie, J. G., Elk Park, N. C.; Smith, H. M., Vincennes, Ind.; Stephensen, A. A., Chicago; Sherman, A. W., Burlington, Iowa.

Turnbull, Lawrence, Baltimore, Md.; Tyree, J. S., Washington, D. C.; Teeble, M. L., Grove, Mich.; Truscott Boat Mfg. Co, (2) St. Joseph, Mich.

Verpoorten, M. H., Laramie, Wyo.; Vedder, W. D. Mansfield. Pa.; Veranes, T., Santiago de Cuba.

Whitcher, F. C., Manchester, N. H.; Wurdemann, H. V., (2) Milwaukee, Wis.; Woldert, E. A., Philadelphia, Pa.; Wiener Klinischen Rundschau, Vienna Austria; Walker, O. D., Keokuk, Iowa; Walton, P. C., New York City; Widmer, W. A., Philadelphia, Pa.; Wherry, J. W., Omaha, Neb.; Waters, J. M., Bozeman, Mont.; Wheeler, Oaxaca. Mexico; Wilkins, J. G., Atlanta, Ga.; Whitney, C. R., Fonda, Iowa; Waite & Bartlett Mfg, Co., New York City; White Co., F. B., Chicago; Wyeth John & Bro., Philadelphia, Pa.; Welch, S. A., Providence, R. I.

Xenides, K. P., Angora, Turkey.

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ORIGINAL ARTICLES.

"QUO VADIS?"

residential Address delivered before the Tri-State (Alabama, Mississippi and Tennessee) Medical Society, at Memphis, Tenn., Dec. 21, 1898.

BY T. J. HAPPEL, A.M., M.D.
resident Tri-State Medical Society; Ex-President Tennessee State Medical Society; Ex-President West Tennessee Medical and Surgical Association; Ex-President Gibson County Medical Society; Ex-Vice-President American Medical Association; Secretary State Board of Medical Examiners of Tennessee.
TRENTON, TENN.

An article presented as a presidential address usually pens up a wide field for a congratulatory review of ie progress of medicine in the few years immediately receding the date at which it is read, and for paint- ig pictures of a roseate hue of the future possibili- es of surgery and gynecology. Any departure from iis routine custom may be frowned upon and de- ounced as "not regular," but men are generally rofited more by the mistakes of themselves and their iends than by their successes. A mistake made apresses an honest student of medicine and surgery -as it does workers in all other branches of life—to ie extent that the same error is not likely to be com- itted again. The lesson has been too deeply im- essed to be readily forgotten.

An optimist is as dangerous in medicine as a pessi- ist, if not more so. The optimist, always looking r the good, sees nothing of the bad of his work. ie latter is a bad dream, the sooner forgotten the tter. His views lead ultimately to experimenta- ns, even to the extent of the sacrifice of human life the use of new and untried remedies, when old es are known to accomplish all that can be desired, rather all that could be reasonably expected.

The pessimist, expecting little, may lose a life from e non-employment of a remedy that might relieve, t does not destroy by the reckless use of those nedies which do not rest on a firm foundation. I ist that thoughts presented on this occasion may cupy a middle ground, rather than bear to either reme. In an article or two, read on different occa- ns at medical meetings, it has been my fortune, od or bad, to call down upon my head the opposi- n of specialists as a whole, but the approval, as a e, of the general practitioner. Such was not inten- nal on my part. Nothing that I then wrote was sented in malice toward any, nor intended as arcastic review of the tendency of the present toward specialism in medicine or surgery, but ause I felt that the pendulum had swung in one ection too far, and needed something to prevent recoil from being too great, with a consequent of much of the vantage ground that had been ned in the past ten or fifteen years.

he proclamation of the discovery of tuberculin by h, and the eager grasping of the long-sought edy for the cure of consumption, both by the profession and the laity, proved to be almost an "apple of Sodom." For a short time it brought discredit on many researches in the direction of serum therapy; nor have we yet fully recovered from the shock of the failure of tuberculin to do what its most ardent and hopeful supporters claimed for it. To some extent, the treatment of diphtheria with the antitoxin prepared in the laboratories, both of this country and Europe, has been discounted by the collapse of the hopes entertained by the enthusiasts in the use of tuberculin. A still heavier impediment has been thrown in the way of theoretic (?) medicine by the issuing of letters patent in this country for the serum manufactured in Germany, when neither there or in France could letters patent be secured. Hence, I take the position that it is well at times to call a halt in both medicine and surgery, and take our bearing to ascertain "where we are at," and to ask ourselves, "whither are you going?"

In the olden times, in the practice of medicine, every man was a specialist in everything, from the treatment of worms in babies to what was considered in those days capital operations in surgery. A strong foundation was laid in the then sciences of anatomy and physiology, upon which their superstructnres were erected. In *these* days the foundation must be more broadly laid by the study in addition of pathology and all its kindred environments, in order to understand scientific medicine and surgery of today. The microscope, in connection with the culture and study of the so-called disease-producing germs, is made to do the greater part of the diagnostic work that was done by a careful study of the patient and his diseased state at the bedside. The clinical history of cases, upon which so much stress was formerly laid, is being pushed to one side, and we are today taught that no diagnosis can be depended upon that is not confirmed by the specialist in his laboratory. I make the statement as broad as above, because the general practitioner can not be expected to attain to the same skill in the use of the microscope and the various culture-media as the laboratory student or teacher, whose days are spent with his retorts, test-tubes, test solutions, microscopes and X-ray machines, and his diagnoses would be accepted *cum grano salis*, unless he is able to present a report of an expert (?) in each case, confirming the position assumed by him. I, therefore, ask the question *"Quo vadis?"* in this direction? Is clinical medicine to be ignored? Is the student to be taught that there is no need of the bedside study of his case? I say emphatically, "No." When that is to be done, then the general practitioner must disappear from the scene of action in the medical world or become a mere tool in the hands of some microscopist. I do not hesitate to take the position that Louis, Wood, Flint and others were just as able to diagnosticate diseases in their day and time; that they could be just as positive in regard to the existence of typhoid fever without the outside helps of today, as we are with all the microscopes and culture-media of the present, in the hands of the most expert users of them. Too often the microscope is made to conform in its teachings to the trend of its user. In doubtful cases, as was remarked by a friend of mine, probably now present in this meeting, the decision of a case as to the existence or non-existence of certain sought-for points depended upon the fee paid and the side on which it was paid. He did not lay this down as a *rule*, but said it occasionally resulted as stated. I would not be considered as reflecting even indirectly upon our laboratory workers. They have done, and are yet doing, much good by their investigations in the domains of medicine and surgery, but it is true, as was remarked by J. Lewis Smith some years ago —before the microscope was used as much as it is now—that we can not be positive about the presence of pathologic germs which were found on the "border-land of the visible." The microscope, the X-ray machine and all other mechanic appliances should be made use of in the examination and diagnosis of cases, medical and surgical, but when they are expected to supply the want of brain in the physician or surgeon, they will prove themselves delusions and snares. The diagnostic ability must be still developed to the highest point, and those mechanic aids should be called in only when in doubt. The fact that the microscope fails to discover the presence of tubercle bacilli in the sputum is no proof that a person's lungs are not diseased. A case, which I was treating and continued to treat till death claimed its victim, was a clear illustration and proof of this fact. Two examinations of the patient's sputum were made, but neither revealed the presence of the bacillus of tuberculosis, and yet the patient filled a consumptive's grave. An able bacteriologist of this State wrote that the results of his examinations were *negative.* Every disease germ has been found by the microscopist to exist in the secretions of healthy individuals. The Klebs-Loeffler bacillus, the so-called cause of diphtheria, has been found on the fauces of hundreds of school children in Paris, who were in apparent health. And yet we are told that without the aid of the microscope no positive diagnosis of diphtheria can be made. The carefully studied clinical history of any case will enable the competent physician to make the diagnosis of cases coming under his care, which diagnosis may, and should, then be confirmed by the use of the microscope.

The skiagraph is a most excellent adjunct in surgery, but many a life might be lost while waiting for an expert to bring his machine. The teaching of medicine today, then, is, in my opinion, faulty, to the extent that it is laboring to render the general practitioner of medicine and surgery reliant on machines, not on self. The question then, "*Quo vadis?*" is very applicable in this field of teaching. The country practitioner, whose work has done more for the advancement of medicine and surgery than that of his city confrère—that body of the profession, which has furnished a McDowell, a Sims, a Bozeman and a host of others who have risen to eminence in the profession of medicine and surgery—should not be discouraged by being told that they could not diagnose with any degree of certainty the diseases of everyday life, because they can not use the microscope or the Roentgen-ray machine. Their work has stood the test of time, and will continue to bear fruit as long as time shall last. The descriptions of typhoid fever cases furnished by Louis and Wood can not be improved upon by any modern writer, though he may set forth in his report the fact of the presence of the bacillus typhosis, the bacillus of Eberth—a fact utterly unknown to them—and may even still further prove the existence of typhoid fever by Widal's serum test.

All honor to our microscopists and their confrères, who have made clear many doubtful cases; who have been able to ascertain with the wonderful light of this day the presence of foreign bodies, which could not in other ways be located. They deserve honor, glory and shekels for their work—a work which has cost many useful lives in the profession, and where, in Vienna, we have just had strong proof, in the loss of so many valuable lives in the study and culture of the *materies morbi* of the bubonic plague, that those who embark in such work verily take their lives in their own hands. These new sacrifices upon the altar of medical science should place the profession still higher in the estimation of the world.

Again, "*Quo vadis?*" will apply to the headlong
rush into specialism by the sons of specialists and by
those who are in no wise related to specialists. Many
of the young men of the present day who enter medical schools, attend lectures, not for the purpose of
becoming physicians in the broad sense of the term
but for the purpose of preparing to practice some
special branch of the healing art. To the attainment
of a desired (?) proficiency in their chosen branch or
branches, they sacrifice all of the other departments
of medicine. If they *barely* pass in all the subjects
except their chosen field of labor, they are content
and return home and begin their life's labor with the
distinct understanding that they devote special atten
tion to the eye, ear, nose, throat, and genito-urinary
organs, etc. It is understood that they are genera
practitioners for the time being, but as they become
able to do so, will devote their time and attentio
more and more to their specialty, till finally the
expect to do no other work. In the olden times suc
was not the case. Every one went out from colleg
as a general practitioner of medicine and surgery
He devoted his time and attention to this genera
work—building well on the foundation that he ha
laid—until he was firmly established in the genera
and special principles of medicine and surgery. H
then began to study himself and his work, finding ou
in what special direction his talent, if he had any, la
and from this beginning developed the well-mad
specialist—a true specialist, because he was tho
oughly posted upon the general diseases and cond
tions, including their treatment, from which th
special disease sprung, hence was better adapted
treat and remove the cause of the disease than h
brother specialist of today, who believes he was
the "manor born," or who has been graduated from
medical school of the present day a full-fledged sp
cialist in the strictest sense of the term. The specia
ist who is evolved under the rule of the survival
the fittest, is, in my opinion, more than able to co
with the one who is born new from a medical scho
Do not understand me to mean that I would not e
pect the one evolved to proceed with his work wit
out special study and preparation. When the gene
practitioner discovers his adaptedness for some pa
ticular line of work, then he should return to t
medical school and devote his time and attention

that line of work. In this way he can become a success in his line.

Again, specialism, I regret to say, is making an effort in some places to break down the Code of Ethics, upon the ground that as they are not general practitioners, they have a right to consult with any one, whether homeopath, eclectic, Indian doctor or "hoo-doo," who may call them, as there is a common ground in their work upon which all may stand. They hold that homeopathy and eclecticism do not apply in the eye, the ear, the nose, and such like *special* fields of labor. As to the truth of this stricture I refer you to the two factions in the State of New York: the one side upholding the Code of Ethics, the other claiming the right to make a new code to suit their own convenience, the leading spirits in this class being mostly those practitioners who are engaged in special work. Another departure from the Code of Ethics along the lines of special work, was referred to by Dr. T. K. Powell, in a paper read at Jackson, Tenn., at the West Tennessee Medical and Surgical Association, viz., the right to contract prices for work in special lines, regardless of services rendered—a thing condemned in the strongest terms when done by the general practitioner. This must not be understood to mean that the specialist should not have, for himself at least, a fee bill, charging a certain price for an operation, for an ovariotomy, a hysterectomy, a cataract operation, or the enucleation of an eye; but that he should not be allowed to say to his patient, "I will cure(?) you, or treat your case for so many dollars, regardless of time or any other contingencies." This procedure smacks too much of quackery, yet it is done by some who stand high in the profession. If the same thing were done by the general practitioner in the beginning of a case of typhoid fever, he would be expelled from the ranks of regular ethical medicine.

Nor do I mean to say that all cases should be charged alike for the same service rendered. There are patients and times when a charge of $5 in a given case would be more than $50 or even $500 to another patient under other surroundings. Specialists, as well as the general practitioner, must have, and if *true* men, will have, their charity patients, who must not only be treated free, but must be cared for, fed and clothed, whilst being treated. This often falls to the lot of the God-fearing, Christian physician, and specialist also, in all parts of the civilized world.

Again, "*Quo vadis?*" needs an answer in connection with the manufacture and use of so many proprietary medicines of the present day. One manufacturer places upon the market his special preparation of cascara sagrada, backing it with endorsements of well-known medical men, and in a few weeks another manufacturer follows with a similar preparation which he is ready and willing to prove to be better than any other yet placed on the market, and he supports his assertion by a little longer list of names of physicians who testify to the merits of this specific make—each one of the physicians in both cases having been supplied with as many sample bottles as he thought he could use.

We find all kinds of digestive preparations, by different manufacturing establishments, each differing from the other chemically almost not at all, yet the array of names of reputable physicians certifying to the fact that each one is the best is almost legion. The preparations of pepsin, bismuth and strychnia, of lactopeptin, wine of pepsin, pepsin cordial, etc., could scarcely be enumerated, each of them possessing virtues, but advertised in many cases about as boldly as many of our patent medicines. The myriad of preparations from the phenol group may be cited as another instance of the craze for something new. Each one can be proven by the endorsement of reputable medical men to be the best. Each one has some peculiar property not possessed by its confrère. One will reduce the temperature without depression; another without any excess of diaphoresis; yet another is guaranteed to stimulate whilst the temperature falls; and another especially relieves the pains due to la grippe, etc. The manufacturers would not place these preparations upon the market, and could not afford to spend the hundreds of thousands of dollars used annually in supplying the profession with free samples, if there was not a demand for them. The medical world is groping in the dark for a specific remedy for each and every ill that the human flesh is heir to; hence the manufacture. The researches of Koch, Behring, and others in the line of serum therapy have aroused the commercial spirit in many lesser lights.

Dr. Leartus Conner, in a paper read before the American Academy of Medicine, in Denver, June 4, 1898, speaks of the diseases of the medical profession, and sums up an answer to the next "*Quo Vadis?*" as follows: "Among the diseases of the medical profession now definitely recognized and fully described, are: overcrowding; a vast number of incompetents; large numbers of moral degenerates; crowds of pure tradesmen; blatant demagogues; hospitals organized and conducted to the damage of both profession, patient and people; dispensaries and public clinics of the same character; medical colleges organized for the advantage of the few at the expense of the many, and unmindful of advantage to students; medical societies so conducted as to be a by-word among honest persons, and yet continued to advance the financial profit of their leaders; domination by commercial interests of drug manufacturers and proprietors of scent and proprietary medicines; the prey of money-making corporations, as railways, accident insurance companies and sanitariums; the tool of lodges, secret, and other social societies, etc."

This indictment is strongly drawn, yet who can deny that there is something of truth in every count laid down in it? The profession is overcrowded, and is becoming more and more so every year, in spite of the increased cost of a medical education and in spite of the rules and regulations prescribed as minimum educational requirements for entrance upon a course of study in a medical college. Although an effort is being made to protect the public through various laws passed in the different States to regulate the practice of medicine, in some cases requiring diplomas from colleges, accepted as in good standing by the board constituted under these laws; and in others, by demanding an examination by a body entirely divorced from all college connections and sympathies, still there remains a "horde of incompetents"—incompetent not so much from a want of book learning, as from a want of personal adaptedness to their chosen profession. That there is in the profession a large number of moral degenerates the records of the war just closed prove too conclusively. What appears to be the disgrace of the generation—the blot upon the medical escutcheon—has been the conduct and management of the medical department of the army raised for the invasion of Cuba and Puerto Rico. If *half only* be true that has been published, the medical service rendered has been a disgrace to the civilized world. Nothing that occurred during our Civil War, when the South was deficient in everything, could be compared with the failures made and reported thus far in the conduct of the hospital service of this campaign. In too many cases, the assignments of surgeons and assistants to the different regiments were made without regard to the ability of the applicant, but were decided by the "political pull" brought to bear on the governor of the State. This has been no worse, if as bad, in Tennessee, than in some of the other States. Gutter-snipes, wine-bibbers, and political dead-beats have had the call on men of ability in cases where the politician's Italian hand could be called into play. It, however, does no good to pursue this branch of my subject.

The moral degenerate is seen in the profession by the increasing numbers of alcoholics, and morphin-habitués in the ranks of the profession. Men who are recognized as reputable practitioners of medicine are found totally unfitted to minister to the sick and suffering because their perceptions are blunted by the long-continued use of alcohol, morphin or cocain. These men should be barred by special statutes from continuing to practice any branch of medicine or surgery. The professional abortionist is not now, as formerly, shunned as a moral leper. The only thing needed in his case is to maintain a semblance at least of respectability as a compliance with what a friend of mine has termed the "eleventh commandment"—"Do not get caught."

This is not as it should be, yet we see in our daily papers advertisements of Dr. A. or B. who will "treat confidentially all ladies who are in trouble." The profession and the laity know that this is an "ad." of the professional abortionist, yet day by day it is seen and read by all men. "*Quo Vadis?*"

The spirit of commercialism has been for some years gaining a strong hold upon our profession. The multiplications of public and private hospitals, under whatever name they are called, whether sanitariums, retreats, or what not, together with the dispensaries and public clinics, and the erection of medical colleges—so-called—in different cross-roads towns, and the *unnecessary* increase of the numbers of those in cities where one or more already were established, is the result of this spirit of commercialism, a greed for gain, or worse still, of the desire to advertise oneself to the world as a professor, for the purpose of catching the innocent and unsuspecting. Alas, too, our medical societies are not always kept free from the blight of the unscrupulous advertiser. A glance at the programs of the meetings of many medical societies and a comparison of the papers proposed to be furnished for the meeting, and those actually read and discussed, and those put in the hands of the secretaries with a reasonable excuse for the absence of the writer, will present a marked contrast. Many whose names appear as such never expected or intended to present any paper, but it was a cheap way to advertise oneself, if a copy of the program could be put in the hands of his local editor, who would no doubt note the fact that Dr. C. was to present a paper on———at the approaching meeting of he Dogtown Medical Society.

This side of the picture has been presented to your gaze, not that there is no reverse—thank God, there is!—but that we may profit by our mistakes.

Let us glance for a few minutes only at the other side of the picture. Specialism is needed to the development of medical science. Without it the wonderful strides that have been made in the study of etiology and pathology in the decade now almost closed could not and would not have been made.

Without the microscope and the X-ray machine progress would still further have been delayed; without these mechanic helps, and without skilled specialists to use them we could not stand where we now do. Under the stimulus of specialism the practice of medicine is rapidly passing from the domain of empiricism, and being reduced to the basis of a science. A reason for the administration and use of any remedy proposed is now demanded. All this is not to be attained in a day. The work of years is yet before us. Many of the so-called specialties will be relegated to the general practitioner, as has been the ordinary work of the obstetrician. For years, the attention given the parturient women demanded a specialist. Now all has changed, and the general practitioner claims the lying-in chamber as much his work as the sick-room of a typhoid patient. Again, the oculist furnishes learned papers at our medical meetings, upon questions in ophthalmology, that belong to the general practitioner; thus recognizing the fact that there, too, the practitioner of medicine is expected to post himself. He is required to be well-informed on minor and general surgery. So that year by year the work of the general practitioner is being enlarged. The demand for his services by life insurance companies is forcing him to prepare himself and his office for examination of the heart, lungs and kidneys; so that special fields are again encroached upon along these lines.

The need of the railroads for medical and surgical aid along their lines at points outside the recognized medical centers, compels the general practitioner to equip himself mentally and otherwise for the ordinary, and in some cases extraordinary, surgical operations. As health officers for States, counties and municipalities, his services are daily more and more in demand, so that whilst the ranks of the medical profession in its general and special branches are being crowded, yet new outlets are being made for this excess, and new fields in which they can be employed open up on all sides. We can not hope to eradicate from the profession the spirit of commercialism; yet its baleful influences can be lessened by a closer adherence to our Code of Ethics.

In the days of the Master the fields were found to have tares growing with the wheat, and the same thing has continued up to the present time, nearly two thousand years. The same advice given in regard to them in those days will apply in our time We must bear with them; let them severely alone lest we damage the wheat. The effort being made in a portion of our ranks to break down our Code of Ethics and set up a new code is a tacit agreement that the tares are of more value than the grain. The erring portion of the fraternity of New York City and the State should be left alone to work out their own salvation. Such efforts as were made in Denver to break down the dividing wall and carry the large body of the profession over to that faction can no be too strongly condemned. It seems to be a case o Mahomet and the mountain. If the mountain wil not come to Mahomet, then Mahomet will go to the mountain.

In concluding, I would ask the Tri-State Society to renew its allegiance to our Code, and press forward to the mark and prize of our high calling. The Society has just cause to be proud of the record that is being made by its members in scientific investigations, and whilst the large part of the glory belongs to those who are investigating and reporting upon the hitherto obscure causes of some of our most common maladies, yet we as a Society can shine in their reflected light. But I have occupied enough of your time, and hence, close, thanking you for having had the privilege and honor of serving you one year as your president.

LYMPHOSARCOMA OF THE MESENTERY.

(From the Laboratory of Pathology of the Chicago Policlinic.)

BY MAXIMILIAN HERZOG, M.D.

PROFESSOR OF PATHOLOGY IN THE CHICAGO POLICLINIC.

CHICAGO.

Sometime ago Dr. M. L. Harris[1] and myself reported a case of lymphosarcoma of the mesentery operated on successfully in a boy 5 years old. When I then collected the literature of the subject, I was able to tabulate a total of 57 cases of solid mesenteric tumors, of which about 10 were sarcomata. To the latter class I am able to add a new case. As in most instances of solid mesenteric tumors, the exact diagnosis as to location was not made *intra-vitam.* For a short abstract of the history of the case, I am indebted to Dr. R. B. Preble, under whose care the patient was during his last weeks of life. The history is as follows:

Sept. 14, 1898. H. G., German, 62 years old, physician. He traveled extensively as a young man, living for a time in Asia, where he escaped all diseases except a mild malaria; has lived many years in Chicago. About six years ago he discovered a moderate glycosuria, which disappeared on a course of Carlsbad treatment. The glycosuria never, to his knowledge, returned. He has been a moderate drinker all his life; never had syphilis. The present illness is of rather indefinite onset, both as to time and symptoms, but he must have been ailing for about two months. He has continued to do his medical work up to one week ago, and complains only of weakness, dyspnea, moderate constipation, and of the increasing size of the abdomen. A short time ago he had what he describes as an epididymitis[2] followed by swelling of the lymph glands below Poupart's ligament. It continued only a short time, and has now entirely disappeared. He has had no vomiting, no diarrhea, no jaundice, no hemorrhages.

Examination.—Well nourished and rather fat man, apparently about 60 years old; no jaundice, no cyanosis; moderate dyspnea, moderate edema of the feet. Lungs: lower borders high, but move freely on respiration; no râles, no fluid in pleural cavities. Heart: displaced upward by the high diaphragm, but normal in size. Tones pure and of normal intensity. Pulse: regular, strong, normal. Abdomen: prominent, contains large amount of free fluid, which changes promptly with change of position. No varicose veins. Liver: can not be palpitated, nor outlined by percussion. Spleen: palpable; Lymphatic glands: below Poupart's ligament both sides about the size of a hen's egg; elsewhere not palpable. Urine: contains no sugar, albumin nor casts. Blood examination, negative.

Diagnosis.—Atrophic cirrhosis of the liver, based on ascites, palpable spleen, absence of any other manifest cause for ascites and the history. The enlarged glands in the groins are not accounted for except as the probable result of an ulcer of the leg.

Treatment.—Diuretics, salines and mild diet.

The fluid in the abdomen gradually increased, causing dyspnea, until it was decided to tap the patient. Withdrew 6000 c.c. of milky fluid, s.g. 1012, large amount of albumin, sugar, 2 per cent. The fluid cleared on being shaken with ether; contained few round mononuclear cells with fat granules. The fluid was that of a chylous and not of an adipose ascites. After withdrawal of the fluid, large numbers of tumor masses could be felt throughout the abdomen. After the tapping, the patient rapidly lost strength, developed an edema of the dependent portions of the body, and on the last day a very slight icterus.

Clinical diagnosis.—Tumor abdominis, probably carcinoma, but there is no evidence pointing to the primary organ. Chylous ascites due to obstruction of thoracic duct by the tumor.

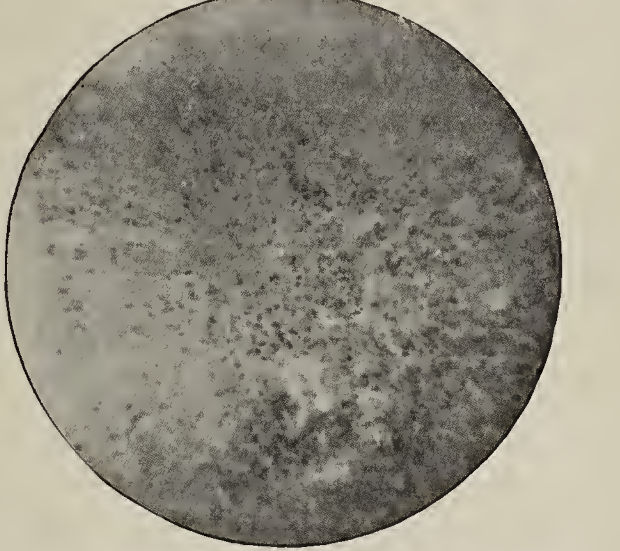

Fig. 1.—Section from tumor mass of the mesentery showing necrobiotic tissue and nuclear fragmentation, hyperchromatosis, karyolysis and free chromatin granules. Spencer prof. obj. ¼; oc. 1½.

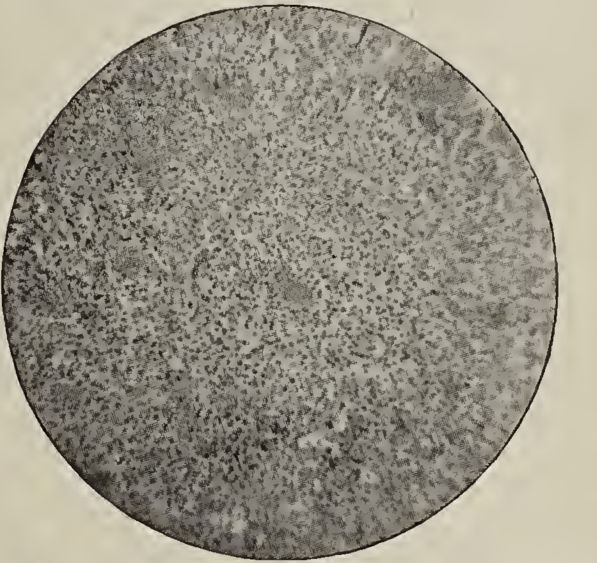

Fig. 2.—Section from tumor mass in inguinal glands showing small blood-vessels and young proliferating cells. Spencer prof. obj. ¼; oc. 1½.

The postmortem was made by the author, Oct. 16, 1898—fifteen hours after death. The protocol of the autopsy reads as follows:

The body is that of a very strong, heavy man, about 60 years of age; estimated weight 250 to 260 pounds; well nourished. Postmortem rigidity and lividity well marked; extensive edema of the lower extremities, more marked on the right than on the left side; edema of the scrotum. The skin of the legs is hard and brownish in color. Between the umbilicus and the symphysis pubis, to the left of the linea alba, is a circular trochar wound, almost closed. On making the primary long incision the whole skin over thorax and abdomen is found to be edematous, a clear fluid oozing out from it.

The abdominal cavity contains from two to three gallons of a yellowish, very turbid ascitic fluid. The right pleural cavity contains quite a large amount of clear fluid: the exact amount can not be estimated, since on manipulation ascitic fluid from the abdomen runs over into the pleural cavity and mixes with the clear pleuritic transudate. The pericardium is smooth and contains in its cavity a slightly increased amount of pericardial fluid. The external surface of the heart—which latter is of normal size—shows a moderate amount of fat; the myocardium is soft, flabby and pale; the orifices are normal in size; the endocardium is smooth over its whole extent; the valves are normal. The intima of the large vessels is smooth; the walls of the coronary arteries are somewhat stiff and thickened, their intima, however, is perfectly smooth.

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[1] Harris and Herzog: Solid Tumors of the Mesentery, etc. Annals of Surgery, July, 1897.

[2] With reference to the trouble in the testicles, Dr. Karl Doepfner, who saw the patient during the latter part of August or the first of September, informs me that there was then noticeable in the head of the left epididymis, a firm, perhaps cystic, swelling, the size of a pigeon's egg. Whether this swelling was a tumor metastasis is rather difficult to say, since it apparently disappeared again. There was never any complaint on the part of the patient concerning his testicles during the time Dr. Preble saw him. Since I knew nothing about the symptoms referring to the testicle at the time I made the postmortem, and since a partial section only was permitted, the testicles were not removed or examined.

M. H.

Lungs: No adhesions on either side; quite an amount of clear fluid on the right side. The lower lobe of the right lung shows, on its anterior surface, several subpleuritic, flat, grayish-white patches, raised slightly above the surface; there were also found in the pulmonary parenchyma several firm, hard nodules, likewise of a grayish-white color. The entire lower lobe of the right lung, on section, appears more or less collapsed and solid; pieces from this part, however, still float on water. The lower lobe of the left lung also contains several hard nodules of the same type as those mentioned above. Both lungs are markedly edematous throughout. On the left pleura costalis, about the region of the fifth rib, in the axillary line, are found some small grayish-white, slightly prominent patches. The bronchial glands on either side are enlarged, firm and nodular, and on section, appear grayish-white and somewhat translucent. In the glands, from which small amounts of whitish material may be scraped, are numerous hemorrhagic spots. The omentum majus is studded throughout its whole extent with firm, grayish-white nodules from a few millimeters to one centimeter in diameter.

The spleen is large, smooth, quite firm and dark—brownish-red on section; the trabeculæ stand out distinctly and prominently. The kidneys are of normal size, capsules smooth, easily detachable; cortex and medulla normal in size and proportion; cortical markings fairly distinct. The mucous membrane of the pelvis is smooth. The adrenals, more or less embedded in tumor masses, show very marked pigmentation on section; their substance, however, is uniformly soft. The mesentery, the head of the pancreas, the retroperitoneal glands and the omentum minus form one large, irregular tumor, the component parts of which are united to each other more or less firmly by nodular masses. The mesentery and the retroperitoneal glands form a tumor mass as big as two large fists; the omentum minus is irregularly infiltrated with firm nodules; the head of the pancreas presents a roundish mass four or five centimeters in diameter. In the rest of the pancreas, the glandular tissue appears normal, with the exception of some small hemorrhagic foci. To the tumor, involving mesentery and head of the pancreas, part of the circumference of the duodenum is firmly attached. The lumen of this gut, however, does not show any marked constriction, and there is no impediment to the flow of the bile, which, on slight pressure upon the gall-bladder, escapes through the common duct. The stomach appears normal. On the under surface of the head of the gall-bladder there are three flat, grayish-white, somewhat prominent subperitoneal patches. The gall-bladder contains thickened, cloudy, dark-green viscid bile. Its mucous membrane is smooth.

The liver is small in size, nodular and uneven over its entire surface. The liver tissue is firm and uneven on section. Masses from the size of a pin-head to that of a millet seed rise above the level of the cut surface and make it uneven. Several small nodular, grayish-white, enlarged lymph-glands are found behind and around the thoracic aorta directly above the diaphragm. The lymphatic vessels can be followed downward behind the peritoneum, as several parallel white bands extending far down into the pelvis. The left inguinal glands are hard and firm, enlarged to the size of a large walnut, and on section, are found to be studded with grayish-white translucent nodules.

Anatomic diagnosis.—Malignant neoplasm of the mesentery and retroperitoneal glands; metastases in the head of the pancreas, the omentum minus and majus, the lymphatic glands on the neck of the gall-bladder, the pleura costalis and pulmonalis, the bronchial glands on either side the lymphatics along the thoracic and abdominal aorta, and the left inguinal glands. Compression atelectasis of the lower lobe of the right lung. Chronic passive congestion of the spleen. Cirrhosis of the liver. General anasarca.

Microscopic examination.—The tumor masses in the mesentery, in the omentum, in the head of the pancreas, in the inguinal glands, and in the lungs, are all of the same structure. They consist of small, round cells of the type of the ordinary small lymphoid cell. The nucleus is quite rich in finely glanular chromation, the cell protoplasm very scanty. Besides those cells there are found in other areas round cells, slightly larger than the former; they are more of the type of those cells found in the proliferating center of Flemming in the lymph follicle. Their nuclei are larger, and the chromatin is not as finely, but more coarsely granular; the cell protoplasm is not quite as scanty. The tumor cells are contained in a meshwork or matrix of fine connective tissue fusiform cells and fibers. These cells and fibers are not very abundant, still they are much better developed than they are in the normal lymph follicle. The blood-vessels in the tumor masses are moderately numerous and not very large. In places free blood is found between the tumor cells. Large areas of the neoplastic tissue show necrobiotic changes. All cells in such territories have lost their nuclei, and the cell body has become somewhat swollen and indistinct in outline; the degeneration has, however, nowhere progressed to the formation of hyalin or colloid material. This is noted expressly, since in the other case of lymphosarcoma of the mesentery reported by Dr. M. L. Harris and myself[3] there was very extensive colloid degeneration.

The above microscopic description refers more or less to all the tumor masses. However, it ought to be stated that the most marked and most extensive regressive changes are present in the large tumor mass, found in and developed from the mesentery. Here we see great tracts of necrobiotic tissue and also areas of fatty degeneration. The areolar tissue itself presents fatty changes; its meshwork is very poor in nuclei and shows a great deal of fine vacuolation. The necrobiotic areas, in a finely granular mass, show comparatively few nuclei with hyperchromatosis, nuclear fragmentation, karyolysis and free chromatin granules. The tumor mass most distant from the mesenteric tumor, namely, the one in the inguinal glands on the other hand, shows very few regressive changes, but presents clear and distinct cells and like nuclei, some with karyokinetic figures. Evidences of fat necrosis were not found.

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[3] *loc. cit.*

The body of the pancreas is fairly normal, so far as the parenchymatous glandular tissue is concerned; the interstitial connective tissue, especially that around the small ducts, is increased in amount.

In the liver there is seen a proliferation of the intra-acinous periportal connective tissue; there is, however, no proliferation of the intra-acinous connective tissue. The proliferative processes are evidently active and progressive, since the intra-acinous tissue shows numerous newly formed blood-vessels and a proliferation of the bile-ducts. The tissue between the lobules also shows a very abundant infiltration, with small, round cells, all of the type of small lymphoid cells. Polymorphonuclear leucocytes were not found in the intra-acinous septa. The liver-cells proper are normal in size and arrangement. There is very little fatty degeneration in the lobules. Many of the intralobular bile capillaries, especially those near the periphery of the lobule, are much distended and filled with bile pigment. The liver-cells in the immediate neighborhood of such distended bile capillaries contain a considerable amount of granular bile pigment.

Epicrisis.—The mesentery, in which was found by far the largest tumor mass, was undoubtedly the primary seat of the lymphosarcoma, which subsequently gave rise to metastases in the pancreas, omentum, lungs, a number of lymphatic glands, etc.

The ascites, as such, was due to the cirrhosis of the liver. Its peculiar nature, i. e., that of a chylous ascites, must be explained by pressure on, and perhaps complete obstruction of, the thoracic duct, by lymph-glands enlarged and hardened by tumor metastases. The sugar found in the peritoneal fluid may be looked upon as a vicarious excretion of a pathologic metabolic product due to the extensive pancreatic involvement.

It is by no means obvious that the advanced cirrhosis of the liver in the present case was due entirely or even partly to alcohol. The deceased had certainly during the last six years of his life, i. e., after his transitory diabetic attack, been a very moderate drinker only, and he had never had any symptoms of cirrhosis except during the last weeks of his life. It does not appear entirely unreasonable to assume that the advanced cirrhosis of the liver, giving rise to definite symptoms only toward the later part of a comparatively short illness, may have been due to toxins derived from the large and widely spread sarcomatous masses in the abdominal cavity and brought to the liver by the portal circulation.

This possibility, I think, can not be viewed as an absurdity, but rather deserves some consideration, if we look upon it in the light of the contributions upon the subject of cirrhosis of the liver by Adami[4] and by Hektoen and Weaver, who quite recently reported to the Chicago Pathological Society observations on cirrhosis of the liver in the guinea-pig, due to bacterial infection and to the circulation of toxins in the liver.

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[4] Adami: Montreal Med. Journal, September and December, 1898.

For Vulvar Pruritis.—Corrosive sublimate, 40 centigrams; alum, 8 grams; water, 1 liter; methylene blue, q. s. External application.—Guinard in *Progres Méd.*, January 7.

THE VARIABILITY OF DISEASE GERMS.

BY J. F. PEAVY, M.D.

ASHEVILLE, N. C.

The theory of descent with modifications produced through the action of natural causes has been accepted by the best scientific minds of the age as expressing nature's method in the elaboration of organic forms. In no other way, perhaps, has this doctrine been of such signal service to science in general as through its influence upon the methods of studying and interpreting natural phenomena. Especially in the biologic sciences has this principle of development, of progressive modification, furnished the key for the solution of numerous problems. In the light of this principle, differences of kind are seen to arise through the accumulation of differences of degree, and, further, that these organic modifications arise through adaptation to the condition of life. The life of an organism is, in fact, a series of adjustments to varying conditions and forces which affect it.

Hitherto, our observations and generalizations have related chiefly to the higher organic forms. The unity of nature demands that we extend the general principles of biology to the lowly organized forms as well, among them the micro-organisms which are the specific causes of disease. The low forms are more distinctly the products of their immediate physical environment than the higher ones, and hence more directly affected by variations in it. The higher forms have more of accumulated property or momentum, of established biologic habit, which enables them to resist more effectively the influence of changes in physical environment.

The physical conditions with which the vital activities of micro-organisms are correlated relate especially to moisture, temperature and food-supply. Light, oxygen-supply, electric conditions and the presence of competing organisms exert important modifying influences in certain instances. Variations in physical environment tend to produce responsive variations in the activities of the organisms themselves, which relate especially to nutritive and reproductive activity.

On the question of morphologic variation, practical working bacteriologists are slow to admit the truth. Indeed, the attitude of many of them is a fine illustration of the strength of preconceived opinion. Wedded to the notion of the immutability of species in this department of biology, believing that each type is distinct and unvarying, they are blind to the real significance of facts which they will perhaps in a general way admit. The ordinary methods for the laboratory cultivation of bacteria are, in fact, not calculated to allow of variation. Everything is usually done by exact methods; the culture-media made by precise formulæ; incubation carried on at uniform temperatures; the environment, in fact, kept as unvarying as possible. With absolutely uniform environment, organic variation could never occur, except such as pertains to the life cycle of each individual. Under natural conditions no such uniformity exists, but variety is the rule, and thus arises the opportunity, indeed the necessity, for organic variation. Notwithstanding the unfavorable conditions, many bacteriologists are beginning to admit the principle of variability as applied to disease germs. Under the name of "biologic modifications," Sternberg not only admits the principle but lays considerable stress upon it.

The micrococcus lanceolatus, discovered by Sternberg in 1880 and subsequently described by Fränkel as the cause of acute fibrinous pneumonia, and hence called "pneumococcus" or "diplococcus pneumoniæ," certainly exhibits marked morphologic variations when developed under different conditions. The single cells vary much in size, and in form appear as cocci or rounded cells, short bacilli and intermediate or lancet-shaped forms. As to their mode of aggregation, they are seen as single cells, diplococci, tetrads, and chains of three or four or even as many as fifteen elements. Developed in living tissues, it is a capsulated organism, while artificially cultivated, it shows no capsule except in very virulent cultures. It also exhibits marked biologic adaptability, being now known to be the cause of numerous infectious processes not formerly considered to be etiologically related to each other. Indeed, the statement has been made that it stands in some intimate relation with all infectious inflammations of the body. Among the diseases which it is known to cause are acute fibrinous pneumonia, epidemic cerebrospinal meningitis, endocarditis, pericarditis, pleuritis, peritonitis, joint inflammations and general septicemia. The association of this organism with so many different diseases seems clearly to indicate that special conditions may select and propagate special modifications of the organism.

The diplococcus of pneumonia and the diplococcus intracellularis of Weichselbaum are now admitted to be generically the same, yet they show certain differences. These are differences bred into them by the special conditions under which each is developed. The diplococcus of pneumonia finds its most favorable conditions and attains its characteristic development in the cellular structure and fibrinous exudate of inflamed lung, while Weichselbaum's diplococcus finds its special field of activity and development in acute infectious inflammation of the meninges of the brain and spinal cord. None of the special differentiations of this organism associated with any of the infectious processes which it causes can be said to represent the normal tppe of the germ any more than the others. Probably the pneumococcus is the most common and best known modification, for the reason that lung tissue is more easily invaded than any other structure where it finds an inviting field of activity.

The fact that the nutritive and reproductive activities of disease germs depend upon the conditions under which they are propagated, and vary with them, is too well established to admit of question. To one at all familiar with the principles of biology it seems too axiomatic to need proof. It has been shown in many instances that the quantity and intensity, and even the nature of the chemic products of germ life, vary with their nutritive and reproductive activity. It is a necessary conclusion from these facts that variations of virulence, increase or attenuation, depend upon these modifications of biologic habit. Laboratory work has shown that not only the degree, but in many instances the type, of reaction to experimental inoculations is determined by these qualities bred into the germs by the conditions under which they are propagated. Pasteur's system of preventive inoculations is based upon the fact that the specific infective agents of certain diseases may be modified, and their incubation periods shortened, by breeding them under special conditions. Whatever opinion may be held as to the practical value of his inoculations, no doubt can be entertained as to the scientific soundness of the principles of his system.

The relation of cowpox to smallpox is an interesting question in this connection. The most reasonable theory seems to be that the relation is one of community of origin; that this disease, as well as analogous diseases occurring in other animals, has diverged from smallpox through adaptation to different condition of life. The fact that the germ of this disease is able to impress the human system in the same way, if not to the same degree, as smallpox, thus building up immunity against that disease, indicates that it has not departed radically from the primary stock. The opinion is held by many, apparently on good grounds, that vaccination does not protect as thoroughly now as in the earlier years of its use. This seems to mean that the specific infective agent of vaccinia continues to diverge from that of smallpox. Flint, in the earlier editions of his work on the "Practice of Medicine," states that if a cow be inoculated with the virus of smallpox, vaccinia is produced, and that the virus obtained in this way, transferred to man, produces vaccinia, concluding with Jenner that the two diseases are essentially identic. In a later edition of his work, while maintaining that the facts are sufficient to justify the statements and conclusion, he revokes them on the ground that the practical inferences are dangerous, that the virus obtained in this way fails in many instances to protect from smallpox, and in other instances causes that disease. The suggestion arises here that the virus produced in this way is like any newly produced variety of organism, simply unstable or indeterminate in its properties, with uncertain habits and strong reversionary tendencies. A further application of general biologic principles is that the continued cultivation of this virus for a sufficient number of generations in cows, that is, the maintenance of a practically uniform environment for a long enough time, would fix its properties or habits, producing a disease really identic with cowpox, and a virus actually the same as that now in use. Dr. Elgin, of the Hygienic Laboratory, U. S. Marine-Hospital Service, in a paper presented at the Denver meeting of the American Medical Association, speaking of a bacillus obtained from vaccin material and studied by him, uses this language: "This bacillus is polymorphous, taking different forms so frequently as to make it difficult to prevent contamination." He says further: "I am inclined to believe this is the organism reported by Martin, the contamination reported by Ernst being probably the changing forms of the organism." This author evidently means to say that under certain circumstances derivative forms may develop from this organism quite distinct in appearance from the parent stock. We note further that if this is the specific infective agent of vaccinia, as suspected by these observers, it has, like the pneumococcus, an inherent tendency to morphologic variation.

The Klebs-Loeffler bacillus is also known to be quite variable in form; normal bacilli, according to Ball, being found only in membrane. Whether this morphologic variability has any connection with the observed remarkable variability in malignancy of diphtheria is an interesting question for laboratory investigation. Certain it is that this disease presents remarkable variations in intensity in different epidemics, and, indeed, in different cases of the same epidemic. It is a very interesting and significant fact that cultures from different cases differ greatly in virulence. I see no explanation for these facts except that the germs themselves vary in their nutritive and reproductive activities, that is, vary their physiologic habits, if not their form, in response to variations in nutritive environment and other conditions influencing their development. Indeed, it seems that under some circumstances, the virulence may be bred out of them altogether. Welch and Abbott discovered bacilli identic morphologically and in their behavior in culture-media to the bacilli of true diphtheria, yet which produced no toxalbumin and were harmless when inoculated.

In general, it may be said that pathogenic microorganisms propagated in the bodies of animals or persons of high susceptibility acquire increased virulence, while in animals or human beings of low susceptibility, they lose virulence; also, when propagated under specially favorable artificial conditions they gain in intensity, while under unfavorable conditions they become attenuated. Strong cultures of anthrax bacilli produce acid products, weak ones alkaline. This bacillus, which is typically sporogenic when cultivated in gelatin containing 1 to 1000 carbolic acid, develops a variety which can not produce spores. What are called "involution forms," differing from the ordinary type, also appear. Enough facts have been adduced to establish the validity of the general contention that disease germs, like the higher organisms, are subject to their conditions of life, that they vary with them sometimes morphologically, always in nutritive activity, chemic products and reproductive vigor.

One of the first results of the establishment of the germ theory of diseases was to displace in the medical mind the vague and unscientific notion of "humors" and "influences, by the more definite conception of a specific cause for each disease, in most cases a low form of life. It now appears that our desire for definiteness and precision has carried us too far in our notions of the causes of disease. In our pursuit of a germ, distinctly individualized and peculiar to each disease, we have in large measure not only disregarded the "personal factors," the individual peculiarities, as influencing the type of reaction to germ invasion, but overlooked the fact that the germ itself is, in most cases, a varying quantity. Although laboratory workers quite generally are biased by an opposite view, still laboratory facts are accumulating which support the opinion that these germs do not belong to unvarying types, but, like the diseases which they cause, vary more or less according to the conditions under which they are developed. It seems, indeed, quite probable that the polymorphic varieties may under special circumstances give rise to types differing radically from the recognized normal stock. Besides the sudden departure in type made possible by polymorphism, it seems a reasonable presumption that progressive modifications may occur, produced by progressively changing conditions, like those accompanying advancing season, progressive rise or decline of temperature, progressive increase or diminution of atmospheric humidity, etc. A well-conceived and well-executed series of laboratory tests based upon this suggestion would certainly prove an interesting experimental venture, and would doubtless yield positive results corroborating the mass of evidence furnished by clinical observations of the diseases themselves.

Any doctor will admit that he has observed seasonal and local variations in different epidemics of infectious diseases. Even such an ordinarily well-behaved disease as measles will at times exhibit remarkable eccentricities, varying its incubation period within very wide limits and its virulence from that of a trifling ailment to one of extreme malignancy. This disease is selected as an illustration, because it is the most orderly, the least eccentric of the exanthemata. The different diseases of this group were formerly held to be varieties of the same disease, and it is not certain but that our medical forefathers were nearer the truth on this point than we are. It has certainly not been proved that they are not caused by different modifications of the same organism. That protean disease, influenza, has for years been giving us lessons in the possibilities of variety in its manifestations. "The personal factor" as determining the manner of reaction to germ invasion does not explain the marvelous variety of types which this disease assumes. We must admit in the germ of this disease a peculiar capacity for adapting itself to conditions as it finds them, enabling it to take advantage of individual peculiarities. It has frequently been remarked that the grip finds the weak points of the organs with unfailing certainty. Constitutional peculiarities modify the organism as a culture-medium for germs, and "weak points" furnish special conditions and special breeding-grounds for them. The grip germ, on account of its ready adaptability, is enabled to take advantage of a great diversity of conditions out of reach of germs more fixed and rigid in their habits. A typic grip attack of even ordinary severity is full of suggestions of the possibilities of this disease. The nervous symptoms, irritability, prostration, headache and spinal pains point to cerebrospinal irritation, which ranges in different cases all the way from so-called functional disturbances to fully developed cerebrospinal meningitis. The soreness of the muscles and joints hints at the distinctively rheumatic conditions developed where the proper determining factors exist, giving us in certain cases and in certain localities the characteristics of a rheumatic fever. The catarrhal inflammations present in this disease, by their great variety produce several modifications of type. In epidemics occurring in the winter, the ordinary bronchial cases will predominate, many cases showing gastro-intestinal and other catarrhal irritations. In cases occurring in the spring and summer gastro-intestinal symptoms become much more prominent. In the spring, and particularly in children, cases are apt to develop the acute critical phenomena of cholera morbus, passing away perhaps without persistent inflammation. Later in the season, the typic case is less rapid in its onset, but the gastro-intestinal irritation is much more persistent, the tongue red, the stomach and bowels tympanitic, presenting, in fact, the characteristics of "continued fever," and many cases that are diagnosed as typhoid fever are in reality caused by an indigenous derivative of the grip germ, modified by and adapted to seasonal, local and climatic conditions. Many of these summer cases will become general catarrhal fever, some of them accompanied by marked nervous symptoms and simulating very closely typhoid fever.

Attention has already been called to the fact that the development of the germs of any disease in the bodies of persons or animals of high susceptibility increases their pathogenic power. It seems a fair inference from this fact, and one supported by a good deal of positive evidence besides, that special susceptibility to disease of certain organs and structures may not only invite attack at those points and give type to the individual case, but furnish special conditions for breeding into the germs themselves special virulence or appetite for the same organs or structures in other victims. The products of disturbed metabolism and diminished cell-resistance at "weak points" furnish special nutritive conditions which develop specific characters, differentiating them perhaps from parent germs, and causing them, when introduced into other bodies, to select the same organs as their most appropriate breeding-grounds. Thus, grip gèrms developed in the respiratory tract, propagate best in the respiratory tract and tend to continue the bronchial type of the disease. Where chronic irritation of the bile-ducts and other structures of the liver exists, these germs are furnished an inviting field for special activity, not only giving special prominence to the hepatic symptoms of individual cases, but acquiring themselves a predilection for the same structures in new cases. From the marked prominence and constancy of these biliary catarrhs, the disease acquires sometimes the characteristics of an acute infectious jaundice.

Reference has already been made to the effect upon the morphologic development of the pneumococcus of varying the conditions of its propagation. The further suggestion arises that its manner of aggregation, that is, whether occurring as single cells, pairs, tetrads, or chains, is determined largely by the degree of localization or limitation of the infectious process. In general disseminated infections the single or coccus form will be found to prevail. We have all seen cases wearing the clinical aspects of pneumonic fever, presenting its toxic phenomena and occurring in such connection with cases of pneumonia as to make a common origin practically certain, yet without the localized pneumonitis. That such cases are caused by the diplococcus pneumoniæ, I would not hold, but that they are caused by a monococcus generically the same as the diplococcus, and which in a localized inflammation of the lung would develop the paired form, appears to be extremely probable. This organism appears as a diplococcus in such localized, yet not strictly limited, inflammations as pleuritis, peritonitis, endocarditis and meningitis. In definitely limited, "walled off" inflammations, which last long enough with other conditions favorable, it is superseded by derivative forms aggregated into chains and clusters. Under such circumstances, they become pyogenic. This transformation requires special conditions, among which low cell-resistance and limitation of the field of action are the principal factors.

The theory of secondary infection is usually invoked to explain pus formation in an inflammation produced in the beginning by non-pyogenic microbes. Doubtless pyogenic microbes may sometimes be introduced to the seat of a non-pyogenic inflammation, but it is difficult to see how this can occur where the inflamed area is circumscribed and has no external communication. It can always be said that the germs are pyogenic from the beginning. This theory of secondary infection, and the dodge alluded to where this can not apply, are very satisfying to one believing in the immutability of species in this department of biology, but what it satisfies is preconceived opinion and not facts. To one recognizing the principle of modification by the conditions of life as a universal law of biology, the theory of the progressive evolution of these pyogenic microbes from pre-existing, less aggregated forms appears the more reasonable, especially when the microbe considered tends inherently to vary in the direction to produce these aggregated forms. The truth is, there is no line of distinction between pyogenic and non-pyogenic microbes. The theory of secondary infection is considered no longer necessary to explain phlegmonous erysipelas, the attempt to maintain a distinction between the streptococcus erysipelatosus and a streptococcus pyogenes having been practically abandoned. Pus formation is so largely dependent upon the degree of cell-resistance that microbes that are not usually pyogenic become so in certain individuals, and under favorable local conditions. This is the real reason why erysipelas is simple in some cases and phlegmonous in others.

It has been stated by many observers that purulent infiltrations have been formed after the lapse of some time by the pneumococcus. Other observers admit the fact that pus is sometimes formed after infection or artificial inoculation with this diplococcus, but maintain that cultures from the pus never show a pure growth, that pus organisms are always present. The secondary infection theory is ever ready as an explanation of their presence, but in experimental work where antiseptic precautions have been observed, the weight of evidence is certainly in favor of their having been elaborated from the diplococci. This aggregation of cocci and diplococci into chains and clusters is a sort of rudimentary social organization, a union for purposes of offense and defense. Another organism more advanced in the biologic and social scale has formulated the same principle in the motto, "United we stand, divided we fall." This step in organization takes place only where limiting conditions, a local abundance of food-supply and danger from common enemies furnish a basis for community of interest and action. In the intense local conflict which takes place between the micro-organisms and the leucocytes and tissue-cells in circumscribed inflammations, the pus microbes are built up by the necessities of the situation. They are at the same time the means and the product of successful conflict. By combining themselves into communities, the microbes are the better able to resist their enemies and compass their own survival. The natural conditions present—and we have here the operation of natural forces and natural law—select these more resistant aggregated forms for continued propagation, killing off the less resistant segregated individuals.

The conditions for suppuration may be as truly said to produce pus organism as that pus organisms produce suppuration. As is now well known, pus due to microbic action represents the slain in the conflict between the invading microbes and the defensive forces of the organism. Suppuration is nearly always a localized process, always so where pyogenic action is set up by microbes at first non-pyogenic. This is a necessary condition. Segregated and diffused, they are more easily overcome by the leucocytes and other defensive agencies of the system. The individuals can not unite to form communities and establish that intensity of local action necessary to pus formation. Where there is a general condition of low resistance, they may multiply with great rapidity as single cells or paired forms, and overcome the organism by a general septicemia, yet without local pus formation and the production of these aggregated forms. In the course of general infections, where local inflammations develop, these aggregated forms make their appearance; nevertheless, they are the product of *localized* and *limited* action. Where nutrition is normal and the defensive forces at par, considerable quantities of well-recognized pus-formers from virulent cultures of streptococci may be introduced into the circulation, or into the peritoneal cavity where definite limitation is difficult, without causing either general infection or local suppuration. Here the organism, though failing to confine the germs to one locality by a wall of lymph, to destroy them by the usual method of siege, is yet able to segregate, diffuse and kill them off one by one. The staphylococci, whose communistic organization is more highly developed, are more difficult to disintegrate and diffuse. Their inoculation nearly always produces local suppuration.

This aggregation into pairs, chains and clusters once established, becomes a *habit* of the organism built into its organization, to be strengthened and maintained by favorable environment or weakened and lost through unfavorable conditions. It is, however, a real differentiation. There is, in fact, no intention to deny the reality of species and types among these lowly organisms. The real contention is that among them, as among the higher forms, there exist kinships based upon community of origin, the diversities of form and habit being produced by natural conditions. There is this difference, however, between the high and the low, which is insisted upon. The higher organisms have accumulated momentum of organization, carrying them forward in a determinate course and resisting influences tending to change their form and habits. They are modifiable, but comparatively long periods are required to produce appreciable changes. In these microscopic particles of scarcely differentiated protoplasm which we have been considering, whose cellular structure even is inferred rather than demonstrated, there is little of accumulated and organized biologic habit. They are to a great extent the product of their immediate physical environment. When changes not too radical occur in this environment, some varieties undergo adaptive changes in their vital activities and thus survive. Other varieties more rigid in their habits either die out or save themselves from extinction by sporulation.

This paper was originally begun with the purpose of applying the general principles of biology to the question of germ variation, and with these principles, together with special facts drawn from bacteriology, to build a scientific basis for a theory which I have for some time held as to the relations of dengue and yellow fever. Having occupied so much space with the treatment of the general subject, little more than an outline statement of the theory itself will be given.

That these two diseases are in some way closely related, the facts seem clearly to indicate. That they are generically the same, caused by modifications of the same germ, satisfies these facts and brings them into harmony with the principles of bacteriology and biology better than any theory so far propounded. It certainly does away with the necessity of assuming an "anomalous" form of dengue for cases which develop the characteristic type of yellow fever. It allows us also, if we make due mental reservation to do as is quite the practice now in the beginning of epidemics and under other circumstances where the type is mild, to call our cases dengue. It is well for us to bear in mind, however, that if the proper conditions, continued high temperature, high atmospheric humidity, and abundant organic waste exist, we will have our dengue, with the advancing season, developing the characteristic type and virulence of yellow fever. If this specially favorable conjunction of conditions does not exist, the germ may continue to propagate under the more volatile, diffusible, but less malignant form. In either case, the condition of the germ and the virulence and symptomatic expression of the disease are due to the properties bred into the germ by the conditions under which it is propagated. In the coast towns of Cuba, Mexico, Central America, and parts of the continent of South America, high temperature with limited temperature range, high atmospheric humidity and bad sanitation furnish the factors which have made the yellow fever germ. The uniformity of conditions here supplied have made of it, in its natural habitat, a definite and persistent type. There is no principle of biology to contradict the hypothesis that it is even here an adapted type generically related to a large group, vaguely denominated the zymotic group, which the more diversified climatic and seasonal conditions belonging to higher latitudes have differentiated into a number of varieties. In this group I would place dengue, its nearest of kin, and also influenza. An experience of some years in a section of country adjacent to the Gulf coast, where natural conditions approach the tropic, has convinced me that the clinical type known as dengue is a frequent derivation of the grip. Although admitting it to be rank heresy in the present state of medical opinion, I am willing to avow the belief that the extensive epidemic of 1897 had this origin, becoming in the later stages indistinguishable from imported yellow fever.

I see no inherent difficulty in the proposition that the influenza germ, though attaining its most characteristic type, as now recognized, and its greatest epidemic potentiality in sub-arctic regions, may occupy lower latitudes and there become diversified; that its irruptions in the past have planted the disease in the tropics, and that there the germs, finding quite uniform conditions, especially as relates to temperature, have developed into the indigenous adapted variety causing yellow fever. This looks, at first glance, like pure speculation, but the strong indications of kinship, especially marked, between influenza, dengue and yellow fever, and traceable in the other members of the zymotic group, studied in connection with the general principles which I have attempted to set forth, give to this view a more than speculative basis.

CARE AND REPAIR OF THE FEMALE PERINEUM.

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BY E. L. LARKINS, M.D.
TERRE HAUTE, IND.

To make a comprehensive study of the anatomy, physiology and pathology of the perineum, it must be preceded by at least a somewhat cursory description of its anatomic relations. In order to do this, the whole pelvis must be viewed in profile as well as in sagittal section, and that part which immediately concerns the subject is the inferior aperture or outlet.

According to Gray: "Its deep boundaries are in front, the pubic arch and subpubic ligaments; behind, the tip of the coccyx; and on each side, the rami of the pubes and ischium, the tuberosities of the ischium, and great sacrosciatic ligaments. The space included by these boundaries is somewhat lozenge-shaped, and is limited on the surface of the body by the scrotum in the male, and the mons veneris in the female in front; by the buttocks behind; and on each side by the inner side of the thighs. A line drawn transversely between the anterior part of the tuberosities of the ischium on each side, in front of the anus, divides this space into two portions." The anterior portion contains, in the male, the penis and urethra; and in the female, the vagina and urethra, and is called the "perineum."

"The posterior portion contains the termination of the rectum and is called the ischiorectal region." The ischiorectal fossæ are situated on each side of the rectum, and extend to the tuberosity of the ischium on each side. They are filled with a cushion of fat, which acts as an elastic splint to the bowel and a pad for the perineum, while allowing great distension of either without injury.

In this connection the parts of greatest interest are the sphincter ani, levator ani, and coccygeus muscles, which form the internal boundary of the ischiorectal fossa, and the superficial and deep perineal fasciæ junction, which form the boundary in front. These, together with the perineal body, allow of great distension of the vagina in parturition, and at the time of delivery of the head the latter is often stretched from three to five inches.

As described by Gray: "The perineal body fills up the interval between the lower part of the vagina and rectum. Its base is covered by the skin lying between the anus and the vagina, on what is called the perineum. Its anterior surface lies behind the posterior vaginal wall, and its posterior surface lies in front of the anterior rectal wall and the anus. It measures about an inch and a quarter from before backward, and laterally extends from one tuberosity of the ischium to the other. In it are attached the muscles belonging to the external organs of generation. Through its center runs the transverse perineal septum, which is of great strength in women, and forms on either side, behind the posterior commissure, a hard, ill-defined body, consisting of connective tissue, with much yellow elastic tissue and interlacing bundles of involuntary muscular fibers, in which the voluntary muscles of the perineum are inserted."

The levator ani is a broad, thin muscle, situated on each side of the pelvis. By union with its fellow on the opposite side it forms the floor of the true pelvis, and through its peculiar bony and tendinous attachments, together with the coccygeus, it forms a perfect sling for the rectum, and, in the male, for the prostate gland also. Their anterior boundaries are not united, to allow of the passage of the urethra, and, in the female, the vagina. This is by far the most important muscle of the pelvic floor. Its anterior and posterior fibers have bony attachments, but the larger central portion arises from a tendinous arch over the obturator internus. Its form is that of a horseshoe, and the peculiar attachments give it great power and a wide range of action. Occasionally the anterior borders are hypertrophied, giving rise in the female to severe vaginismus or even dystociæ of the pelvis. This occasional anatomic condition should always be taken into account when considering the management of tedious cases of parturition. The muscle is also classed as an expiratory one. The central tendinous point of the perineum is situated about half an inch in front of the anus, and is formed by the convergence of four muscles—the external sphincter ani, the accelerator urinæ, and the two transversus perinei muscles.

Attention is here called to this arrangement, and to the rectal attachments of the levator and coccygeus, in order to appreciate the philosophy of a statement to be made later. During the expulsive pains of parturition the action of all these muscles is upward, and being drawn tightly over the presenting part of the fetus, they produce dilation of the vagina and anus.

The pelvic fascia in the female forms an important part and a resistant structure in relation to the perineum, uterus, tubes, ovaries and bladder. It is divided into the superficial and deep layers. The superficial is continuous with that covering the whole body. The deep layer, which corresponds to the fascia Colles in the male, acts as one of the main supports of the contents and floor of the true pelvis. The fasciæ belonging to and covering the different muscles are important factors in maintaining the pelvic viscera in position. Especially is this true of that of the levator ani and coccygeus, and to a less extent of the transversus perinei. The different ligaments of the pelvic basin which act as anchor-chains and guy-ropes to the tense diaphragm may be torn in parturition or relaxed by inflammatory processes, and initiate retroversion and descensus. Muscles under tension can not and do not withstand a constant superimposed weight. The most important of these is probably the utero-rectal, which consists of two folds of peritoneum, embracing, and interwoven with, the musculo-fascial and connective tissue of the upper end of the vagina, and extends from the posterior surface of the cervix to the rectum, with some fibers passing to the sacrum.

In labor, when the musculo-fascial tissue gives way high up on the walls of the bladder and rectum, there will subsequently follow relaxation of the utero-rectal ligament, with prolapse of uterus and vagina, congestion from deranged circulation, and the local and reflex symptoms arising therefrom.

It will be seen from the foregoing that the perineum proper is made up of muscles, fasciæ, connective tissue, blood-vessels and nerves so interwoven in the inferior portion of the pelvis as to constitute a true floor. This conception of the structure is necessary in studying its relations to the pelvic organs and to the process of parturition. Many theories have been advanced and much has been written concerning the function of the perineum, and a great deal of ingenuity has been exercised in devising surgical procedures for the correction of pathologic conditions. The failures of the latter have been in proportion to the fallacies of the former.

It was not until 1883, when Emmett and Schatz published the result of their separate studies and observation upon the etiology of perineal lacerations, that its functions were thoroughly comprehended by the profession. Prior to that time it was thought to be the only, or principal, support of the uterus. The principal mistake has been made by confining observations to the perineal body. That the perineum proper has much to do with the support of the uterus and its adnexa there can be no doubt, and the varying degrees of procidentia, flexion and version, and the formation of cystocele, rectocele, etc., depend upon the degree of injury sustained by the floor of the true pelvis. In addition, the fascia extending from the sulcus on each side becomes separated from its vaginal attachments by the soft parts being crowded up in advance as the head passes along the floor of the pelvis, giving rise to prolapse of the posterior vaginal walls. In the separation of the pelvic fascia the perineal body loses its principal support and tends to sink backward toward the rectum, producing a relaxed and elongated vaginal outlet. According to Emmett, the connective tissue of the pelvis spreads out in every direction and is held firmly in place by the fascia, suspending the pelvic organs on the same principle as those of the abdominal and thoracic cavities. The same author believes that the chief function of the perineal body, or commonly accepted perineum, is to give the needed support to the curve of the rectum in defecation and when in the upright position, so that it can not encroach upon the vaginal canal. In many cases submucous laceration or separation of some of the muscles and fasciæ entering into the structure of the pelvic diaphragm takes place, without rupture of the perineal body, giving rise to prolapse of the posterior vaginal wall and displacement of the pelvic viscera. In fact, the great majority of complete lacerations commence in the rectovaginal septum and are completed from within outward by the shoulders and hips after the head has passed the vulva. Exceptions to this are most of the cases of rupture due to the use of the forceps. If the lateral attachments of the levator ani give way, the laceration is apt to be supravaginal. According to Schatz, the common cause of this injury is crushing of the muscle at its insertion in the descending ramus of the pubes, by an oblique application of the forceps, the instrument being kept oblique during the extraction and with one blade pushed far forward against the pubic arch. This laceration may occur without operative procedure, and is commonly unilateral. The injury is very difficult, if not impossible, to repair, and is all the more to be dreaded, as prolapse and procidentia will almost certainly occur and can not be relieved by pessaries. The question of how much support is given the uterus and its adnexa by the perineal body and pelvic floor is one about which eminent authorities disagree. In laceration of the former, if the tear does not involve the sphincter ani, not much damage in this respect is done. But if the pelvic floor is injured, especially by laceration of the fasciæ, with or without involving the perineal body and sphincter ani, very disagreeable symptoms will soon arise. Yet, we may find procidentia and prolapse in women who have never borne children. In such cases, however, it is usually due to the effect of inflammatory changes or to atrophy from old age. In these cases, much is to be hoped for in the proper adjustment of pessaries, as the base of support — the levator ani muscle — is intact, and the leverage gained is usually sufficient to retain the organ in proper position For the purpose of studying the processes of parturition and the pathology of injuries to the pelvic floor resulting therefrom, the pelvic outlet may be divided into two segments—an anterior and posterior. The anterior or pubic segment is movable, and contains the bladder, urethra, anterior vaginal wall, and retropubic fat. The posterior segment is fixed; is attached by strong fasciæ interwoven with muscle to the coccyx and sacrum, and contains the rectum, perineum, and posterior vaginal wall. The anterior segment is the one most liable to injury during labor, especially stripping the levator ani fasciæ from the bladder and vagina. The posterior segment may become injured by being forced too far backward, and if the perineal body is lacerated the vagina loses its natural curve. This is apt to occur when the pelvis is of the male type, in breech presentation, and where rotation and extension of the head do not take place at the proper time. In injury to either segment, it is well to remember that the normal tortuous condition of the veins is lost, and congestion, from this cause and from obstruction due to absent or displaced muscular action, occurs, giving rise to many disagreeable symptoms.

We come now to the causes producing injury to the perineum. In the great majority this is due to parturition, but in a few cases it has occurred in the delivery of a large fibroid. In the list of this category I would place: 1, ignorant midwifery; 2, meddlesome midwifery; 3, mechanic difficulties; 4, precipitate or uncontrollable labor; 5, dry, irritable, rigid perineum, as in first labor; 6, untimely administration of ergot; 7, causes depending on the physician.

Ignorant midwifery is the advance agent of the gynecologist. No one should presume or be allowed to attend a case of confinement without some definite knowledge of the process and technic of parturition. From the time the woman begins to have well-defined pains of dilatation, she is encouraged by the midwife to use all her energy as an expulsive force, and by the time she delivers herself of the child she is utterly exhausted physically, not to mention the subsequent muscular pains and soreness that she must endure. With the onslaught of such forces, especially in primiparae, there occur, in the majority of cases, cervical and perineal lacerations of greater or less extent. Through ignorance of the laws of asepsis, infection very often takes place, resulting in inflammation of the uterus and its adnexa, peritonitis or fatal septicemia. The surviving cases finally drift to the gynecologist for relief.

Under the head of meddlesome midwifery I would note the too frequent administration of drugs designed to accelerate labor, too frequent examinations, rendering the vagina and perineum dry and irritable, by removing the natural mucous secretions, and which, by the frequent introduction of the finger, may convey septic infections. In this, may be included the often unnecessary application of the forceps. All the operations in this category are usually done by the physician to economize time—a very questionable procedure under the circumstances.

The mechanic difficulties of labor, in the relief of which, or on account of which, laceration of the perineum is produced, would make a long chapter in obstetrics and gynecology. First among these, are malpositions of the child, and malformation of the pelvis or child, or both. Face and breech presentations are the ones which, in delivery, are most likely to cause laceration, and especially when the arm happens to pass over the head. Malformed pelves and those of a pronounced male type render laceration of the perineum almost inevitable, and other conditions equally so.

While it is almost always desirable from the standpoint of the physician that labor terminate as soon as possible, yet we may have delivery effected so rapidly from the powerful uterine contraction, aided by the abdominal muscles, that the integrity of the whole pelvic floor may be destroyed. This is most apt to occur when complicating first labors. When, in the process of labor, we find a dry, irritable, congested condition of the lower segment and neck of the uterus, vagina and pelvic floor, we should plan accordingly; for, unless these are relieved, we may expect trouble. The premature administration of ergot is mentioned, only to be condemned, being dangerous alike to the mother and child.

The causes depending on the physician are, in the main, unavoidable, because done in the very great majority of cases in an honest and intelligent effort to relieve an abnormal condition.

Given the conditions producing the injuries, how can we best avoid or reduce to a minimum their injurious effects? This can not always be successfully accomplished. Lacerations in varying degrees will occasionally happen under the most perfect surroundings, and in the most skilful hands, so that no physician can blame another for the accident. Nothing can be more crude or selfish, or savor more strongly of the charlatan, than to herald forth to the laity as faults of another that which he himself can not avoid. And it is the boast of ignorance and want of careful attention to the proper management of the puerperium for a physician, doing even a moderate obstetric practice, to say that he never had a laceration occur under his care. It is estimated that in about 20 per cent. of term deliveries, in general practice, unavoidable lacerations of the pelvic floor occur, except where incisions are substituted. It also appears demonstrated from statistics and the observation of gynecologists that the fascia is the first to give way. Time and space forbid the discussion of the many procedures recommended for the prevention of pelvic floor lacerations. In general it may be said that time should be given for full dilatation and relaxation by preventing too rapid advance of the head; the nervous irritability of the woman should be quieted; malpositions corrected, if possible, and at the time of delivery of the head, the woman should be instructed to cry out and breathe rapidly, in order to suspend the action of the abdominal muscles. This is best accomplished by the physician obtaining control of the mind of his patient and directing it to her work in place of her suffering. This can, in nearly every instance, be done.

When the head passes the vulva it should be supported, and in the delivery of the shoulders and hips, the child should be made to describe a circle corresponding to the axis of the parturient canal, in order to avoid making downward pressure on the perineum. This is done to reduce laceration to a minimum, especially submucous, commenced in the vagina and completed from within outward.

Time is the all-powerful factor in the preservation of the pelvic floor during the process of parturition. For the future comfort of the woman, this applies to all stages of labor. If to this was always added intelligent supervision, we would find many less invalids than now fill homes, public hospitals and private sanatoriums. The sympathy of attending friends, coupled with the usual impatience of the woman from her suffering, will too often incite even the physician, against his better judgment, to resort to means to hasten labor, resulting in disaster which time and patience would have avoided.

I have never touched a perineum for the purpose of support, but greater familiarity with the forceps leads to their more frequent use. In chloroform and morphin we have two potent agents, which when properly used, will be of greater service in supporting the perineum in its struggle for existence than any the physician can command, although by judicious and well-directed pressure on the *presenting part of the child*, he may retard its advance and render valuable assistance. The method of making pressure directly to the perineum against the presenting part of the child is to be severely condemned, and when practiced plays an important part in the production of these lacerations.

Goodell says: "When the perineum is very rigid, I relax it by hooking up and pulling forward the sphincter ani, with two fingers passed into the rectum, while with the thumb of the same hand I make the needful restraining pressure upon the head. For this method I claim the following advantages: 1. By pulling up the sphincter ani toward the pubes, not only is nature imitated, which always dilates the anal orifice, but the perineum is brought forward without direct pressure, and its dilatation is diffused over its whole surface, causing a corresponding relaxation of the strain on the posterior commissure in the line of its raphe. In addition, its muscular fibers are crowded up to, and consequently strengthen, the line of greatest tension—just as a prudent general hurries up reinforcements to the point of attack. 2. The same forc which dilates the sphincter ani compels the occipu to hug the pubes, and favors extension, especially i the fingers in the rectum are hooked over the prominence of the fetal face or over the chin. 3. This ai is not liable to sudden interruption from the movements of the woman. 4. The thumb of the sam hand together, if needful, with the fingers of th free hand, can, by direct pressure upon the presenting part, restrain its too rapid advance, without exciting that reflex uterine action which is so frequentl evoked by the irritation of contact with the perineum 5. The circulation of blood remains free; the nerve are not benumbed by double pressure, viz., by that o the hand and that of the presenting part; and th perineum, therefore, stays in its natural conditio that of a living, elastic and sentient tissue."

I quote this eminent authority because his reasoning and conclusions are admirable, and adoption c the practice gives gratifying results. But the metho here recommended, which I have never seen pu lished nor heard advocated, goes still further, and i cases where such a procedure is necessary gives be ter results. The statement of Goodell that natu dilates the sphincter ani can be easily verified i nearly any case of labor. When the perineum rigid and unyielding, full dilatation of the sphinct ani may be resorted to according to the Eastma method for vaginal hysterectomy. In the first pla it has a wonderful relaxing effect on the muscles the whole pelvic floor; and second, gives from an in to an inch and a half more room in the vagina— great desideratum. The method of dilatation is si ple, easy and effective. With the patient under ane thesia and lying on her side, place the ends of the fi gers of one hand in the form of a cone, and th oughly lubricated with vaselin, so as not to erode t epithelium, gently but firmly, with a rotary or bori motion, dilate the sphincter. This method of rec dilatation for any purpose is superior to all othe The result is surprising. In place of rigid, hot a dry tissues, they become soft, moist and relaxed, and the labor terminates without accident. I am convinced that this practice will save many a perineum otherwise doomed to destruction, and in many cases of tedious labor render the application of the forceps unnecessary.

Given a perineal or pelvic floor laceration, when and how shall it be repaired? The question covers a broad field in gynecologic surgery, and no fixed rule will apply to all cases. We find some advocates of the practice of making an immediate repair in each case, but the evident obstacles to such a close rule militate against a reasonable degree of success. Then, too, the manner of repair must be governed by the character and degree of the injury, the state of the tissues entering into and surrounding the field of operation, whether friable, cicatricial or atrophic, and the judgment and ability of the operator to obtain the best result. Speaking from the standpoint of the general practitioner, an immediate repair can seldom be successfully made, even in a favorable case, on account of sanitary conditions as usually found, the absence of a trained nurse accustomed to care for surgical cases, and the additional restraint necessarily put upon the woman during the greater part of the puerperal period. When considering the propriety of the immediate repair, the character of the labor in which the injury was produced is probably the most important factor for analysis. In cases of tedious labor, especially those from narrow pelves, where the whole pelvic floor has been subjected to long-continued pressure and finally overdistension, producing a bruised, edematous and weakened condition of the tissues, perineorrhapy, no matter how skillfully performed, will be a failure. As a rule this will apply to cases of tedious labor from any cause. In many of these cases there will also be a greater or less degree of cervical laceration, contributing to an irritant lochia preventing union. The cervical injury should be repaired, not only as a step in the preparation for perineorrhaphy, but of necessity for the future welfare of the woman, as it is an established fact in pathology that long-continued irritation of an abraded surface is an exciting cause of the proliferation of malignant tissue, especially from an epithelial matrix.

The physical condition of a woman in the puerperal state is not as favorable to the healing of injured tissue as it is in two or three months after confinement, when the system has adjusted itself to the normal standard of health. Then a lacerated wound will not unite as kindly as an incised one, principally because approximation of the surfaces can not be as perfectly secured. Infectious and contagious diseases, and above all gonorrhea, will render futile any attempt at repair at this time. Owing to the relaxed and edematous condition of the parts it is difficult or often impossible to bring the lacerated surfaces properly together. In this connection it must never be forgotten that what appears at the time to be an extensive laceration may in a few weeks be of trivial import; I am inclined to the opinion that many of the excellent results claimed for the primary operation are really cases of this kind. On the other hand, it is equally true that extensive and serious injuries occur without being at the time discoverable. Taking these things into consideration, it is usually best to keep the genital tract as nearly aseptic as possible, and in from six to ten weeks make the necessary repair, which, with a good nurse, can usually be done at home. The principles underlying the operation are an observance of the rules of good surgery in general, and minute attention to details in particular; and the more carefully the latter are looked after the more certainly will success be achieved. Successful repair of a severe pelvic-floor injury requires greater skill and attention than trephining the skull or making a shoulder-joint amputation. The evident indications are to replace and repair structure and restore function. To accomplish this the surgeon must have a knowledge of the conditions present as a whole, and a definite idea of what he desires to do before commencing the operation. We can not successfully operate by looking through other men's eyes, and each case must be a law unto itself. The manner of making the repair will depend largely upon the judgment of the operator; and the restoration of function—the only evidence of success—will rest entirely upon his skill in performing the work. Unless the muscles, fasciæ and elastic tisssue are united, but little if any good will be derived from the operation. The choice will probably be made between the denudation of Emmett and the flap operation of Tait, or some modification of one or both, to suit the case in hand. Cases will be met with, rather frequently, where considerable tissue has been destroyed, either from sloughing due to extreme and long-continued pressure during confinement, with subsequent infection, or from repeated but unsuccessful attempts at repair. In these much cicatricial tissue will be found, which must be removed or failure will result.

In another class the tissues are friable, and when denuded, capillary oozing is profuse. Such tissue heals slowly or not at all, and great difficulty will often be experienced in obtaining union. Such patients need preparatory treatment by the proper administration of tonics of bark and iron, arsenic, strychnin, etc., and regulation of rest and exercise, diet, etc., before operating. The condition is closely related to the hemorrhagic diathesis. The cases of permanent muscular atrophy are incurable. Those of partial atrophy from disuse due to the long continuance of the injury can usually be relieved, as restoration of the injured muscles brings them into use with subsequent development.

Time and space forbid entering into the technic of the operation. Suffice it to say that it differs according to the direction and extent of the injury and the parts involved. No one operation will suffice for all cases, and a good maxim to remember is, replace, repair, restore.

Dispensary Building.

PARALYSIS IN CHILDREN.

ITS SURGICAL TREATMENT.

Read before the Mississippi Valley Medical Association, at Nashville, Tenn., Oct. 11-16, 1898.

BY ALEX. C. WIENER, M.D.
CHICAGO.

Being confronted frequently with cases of paralysis in children, I was impressed by two facts: 1, how often cerebral and spinal paralysis are confounded, although the pathology and clinical symptoms of the two affections are diametrically opposed to each other; 2, as to the urgent necessity for the surgeon to find operative means which enable him to dispense with tiresome mechanic treatment. Apparatus is well enough to hide the deformity, but unfortunately it fails to cure the cause of it. The discussion of the earlier stages is omitted purposely, since the surgeon, as a rule, is not confronted with paralysis in children until medical and electric treatment has been exhausted, or in cases where there is no spontaneous improvement any more to be looked for, much the same as we are not approached for surgical intervention in gangrene of an extremity before the line of demarcation becomes apparent.

To facilitate the understanding of the fundamental differences of infantile cerebral palsy caused by lesions of the cortex of the brain, and those originating from inflammatory conditions of the cells of the anterior horns of the cord producing infantile spinal paralysis, by the kind permission of Dr. Patrick, I would refer to his sketch of motor neurons demonstrated at the last meeting of the Association. The difference in the symptoms of both diseases is striking. Lesions of any part of the upper neurons cause paralysis, spasticity of certain muscular groups, no muscular atrophy, no change in the electric reaction, exaggeration of the deep reflexes. Now note the consequences of lesions in the lower motor neurons: paralysis, flaccidity and atrophy of the muscles, reaction of degeneration, loss of the deep reflexes. You notice the common symptom of the two affections is paralysis. But what a distinction in these paralyses! In cerebral spastic paralysis the influence of the spinal innervation becomes predominant, increase of the tonicity and of mechanic irritability in certain muscles being the consequence. This hyperinnervation of one muscle group is overpowering its antagonists and renders them practically useless. But they are far from being paralyzed, which would imply a deprivation of their normal innervation; they are merely atrophied from overstretching and disuse; these symptoms of an otherwise hopeless affection are the very ones amenable to active surgical procedures, which are to adjust the disturbed balance of two antagonistic groups.

It is simply ridiculous to attempt to cure this affection with any mechanic contrivance, since no apparatus can be borne for any length of time which is strong enough to permanently restore the function of muscles overcome by their spasmodic opponents. It is high time to do away with patchwork in orthopedic surgery. Liberate your patient from being a slave of cumbersome and expensive appliances for all his life, by employing simple and sound surgical principles. Take a most frequent instance, paralytic talipes equino varus. The belly of the gastrocnemius in this case being trophically shortened, works on a foot which is already in a stretched position, thus depriving the flexors of the foot of their function. Now, in order to have these muscles regain their tonicity, it is necessary to weaken their opponents by tenotomy of the Achilles tendon. The severed ends must then be held at a distance of at least one inch during the process of healing, by forcing the foot in an extreme calcaneus position. On removal of the plaster-of-Paris dressings six weeks after, the pronators and flexor muscles of the foot have recovered sufficient tonicity to hold the foot in a normal function. The spastic contractions of the knee-joint demand tenotomy of four muscles; the gracilis, biceps on the outer side, semitendinosus and membranosus on the inner side. The open incision in severe cases is preferable to subcutaneous tenotomy because of the possibility of resecting a piece of the tendon; furthermore, an injury of the external popliteal nerve, which runs close to the inner side of the biceps tendon, is then out of the question. In spastic paralysis of the thigh Lorenz has introduced myorrhexis, which means a subcutaneous tearing of the adductor muscles, as a bloodless procedure to overcome it. The operator who always bears in mind that he is to overcome the rigidity of the muscles will never have the experience of a fracture of the bone, as he does not direct his force against the femur. In extreme cases we should not be afraid of loosening the attachments of the adductor muscles from the pelvis. After the operation the legs are held in an over-corrected position with a plaster-of-Paris dressing, and are gradually allowed to resume their normal position. Of course, in all these cases the weak opponents are strengthened by hot and cold baths, the different forms of massage and the faradic current. This after-treatment should be continued for at least a year, by well-trained attendants.

It takes no little experience and skill on the part of the surgeon to gain the confidence of the irritable patients, who have grown suspicious from former tortures with apparatus. Another point is always to be remembered in outlining the course of treatment. Sayre has taught us that spastic paralysis of apparently cerebral origin may sometimes be relieved by the removal of some peripheral reflex disturbance, as a phimosis or an occlusion of the prepuce of the clitoris. A circumcision or deliverance of the latter is all that is required to cure these cases permanently. To the unfortunate ones who have become idiots, or who are unable to uphold the trunk and the head in an erect position, the surgeon can not bring relief. In concluding the discussion of this subject, it may be stated that in deformities resulting from cerebral paralysis, most of the orthopedic surgeons agree on the uselessness and harmfulness of mechanic appliances. They should be discarded.

I come next to consider infantile spinal paralysis from poliomyelitis anterior. The principles which govern the surgeon in treating infantile paralysis are laid down by H. L. Taylor in his paper on hygiene of reflex action, in the following classic language: "In the neuro-muscular degenerations following acute anterior poliomyelitis it is especially important to restore to the paretic extremities so far as possible the stimuli of locomotion and their normal associated movements, without the inhibition of insecure footing and strained tissues; and it is for the specific purpose of restoring to the damaged cord and muscles the cutaneous muscular and articular stimuli of locomotion that apparatuses are constructed." And again: "normal reflexes of locomotion are broken up and a wasteful and cumbersome set installed, subject to constant cerebral interference in the efforts at balancing and progression, and additionally disturbed by the strain in weakened muscular and joint structure which is rendered inevitable by the lack of balance between opposing groups; mechanical protection with muscular training enables the patient to acquire a better set of reflexes and promotes the nutrition of the part." In the construction of apparatus for the correction of deformities and for the protection of muscles from wasting in consequence of poliomyelitis anterior, I endeavor to meet two physiologic requirements: 1, that a constant motor irritation be imparted to the inactive muscles by the action of the apparatus itself, which at the same time corrects the deformity; 2, increase of the arterial blood-supply and the stimulation of the lymph circulation.

A boy, 15 years of age,[1] had an attack of poliomyelitis anterior when 5 years old which left a complete paralysis of the four extremities and a paresis of the muscles of the trunk; no faradic reaction of any muscle except the extensor digitorum communis. The legs were flexed in the hip at about 40 degrees and in the knee-joint at right angles, with flail-like conditions of the ankle-joints. The case was given up by a prominent specialist of nervous diseases as absolutely hopeless. At first passive and then active exercises were made on a stationary bicycle, a so-called "home trainer," which later was replaced by a walking apparatus invented for this patient. The trunk was supported by an extension corset. The boy has recovered the active function of his legs and the control of the rotary muscles of the femur. All that is left to do is the operative straightening of his knee-joints, which had to be postponed on account of the weakness of the heart.

In replacing paralyzed muscle groups with elastic straps their points of insertion are so arranged that every step imparts a motor stimulus to the crippled muscles and the corresponding nerve-centers. The principle is described in a paper entitled "A Contribution to the Treatment of Clubfoot" (*Medicine*, April, 1898). Certainly the mechanic treatment is tedious, time-consuming, and therefore not applicable to the majority of cases who are recruited from the poorer classes. Nicoladoni, professor of surgery at the University of Innsbruck was the first to employ an ingenious surgical procedure to quickly restore paralyzed muscles to action. In a pes talipes calcaneus he connected the severed Achilles tendon with the normal tendons of the peronei muscles. The foot ould now be extended, and the gait had decidedly mproved. About a decade elapsed before the great ractical value of this method was realized by a few urgeons. The first operation in America was performed by Dr. B. Parish, May 15, 1892, and is decribed in the *New York Medical Journal*, Oct. 8, 92. For complete paralysis of both tibial muscles esulting in a talipes valgus he connected the tendon f the external pollicis longus with the tibialis antius. Milliken and Goldthwait developed the method, he latter reporting 40 cases of tendon and muscle ransplantation at the last meeting of the American rthopedic Association. Drobnik amplified the aplication of the method by introducing a new principle. He divided the belly and tendon of a healthy uscle and sewed this grafting to a paralyzed muscle the same way as small channels are branched off a ver to water dry fields.

As the electric examination in nervous children ften gives unreliable results, the whole field must be posed to the eye by a large incision. The color of e paralytic muscle will then be found as yellow as ax; the normal muscles are dark-red, while those retic or atrophic from disuse are pink colored. The test for the division of function are the muscles fted with a flabelliform origin. Following the course the fibers from the distal end, the muscle is divided ith a blunt instrument up to its point of insertion, e surgeon always being on guard for the supplying rves. The length as well as the thickness of the ece of tendon to be grafted is then carefully apportioned. Existing deformities of the bones or contraction of the soft tissues are to be corrected previously, so that on pulling out the tendon of the paralyzed muscle the extremity readily assumes an overcorrected position. After splitting this tendon the active one is grafted into the cleft by some in a buttonhole fashion and fastened there with a row of fine silk sutures with the greatest possible preservation of the sheath. It is well to have the grafting piece comfortably relaxed by uniformly stretching it before it is fastened. The unyielding fascia is stitched together as best we can without giving rise to undue pressure to the underlying structures. The wound is closed by a buried continuous kangaroo catgut suture, fortified by a couple of silk sutures. The foot is then held immobilized in an overcorrected position by a plaster-of-Paris dressing for about three weeks, in order to secure a perfect union of the tendon. To insure the good result, the rules of asepsis have to be religiously carried out, since the least infection jeopardizes the union and increases the danger of agglutination of the sutured structures.

The amount of operative possibilities is immense. I shall, however, select only a few instances frequently met with in daily practice. In talipes equino-valgus we may supplant the tibialis anticus by the extensor hallucis longus. In using the extensor digitorum communis, at least one-half of it has to be preserved, as this muscle is indispensable for the elevation of the outer edge of the foot. When too much weakened, the muscle may be augmented by a piece of the peroneus muscle. Thus there takes place a shifting of contractile muscular substance from the outer to the inner edge of the leg. Vice versa, in paralysis of the extensor communis, we utilize the extensor hallucis or a part of the tibialis anticus or the peroneus. The deficiency of the peronei muscles is to be made up by taking graftings from the anterior and posterior groups of muscles, or still better so that each peroneus muscle is supplied with fibers of the stretcher of the toes and the lifter of the heel. In a case of insufficiency of the anterior and outer group the Achilles tendon is divided in three parts, the inner of which is connected with the anterior group, the outer with the peroneus longus. To restore the function of the Achilles tendon a combination of parts of the tibialis anticus, the flexor digitorum and the peroneus has to be employed. This artificial change of arrangement of muscles has elicited the singular physiologic fact, that at the same time we transmit the function of one muscle to another, there is taking place an alteration of the reflex activity in the nerve-centers of the muscles. Hence the improvement of the function of the extremity is by no means a mere mechanic act. The treatment, operative as well as mechanic, has as its main object a nutritive stimulation and reactivation of the nerve-centers of the paralyzed extremity. The two methods of treatment are not in opposition, but are working harmoniously along the same line in their aim at accomplishing ideal functional results. You are ready now to infer arthrodesis has exhausted its usefulness as far as the ankle-joint is concerned. I have confined my remarks to the operations on the leg, as my experience is limited to this part.

In conclusion, I beg this excellent assemblage to consider the salient feature of this paper, the proof that orthopedics is surgery and is resting also on the broad foundation of physiologic surgery.

100 State Street.

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[1] This case was referred to me by Dr. Chas. L. Starkel of Belleville. The case will be fully described when the straightening of the legs been made perfect; in connection with this a description of the walkmachine in detail will be given. The straightening of the boy, together h the physiologic growth, amounted to 5 inches in 15 months.

MORTALITY IN ABDOMINAL SURGERY. IS IT TOO HIGH?

BY A. H. CORDIER, M. D.
Professor of Abdominal Surgergy Kansas City Medical College; Chairman Section Obstetrics and Diseases of Women, American Medical Association.
KANSAS CITY, MO.

In tabulating the below reported cases, with only one death, I do not do so with any other desire than that of one who has long maintained that the mortality in the collective work of many operators is too high, and who would call attention to some of the causes of this high death-rate, and how best to remove them. This high death-rate has always prevailed, but only in the last few years has the responsible and difficult abdominal operation been placed in the hands of so many novices. These operations are being performed by many who are absolutely unprepared with the proper knowledge of the rudiments of correct work. Two or three factors have been instrumental in bringing about the existence of this unfortunate and dangerous class of surgeons.

Antiseptic and aseptic technic, while factors in reducing the mortality, will not prevent an uneducated finger from stripping two coats from an adherent coil of ileum, while removing diseased masses from the pelvis, neither will a six weeks' post-graduate course on the high seats of the amphitheater, with a field-glass, prepare one for the correct reparation of such an injury to the gut when inflicted. Bargain-counter surgery is responsible for many deaths annually. It is occasionally the case that the surgeon giving the largest percentage of his fee is the one selected to do these operations—not that he is most competent, and has the largest percentage of recoveries, but that his price for the case is highest. A divided fee, as a rule, gives the same percentage of mortality. In other words, the less prepared the man to do good work, the higher his bid for cases. In the discussion of any subject pertaining to the saving of human life, sentiment, politics and religion should not take the precedence of honesty, skill and good judgment.

Any surgery that involves the handling of and injury to life-essential organs must, of necessity, require more care, judgment and skill than that in localities of less importance to healthy and comfortable existence. Of all surgery, that of the abdomen and pelvis entails the greatest direct risk to the life of the patient, hence the just birth and timely existence of abdominal and pelvic surgery as a specialty. That it should be so separated from general surgery is amply proven by past records of various operators. If a half hundred intraperitoneal operations are reported, with no deaths, or with only one death, the one most likely to doubt the honesty of that report will be the surgeon who has a mortality of 25 per cent. in like cases. The time has arrived when the practitioner (and the patient ready for the operation) should know what percentage of losses is incurred by the surgeon to whom the case will be intrusted.

The percentage of recoveries should guide, and not the price paid. I am glad to say that honesty of purpose, prompted by a desire for the patient's welfare, will in the great majority of cases, guide the family physician in the selection of his surgeon. The exception to this rule is rare indeed. We have a number of surgeons in Kansas City who are, I am sure, second to none in this country, in their operative technic, diagnostic ability and pathologic knowledge. Any ideas of criticism advanced in this paper are free from individual application or thought applied to the work of any one in view. My discussion of this phase of the subject is one of application to that class of incompetents who rely upon the price paid, and other intrigues, to get cases, regardless of their lack of ability to cope with the intricate problems of abdominal surgery.

The application of sound diagnostic judgment and accurate pathologic knowledge often enables the operator to draw the line between operable and inoperable cases, with reference to both saving life and effecting a complete cure. A septically overwhelmed patient, without a pulse, suffering with diffused peritonitis, would hardly be operated upon by a surgeon of ability and experience, even though that patient was able to laugh and carry on an intelligent conversation a few hours before death. On the other hand, many cases are returned to their homes as inoperable that, in the hands of a skilled operator, could be relieved. Timely operations should be urged upon all occasions, as the destructive inroads of the disease frequently quickly convert the easy into the most difficult and tedious procedures, often thus thwarting the surgeon's endeavors to effect a cure or restore function.

A surgical disease, the tendency of which is toward progression if let alone, should always receive early and thorough surgical attention. The United States is the birthplace of abdominal surgery, and very few intraperitoneal operations have originated in any other country. America is not only the parent of the early operators, but the home, as well, of perfect surgical technic in the performance of most operations first performed in other countries. I do not desire to detract in the least from the great work of the general surgeon, neither have I a desire to laud the work of the specialist, only in so far as it is necessary to show that a concentration of one's thoughts and practice along a special line must, of necessity, beget more accurate deductions and uniformly better results in his work. It is not only necessary that the abdominal surgeon be thoroughly versed in the anatomy, physiology and pathology of this operative field, but equally as important and essential is a thorough familiarity with the most minute details of the principles underlying the operative technic of this special class of surgery. A single improperly applied stitch may cost the life of the patient. This is only one illustration of the many errors in technic too often overlooked.

In reporting a late series of seventy-four cases operated on at the Scarritt Hospital in this city, with one death, I anticipate that a selection of cases and a failure to report all deaths will be suggested by that class whose mortality remains above the "teens." The nursing at this institution is of the very best, and the hospital environments are such as to be of much value in a general way toward the maintaining of a low mortality. Of much value in this class of work are good post-operative sanitary surroundings to insure a perfect convalescence. The nursing of an abdominal case requires a special class of trained nurses, or in other words, nurses who have had ample training in the correct way of caring for these cases according to the ideas of those who have had an abundant experience. A good, honest nurse will surely be of great assistance in holding down the mortality list.

In this list of seventy-four cases there has been no selection of cases, as no case has been sent away without an operation, and in every case well-marked operative indications have been present, the same being verified by the lesions removed at time of operating. In one case only of this list, was there no operation performed. In that case I did a confirmatory incision in an extensive involvement of the peritoneum from cancer. I use the term "*confirmatory* incision" in contradistinction to the *exploratory* incision, so frequently resorted to by many surgeons who should be diagnosticians as well as mechanics. No opinion before an operation is worse judgment than a wrong diagnosis. It is far easier to prevent a peritonitis than it is to cure it when once started. Asepsis in its strictest sense has been practiced in my work. Every preparation of the field of operation has been most scrupulously carried out by my assistant and myself. Sepsis in some of its manifestations is responsible for many deaths where even the operative technic has been well performed. I use but one assistant, and he is thoroughly in accord with the modern views of cleanliness being essential to a low mortality. An inexperienced assistant, especially if he does not accept the necessity for cleanliness as essential to success, will increase the operator's mortality. I use as few instruments as possible, and endeavor to keep my "abdominal kit" free from all outside contamination. In most of the cases here recorded Dr. John V. Green has been my assistant. An assistant should anticipate every movement of the operator, and always render help at the proper time and right place.

Near relatives have been permitted to see the patient occasionally, but it has been my endeavor, early in the case, on every occasion to exclude meddlesome and curious friends, unless some good reason were given why they should visit the case. I have endeavored to admit the case a few days before the time set for the operation, that proper diet might be given, and any other preparation suitable for that particular case carried out. A free catharsis by magnesium sulphate has been one of the principal preparatory routines. Strychnia sulphate in 1/40 gr. doses, each four hours, for a few days prior to and for a week after the operation, is given in most cases. Patients are urged to drink large quantities of water for a few days before the time set for the operation, as this in a measure prevents the thirst usually following the opening of the peritoneal cavity. Liquids are withheld for twenty-four hours after the operation, or longer if much nausea exists. This starves the tissue for water and causes the peritoneum to drink up any fluids in its cavity, thereby diminishing the culture fluid for the growth and multiplication of any micro-organisms that may have gained an entrance from outside sources during the operation, or have by any unavoidable accident been liberated during the breaking of a septic cavity in its enucleation. I have avoided raising the temperature of the operating room above 80 degrees F., believing that a patient may become exhausted from a profuse and protracted sweat inaugurated in a superheated operating room. Most operations, from choice of time, have been in the forenoon. This gives the operator several hours of daylight in which to see the patient after the operation is completed, and the patient goes on the table soon after a night's rest, and not too soon after the beginning of the fasting period. I make all my preparations for operations, such as cleansing the instruments, before sending them to the sterilizer. Sterilization is effected by boiling in filtered water. No antiseptics, save a little alcohol for the hands, are ever used, but instead reliance is placed upon thorough cleanliness and pure, boiled, filtered water. I am a firm believer in the bacterial origin of septic processes, but also believe that these micro-organisms can not exist in dangerous numbers where thorough cleanliness is obtained, and boiled, filtered water is freely used.

Visitors are asked to refrain from talking and to avoid moving about in the operating room. This prevents any confusion or interruption on the part of the operator from remarks made by onlookers, and causes less dust and flying particles to be moved about the room and into the field of operation.

In this series I have not used a sponge. Plain, sterilized gauze pads have answered every purpose, and are far less dangerous to the patient. The purest and strongest Chinese twist has been used for pedicles. This silk is reliable as to strength, can be used in very small sizes, and is easily sterilized by heat at time of each operation. In none of my cases have I had cause to regret the use of the silk ligature. Only the amount of silk expected to be used is ever boiled, as a second boiling weakens it. Silkworm gut sutures through all parietal structures are the material used, and the method of closing the abdomen. Ether has been the anesthetic used in most cases, and contrary to the general belief, has not been followed by more nausea than if chloroform had been given. Every preparation for operation has been completed before a single inhalation of the ether is given This shortens the time of anesthesia. A short incision minimizes the risk of septic material entering, prevents escape and consequent handling of bowel, and reduces the number of post-operative hernias. A number of these cases have been infected cases, such as ovarian abscesses, appendicitis, etc. Without exception, I have used drainage in such cases. I am firmly convinced that the proper use of the tube makes it a life-saving agent. Surgeons using the tube correctly will continue its use. It is not an admission on the part of the operator that his work is imperfect when he uses a tube.

Careful hemostasis has been carried out in all cases, as many of them were very anemic at time of operation. If less blood were lost in many surgical operations there would be fewer deaths from so-called shock. Quick and complete surgery will generally bring good results. Appendicitis cases, sixteen in number, have represented every clinical phase and pathologic condition found in this disease. The appendix has been removed in every case. A number of the cases were drained. I am satisfied that the more thorough the appendiceal surgery the lower the mortality. In one case, a transfusion of normal saline solution was necessary to save the case, owing to a profuse hemorrhage following the operation. This patient was a "bleeder," as I since learned that he came near losing his life from a hemorrhage following the extraction of a tooth. The confirmatory incision was a small opening made to satisfy others interested in the case that the diagnosis of malignancy was correct. The case of intestinal anastomosis was a lateral joining by aid of the Murphy button, the case being a malignant one, with the obstruction in the ileum and cecum. The anastomosis was made with coil of ileum, and the sigmoid. Intestinal resection was a case of extensive adhesions following an ovariotomy, three years ago. The gut was so completely bound down and constricted that it was necessary to remove twenty-six inches, the end-to-end joining being also made with the button. Mesenteric cysts, two in number, were incised, packed and drained until closed. The desmoid tumor case was one of those very rare forms of growth affecting the abdominal walls in women. The growth usually follows a pregnancy, and is found, in most cases, in the inguinal region. It is non-malignant, but repeated operations are frequently required to remove it. In this case three operations were performed before the growth was headed off and cured.

Many of the cases here tabulated had multiple operations at one "sitting," such as perineorrhaphy, curetting, etc. The list includes twenty-two different operative procedures:

Appendectomy	16
Salpingo-oöphorectomy (pus)	20
Nephrolithotomy	1
Ventrofixation (uterus)	2
Desmoid Tumor	3
Colostomy	2
Vaginal Vault Drain	1
Ovariotomy (for cyst)	5
Femoral Hernia (cure)	2
Tubercular Peritonitis	1
Hysterectomy, Abdominal	4
Confirmatory Incision	1
Ectopic Gestation	1
Nephrorrhaphy	3
Intestinal Adhesions	2
Intestinal Anastomosis	1
Intestinal Resection	1
Strangulated Femoral Hernia (1 died)	2
Mesenteric Cyst	2
Cholecystotomy	2
Vaginal Hysterectomy	1
Nephrotomy	1
Total	74

The responsibility of the abdominal surgeon is peculiarly binding and great, as many operations are performed to restore comfort and not for the purpose of saving life, yet the dangers incident to the performance of any abdominal operation are always present, and should always be weighed in every case. Many, many times in the midst of an operation, the mind of the surgeon will revert to the scenes of the little family circle of the patient whose confidence and life he has in his hands. Often the dear little ones of the mother or father on the operating-table will pass in mental review before him, thus reminding him, as it were, of his duty and responsibility. Many times he will ask himself, in these anxious moments: "Will I be able to save and return this parent, restored to health, to those dear little ones left at home, at an age when parental guidance means not only immediate comfort and happiness, but the molding of their future?" Perchance the patient is a little tot, the whole life and joy of its fond parents—for disease does not discriminate in selection, and only too often we are compelled to operate on these little unfortunate sufferers. Can any one feel that he is warranted in assuming this responsibility unless, by a thorough training and an equal knowledge of all the intricacies of this responsible class of surgery, he feels competent to meet any emergency and to quickly resort to the proper method of meeting the same?

APPENDICITIS.

A CONSIDERATION OF SOME OF ITS CAUSES.

Read before the Cambridge Society for Medical Improvement, Dec. 26, 1898.

BY AUGUSTUS P. CLARKE, A.M., M.D.

CAMBRIDGE, MASS.

Perhaps in the whole realm of medical science no subject that has had its birth within the last decade has elicited more discussion among professional observers, and has obtained a wider interest with the masses than has that of appendicitis. It seems, therefore, that from whatever point of view any of its different phases may be presented, something may be gleaned that will prove of value for the better understanding of the complications which it may involve.

In some of the earlier reported cases much importance was attached to the occasional presence of a fecal concretion, or of a foreign body within the appendix. The rarity, however, of finding such foreign matters, or of securing adequate evidence that extraneous elements are really controlling factors has led to the disregard, in large measure, of the view that they have any marked effect in the production of the disease.

Catarrhal inflammation has been mentioned as a cause, especially that form of the condition occurring in diarrheal disease. If it be true that appendicitis is dependent upon such morbid processes, the number of cases amounting almost to an epidemic, would be expected to follow during some of the months comprised within the heated term, or within some of the seasons or conditions favoring intestinal disturbance.

Another view put forth as to the cause is, that the appendix vermiformis is a functionless vestige of organs once necessary for the conservation of our ancestral forms of life, and that by the lapse of time and the alteration of conditions, such evolutional changes occurred in the organism as to leave this part of the intestinal tract a mere relic or representative of a rudimentary apical portion of the cecum. The vermicular process, though evincing an analogy of conformation with that of some lower forms of animal life, has by some been regarded as of low vitality, and is therefore more susceptible to changes, and prone to become the seat of morbid processes. The condition which is here alluded to is in some respects not unlike that of the mammæ, the uterus, and its adnexa after the occurrence of the menopause. The functional activity pertaining to the development of the several organs having been accomplished, the highly vitalized condition takes on retrograde changes, and thus fails to afford protection against the inroad of disease.

In this connection it might not be uninteresting to refer briefly to some of the features of the appendix vermiformis, and to endeavor to inquire how firmly such a view can be substantiated. In doing this I deem it proper at first to refer to some of the points enunciated by Professor Haeckel at the Cambridge Congress of Zoölogy, which was held in August, 1898, as reported at the time by the London correspondent. Professor Haeckel, after making mention of recent discoveries of fossil remains in Java, Madagascar and Australia, which render more complete the evidence in the several steps in evolution, said substantially that all mammalia were of monophylitic origin, that is to say, that their origin was from one common parent form, from *Monotremata* upward to man. He said that all living and extinct mammalia which have been studied, were descended from a single common ancestral form that appeared in the Permian or the Triassic period. He considered this form or type of animal life to be derived from some Permian, or not unlikely carboniferous reptile allied to the *Proterosauria* and *Theriodontia*, which was descended from a carboniferous amphibian of the group *Stegocephala*. These amphibians in turn were derived from Devonian fishes, and these in their course from the lower vertebrates. The chief fact brought out by Professor Haeckel is that man is a primate, and that all orders of primates, such as lemurs, monkeys, anthropoid apes and man, had their descent from one common stem.

In the discussion of this subject it is not necessary for our present purpose to trace descent from more remote ancestors, for we are thus assured beyond a reasonable doubt that all mammalia upward to man had their origin from one parent form; from a primitive form of *Monotremata*. If we now examine the alimentary canal of a fowl—a present representative, in some respects, of this type—we shall find that there are two long cecal tubes, which have their openings in the intestine at points not far from its termination. The axes of these tubes form an acute angle to the axis of the intestinal tract. Their function seems to be to assist in furnishing an abundance of watery or fluid secretion for facilitating absorption by the vessels of the intestinal mucosa and for expediting the extrusion of effete matter. The same anatomic arrangement is found in the parrot. The cecum in man is a short, spacious pouch, into which the ileum opens; the appendix opens on the inner side of the bottom of the cecum. Its diameter is said to be of an average of about three lines. The blood-supply of the appendix is derived from a vessel that has its course near the free concave margin of the mesentery and is a branch of the ileocecal artery. Its coats are thick and of firm consistence; its mucous tissue is supplied with a large number of solitary glands. In structure the appendix may be said to resemble very closely the intestine.

By some writers the appendix has been described as a rudiment of a more extended cecum found in all mammiferous animals with the exception of man and the higher class of *Quadrumana*, such as the ourang-outang and chimpanzee, and among marsupials the wombat. According to Quain, the coats of the appendix vermiformis are as thick as those of the cecum, with which they are continuous, for both are lined with mucous membrane, and the muscular fibers of the one are prolonged into the other. In early periods of fetal life no distinction is perceptible between them; they form a long tube projecting between the folds of the small intestine, and are continuous above with the colon. But toward the time of parturition this part of the canal becomes constricted for about two-thirds of its length, the rest retaining its normal size; and so that peculiar conformation is established which we find at last in man and one of the highest species of the *Quadrumana*, in whom it may be regarded as a rudiment of the tubular diverticulum which is found in the rest of the mammalia. In herbivorous mammalia the cecum often attains to the size of the large intestine. In such instances of development its capacious dimensions not only greatly favor liquefaction of the coarser ingested foods, but afford a broader surface for absorption.

Neither in man nor in any of his ancestors, however remotely in the past they may have lived, could such a development of the cecum have existed. Man, as descended from the *Monotremata*,[1] has developed along other and independent lines of progression. He never belonged to the class of *Quadrumana*. None of his progenitors has had at any period a foot that might be regarded as prehensile with an opposable great toe. Ever since the parent form underwent division from the common stem the various parts have become more and more highly specialized, and organs have been developed for the performance of particular functions. The reason why the wombat is an exception is no doubt because that animal feeds not on herbage, but on roots, which require for their digestion a less amount of intestinal tract.

Were we to entertain any doubt as to the ancestral origin or rightful possession of the appendix in man, reference to the structure of fishes would show that that class of animal life has for the most part numerous ceca in the intestine. These cecal pouches correspond most nearly to the appendix in man. From the general prevalence of cecal tubes now found in fishes there can scarcely be a doubt that such blind ducts did exist in the old Devonian fishes, the ancestors of the carboniferous amphibians, that were in turn the progenitors of the ancient *Sauria* and *Theriodontia*, from which came the parent of the *Monotremata*, the common stock of all mammiferous animals, as the various orders of living beings have been classified by Professor Haeckel.

My apology for going into the subject before us somewhat in detail is from the fact that much misapprehension, I fear, has sometimes prevailed respecting the life of mankind being in danger because he has in his organism the vermiform appendix.

Drummond, in his "Ascent of Man," while speaking of the relics of the human organism, says that caution is required in affirming as to the inutility of any character, since its seeming uselessness may only mean that we do not know its importance. He classes the vermiform appendix of the cecum as a vestigial organ, and says that it is now not only of no use to man but it is a veritable "death-trap." He further remarks that in herbivorous animals this blind tube is very large, longer in some cases than the body itself, and is of great use in digestion. In man, he says that it is shrunken into the merest rudiment. He regards it as an easy receptacle for the lodgment of foreign bodies. Drummond quotes from Sutton, who says that the appendix is covered with peritoneum; that it possesses a muscular coat, and is lined with mucous membrane. In the early embryo it is equal in caliber to the rest of the bowel, but at a certain date it ceases to grow, pari passu, with it, and at the time of birth it appears as a thin tubular appendix to the cecum. In the newly born child it is often absolutely as long as in the full-grown man. This precocity, he remarks, is always an indication that the part was of great importance to the ancestors of the human species. It is to be regretted that the authority here cited has not told us in what ancestor of the human species the appendix was so important. Did the writer or the author mean to tell us that it was the understanding that the human species descended from herbivorous animals?

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[1] By *Monotremata* is here meant one of the three classes of mammalia possessing a single cloaca, in which the terminal ducts of the genital, urinary and alimentary organs center. Eggs are laid by the female, like those of the bird and the lizard. The young are hatched or brought forth as are the offspring of feathered oviviparous vertebrate races generally, and are nourished by an aqueous exudation from the undeveloped rudimentary mammæ. One of the best types of the sub-class of this variety is that extraordinary animal, the duckbill—or Australian duck-mole—the *Platypus* of Dr. Shaw and the *Ornithorynchus*, as described by Geoffroy. The duck-mole here referred to is an aquatic mammal, first found in New Holland; its feet are webbed and it has a bill in many respects like that of a duck. Its eggs are hatched as are those of the fowl. Another sub-class of mammals embraced in the division of the *Monotremata* is the *Echidna hystrix*, known as the toothless oviviparous Australian porcupine ant-eater. In this class of mammals the young are brought forth by an egg which is hatched within the body of the mother and then excluded alive. The marsupial mammals are regarded also as non-placental; their young are brought forth at an early stage and are nourished by the secretion from small udders within the marsupial pouch. The other sub-class of mammalia is represented by the *Placentalia*, and it embraces man as well as other orders that have advanced in the scale beyond the *Monotremata* and the marsupialia. It may here be remarked that as man reached in his ascent the stage of the *Monotremata*, he was undoubtedly by the favoring influences of environment, rapidly developed, merged and transmuted without any connecting link, without having relation to the anthropoids, in the form, substantially, in which he now appears. I am not unaware that other animals besides those mentioned in the paper have the vermiform appendix. Kirk, in his "Handbook of Physiology," p. 358, makes mention of the appendix as existing in the rabbit, and says that the part consists largely of Peyer's glands. He also says it is to be noted that Peyer's patches are largest and most prominent in childhood and in young persons. In a late edition of "Gray's Anatomy" appears the statement that the appendix is first seen low down among the mammals in the marsupial group, as in the wombat. No sign of it again appears until the ichneumon and the hog are reached, but not then is it a proper appendix. It is next seen in lemurs and in the higher apes, as in the chimpanzee, ourang, gibbon and the gorilla. The same authority, however, holds to the popular view that the appendix in man is a functionless and dangerous structure. How different is this conception of the character of the appendix from that implied in the account which Piersol gives in his work on "Normal Histology," where it is stated that in the vermiform appendix of some animals, and in some cases also in man, the follicles form a continuous zone of adenoid tissue; that the lymphatic, lymphoid or adenoid tissue usually occurs as circumscribed masses known as lymphatic nodules or glands. The lymphatic tissue wherever found is composed of element, the connective tissue, the reticulum and the small round cells. These elements, the lymphoid or adenoid cells become the lymph corpuscles and the colorless blood-cells on their escape from the denser reticular tissue into the lymph-current and their subsequent entrance into the blood.

There can be no doubt that the cecal tubes, as already stated, were of considerable importance in the common parent form from the *Monotremata*. This we see as exemplified in the intestinal arrangement of the common fowl. So, too, there can hardly be any question that these structures were of advantage to the carboniferous reptile and to the Devonian fishes, but it may be seriously doubted whether this peculiar anatomic development was of any greater service to those ancestral types than to man, the latest and highest development of all. The precocity of development of an organ in the fetus does not seem to be always a sure indication that the part was of a greater importance to the ancestors than to the descendants, else we should be led to infer that the head and upper extremities, which in the fetus are often developed faster than the feet or lower portions of the body, were of much more use to the carboniferous reptile than to man.

It has long since been recognized that the cecum has been the seat of inflammation and ulcerative perforation, frequently giving rise to peritonitis. Most of the inflammatory processes involving the appendix vermiformis were formerly ascribed to the presence of concretions, hardened feces, and to other insoluble bodies that had gained admission within the canal. Suppuration originating in the cellular tissue about the head of the cecum and in the vicinity of the appendix had also been observed. Rokitansky and others of the older pathologists had occasionally observed mishaps that had befallen the appendix. I am not aware, however, that such lesions were any more frequently observed than were defective states of development or morbid conditions appearing in other portions of the intestinal canal. From observations made in veterinary medicine, it appears that the herbivorous or mammiferous animals that have the lengthened cecum in place of the so-called "relic," evincing an analogue of conformation, are far from being exempt from dangerous attacks of intestinal inflammation.

According to some of the latest authorities, the cases of appendicitis in which foreign bodies are found are rare, consisting of only about 4 per cent., and though fecal concretions are observed in a greater proportion, the fact proves but little, seeing such matter is so often absent in the higher grades of inflammation of the appendix, and is so frequently met with in cases of autopsies of persons who have died from other diseases.

The main factors concerned in the causation of appendicitis must be attributed to the effect of mechanic injuries and to bacterial agency. The influence of the latter I need not discuss to any great length, but only wish to say that there must probably be a solution of the continuity of the normal structures of the appendix before micro-organisms can work pathologic change.

As already intimated, the appendix in the human subject is as seemingly well vitalized as are other portions of the organism. Its walls, as before stated, are firm; the part is covered with peritoneum. It has a muscular coat and is lined with a mucous membrane. The blood-supply is from a considerable artery—the ileocecal—and this in turn is given off from the superior mesenteric. It will be remembered that the epithelium of the appendix is of the columnar variety, containing solitary glands, which are really intestinal lymphatics, and are of the nature of the agminated glands or of those comprising Peyer's patches. These glands, when appearing as solitary bodies in the large intestine, are most numerous in the cecum and in the appendix vermiformis. They are without doubt largely connected with the important function of lymphosis and hematosis, for they are abundantly furnished with capillaries and lymphatic vessels; these form a plexus around the sacculi of the glands and thus present features akin to the lacteals. In portions of the intestine these glands are found closed, though at intervals they undoubtedly open to discharge their contained secretion. The solitary glands, as said before, are quite abundant in the cecum and the vermiform appendix; they are prominent on the surface and are perforated by a minute opening upon their free surface. Of late much attention has been paid to the nature and character of glandular tissue.

Poehl[2] discovered in the thyroid gland an organic principle he denominated "spermin." Other authorities claim that the thyroid gland secretes a product capable of overcoming toxic substances resulting from metamorphosis of tissue within the body. The elaboration of this material by the thyroid gland is essential to the proper development and preservation of the organism. The same healthful influence has been attributed to the glandular secretion of the thymus, the prostate, and to the ovaries. Undoubtedly, all glandular secretions exercise a similar conserving energy on the parts of the body with which they are in immediate connection. The therapeutic effect of the thyroid extract, whose active principle was discovered by Bauman[3] and named by him "thyreoidin," is also suggestive of the importance of the function pertaining to glandular tissue. It has long been thought by some physiologists that the odorous matter of the excrement is due to the secretion of the appendix as well as to that of Peyer's glands. Rotch[4], under the head of "The Normal Development of the Appendix Vermiformis," attaches much importance to the lymphatic glands about the cecum as possible starting-points of inflammation. He quotes Tuffier as stating that the lymphatics of the front of the cecum follow the anterior ileocecal artery to empty into two glands which he has found constantly in the superior ileocecal fold, and which in the child are very distinct. The posterior glands are also found constantly on the posterior and inner wall of the cecum itself, beneath the peritoneum. They also form, he says, a group of from three to six glands.

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[2] Boston Medical and Surgical Journal, Vol. cxxxix, pp. 462-3.
[3] Journal of the American Medical Association, Vol. xxxi, p. 1209.
[4] Pediatrics, 1898.

In man, as in some of the higher *Quadrumana*, the lymph follicles in the vermiform appendix form a continuous zone of adenoid tissue. From this it would seem that there can be no question that, after inflammation has been set up in the glandular tissue about the cecum, involving to a considerable extent the appendix, the muscular tissue may become so swollen, relaxed, or weakened as to allow fecal substances to pass through its aperture from the cecum into the canal.

Catarrhal inflammation, as said before, can scarcely be considered a cause, for when that form of inflammation attacks the appendix it is usually the result of an extension of a morbid condition from the cecum or other portion of the intestinal canal. The extremes of age or the differences of sex fail, for the most part, to afford satisfactory evidence of causation, especially when we come to consider the countless number of persons of either of these classes escaping the consequences of such mishaps.

The more direct cause must then be sought in the effects of accidents, injuries, traumatism, mechanic disturbances, or from irritation from within, continued or repeated, whereby the parts become for the time being so devitalized as to favor the development of morbid processes through the agency of micro-organisms. The observation of Professor Rotch, already referred to, on the importance of the lymphatic glands about the cecum as starting points of inflammation of the vermiform appendix, should not be lost sight of. Another point that should be borne in mind is the fact that when, in cases of appendicitis demanding surgical treatment, the failure to find the appendix, or the omission to remove it because it is not within easy reach or because too much violence may result to other structures, will not always seriously interfere with the patients' recovery.

An interesting instance of inflammation of the vermiform appendix, the result of traumatism, occurred in the following case:

Case 1.—A woman, unmarried, aged 19 years. When I was called I found her in bed suffering from severe pain in the right hypogastric region and in the right iliac fossa. The patient had complained of chills and there had been febrile reaction. The temperature was moderately elevated, varying at different parts of the day from 100 to 101.5. The rigidity of the rectus muscle, as well as that of the abdominal parietes generally, was not excessive, though there was more tension of the parts on the right side and in the right iliac fossa than there was on the left side. The pain was not limited to any special point, but was diffused over the abdomen, as if originating from the superior mesenteric nerve centers and from points along the great sympathetic ganglia, about the region of the umbilicus. There had been nausea, but the vomiting was not distressing. A thickening or an exudation could be felt extending from the McBurney point outward toward the ileum. The patient for the next eight days, while under the influence of gentle laxatives, sedatives and hot fomentations, appeared to improve. After that she suddenly grew worse and presented characteristic symptoms of suppurative appendicitis.

It was at this time that I succeeded in obtaining from her the history of an injury. It appears that some three weeks before making my first visit, the patient, while crossing a street near Commonwealth Avenue in Boston, was struck by a rapidly-moving bicycle. She was thrown down; the force of the blow seems to have been imparted to the tissues on the lower portion of the abdomen and a little to the right of the median line and to the left of the right iliac fossa. The patient recovered herself, returned that day to Cambridge, and though suffering severely at the time, the accident, it is now strange to say, had so completely escaped her memory as not to be recalled by questions in reference to her receiving an injury to the parts near the seat of pain. There were no visible marks of a contusion or of any internal injury.

Next day, with the assistance of Drs. Currie and Cunningham, I made an incision over the point of the greatest tenderness, which was in the right linea semilunaris. The tissues about the head of the cecum were swollen and inflamed, affording evidence that suppurative processes had taken place. The appendix at its attachment to the posterior aspect of the cecum was sought for and was found unusually long, inflamed, stretched, adherent, extending to the right, where it had evidently been raised or displaced at the time of the accident, by the violence impinging upon the deeper structures of the iliac fossa, and by the morbid processes that had afterward ensued. After the excision of the appendix the cavity was irrigated with warm, sterilized water, and drainage was established by the use of iodoform gauze. Suppuration was finally overcome, chiefly by hot douches, and by the liberal use of peroxid of hydrogen.

Since then the patient has been in fair health. She has married and is now advancing toward the close of her first pregnancy.

Another case of appendicitis, the result of a blow from a rapidly-moving carriage wheel upon the parts about the cecum, occurred upward of a year ago.

Case 2.—A man, aged 34 years, whom I had the opportunity to see in consultation. Ten days after the accident an incision was made at the most prominent part of the swelling, which was embraced within the point of election for operation as recommended by McBurney. The structures about the cecum, containing the lymphatic glands and supplied by the ileocecal artery were involved in the suppurative processes. The appendix was red and swollen. The part was removed, and drainage, as in the other case, was maintained. After the lapse of some five weeks the patient had practically recovered.

I have reported these two cases because, as I believe, they were the direct result of traumatism, and the parts, injured as they were, became the immediate foci of infection.

These cases, taken in connection with other facts, suggest the thought that inflammation of the vermiform appendix is the result, as said before, for the most part, of mechanic disturbances, or of prolonged or repeated irritation whereby the tissues become devitalized and the neighboring lymphatics become originating points of the morbid process. It seems scarcely necessary to mention how such factors may arise; suffice it to say that the many occupations and trades can contribute to this result. There are numerous sources for giving rise to undue pressure, such as the result of habitually carrying articles of luggage, of wearing improperly fitting clothing, or of the habit of assuming unnatural or constrained positions of the body or of the lower extremities. Any or all of these may at first appear trifling, but when long indulged in, may serve to interfere in no small measure with the function of the vascular element and thus give rise to disease that may be transmitted to the cecal appendix.

Puerperal Infection.—A. de Pourtalés concludes, from a study of six fatal cases, that we must distinguish between primary septic phlebitis and secondary infection from a thrombus already formed at the placenta site. He found putrefaction bacteria with the streptococci in these decayed thrombi. In one case two months had passed without fever, when a streptococcus infected thrombus in the vena cruralis started a general septicemia.—*Archiv f. Gyn.*, Vol. lvii, No. 1.

OCULAR TENSION; PERIPHERALISM; FOREIGN CLINICS.

Read at the Twenty-fourth Annual Meeting of the Mississippi Valley Medical Association, held at Nashville, Tenn., Oct. 11-14, 1898.

BY WILLIAM B. MEANY, M.D.
LOUISVILLE, KY.

Much as it is to be regretted, there still remains much doubt concerning important etiologic and pathologic factors of intraocular tension, and notwithstanding certain pathologic conditions are pretty constantly found in glaucomatous affections, the problem is yet to be solved.

Glaucoma is of even more importance than "sympathetic" ophthalmitis,[1] because it appears to be little, if any, better understood, and still more on account of its far wider prevalence and equally fatal consequences to sight when uncontrolled. It is not my deliberate purpose to condemn unreservedly the conventional treatment, or to call any especial attention to the chaos that has always reigned in these branches of disease, nor to harbor any fancy or vain imaginations against the true spirit of science, to attempt the promulgation of a "complete system" by making "new knowledge" fit into the old; I will therefore endeavor to confine my remarks to some observations of clinical methods adopted by specialists engaged in ophthalmic work.

In 1856, Alfred Graefé, that bright spirit whose early death the scientific world has not yet ceased to mourn, announced to the world his great discovery that iridectomy appeared to be effectual in reducing intraocular tension by opening up the obstructed "filtrating angle" of the anterior chamber, re-establishing drainage. His attempts in this direction were followed by most brilliant results, but yet we are, forty-two years later, anxiously inquiring what is the essential nature of the glaucomatous processes, and what is the best remedy to employ. It would be foreign to my present purpose to pass any opinion on particular operative procedures; for are we not every now and then being led to propose and inculcate other superficial methods having the same end in view as that of iridectomy; proceeding too often upon some fanciful or speculative validity which experience has not sustained and which has hence fallen into well-merited disfavor? De Wecker[2] says: "Although I shall, probably, during the whole course of my career continue to give preference to excision of the iris as being the surest operation against glaucoma, I hold the conviction that our progressive science will substitute for it a simpler and more logical proceeding. . . . Under circumstances only do I recommend you to renounce iridectomy, and to resort to my procedure; first, when you recognize that you are dealing with hemorrhagic glaucoma, for here the double section with the narrow sclerotome (2 mm.), enables you to avoid the danger of the section for iridectomy; and secondly, in cases of absolute glaucoma: in these operations being undertaken only with the object of freeing the patient from severe pain."

Is it not a fact that surgeons who make use of sclerotomy as a complete substitute for iridectomy frequently fail to establish anything like a permanent "filtrating scar," but on the other hand find painful cicatricial contraction with consequent intraocular tension as the result of the traumatism?

Galezowski of Paris and Knapp of New York, at whose immense clinics a large number of Polish Jews may always be found, stated to the writer that in their experience they find this nationality particularly prone to attacks of glaucoma. When we take into consideration its environments and the eccentric character of these people, who barely at the best "eke out a miserable existence," crowded together during daylight in "sweater's dens," and at night time in ill-ventilated rooms and cellars of unsanitary tenement houses, the absence of anything like bodily cleanliness, partaking of an unwholesome food-supply, is it surprising to find these people so often the victims of hereditary and acquired diseases resulting from mechanic obstruction in the portal and general circulatory apparatus, the "shutting up" of the filtrating avenues from "pent-up" secretions in the emunctories of the body, to find them the subjects of glaucoma?

In cases of glaucoma can we look for a "cure" by the mere mechanic "opening up" of a filtrating avenue in an organ of the body without calling to our aid certain well-known therapeutic measures for the re-establishment of general systemic drainage? We should take heed that we do not hinder nature by the *nimia diligentia chirurgorum*, but only lend it tender and judicious help by suitable therapeusis, instead of attempting to create "new avenues" which may favor the access of micro-organisms through external artificial openings, or in the establishment of secondary glaucomatous manifestations from cicatricial contractions, and incarceration of fibers of the irides in the "surgical" wound.

As it is the province of the healthy nervous system to generate, to store, to regulate healthy nervous force, so it is the province of the various organs of the body to provide for ever producing, removing and reproducing just so much "secretion" as suffices to secure the smooth action, but never, so far as we know, destroying the material out of which the secretions are elaborated. By secretions we mean certain conditions and material appertaining to the healthy action of the part—continually recurring and as constantly passing away again; by excretion the final separation and ejection of material whose future utility is destroyed, and where retention, like the secretions in the body, would become the cause of danger and distress unless their evacuation can be secured. Over certain of the processes and proceedings of excretion we have often, fortunately, greater control than we have over those of secretion, and our power to deal with them in the main is much more prompt and satisfactory. Often, I dare say, medicine and surgery alike are powerless for the timely withdrawal of imprisoned "secretions" either as the result of perverted physiologic action or of organic disease which may prove too active, and both are finally compelled to lay down their arms.

A most important duty of the practitioner is the early recognition of the specificity of disease, and to ascertain what in the habits and surroundings of the patient is the cause thereof, and direct the treatment accordingly. The value of the various aids in the diagnosis of disease, such as the ophthalmoscope, and the importance of correct interpretation of symptoms of structural and functional pathologic metamorphoses throughout the body can not be overestimated nor can too much emphasis be placed upon the disadvantages of excessive peripheralism in specialism

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[1] Vide article by the writer in the Louisville Journal of Surgery and Medicine, July, 1898. "Oculo-neural Reflex Phenomena, Etc."

[2] Thérapeutique Oculaire, Part i, p. 378, 1878.

There are few, if any, special departments of practice which have so indisputable a *raison d'être* as ophthalmic surgery; but there are few diseases which afford so many striking illustrations of the close relationship between various tissues and organs upon remote and often general constitutional states as those which affect the eye. Thus, in one case, impaired vision may be seen to be caused by degeneration of the retina, the result of Bright's disease of the kidney; in another blindness may result from mechanic obstruction of a retinal artery, by a small blood-clot detached from a diseased valve of the heart; while in yet another, loss of sight may be due to degeneration of the nerve of vision, consequent on the growth of a tumor in the brain; alterations in the quality and quantity, and blood pressure, the presence of various cast-off products of bodily tissue metamorphosis, all present pronounced appearances in the circulatory apparatus of the eye. Thus, an oculist who is unacquainted with diseases of the kidney, heart, brain and spinal cord, and other organs, with their ultimate relations to the sensorium, would often fail to interpret the ocular lesions with which he had to deal. Again the laryngoscope has shown that while in the one case loss or impairment of voice may be due to some disease within the larynx, in another it may be caused by an aneurysm or other tumor in the neck, or within the chest, pressing upon the nerve that supplies the organ of voice; while in yet another case, the laryngeal trouble is traceable to disease within the brain or spinal cord. These and other like facts show that between the various organs and functions of the body there exists—both in health and disease—a correlation, the recognition of which is of the highest importance; so the pathologist, relying upon the laws of physiology, which, although modified, are not suspended by disease, has learned that a disease commencing in one organ may involve wide-spread structural changes in many other parts. It is obvious, then, that the body can not be separated into different parts, so as to make one of them the exclusive object of study and practice. A mere ophthalmoscopist or laryngoscopist, whose vision is limited to the eye or the larynx, would be incompetent to deal successfully with those organs. Is it unreasonable to assume that many of the failures are due to some *favorite* (mechanic) method of attacking the glaucoma, to the complete ignoring of constitutional disturbances from which glaucomatous subjects are said to especially suffer, to favor suitable "agents for promoting constructive metamorphosis" or "agents promoting destructive metamorphosis?

Memoranda from noted clinics.—A visitor at the clinics presided over by some of the distinguished ophthalmic surgeons in London or Paris may witness from five to twenty or more operations which are performed daily at separate clinics. At the Hôtel Dieu, Paris, Dr. Panas on one occasion operated upon six cataractous patients, successfully accomplishing his work in one hour. The patients to be operated upon are put under antiseptic treatment, viz., a jet of sublimate solution is directed upon the globe of the eye, the conjunctiva being cleansed, and especial attention being paid to the eyelashes. The instruments to be used are held over the flame of a spirit lamp before being returned to their bath of alcohol, boric acid or carbolized water.

In cataract extraction the "small flap" is generally adopted, the operators using a thin, narrow-bladed knife—De Wecker's cataract knife—in the performance. The advantage claimed for this knife is that any sudden gush of aqueous humor is reduced to the minimum. Usually the section takes about one-third of the whole circumference; the wound is shaped according to the size of the cataract. The lens is removed from its capsule through an undilated pupil. There are cases of extraction where iridectomy is combined: 1, on account of glaucomatous tension, where the iris can not be reduced in spite of moderate efforts; 2, if the patient is nervous and restless during the operation and likely to continue so after it; 3, if, on account of non-maturity, the cortical masses can not be evacuated. Great care is taken in the removal of the lens débris; prolonged manipulations, however, are looked upon as hurtful and dangerous, as a bubble of air or cataractous matter is usually absorbed, and rarely in their cases give rise to inflammatory trouble.

Should a prolapse of the iris occur, and not readily disappear after slight friction, further manipulations through the closed eyelids, or by means of the curette upon the globe direct, are practiced. I noticed in several instances a replacement of the prolapsed iris, by an ingeniously devised instrument which I shall endeavor to describe. Imagine a hollow glass cone, the base being formed by an elastic membrane, and the apex being fitted with a small canula, very thin and flattened at its free end. The whole instrument has a diameter (base to apex) of about an inch, and the small canula attached to it is of the thickness of an average hypodermic needle. A little pressure on the elastic membrane having forced out the greater portion of the air, the end of the canula being placed in a weak antiseptic solution (usually $HgCl_2$), an interruption of that pressure causes the liquid to enter. It was observed that in a case of partial prolapse of the iris, a little jet or stream of the solution readily replaces the iris, thus avoiding all injury from direct instrumental interference. It is claimed that with careful antiseptic precautions they do not hesitate to operate upon patients suffering from diabetes or Bright's disease, which, in their experience, proves no contraindication. Some surgeons advocate the removal of the lens in its capsule on the ground that by so doing no secondary (capsulotomy) operation is required, and the attendant risks of setting up irritation from retained lens débris is avoided.

An interesting complication arose in the extraction of a cataract, viz.: As soon as the counterpuncture was made it was observed that the iris was bulging over the edge of the knife; the operator demonstrated how this difficulty could be overcome, by simply elevating or lifting the knife away from the plane of the iris before completing the incision—this was done without cutting the iris.

The writer witnessed a number of lens extractions within its capsule by MacNamara and Power of London without an iridectomy; they use a large triangular keratome; making a large incision just within the margins of the cornea on the outer side. A scoop is then inserted through the wound as far as the outer edge of the pupil; the handle is then elevated so as to bring the lower end into contact with the capsule of the lens. The scoop is then slightly withdrawn, keeping its extremity on the lens, but so as to enlarge the pupillary opening sufficiently for pressure to be made on the edges of the lens, with the rounded extremity of the scoop, which causes the lens to tilt (somersault) over and the scoop is thrust inward, under the lens, and is withdrawn through the pupil and through the wound.

Glaucoma is combated with iridectomy, sclerotomy, cicatricotomy, equatorial puncture, and galvanocauterization. The first three well-known operations need not be described here. I have heard it stated that in cases of great tension it is considered dangerous to open the aqueous chamber of the eye. In performing equatorial puncture, cocain is instilled in sufficient quantity to produce local anesthesia; a fixation forceps is used to rotate the eyeball upward so that the inferior part of the equator bulbæ presents. A narrow-bladed knife is then quickly plunged through the tunics of the eye in such a way that its point is directed against the geometric center of the vitreous; the knife is quickly withdrawn with a rotatory movement, and the eye bandaged. It was observed that no escape of vitreous followed the puncture. By this procedure it is thought that a filtrating cicatrix is formed, permitting of a certain amount of drainage—which most certainly in this case relieved the great tension and consequent intense pain.

Galvanocautery is employed for the purpose of obtaining similar, though milder, results to that of equatorial puncture, and is carried out in the following manner: the eye is rotated so as to expose the tissues of the sclerotica; the two points of the cautery are made to touch that tunic in from three to six places, according to the effect desired. A bandage completes the operation. De Wecker has obtained brilliant results following the two operative procedures adverted to, in cases of certain intraocular disturbances, in hemorrhagic glaucoma, with partial detachment of the retina, and in cases of incomplete detachment of the retina from subretinal effusion. Eserin is greatly relied upon for relieving intraocular tension; pilocarpin is substituted when eserin appears to cause irritation.

Stretching of the optic nerve and incision of its sheath for the relief of certain painful affections of the eye is practiced by De Wecker, to whose courtesy the writer is indebted for the honor of an invitation to witness his method of operating. Stretching of the optic nerve is, I believe, alone practiced by De Wecker, and is carried out in the following manner: the blind eye (devoid of vision) was rotated toward the temporal side; a conjunctival incision was made near the insertion of the internal rectus, the tendon of the muscle divided, and the capsule opened and freely loosened. The instrument for stretching—resembling a diminutive pair of obstetric forceps—was introduced, so that the little blade or hook at its extremity encircled the optic nerve; the other blade or branch was also introduced, when the two were closed, the optic nerve resting in the concavity formed by the two blades. A slight listing motion of the eyeball by the aid of forceps completed the operation, the blades being singly withdrawn. It was observed that the operation left no other appearance than that usually met with in an ordinary tenotomy, except that the pupil remained dilated. The operation was performed under antisepsis and cocain. An almost instantaneous relief from a persistent "neuralgia" followed this operation.

The subjoined paragraphs refer to a case of glaucoma reported by the writer to the Kentucky State Medical Society, April, 1877.[3]

On Jan. 12, 1877, Mrs. H. P., 35 years old, consulted me for the relief of a gradually increasing defect of vision, which she said had been troublesome for the past two years. The pupils in both eyes were displaced downward (anterior synechiæ), the pupillary margins being adherent to the corneo-scleral juncture, the result of an awkwardly performed iridodesis—an operation that never was approved by the regular profession—by some experimental surgeon anxious to extend his ophthalmic experience. Prior to the performance of this operation she had no other trouble except the optical defect (hypermetropia); since that time she had gradual increase of pain in the eyes, with increasing contraction in the field of vision. She saw parts of objects only, and had occasional attacks of headache.

Examination (ophthalmoscopic) revealed atrophic spots in the choroid, of variable size and shape throughout the whole of the left fundus, with dark-colored striæ floating in the vitreous. The disc was deeply excavated, with the remains of an old blood clot lying upon the superior temporal margin. Tension, + 2; vision, perception of light only; right eye: tension + 1; vision, can see fingers at eight inches. Disc cupped, retinal veins greatly engorged and very tortuous. Peripheral choroidal atrophy in spots. Aqueous chambers of both eyes narrowed and very shallow.

Chloroform was administered by Prof. Dudley S. Reynolds (before whose clinic at the Hospital College of Medicine this patient was brought), and I removed about one-sixth of the irides through interscleral sections. A two grain solution of atropia, eserin at this time not having attained its present popularity, was instilled, and the eyes closed with the cold, wet compressive bandage.

On the 14th I visited the patient and found her suffering intense pain in the brows, quick pulse, dry tongue, no appetite, bowels constipated. I gave her ten grains each of calomel and chlorate of potash, which operated freely in four hours. At "bedtime" she took twenty grains of quinin. On the 15th, at 8:30 A.M., I was gratified to find the patient quite comfortable. The bandages being removed, the wounds were found well united, and the eyes apparently free from irritation. She remained indoors until the 20th, when she could count fingers with the left eye, and with the right she was able to see as well as she remembered ever to have done before. She now performs all the duties of her household.

This case is one of great importance in a clinical sense, as tending to show the dangers of anterior synechia and the value of iridectomy.

Anterior synechia is especially liable to develop tension in the eyes, which, regardless of its pathology, should lead to the most right examination of the state of refraction, and the symmetry of the periphereal portions of the field of vision. If the refraction changes from time to time, with the accommodation fully suspended, or the field of vision contracted at any point, tension being present, iridectomy should be performed at once. The physical signs of glaucoma should alone guide the surgeon.

I have recited this case to attract attention to the methods adopted as well as some of the views held by ophthalmic surgeons of an earlier period, as tending to show that the physiologic discernments and pathologic ascertainments of glaucoma at this time are but little, if any, in advance of that "set forth" by writers in the '70s.

A DAY IN THE COUNTRY WITH A GENERAL PRACTITIONER.

Read before the Western Surgical and Gynecological Association, at Omaha, Neb., Dec. 28, 1898.

BY GEORGE C. HIGHSMITH, M.D.

CARROLLTON, MO.

I believe it is often an advantage to the general practitioner to occasionally visit his professional brethren and observe how they do things. This is especially true of the country, where doctors have not the opportunity of meeting each other at the hospitals and colleges, and where societies have their meetings few and far between.

Some time ago, feeling the need of a little recreation after passing through an epidemic of typhoid fever I concluded to pay a long-promised visit to an old friend who lived in a comfortable town of about 6000 inhabitants about thirty miles distant. I had not seen him since we were at school together, except occasionally at the State Association or some other medical society, and knew nothing of his affairs, except that I had heard through mutual friends that he was popular in his neighborhood and was doing a good practice.

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[3] Vide Kentucky State Medical Society Transactions, April, 1877.

I gave no notice of my intended visit, because you all know how often it happens when we have made arrangements for a little recreation or a run from home for a day, some very dear friend is taken suddenly ill or some wealthy or influential family demands our services.

I arrived about 7:00 A.M. of a beautiful October day. I observed on approaching the residence that it was a neat one-story frame cottage, with a well-kept lawn and a variety of forest trees in front, and a nice little barn in the rear. On the south side of the barn was a lot, in which was a well-fed Jersey cow and the essential accessories of pigs and chickens, and beyond this a small orchard. The doctor answered my ring himself. Before he appeared, however, I had time to note the soft chime-like sound of the door-bell, and to wonder why any one should have a rasping, clanging, disagreeably sounding instrument of torture attached to his front door. When he did appear I observed that he had a towel about his neck, that one side of his face was newly shaven and the other side covered with lather.

I was shown into a comfortable library, where a soft coal fire sent a cheerful blaze upward from a grate. My host continued his shaving, explaining that he was compelled to be his own barber; first, because he had no time to wait in a barber shop, and next, because he preferred to do his own shaving, on account of the danger from being infected by the hands and instruments of the barber.

When the doctor had finished his toilet, I was conducted to the breakfast room and introduced to his wife and three-year-old baby boy. I observed that his wife appeared to be healthy and intelligent, was neatly dressed, and I should guess was about five years younger than her husband. The baby boy was all right—fat, clean and apparently good-natured.

The breakfast consisted of home-grown fall pippins, hot biscuit, hot coffee with genuine Jersey cream, poached eggs, home-made Jersey butter, home-made peach preserves, and topped off if you wished with a glass of fresh, cool Jersey milk. When we had finished breakfast, after giving the doctor to understand that his fame as a successful practitioner had reached my neighborhood, that I was anxious to see how he did things, and that I would feel grieved if he allowed me to interfere with the routine of his business, he ordered his man to "bring Maud around."

"Some country doctors look after their horses themselves," he said. "I do not think it is a proper thing to do even if they have the time. In the first place, I do not think any one has a right to carry a 'horsey' smell into the sick-room, and then in the next place, we country doctors have to look after all sorts of cases, and the dust, which it would be almost impossible to get entirely rid of after grooming your horse, is liable to contain all sorts of microbes. I keep a man who looks after the horses and cow, feeds the pigs and chickens, keeps up the fires, cleans the operating room at my office, sterilizes my instruments, rolls bandages, etc. Maud is our single driver," said he, referring to the animal which was just then brought around from the stable. "I use her before noon about town, and my wife drives her in the afternoon. I do my work in town in the morning, as a rule, and attend to my country customers in the afternoon. I stay in my office when I can until 10 A.M. When the weather is fine my wife and baby often go with me to the country in the afternoon, in which case we drive the double team. Yes, she's a good mare," he said, in reply to a remark from me in reference to his single driver; "it pays a doctor to keep good horses. I have a pair of dandies in the stable; we will try them this afternoon."

When we had driven about three blocks we pulled up in front of a neat old-fashioned residence. "You may hold the horse while I go in a minute," said the doctor. After a few minutes' absence he returned, remarking as he took the lines, "she's alive yet. She is past ninety years old, and has been my steadfast friend for more than twenty of them. You remember good old Dr. Maughs used to say that the young doctor should not despise the advice of old women. This old lady was present at my first case of labor and showed me in the kindest and most delicate manner possible how old Dr. Smoothly always dressed the cord. Dr. Smoothly had died about three weeks before I located in town, after practicing in the community for more than forty years. I had taken his office and hoped to succeed to a large share of his practice. I had heard that the old lady was the mother of nine children who were all married and lived with their families either in town or the immediate vicinity. Of course, I could not afford to ignore her influence, and was extremely anxious to make a favorable impression. You remember that twenty-five years ago, as a rule, students were graduated without ever having seen a case of labor, consequently you can appreciate the value to me of the friendship of one so rich in experience as this old lady must have been.

"I remember our first conversation as if it were yesterday. It was early in May and immediately after the completion of the case of labor referred to; we two had retired to a back porch to rest and cool off. A clump of purple lilacs grew near, and the breeze came laden with their perfume and the hum of bees from a garden a little beyond. After congratulating me on the successful termination of the case, and expressing the opinion that I was going to be handy in the management of such affairs, she said: 'I think a young doctor should be careful to start right. He should be cleanly in his habits, polite and genteel in his manners, and should have a good stock of forbearance. Some persons who are not very fastidious when they are well are extremely sensitive and exacting when they are sick.' I call to see her every day," the doctor continued, "but do not give her any medicine. Her family are sensible people and are willing to leave it all to me as to whether I can prolong her life or make her more comfortable by giving her medicine. She has grown exceedingly childish and complains of being neglected if she does not see me every day. I call, speak to her kindly, push back her hair and lay my hand on her forehead for a moment—that is all, and it satisfies her. I think we are often not sufficiently considerate of those who are feeble both in mind and body. In the hurry and bustle incident to a busy life we are apt to be cold and unsympathetic toward those who are no longer able to assist us by their advice and influence. I expect to see crape on the door in the morning."

We had now reached the office. The door was open, the office was clean and everything in apparent order. There were four rooms on the ground floor—one for reception, one for consultation, one for operation and one for drugs, splints, dressings, etc.

"A ground floor is especially desirable for a country doctor," he said, after showing me around; "the city practitioner can have an elevator by which his feeble patients and those who are injured or crippled can reach his office. I give a desk in my reception room to a real estate and insurance agent. This man keeps my books, makes collections, looks after the fires in winter, in fact, keeps everything in order except the operating room. That is looked after by my man at the house, under my supervision. You will observe that my operating room is covered by a single piece of linoleum. I have it scrubbed with a hot solution of bichlorid every time it becomes soiled. You may sit behind the screen in the consulting room if you wish. I will have no talk which you may not hear, and may call on you for assistance occasionally."

The first patient was a young lady from the country, with a note from her physician stating that she had been thrown from a wagon twelve days ago, that at first she thought her shoulder was only bruised, that she had called on him yesterday and he had found a dislocation of the head of the humerus into the axilla. The patient was placed upon the operating-chair. I administered chloroform, the doctor removed his shoe, placed his heel in the axilla, and grasping the wrist with one hand and just above the elbow with the other, he first lifted the arm away from the body, placed his heel firmly, brought the arm back toward the body, making a back and forth rotary motion and forcible extension at the same time, and the dislocation was reduced. We now put the arm in a sling, pinned the elbow to the waist-band of her dress and gave directions as to the manner of removing and putting on clothing and the necessity of fastening the elbow to the side at night. The patient was then removed to a cot behind a screen in another room, to recover from the anesthetic, with directions to return in a week.

The doctor said to me: "I would not be so particular in a case of this kind if the trouble had not gone so long without reducing. A re-dislocation could be very easily made, besides there is some danger from ankylosis. When she returns I will make passive motion, being careful to fix the scapula while so doing; the scapula being so movable, if you are not careful you will not move the head of the humerus at all in your manipulations."

The next was a lady who stated that she had a small pimple on the back of her neck, that a little pus had formed which she had removed, that a stinging, burning pain remained, that her neck was stiff and she felt feverish.

"A carbuncle coming," said the doctor after examining.

"Oh, my," exclaimed the patient, "I had one once and it nearly killed me."

"We'll nip this in the bud," said the doctor. "It will hurt like blazes for a few minutes, but you can stand it and that will be the end of it."

When she had retired, the doctor said: "I sprayed it with a little methyl chlorid and made a deep puncture with a sharp-pointed bistoury. I then put a few drops of pure carbolic acid down to the bottom with a sharp-nosed P.P. syringe, then scraped it out with a small, sharp curette, put in some more acid and scraped again, and so on until I had made a good-sized hole. I then filled the hole with antiseptic, applied a little gauze, over this a little gutta-percha tissue, and fastened all on with adhesive strips. She will return tomorrow and I will apply the acid and curette again, if necessary. I treat boils in the same way, and the amount of suffering I save in the course of a year can not be estimated."

The next was a robust, prosperous-looking farmer. He had received a transverse cut about two inches in length, about three inches above the ankle and a little to the inner side, eight weeks ago. The wound had refused to heal, and his family physician had sent him to my distinguished friend. On rolling up the pants we noticed that the dressing was quite wet. The patient's attention was called to it and he stated that it had been so from the first. Upon removing the dressing we found the wound filled by a pinkish-white substance which projected considerably above the edges. "What have we here?" said the doctor. "We will curette this out and see." After making a few swipes with the curette, "Eureka," he exclaimed, "quite an unusual condition. The tendon of the tibialis anticus has been partly severed and some of the fibers have been caught between the edges of the wound. That pinkish-white mass is material nature has thrown out in her efforts to repair the tendon." The wound was thoroughly cleansed and the fibers of the tendon placed where they belonged. "Now, the next thing," said the doctor, "is to close up this gap and bring the edges in apposition. It can not be done with an ordinary interrupted suture, because the skin here is very tense and the wound has been gaping for some time.

"I will introduce this needle, which is threaded with a large-size silkworm gut, about one-third the distance from this angle of the wound, pass it through the lower lip to the other side, through the other lip and out at a point opposite. I now fold a bit of gauze four thicknesses, about one-third as wide as the length of the wound, lay it so as to cover the middle third of the upper lip, pass the needle over, introduce it through the upper lip and out at a point opposite in the other. I now fold another bit of gauze in the same way as the first, and place it on the other lip opposite the first gauze. Now I will get you to press the edges together and hold them while I tie over the last gauze. Now it is nicely closed with something like a quill suture, but much better." The wound was then sprinkled with a powder composed of boric acid and acetanilid, some gauze placed over it and a roller bandage over all. "Do not remove this dressing, and come back in a week. Get here before 10 o'clock if you can," said the doctor.

The telephone rang. "A man at the wagon factory got his hand in a shaper, telephoned to know if I was in," said the doctor. "Son," to a boy loafing in front of the office, "take this pitcher to the hotel and tell Joe to send me some hot water." Then to me, "You see those gallon bottles with gauze tied over the top of the neck? That's cold sterilized water; I get my hot water at the hotel across the street." By this time the man from the factory had arrived in a buggy driven by one of his fellow-workmen. His hand was wrapped in bichlorid gauze. "I have them keep a supply of bichlorid gauze in the office at the factory," he said. "I get it for them and instruct them in case of an injury to put nothing but gauze on the wound. The only good it does, perhaps, is to keep them from putting on some nasty old rag or handkerchief. Ah, I see, one little finger almost gone and the other fingers of that hand badly injured. Now, the first thing I do is to douche the wound with a hot solution of bichlorid. I do not attempt to clean it thoroughly now. I put bichlorid gauze snugly over the wounds while I thoroughly cleanse the rest of the hand and the arm half-way to the elbow, first removing the coat and whatever else is necessary. I use peroxid of hydrogen to remove the blood; that's all it's fit for, and it is first-class for that. After removing the blood I scrub thoroughly with soap and hot water, then shave, then douche with hot solution of bichlorid, then with alcohol. I now cover the part I have cleansed with gauze and go back to the wounds. The parts contiguous have been thoroughly cleansed and covered, so no dirt can get to the wound from there. I find I can save half the little finger and perhaps all the other fingers. I cut the bone with this pliers, which is made something like a pruning-hook. I trim the tags of skin and tissue with scissors, twist this artery, wash off the blood with peroxid, scrub with soap and hot water, shave the skin, wash with hot bichlorid, then with alcohol, put in a couple of silk sutures, and dust with bor-acetanilid powder. I now bandage each finger separately with gauze, envelop the whole hand with a couple of thicknesses of gauze, over this I apply cotton, and a roller bandage over all. He will return in three or four days, at which time I will be able to apply a dressing which need not be disturbed until he is well."

I again retired behind the screen. The next patient was a lady who said she had female disease.

"How do you know you have female disease?" said the doctor.

"Dr. Suavity told me so," she replied.

"I do not care what Dr. Suavity said; I want to hear what you know about it."

"Well, doctor, I have awful headaches and pain in my back and stomach, I have dizzy spells, a bad taste in my mouth, and a horrible breath. Sometimes my bowels are constipated and sometimes they are too loose, and when I lie down at night I have awful spells with my heart."

"How are your monthlies?" said the doctor.

"Oh, they are all right now. I always was regular until Dr. Suavity scraped out my womb; then I flowed too much and came around too often and had pains in the lower part of my bowels and had to stay in bed a long time. Dr. Suavity is an awful good doctor; he is just as kind as can be. I hated to quit him, but he did not seem to hit my case."

"Get up on this chair," said the doctor. After making a thorough examination of the abdominal and genital organs, the doctor said, "Let me listen at your heart. Now show me your tongue. Open your mouth a little wider, please. Ah, those teeth! You must go to the dentist and have your teeth attended to; you have not a sound tooth in your mouth. No wonder you have headaches, and pain in your back and stomach, and a bad taste, and your breath is horrible, and you have dizzy spells and your heart is irregular. Take this prescription to the druggist, have it filled and take according to directions. It will not cure you, but may do some good. When you get some new teeth come back and I will see what I can do for you. I can not cure you unless you get some new teeth."

When she had retired, the doctor said: "Nearly every tooth is broken off even with the gums, and pus is welling up around every stump. I am satisfied that there is the source of all her trouble. I gave her some elixir pepsin with a little hydrochloric acid dil. and a little tinct. nuc. vom. This adds one more to the large number of similar cases I see every year. I am disgusted with the multiplicity of would-be gynecologists. We have a large number all over the country, who are not out of their swaddling clothes, medically speaking, who pretend to make a specialty of female diseases. They fatten upon the eternal gullibility of the sex. Some of these doctors are knaves and some are fools. It is the habit of a great many practitioners, when they are not able to make a diagnosis, to say, 'female trouble.' I think I know of several cases where women have been hurried to their graves by having their wombs treated, when perhaps rest and hygienic surroundings was all they needed. A good many fall into my hands every year who are suffering from Bright's disease or incipient phthisis, who have had their wombs probed and scraped and douched for months, and the doctor could give no other reason than that he could find nothing else the matter. I often have more trouble in relieving the condition brought about by some meddlesome home-made gynecologist than I would have had in curing the original trouble."

Then came a telegram to go eighteen miles in the country to operate on a supposed case of appendicitis. The man was ordered to have the team ready at noon. "I do not have to get anything ready," said the doctor, "I keep this grip always packed, ready for any emergency. When I come home, my man, who has been with me for eighteen years, looks it over and repacks it ready for the next case, so I have nothing to do but take it up and go. It was now a quarter to twelve o'clock. We rushed home and partook of a hasty lunch which the doctor's good wife had ready on the table. At 12:15 we were on the road, in an easy-riding light buggy, drawn by a pair of as elegant roadsters as it was ever my good fortune to sit behind. I wish I could repeat all the conversation of this country doctor as we glided over the country. The day was pleasantly cool, the roads perfect, and the team needed no urging. We gave ourselves over to reminiscences, after that to speculation, and then to prophecy.

How few doctors are even a reasonable success. Of the more than one hundred who graduated in the same class with us less than twenty could be located. What were the agencies which compelled such a large percentage to abandon the profession? Is the percentage of failures in other professions as great? Of those who filled the chairs in the medical colleges how few remained. We wondered if those upon whom their mantles had fallen were as worthy; if they were looked upon by their students with the same worshipful admiration as those who held the boards before them. How short is life, and, if this is all, how unsatisfying!

My friend spoke of the future of medicine with hopeful enthusiasm. How much of promise there is in serum investigations, how much in sanitary science. "A' tip-toe I see the dawn of a bright tomorrow," he exclaimed. "I believe the day will come when physic will be literally thrown to the dogs; when we will be able, by the application of the great cosmic forces, such as light, heat and electricity, and by the proper ventilation of our houses, cleanly surroundings, regulation of temperature and humidity, attention to personal cleanliness, food, clothing, etc., to obviate all diseases. I believe," he said, "the fact that we have to administer drugs at any time and for any condition is an acknowledgement of the poverty of our resources." He then went on to deplore the spirit of commercialism in the profession, how in many instances the fee was regarded as of more consequence than the good we hoped to accomplish. He spoke of the necessity for a higher conception of the office of the physician, the danger from a multiplying of specialties, that a physician should be a general practitioner a long time before he thought of going into a specialty. "Specialism has a tendency to make a young man narrow," he said. "Nearly all the fads which have arisen and fallen within the last ten years have been the result of so many would-be specialists among the young men; the physician should be a man of broad culture. Every physician should be an educator, a teacher, from whom should radiate knowledge which the laity need, knowledge which they can not obtain elsewhere, and which they will gladly receive."

But to get back to business. We arrived at our destination about 2 P.M. A very cursory examination confirmed the diagnosis of the family physician. It was clearly a case for operation.

The doctor soon had his instruments in a shallow zinc pan, which he had brought with him, boiling on top of the cooking stove, and his gauze, cotton, bandages, etc., in a similar pan in the oven to sterilize them by dry heat. A board about six feet long and fourteen inches wide was procured, out of which to improvise a table. This board was washed with bichlorid solution, and a folded sheet. which had been thoroughly heated in the oven of the cook stove, was placed on it. This was placed on top of two chairs and answered very well for a table. The family physician had brought one of his professional neighbors with him, so we had plenty to do the work.

We all prepared our hands, and the patient was chloroformed, stripped and placed on the table. Notwithstanding that the family physician had cleansed the field of operation before our arrival, it was again gone over with soap and hot water, hot bichlorid and alcohol. My friend was one of those who can talk and work at the same time. After getting his instruments in reach and his gauze sponges, hot from the cook oven, ready, he began: "I will make an incision over the most prominent point of the tumor, which in this case is McBurney's. I will make the incision so as to divide as few muscular fibers as possible, in order to lessen the danger from hernia as much as possible. One of you may hold the wound open with these retractors while the other sponges. You will observe that I use hot dry gauze for sponges. I have a dozen in this jar; they were placed there hot when we began the operation. There are a dozen more being sterilized in the cook oven. We have now reached the abdominal cavity, and find that the wall of the abscess, or tumor, if you please, is not adherent to the abdominal wall. I will stitch the abscess wall to the edges of the wound with a small catgut, making a continuous suture. I now sift some bor-acetanilid powder along the line of suture to obviate any danger from pus leaking through into the abdominal cavity when the abscess is opened. I now open the abscess, and you will observe quite a large quantity of very offensive pus is discharged. After washing my hands in a hot solution of bichlorid and then in alcohol, I introduce two fingers, but can find no appendix. I will not search for it in this case for fear of breaking through the abscess wall and doing the patient much harm. If I find the appendix floating in the pus I lift it out, but if I can not get it without breaking up adhesions, I let it go; I do not even wipe out the cavity. I used to try to make a clean operation, find the appendix and remove it, and clean out everything. I am satisfied that several patients who are now dead might have been saved if I had been more conservative. Unless you can operate before the formation of pus, say within forty-eight hours after the beginning of the attack, and before the inflammatory condition has reached its height, it is better to simply open the abscess and drain. The appendix may possibly slough off and come away, and nature may close up the opening from the cecum. In a certain number of cases, however, another operation will have to be done. I now introduce several strips of sterilized gauze, into the meshes of which I have incorporated some bor-acetanilid powder, placing one end of the bundle of strips down to the bottom of the cavity, and allowing the other ends to hang out of the wound. I do not use iodoform gauze, because this is just as good and has no odor. You will observe that I brought all my towels, which are plain gauze, with me, and that I thoroughly sterilized them in the oven of the cooking stove. I do not depend upon the sterilizing of the manufacturer, no matter what he may say on the label about its being sterilized and hermetically sealed. We will now place this large piece of gauze over the wound—a single thickness—and fasten it snugly so it will not wrinkle. I usually fasten the ends down with adhesive strips. I use the most loosely woven gauze I can get for this purpose, so the discharge will find no obstruction to pass through. I now place over the wound a large quantity of gauze cut in narrow strips. You will observe that I use plain sterilized gauze, into the meshes of which I incorporate some bor-acetanilid powder. I now place over this another large piece of single thickness gauze; over this cotton, which you see has come hot from the cook oven; over this a roller bandage.

"The patient can now be put to bed. Under no circumstances should a particle of food, drink, medicine, or anything else be allowed to enter the stomach for twenty-four hours, and for the next twenty-four hours only a little hot water in a teaspoon occasionally. A clean dressing should be applied every forty-eight hours, or oftener if necessary, as long as there is much discharge. You should be careful in removing and changing the dressings not to disturb in the least the gauze left in the wound for drainage. The skin about the wound may be wiped with a little sterilized gauze, or if there is any dried discharge, a little peroxid of hydrogen might be used to remove it from the skin, but under no circumstances put any peroxid in the cavity.

"If you have had no experience in this kind of case the very thing you think should be done is the very thing you must not do. You will want to move the stinking gauze from the cavity and put in some clean. This should not be disturbed in the least as long as it stinks. The edge of the wound and some parts of the inner surface of the cavity have become glued to the gauze, and if you should break this up you will have a raw surface which might absorb poison from the discharge. When the cavity is empty the smell wil disappear, granulations will spring up and the gauze will loosen and come away of its own accord. If some of the discharge should flow over the granulations it can do no harm, because a granulating surface will not absorb. Now this may not seem a very scientific way of doing these operations, but the patient will recover, and recovery is the measure of success."

It was now four o'clock. Our team had been watered and was at the gate. I could but admire the perfect training of the doctor's team. Although in a perfect tremor of delight at the prospect of starting they stood perfectly quiet until we were both fixed in the seat and the doctor gave the word. Then we glided away at a 2:40 gait.

"I trained them myself," said the doctor. "I recognize the fact that I am one of the lords of creation and have dominion by divine appointment. You observe how perfectly obedient they are. I could drive them under the falls of Niagara if there was a wagon track there. The man I bought them from has no other business than raising road horses; he breeds for soundness, form, speed, disposition and intelligence. If the same care was exercised in the selection of those who were to be fathers and mothers of children, what a vast improvement might be made in the human family in the course of a few generations.

"We will go home by another route; the distance is the same but the scenery is more varied. I know every landscape for twenty-five miles in every direction. Each scene reminds me of a stanza or a poem from one of my favorites—Robert Burns, Eugene Field or James Whitcomb Riley. The village behind us is 'Ayr'; that old church on the hill to the right is 'Alloway's Auld Haunted Kirk'; the bridge just ahead is where Tam O'Shanter's luckless Meg lost her caudoequinus. 'Ayr gurgling kiss'd his pebbly shore.' This is the stream; a quarter of a mile ahead, where the road sweeps around that point of timber to the left is a grove of hawthorn, where Burns took his last farewell of Highland Mary. It is the only spot in all this country where the wild violets have a perfume[1]. Half a mile below this bridge is Riley's 'Old Swimmin' Hole.'

"What delicacy of touch and fineness of feeling we find in Burns, Field and Riley," said my friend, growing enthusiastic. What common-place folk, and what trifling incidents are woven into the warp and woof of their poetry, yet what intense interest we feel in them. Is it true that the way to the heart is through common-place and every-day affairs? Is that the secret of their power? While it may be true that the 'rarest fruit grows upon the topmost boughs,' it is no less true that,

The sweetest flowers that are found
Grow rather close upon the ground.

"We wonder at the art by which so much is made of so little. We seek, as if we tear open a flower to find from whence the perfume comes, for the secret by which in the midst of a smile the throat is made to fill and the eyes to swim.

A tear-drop stands in either eye,
And yet I can not tell thee why
I'm pleased and yet I'm sad.

"Their poetry sweeps us along in a tide of simplicity, sweetness, humor and pathos, yet we feel the absolute fidelity of the picture."

But my story grows too long. I can not tell more. I will only add that if I ever saw a man who was perfectly content with his lot and in perfect harmony with his environments, my friend was one. Our team sped on and we reached home amid the glories of a gorgeous sunset. The doctor's wife had a good dinner—roast pork and apple sauce and the necessary concomitants. We had our appetites with us. After dinner we smoked and talked some more. Then a young lady neighbor came in and we finished the day with a rubber at whist.

I am aware that this is out of the usual style for a medical or surgical paper, but if I have been able to entertain you for one moment, or suggest one idea that will be of practical benefit to any one I am satisfied.

CHRONIC PHTHISIS.

A CASE TREATED WITH KOCH'S IMPROVED TUBERCULIN, ETC.

Read before the Eastern Medical Society, at New York City.

BY SAMUEL F. BROTHERS, PH.G., M.D.

PROFESSOR OF ANATOMY AT THE NEW YORK POST-GRADUATE MIDWIFERY SCHOOL, AND ATTENDING PHYSICIAN TO COLUMBUS DISPENSARY AND HOSPITAL.
NEW YORK CITY.

The tuberculin used in the case here reported came in a vial of about 15 drops—one gram. The pharmacist who dispensed it, told me that this bottle was the first which arrived in this country, and was obtained only with the greatest difficulty, as a personal favor. The first trouble experienced was in preparing it for administration, since a complicated process was necessary in order to dilute the liquid sufficiently and properly. Fortunately, I am a chemist, and therefore succeeded in making a pint of solution, but would not advise anyone else to attempt it, as it requires a sterilized laboratory and apparatus to work with. I had several mishaps before finishing, principally on account of not having a suitable counter to work on. It is now furnished prepared, so that no further trouble ought to be experienced in that direction.

Although this patient had had no hemorrhages at any time, I have called it chronic phthisis, and not miliary tuberculosis, because the signs and symptoms were localized in the lungs. When first seen, he was unable to leave his bed, being in a very emaciated and weakened condition. Under the use of creosote he improved so far as to be able to get out of bed, to go around the room, and later to go down stairs and into the street. The subsequent history of the case is as follows:

A. G. Italian, aged 17 years, apparently had hip disease when a child. The right lower limb is so much shortened that he walks on the ball of the toes and he has to wear a specially made shoe on that foot. He lives in the front of and over a junk shop. April 9, 1897, he was found somewhat improved, having been treated up to this time, as before intimated, with 5-minim creosote pills, as well as with expectorants, etc. On this visit I told him to continue the pills, and also prescribed a one-grain calomel powder to be taken three times a day. His temperature was 98, his pulse 84. Previous to this his temperature had reached 101. On April 14, his temperature was 100.5, and he complained of rectal pain. I found on examination one intero external hemorrhoid, and ordered a 5-grain capsule of quinin sulphate t. i. d.

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[1] About a mile north of the village of Coloma in Carroll County, Mo., is a bridge over a stream called "Tater Hill Creek." On the south side of this stream, to the left of the road just before crossing the bridge is where the wild violets have a perfume. I have examined every bed of violets in all that country, but could find no others with the faintest odor. I took a bunch home with me and transplanted them to my garden, but when they bloomed the next spring there was no perfume. I then went to the banks of Tater Hill Creek and the perfume was the same as a year ago. The particular bunch I transplanted may not have been of the odorous variety, or there may be something in the soil of that particular spot which invests them with the perfume. Who knows? I shall transplant some more next spring and try again.

April 21, I asked him when he had had a bath last. He said "I have not had a bath since I went in swimming last summer" —about eight months previous. His temperature on this occasion was 101.75. I ordered creosote to be continued, and a sponge bath of alcohol and water, equal parts, for ten minutes daily, also ten grains of quinin in 15-grain suppositories three times a day, and enemata when necessary. I told him to see that he had an evacuation every twenty-four hours. On May 5, I found his temperature to be 101, and ordered four creosote pills a day. He complained of the cough being severe and of having a chill every evening and morning. I ordered a mixture of codein, chlorid of ammonium and syrup of wild cherry, also two 5-grain quinin pills on arising and two at 4 P.M.

May 12, his temperature was 100.5; he had a hectic flush, and showed evidences of a perineal abscess just on the ischiorectal line. The skin was not reddened or swollen, but the part was very tender and boggy to the touch. I ordered poultices, and gave them the prescription for the tuberculosis antitoxin.

May 13. Roughly stated, two drops of the tuberculin were diluted to one pint with glycerinated salt water, and fifteen minims were injected on this occasion. The temperature before the injection was 99.5; after the injection 99.75. He had complained of pain all night from the anal abscess. One-twelfth grain of morphin sulphate was prescribed, to be repeated if necessary.

May 15, he gave these details about himself. He had slept on a fire-escape one night about eight months ago; later on, he was selling papers during a light snow-storm. He came home and began to cough; was treated for a bronchitis by a physician, in January; went twice, but had taken cough medicines previously without relief; used to cough without stopping for half an hour when he went to bed. For a couple of months, his previous physician had given him something which smelled like the creosote pills, ten drops three times a day, in a glass of milk. (This was probably guaiacol, in which I have no faith.) His temperature was 101.3 before tuberculin, 101.75 after.

May 17. Previous to giving him the third injection of fifteen minims, I found the following physical signs: Bronchial breathing over the left lung in front, almost cavernous over right lung in front, and the same over both lungs behind. On percussion, I found the note flat over the left apex, and over most of both lungs behind, and the cracked pot sound over the right lower lobe behind. The temperature was 98+ before the injection, and 97.75 after; the cardiac beat was very weak at the wrist, but fair when auscultated over the region of the heart. The skin over the perineal or ischiorectal abscess was ham-colored and extended to and included the anal margin on the right side. He had taken the three last powders of morphin during the night; had one passage yesterday and one today; has had no chills since, but spells of perspiration. I opened the abscess with the aid of local anesthesia—ethyl chlorid and cocain—and evacuated a stinking abscess; then I irrigated and applied a wet dressing.

May 18. His temperature was 100.5. The abscess cavity was found to be very small. He has had a passage daily, but managed to keep the abscess clean. "I took only two creosote pills yesterday," he said, "because I felt weak over the stomach." These pills were not gelatin coated. I ordered carbolic acid, muslin bandages, iodoform gauze, absorbent cotton, iodoform and a fountain syringe before the operation, and use them daily for dressing the abscess.

May 19. He says that his mother was married sixteen years when he was born. He was the fourth child. Temperature before injection was 99.9, after injection 98.8, showing a decrease.[1]

May 23. Ordered a milk punch three times a day. The temperature on the 21st, had been 98.5 before and 99 after the injection. Today the thermometer showed 97.5 before, and 98.5 after; pulse 120; cough severe. Prescribed ammon. chlor. gr. 2½, mist. glyc. comp. ʒ ii, every four hours.

May 25. There is loud bronchial breathing over front of right chest below, and especially over upper lobe of left lung behind; cavernous breathing and flat percussion note over circumscribed area of left lung. (Forgot my thermometer.) Pulse weak and rapid.

May 27. His weight, he told me, was 88 pounds. Lower extremities showed these measurements: Circumference above knee, right, 6½ inches, left, 9½ inches. This evidently indicates that he had infantile paralysis at two years, and not hip disease, as previously supposed, although this is not conclusive. He felt chilly a few times this morning, between 7:30 and 9:00 A.M. Temperature 102.25 before, 102 after; perineum dressed as usual.

May 31. Temperature before injection was 101, 101.5 after. Nitrate of silver touched to abscess wound. Injected one-half dram tuberculin solution *from this time on.* Pulse 129. Ordered strychnin, 1/25 grain, wine pepsin, 1½ drams three times a day.

June 2. Temperature was 102.5 before, 103 after. Stopped creosote and ordered quin. sulph. 5 gr. t. i. d., and milk punch every four hours, and iodoform ointment as application to perineal wound.

June 4. Temperature before injection, 97.75; after, 98.25. Had only taken four capsules since; dulness over upper chest; voice and breathing diminished or absent at different places.

June 7. (Called on third day instead of second by mistake.) Stopped quinin and ordered creosote again. Temperature 97 before, 97.25 after; pulse 108, after injection 100. The pulse has been exceedingly weak during the whole illness.

June 9. Temperature before injection 99, after 99.75.

June 1, I quoted the above facts to the Medical Progress Society of the West Side German Dispensary, New York, during the discussion of which it was stated that I should not have increased the dose so rapidly. I gave as my reason for doing this, that the directions called for an increase up to 7680 times the original dose, and therefore a rapid increase seemed necessary, in order to reach the maximum dose at a reasonable time.

I abstract the principal notes from the red circular which accompanies the German tuberculin. As before stated, roughly speaking, 1½ minims, or two drops, are diluted with 13 ounces of water, in sterilizing apparatus, to which 36 grains of salt and 3 ounces of glycerin have been previously added, the whole being repeatedly filtered through sterilized filter paper until absolutely clear. The object of the glycerin is to preserve it, since each dilution lasts an unlimited length of time. The circular further states that the tuberculin must be kept in a cool, dark and dry place. The commencing dose is 15 minims of the dilution, unless a reaction appears, when it must be still further reduced. I made it a rule to take the temperature before and after each injection. If the temperature rose over half a degree, I gave 5 minims less at the next injection. If it remained the same or became lower, as frequently happened, I increased the dose five minims. Occasionally, however, five minims of an increase was found to be too much, so three minims were added instead. The circular goes on to say that carbolic acid solution and similar liquids are not permissible as diluents. The injections are made subcutaneously about every second day. "Any febrile symptom," the circular says, "caused by the injection, must have entirely disappeared before a fresh injection is made." Now, it is impossible to say always that a rise in the patient's temperature two days after the injection, was caused by the tuberculin. Therefore, my rule has been generally to ignore this, simply treating high temperature, weak pulse and cough symptomatically. Dr. Dessau asked at the discussion above referred to, why I used other remedies at the same time. The principal reason was because the tuberculin did not relieve the urgent symptoms, and this is what the family demanded. I believe, however, that the tuberculin did prolong the patient's life. "With doses of 5 milligrams,"—one-half bottle—"and upward," the circular goes on to say, "it is not advisable to make more than two injections within the week, and with still larger doses not more than one. As a rule, the dose is increased to 20 milligrams"—two bottles of undiluted tuberculin—"and if no reaction follows the injection of this dose, the treatment is discontinued or only repeated at long intervals. For injection,[2] any part of the body where large folds of skin can be raised may be used." I have found the buttocks about the most convenient place, as a rule, using the opposite sides in succession. The very finest "Green" needle obtainable should always be used for hypodermic syringes, and they should be made to screw on the larger aspirating syringes for the use of larger doses. Special syringes are not required. "The local reaction disappears generally within twenty-four hours. This evidently refers to the pain and swelling. The swelling generally disappears within a minute, as soon as the fluid is absorbed, and with a very fine needle, the pain is very trifling and only transient. I believe that it can not be too strongly emphasized, and teachers should take more pains to impress it upon students, that in giving *deep* injections, particular care should be taken to see that all air is excluded from the barrel of the syringe; fatalities are continually occurring through ignorance on this point.

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[1] I do not understand exactly what the decreases mean.

[2] This tuberculin corresponds to the "T. R." of Professor Koch.

It is generally advised to rub the swollen area with the finger. I do not believe in this: 1, because it is not necessary; 2, because it is apt to force out some of the injection again; and 3, because the puncture may be infected with the finger. "The usual antiseptic regulations are to be followed in preparing the needle and syringe." The skin also might be added. After use, I always work the syringe in some sewing machine (sperm) oil, to keep it in good condition. By doing this the syringe will need little more than an occasional leather washer or a needle. Physicians rarely take time to wash and disinfect their hands before giving a hypodermic injection.

June 11 I was informed that the patient had a chill at 4 P M. on the day that I gave him the last injection. This was given at 10 A.M. I found his temperature to be 101.75 before the present injection and 102.75 after. This was the greatest rise he had from the injection since the treatment. On percussion, the upper part of the chest behind was found to be flat, and on the right side the cracked-pot sound was heard. On auscultation the respiration was found to be diminished behind at the upper part, and in front on the left side. Bronchial breathing was present over the rest of the lungs. The pulse was too soft to be counted. (This occurred quite frequently.) He received 22 minims at this injection.

June 13. Temperature was 103.3 (always in the mouth); room very hot. After 15 minims his temperature remained stationary. I ordered 10 grains phenacetin t. i. d., and carbolic ointment for the perineal wound. Patient lives in two back rooms over a second-hand junk shop. In these two rooms there were living four males and two females, all grown but one. As there were only two beds to be seen, the question is how they managed to accommodate themselves.

June 15. I found the patient drinking beer and eating rye bread. He rarely or never receives the daily sponge bath which I have ordered. Milk punches he does not like, and without milk he says he can not take brandy. He does not understand that he can take it in water. Before injecting 10 m., temperature was 97.6; after, same.

June 17. Before injecting 20 minims, 102.3; after, 102.5. He says that the cough is severe, also that he ate cake, etc.; and that he took no medicine nor powders since. Pulse is uncountable. Punches ordered.

June 19. Before injection (25 minims by mistake instead of 20 minims), temperature was 101; three minutes later, temperature 101.5. Complained today of pain over left apex.

June 21. This patient is 17 years old. Find bronchial breathing over left chest both before and behind; over the right the breathing is almost absent both in front and behind. Pulse 120; temperature before injecting 20 minims 99.5. After one minute, 99.25, a fall of ¼ degree. After two minutes, the same.

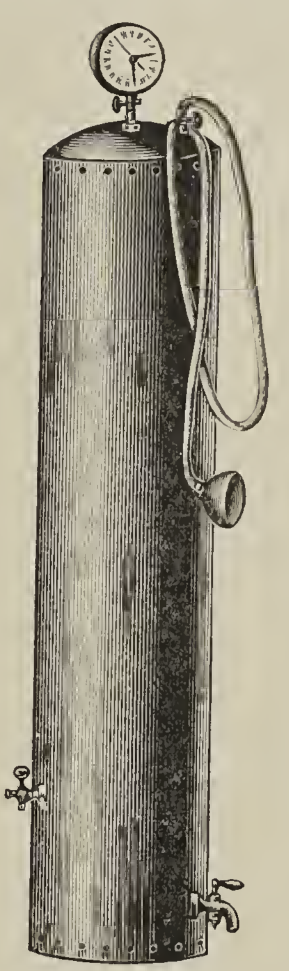
June 23. Bronchial breathing over both lungs in front, cavernous over middle of left lung behind; percussion unsatisfactory (patient so weak I did not wish to annoy him). Temperature 100.1 before injecting 25 minims. Before one minute, no change; after one minute, 99.5; after twenty minutes, the same.

June 25. Before injection temperature was 97.5; after injecting 30 minims it was 97.25. Very hot day. Had a red-hot fire, and patient was inhaling the vapors from a boiling wash six feet away from his bed, and was in a heavy perspiration.

June 27. Temperature before injection, 102; after injecting 25 minims, 102.6. He had chills this morning while sitting at the window; had difficulty in breathing and was very weak; pulse was 150. Ordered carbonate of ammonia and digitalis.

June 29. Temperature 100; coarse mucous râles all over the chest; pulse 120. After 30 minims tuberculin solution, temperature 99.75. Ordered to begin creosote pills again and take more brandy or whisky.

July 1. After reading an article on tuberculosis in a medical journal I was especially impressed by two facts: 1, that a great many people who are supposed to be free from tubercle are really tubercular in mild degree, and this coincides with my view; and 2, that the phthisical patient suffers as much from septicemia as from the tubercle itself. On the strength of this I decided to try the streptococcus antitoxin. I obtained Gibier's antitoxin, the directions on the vial being very brief, principally stating that in cases of septicemia or erysipelas two injections may be given immediately, and afterward one injection every six hours until improvement results. I decided to give my patient 30 minims for the first dose. This increased his temperature from 102.75 to 102.9. I followed this with 30 minims of tuberculin dilution, which raised it to 103. I then ordered, to be taken by the mouth, 5 drops of the tuberculin dilution three times a day, in water. His pulse before treatment was 144, after both injections, 145. His cough is "sticky," and the expectoration is half pus and half frothy saliva. The patient is very low and can hold out very little longer. The perineal abscess or fistula has been again discharging for two days.



Compressed-air apparatus.

July 3. At 2 P.M. his temperature was 103.5; after tuberculin, 103.6; pulse 156. Took no drops (tuberculin), but took digitalis. I ordered repeated syringing of abscess and more stimulant. He is so weak that he has to be carried from one bed to the other. The cough is very annoying.

July 5. Patient's sister said that he seemed to be very low last night and "could not get the catarrhs up." He ate bread and milk for yesterday's breakfast, and a pear between breakfast and dinner. He was sponged with alcohol and water about 12 o'clock. Ate another pear between dinner and supper. For dinner he had bread and milk, half a tomato and salad with olive oil. For supper he had rice boiled in meat soup. Took the drops once last evening before feeling bad, but was not feeling very well all day. Had wine and bread this morning, and a peach. He sleeps a little, on and off, during both day and night, but not long at a time. Temperature 99.75; after 15 minims streptococcus, 99.9; pulse 125. Ordered carbonate of ammonia, ipecac and elixir. The relatives paid no attention to directions.

July 7. Patient died at 6:30 this morning.

The case lasted about three months, and yet there is no evidence showing that Koch's improved antitoxin had any curative effect on this patient. If the cure requires a mild case to begin with, and good hygienic surroundings as an adjuvant, we can truly say that we have plenty of such cures under creosote, and even, for that matter, without it.

The other cases which I have put on this treatment do not furnish any useful data, since they previously improved just as much without it. During the whole treatment of the case described, I had not used one-fifth of the first two-dram-to-the-pint mixture. I should also add, that during the course of treatment some charitable people, instead of first asking my opinion about sending the patient to the country, offered to take him away, and then came to me later. This false hope made things a little disagreeable for me.

In order to carry out future investigations of this character more satisfactorily, it seems that our medical associations should assume control of several dispensaries and hospitals in various sections of the city, where at the same time the charity question could be properly supervised by the profession itself.

The tuberculin treatment has, apparently, no advantage over creosote, and has the disadvantage to the patient that it requires constant professional attendance, unless mouth administration can be substituted for the hypodermic needle. But this has hardly been yet determined. I tried it here to avoid two successive injections, not wishing to mix the two antitoxins.

Since writing this paper, the author has invented a compressed-air apparatus for tubercular cases, (See illustration.) Any person can use this at his own home, by attaching it to his water faucet.

SOCIETY PROCEEDINGS.

Chicago Society of Internal Medicine and Chicago Medical Society.

Joint Meeting held Jan. 25, 1899.

Dr. JOHN A. ROBISON, president of the Chicago Society of Internal Medicine, occupied the chair.

Dr. HENRY M. LYMAN addressed the meeting extemporaneously on

ACUTE ARTICULAR RHEUMATISM.

He gave an account of the disease as it used to be observed and as now seen, saying that there is a striking contrast between rheumatism as it presents itself clinically, modified by treatment of the present day, and what it was when he began the practice of medicine.

Rheumatism is supposed to be a microbic disease in which the nutrition of the body is modified by the action of microbes generating certain poisons or toxins that circulate with the fluids of the body and so far influence the nutrition of the tissues as to permit of the occurrence of the inflammatory symptoms—fever, pain, swelling and redness in certain definite territories, notably about the joints of the body. The joints of the lower extremities are involved more frequently than those of the upper extremities. The knee, perhaps more frequently than other joints, is subject to this swelling, and microbes are the supposed causes of this disease, but he is not certain, for he has many a time read the observations of notable students and microscopists describing particular microbes which they had discovered in the tissues of rheumatic patients, so that it is hardly orthodox to utter the possible belief that the microbes that generate these poisons are not of foreign origin, are not intruders from without the body, but are themselves constituent cells of the tissues of the body. He is not sure that this may not, sometimes at least, be the microbe that produces rheumatism. Certain it is, we find microbes in the tissues that are affected in a case of rheumatism. Certain it is, too, that these microbes are found in many diseases, such as yellow fever, measles, scarlatina, plague, and many other diseases which he believes are of microbic origin. While many observers describe microbes that produce poisons which occasion the disease, there is not yet that satisfactory unanimity of opinion among the profession as to so common and important a disease as rheumatism.

He drew a picture of rheumatism as he saw it forty and fifty years ago, when it was said to be less common in England than gout. It is a disease, however, that is common enough in all parts of the world. Even in the Arctic Ocean, during the thawing weather that occurs in the summer, Arctic navigators speak of rheumatism among the crews of their ships. However, in fair weather, in northern climates under the Arctic zone, rheumatism is not a common disease. This lends additional force to the hypothesis that rheumatism is one of those diseases of nutrition that is characterized by retardation of nutrition, by defective oxidation, for it is known that this retardation of nutrition and defective oxidation are most common in warm and damp climates. During dry and cold clear winter weather those processes are so much accelerated as to arrest many of the phenomena that are characteristic of rheumatism. However, rheumatism prevails in all parts of the world.

Usually the acute form begins with a chill, followed by a febrile movement, copious perspiration, frequently disturbance of the alimentary canal. Sometimes, as in all acute febrile diseases, the symptoms are ushered in with considerable disturbance of alimentation; even nausea and vomiting may occur. Intense pain is usually felt, sometimes diffuse at the first, then concentrating itself upon the knee-joint or upon a number of joints. The joint rapidly swells; the skin over it becomes slightly reddened, and there is inflammatory edema. There is not that enlargement of the veins that is observed in gouty cases. In gout, which in many respects so closely resembles rheumatism, when a large joint is invaded, the swelling is the same as in rheumatism. The redness is greater; the veins which lead from the joint are dilated, frequently tortuous and enlarged, whereas in rheumatism this is not so conspicuous. Effusion takes place around and into the joint; there is considerable exudation. He recalls one case of rheumatism in which he made an exploratory incision and found that the tissues around the joint were occupied by a clear serous fluid without any appearance of turbidity or of suppuration, and without the visible presence of any leucocytes, excepting microscopically. It was simply a hyaline liquid exudation that occupied an area of space under the skin. It is stated on good authority that cases have been observed in which suppuration actually occurred. This, however, must be late in the course of the disease, and as a consequence of associated action of pyogenic germs upon the tissues that are thus affected.

In addition to the local disorder, there is great disturbance of the nervous system, great exaltation of the sensory processes, so that the pain experienced by the patient is much more severe than the ordinary pain from a luxation of a joint, from a bruise, or from an ordinary inflammation. This is one of the characteristics of the disease; as a consequence of the malnutrition of the patient his nervous centers and nervous apparatus are deteriorated in their character to such a degree that they react violently to all impressions that are calculated to give pain. The consequence is that a patient suffering from polyarthritis rheumatica will lie helpless and motionless, dreading the possibility of movement, and crying out even if you approach too near him. He has seen patients reduced to a condition of childish wailing by merely pointing the finger at an inflamed knee, it being so tender and sensitive that it could not be moved without excruciating agony. He has seen patients suffering from polyarticular inflammation in all the limbs lying in such helplessness that it required the aid of four strong men to lift the sheet or blanket upon which the patient was lying. To move the sufferer from one particular bed to another was almost an impossibility. The patients were bathed with perspiration, having that peculiar acid smell which was thought by many to be characteristic of rheumatism, and due to the poisonous acids that excited the rheumatism, on the theory that it was lactic or some other acid that produced the disease. It has been shown, however, that this is not a necessary phenomenon; that the presence of the offensive smelling acids is the result of lack of cleanliness, resulting in fermentation of sebaceous matter in the perspiration itself. Associated with the sebaceous matter of the skin, which is exuded upon the surface of the skin, decomposition gives rise to this peculiar odor, and if the skin is kept clean, so that there shall be nothing but perspiration, the perspiration is neutral in its reaction and devoid of unpleasant odor. Under these conditions patients may lie for a variable period of time.

In some cases he has seen inflammation attack a large joint, as the elbow or the knee-joint, and in the course of thirty-six hours, after having swelled to a very considerable degree, having caused heat, redness and great pain in the joint, it would suddenly disappear, and there would be no transference of symptoms to any other part of the body; while in other cases there would be a transference from one joint to several in succession, traversing the different joints of the body, usually the larger joints, the smaller ones not being so commonly involved. In other instances, however, instead of a rapid disappearance of swelling, pain and exudation about a joint, the symptoms would linger day after day, week after week, sometimes locating in a single joint and remaining there, as in the shoulder, the elbow, the knee, or ankle-joint. He recalled to mind a case in which the shoulder joint thus inflamed remained so for three months, and was very painful and incapable of motion. The inflammation then disappeared, and the joint recovered perfectly. This is one of the pleasant things about rheumatic inflammation: no matter how severe the inflammation, how great the swelling, the pain or disablement of the patient temporarily, you may expect complete recovery in due course of time, unless improper interference with the joint has been allowed, as using the joint too soon.

Rheumatism is a self-limited disease; its duration is not far from three months. Those patients who suffer a long time are victims of chronic rheumatism. Usually, however, the disease lasts for three months.

In the treatment of the disease, physicians should be very cautious with regard to patients and not allow them,—even though they be quickly relieved and the swelling disappears rapidly from the joints that are implicated, to get upon their feet too soon, to walk far, or to use the joints before they have time to recover. Frequently the tissues that make up the joints are infiltrated long after the external swelling is gone. There is still some softening of the cartilaginous or superficial parts of the joints, where they move upon one another, and the joints are still sensitive. They should not be subjected to pressure and excessive movement before the lapse of three months. There is danger of induction of chronic rheumatism, in the first place. In the second place, there is danger of chronic thickening of the parts that make up the joints. Lastly, there is danger of permanent enfeeblement of the joint, and possibly a slight degree of superficial erosion that makes the joints sensitive and more liable to subsequent attacks. Such is the picture of rheumatism as it occurred in olden times when treated with alkalies.

Patients were treated in those days with large doses of alkaline salts; bicarbonate of potassium, citrate of potassium and liquor potassium were given on the hypothesis that there was an excess of acid in the blood and circulating fluids of the body, and by the administration of alkaline salts it was thought to be possible to neutralize the acid, to facilitate the elimination of acids through the medium of the urine and the skin, and thus to cure the patient. But, unfortunately, in many cases the disease was intractable; they continued to suffer week after week, and at last the disease would really get well, perhaps, in spite of treatment.

He recalled a notable event shortly after the Chicago fire. When on duty as attending physician in the Cook County Hospital, he read of the discovery of a new agent for the treatment of acute inflammatory rheumatism, called "salicylic acid." It was being reported, by German physicians, that it was an agent with remarkable and undoubted power to relieve the symptoms of acute articular rheumatism. After considerable time and effort, he succeeded in securing a quantity and prescribed it, certainly for the first time in any of the public hospitals of the city and the first time in his own practice. The effect was wonderful. In three days' time patients, who previously would lie weeks and weeks in a state of perspiration and suffering, requiring Dover's powders at night, were sufficiently relieved from pain to sleep. Opiates were withdrawn entirely. Under the influence of this remedy, in three days' time these patients would be out of bed, walking around, asking to be allowed to return home. But in a few days he found that the patients thus cured, and who went home, were back in the hospital again. Physicians had not then learned that it is necessary to continue treatment even after relief of the pain and disappearance of the swelling that affected the joints, one of the facts which goes to prove that the disease does not consist merely of a painful swelling; it is a disorganization of the joints of a more serious nature than mere local tenderness, and it is very essential to continue the administration of salicylic acid for two or three weeks after the relief of pain. It was not long before it was learned by experimentation that the salts of salicylic acid were even better and a more convenient means of medication than the salicylic acid itself.

Then it was not long before it was found that patients did not do as well with the salicylates prepared in this country as they did with those prepared in Germany. For a considerable time disagreeable results were had from using salicylate of sodium prepared in America. It was impure; it deteriorated with keeping; it did not produce the effects that were secured from the original German article.

One day he was called to see a young man suffering from acute articular rheumatism, and prescribed salicylate of sodium. The patient took it according to direction, and having taken it for two days, he went to the house on the morning of the third day of his illness, was met by the mother with an expression of horror, who said: "I was not aware that my son was such a boy; that he ever touched liquor of any kind; he has got delirium tremens"; and sure enough he presented the symptoms. There was delirium, picking of the clothes and tremor, all of the classic symptoms of the disease, but it was salicylate of sodium which had produced the effect. Withdrawing the drug and allowing its effects to pass off, the delirium disappeared, and the mother was intensely relieved. This is one of the ill effects from the use of impure salicylate of sodium in the treatment of acute articular rheumatism.

Dr. Arthur R. Edwards discussed the

CAUSATION AND SYMPTOMATOLOGY OF ACUTE ARTICULAR RHEUMATISM.

Bacteriologic arguments aside, acute articular rheumatism is an acute infection. Cold, heredity, age, trauma, etc., may be cited as etiologic factors, and yet they are proximate rather than ultimate causes. Guttmann and Sahli found staphylococcus. Sahli early questioned the unity of the disease, and is inclined to regard it as a modified pyemia. Several French observers have found bacteria not only in the joints, but in the blood and viscera. If all observers named the same bacteria, conclusions would be more easily drawn, but the finding of streptococci, staphylococci, diplococci, bacilli, etc., has led physicians to question their methods or their results. Singer likens the disease to pyemia, in that common symptoms occur in each, such as temperature, anemia, articular metastases, endocarditis, leucocytosis, peptonuria, etc. This author places particular stress upon the detection of pyogenic organisms in the rheumatic joints, in the initial angina, endocarditis, pneumonia, in various serous membranes involved, the erythema multiforme, etc., and calls attention to analogous changes in scarlatina, gonorrhea, typhoid, pneumonia, influenza, etc.

Whether the prodromes are indefinite or wholly absent; whether the initial symptoms are angina, albuminuria and fever, as Widal has often seen them, or enteric as often observed in Vienna, any diagnostic doubts are allayed by the appearance of polysynovitis. The fever is irregular, rarely high and in no way cyclic, as Friedlander would have it.

Œttinger states that the temperature is directly related to the intensity of the infection, the number of articulations involved, and to the development and progression of visceral and other complications. Chills suggest pyemic states. Kahler held that the fever could occur independently of joint changes. As Wunderlich noted in his celebrated original communication on fever, the temperature is usually highest when the patient is first examined. The joint affection itself needs no full description.

The subject of masked or atypic rheumatism dates from the writings of Immermann. He speaks of rheumatism masquerading under the guise of an endocarditis or trifacial neuralgia and yielding to salicylate treatment. Kahler's opinion of rheumatic fever without arthritis has been mentioned. The rheumatic virus, it is claimed, may produce pericarditis or endocarditis without articular inflammation, a "polyarthritis *sine arthritides.*"

Complications occur as frequently in light as in severe cases, they vary with the existing epidemic, are observed most often near puberty, and are then most dangerous. Hospital statistics concern the severest cases. The most vital complications of rheumatism were first described by Pitcairn in 1788, while Pidoux, Besnier and Homolle followed Bouillard in developing the subject. Bouillard, in 1832, formulated his extensive studies practically as follows, viz.: That in every severe, generalized case of acute febrile rheumatism, endocarditis was the rule. At the present time many French writers hold the same views, e. g., Besnier. Widal writes that in such severe cases the "heart is diseased to some degree." Trousseau, the distinguished contemporary of Bouillard, considered the possibility of functional murmurs in the case of the systolic murmurs, all of which were considered as endocarditic by Bouillard. Potain, among the French, holds rather a solitary place, his views being those of the German writers. Granting that the teachings of the French school are extreme, we may long doubt in a concrete case whether a new bruit is hemic or endocarditic. Personally, Dr. Edwards finds the diagnosis in such instances far more complicated than is inferred from schematic text-book teachings. Leube says, for example, that functional murmurs are rare in acute articular rheumatism, while they are frequent according to Senator. Hence, even in an acute heart murmur, its disappearance may be interpreted in two ways: 1, as the disappearance of a functional murmur when the fever falls, the heart slows, or the enema mends; or, 2, as the healing of a slight endocarditis.

Endocarditis is usually verrucose, rarely ulcerative, and not all instances of even fatal endocarditis in rheumatism are ulcerative. Endocarditis is more apt to occur when many joints are inflamed, but may antedate the arthritis. (Jaccoud, Trousseau and Martineaux.) Its frequency in Dr. Edwards' experience, is about the average figure given, 20 per cent. Other figures are 50 per cent. (Bouillard, Fuller, Latham); 20-28 per cent. (Bamberger, Jaccoud, Œttinger); 9 per cent. Wunderlich.

Osler states that rheumatism explains more cases of pericarditis than all other causes combined. It is the most frequent lesion in children. Its frequency is 20 per cent. (Hache, Wunderlich, Leudet, Sibson); 54-70 per cent. (Williams, Omesos, Taylor); 13 per cent., Œttinger.

Myocarditis occurs as embolic, or as extensive, by contiguity of tissue. It may cause sudden heart pain with weakness, and the subject dies—the "heart rheumatism" of the laity. Other cardiac occurrences are transient—palpitation and cardiac oppression, fugitive in character, and without cardiac findings, and tachycardia due to pain or physic excitement.

As a practical point, the right heart may be dilated, as it is in other fevers and in various abdominal affections, to disappear with convalescence. It may, when accompanied by a hemic murmur, induce the incautious clinician to diagnosticate endocarditis. The rapid, extreme and stubborn anemia of acute rheumatism is striking clinically and highly suggestive therapeutically.

As to the nervous system, it rarely affects the 'cerebrum, although Boerhaave and his pupil, Van Swieten, described undoubted cases.

The essayist has observed one case with recovery in which the subject had the *tempérament cérebrale* of the French, being mentally fatigued, but not an alcoholic. The patient was nervous, later almost maniac, exhibited great hyperesthesia, had one convulsion, a stiff neck, and then excitation was replaced by sopor and finally almost complete coma. There was no hyperpyrexia nor uremia. The symptoms were explained by toxic hyperemia.

In a second instance the spine was involved, and it may be stated, in passing, that a spinal cord rheumatism is unquestioned, being described fully by Ollivier, Ranvier, Besnier, Homolle, Vallin and Trousseau. The symptoms and pathologic findings were those of an acute meningomyelitis.

Psychopathy, in the aged, or indeed in others, has not fallen to his personal experience.

The respiratory tract is, next to the heart, most frequently complicated, and it is probably the most frequent atrium for the organism, an angina or bronchitis being the primary focus. French writers describe two forms of pulmonary complications: 1, the *forme pneumonique*, depicted by Besnier; Herzog and Hirsch also described the characters of the pneumonic form as fugitive, or migrating, pneumonia migrans, with pale face, much sweating, or even appearing before the arthritis; 2, the *forme œdemateuse*, observed by Houdet, and also described by Ball and Bernheim. The edema may be widely spread, resembling the acute pulmonary edema of Bright's disease, or it may be localized to one lobe or the bases. It may be quite latent, i. e., found only on physical examination. Personally, he has never seen either form.

In relation to the abdominal organs, nephritis is said to be infrequent. Personal experience has shown that the vast majority of cases of acute articular rheumatism have exhibited albuminuria or nephritis. The connection well deserves careful study.

Skin complications have been much discussed. The erythemata and subcutaneous nodes, he thinks, are rheumatic, while the purpuric eruptions are very questionably so.

The question of diagnosis depends upon the clinical course and the clinical type, modified very essentially by age. In children, generally speaking, the joints are less susceptible, while the skin, nervous system and heart are oftener involved. Heredity is most potent here, and the sexes are equally involved.

The various phases of rheumatism occur separately, now arthritis, at one time endocarditis, later chorea, then subcutaneous nodules, pericarditis, and so on.

The arthritis of children is less intense. The child rarely lies absolutely quiet, but tosses about; the tendons and fascia are more often involved than the joints, herein simulating talipes, etc. The pain is less; indeed, the objectively obvious arthritis may be overlooked. The lower temperature is particularly remarkable at this epoch. There is much less sweating. The anemia in childhood is especially conspicuous, being as rapid in development as that of diphtheria or adult malaria.

The endocarditis is not usually so clearly nor immediately connected with the polyarthritis as in adults, but develops more slowly, insidiously and later. It is twice as frequent as in adults; indeed, Sir Thomas Watson knew but three instances of acute rheumatism under puberty escaping heart disease. Endocarditis occurs relatively early in what Cheadle terms the "rheumatic progression," while pericarditis occurs later, after the valvular lesion has inaugurated hypertrophy and dilatation. It is almost always found (Sturges) in necropsies on valvular disease in children.

Rheumatic heart disease in general at this epoch leads to greater hypertrophy because of greater nutrition, to more marked dilatation, because of greater tissue elasticity; and for these reasons, as well as on account of its tendency to recur and the danger of overlooking the arthritis, the prognosis is much more cloudy than in adults. More marginate, papular and urticarial erythemata, and more purpura occur in children. The subcutaneous nodes of Barlow and Warner, the rheumatismus nodosus, give grave prognosis if large, and always suggest danger from serious intercurrent valvulitis.

Chorea is prone to develop with arthritis, heart disease, nodes, or with the erythemata. Frank rheumatism is easily recognized, while diagnosis in the masked or abortive is, in his judgment, always problematic.

Of the grave types, the visceral findings may confuse, but least so when secondary both in development and degree. Jaccoud speaks of the primary visceral type, wherein the findings, e. g., pulmonary or cardiac, antedate the arthritis, but here the diagnosis remains uncertain, awaiting the joint seizure.

The number of joints involved is always highly suggestive, but in no wise finally diagnostic. True rheumatism may be monarticular, and gonorrheal rheumatism is sometimes multiarticular. Diagnosis of gonorrheal rheumatism in women is often difficult, for notable reasons.

Bouchard and his clinic of assistants have especially elaborated the pseudo-rheumatisms, as the rheumatoid manifestations of scarlatina, diphtheria, syphilis, dysentery, typhoid, pneumonia, influenza, erysipelas, etc.

In women, puerperal infection, gonorrhea as stated, and an osteo-arthritis beginning acutely from exhaustion in pregnancy or lactation, may cause difficulty.

Pyemic disorders, osteomyelitis, glanders, etc., demand consideration in anomalous cases.

In children we review possibilities in the direction of acute pyemic monarticular arthritis, Barlow's disease, syphilis, hemophilic joints, if in the spine, meningitis or torticollis, and so on.

Subacute rheumatism gives by far the most trouble. Senator claimed that sodium salicylate is specific in true rheumatism and inert in pseudo-rheumatism. While acknowledging the general truth of his statement, yet its universal application is not justified. Salicylates are of greatest value in the arthritic type of *la grippe*, for example.

In direct reference to therapy, the salicylate treatment is the best. If not a genuine specific, an antirheumatic, it is a most effective antipyretic and analgesic in the vast majority of cases, and where other remedies have been employed after the failure of the salicylates to operate, it has been a question in the author's mind whether the other preparations were in themselves effective, or whether convalescence was not rather purely the natural solution of the disease. Possibly the cases upon which the salicylates are unsuccessfully employed are instances of pseudo-rheumatism. As a compromise with the adherents of the alkaline therapy, and as an adjuvant to this method, he uses the Vichy salts with some potassium citrate added. Despite theoretic objections, the best administration is by capsule, irritation by concentration being avoided by a glass of milk. The usual doses at the usual intervals are given till dulness, dyspnea or deafness begins to appear, when the dose and interval are changed. Following the analogy of cinchonism, he has used potassium bromid to lessen the tinnitus, etc., with good results. Salicylate delirium has been observed in anemic girls, in neurotics and alcoholics, but in his experience only in the latter class. Cardiac depression from the salicylates is observed usually only in largest dosage; if the heart becomes weak or irregular, he is always fearful of the intervention of an acute infectious myocarditis, and hence suspends salicylate treatment or guards the heart muscle by coffee, strychnia, or alcohol. In tender stomachs, or with idiosyncrasy to the drug, he employs it in enemata of peptonized milk. With antecedent or concomitant bronchitis, the lungs should be explored for possible congestion due to the remedy.

Caution is proper in old nephritics, yet infective albuminuria, directly due to the rheumatic virus, indicates rather than contraindicates salicylate therapeutics.

Dr. J. H. Salisbury followed with a paper on the

CHEMIC THEORIES OF THE CAUSATION OF ACUTE RHEUMATISM.

He stated that the chemic theories regarding the origin of acute rheumatism have endeavored to explain the origin of this disease by attributing to it the action of an acid. The fact that lactic acid is a very frequent product of fermentation, and the discovery of the formation of sarcolactic acid by muscular metabolism, probably led to the selection of this acid as the morbid agent in this disease. At the time when this theory was first advanced it was thought that lactic acid was a very frequent constituent of the urine and other excretions. It was at one time supposed that as much as one-third of the solid constituents of the urine consisted of lactic acid salts. The causation of rheumatism by this substance was rendered much less probable by improved methods of investigation which showed that its presence in animal fluids was much less frequent than had been supposed, but the theory has shown great vitality and has been developed in various forms.

The lactic acid theory was first suggested by Prout, and has been advocated by Fuller, Todd, Richardson, Latham and others. According to this theory, lactic acid is generated in excess in the system of the rheumatic patient and causes the irritation of the joints, the fever, and the excretion of excessive acid urine and perspiration. The essayist thinks that the evidence for this theory ought to show: 1, that the blood or tissues of a rheumatic patient contain lactic acid; 2, that an abnormal amount of this substance is excreted; 3, that lactic acid is an irritant capable of producing the effects attributed to it.

In regard to the first item, observations have shown that the alkalinity of the blood is reduced. Bouchard quotes Lepine as having found the blood of a rheumatic patient neutral shortly before death, and Charcot as having found the pericardial fluid acid. He has himself obtained an acid reaction in the fluid from the joints of patients suffering with articular rheumatism. Evidence is lacking, however, to show the acid reaction is due to lactic acid. Salomon, who carefully tested the venous blood of six persons suffering from rheumatic fever, employing in each case as much as one or two cubic centimeters of the fluid, failed entirely to detect even a trace of that substance.

The excessive excretion of lactic acid is admitted by authors who deny that it is the cause of the disease. McClagan, who admits the excessive excretion of this acid by the perspiration, points out the fact that this excessive excretion continues after other phenomena of the disease have ceased, and hence concludes that the acid can not be the cause of the other symptoms. This reasoning seems, however, to be faulty, for the excessive excretion may be sufficient to keep the blood in a normal condition. Indeed, it is known that certain other conditions, as uremia, gout and diabetic coma, are brought about by a diminished excretion which loads the blood with the poisons that cause these morbid conditions.

While it is the common observation of clinicians that acid sweats are a frequent phenomenon in rheumatism, the experimental proof that the perspiration of these patients contains lactic acid is hardly sufficient.

The essayist then considered the evidence that lactic acid may cause the symptoms of rheumatism, and mentioned the experimental work of Richardson that has been frequently cited as proof of this action of lactic acid. In brief, we are without evidence upon which a positive statement can be made that lactic acid is the specific cause of rheumatism. The evidence that lactic acid is a predisposing cause of the disease is much more cogent.

That alkalies do not cure the disease is perhaps to be explained by the fact of the overproduction of acid, which it is impossible to overcome by the administration of safe doses of alkalies. The administration of alkalies provokes an excretion of alkali by the urine, leaving the blood only slightly more alkaline than before, and this excretion is probably affected so quickly that no great change is produced in the reaction of the inflamed joints.

Reference was made to the theory which attributes acute rheumatism to the action of uric acid, and the essayist quoted from the writings of Haig, Satterlee and others.

He also briefly considered those theories which refer the symptoms of rheumatism to the action of nitrogenous derivatives, either produced by the organism as waste products, or the result of the action of bacteria.

Money has advanced the idea that rheumatism is due to a toxic condition of the blood from an excess of fatigue products or elements resulting from nitrogenous tissue metabolism. The essayist thought that this theory rests merely on conjecture. The search for a specific micro-organism in this disease has so far been without satisfactory results. At the Congress for Internal Medicine, in Berlin, in June, 1897, Chvostek expressed the opinion that acute rheumatism could not be referred to the action of a specific organism, but must be regarded as the manifestation of the poisonous action of various toxins produced by various bacteria. He considered that the local action of bacteria would give rise to chronic inflammation and swelling, which would need surgical treatment. He considered that the term "rheumatism" would soon disappear from pathology. This view of the causation of the disease, in the opinion of the essayist, seems to be in accord with what is known of other diseases, such as diphtheria, Asiatic cholera, etc. According to this view, physicians must look for the production of the poison to the action of bacteria in other parts of the system, perhaps on the mucous membrane. Chvostek has suggested that the usual entrance of these toxins is the tonsils or the intestinal mucous membrane.

In conclusion, it seems to Dr. Salisbury possible to frame a hypothesis that will account for the phenomena of the disease upon the following facts: Marked reduction of the blood is markedly affected by the suppression of the acid secretion of the skin. This may easily be brought about by the chilling of the surface of the body, which is one of the exciting causes of acute rheumatism. The reduction of the alkalinity of the blood may also arise from the ingestion of acid-containing foods, or the absorption of the acid products of fermentation from the intestine. It may also arise from excessive or abnormal nitrogenous metabolism in the muscles or other organs. Reduction of the alkalinity of the blood tends to retard function of nutrition by lessening oxidation. In this connection, the essayist referred to the experiments of Dr. Loeb of the University of Chicago, who found the development of invertebrate larvæ to be remarkably accelerated by adding to the water in which they were growing a dilute alkali. It has been shown further that a lowered alkalinity of the blood favors the action of pathogenic micro-organisms, and that as animals become immune to the action of bacteria, their blood becomes more alkaline. It seems to him reasonable to suppose that rheumatism is due to the action of various toxins at present unknown, but that its onset and continuance are greatly favored by the reduced alkalinity of the blood.

California Academy of Medicine.

Regular Meeting for January, 1899.

Dr. D. W. Montgomery presented a specimen of cancer of the breast with the following history: Some time ago he received a small specimen from Dr. E. Hopkins with the request for an examination and opinion as to the nature of the growth. On examination he found some epithelial cells and other indications of cancer, and so reported to Dr. Hopkins. A few days later the Doctor called, expressed surprise at the diagnosis and gave the facts in the clinical history of the case. The patient was a woman of about 47 or 48 years of age, with no family nor personal history. A short time before seen by Dr. Hopkins, she noticed a swelling of one breast, which progressed so rapidly that she soon consulted him about it. The other breast was at that time beginning to swell. The breast was evenly enlarged and firm, but no hard nodules could be felt, nor was there any adhesion either of the skin or of the tissues to the chest wall. In fact, there was not a single sign of malignant disease and the case was thought to be one of phlegmon. Operation was undertaken with that idea still in mind, but on incision, as no pus was found, a sample of the tissue was removed and sent to Dr. Montgomery for his opinion. Subsequently the breast was amputated and the glands in the axilla, which were greatly enlarged, cleaned out. The enlargement of the breasts and lymphatics was the only symptom whatever.

Dr. Dudley Tait presented a case of which he gave the following history: The patient, a man of 45 years, a sheep-herder, has been located in Washington for the past fifteen years, herding sheep. His parents seem to have been perfectly normal, and he gives no personal history except that five years ago, while working in the mountains where he was exposed to damp and cold, he had an acute attack of articular rheumatism. This was following a long trip. He had much pain in the right hip, and a severe limp. This passed away, but he has had other attacks since. For about one and a half years he has been complaining of persistent pain in the right hip, somewhat better when he is exercising than when he is idle. There is a very perceptible limp, though he can walk fairly well. About the time that the pain became more or less permanent, one and a half years ago, he also contracted syphilis. The rheumatism and syphilis are the only points in the history which I have been able to elicit. As you will see, there is some wasting in the right buttock and on the right thigh; there is also a mass on the right thigh, anterior to the femur, about opposite the greater trochanter, and very hard in consistency.

Dr. JONES—I made two examinations of this patient, one with the plate on the posterior, the other with the plate on the anterior surface of the hip. The skiagraph taken with the plate on the posterior surface was negative. It showed the femur, but the head of the bone and the acetabulum were very indistinct. The other plate, however, showed a large mass, with irregular outlines, about three to four inches in diameter, surrounding the head of the femur and so clouding the acetabulum. The shadow was too dense for any soft tissue.

Dr. SHERMAN—This seems to be a case of arthritis deformans. In this case, however, there has been little destruction of the articular cartilages, and the man has a fairly useful joint. The acetabulum and the head of the femur are in good condition; there is little swagging and sway and the limp is not marked; there is no crepitus; I should, therefore, be inclined to think that the deposit was entirely external to the capsule. One sees these cases occasionally, and the growth here is about as one finds it in similar cases. It is usually anterior to the trochanter. I remember a case I saw some years ago where the man had an acute attack and had to be put in a long traction splint, which treatment, together with iodid of potassium (he had had syphilis for forty years), resulted in an excellent recovery When I first saw him he said that he had had a swelling about the hip, which had been aspirated and a quantity of blood withdrawn. This statement I at the time doubted. Later on he had a similar attack in the other hip, and during the attack a swelling appeared. I then recalled what he had told me, and aspirated the tumor, withdrawing between 600 and 700 c. c. of bloody serum. This I unfortunately mislaid and so do not know its character. He made a good recovery, and when I last saw him he was able to go about very well. I have heard recently that he is now in the hands of Dr. Newmark and that there are ataxic symptoms. I at once thought of these hip-joints, and the suspicion has occurred to me that they may have been Charcot joints. This man seems to be pretty well off, for the cartilages are not much worn away. There is nothing that can be done for these cases except to put the joint at rest and save as much of the articular cartilage as possible. The shadow of the tumor as described by Dr. Jones would very well correspond to the appearance of similar deposits as fluid in the knee and which were skiagraphed for me by Dr. Jones. In this case of arthritis deformans of the knee joints there was great deformity and at the same time what I considered remarkable motion. I was somewhat surprised to see that the radiographs showed the deposit in the joints, for I saw in Dr. Sayer's office, when I was in the East, some radiographs of arthritis deformans of the feet, and I noticed that the deposits did not cast any shadow; there could be seen nothing but the amount of the deformity. In this case, of the knees, as well as the case before us, there must be a very considerable deposit of lime salt in the new tissue.

Dr. HUNKIN—I noticed that the swelling in this case has about the same feel as the swelling in some cases of tubercular hip-joint trouble which have recently come under my observation. Not that I think this case is tubercular; rather I agree with Dr. Sherman that it can be nothing but arthritis deformans. I simply noted the similarity in feel and consistency between the two forms of trouble. I remember two cases of this disease in the hip, which I saw last fall. One was a woman about 28 years old, and the other patient was a man of about 46 years. There was much pain in the hip, and in the case of the man there was considerable creaking in the hip on walking; there was also a good deal of limp. Complete rest, however, resulted in a fairly useful joint, though any hard work will incapacitate the man for some days.

Dr. TAIT—There is one thing which I do not exactly understand in this case, and that is, that the man feels better and has less pain and less limp when he is exercising a good deal than when he is idle. One would expect the contrary to be the case.

Dr. SHERMAN—That is certainly peculiar. A possible explanation which occurs to me is that as the joint is the more used, the synovial membrane is stimulated to greater secretion, and hence there is more lubrication for the joint.

Dr. KREUTZMAN then presented a paper entitled

A REVIEW OF TWO CASES OF CARCINOMA UTERI AND ADVANCED PREGNANCY.

He first devoted a few words to the question of cancer of the uterus, its probability of cure and recurrence, the various operations for its removal, and the prognosis in these cases. It was his opinion that nearly all cases recurred, sooner or later, and that in most cases the disease had progressed so far by the time the patient reached the hands of the surgeon that operation was hopeless except to add a few more weeks or months to the patient's life. Pregnancy complicating cancer of the uterus was rare, he thought, because cancer of the uterus usually occurs at a time when the activity of the uterus is not great and conception not liable to occur. The complication he considered a most deplorable one, and one demanding the most careful consideration on the part of the gynecologist as to the course of procedure. The first case he reported occurred in a woman about 35 years old. He was called in consultation by the attending physician as soon as the latter had examined the woman and discovered the true state of affairs. She was then in the fifth or sixth month of pregnancy; the cervix was very large and hard, but on account of the large size of the uterus it could not be decided whether or not there was infiltration in the pelvis. He considered the disease so far advanced that there could be no hope for the mother and so advised that nothing be done, with the hope that all would go well and the life of the child be saved. The attending physician differed with him and urged an operation, holding that there was a possibility that the life of the mother might be prolonged for some time if the uterus were at once removed, whereas it could not be prolonged if conception were allowed to progress to term. Operation was decided upon, the abdomen opened, and the adnexa found to be very much affected by the disease. The operation was a long and a bloody one, owing to the very greatly enlarged vessels which had to be tied off. The patient did not rally from the operation and died on the following day. The Doctor considered that the operation had been a mistake and that it would have been much better to try to save the life of a viable fetus than make the attempt to save the life of the mother, which in his opinion was in any event doomed. In the second case, the woman was younger and the pregnancy not so far advanced when the condition was diagnosed. Here the Doctor decided to await developments and allow the pregnancy to progress, hoping it would go on to term and thus save the life of the child. At about the fifth month, however, the mother developed eclampsic symptoms, had numerous convulsions and became unconscious. She was unconscious when the Doctor reached her. She was at once removed to the City and County Hospital and operation performed. She was very low at the time of the operation and did not become conscious before death, which occurred on the second day after the operation, in spite of all efforts. The pelvis was found to be pretty thoroughly infiltrated with cancerous material.

Dr. THORNE—These are certainly very bad cases. I have not yet had to encounter a case of cancer of the uterus with advanced pregnancy as a complication, and I do not care to. I think Dr. Kreutzmann's advice in the first case which he reported was good, and that the expectant plan is to be preferred. What can one do? He is confronted with a dilemma. One of the two is almost sure to die; shall it be the mother or the child? Perhaps nature will be more skillful than the surgeon, and I should counsel waiting.

Dr. HUNKIN—I should not consider the matter in that light, though I have not had such a case to decide, nor do I wish for one. I should not, however, consider the child for one second, if there was the slightest chance of doing what might save or prolong the life of the mother.

Dr. KREUTZMANN—If it is near the time of the viability of the child, I think we are bound to consider the infant for a good deal more than one second; sometimes for more than a day of careful thought. Most cases of cancer of the uterus are hopeless; and if complicated by pregnancy, they are quite so. I therefore think we should try to save the life of the baby, for it is almost certain that the mother must die.

Dr. THORNE—There are certainly cases where children have been delivered, even in advanced cancer of the uterus. The fetus has rights paramount with the rights of the mother, and it is so held both by the laws of the land in which we live and by the canons of the church. In most civilized countries he who destroys the life of the fetus is guilty of murder and, as guilty, is subject to arrest and punishment. The rights of the child should be held to be equal with the rights of the mother, and as such should be just as carefully considered.

Dr. SHERMAN—As I have listened to the discussion on this nteresting question of the comparative rights of the mother and the unborn child, I recall the lectures of Dr. McLean.

He mentioned two classes of operation which he called mother's operations and child's operations. His advice was to save that one which had the best chance of life. If the mother had the best chance of living, save the mother, or operate with that intention; if the mother had but little chance of living, and the child had more chance of surviving, our efforts should be directed toward saving the life of the child. This is not a question of religion or theology; it is a simple question of physiology and ethics. Dr. Thorne has said that to destroy the life of a living fetus is a crime, yet I venture to say that he has himself emptied the uterus of a living ovum, when to allow the pregnancy to proceed would be certain death to the mother, who otherwise would recover. This is very often done as we know. It is simply throwing away an unknown life for a life of known value in the community.

Dr. Hunkin—I think both Dr. Kreutzmann and Dr. Thorne have misunderstood what I said. I did not mean to say that I would under no circumstances consider the life of the fetus. I meant that if there was any chance, even of the smallest, of saving the life or prolonging the life of the mother, then we should not allow the life of the unborn but partly developed child to enter into the question at all. I should like to ask Dr. Thorne what he would do in the case of a woman, advanced in pregnancy, having a very small pelvis, and who would not consent to a Cesarian section?

Dr. Thorne—I should say to her: "Madam, you have a very small pelvis; one that will not allow a child to pass through it, and the only thing for you to do is to have a Cesarian section performed, and the child delivered in that way. If she should then refuse consent I should tell her to secure the services of some other physician. In answer to Dr. Sherman, I would say that no man can rise above the law, and no man can run counter to the spirit of the community in which he lives. The canons of the church do to a very large extent form the spirit of the community, and we must consider them. The physician may not recognize any religion or any theology, yet he must recognize the force of public opinion, and he can not go counter to it and continue to practice medicine. If any doctor thinks he is superior to the law he will find that he is mistaken and will subject himself to arrest and imprisonment; if he thinks he is superior to public opinion, he will soon find himself without patients. In nephritis, or some condition where pregnancy itself will be fatal to the mother, the fetus is a foreign body—a disease—and as such should be removed. There can be no question of propriety in such a case, for one being is destroying another, and so should be removed. Just as if one being tries to destroy another, both being adults, murder is justified in the law and theology. But with a viable fetus, where the mother is in a critic condition in any event, the case is different. Here it is recognized in law, and should be recognized by all physicians, that the child has rights which are equal to those of the mother If, however, it is a case in which the fetus and nothing else is killing the mother, the law says the fetus may be removed; remove it under proper conditions, and nothing can be said about it. But otherwise, with a living child in her belly, a mother has no more right to be considered than has the child.

Dr. Sherman—Dr. Thorne has misunderstood me. I do not consider myself to be above the law, nor above public opinion. The law is all right. But theology should not enter into our consideration; it is a matter of ethics, and ethics, crystalized, is the law of the land. Dr. Thorne evidently agrees with me that it is best to sacrifice the child to save the life of the mother. The rule should be to save the one with the most chance. But in deciding between the two, greater preference should be given to the mother, who has a known value, than to the child, a totally unknown quantity. We are not above the law, but we should be above the canons of the church.

Dr. Hunkin—I agree with Dr. Thorne except in his use of the word "equal"; I do not think that the life of the child should be considered as of equal importance with the mother, nor should it have the same weight in making one's decision as the life of the mother.

Dr. Thorne—The most eminent jurists, the most eminent divines, have decided again and again that the rights of the child are above the rights of the mother. If any sacrifice is to be made, it should be made by the mother, who takes the chances of fatality upon herself when she takes up the responsibility of conception, and not by the helpless and unprotected child within her womb. One of the penalties of conception is this possible fatal termination, which the church maintains she must bear as a penalty of the original fall. The law and the canons of the church agree on this point, and in no uncertain voice has the question been decided many times.

Dr. Kreutzmann—One point has not been touched upon, and that is the fact that the viable fetus in the mother's womb is without a protector, and therefore the physician's duty is to act as such a protector of the unborn. Destroying such a life is no trifling matter, and should be considered most carefully. One can not always say how much peril the mother is in on account of pregnancy, for we know that some women with nephritis are safely delivered, and that some women with very small pelves may give birth to living children. We should not be governed by theology or religion, but by ethics and practical experience. But certainly the life of the child should be just as much considered as the life of the mother, and the most careful deliberation alone can warrant evacuation of the uterus.

Dr. Hunkin—I am of the opinion that I have recently seen some articles by lawyers on this very question, in which the contrary opinion to that of Dr. Thorne was expressed. In the particular case of Dr. Kreutzmann, I reasoned that as cancer had occurred with pregnancy as a complication, therefore the case was seen earlier than customary, for these cases are not usually seen till after the time of conception has passed. I therefore thought there would be more chance of saving the mother than in an ordinary case. I have not modified my original statement at all; the Doctor simply misunderstood me.

Denver and Arapahoe Medical Society.

Regular Meeting Jan. 24, 1899.

Dr. W. W. Grant presented to the Society a paper entitled

A NEW OPERATION FOR EPITHELIOMA OF THE LIP.

He said that every operator on the mouth should aim to preserve as perfectly as possible its size and shape. The normal mouth should admit, without stitching, the first three fingers of the hand side by side. He considers the ordinary V-operation a needless sacrifice of tissue: the base of the triangle being at the vermilion border of the lip, there is consequently greater tension and contraction of tissue and lips, with resulting change of the mouth from oval to a round, sucker-like appearance, the upper lip overhanging the lower, with frequent depression of lip at the point of union. He also believes that the extensive dissection of the skin from the inferior maxilla tends to increase the puckering of the mouth. Dr. Grant thinks he has succeeded in overcoming the most objectionable features by an improved method, which is simple, easily and quickly done and has excellent cosmetic and practical results. When the ulcer is near the median line the procedure is as follows: A straight perpendicular incision is made on each side of the diseased area and extending well below it. These are united by a transverse incision, removing a quadrangular block of tissue. From each lower angle of the wound an incision is now made obliquely downward and outward over the upper and lateral surface or border of the chin. These incisions give two large triangular flaps, and with little traction slide easily over the stationary tissues of the chin. The flaps are first united in the center, and the lower border then united to the chin. The tension is not great, even though a large part of the lip be removed. When the ulcer is at or near the angle of the mouth, the first incision is made from the center of the lip downward, the second from the extreme angle of the mouth downward, the two being united by a transverse cut, removing half the lip. From the right lower angle of the wound an incision is made obliquely downward across the upper edge of the chin and resting on a perpendicular line from the left angle of the mouth. A similar, but shorter, incision is made from the other angle of the mouth. The long flap is easily brought to the opposite side and united quickly to the opposite short flap, composed partly of cheek. The result of the operation is better than that of the simple V-operation. The mouth is not contracted and the lower lip is fuller and more prominent in the center. When it becomes necessary to remove almost the entire lower lip the procedure is as follows: After stitching the lip an incision is made from each angle of the mouth to the buccal mucous membrane. The mucous membrane is freely dissected around the wound and a short incision then made above and below, making a substantial triangular-shaped mucous flap, the apex of which is stitched to the angle of the skin incision.

The advantages of the operation devised by Dr. Grant were summarized as follow: The incisions are confined to the mobile, elastic portions of the lips and cheeks; the traction is mainly upon the cheek and none on the chin; there is less disfigurement.

The paper was illustrated by diagrams and the recital of the histories of three cases.

Dr. Leonard Freeman cautioned against the use of pastes in epithelioma of the lip. He had several cases in which necrosis of the maxillary bone after paste had to all appearances healed up the epithelioma. The knife is certainly a less painful procedure than paste. He is of the opinion that it is, after all, not the method of removal employed which is of importance, but whether the glands have been extirpated. The operation is not complete without the removal of such parts in which the malignancy is liable to manifest itself later.

Dr. J. M. Blaine read a paper on

DERMATITIS EXFOLIATIVE PRODUCED BY THE USE OF CHRYSAROBIN, WITH NOTES ON TREATMENT.

J. D. M., aged 35 years, in December, 1897, suffered from an attack of rheumatism lasting three weeks. This was followed in January, 1898, by an attack of psoriasis numilosis and punctata. Treatment: potassium iodid, beginning with fifteen drops after each meal and increasing fifteen drops every week for four weeks. Local treatment consisted in painting the spots twice weekly with a 10 per cent. solution of chrysarobin in traumaticin. After three weeks considerable dermatitis was found on the shoulders, chest and back. A week later the patient complained of a freezing sensation, with general inflammation of the skin and beginning exfoliation of the epidermis. Temperature was 101, pulse 100. The following day, July 20, temperature was 100, pulse 94, and epidermis rapidly exfoliating on back and arms. July 22, temperature was 99.5, pulse 90; ankles swollen, skin drawn tightly and he walks with great difficulty. July 26, the skin was coming off the palms and soles in large flakes and patient was very nervous and exhausted. The scales have fallen off at the rate of one pint in the twenty-four hours. The patient slept on an average not more than two hours, on account of the great irritation produced by the loosening of the scale. In the hope of relieving the irritation and lessening the inflammation, the permanent bath was ordered on July 28. Relief was instantaneous. "In one brief moment he was transfurred from a condition of mental and bodily agony, such as only the pen of a Dante could describe, to a condition of perfect tranquillity and comfort." His pulse and temperature became normal the same day. He remained under water thirty-nine consecutive days; skin quite smooth and epidermis re-formed. The temperature of the water was at first hot, and then gradually lowered. At first sodium bicarbonate was used in the bath, but this dissolved the scales too rapidly and left the skin denuded and sore, and its use was discontinued. The water was changed twice daily. He slept in the bath, as the bed had no charms for him. His appetite remained excellent, and his bowels and kidneys performed their function regularly. He seldom asked for water to drink.

Dr. Freeman, in discussing the case, said that he saw in the Vienna hospitals special rooms with baths arranged with the view of their permanent immersion—mattresses, pillow, shelves filled with books, a trapeze hanging over the bath to aid the patient in changing his position, etc. He saw there a patient who sojourned under the water for a year. It is especially used in extensive burns. He suggested that all, or at least one, of the hospitals in Denver own such an arrangement, where the severely burned and other appropriate cases could be treated by the permanent bath.

Dr. E. R. R. Axtell exhibited an enterolite from a patient of Dr. Pfeiffer, who died from obstruction of the bowels, which at the autopsy was found to have been carried by the impact of the enterolite in the jejunum. The stone measures five and a half inches in circumference.

PRACTICAL NOTES.

Quinin in Lupus Erythematodes.—A writer in the *Derm. Ztft.*, December, extols the benefits derived from large doses of quinin—over two grams a day—long-continued and combined with local treatment; thirty cases.

Interstitial Antisepsis in Senile Pruritus.—Prof. P. Parisot recommends putting senile patients distressed with pruritus on a milk diet, after purging, and prescribing a daily dose of two grams of benzo-naphthol. In every case in his experience, the violent and persistent pruritus was rapidly and permanently relieved.—*Semaine Méd.*, January 11.

The Permanent Bath for the Insane.—Beyer recommends placing the insane in a permanent bath for days, weeks or even months, especially all the cases of tumors and surface injuries, untidy cases, patients who insist upon undressing themselves, and some cases of mania, on which it seems to exert almost a specific influence. Most of the patients like the bath and keep surprisingly still.—*Munich Med. Woch.*, January 3.

Diagnosis of Adenoid Growths.—Adenoid growths usually bleed at the lightest touch, consequently a cotton tampon introduced into the nasopharyngeal space will be stained with blood when withdrawn, if adenoid growths are present.—*Arch. f. Laryn.*, viii, 3.

Anaphrodisia from Fowler's Solution.—Simonescu relates another case of sexual impotency causing thoughts of suicide, in a vigorous young man, traced to the use of arsenic, which he had been taking in the form of Fowler's solution, for malaria. Suppression of the arsenic, and tonics, soon restored him to normal.—*Gaz. degli Osp.*, January 3.

Thyroid Treatment in Arteriosclerosis, Etc.—Lancereaux reports four cases: sclerodermia; chronic rheumatism, gout and arteriosclerosis; arteriosclerosis causing cerebral hemorrhage with albuminuria, and a vasomotor affection of the extremities, all so improved by iodothyrin that an approaching and complete cure is anticipated.—*Bull. de l'Acad. de Méd.*, January 3.

Acute Edema of the Lung.—Poulain has observed a case of this rare affection developing by "poussées" until terminating with asphyxia, in which there were no cardiac, renal, dyscrasic nor toxic influences to which it could be ascribed, but merely bronchitic antecedents. The case seems to demonstrate that certain modifications in the pulmonary parenchyma may determine acute edema of the lung in persons predisposed.—*Presse Méd.*, Dec. 24, 1898.

Dyspepsia in Tuberculosis.—Maragliano observes: "the day that physicians become convinced of the necessity of respecting the stomachs of their tuberculous patients, that day the cure of this disease will take a long stride forward and prove a permanent advance. Creosote, guaiacol, etc., given without a single scientific or empiric reason, are the most frequent causes of the dyspepsia of tuberculous subjects."—*Gaz. degli. Osp.*, Jan. 1.

Zona and Tuberculosis.—Recent observations tend to establish that zona occurs more frequently in persons with, or predisposed to, tuberculosis. These cases of zona should be carefully examined for indications of tuberculosis. The connection between them has been emphasized anew by a recent case of intercostal zona in which the trophoneurotic lesion was located directly over and paralleled a pleuropulmonary lesion.—*Echo Méd.*, January 8.

Retained Injections for Habitual Constipation.—G. Klemperer has cured a number of cases of habitual constipation by having the subject take an injection of 250 grams tepid water on retiring, and retaining it until absorbed, progressively increasing the amount and lowering the temperature. An evacuation in the morning is secured with an ordinary injection, if necessary. Four to six weeks of retained injections usually reestablishes spontaneous defecation.—*Semaine Méd.*, January 4.

Birch-leaf Tea Diuretic in Cirrhosis of the Liver.—In two cases the amount of urine increased 500 grams to a liter in twenty-four hours, under the administration of birch tea, recommended by Prof. W. Winternitz for hydrops of cardiac or renal origin. The tea was made by boiling 150 grams of birch shoots in 400 grams of distilled water until reduced to 250 grams. A weaker decoction was given in the female case: 100 grams of shoots to 700 grams of water, reducing to 500 grams. She drank 500 grams a day.—*Semaine Méd.*, January 11.

Puerperal Pseudorheumatism.—The gonorrheal origin of the rheumatism appearing during pregnancy or a few days after delivery, is generally accepted now, and the discovery of the gonococcus removes all doubt and indicates treatment of the gonorrhea as of the articular affection. Out of 48 observations Bégouin found the knee affected in 17, the wrist in 18, the elbow in 9, the ankle and the hip in 2, all generally on the right side. He finds the best treatment complete immobilization in a plaster cast, with aseptic puncture, followed by a modifying injection if necessary.—*Gaz. degli Osp.*, January 3.

Warm the Sublimate Solutions.—Ottaviano finds that a sublimate solution heated to 40 degrees C. is much more rapidly bactericidal, but that the action at best is slower than usually supposed. A 1 to 1000 solution cold, kills the staphylococcus in cultures in three to five hours, but in pus not until after thirteen to fifteen. The 2 to 1000 solution kills it in cultures in two to three hours, and in pus in eleven to thirteen. Heated to 40 degrees C. the 1 to 1000 kills the staphylococcus in cultures in forty-five minutes, and the 2 to 1000 in thirty minutes. The bacillus coli and the streptococcus are killed more rapidly.—*Gaz. degli Osp.*, January 8.

Nirvanin, a New Local Anesthetic.—Professor Einhorn announced a while ago the discovery of a new anesthetic which he called Nirvanin, "a salt of diethylglycocollamidooxybenzoesäuremethylester." A. Luzenberger has been using it for infiltration and regional anesthesia in 134 operations, which are tabulated in the *Munich Med. Woch.* of January 3 and 10. He recommends nirvanin in high terms as a nontoxic, effective and convenient substitute for cocain and its solutions. The analgesia during and after the operation is complete; the solutions keep clear, have a decided antiseptic effect and stand sterilizing without injury to their anesthetic properties.

Electric Treatment of Lithiasis.—Moutier reports several cases of renal and biliary lithiasis relieved at once by the application of the high frequency current. In most cases the calculus passed off at the first séance, which may be due to the sedative effect of the electricity, arresting the pain and with it the spasm preventing the expulsion of the stone. In general the treatment lasts six weeks to two months, with a twenty- to forty-minute séance two or three times a week. The lithiasis is due to a slower nutrition, and Professor d'Arsonval has demonstrated that the high frequency current is one of the most powerful means to increase the organic contractions, and, in consequence, accelerate nutrition.—*Presse Méd.*, Dec. 24, 1898.

Subcutaneous Drainage of Anasarca.—Prof. P. Fürbringer has derived great benefit in a number of cases of anasarca from a soft rubber tube, two meters in length, with three holes slit in the central portion, inserted under and parallel to the derma, by means of a trocar five or six millimeters in diameter. The tissues contract around the entrance and emergence of the tube. The ends are held in a bottle, in which the serous fluid accumulates. When the patient wishes to get up, the tubes are wound around the member and the ends held with a small clamp. There has been no local infection in any of his cases; a liter of fluid drained away in the first twelve hours.—*Semaine Méd.*, January 11.

Respiratory Exercises in Bronchial Asthma.—S. Talma of Utrecht asserts that the muscles of the air-passages can be controlled by the will, or that this can be learned, and hence advocates the necessity of a series of respiratory exercises for persons affected with asthma. They must practice breathing less frequently and learn to breathe slow and deep. This prevents the cramp of the muscles. Speaking must be carefully regulated, and the breathing kept up slow and deep while speaking. The patient must practice and learn to keep the muscles of the neck, chest and abdomen in their correct position.—*Munich Med. Woch.*, January 3.

Improved Artificial Anus.—H. Cordua reports the case of a restaurant keeper who has an artificial anus a couple of inches above the classic inguinal anus, made in such a way that the intestine protrudes like a sausage twelve centimeters beyond the surface of the abdominal wall, with the anus at the extreme tip. He wears a truss-like arrangement over this protruding anus, with a receptacle that catches the feces without their coming in contact with his person, and he attends to his business as usual without any inconvenience. He notices by the weight that there has been a discharge, unscrews the lower part of the receptacle, cleans and replaces it without disturbing the bands and clasps that hold the appliance in place, eats as usual, and has gained a number of pounds during the five months since operated.—*Deutsche Med. Woch.* January 12.

Pleurisy with Effusion Treated with Guaiacol.—M. Prozovorovsky reports surprising success in pleurisy with effusion from painting the affected side with sixty drops of a solution of guaiacol and tincture of iodin, one to four, covered with an impermeable bandage; eleven cases. Five to seven repetitions were required; they produced no inconveniences; the fever fell from 0.2 to 2 degrees. He explains the favorable effect by the stimulation of the nerve terminals, which affects the thermic centers, and by the effect on the vasomotor centers, promoting the absorption of the effusion. A further effect may be the combination of the guaiacol with the morbid products circulating in the blood, thus preventing their localization in the pleura.—*Presse Méd.*, January 4.

Malignant Syphilis.—In a discussion of a case of hereditary syphilis which had destroyed the nose, spine and part of the bone floor of the skull in a child of 6 years, Besnier recommended pushing mercurial treatment to its utmost limits, and going far beyond the normal doses. Fournier reported cases rebellious to injections of calomel and inunctions, but cured by combining the two, and Galezowsky related the case of an officer dismissed from the service on account of atrophy of the papilla of the optic nerve, who took Hg. inunctions every day for two years, and recovered his sight completely. In such obstinate cases potassium iodid detracts from the benefits of the mercurial treatment and should be omitted.—*Munich Med. Woch.*, January 10.

Lactic Acid in Gynecology.—As lactic acid is a normal constituent of the vaginal secretions, Sneguireff assumed that it might prove a natural antiseptic for the vagina, and applied it in injections of a 3 per cent. solution, or painted the uterine mucosa with a 50 per cent. solution in metritis. The result was always favorable, and there were no inconveniences from its use. Dalché has modified this method and finds extremely effective the application to the cervix of tampons dipped in 3 per cent. lactic acid glycerin, once a week, with daily irrigation with warm water. The application is almost painless; does not interfere with the patient's occupation, and usually rapidly improves the leucorrhea. For an old, torpid metritis, he paints the cervical ulcerations with a 50 per cent. solution. —*Munich Med. Woch.*, January 3.

Results of Treatment of Urinary Passages.—Casper reports a series of experiments on dogs and rabbits, injecting a 2 per cent. solution of nitrate of silver into the urethra and bladder for a long period, and the animals killed in the course of six months to a year. In none of them was there to be found the slightest trace of inflammation, constriction or proliferation of the tissues. On the contrary, the tissues seeemed normal, with the exception of the discolorations resulting from the deposits of silver. The results were the reverse with others treated with a 2 per cent. solution of zinc chlorid. The epithelium had proliferated, in some places, to six times the normal thickness; there were round-celled accumulations and intercellular tissue growth, with evidences on all sides of the severe injury and destruction caused by the zinc chlorid treatment.—*Derm. Ztft.*, December, 1898.

Salicylic Acid for Granulous Conjunctivitis.—Moty claims that the improvement is much more rapid and pronounced with salicylic acid than with other remedies; it lasts longer, and progresses without interfering with the patients' occupations, until even old granulations with vascularization and infiltration of the cornea are completely cured. He applies a solution 3 gm. salicylic acid to 30 gm. 60 per cent. alcohol, on a cotton tampon held with forceps, touching with it all the affected points, after turning back the eyelid, which is held with the left hand. A moist antiseptic tampon is used to wipe the lids before and after. The pain is sharp at first, but soon passes away. The cornea tolerates the acid without difficulty. The applications are repeated every day at first, then diminishing to once a week, according to the results obtained.—*Presse Méd.*, Dec. 24, 1898.

Earache—Its Importance.—Dr. F. W. Hinkel (*Buffalo Medical Journal*) summarizes in effect as follows: Earache, however slight, may signify disease; a recurring earache in children is almost always due to lymphoid hypertrophy of the pharynx; permanent impairment of the hearing, therefore, is only to be prevented by early surgery of the "adenoids"; acute inflammation of the middle ear may be aborted by early and precise treatment of a general sedative character; relief unobtained by the second day requires an expert examination, and finally intratympanic pressure is to be relieved in order to forestall intratympanic pressure, with possible involvement of mastoid cells or intracranial structures.

Vaginal Cesarean Operation.—Dührssen has performed this operation twice, extracting in one case a child weighing 4500 grams, in five minutes. Eleven other similar operations have been performed, with three deaths. In four cases of pregnancy at term, three of the children were saved. In eight cases there was a complicating cancer of the uterus, which is the most urgent indication for vaginal Cesarean operation, as all danger of infecting the peritoneum is avoided. The mortality thus far has been 27 per cent., while for eighteen cases of the classic Cesarean operation he found a mortality of 44 per cent. The danger of hemorrhage is slight; the flow of blood ceasing as the uterus retracts, so that no more is lost than during a normal delivery. In case of cancer he extirpates the uterus after extracting the fetus.—*Munich Med. Woch.*, January 10.

Facial Paralysis of Otic Origin.—Facial paralysis due to an old otorrhea is usually caused by compression of the nerve by fungus growths or a sequester. It is only very rarely that it is possible to determine the point of compression. Electric tests are not to be depended upon. It is not necessary to search for the nerve. Open the mastoid cells, scrape, curette, resect and extirpate every scrap of diseased bone, especially in the region of the Fallopian tube. Do not pay any attention to the nerve except to avoid injuring it; removing the compression will prove sufficient. Moure concludes his article (*Revue Hebd. de Laryngologie*, Dec. 17, 1898), by insisting upon the immediate suture of the retra-auricular incision, without leaving the slightest solution of continuity by which infection might enter.

Surgery of the Middle Ear.—G. Faraci states that primary hyperplastic otitis of the middle ear, accompanied by serious acoustic lesions, is an absolute counterindication of an operation, as removal of compression in the labyrinth aggravates the deafness and vertigo. Before operating on the ear, he adds, it is well to have the power of the hearing tested and noted down, as the subjects may refuse to recognize the improvement. In eight cases he mobilized the stirrup; in seven he extracted it. The hearing was improved, and the subjective disturbances diminished in all but one case. In half the cases the hearing was also improved on the non-operated side. There was intense vertigo in one case for twenty-four hours; in the rest it was slight and transient. The immediate result is at times better than later, as the neoformations or the tympanic membrane grow again. He instils a few drops of cocain into the tympanum after cutting a flap in the posterior superior quadrant of the membrane.—*Presse Méd.*, January 4.

Ophthalmoscopic Examination in Endocranial Otitic Complications.—Prof. G. Gradenigo states that lesions of the optic papilla are observed in about half the cases of endocranial complications of suppurative otitis, and consequently should be carefully sought, as they are frequently the first and only indication that the suppuration has invaded the cranial cavity, enabling an early diagnosis and effective treatment. He does not attempt to explain the mechanism of the papillitis, although he suggests that the chief factors may be the limitation of the endocranial space and compression of the sigmoid sinus. The papillitis affords no information in regard to the nature of the location of the endocranial lesions, but its disappearance after intervention is an index of the efficacy of the operation performed. His study of the subject is based on 635 observations, 74 personal.—*Annales de la Soc. Med.-Chir. de Liège*, November, 1898.

Treatment of Chlorosis with Dyspepsia.—Professor Thibault first enjoins an exclusive milk diet for several days or weeks, returning gradually to eggs, white meats and boiled fish; no wine, no coffee. He commences the iron as soon as the gastric pains have ceased, but in small doses. He prefers protoxalate of iron and pulverized rhubarb, āā .15 gm.; for one powder. Take two a day. If the iron causes disturbance, administer with it a powder containing .20 gm. sodium phosphate. Hydrochloric acid will promote digestion: aq. dest. 200 gm., hydrochloric acid 2 gm. Take a tablespoonful in a quarter of a glass of water at the close of the two principal meals. If the intestines are torpid, replace the rhubarb in the iron pills with aloes: Ferrico-potassic tartrate .15 gm., pulv. nux vomica .03 gm., pulverized belladonna .01 gm., aloes .05 gm., extract of gentian q. s.; for one pill. Take two a day. He adds that aloes should be carefully avoided in cases of hemorrhoids.—*Presse Méd.*, Dec. 28, 1898.

Kronlein's Craniometer.—This simple contrivance has no fixed measurements, but is adjusted to each individual skull in every particular. It consists of six thin flexible narrow strips of metal, two horizontal and three vertical, each adjustable on a slit and screw. The lower horizontal strip fits around the head, crossing the nose, with a projecting peg resting in the ear. The rear vertical line passes from this over the head, behind the mastoid. The second vertical strip passes in front of the ear, with the linea vertical. zygomatica in front of this. The second horizontal strip crosses the forehead above the orbit, extending only to the linea vertical. retromastoidea. At its juncture with the linea zygomatica a slanting strip is pivoted on a graduated segment of a circle, by which the linea Rolandi is located, and half the angle thus formed indicates the linea Sylvii. The points of juncture of the upper horizontal and the two rear vertical strips are the points recommended by Krönlein for trephining for hematoma of the arteria meningea media. The square formed by the two horizontal and the two rear vertical strips shows the space preferred by von Bergmann for resecting the skull in the search for an otitic abscess in the temporal lobe.—Illustrated in the *Cbl. f. Chir.*, January 7.

Bruns' Subperiosteal Amputations.—Bruns' method is briefly as follows: a circular incision through the skin and muscle down to the bone, the skin pulled up as much as possible; on both sides a lengthwise incision on the inner side of the tibia or fibula; detaching the tibia and fibula from the periosteum envelope by means of the respatorium, without disturbing the normal relations existing between the periosteum and the soft parts over it; sawing the bones, first the fibula and then the tibia, from above obliquely downward; suture of the layers of periosteum and muscles with a buried catgut suture; suture of the outer skin. The circular incision is made in two strokes in case of amputations of the upper two-thirds, or with unyielding skin. Smooth recovery ensued in seventy-three out of eighty-one thus amputated. There was suppuration in eight cases and gangrene of the flap in three from constitutional causes. The technic is simple, creating simple, favorable conditions for healing, and the process has the advantage over Bier's more complicated method, in that it can be applied even when *prima intentio* is not to be expected.—*Deutsche Med. Woch.*, January 12.

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SATURDAY, FEBRUARY 11, 1899.

THE ROLE OF THE SPLEEN IN EXPERIMENTAL AND NATURAL INFECTIONS.

It has long been known that in many infectious diseases the spleen swells up, and shows marked changes in its histologic structure. The exact rôle of the spleen, however, in the "struggle" of the organism against infection is still somewhat obscure. The results of experimental splenectomy, observed by various investigators of this problem do not at all agree. Among the more recent investigations in this line may be mentioned those of Courmont and Duffau[1] and of Blumreich and Jacoby.[2] The first named authors found that the spleen did not play the same rôle in all infections. Sometimes it seemed to be useful, at other times even harmful, all according to the nature of the infectious agent. Its action upon the toxins of the microbe may differ from that upon the microbe itself, and the same animal may react differently to infection soon after removal of the spleen than later. They think that these apparently so contradictory results are explainable, perhaps, by the condition of the fluids of the body and the modifications that result in the fluids after removal of the organ.

Blumreich and Jacoby established first, that complete extirpation of the spleen does not produce any readily recognizable harmful influence upon the health and vitality of the animals. On comparing the course of experimental infections in splenectomized animals with that in normal animals, they found that after removal of the spleen, diphtheria infection is withstood just as well as under normal conditions. Splenectomy does not hasten death from anthrax infection, which produces about the same effects and pursues the same course, whether the spleen be present or not. Animals which are deprived of the spleen seem to withstand pyocyaneus infection better than normal animals, and the same seems to be the case, as far as can be judged from the experiments of these authors, with regard to cholera bacteria. It, therefore, seems to be quite definitely ascertained that the experimental removal of the spleen may have an apparently favorable influence upon the course of certain infections.

The experiments bearing upon the course of experimental bacterial intoxications after splenectomy seem to show that here it makes no particular difference whether the spleen is present or not. The ligation of the splenic vessels, the spleen being allowed to remain, seems to have the same influence upon subsequent experimental infection as does splenectomy. On testing the bactericidal powers of the blood after splenectomy it was found that they are somewhat increased; whereas the blood does not seem to acquire any new properties toward toxins. One of the striking changes in the blood after splenectomy is an increase in the number of leucocytes, especially the lymphocytes. This has been known for some time, but in order to establish with absolute certainty that leucocytosis develops after splenectomy in guinea-pigs, our authors pursued original investigations in regard to this point also, and they found that an actual hyperleucocytosis does develop after splenectomy; a leucocytosis which is not explainable as due to the operation wound only, because no such increase in leucocytes developed in four guinea-pigs in which the same operation as for splenectomy was made, with the exception that the spleen was not removed. Kurloff, who worked in Ehrlich's laboratory, also found that splenectomy in guinea-pigs is followed by leucocytosis.

As will have been observed, splenectomy is followed by increased resistance to certain infections, by increase in the bactericidal powers of the blood and by increase in the number of leucocytes. It, therefore, seems reasonable to suppose that the leucocytosis and increase in the bactericidal powers after splenectomy stand in close causal relation. This is in accordance with the results of the numerous investigations of various authors concerning the bactericidal powers of the blood, which have appeared during the last few years. The remarkable fact in connection with these observations is, that the leucocytosis develops under entirely different circumstances than heretofore noted. In order to still further clinch this point, the authors made the following experiment: They inoculated fourteen animals with the bacillus pyocyaneus; a few hours after inoculation they removed the spleen from eight. The results were as follows: of the eight, six died, and of the six which retained their spleen, only two died. The results, as were to be expected, are therefore diametrically opposite to those observed when the infection takes place after the splenectomy, and bring forth further proof of the importance of the hyperleucocytosis and other changes after splenic removal.

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[1] Archiv. de Med. Experim., 1898, x.

[2] Zeitschr. f. Hyg. u. Infektionskr., 1898.

Further investigations are, of course, necessary in order to establish whether or not other changes of a chemic or morphologic nature occur in the organism after splenectomy. As regards the kind of leucocyte which is responsible for the leucocytosis after splenectomy our authors give no information, but EHRLICH makes the statement, on the basis of KURLOFF'S experiments, that the leucocytosis depends upon an increase in the lymphocytes. By lymphocytes EHRLICH means cells of about the size of a red-blood corpuscle, provided with large round homogeneous nuclei, surrounded by a small rim of protoplasm. BLUMREICH and JACOBY'S experiments therefore seem to show that the protective powers of the blood of splenectomized animals may depend upon the increase in lymphocytes. Another explanation of the increased resistance of splenectomized animals might be suggested, namely: that the spleen during health retains the detritus of disintegrated leucocytes and other cells; this leucocytic detritus is currently regarded as being closely related to the alexines, and after splenectomy it would accumulate in the blood and thus increase its bactericidal powers.

How far are the facts deduced from the experiments above referred to applicable to clinical conditions? In infectious diseases, especially typhoid fever and malaria, the spleen swells up. Such a swelling does not necessarily need to be reactive and protective, but might be dependent upon injury to the organ and resemble, for instance, the swelling of the kidney in acute degeneration in infectious diseases. Taking it for granted that the lymphocytosis after splenectomy influences infections in the same favorable way as it is acknowledged that increase in the polynuclear leucocytes does, then we have strong indications that the splenic lymphocytes produce alexines and that the splenic tumor of infectious diseases, which depends largely upon increase of the lymphocytes of the spleen, may play a similar rôle to the increase in the polynuclear leucocytes in many infectious diseases without splenic swelling. It is a well-known clinical fact that in typhoid fever and uncomplicated tuberculosis a very marked swelling may develop, whereas there is no increase in the polynuclear leucocytes. In pneumonia, polynuclear leucocytes increase and develop up to the time of the crisis, whereas the spleen remains within moderate limits, and GERHARD has shown that after the crisis the spleen begins to swell, while the polynuclear leucocytes diminish. BLUMREICH and JACOBY are inclined to emphasize this quite regular alternation of splenic swelling and polynuclear leucocytosis, and to look upon both these phenomena as of similar nature and significance. At one time the lymphocytes are increased; in another case the polynuclear leucocytes. It is in accordance with generally accepted views to assume that the different microbes influence, through chemotaxis, now one, now another variety of cells. The spleen would, therefore, seem to play an important part in infectious diseases because it is the origin of the lymphocytes.

THE SURGERY OF THE BILIARY APPARATUS.

It would be difficult to say that in the great advance made by surgery in the past twenty-five years one organ or set of organs had been benefited more than others, but it will readily be admitted that there has been no want of activity in the domain of abdominal surgery, and especially that of the biliary apparatus. Surely one must admire the boldness and applaud the success of operations involving attack upon and removal of parts thought indispensable for the continuance of life, for we have been shown how kidney, stomach and spleen have been wholly extirpated and bowel and liver in part excised, how artificial communications have been established between stomach and bowel, between bowel and bowel, and between biliary passages and bowel. An instance of more than usual interest is reported by TREVES in the *Practitioner* for January, 1899, in which obstructive jaundice of sixteen years' standing, dependent upon absence of the choledochus duct, as well as the associated symptoms, was relieved by celiotomy and cholecystenterostomy. The patient was a young woman, 19 years old, who became jaundiced at the age of three years, without apparent illness or abdominal disturbance, the discoloration soon assuming a profound degree and persistency. The stools were white or clay-colored, the urine of a deep mahogany tint and occasionally offensive. Menstruation had occurred but twice. The face was swollen, puffy and expressionless, and suggestive of myxedema. The temperament was depressed, the intellectual state dull. Dyspepsia and constipation were present, and occasionally attacks of vomiting occurred. Bleeding from the gums and nose was common. Febrile attacks took place about once a month, in which the temperature rose to 104 degrees F. The liver was said to have been enlarged at the age of 10 years, but it was now found to be of normal dimensions. The patient, although well nourished, was not improving in health, and her condition was almost deplorable. Treatment had been unavailing. As it seemed probable that the jaundice was due to some congenital defect in the biliary passages, the condition of the patient appeared to justify at least an exploratory operation. Celiotomy was accordingly performed, and the liver found of purplish-green color and unduly firm. The gall-bladder, distended with mucus and faintly stained with bile, was normally situated. The cystic and hepatic ducts were apparently normal, joining and forming a common duct, which ended almost at once in a hard, fibrous nodule, placed transversely to the long axis of the duct. The ducts were all a little distended; the common duct was not half an inch in length and impervious at its distal extremity, ending abruptly at the fibrous nodule. Beyond this nodule no trace of a duct could be discovered; nor was any duct noticed entering the duodenum. There was not even a fibrous cord continued beyond the nodule. Cholecystenterostomy was performed with the aid of a Murphy's button. The patient made a rapid recovery, and the button was passed in a fortnight. The second stool passed after the operation contained bile, for the first time in sixteen years. After ten months the patient was greatly improved in appearance. Some jaundice, however, still remained. The mental condition was much brighter. The patient had lost fourteen pounds in weight. The stools appeared normal, as a rule, although occasionally clay-colored, when also the jaundice increased. The urine was still bile-stained, and constipation, bleeding from nose and gums and depression persisted. The febrile attacks had ceased, although the evening temperature was often as high as 100 degrees. Improvement was slow but progressive.

While the report of this case is especially interesting by reason of the successful result, the anatomic and physiologic conditions present are worthy of some consideration. It would be difficult to decide whether the absence of the choledochus duct was congenital, an agenesis or an aplasia, or acquired, as the result of inflammatory obliteration. Although jaundice and other symptoms of biliary retention were not noticed until the third year, it is just possible that these might have escaped observation or that for some unexplained reason they did not appear. The description certainly furnishes no evidence of an inflammatory origin for the absence of the choledochus duct. Some light might perhaps be thrown on this possibility by the condition of the pancreatic duct and its papilla in the duodenum. The case, along with many others, shows that life may be maintained and digestive function be performed without the presence of bile in the bowel, except perhaps of such infinitesimal quantities as could find their way thither through the blood-stream and intestinal juices. It may be, further, that compensations were more readily effected, and function vicariously transferred, in consequence of the youth of the patient. That bile, or at least its pigment, continued to be excreted in the urine after the operation and the establishment of an outlet for the bile might be attributed to the absorption of that deposited in the tissues; and perhaps to some deficiency of activity in some portion of the long-unused biliary apparatus. That the liver escaped grave change, so far as could be detected, also might be due to the avidity with which resorption into the blood of the bile secreted by that organ had taken place.

THE ECONOMIC ASPECTS OF THE LIQUOR PROBLEM.

Under the above title, Col. Carroll D. Wright, Commissioner of Labor, Washington, D. C., has issued a report devoted entirely to the economic aspects of the liquor problem, as the result of an investigation authorized by Congress. This report embraces 267 closely printed pages with tables and statistics, and the laws of each State regulating license, taxes and fines. The following are some of the most interesting facts:

The number of distilleries in operation in the United States, according to the last revenue return, was 6187, and the number of breweries was 1866. The Bureau of Statistics of the Treasury Department has for a number of years published a table giving the total per capita consumption of distilled spirits, wines, and malt liquors. According to the last available return, the total quantity of distilled spirits of all kinds consumed during the year was 71,051,877 proof gallons; of wines, 10,701,406 gallons; and of malt liquors, 1,080,620,165 gallons. The per capita consumption has greatly varied. In 1840 it was 2.52 gallons of spirits, which declined to one gallon in 1896. In the case of wines, it was 6.29 gallons in 1840, and 6.26 gallons in 1896. Malt liquors, which showed a per capita consumption of 1.36 gallons in 1840, had risen to 15.16 gallons in 1896, doubtless owing to the enormous increase of the German section of the population. It is also to be noted that 10,976,000 gallons of spirits, or about one-seventh of the entire quantity, were consumed in the arts, manufactures, and medicine during the year. The total number of establishments in the United States engaged in the liquor traffic for the period that ended June 30, 1896, was 161,483, the capital being $957,162,907. The number of individual proprietors or members of firms was 191,519, and the total number of persons employed was 241,755. Of the above amount, $412,188,729, or 42.06 per cent., represented the value of land and buildings, fixtures and other properties; and $544,974,178, or 56.94 per cent., was the value of rented property. The estimate of the annual taxes paid on the property was $10,075,120.

The revenue derived from the manufacture and sale consists of general taxes levied on real and personal property employed therein, the United States Internal Revenue taxes, customs duties on imported liquors, license fees, or special taxes collected under authority of the separate States, counties and municipalities, and fines collected for infringement of the revenue law. During the year under review, the central Government received for license fees $114,450,861. In addition to this amount the various States derived a revenue of $10,399,015 from the liquor traffic; the counties, $5,011,225; and the municipalities, $34,155,299, making a total of $164,016,401 for the whole country. Adding fines and customs duties, the grand total is brought up to $183,213,124. By far the largest amount was raised in the State of Illinois, $35,104,548, followed by New York State with $27,219,965. The States of Ohio, Kentucky, and Pennsylvania each ranged from eleven to twelve million, and of the rest fourteen were considerably below $200,000.

The production of distilled spirits has varied greatly during the last seventeen years. The quantity in 1896 was about the same as in 1880, but there have been considerable differences between those two years. In 1893 the quantity rose to 131,010, 330 gallons. In the case of domestic wines, also, the total quantity produced has decreased from 23,453,827 gallons in 1880 to 15,080,000 gallons in 1890. But the production of breweries has increased from a little over thirteen millions of barrels in 1880 to 35,859,250 barrels in 1896, showing a marked and unfailing growth throughout the period.

A very interesting chapter is devoted to the experience and practice of employers relative to the use of intoxicants. Six thousand nine hundred establishments are reported as employing about two million men. Of this number, 5863 employers make inquiries as to the drinking habits of the men employed. Of these, 703 are transportation companies, and only 24 companies fail to consider the drink habits in hiring men.

In manufacturing, 2940 report inquiries as to the habits of men employed and 783 make no inquiries. The three most prominent reasons given why employees shall not use intoxicating liquors are: the danger from accidents; the failure to carry out duties which are responsible; and general unreliability and inefficiency. Three thousand five hundred and twenty-seven establishments reported that men employed at night work were more addicted to the use of spirits, while 1459 thought night work made no difference with the habit of drinking. Ninety-nine establishments reported that men subject to overwork were more liable to drink, and 436 did not think this made any difference. About the same proportion reported that exposure to severe weather was a cause, and an equally large number thought there was no difference. The same general figures were given where men were irregularly employed. Pay day is found to be a time in which the largest amount of drunkenness follows. The tables of the means used to prevent the use of liquor among employees is a curious list of measures for prevention, of which discharge seems to be the most prominent. Another equally curious table is the means suggested by employers to lessen or stop all consumption of spirits among workmen and others. A very curious table is given of the places where spirits are sold, and among others is mentioned a gold cure. Other tables containing list of materials used in the manufacture of the various spirits are given.

This report is the first of an official investigation into this much confused topic. It is understood that another more detailed inquiry will be made by the Bureau. This report emphasizes the need of a National health board which could make such inquiries far more accurate and scientific. It is facts of this character that are needed to make legislation intelligent and practical.

PROPOSED MEDICAL LEGISLATION IN ILLINOIS.

The State of Illinois, which was about the first to restrict unlimited license in medical practice, has come to be behind the majority of its sister commonwealths in this matter of requiring scientific qualifications in its medical practitioners, and the medical profession within its limits has suffered in consequence. To remedy the present state of affairs and to bring the State abreast of the more advanced opinion of the time new medical legislation is demanded, and a bill for "an Act to establish a State Board of Medical Examiners, prescribing its powers and duties, to provide for the licensing of practitioners of medicine and of midwifery, and to regulate the practice of medicine in the State of Illinois, and imposing penalties, and to repeal all acts or parts of acts (i.e., the present Medical Practice Act of Illinois) in conflict therewith," has been introduced into the Illinois State Senate by the Hon. C. P. Gardner of Mendota. This bill has been endorsed and recommended by the State Board of Health, the Illinois State Medical Society, the Illinois Homeopathic Medical Association, the Illinois State Eclectic Medical Society, and by the Chicago Medical Society and several county and municipal societies.

The bill provides for the creation of a Board of seven members and a secretary. All persons not now licensed, desiring to begin the practice of medicine in the State, must pass an examination before the Board in the general topics and subjects a knowledge of which is commonly and generally required of candidates for the degree of Doctor of Medicine by reputable medical colleges in the United States. Applicants must be graduates of some legally incorporated medical institution, as may be determined by the Board. Midwives are also to be examined, each applicant to be a graduate of a school of midwifery complying with the requirements of the Board. The examination fee for physicians is $20; for midwives $15. The bill also provides that all licenses issued to physicians and midwives shall expire one year from date, and shall be renewed annually by the Board for a fee not to exceed fifty cents. "The Board may refuse to issue any license provided for by this Act, whether an original or renewal license, if it shall appear that the person applying therefor has been guilty of persistent inebriety, or the practice of criminal abortion, has been convicted of a crime involving moral turpitude, or has, by false or fraudulent representations, obtained practice in his or her profession, or by false or fraudulent practice in his or her profession has obtained money or any other thing of value.

Provided, however, no person shall be finally refused a license until after the applicant for the same has been given at least thirty days' notice of the grounds for such refusal, and opportunity given the accused for a hearing before the Board to show cause why the Board shall not finally refuse his or her license, at which hearing the accused shall be entitled to be represented by a counsel."

A careful canvass of many members of the Senate and House, evidences the fact that while the majority are in favor of the principle involved in this measure, there is quite an undercurrent of opposition to the creation of "any more new boards." For this reason it is possible that, if the measure receives favorable consideration, the duty of enforcing its provisions will devolve upon the State Board of Health, although the Board at its last meeting, January 17, recommended the establishment of a Board of Medical Examiners. There is also some opposition to the provision requiring all medical applicants to be graduates of medical colleges. Under the law now in force, non-graduates are examined by the Board, the examination being "of an elementary and practical character, but sufficiently strict to test the qualifications of the candidate as a practitioner." Should the proposed measure become a law, those who have not graduated at a college in "good standing" with the Board can not even appear for examination. There have been several expressions of opinion to the effect that the probability of the bill becoming a law would be greatly increased if it were formulated more in accordance with the resolutions of the State Board of Health adopted in 1892, recommending that the fitness of candidates for the practice of medicine in the State be determined by examination and without reference to when, where or how they attained such fitness.

As might be expected, there is some antagonism to this proposed measure, especially relative to the renewal clause. This, however, emanates principally from those who have no licenses and who by no possibility could secure the same, even under the present law, under the provisions of which the State Board of Health is obliged to recognize graduates of legally chartered medical colleges in "good standing," in other words, colleges which fully conform to the practice of the majority of established medical institutions in the United States. The renewal clause naturally seems, at first, a little annoying to a physician, but the same thing, in effect, has worked well in the pharmacy law, and its inconveniences are more than balanced by its advantages. It will keep the profession in close touch with the Examining Board and will be a constant check on irregulars, while the small amount required will scarcely be a burden to the most impecunious of doctors, even in these times of professional overcrowding and starvation.

The fact that Chicago has become of late years one of the chief medical centers, and the laxity of the Illinois laws hitherto have led to the founding there of "diploma mills," which the efforts of the State Board of Health have not been, so far, fully successful in suppressing. To meet the needs, therefore, the Secretary of the Board, Dr. J. A. EGAN, and Secretary of State ROSE have prepared two bills, one of which it is thought will pass the legislature. In substance, they are practically the same, the substance of each being that no degrees in medicine, pharmacy or dentistry shall be given by any institution not approved by the respective State Boards of Health, Pharmacy and Dentistry. As the bills are drawn up, there may be some possibilities of litigation as to the power of revoking or amending regular charters issued by the State legislature in former years. It is to be hoped that due consideration will be given to this matter, as it would be extremely unsatisfactory to have reform laws declared unconstitutional and to be set back into the former condition of chaos as regards the power of granting medical degrees. At the present time a fraudulent diploma mill can be suppressed by legal methods, but these are tedious and costly, and it can immediately start up again under new articles of incorporation and a new name, requiring new proceedings for its suppression, and so on *ad infinitum*, or till some change is made in the laws regulating such corporations. It is therefore to be hoped that whatever is done in Illinois in this direction will be done thoroughly and well and will leave no opportunities for evasion or legal nullification.

With the new practice act passed and enforced, and the needed legislation to prevent fraudulent diploma selling, the State of Illinois will be again in a position to rank with the most advanced of her sister commonwealths in this matter of enlightened regulation of medical practice.

CORRESPONDENCE.

A Plea for Alcohol.

LIMA, OHIO, Feb. 1, 1899.

To the Editor:—In the JOURNAL of Nov. 26, 1898, is found the following from the pen of Dr. T. D. Crothers: "It is a startling fact that *all* the theories current of the food, tonic, stimulant and medicinal powers of alcohol have *no support from modern research*" (italics mine). This proposition is found near the close of a communication bristling with authorities, all of repute, who have, in detail and specifically, as regards the action of this drug on the nerve-cells, its effects on metabolism, its deteriorating influence on the leucocytes, seemingly established a basis on which Dr. Crothers may plausibly found his argument.

The writer of this will not allow precedence to any one in his appreciation of the service that Dr. Crothers has rendered to his kind by correctly diagnosing and successfully treating that perennial plague, inebriety. No individual has done more, and few, if any, have achieved so much (and that, too, in the face of obstacles planted, nourished and fostered in tradition and prejudice) in convincing the world that inebriety and kindred enslavements are *diseases*, and not necessarily moral delicts. The immense significance of this progressive stride in the way of enlightenment is not even yet fully comprehended and measured in its application to penology, morality, and the great unsolved problem of human responsibility. But the best of men —wise and experienced as well—are sometimes carried by the rushing waves of enthusiasm beyond, or rather, outside, that safest area, where calm reasoning, reflection and judgment hold sway—that realm in which the consensus of opinion of the most competent is held to be the nearest approach to the criterion of truth. Viewed from the height of this least-assailable standpoint, how shall we deal with the uncompromising, dogmatic assertion of Dr. Crothers, as previously quoted?

If we refer to alcohol as an analeptic, or tonic, or both, and, as such, a generator, or at least a conservator of force, we are told it has no such power; if we venture to offer it as a stimulant, a temporary sustainer of vital functions, we are informed by the voice of authority, prompted by the results of "modern research," that we are proffering only a delusion and a snare; but let us not forget that these new assurances controvert the testimony of the ages, and antagonize the lessons, the experience of past centuries. We may be reminded, however, that many beliefs cherished during vast intervals of time, have been perforce abandoned; that Ptolemaic astronomy held its place in the schools for 1500 years; that it is barely a half century since geology banished to the region of allegory the Genesitic narrative of creation. But such arguments as these need not concern earnest men who have familiarized themselves with the fair face of evidence. Science lights and leads the way along a safe road, and they learned long since to disregard the literal interpretation of the Mosaic account.

To whom can we refer this question with greater confidence than to the physiologist and to the adept in therapeutics? Concerning the first, I will stake my reputation on the statement that 99 per cent. of the teachers of physiology in our best medical schools at the present day hold the opinion that a certain quantity (varying in individual cases) of alcohol will be completely oxidized in the system, and it, as Stewart says (Physiology, 1897), "is therefore a food substance." He adds, "it is a very valuable cardiac stimulant; in certain diseases, is sometimes useful in cases of slow and difficult digestion. Alcohol is of no use to healthy men, although in moderate doses it is not harmful to healthy men, living and working under ordinary conditions." Loomis, Bartholow, Bowditch, Warren, Osler, Senn (but why attempt to name the innumerable), all controvert the conclusions of "modern research," as before mentioned, for they all testify to the value of alcohol as a *stimulant* in those conditions we find after the reserved vital forces have been largely drawn upon, by shock or severe illness. It is to be remembered, moreover, that such men as these are likely to be well-informed as to contemporary theories and doctrines, and have the most ample facilities for putting them to test; therefore, if we find no mention of their names in the list of those who have striven to transform this particular one of the genii, so potent for good or evil, into an utterly malevolent servant of Eblis, we may well hesitate before throwing away the heritage that has come to us through observation and experience until we are better assured.

But there is a wider range of vision, a larger view of this subject, accessible to us, which is well worth contemplating. If the dogma of Dr. Crothers, fortified by the opinions of Drs. Berkely, Andriessen, Harley, Wilkes, Glaser, et al., were in a minor degree true, the logical sequence must have been inevitable, viz., that the Germanic races, of which our sturdy Anglo-Saxon is a branch, would long since have become extinct through the degenerating, destructive influence of alcoholic excesses, for however much the legends, traditions and history of these peoples may vary in other respects, they all agree in one particular, that from time immemorial their commonest conception and practice of sensuous pleasures were manifested in drunkenness and gluttony.

We need only to familiarize ourselves with the literature of the eighteenth century to discover that it is only since the day before yesterday, so to speak, that it has been regarded as "bad form" for a gentleman after dinner to roll, dead drunk, under the table, and later be put to bed by the servants. Now, instead of realizing the fate ascribed to such by latter-day gnostics, the record of these gluttonous, drunken men of the North is a splendid memorial of achievement along the lines of progress, civilization, enlightenment. If Shakespeare drank deeply and "trod the primrose path of dalliance" in his lusty prime, he thought still more deeply, and has transmitted to us the wisdom of *no* age, but of *all* ages, and the fadeless, imperishable flowers of genius which he gathered by the way. The fact is, these hereditary guzzlers of alcohol are the races which mainly dominate the world at the present day. From the foregoing it may be suspected that the writer is one who would continue or revive the bibulous practices of a past age. Nothing could be further from the truth.

Your correspondent has for many years endeavored *in* season, and it may be out of season, to persuade those who have never felt the fascination of alcoholic indulgence, to persist in following the *only safe road*—that of total abstinence. Personally, he has long since found that the chief and indispensable handmaid of happiness is temperance. In the cause of this latter virtue, this protest is uttered against the intemperate zeal of those whose motives are unquestionably beneficent. My endeavor at least has been to prick with my pen the bubble of fallacious teaching, when it assumes such imposing dimensions as in the present case, and especially when, as in this instance, it presents the iridescent attractions of honored names.

David E. Matteson, M.D.

Association of American Medical Colleges.

Chicago, Jan. 20, 1899.

To the Editor:—During the past four years, since the extension of the medical course to four years, the question of advanced standing has been repeatedly brought up by students who have taken the so-called "medical preparatory courses" in literary and scientific colleges and in private normal schools and academies. The same subject has been brought up again by the application of two literary colleges for membership in the Association of American Medical Colleges, under Article III, section 7, of the constitution of the society, which reads as follows:

> A college not giving the whole four courses of the medical curriculum, and not graduating students, but otherwise eligible, may be admitted to membership.

This provision of the constitution was made to meet the requirements of the University of Colorado and the University of North Carolina. The matter now seems finally settled, and justly so, as will appear from the following decision.

DECISION OF THE COUNCIL

Denying recognition to preparatory medical instruction in certain colleges; none but regular medical colleges eligible for membership.

For final answer to interrogatories concerning the application of the Hiram College, of Ohio; the Marion Normal College and Business University, of Marion, Ind.; and other similar institutions:

First, the Association of American Medical Colleges can not accept into its membership any but regularly organized and properly conducted medical colleges.

Second, the Judicial Council of the Association of American Medical Colleges is not sufficiently informed as to the merits of the several institutions having preparatory medical courses, to justify an expression of opinion as to which, if any of them, are entitled to recognition by the Association of American Medical Colleges.

Third, the only claim for advanced standing which can be recognized by the members of the College Association must be the degree of A.B., B.S., or equivalent degree from reputable literary colleges, homeopathic or eclectic colleges, reputable colleges of dentistry, pharmacy, and veterinary medicine, and such official credentials issued by medical colleges of equal requirements, as members may choose to recognize; excepting however, the requirements of the curriculum for the last year's work, in colleges conferring degrees.

Fourth, the practice of colleges in small towns of adding a preparatory medical department, open to all students, the entire course in anatomy, physiology, chemistry, and materia medica being conducted by one professor, is entitled to no respect, and should not be encouraged, or in any way recognized by members of the Association of American Medical Colleges.

(Signed)
Dudley S. Reynolds.
Albert R. Baker.
Starling Loving.
John B. Roberts.
Randolph Winslow.
Jas. H. Etheridge.
Victor C. Vaughan.

Jan. 20, 1899.

Bayard Holmes, Secretary,
404 E. 40th Street, Chicago.

SOCIETY NEWS.

Blair County Medical Society.—The semi-centennial of this Society was celebrated at Altoona, Pa., January, 26.

John Ashhurst, Jr., Surgical Society.—By request, Dr. Alfred Stengel delivered the principal address before this Society at the recent session held at Philadelphia, Pa.

New York Academy of Medicine.—At a stated meeting of the Section on Obstetrics and Gynecology, held January 26, the following officers were elected: Brooks H. Wells, chairman; A. Ernest Gallant, secretary.

Fifth District Branch, New York State Medical Association.—The fifteenth annual meeting of this Branch will be held in Brooklyn on May 23, 1899. J. D. Bryant, president; E. H. Squibb, secretary, P. O. box 760, Brooklyn.

W. W. Keen Surgical Society.—This Society held its annual banquet at the Hotel Lafayette, Philadelphia, Pa., recently, and toasts were responded to by Drs. W. W. Keen, J. C. Wilson, H. A. Wilson, W. M. L. Coplin, H. A. Hare and Mellville B. Post.

Lorain County Medical Association.—The first annual banquet of this Association was held at Lorain, Ohio, January 31. Dr. S. S. Cox presided as toastmaster, and toasts were given by Dr. A. M. Garver, Prof. F. D. Wood, W. L. Hughes, Drs. O. B. Monosmith, F. A. Rowley and D. E. V. Hug.

Philadelphia Medico-Legal Society.—At the regular quarterly of this Society, recently, the following officers were elected: President, Dr. E. B. Wheeler; first vice-president, Dr. S. M. Heaton; second vice-president, Dr. L. H. Adler; treasurer, Dr. G. M. D. Peltz; secretary, Dr. C. H. Clewell; librarian, Dr. J. D. Nash.

Atlantic City (N. J.) Academy of Medicine.—The following officers were elected at the annual meeting, January 13: President, W. Blair Stewart; vice-president, Wm. Edgar Darnall; secretary, E. C. Chew; corresponding secretary; J. B. Thompson; treasurer, Walter Reynolds; board of governors, W. Blair Stewart, J. Addison Joy and A. D. Cuskaden.

Fox River Valley Medical Association.—At the meeting of this Association, Green Bay, Wis., January 25, the following officers were elected: President, G. T. Ford, Omro; first vice-president, C. B. Boyd, Kaukauna; second vice-president, P. J. Noer, Marinette; secretary, J. S. Reeves, Appleton; treasurer, J. J. Redelings, Marinette.

Kings County (N. Y.) Medical Society.—At the seventy-eighth annual meeting of the Medical Society of the County of Kings, held recently, the following officers were elected: President, oseph Hunt; vice-president, E. R. Bartley: secretary, David Myerle; associate secretary, Robert J. Morrison; treasurer, Charles N. Cox; associate treasurer, O. A. Gordon; librarian, William Browning; censors, H. B. DeLatour, John E. Sheppard, J. M. Van Cott, H. A. Fairbairn, W. C. Wood; trustee, Charles Jewett.

Brainard District Medical Society.—At the semi-annual session of this Society, held in Jacksonville, Ill., January 28, the following program was given: "Medical and Surgical Treatment of Cerebrospinal Meningitis," G. N. Kreider, Springfield; "Cerebral Meningitis, with Reports of Cases," F. P. Norbury, Jacksonville; "Partial Third Nerve Paralysis," A. L. Adams, Jacksonville; "Report of Two Cases of Albuminuria," B. W. Hole, Tallula.

Clinton County Medical Society.—The recent election of officers for this Society, Lock Haven, Pa., resulted as follows: President, J. B. McCloskey; vice-president, J. M. Corson; secretary, R. B. Watson; treasurer, W. N. Armstrong; censors, Drs. Beck, R. Armstrong and Holloway; delegates to State society, Drs. Huff, Corson, Shoemaker, W. N. Armstrong and Beck; delegates to American Medical Association, Drs. R. Armstrong and Holloway.

Erie County Medical Society.—The annual meeting of this Society was held at Buffalo, N. Y., January 10, and the following officers were elected for the ensuing year: President, J. B. Coakley; vice-president, E. H. Ballou; secretary, F. C. Gram; treasurer, Edward Clark; librarian, Charles E. Congdon. The retiring president, Lucien Howe, read a valedictory address on "Why and How Systematic Examinations Should be Made of the Eyes of School Children."

Detroit Academy of Medicine.—At the regular meeting, January 24, Dr. Justin E. Emerson read a paper on "Notes on Heredity." After stating and illustrating the theory of evolution that the offspring will in a general way resemble the parent, the paper gave a series of experiments covering more than two years in the reproduction of Japanese waltzing mice. These mice have the peculiarity of whirling around very rapidly a great number of times, a characteristic not possessed by other breeds. One of these became crossed with a common white mouse and the offspring did not possess the waltzing quality until after about two years of careful breeding, and after six generations had been raised. The paper was given to show how atavistic tendencies will crop out after the possibility of them can not even be suspected.

Chicago Medical Society.—At the regular meeting, February 1, Dr. N. S. Davis, Jr., offered the following resolution, which was unanimously adopted:

Resolved, That the Chicago Medical Society unanimously approves the bill introduced in the Illinois Legislature by Representative Curtis, Jan. 26, 1899, to regulate the granting of charters to educational institutions which grant degrees. It is the judgment of this Society that this bill is most important, as it will help to maintain a fair standard for colleges and universities in this State, and will make their degrees more valuable.

Dr. Henry T. Byford read a paper on "The Treatment of Hemorrhoids by the Plastic Method." The author has discarded the ligature in the treatment of hemorrhoids and merely cuts them off and sews the raw surfaces together with silkworm gut, as in any plastic operation. Three or four wounds are thus sutured, a part of them in a diagonal or transverse direction in order that the lumen of the anus may not be contracted. The bowels are moved at the end of forty-eight hours and the sutures removed in two weeks. The rectum is douched out with plain water after every bowel movement. The essential features of the operation are: 1, the abandonment of the ligature; 2, the employment of silkworm gut sutures, left long and tied into bundles to facilitate removal and to guide the douche point; 3, the diagonal or transverse direction of the line of suture; 4, keeping the stools liquid and the rectum douched out. Dr. M. L. Harris read a paper on the "Relations of the Colon to Intra abdominal Tumors," which will be published in the Journal.

Wayne County Medical Society.—At the regular meeting of the Society, January 26, Dr. I. L. Polozker read a paper on "Infection following Circumcision in Hebrew Children, with Report of Two Cases." The Doctor explained the Mosaic law on this question and stated that all male children are circumcised on the eighth day after birth, unless the child is sick or if the mother has lost two boys in succession from the effects of the same operation. The mayol, or man detailed to perform the operation, he said, was often a butcher, and frequently used the same knife for beheading chickens as he used for the Hebrew rite. The Doctor then described the operation of circumcision as he had recently seen it performed in the synagogue by a mayol who was of very uncleanly habits. He used an ordinary kitchen table, a glass of water containing a few drops of carbolic acid, common yellow cotton, dusted with subsulphid of iron, and a sharp double-edged knife. His hands were not even washed, and the parts to be operated on were not prepared. The mayol, seated on a chair, brought the foreskin down and removed a circular portion; then with his fingernails, he tore the mucous membrane and brought it around the glans penis; then another man, also privileged, took the penis in his mouth and sucked off the blood. The mayol then finished the operation by placing the astringent cotton around the penis and bandaging it up. During the operation some of the cotton fell to the floor, but the mayol picked it up, saying that he would use it for the next case, which was operated on immediately afterward, with as few antiseptic measures as the first. The Doctor condemned this practice in strong terms and called upon the physicians of the city to aid him in doing something to prevent the wrong to innocent children, which was so often done by dirty and ignorant mayols, describing, in support of his claim, the history of two cases he had recently treated, one for undoubted syphilis and the other for a fatal case of septic infection, both of which could be directly traced to the operation for circumcision.

Cincinnati Obstetrical Society.—At the meeting, January 12, a specimen of a double child, with complete union from the clavicles to the pubes, was presented by Dr. W. H. Taylor. The case had occurred in the practice of Dr. H. A. Beeson of Highland County, Ohio. In the delivery, the head of one child presented, and after the delivery of the body of the first child, the feet of the second child presented, followed successively by its body and head. There was no laceration or accident. The skiagraph, presented by Mr. Taylor, showed the presence of two sterni. Both children appeared perfect except for the union. No section had been made. Dr. E. Gustave Zinke presented a specimen removed from a colored girl, 18 years of age. In attempting to remove a semi-fluctuant tumor, which before operation resembled a subperitoneal fibroid, the Doctor accidentally opened up an abscess cavity. The abdomino-pelvic cavity was deluged with matter as offensive as any that may be encountered in ischiorectal abscesses. Although the operator believed the patient would die of septic peritonitis, he finished the operation as if no accident had occurred. All the growth was removed, except a portion that was firmly adherent to the bladder. That portion was fixed in the lower part of the abdominal wound. The Doctor then poured into the abdominal cavity a bottle of peroxid of hydrogen. The remarkable feature of the case was that there was no elevation of temperature, pain or other untoward symptom, and union occurred by first intention. The patient is now sitting up, after three weeks. An examination of the pus showed only white-blood corpuscles and fat, and an entire absence of the micro-organisms of sepsis.

Orleans Parish Medical Society.—At the meeting of January 28, New Orleans, La., Dr. Geo. S. Brown of Birmingham, Ala., demonstrated the application of the Hodgen splint, with some modifications of his own. Instead of the rubber adhesive strips usually attached to the thigh and leg in fracture of the femur for making traction toward the foot-piece of the splint—a not infrequent cause of itching and of boils—he uses cotton cloth strips held in place by plaster-of-Paris bandages. Cotton batting is applied to the limb up to a point about three inches above the knee, and covered first with flannel and then with plaster bandages; the strips of cotton cloth, substituting the rubber adhesive strips, are then applied laterally and secured by a second layer of plaster bandage. The splint is made of No. 4 copper wire, and may be bent over the edge of a table to the requisite shape for the individual case. The arch at the upper end of the splint is removable, not in one piece with the lateral rods; this feature permits the rods to be approximated or separated according to individual needs. The splint is attached by two adjustable straps on each side to a ring, which again is attached by a spring scale to the double rope fixed overhead. The spring permits the amount of pull exerted in different positions of the bed to be estimated, at the same time giving some play to the splint in a vertical direction. Dr. Brown claims for the splint not only great comfort to the patient but also uniformly good results, the shortening and angulation in fractures of the femur treated by this method being, in his experience, much less than when other methods are employed. It is especially useful in compound fractures of the femur, and is applicable also to lesions of the knee and to compound fractures of the tibia and fibula. The paper was discussed by Drs. Parham and Martin, whose experience with the splint had been very satisfactory.

St. Joseph (Mo.) Medical Society.—At the regular meeting, January 24, Dr. O. B. Campbell read a paper on "Ventrofixation." The Doctor advocates the operation in all cases of marked retrodisplacements, and in extreme cases of prolapsus, providing they have resisted all other forms of treatment, such as rest, position, tampons, tonics. In cases free from adhesions the procedure is simple: A two-inch incision near the sym physis, examination of each ovary, stitching the fundus to the peritoneum with two or three buried silkworm gut sutures and closing the abdomen. In the presence of extensive adhe sions, the ovaries and appendages are to be removed. Alex ander's operation is only applicable in cases known to be free from adhesions. If properly done, the mortality should be nil In the opinion of the essayist most cases of retrodisplacemen which admit of replacement, can be cured by simple methods as repairing the vaginal floor, tampons, pessaries, etc. Dr Jacob Geiger commended the technic, but questioned th utility of the operation from the fact that when the operatio is done and the uterus is large and heavy, having resisted al methods of reduction from a previous endometritis, no good i accomplished from a mere suspension; efforts should be pe sisted in for months to reduce the organ and, if unsuccessfu hysterectomy should follow. He urges local and tonic trea ment; packing repeatedly, local depletion, with the use o strychnia and pepto mangan; operation only as a last resor Confinement, if properly conducted, is an excellent remed Dr. C. H. Wallace advises the use of a number of small stitche in suspending the uterus, instead of one or two deep one since the difficulty with subsequent confinements is thereb reduced to a minimum. Dr. Daniel Morton entered a ple against the indiscriminate use of the pad and binder after co finement. In his opinion it is a frequent cause of retroflexio Dr. Edam prefers in such cases of relaxation, some of th recent intra-abdominal methods—Beck's or Wiley's—of fol ing the elongated ligaments and stitching them through ar through. These methods promise more for future confin ments in facilitating normal labor. Dr. S. D. Senor reporte a case of septic fulminating cellulitis following chickenpo During convalescence from the latter condition, a slight inju was received upon the left hip, resulting in a mere bruis within twenty-four hours discoloration and edema spread the knee, accompanied with a subnormal temperature. three days entire lower extremities became cyanotic and pa tially black and death ensued. Temperature remained su normal until death. Dr. J. B. Riley uses antistreptococc serum in such cases, which if used early prevents the rap spread and profound depression.

Philadelphia Pathological Society.—Dr. Henry L. Williams p sented specimens and sections of "Papilloma of Both Ovar and Ascites," which had been removed from a patient of m dle life. Dr. Wilmer Kruzen spoke of a case of a simi nature in which the papillomatous growths had been co pletely removed and a year later the growths had recurred. wanted to know the prognosis in these cases. In reply Williams stated that there generally was a recurrence of tumors and that the prognosis was unfavorable. Dr. A. C. Kelly read an interesting paper entitled "Some Remarks u

Histologic Technic with Demonstration of Apparatus." While not being opposed to the generally accepted teaching of the value of the paraffin method, Dr. Kelly preferred imbedding in celloidin for general use. From the photographs of the apparatus used, he explained the ease with which the celloidin might be kept fluid and clear for many months. He prefers a glass jar with a tightly fitting cover, in the bottom of which is placed a few pieces of crushed calcium chlorid, and on a wire wick the celloidin and other material is placed. The whole is tightly closed with an accurately fitting cover. Dr. Stilwagon spoke of the celloidin and paraffin methods of imbedding. Dr. H. W. Cattell spoke of an apparatus much used in England in which the imbedding was carried on in an air-tight chamber through which the vapor of alcohol was being distilled. Dr. W. M. L. Coplin said that he had tried the method spoken of by Dr. Cattell, and that in consequence his laboratory had sustained a damage of $2000 by the explosion of the apparatus. Of the different methods of imbedding, he preferred the paraffin method because of the facility with which the specimens might be mounted and the thinness of the sections which might be cut. Dr. David Riesman stated that the paraffin method was the one generally employed at the University of Pennsylvania, although he thought the celloidin method had certain advantages, especially since it did not consume so much alcohol, which was quite an item in all laboratories. Dr. A. E. Taylor read a paper entitled "Note on a Possible Urinary Test for Obstruction of the Pancreatic Duct." Dr. Taylor instanced a case treated by the late Dr. William Pepper, in which there was total occlusion of the bile-duct and also of the pancreatic duct. In this case the ethereal sulphates had fallen to one-fourth of what they should be normally, and he thought from this fact a possible diagnosis might be derived in cases of obstruction of the pancreatic duct. Drs. W. S. Wadsworth and Charles W. Burr presented skiagraphs of tabetic arthritis, and several specimens. Dr. Lawrence, for Dr. F. R. Packard, read a paper and presented a specimen of cancer of the stomach, liver and pancreas. The mucous membrane of the stomach was nodulated and the left lobe of the liver showed localized infiltration, whitish in color, but without any distinct nodules which might be felt externally.

PUBLIC HEALTH.

Detroit Health Report.—For the week ending February 4: Births, male, 45, female, 45; deaths, 121, under 5 years, 37. Contagious diseases: Diphtheria, last report 11, new cases 7, recovered 2, died 2, now sick 14; scarlet fever, last report, 34, new cases 2, recovered 9, none died, now sick 27; smallpox, last report 4, no new cases, 1 recovery, none died, now sick, 3.

Mortality Among Russian Troops in China.—According to a dispatch from Port Arthur, dated January 27, the Russian post in the Liau-Tong Peninsula of China reports a great mortality list, due to bad water. Two hundred and fifteen died during the months of November and December, and the average mortality is now four deaths daily.

Health of Denver.—The December, 1898, report of the Bureau of Health gives the annual death-rate as 13.29 per 1000; excluding phthisis contracted elsewhere, 10.28 per 1000. The mortality for December exceeded that of November by 5 deaths, but was 5 less than for December, 1897. Tuberculosis caused 54 of the 185 deaths, pneumonia 21, heart disease, 13, and nervous diseases 20. One death was accredited to rabies—the first such in Denver—but it was not demonstrated by postmortem.

Health of New York for 1898.—During the year, 120,992 deaths were reported, 3894 more than in 1897. The death-rate per 1000 was 18.10, the average for the past ten years being 18.25. The infant mortality was greater than in 1897, by 2300, though relatively decreased, "constituting 30.2 per cent. of the total, against 32.5 last year, and an average of 33.5." Diphtheria caused 2620 deaths—the fewest of any year on record. Consumption caused 12,000 deaths, and la grippe 2500.

Health in Michigan.—Reports to the State Board of Health for January, 1899, give influenza, rheumatism, bronchitis, neuralgia, tonsillitis, pneumonia, diarrhea, pulmonary tuberculosis, and pleuritis, as the most prominent causes of deaths during the month. Compared with the January average for 13 years, influenza was more prevalent, and intermittent fever, diphtheria, whooping-cough, consumption, erysipelas, and inflammation of the bowels less prevalent.

Smallpox in Cuba and Porto Rico.—Too much credit can not be given to the medical officers of the occupying army of our recent acquisitions. Their energy has been conspicuous in the matter of compulsory vaccination, backed by more than the consent of the military arm of the service. In Havana, on January 30, 160 cases of smallpox were reported and in San Juan, Porto Rico, 150. These conditions in both places are not unusual, and create no comment among the natives.

A Vaccin Farm in Porto Rico.—Major John Van R. Hoff, chief surgeon of the Department of Porto Rico, has recommended that everyone on the island be vaccinated, and the Commanding General, Major-Gen. Guy V. Henry, has approved the recommendation and issued the necessary orders. His General Orders No. 1 of Jan. 3, 1899, state that "the orders requiring vaccination will be executed in all municipalities. Boards of Health will report failure to obey these orders, and alcaldes will see to the punishment by fine or imprisonment of persons who fail to comply with the orders of the Board of Health." A vaccin farm is now being established, under the immediate supervision of the chief surgeon, by Dr. Azel Ames, acting assistant-surgeon, and it is believed that all the virus necessary to vaccinate the entire population can be provided at small cost.

Sale of Patent Medicines in Switzerland.—No secret or patent medicines can be sold in a canton without the certified permission of the local Board of Health, not even to physicians. No pamphlets can be distributed advertising the self-cure of diseases or treatment by correspondence except under the same conditions. Pamphlets recommending female regulating or anticonception measures are forbidden altogether. To obtain the permit for the sale, the medicine must be submitted to the Board of Health with the formula, price and other details, and the question is finally decided by a committee representing each canton, which decides upon its harmlessness, whether the prospectus is misleading, or the price exorbitant in proportion to the expense of manufacturing, etc. The permit can not be used in any way as an advertisement.—*Deutsche Med. Woch.*, January 5.

Anti-Vaccination in California.—We learn that at Los Angeles, Cal., the opponents of vaccination have held a meeting preliminary to organizing and sending a representative to Sacramento, so that their petition to the legislature for the repeal of the compulsory vaccination law may not be neglected. It will be his duty to stand by the representative who presents it, be ever diligent that the end sought for may be attained, and, above all, to accept no compromise. At the close of the regular program the meeting was given over for the purposes of general discussion. The suggestion of one auditor that, in case their efforts fail, all present withdraw their children from the schools, was received enthusiastically by those present. At the next meeting the anti-vaccinationists will perfect a permanent organization, elect officers and appoint the various standing committees.

A Healthy Record at Chickamauga Park, Ga.—According to the *Sunday Times* of Chattanooga, Tenn. (January 29, 1899), the Eighth Regiment U. S. Vol. Infantry (Immunes), Col. E. L. Huggins, commanding, and Major James H. Hepburn, surgeon, has had a most unusual record during its stay in Camp George H. Thomas. A letter from Dr. Hepburn states that the average number of men present with the regiment from Oct. 9, 1898, the date of arrival, to Jan. 20, 1899, was 1150, and since the latter date 950. During the 111 days of the encampment there were treated in the post hospital a total of 118 separate cases, of which 31 were measles, 7 gunshot wounds, 40 were due to the imprudence of the patients, and the remainder nearly all due to grip. Since the first day of the organization of the first company of the regiment, June 1, 1898, there has not occurred a single death from disease, in the regiment, nor among the troops attached to the regiment for service, and the only death from any cause was the accidental drowning of a man in the Ohio river, last July. Not a single case of typhoid fever occurred among the men since their encampment at Chickamauga. None of the diseases treated in the camp could be traced to the water-supply.

The Smallpox Epidemic.—The smallpox epidemics of this winter appear to be limited to a comparatively small number of localities so far. The most formidable outbreaks are amongst the Zuni Indians of New Mexico and the tribes in Oklahoma and the Indian Territory. Of the first named tribes, numbering altogether about 1700, there were reported 600 cases on January 25, and 217 deaths had already occurred. In Oklahoma and the Indian Territory smallpox is said to be destructive among the Kaw, Cheyenne, Kickapoo, Crete and Seminole tribes, and it is vaguely stated that hundreds of deaths have already occurred. Elsewhere, scattered local epidemics are reported from several points in California, Nebraska, Kansas, Ohio, Iowa, Arkansas, Kentucky, Mississippi, Tennessee, Missouri, Virginia and Pennsylvania, and along the Mexican border in Texas, and are elsewhere noted as prevailing extensively in Alabama. The causes of these local epidemics are not always clear, but in some the disease has been traced to railway employes and soldiers in barracks, and Dr. Benjamin Lee, secretary of the Pennsylvania State Board of Health, is reported as attributing it to a Cuban source, while the Marine Hospital authorities in Alabama appear inclined to think the disorder there has some other source. It is certain that with all these separate foci of infection there is danger, especially in the great railway centers, of a spread of the disease unless the health authorities are fully alive to the situation and take the precautions necessary. With more frequent and intimate intercourse with the Spanish-American population of Cuba, Porto Rico and the Philippines, where smallpox has been allowed to prevail unchecked, the chances of its introduction are multiplied until sanitary regulations are extended over those countries and the evil is checked at its source.

Smallpox and Legislation.—Dr. R. D. Murray of the United States Marine-Hospital Service calls attention to the following state of affairs: The State of Alabama has, it appears, been badly infected with smallpox for several years past, the total number of cases rising, according to some estimates, well up into the tens of thousands. The anti-vaccination sentiment seems to be well disseminated, and with the policy of concealment, to be largely responsible for the present unfortunate state of affairs. The State Health Officer, Dr. W. H. Sanders, has, in view of the present conditions and the discredit they are likely to bring to this State, issued a circular to the medical profession asking their influence in favor of a couple of bills that are now before the legislature and which are designed to improve matters in this regard and to deal efficiently with the disease. One of these bills provides for the vaccination of the pupils attending the public and private schools throughout the State, and the other for the suppression of an actual outbreak of smallpox by making general vaccination compulsory whenever the County Board of Health declares it necessary, the said Board being on the ground, and therefore, in the best position to judge as to the necessity of such a course. The two bills therefore supplement each other, the one aiming at the ultimate extinction of smallpox by general vaccination and the other the suppression of whatever local epidemics may occur. It appears from the circular that there is an active anti-vaccination agitation in opposition to these bills, and Dr. Sanders therefore gives the historic and rational arguments in favor of vaccination as a protection against smallpox very fully and ably in his paper, which is in its way a very forcible document, and should have its due influence with the legislators and the public. It is to be hoped that the school laws are sufficiently comprehensive and thoroughly enforced to make the first-named measure in time a full and adequate protection, and that there may be no morbid sentiment sufficiently strong to prevent or postpone the passage of this very necessary legislation. Alabama has not been heretofore notably behindhand in enlightened medical legislation, and it will be a serious misfortune to the State if the traditions of the past in this regard are not to be respected in this important matter.

Health Reports.—The following cases of smallpox, yellow fever, plague and cholera have been reported to the Supervising Surgeon-General of the U. S. Marine-Hospital Service for the week ended Feb. 4, 1899:

SMALLPOX—UNITED STATES.

Alabama: Clarke, Clay, Dallas, Greene, Hale, Lowndes, Marengo, January 27, smallpox present; Mobile, January 1 to 27, 7 cases; Randolph, Wilcox, smallpox present.

Arkansas: Pulaski Co., January 27, several cases, 1 death,

District of Columbia: Washington, January 14 to 21, 1 case.

Illinois: Cairo, January 27, 3 suspicious cases.

Indiana: Indianapolis, January 22, 3 cases; origin unknown.

Kentucky: Louisville, January 23, 1 case; on river steamer.

Michigan: Detroit, January 7 to 14, 7 cases.

Mississippi: Clay Co., Jones Co., January 27, smallpox present; Hattiesburg, Perry Co., January 27, 17 cases in pest house; Lauderdale Co., Noxubee Co,, Tisbomingo Co., smallpox present.

Nebraska: Omaha, January 17 to 22, 7 cases.

New Jersey: Jersey City, January 15 to 22, 2 cases.

New York: Dunkirk, January 14 to 21, 2 cases.

Texas: Laredo, January 14 to 21, 37 cases; 8 deaths.

Virginia: Alexandria, January 23 to 29, 47 cases; Portsmouth, January 27, 16 cases; Richmond, January 25, 1 case.

SMALLPOX—FOREIGN.

Belgium: Antwerp, January 1 to 7, 4 cases; 1 death.

India: Bombay, December 20 to 27, 2 deaths; Calcutta, December 10 to 17, 1 death.

Mexico: City of Mexico, January 15 to 22, 1 death.

Nova Scotia: Halifax, January 28, 1 case; among Russian immigrants.

Russia: Moscow, December 24 to January 7, 20 cases; 5 deaths; Odessa, January 1 to 7, 1 case; 1 death.

Turkey: Constantinople, January 2 to 9, 14 deaths; Smyrna, December 25 to January 1, 2 deaths.

YELLOW FEVER.

Columbia: Barranquilla, January 2 to 9, 1 case, 1 death.

Mexico: Vera Cruz, January 12 to 19, 2 deaths.

PLAGUE.

China: Hongkong, December 10 to 17, 1 case; 1 death.

CHOLERA.

India: Bombay, December 20 to 27, 2 deaths; Calcutta, December 10 to 17, 16 deaths.

Unsatisfactory English Sanitary Administration.—A classic pape on local sanitary administration in England and Scotland ha appeared in *Public Health* (October), from the pen of Dr Campbell Munro of Paisley. He introduces his survey of th sanitary field of his country by saying: "A recent America writer has observed that English local government is a mos conglomerate circumstance. It reminds one," he says, "of th old manor house which the traveler meets from time to time i England—a building which has quite lost its identity, becaus of the modifications introduced to suit the fancies of succeeding generations. The most violent architectural contrasts strik the eye, for each owner, while adding something to gratify hi own taste, has left intact as much as possible of the earlie work. So with local government, incongruity is the rule. An the queer mingling of the archaic with the modern is explicabl here, as in the manor house, not on utilitarian, but on histori grounds." Still the central administration of public healt affairs in England remains a thing of shreds and patche What is required is a ministry of public health, detached fro any relationship to poor law administration. Under this mi istry would be grouped the ordinary public health administra tion of the country, the Factory and Workshop and the Burial Grounds Departments from the Home Office, the Veterinary Department from the Privy Council, and the Registrar-General's Department—in more intimate relation than it at present has with the Local Government Board. Then there would disappear the unedifying spectacle of two Government departments in hostile conflict, as in the case of the Veterinary Department of the Privy Council and the Medical Department of the Local Government Board. Then, too, there would be hope of the resolution of the chaos existing in the health administration of the Factory Acts, and of a proper definition of the spheres of action of the officers of the central and of local authorities. In the codification of the Factory and Workshop Acts which is talked about, the draughtsman of the measure should certainly have in contemplation the detachment of the Factory Inspection Department from the Home Office, and its establishment as a Department of the Local Government Board.

Immunity Against Tropic Fevers.—One comparatively unnoticed observation made by Prof. Koch during his studies in Africa and India is that women withstand exposure to malarial climates far better than men. "During the appalling mortality on the Gold Coast, within the past four years," says the report, "there was hardly a death among the women living out there, while every kind of man was dying—men new to the tropics, men born in them, men who had been accustomed to them for years, even men who had battled with the ravages of West Africa for upward of ten years." The attempt to explain this anomaly by the fact that men are, as a rule, more exposed to the hot sun of day and the miasma of night, failed in presence of the fact that the death-rate was highest among officials, merchants, and employes who work in offices, banks and warehouses, where no exposure to weather is involved and where medical attendance, food and all conditions of living are the best obtainable in that country. The fact that black-water fever, so deadly to male Europeans, seldom attacked women, and that no physician has yet offered any reasonably conclusive explanation of such discrimination, illustrates how far medical science is yet from a full understanding of malarial disease and how long and difficult a road is still to be traversed before the risks incurred by northern civilization in the effort to reclaim and civilize the tropics will be reduced, through exact knowledge and scientific practice, to a minimum. The subject is certainly so important as to invest with world-wide interest the efforts that Germany is now making under the lead of her foremost bacteriologist to reach a clear understanding of, and more potent mastery over, the scourge which now makes desert some of the fairest and most fertile portions of the earth. —*Consular Reports*, December.

Precautionary Measures Against the Plague.—In the *Journal of State Medicine*, Dr. Beveridge, formerly a member of the Poona Plague Committee, says: "Of all sanitary measures, that of the first importance is cleanliness. Plague is essentially a filth-borne disease. Where epidemics have occurred lately, the European community has suffered in far less proportion, doubtless from their cleaner habits and more sanitary surroundings. It is not sufficient to put the house in order on the appearance of the plague, but to have it so long before it arrives. All histories of plague point to the presence of insanitary conditions; the worse these conditions the more firmly the disease takes hold. In Sai-Ping-Shan, in Hongkong, whole families of human beings, together with dogs, pigs and fowls, herd together in closely confined rooms, with little or no ight or ventilation. The floors lay inches deep in filth, akin to the rush-strewn floors described in the history of the plagues of England, where substrata of fermenting organic matter lay ong undisturbed, the refuse of ages, forming a suitable restng-place and cultivating-ground for the plague bacillus in all ts requirements. So bad was the stench that many were driven to seek refuge in the open air, vomiting as they went. Among those exposed to infection the importance of personal cleanliness need only to be alluded to. The clothes should be frequently changed and exposed after wear to the sun's rays or to moist heat. It is now well known that plague is frequently the result of inoculation, and can gain entrance to the body through abrasions of the surface, either mucous or cutaneous. It has been thought that a possible cause of infection among natives is by the habit of going barefoot, whereas the European, being well booted, is less susceptible, but there are many other factors to adduce for this lessened susceptibility. Those suffering from abrasions, wounds and ulcers should avoid proximity to the disease. From March to May, 1897, over 900 soldiers were employed in Poona combating the plague, and the most careful precautions were considered necessary to protect them. Before starting work in the morning each man had a good meat meal. No man was allowed to go out who had any cuts or abrasions, and all cases of slight ailments were detained in camp. Immediate disinfection by antiseptic solutions, carried with them, of all cuts and bruises contracted during their work, was resorted to. On return to camp their clothes were exposed to the sun's rays for the rest of the day. As a result it is gratifying to record that there were no cases of plague among them."

Bacterial Treatment of Sewage.—In connection with the discussion of this subject before the Society of Engineers of London, Mr. Baldwin Latham said that it could now be looked upon as an accomplished fact that the sewage of towns can be bacterially purified before it goes into the water-courses. The progress made in the last two years has shown to him that those who are working up this subject are indeed public benefactors, deserving the best thanks of the community, for not only do they present an efficient method, but one that has obviated large expenditures for chemicals. At the same session, Mr. Thudicum presented a practical paper, in order to illustrate the outcome of a vast amount of experimental work, and more especially to show how the system could be adapted to meet local requirements in various cases. It is now evident that the general principle of biologic treatment in one form or another is acknowledged by the majority of those practically concerned in the disposal of waste matters, the doctrine being generally accepted. In attempting to apply the biologic method to the treatment of sewage of any given place, three questions of paramount importance had to be considered: 1, the available fall, 2, the nature of the soil, and 3, the possibility of the sewage containing ingredients which are hostile to microbial life. He then described the special uses of different processes under varying local conditions, and gave in detail the method adopted at Worcester Park, where the Cheam and Cuddington sewage is received, to convert a process of precipitation and irrigation into one of bacteria bed treatment and irrigation when desired, He showed how the necessary beds were constructed by excavation and filled with burnt ballast, produced on the farm at a total cost of about $1600, the quantity of sewage to be dealt with amounting to 80,000 gallons daily in dry weather. He also alluded to the conversion of the Sutton sewage works, the cost there having been something less than $1000 for a daily flow of 500,000 gallons of sewage, whilst the saving in working expenses was $2500 per annum. Having discussed the general questions of the interception of road detritus, the catching by screens of pieces of rag and any large floating matter, he dealt with night sewage and its treatment by the provision of a special bed for its reception, with siphons for automatic emptying of the bed in case of storm. An important point in connection with sewage treatment by any method was to minimize the attention required; at Sutton, night attendance was obviated by providing a pair of beds, coarse and fine, each having a water capacity sufficient to take the whole of the night flow. For dealing with sewage from a small community, such as a public school, an asylum or a small hamlet, one or two biologic methods could be employed, according to the fall available. In the first, which might be either the Sutton or Exeter system, or a combination of the two, the sewage is passed continuously through the tank or for twenty-four hours on to a coarse bed, and then on to fine beds, where it remains for two hours and is then discharged. The attendance required is slight. In the second case, where the sewage can not be delivered near the surface, a storage tank is provided, a coarse-grain and a fine grain bacteria bed, each being capable of containing the sewage of twenty-four hours. At a fixed time each day the sewage should be pumped from the storage tank into the coarse bed, remaining for two hours, and then be passed to the fine bed, and after two hours be finally discharged.—*Sanitary Record*, Dec. 9, 1898.

The Village Heroes of the Black Death.—The deplorable laboratory incident at Vienna has again called to mind England's last and most pathetic experience with the plague. This was the outbreak in 1656 in the little village of Eyam, in Derbyshire, which has passed into both medical and heroic literature, from the deadliness of the disease and the noble spirit displayed by its victims. The contagion was introduced by a box of cast-off clothing sent to the village tailor and afterward discovered to contain garments of those who had died in the epidemic of three years before. The tailor, his apprentice, and two members of his family were the first victims, and as the disease appears to have been of the pneumonic type, which it assumed in the cases of Dr. Mueller and Nurse Pecha, it was not recognized until a number of deaths had occurred and the little community was fairly saturated with the contagion. The first thought of the villagers was to find safety in flight, but this was checked by the rector of the parish, the Rev. Charles Mompesson, a man of remarkable intelligence and noblest courage. He called the terrified people together in the churchyard and begged them to recall their duty to others and, if need be, to die like martyrs. He pointed out that as nearly every family had been exposed to contagion, flight would not probably save them from attack, but would certainly result in spreading the disease all over the adjacent counties, and ultimately the whole north of England. He therefore urged them to sacrifice themselves for the good of their country and to stay quietly in their own homes and little fields until the disease should have spent its force and died out. It was heroic counsel, but to the everlasting honor of the English peasantry, it was accepted upon one condition, that he stay with them to bury their dead. He replied that he had had no other thought or intention, whatever the mass of them might do, and the little assembly dispersed quietly to their homes to await the will of God. A line was agreed to along the crests of the little valley in which the hamlet lay, and across its trough above and below, beyond which none were to go, and Mompesson sent word to influential friends of his that if the authorities would supply them with food the villagers would stay quietly at home. For no less than thirteen long months, from Sept. 6, 1665, till Oct. 11, 1666, the pestilence raged among those noble mountaineers. They fell one after another, till when in the second autumn it died out for lack of fuel, out of 350 souls only 89 survivors stared in each other's haggard faces and wondered whether after all the dead were not more fortunate than they. But their courage never faltered; every day they went to an appointed place on the boundary line, to bring back the food which had been left there, but not one of them crossed it to escape from the charnel-house. And their fearful sacrifice was not in vain, for not a single case of the disease occurred outside the stricken valley. Mompesson himself survived, but his devoted wife, whom he had vainly urged to leave him before infection had been brought into their home, was among the dead. Remembering the 60,000 deaths in London alone in one epidemic, it was almost certainly a sacrifice of a few hundred lives to save thousands, but those few hundred lives were their own and those of their dearest. It is one of the noblest instances of self-imposed quarantine and martyrdom for the good of others upon the pages of history, and a memory of pride to the entire Anglo-Saxon race. A faint regretful odor clings about the memory for us as a profession, which finds expression in the half wondering question, "where was the doctor?" There was, of course, no local physician or any one so situated as to make it in the slightest degree obligatory, even in the sense of *noblesse oblige*, upon him, to consider that village as his post of duty, and yet, our brotherhood has seldom needed an example in that sort of devotion, and here there were three hundred. True, he could not have hoped to save many lives, for the medicine at that day was utterly helpless in the face of the "Black Death," but to think of those brave villagers and their devoted minister fighting the dread enemy alone is pitiful. Everything that the medicine of the day could suggest was carried out by the tireless rector. Houses and streets were cleaned of their filth, infected clothing and bedding were burned, and even some attempt made to save the water-supply from contamination. So alive was he to the danger of contagion that he abandoned his church and held all religious services in the open fields. Indeed, so thoroughly was the destruction of the bedding and clothing of those who had died carried out that when the plague finally died down at the beginning of the second winter, there were not enough blankets in the village to keep even the handful of survivors from suffering severely during the first cold nights (vide Journal, Dec. 31, 1878, p. 1598).

NECROLOGY.

James F. Sullivan, M.D., San Francisco, Cal., died January 24. He was born in Roxbury, Mass., May 18, 1838. After graduating from Harvard he went abroad and spent considerable time in the colleges and hospitals of London, Paris and Dublin, but was recalled to this country earlier than he had expected, by the demands of patriotism. He enlisted in Boston in the Ninth Massachusetts Regiment, and with it joined the Army of the Potomac. He saw service in twenty-seven battles. At the close of the war he made his residence for eleven years in Chicago, going to San Francisco in 1875.

Kenneth F. Maclellan, M.D., Glasgow, 1867, died at the home of a patient, from cardiac disease, January 29. He was a resident practitioner of New York City, and came to this country from Scotland, about thirty years ago.

Eugene Carroll Skinner, M.D., Detroit, Mich., died January 24, at his home. Dr. Skinner, the son of a Universalist minister of renown, Dr. Dolphus Skinner, was born in Utica, N.Y., 57 years ago, and came to Detroit in 1867. Until his death he was closely associated with the best interests of the city in the circles of science, literature and philanthropy, as well as a conspicuous figure in its business life. He was a graduate of the Detroit College of Medicine of the class of 1887, also of Tuft's College near Boston, and of the law and medical jurisprudence classes of Columbia College. His war record was honorable; he was in service with the 117th New York, in which he enlisted, and of which he became captain. Mrs. Skinner and one daughter survive the Doctor.

M. T. Bascomb, M.D., Pleasant Grove, Minn., was buried at Rochester, January 31. . . . R. H. Gillen, M.D., Wabash, Ind., died at DeLand, Fla., January 22. . . B. F. Goodson, M.D., Hopkins, Mo., January 28, aged 47 years. . . . H. D. Griswold, M.D., Sherman, Mich., January 30, of pneumonia. . . . L. F. Humeston, M.D., Highland Springs, Va., February 2, aged 74 years. . . . Jacob B. McNett, M. D., Grand Haven, Mich., February 1, aged 83 years. . . . W. S. Mendenhall, M. D., Springfield, Ill., January 25, aged 51 years. . . . J. F. Moorehead, M.D., Joplin, Mo., January 26, aged 45 years. . . . W. H. Nance, M.D., formerly of Gunnison, Miss., late of Nashville, Tenn., January 26. . . G. M. Raney, M.D., Smoky Ordinary, Va., January 24. . . . Richard M. Slaughter, M.D., Belton, Mo., January 25, aged 64 years. . . . Frederick A. Veeder, M.D., Utica, N. Y., January 26, aged 71 years.

MISCELLANY.

Dr. N. Senn.—Prof. Nicholas Senn, Chicago, returned February 1 from a vacation spent in the South.

Dr. Edward Aldrich.—Dr. Edward Aldrich of Buffalo, N. Y., has been appointed junior assistant physician at the Buffalo State Hospital.

Bequest to Hospital.—The Leonard Morse Hospital, East Cambridge, Mass., is to receive $5000, by the will of Edgar S. Hayes of Natick, for the establishment of a free bed.

Meharry Medical College.—The twenty-third anniversary of this college was celebrated February 1, and a class of thirty-nine graduated in medicine.

"Woman's Medical Journal."—Dr. Mary E. Bates of Denver, Colo., will hereafter have charge of the department of surgery in the *Woman's Medical Journal*, Toledo, Ohio.

"Southern California Practitioner."—With the January number, this Los Angeles, Cal., medical monthly came again, after a lapse of ten years, under the editorial management of Dr. Walter Lindley.

New Medical College.—It is announced that the Board of Trustees of the Ohio State University has decided to create a medical college in connection with the University.

"Medical Times and Register."—This Philadelphia publication announces that it will hereafter appear monthly instead of semi-monthly, with an increase of pages and the subscription price reduced to $1 a year.

"International Medical Magazine."—We notice that this publication has passed into the hands of Messrs. E. B. Treat & Co., New York City. Dr. Boardman Reed of Philadelphia, however, will continue as editor-in-chief.

Dr. J. C. Corbus.—The trustees of the hospital for the insane, Kankakee, Ill., have elected Dr. J. C. Corbus, president of the State Board of Charities, as superintendent, to succeed Dr. W. S. Stearns, resigned.

St. Luke's Hospital Staff.—The directors of this San Francisco Cal., institution have appointed the following physicians and surgeons for the ensuing year: Washington Dodge, Clark J. Burnham, Herbert Carolan, J. C. Kenyon, Charles B. Brigham, W. H. Mays, Samuel G. Boyd, George H. Powers.

Surgeons-General of National Guard.—Dr. John V. Shoemaker, Philadelphia, Pa., has been appointed Surgeon-General of the National Guard of that State, and a similar honor has been conferred on Dr. A. J. Stone of St. Paul, Minn., who has been appointed by the governor of that State, to succeed Dr. J. F. Fulton.

Chicago Physicians Lecture.—In the course of lectures being given under the auspices of Northwestern University, the University of Illinois Medical School and the Chicago Board of Education, Dr. Adolph Gehrman recently lectured on "Applied Bacteriology," with stereopticon illustrations; Dr. Bayard Holmes on "Child Growth," and Dr. W. A. Evans on "Tuberculosis."

Hendryx Laboratory.—This laboratory, the gift of Dr. W. A. Hendryx, Los Angeles, Cal., to the Medical College of the University of Southern California, was recently dedicated with appropriate ceremonies. Dr. C. L. Bard of Ventura, president of the California State Medical Society, delivered an address on "The Knowledge of Pathology," and Dr. H. G. Brainerd, dean, the address of acceptance.

College of Physicians and Surgeons.—We learn that Dr. Felipe Kreissl has accepted the professorship of surgery in the College of Physicians and Surgeons, Chicago. He is a native of Vienna and studied in the Imperial Royal University Medical College, practicing four years in the surgical clinics of the hospitals of Vienna immediately following his graduation. He came to Chicago in 1892.

Rush Medical College.—We learn that this medical school, beginning with July, 1899, will be in session the year round, on the quarterly system in vogue at the University of Chicago, with which University Rush Medical College is in affiliation. This innovation will probably require an addition to the force of instructors and teachers, as the future policy is to greatly increase the clinical teaching.

Cook County Hospital.—Concerning recently proposed changes in the appointment of internes for the Cook County Hospital, Chicago, we learn that the physicians have carried the day and the examination will be conducted by the method that has obtained for years. The examining physicians have agreed to forward the papers of applicants to the Civil Service Commission and to allow the Commission to have supervision over the internes.

Hernia Uteri Inguinalis.—Saenger reports the case of a female teacher operated for a tumor in the left inguinal region, which was found to contain a rudimentary uterus and tubes, with a testis only recognized with the microscope; no indications of a vas deferens, seminal vesicle or prostate. There are only eleven cases on record of hernia of the nongravid uterus. Veit collected seven cases of nongravid and eight cases of gravid hernia uteri inguinalis.—*Cbl. f. Gyn.*, 1898, 51.

St. Louis Baptist Hospital.—We are informed by the secretary that on January 6 the following-named gentlemen met and organized the staff of the hospital: Dr. Bransford Lewis, president; Dr. John Young Brown, vice-president; Dr. John A. J. James, secretary; Drs. C. C. Morris, Robert Barclay, J. W. Williamson and John C. Morfit. In the future all matters concerning the medical policy and ethical conduct of the hospital are to be under the control of the medical staff, and it is the policy of the staff to conduct the hospital in the most ethical manner possible, free from prejudical alliances, and impartial as to colleges, religion, politics or individuals.

The Liver in Infections.—Roger has confirmed d'Amato's assertions in regard to the disappearance of glycogen from the liver toward the close of anthrax infection. He has also established that sixty-four times the fatal dose of anthrax culture can be injected into the portal vein of a rabbit without injury, as the liver destroys the germs that reach it; even six to eight times a fatal dose of staphylococcus aureus. This protecting action of the liver is less pronounced if the animal is fasting. He has also established that small amounts of either sugar or ether promote this protecting action of the liver, while, on the other hand, large amounts annul it.—*Presse Méd.*, Dec. 21, 1898.

Sanitary Restraints in Swiss Schools.—The evils of overwork have claimed, in the case of school children, the attention of the Swiss officials. In the Canton of Luzerne repressive measures have been adopted, especially in the case of the six classes of the primary schools. The provision is that no lessons shall be studied at home, and that only moderate tasks be required in the secondary schools. In regard to intervals, ten-minute recesses every half hour are called for, and a week's vacation every six or seven weeks. Especially commendatory is the requirement that the attendance at school is not to begin before the age of 7 years.

Abscesses in Buchara.—Finkelstein describes in *Wratsch*, 1898, 43, the frequency of large abscesses among the poorer population of Buchara, forming 4 per cent. of the 30,000 patients treated in the hospitals during the past five years. It is most frequent between 18 and 35 years of age. Sometimes there are as many as ten to fifteen abscesses scattered over the body, although Scarpa's triangle seems to be the favorite site. Five to six pounds of pus are evacuated from some abscesses. The general health does not seem to suffer much except in case of extreme debility. Fraenkel's pneumococcus, the staphylococcus aureus and albus were noted almost constantly in the pus and blood. The affection does not seem to be contagious, but to be favored by the inconceivably unsanitary and unhygienic manner of life.—*Derm. Ztft.*, December, 1898.

Congenital Stenosis of the Pylorus.—M. Pfaundler noticed that the pylorus was strongly contracted in a number of infants' cadavers he was examining, and he has become convinced that this condition in life has been erroneously entitled congenital stenosis of the pylorus. He found that this congenital stenosis never occurred until some months after birth, and that it frequently disappears spontaneously in the course of a few weeks. It should therefore be attributed, not to hypertrophy, but to a spasmodic contraction of the pylorus. This hypothesis agrees very well with the exaggerated excitability of the gastric mucosa in infants, indicated by the facility with which they vomit; it is easy to understand a reflex contraction of the pylorus in case of digestive disturbances causing the formation of irritating products. The syndrome, therefore, of constriction of pylorus is not an anatomic lesion, but a spasmodic contraction of the pyloric ring, of functional origin.—*Vienna Klin. Woch.* Nov. 10, 1898.

New Publications.—The *Western Clinical Recorder*, published at Chicago, is the latest applicant for editorial commendation, and the initial number, published in January, promises very much for the success of this new medical bi-monthly. It will be conducted by Drs. F. J. Hodges and W. T. Rinehart, and is "designed to familiarize the general practitioner with the practices and methods obtaining in the leading public and private hospitals of the land." . . . *Merck's Archives*, New York City, Vol. i, No. 1, Jan. 18, 1899, a new monthly publication of materia medica and its uses, has been received. The subscription price of each of these publications is $1.00 per year.

Histopathology of Affections of the Nails.—J. Heller mentions in the course of a study of this subject, in the *Derm. Ztft.* for December, the surprising results he obtained with modern staining methods with the finger of an Egyptian mummy, after dissolving out the asphalt with ether and decalcifying the nail. The nuclei did not take the stains, but the other tissues stained so remarkably well that it was almost impossible to convince beholders that the tissues were several thousand years instead of a few days old. He made the discovery that the peripheral nerves and the medullated nerve terminals presented nothing abnormal in a case of clinically established injury to the nerves with manifestations of trophic nerve disturbances: glossy skin, onychogryphosis.

Phantom Tumor of the Abdomen.—Schnitzler found upon repeated examinations of the abdomen of an hysteric woman aged 35 years, a tumor in the pyloric region. The tumor was the size of a small apple, movable, though not moving much with respiration, and painful on pressure. It was not present at all examinations. Laparotomy was performed and the stomach appeared normal, although the pyloric muscular apparatus was somewhat thickened. Suddenly under the eyes of the operators a tumor developed about 3.5 inches long and 2 inches wide, extending upward from the pylorus. This subsided in forty five seconds, but reappeared some minutes later. A pyloroplasty was performed for the relief of the ulcer believed to be present, on the general principle that sphincter muscles are stretched for suspected fissures.—*Medical News*, Dec. 3, 1898.

Theories in Regard to Uremia.—It is generally admitted that uremia is an autointoxication from abnormal proteic substances developing in the organism under the influence of urinary poisons. Hugues and Carter ligated the renal artery in dogs and found that the blood from these dogs injected into healthy animals produced a fatal uremia, the same as the blood from an uremic subject. They conclude that there is some albuminoid substance in the blood of uremic subjects which produces alterations in the kidneys. Nephritis, therefore, as well as uremia, is the consequence of this poison. Semmola asserts that "Bright's disease may be denominated a hetero-albuminemia and should be classed with the general and dyscrasic diseases." A recent study of the subject by Ughetti in *Il Morgagni* for September, accepts these conclusions with a few reservations. They force him to admit the existence of uremia connected with alterations in other organs besides the kidneys: affections of the liver and of the thyroid gland may give rise to the same syndrome.—*Presse Méd.*, Dec. 24, 1898.

Minnesota Medical Legislation.—A new medical practice act, by which it is claimed all persons will be allowed to practice medicine after passing an examination before the State Medical Board has been introduced in the House by Mr. Fulton (Rep). of Ramsey, Minn. The bill is said to have been drafted by the State Medical Society and provides for a board of twelve medical examiners, to include members of all medical schools. The bill is intended as a substitute for the osteopathy bill.

Two Cases of Congo Lethargy.—Two cases of African "sleeping-sickness" are now in the Seaman's Hospital, London, both being Congo natives—a man of 22 and a boy of 11 years. Both began to be drowsy in May last, falling asleep over their work, and even over their meals, and the lethargy has gradually deepened until they now sleep all day long, but can be awakened to swallow food. The man can be roused to answer questions but the boy is almost unconscious. This remarkable disease has a latent period of from three to seven years after infection, and a chronic course of from six to fifteen months, but is invariably fatal. It will depopulate whole villages, ploughing through the population at the rate of 15 to 20 per cent. per annum, until half are dead and the remainder fleeing in terror. No case has ever originated outside of a certain zone upon the west coast of Africa, but in the days of the slave trade negroes would sicken and die of it years after they had been brought to the West Indies.—*Medical News*, Dec. 24, 1898.

Michigan State Board of Health.—At a regular meeting of this Board, the following preamble and resolutions were unanimously adopted:

Whereas, It is eminently desirable that reliable vital statistics shall be collected by the next United States Census, and

Whereas, The system to be followed should be in accord with the most progressive methods observed in several of the States, the Michigan State Board of Health, at its regular meeting held at Lansing, January 13, 1899,

Resolved, That the Representatives and Senators from Michigan be requested to lend their assistance in securing such correct vital statistics in non-registration States as may be possible:

Resolved, Furthermore, that the appointment of Dr. Cressy D. Wilbur, the present efficient Chief of the Michigan Vital Statistics, be urged as Chief Vital Statistician of the next United States Census.

Frank Wells, President.
[Attest.] Henry B. Baker, Secretary.
Lansing, Mich., Jan. 20, 1899.

Medico-Military Legislation.—Under the editorial title of "A Fatal Defect," the *Army and Navy Register* of Feb. 4, 1899 discusses the want of liberality to the medical department in the provisions of the Hull bill, which has been passed by the House of Representatives and is now under consideration by the Senate Military Committee. It says: The army reorganization bill, as it goes to the Senate, is defective in no greater degree than in the provisions relating to the army medica department. We are sure that the measure will be amended in the Senate so as to place that corps on an efficient basis, bu it is vitally important to officers of the army—those of othe corps and of the line—that they unite in impressing on th Senate the necessity of putting the medical department on proper footing. The relation of the surgeon to the office makes the incident a personal matter, and with the greate demands for medical attendance among troops which are to b stationed in tropic climates, it is imperative that the medica corps be equipped in personnel as in material, so as to mee these new and grave conditions. While the House has autho ized an army of 50,000, which may be expanded indefinitely u to 100,000, less than half the increase which Surgeon Gener Sternberg had said in his last annual report was absolutel necessary for an army of 60,000 was given to the medical d partment. The strength of the medical corps, even with its small increase as authorized by the House, is scarcely adequate for an army of 40,000.

Etiology of Rabies.—Memmo of Rome described some time ago a blastomycete that he had found in cases of rabies, pathogenic, and, as he believed, the specific cause of the disease. He now, in the *Centralbl. für Bakteriologie*, adds that he has detected it in the blood of four dogs dying of natural rabies, and in rabbits and pigeons inoculated with the virus. In all it was present in the brain and cord, the cerebrospinal fluid, the saliva, the parenchyma of the parotid, and in the aqueous humor. But he had not found it in the blood of the heart, nor in any other disease. It grows best in fluid media, especially in broth containing glucose made faintly acid with tartaric acid. The cultures begin to grow after about a week, but not freely, being easily inhibited by air infection, e. g., the dust of the laboratory. Cultures of the third or fourth generation, purified from any traces of the original matter by repeated plate-culture, were injected into rabbits and guinea-pigs. Symptoms of paralysis of the hind legs appeared in the rabbits after eleven to twenty days, and in dogs after thirty to sixty. In all, the disease ended fatally in a few days, and in dogs the phenomena were those of typic rabies. He believes that Foll, Rivolta, Ferran and Spinelli have seen it too, and he is able to confirm Sanfélice's demonstration of its presence by staining in the spinal cord of a boy who died of hydrophobia.—*Public Health*, London, November, 1898.

Direct Bronchoscopy.—According to the *British Medical Journal*, Killian has succeeded in examining the bronchi either directly by a mirror or by tracheoscopy. By the former method only the commencement of the bronchi, and especially the right, can be seen. By Kirstein's method the author has been able to see more than by the mirror, and even in children, whom it is impossible to laryngoscope, good results have been thus obtained. A little more of the main bronchi can be seen by turning the patient's head to one side. Tracheoscopy can be carried out by the tube used for esophagoscopy. These tubes may be passed into the main bronchi. In tracheoscopy through a tracheotomy wound the mirror is not of much value. A considerable improvement is effected by attaching Casper's electroscope to the tubes. The importance of obtaining a view into the bronchi is obvious in the cases of foreign bodies. The author says that under cocain anesthesia it becomes possible to introduce stiff tubes into the chief bronchi, and so to change the position as to obtain a view of the lumen of the main bronchi, and even of their branches. It is a matter of indifference to the patient whether the tube stops at the bifurcation or is pushed farther on, provided the cocainization is sufficient. The well-oiled and warm tube speculum is introduced through the tracheal wound, the head hanging backward and inclined to one side. The illumination is obtained from Kirstein's frontal lamp or Casper's electric lamp. The tube is pushed on carefully under this inspection. The author gives examples showing the possibility of this procedure. A similar result may be obtained by passing the tubes through the mouth. The pharynx and larynx must be cocainized by a 20 per cent. solution. The mandrin may be required at a certain stage in the manipulation. No unfavorable effect on the breathing was noted. In bronchial catarrh there may be greater irritability, but coughing brings no harm with it. Direct superior bronchoscopy must be limited to patients who can be examined by autoscopy, and who are not too ill or anxious. Perhaps narcosis may assist. Inferior bronchoscopy is always possible. The advantages obtained by suitable position apply to bronchoscopy as well as to laryngeal autoscopy.

Examination of Blood in Filariasis.—The blood of patients suffering from chyluria, lymphangitis, lymph-scrotum, or elephantiasis, may contain a peculiar parasite—the *filaria sanguinis hominis*. It is a nematode worm, of which the female may be from three to three and one-half inches long, the male being much smaller. The female, during the life of its host, discharges an immense number of embryos into the circulation, and it is these which are found in the blood. They are filiform, about one nintieth inch long, and in a drop of fresh blood exhibit extremely active movements. The adults remain in the lymphatics. It is a remarkable fact that the filaria is only to be found in the peripheral circulation during the night, or more strictly, during the hours devoted to rest and sleep, and it is therefore necessary to observe special precautions as to time if it be desired to demonstrate their presence. I find that good preparations can be obtained by proceeding as follows: 1. Prepare several blood-films, taking care in this instance to have the films rather thick. Allow them to dry in the air, and then pass them about ten times through a flame. 2. Next get rid of the hemoglobin by washing the films well under a tap with water. 3. Stain for three minutes with a 0.5 per cent. watery solution of eosin, wash, and dry. 4. Transfer to a saturated watery solution of methylene blue for three minutes. Wash well with water, dry, and mount in balsam. The parasites will be stained blue, and the corpuscles pink. The detection of micro organisms, when present in the blood, is a task of no small difficulty, and one which can only be accomplished with certainty by a trained bacteriologist. As, however, it will not always be possible for the bacteriologist to meet the clinician at the bedside, I think it will be useful to point out the special conditions under which bacteria may actually be found in the blood. And first it must be remembered that normal blood is perfectly sterile. It has been fully demonstrated that the liquor sanguinis possesses powerful bactericidal properties which would under normal conditions tend to destroy any bacteria that might happen to reach the circulation by the ordinary channels. The cellular elements, the leucocytes, have also the power of attacking and destroying any foreign solid particles that may get into the circulation. The usual plan of defense is that the leucocytes, aided, perhaps, by cells from the spleen and other organs, seize upon and engulf the microbes, which they then proceed to digest at leisure; so that before a pathogenic organism can gain a permanent foothold in the blood it has to resist first, the bactericidal action of the plasma, and secondly, the phagocytic action of the cellular elements. Practically, the best chance that it has of overcoming all these resistances is for it to become anchored in some corner removed from the direct blood stream, where it can in a measure become accustomed to its new environment.—*Treatment*.

Restoration of Ulna by Femur of a Rabbit.—Before the Clinical Society of London, Mr. Arbuthnot Lane has presented two cases illustrative of the above named operation. One was a child, the subject of a congenital abnormality of the shaft of the ulna. She had suffered from a progressive incapacity and deformity of the forearm and hand since birth. It hung in a position of considerable flexion and abduction when she attempted to use it, which she did very imperfectly indeed. The ulna consisted of two separate parts, whose pointed extremities overlapped and whose axes varied considerably in direction. The lower end of the ulna was situated considerably above that of the radius. He exposed both fragments freely and separated them from the surrounding parts. Extension was made on the lower fragment till the hand assumed its normal position. The femur of a rabbit was split longitudinally, and its halves were wired securely to the fragments so as to bring their longitudinal axes into their normal relationship to another, and to retain the lower fragment on a level with the lower end of the radius. The result of this operation was most satisfactory, both as regarded the removal of deformity and the restoration of the normal functions to the part. The second was that of a man, aged 19 years, who lost the shaft of the ulna in 1896. He was admitted into Guy's Hospital in September, 1898, when the radiograph showed that there extended from either extremity of the ulna a fine spicule of bone. An incision was made along the length of the ulna, and these spicules being exposed and freed from the soft parts in which they were embedded, a femur of a very large rabbit was then wired securely to the ends of the ulna, the spicules being included in the loops of wire. The result as shown by the skiagraph was most satisfactory, and Mr. Lane hoped at a later date to render the usefulness of the arm more complete by removing some of the new bone that had been thrown out about the extremities of the ulna in consequence of the original inflammation.—*Scalpel*, December, 1898.

Substandard Lives in Relation to Life Insurance.—An editorial in the *Medical News*, Dec. 17, 1898, touches upon a subject that has often puzzled medical men, namely, the insurance of so called "damaged lives." There are every year applying to us many persons whose health is in some way impaired and who would not under ordinary circumstances be accepted as risks by life insurance companies. This discussion of the subject, therefore, is cordially welcomed, because it comes quasi officially and is an index of present tendencies in life insurance circles. Medical men have long felt that among those rejected by insurance companies there are a number of people who constitute good risks and whose expectancy of life is not below the average: people with tubercular family histories, yet healthy themselves, or with the personal history of some phthisic manifestations years ago, but now in good health. Not a few of them are affected with a slight heart lesion, often with only a heart murmur—it is sometimes forgotten that the terms are not identic in meaning—but with never a symptom of disturbed compensation, or with an albuminuria without casts, or some of the other or clearly significant manifestations for which insurance companies deem it wise to reject applicants. Most medical men, too, have been of the opinion that the present system was unfair in certain ways. Actuary statistics of the expectancy of life of the whole population are, we believe, used to determine premium rates, while policies are issued only on the select lives that have no defects, and whose expectancy of life, therefore, at any given age is considerably greater than the average. It has been said that the present profits of the life insurance business and its ability to pay magnificent salaries are due to this fact. We are glad to think that this opprobium, if it has any real basis in fact, is about to be removed. From a purely medical standpoint we welcome the heralded innovation for two reasons: The consciousness of a provision for their families will be a remarkable steadying therapeutic agent for certain nervous patients whose neurotic symptoms, manifested in functional heart murmur or cyclic albuminuria, have in the past led to their rejection by insurance companies, to the no small detriment of their state of mind and health.

Antiseptic Uses of Oxygenated Waters.—At the December meeting of the Paris Academy of Medicine several surgeons gave their experience in the use of oxygenated water in surgery. M. Lucas Championnière said that during the space of one year he had made clinical trial of this agent and had found that oxygenated water was an antiseptic of remarkable power, and of special value in cases of suppuration of septic infection. Solutions of ten or twelve parts by volume seemed to act best and were very superior to solutions of perchlorid of mercury. A solution of oxygen is not only capable of checking putrefaction but will also prevent its occurrence. In vaginal hysterectomy a preliminary douching of the canal with this solution gives better results than any other antiseptic fluid. In cases of septic infection after abortion, washing out the uterus with oxygenated water is just as satisfactory a method of treatment as curettage. In addition to the properties already mentioned, oxygenated water is a hemostatic. On the other side, M. Charpentier argued that the liquid would not keep, and moreover was an admirable culture-medium for streptococcus. M. Ferrand also spoke against it, saying the peroxid of hydrogen was not only an irritant but actually a caustic. M. Monod said that in his opinion nothing was better than a carbolic spray, and M. Labbé agreed with him. M. Laborde spoke in his turn in defense of the oxygen solution, saying that it was absolutely harmless and could be used as an intravenous injection. In reply, M. Championnière, while allowing that the solution in question was very unstable, argued that it could be obtained from the manufacturers in a state of great purity, and was certainly far superior to phenol. London *Lancet*, Dec. 17, 1898.

Mobility of Tumors.—An interesting article by Pagenstecher entitled "Studies on the Mobility of Abdominal Tumors," appears in the *Deutsche Zeitsch. f. Chir.*, Bd. 1, s. 64. He endeavors to present, as he says, some more general rules for the examination of the mobility of movable abdominal tumors than have heretofore existed. By the term "tumor" he means any mass which can be palpated within the abdominal cavity, including movable organs. In his list of tumors which may be movable he mentions tumors of the stomach, carcinomata, myomata, cysts; tumors of the intestine, small and large; carcinomata, intestinal cysts, invagination, foreign bodies, fecal impaction, empyema of the appendix vermiformis; cysts and solid tumors of the ovaries; tumors of the uterus; movable liver; Riedel's tongue-shaped masses, enlargements of the gall-bladder, echinococcus cysts and other movable new growths of the liver; movable kidneys; movable spleen; tumors, solid and cystic, of the mesentery and omentum. The simple fact of mobility alone permits no conclusion as to the nature or point of origin of a tumor. One must know the degree and kind of mobility. Pagenstecher starts out with the simple mathematic proposition that from the arc described by a body moving about a central point, the radius and central point may be found. He then says, if one found a movable abdominal tumor which, when moved throughout its extreme range of motion, describes an arc of a circle, one may expect that such a tumor has a pedicle and that such pedicle corresponds to the radius of the given arc with its fixed point at the center thereof. From one's knowledge of the anatomic relations of the abdominal organs, one may thus form conclusions as to the point of fixation or point of origin of the tumor and thus of its nature. So much then for the theoretic part of his article. He then considers the difficulties of application: The fact that the abdomen is a cavity, not a plane, hence the necessity of marking out and studying the line of motion as traced on the surface: the deflection and interruptions of motion as produced by irregularities of the abdominal walls and the organs contained therein, etc. He then considers what may constitute the pedicle of movable tumors, as for instance, blood-vessels, peritoneal folds, stretched-out ligaments, bands of adhesions, the mesentery, Fallopian tube, etc. The separate tumors are then considered more in detail, numerous drawings illustrating their range of motion as determined clinically as well as experimentally on the cadaver. He closes with the statement that further clinical observations are necessary to determine the degree of practicability of his scheme, but he is certain that more careful study of the range and degree of mobility of this class of tumors will furnish information of considerable diagnostic value.

Army Hospital-Corps School of Instruction.—The examination and graduation exercises of the School of Instruction of the Reserve Hospital, Second Army Corps, at Camp MacKenzie, Augusta, Ga., took place January 30 and 31. The examination was held on the first day and comprised: 1, inspection of camps; 2, infantry and cavalry squad drill; 3, ambulance and litter drill; 4, examination in anatomy, physiology and first aid, by acting Asst.-Surgeon Molyneaux Turner; 5, examination in osteology, materia medica and pharmacy, by Acting Asst.-Surgeon Victor C. Roberts; 6, examination in nursing, by Acting Asst.-Surgeon C. L. Baker, and 7, examination in nursing of fevers and camp sanitation by Acting Asst. Surgeon Elbert E. Parsons. The graduation exercises were held on the following afternoon, in the Y. M. C. A. Hall. Lieut.-Col. A. C. Girard, chief surgeon, under whose supervision the school was instituted by Major Edgar N. Mearns, surgeon U. S. A., delivered the address, in which he reviewed the history of the hospital corps and gave many illustrations of the difficulties encountered in organizing a hospital corps for the Second Army Corps in its first encampment at Alger, near Falls Church, Va. The diplomas were delivered to the members of the class by Major-Gen. S. S. Sumner, U. S. V., commanding the Second Army Corps. There were forty five graduates.

To Prevent Premature Burials.—Among the bills introduced before the New York State Legislature is one that deals with the matter of premature burials, concerning which the public are unduly alarmed. Distant communities, it must be confessed, are the greatest sufferers from the evil. The projector of the bill says, unequivocally, that its object is "to preclude all danger of burying a live person. We have a number of authenticated cases of this," he continues, "and had such an act as we propose been in existence, they would not have occurred." Much time and a degree of gruesomeness is turned on the details of the safeguards. For instance: "In cities or places where there are 100 or more interments, it is required that each cemetery shall have a mortuary or mortuaries to be used for the disposal of the dead, which shall provide rooms of sufficient number to enable every body that is received to be placed and kept therein a certain time." Further, for it is impossible to be explicit without liberally quoting: "The mortuary is to be constructed of stone, brick, or metal throughout, as far as practicable. Each room in the mortuary must be at least ten feet in length by six feet in width, and ten feet in height, with a door at least six and one-half feet high and four feet wide. Over the door there is to be a transom kept open at all hours. The doors must be kept unlocked at all times, and permission to inspect the body deposited shall be given at all hours of the day to the relatives or friends of the deceased, provided that the officers may refuse to permit more than fifteen persons in one day to inspect the body. There is to be in each of the rooms a window at least two feet wide and three feet high, opening into the outer air." The bill also requires that no body shall be buried, cremated, or otherwise disposed of in any of the cemeteries, crematories, or other places for the final disposal of the dead before twelve hours shall have elapsed from the time of death, as stated in the certificate of the attending physician or coroner, and before unequivocal signs of decomposition shall have appeared. The signs, and they are good enough in their way, are: Permanent cessation of respiration and circulation; purple discoloration of the dependent parts of the body; appearance of blistering around a part of the skin touched with a red-hot iron; the characteristic stiffness known as rigor mortis; and signs of decomposition. In last year's bill, which was much discussed, but not disposed of because of an adjournment of the Legislature, these signs of death were: that incisions into arteries produced no flow of blood; that no transparent appearance existed in the hands and fingers when they were held close to a light; that a mucous covering of the eyes had been found, and that no moisture appeared upon a mirror held within half an inch of the lips and nostrils. The most commendable feature of the bill in question is the nonexposure of a body in the case of epidemic diseases. "But," says the *New York Commercial Advertiser*, "it does not appear to be necessary to fix an absolute time during which any body should remain unburied. A very much shorter period than seventy-two hours would suffice even in so-called doubtful cases for rigor mortis to declare itself. The latter change actually takes place from three to five hours after death, and signals the commencement of decomposition. After this nothing can be gained by waiting, watching or testing." The airing of this question by the public press of the Empire State has accentuated the fact that a German law is the model of the proposed enactment, and that there exists the London "Society for the Prevention of Premature Burial." Yet again in March last, in a pretentious hotel in New York City, there was held over the subject a symposium of lawyers, doctors, coroners and undertakers, none of whom suggested an autopsy as a final settlement. Such a recourse would certainly have been more effectual than an adjournment in confusion.

Trained Female Nurses for the Army.—Under date of Jan. 24, 1899, Surgeon-General Sternberg addressed a letter to the Secretary of War, in which he says that our experience during the war with Spain has demonstrated the fact that the services of trained female nurses in the care of serious cases of typhoid fever and other diseases requiring skilful nursing are indispensable. He therefore recommends the enactment by Congress of a law embodying the following provisions:

That the Surgeon-General of the Army is hereby authorized to make contracts with female nurses, not exceeding in number 1 per cent. of the Army of the United States; and as many female chief nurses as, in his judgment, the service may require. Nurses shall be paid at a rate not to exceed $50 per month, and chief nurses at a rate not to exceed $75 per month. Each nurse and chief nurse shall receive one ration in kind or commutation therefor, and be provided with quarters and medical attendance, and when necessary may be granted such leaves of absence, with pay, as the Surgeon-General of the Army may authorize. Such nurses and chief nurses shall be graduates of training schools for nurses, provided that when employed to nurse yellow fever cases or to perform duties as dietists or matrons they may be exempted from this provision.

There has, however, been introduced into the United States Senate a bill which places the proposed corps of nurses under the control of an extraordinary commission.

The first section provides that women nurses in the proportion of not less than .5 per cent. of the number of men in the Army shall be employed in military hospitals, and shall constitute the woman's nursing service of the Army. The second section provides for a commission, to be known as the Nursing Service Commission, to be composed of the Secretary of War, the General Commanding the Army, the Adjutant General and the Surgeon-General, ex-officio, and three women appointed by the President, two of whom shall be nurses, graduates of a general hospital training-school giving a course of instruction lasting not less than two years; and that this Commission shall, subject to the provisions of this Act, have general charge of the nursing service. The other sections go into the details of the service. There shall be a superintendent, who shall be a graduate from a training school and who shall be appointed by the President for a term of seven years, and confirmed by the Senate, from candidates nominated by the commission. Besides this superintendent, there shall be an assistant superintendent, chiefs of nurses, all graduates, etc., and shall present credentials and pass an examination to the satisfaction of the Commission and give three months probationary service in an Army preparatory school. Any nurse may be suspended by the chief of nurses or by the surgeon in charge of the hospital, through the chief of nurses, for incompetency or misconduct, and may be discharged by the Surgeon-General and the superintendent of nurses. All further rules and regulations regarding admission to and conduct of the nursing service shall be formulated by the superintendent of nurses, subject to the approval of the Commission. The salary of the women members of the Commission is to be $6 a day each when in actual service; the superintendent of nurses $3000 per annum, with suitable office facilities and necessary clerks for the transaction of business; the assistant superintendent $2000 per annum; the chief nurses $85 per month; the head nurses $50; the assistant nurses $40 and the probationers $30 per month, all with transportation and necessary traveling expenses when on public business, and all, except the superintendent and the assistant superintendent, with subsistence, uniforms and laundry, and medical attendance, nursing and medicines during illness.

These singular propositions in the way of legislation are embodied in S. 5353 and H. R. 11770, 55th Congress, 3d Session.

Cincinnati.

Dr. Louis Schwab.—Dr. Louis Schwab, president of the Cincinnati Academy of Medicine, and coroner-elect of Hamilton County, began active duty February 1. His predecessor, Dr. Jacob Haerr, will devote himself to his private practice.

Dr. Arch. I. Carson.—Dr. Arch. I. Carson has been appointed to fill the place of Dr. James M. French, who has been promoted to succeed the late Police Surgeon Armstrong. Dr. Carson is a graduate of the University of Cincinnati, of the Miami Medical College, ex-interne of the Cincinnati Hospital, demonstrator of pathology in Miami Medical College, pathologist to the Cincinnati Hospital, and secretary to the Cincinnati Natural History Society.

Smallpox.—Smallpox, which has been stamped out in the country districts of Ohio, is reported to be on the increase in Cincinnati and Cleveland. This is ascribed by Dr. Byron Stanton, local member of the State Board of Health, to the number of tenement houses, insufficient ventilation, and the neglect of sanitary precautions by a large class of the population. A circular letter has been issued by the Health Department, urging on the public the vital importance of vaccination of all persons who have never been vaccinated, and the revaccination of all persons who have not been successfully vaccinated within the last five years. The forty-six cases now at the branch are all doing well; as yet there has been no death in the city, showing that the disease is exhibiting a very mild form.

Louisville.

LIEUT. BEN. FRANK.—Dr. Ben. Frank, formerly hospital steward with the First Kentucky Volunteer Regiment, and later acting assistant-surgeon, on duty in Porto Rico, returned on the transport *Berlin* January 27. He will remain for a time in Louisville on leave.

Dr. DUNCAN EVE of Nashville president, and Dr. HENRY E. TULEY, secretary, of the Mississippi Valley Medical Association, spent a day in Chicago with Dr. H. N. Moyer, chairman of the Committee of Arrangements, relative to the coming meeting of the Association in Chicago, September 12. Much interest has already been manifested in the session, which promises to be a very large one.

KENTUCKY UNIVERSITY.—A very complete operating room and amphitheater has just been completed by the Medical Department of Kentucky University, in their building, corner of First and Chestnut Streets. The laboratories, which were delayed in opening on account of the delay in receiving the microscopes, have been opened with large classes.

SMALLPOX.—A large number of cases of smallpox have been confined to the pest-house during the past month. There is no likelihood that the disease will be long in evidence. Much satisfaction has been had in the new glycerinated vaccin lymph. The consensus of opinion is that it gives a much better result, less often having serious suppuration of the site of inoculation.

Dr. J. M. MATHEWS will shortly go to Kansas City as the guest of a local medical society, before whom he is to make an address.

PHARMACY.—An important meeting of the State Board of Pharmacy was held at the Louisville Hotel on January 10 and 11. The question of the appointment of inspectors for the State, whose duty it is to see that the laws regulating the practice of pharmacy in the State are observed, was considered and finally adopted. Some of the more frequent violations are the employment of unlicensed men to care for drug stores in the absence of the proprietor or clerk; the selling of medicine, drugs and insecticides by others than druggists, such as department stores, etc. The Board is now in position to enforce these laws, a large unexpended part of the appropriation being devoted to this purpose. About seventeen candidates for license to practice pharmacy in the State were examined during this session of the Board.

KENNEDY.—Dr. Orville Kennedy, who for the past eight years has been professor of chemistry in Central University, Richmond, Ky., has removed from that place and located at Crescent Hill, Ky., a suburb of Louisville, where he will practice his profession. Crescent Hill is his old home, he having moved to Richmond from there.

IN A QUANDARY.—A peculiar condition of affairs existed at the county jail last week, when a negro named Blanks, under sentence to hang February 24, for criminal assault on a young white girl at Mayfield, Ky., developed smallpox. The jailer communicated with the governor by wire, who replied that Judge Barker of the criminal division, had jurisdiction; Judge Barker refused to assume it, but the jailer, urged on by the jail physician, Dr. Garvin, sent him to the Eruptive Hospital under a special guard. He will wear both leg-irons and handcuffs. The mayor of Frankfort, where the State penitentiary is located, through the governor, ordered no more prisoners brought to the penitentiary until the jail was in good condition. Some nineteen or twenty cases have developed at the county jail and all were removed to the pest-house.

VACCINATION.—The common council has passed the compulsory vaccination ordinance, which also makes it mandatory for cases of smallpox to go to the pest-house. Heretofore if the patient or family refused, he could not be forcibly removed to the eruptive hospital. In accordance with this ordinance the following physicians have been appointed to vaccinate the unprotected throughout the city. First ward, C. E. Embry; second ward, C. G. Lucas; third ward, O. O. Kennedy; fourth ward, Clifton Miles; fifth ward, Donald Jacobs; sixth ward, Thomas Dunlap; seventh ward, A. H. Falconer; eighth ward, H. H. Lewis; ninth ward, Louis Blitz; tenth ward, Johuk Freeman; eleventh ward, the city physicians, Drs. Guest and Palmer.

X RAY.—An X-ray photograph of a fractured arm is being used as evidence in a damage suit at Henderson, Ky., in which a physician is sued for $10,000 damages for malpractice—the first time in the history of the court at that place.

LEXINGTON.—The city council of Lexington has been in a deadlock for some weeks over the annual apportionment ordinance. It was broken at the meeting of February 1 by its passage. It gives St. Joseph's Hospital and the Good Samaritan Hospital each $3,000 annually, for the care of the destitute sick, as the city has no city hospital for the care of these cases.

ASYLUM REPORT.—The annual report of the Eastern Lunatic Asylum, Lexington, Ky., for the year ending Sept. 30, 1898, has just been published. The report of the superintendent, Dr. E. M. Wiley, is admirably prepared. The following are some extracts from the report of the Board of Directors: "The treatment, or rather the disposition, of the insane has in all ages proved a source of embarrassment. There still exists among men a sentiment in the closing years of the nineteenth century that a lunatic asylum is to be regarded simply as a place of custody or refuge to those members of society affected with mental disease. But a sentiment more creditable to our common humanity generally prevails, and it is now the better opinion of the world, that such institutions should be regarded as hospitals where suitable medical treatment can be had. The buildings fairly illustrate a century of evolution in the architecture of such erections for the custody and treatment of the insane. The first buildings were erected in 1816, and others have been added at various intervals, until the entire structure has assumed an impressive appearance. The first building erected still retains the narrow, dark cells, wherein the insane, in the early part of the century, were confined. The heavy doors to these cells still bear evidence of the small aperture through which the food was delivered from the outside to the chained maniac." The report of the Board deals largely with the manner of the choice of the medical superintendent and his assistants. At present they are appointed by the Governor, and the Board recommends that the appointment be entirely removed from politics, when the evils of changing so often are so evident, especially as there are more than eight hundred inmates affected by this change. The report of the superintendent shows the advantage of the system of parole and the addition of a little work; the nature of the $30,000 worth of improvements and the planting of 400 fruit trees on the asylum grounds. It is urged in this report that the name of the institution be changed from "asylum" to "hospital," as has been done in so many States. Statistical tables show that there were 246 persons admitted during the year, making the total number of inmates 861; acute melancholia was the affection from which most of the newly admitted ones suffered; the largest number admitted range in age from 25 to 30 years; most of them are married; housekeepers and farmers predominate in the occupation of those admitted; Fayette County sends more patients than any other county; 806 of the patients are Americans, 21 Irish and 21 Germans. The medical staff is composed as follows: Superintendent, Dr. E. M. Wiley; assistant physicians, Porter Prather, C. D. Mansfield and Louise S. Bergmann.

Philadelphia.

Resigned.—After many years of service as pathologist and curator of the Pennsylvania Hospital, Dr. Henry M. Fisher has resigned.

Appointment Confirmed.—Dr. Joseph S. Neff's appointment by Mayor Warwick, as a member of the Board of Charities and Corrections, has been confirmed by the Select Council.

New Laboratory Director.—Dr. Henry W. Cattell, senior coroner's physician of this city, has been elected by the Board of Managers of the Pennsylvania Hospital as director of the Ayer Clinical Laboratory, now in course of construction on the grounds of that institution.

Served as Substitute.—Owing to the recent illness of Dr. Horatio C. Wood, Sr., who is confined to his bed with an attack of la grippe, the clinical lectures on therapeutics and materia medica at the University of Pennsylvania have been given by Dr. Horatio Wood, Jr.

Practicing Fraud on the Doctors.—A man in this city has been arrested and held in the sum of $600 bail for having obtained money from several physicians under false pretenses.

Methodist Hospital.—The term of service of Drs. James Hendrie Lloyd and J. P. Crozer Griffith having expired, they will be succeeded by Drs. W. C. Hollopeter and Thompson S. Westcott as visiting physicians. Drs. John B. Roberts and Robert Le Conte will succeed Drs. Edward Holmes and Joseph P. Tunis, as visiting surgeons, while Drs. Richard C. Norris nd George Arety Shoemaker will exchange service.

Howard Hospital.—In the surgical department, Dr. Edward Martin succeeds Dr. Charles H. Frazier.

St. Joseph's Hospital.—In the medical department, Dr. George Morley Marshall succeeds Dr. Henry Morris as visiting hysician for ensuing term.

January Work at Hospitals.—Owing to the recent epi- emic of grip, a large number of patients were treated by the ifferent institutions of this city as follows: The German Hospital admitted during the month, 327; discharged 248; nd 31 died; in the dispensary there were treated 3001 cases, f which 638 were new patients and 250 were accident cases. n the Women's Medical the number of patients treated in the inics were: Surgical 147; medical 159; gynecologic 210. At t. Agnes, the patients admitted numbered 166; discharged 25; treated in dispensary 2070.

Bequests to Presbyterian Hospital.—Through the death Jane McCutcheon, a bequest of $200 has been left the resbyterian Hospital of this city. Mr. J. Penrick Hogg, a ember of the board of trustees of the hospital, is now having ans made for the erection of a handsome building for use as a ome for nurses. The building will be three stories in height, ith a basement, the dimensions of which will be 52 by 123 et. The material will be composed of hard red brick, immed with brown stone and will be of sufficient size to commodate seventy-six nurses.

Insane at Blockley Hospital.—There are now 1400 insane tients in Blockley Hospital, originally intended for something over half that number. It is said that the increase in e insane department is something startling, and for the past n years there has been an increase of 85 per cent. No single ar has shown a decrease, there being, for instance, 760, Jan. 1889, and 1378 on Jan. 1, 1899. At the present time 1400 are ing cared for in that institution. As has been mentioned sewhere, the State insane asylums are overcrowded and these stitutions are clamoring for increased appropriations.

Lectures on Medicine.—The arrangement made by the ustees of the University of Pennsylvania, leaving vacant the hair of Practice of Medicine, recently filled by the late Dr. pper, and providing that the lectures be given by several mbers of the faculty, seems to give general satisfaction. e work has been assigned to Drs. Musser, Stengel, Fussell d Packard, in such a way that each lecturer might give instruction in those branches of special interest to them, and in this way the student will be the gainer thereby.

Ptomain Poisoning.—On January 30 the students of Pennsylvania Military College, Chester, Pa., after a turkey dinner, were seized with nausea and vomiting so intense as to resemble arsenic poisoning. The fowls had been shipped (in the undressed state) from Delaware, and had been kept in cold storage until the time they were cooked, several days subsequently. At this time no offensive odor was detected. Out of 127 students at the college 67 were affected. No fatal results have so far been reported. A fatal case of ptomain poisoning occurred in this city during the past week. The patient, a coal dealer, had eaten a breakfast composed largely of scrapple, and at 10:30 began to suffer intensely from nausea and vomiting, accompanied by chilly sensations. Physicians' services were of no avail.

Will Fight Compulsory Vaccination Act.—A citizen of Philadelphia, who it is said is in the habit of frequently figuring before the public as a general censor of morals, etc., is announced as proposing to fight the compulsory vaccination law which applies to school children. While he says he is not opposed to vaccination per se, he considers it an infringement on the rights and liberties guaranteed by the State constitution.

State Charities for Insane.—The Board of Commissioners of Public Charities of Pennsylvania has filed its report and applications for the several institutions have been made as follows: State Hospital for Insane at Harrisburg, $258,000; State Hospital for Insane at Norristown, $101,000; State Hospital for Insane at Danville, $49,670; State Hospital for Insane at Warren, $3000; State Asylum for Chronic Insane at Wernersville, $44,008.57. In addition to the above named sum, the Board recommends the establishment of a State institution for the treatment of epileptics, to cost $150,000, and also one for the convict insane, to cost $25,000.

Mortality Statistics.—During the week just closed, a total of 518 deaths have occurred. Of this number, 128 were children under the age of five years. The results go to show a slight falling off in the number of cases of typhoid fever and also a decreased number of deaths. La grippe is gradually subsiding.

Typhoid Fever.—After some delay the Board of Health are taking active steps against typhoid fever. While in Boston only nine cases of typhoid fever existed, and in New York for the same period, there were only sixteen, in Philadelphia there were 427 cases.

Grippe the Cause of Insanity.—During the past week the question of grippe as an etiologic factor in the production of insanity has been presented to different physicians of this city by a reporter, and the statement was made that all authorities agreed that this disease was a frequent cause of mental derangement. Dr. Daniel E. Hughes, chief resident physician at the Philadelphia Hospital, and who has 1400 insane under treatment, has been quoted as follows: "We were practically free for many years of the grippe until the winter of 1889-90. It has been observed from that time that melancholia and general depression of spirits with mental confusion was one of the most frequent sequels following an attack of grippe, coming in epidemic or endemic form. The mental confusion arose usually after the greater portion of the attack had passed away. Many patients taken into the insane departments of the Philadelphia Hospital, when their history is traced up, are found to have suffered from grippe within three or four months. We have in the wards today twenty typic cases of post-grippal confusional insanity, all coming to us earlier in their convalescence than formerly, and the type of the cases we are getting now is one of depression or melancholia. There is generally no trace of insanity in their families." At least one interesting example of the confusional form of insanity has occurred in this city within the past few days, when a young man about 30 years of age mysteriously disappeared from home. He first suffered from grippe last year, and had a recurrence about Jan. 1, 1899. On January 17 he left home, and until a few days ago was unable to give any account of himself. He finally landed in Washington and registered at one of the hotels in that city, giving the wrong name. A few days later employes of the hotel heard groans coming from his room, and on investigation, found that the young man had taken morphin. He was promptly removed to a hospital, where relief was obtained. He lay in a dazed state for several days and could tell nothing of his wanderings since leaving home. He was kept under observation, and it is said consciousness was suddenly restored by showing him a photograph of his baby boy. Another mysterious disappearance has recently occurred in the person of a young lady who had also suffered from an attack of grippe, but up to this time all efforts to discover her whereabouts have been of no avail.

THE PUBLIC SERVICE.

Movements of Army Medical Officers under orders from the Adjutant-General's Office to February 2, 1899.

Lieut. George W. Acker, asst.-surgeon, 2nd Mass. Infantry, honorably discharged.

Major Aaron H. Appel, surgeon, U.S.A., to Fort Clark, Tex., from duty at Fort Hamilton, N.Y.

Major Henry P. Birmingham, brigade surgeon, Vols., order of Jan. 23, 1899 (discharge from Volunteer service), revoked.

Lieut. Thomas S. Bratton, asst.-surgeon, U. S. A., leave of absence extended.

Lieut. John W. Cox, asst.-surgeon, 6th U.S.V. Inf., sick leave extended.

Major Orlando Ducker, brigade surgeon, Vols., to proceed to Havana, reporting to the commanding general of the Division.

John F. Dunshie, acting asst.-surgeon, from New Orleans, La., via Tampa, Fla., to the Department of Santiago, Cuba.

Allen P. Ebbert, acting asst.-surgeon, from Camp Forse, Huntsville, Ala., to the Department of Puerto Principe, Cuba.

Henry P. de Forest, acting asst.-surgeon, now on sick leave, to proceed to New York City and report to Brigade Surgeon N. S. Jarvis for instructions.

Ernest W. Fowler, acting asst.-surgeon, to Savannah, Ga., to the hospital ship *Bay State*, from duty at the General Hospital, Fort McPherson, Georgia.

Harry L. Gilchrist, acting asst.-surgeon, from duty at Albany, Ga., to the hospital ship *Relief* for transportation to Manila and duty in the Department of the Pacific.

Major James D. Glennan, brigade surgeon, Vols., orders of Jan. 23, 1899, to duty at Fort Myer, Va., revoked; to duty, instead, at Matanzas, Cuba.

Col. Charles R. Greenleaf, assistant surgeon-general, U.S.A., to Savannah, Ga., thence on the steamer *Bay State* to Cienfuegos, Cuba, stopping at such intermediate places as may be designated by the Surgeon-General, for the purpose of inspecting the Medical Department at these stations, thence to such other places as may be indicated.

Lieut. Harry S. Greenleaf, asst.-surgeon, U. S. A., from duty at the Josiah Simpson General Hospital, Fort Monroe, Va., to Washington Barracks, D. C.

Herbert I. Harris, acting asst.-surgeon, from duty at Walker, Leech Lake, Minn., to Madison Barracks, N.Y.

Lieut. Charles E. Morrow, asst.-surgeon, U. S. A., from the hospital ship *Bay State* at Savannah, Ga., to Avila, via Havana and Jucaro, Cuba, to duty with the 15th U. S. Infantry.

Frank R. Maura, acting asst.-surgeon, sick leave extended.

Lieut.-Col. Louis M. Maus, chief surgeon, Vols., from duty with the 7th Army Corps to Fort Hamilton, N.Y.

Capt. Geo. W. Roberts, asst.-surgeon, 3d Tenn. Inf., honorably discharged on muster out of regiment.

Major Henry D. Thomason, chief surgeon, Vols., from temporary duty at Fort Clark, Tex., to his home to await orders.

Major William B. Winn, brigade surgeon, Vols., from duty at Anniston, Ala., to Havana, Cuba, reporting to the commanding general.

Robert H. Zauner, acting asst.-surgeon, from the general hospital, Fort Myer, Va., to duty in the Department of Puerto Principe, Cuba.

Chief Surgeons in the Military Division of Cuba.—Recent orders from the Headquarters of the Army announce the staff officers on duty in the Island of Cuba. From them we find Lieut.-Col. R. M. O'Reilly, U.S.V., chief surgeon, Division of Cuba. Major-Gen. John R. Brooke, U.S.A., commanding; Lieut.-Col. Timothy E. Wilcox, U. S. V., chief surgeon, Department of Mantanzas. Major-Gen. James H. Wilson, U.S.V., commanding; Lieut.-Col. Louis M. Maus, U. S. V., chief surgeon, Department of the Province of Havana, Major-Gen. Fitzhugh Lee, U. S. V., commanding; Major James H. Hyssell, U. S. V., chief surgeon, Department of Santa Clara, Major-Gen. John C. Bates, U. S. V., commanding; Major William C. Gorgas, surgeon U. S. A., chief surgeon, Department of Havana, Major-Gen. William Ludlow, U. S. V., commanding; Major Valery Havard, surgeon U.S.A., chief surgeon, Department of Santiago, Major-Gen. Leonard Wood, U.S.V., commanding; Major Samuel T. Armstrong, brigade surgeon, U. S. V., chief surgeon, Department of Puerto Principe, Brig.-Gen. Louis H. Carpenter, U. S. V., commanding; and Major William L. Knecdler, brigade surgeon, U. S. V., chief surgeon, Department of Pinar del Rio, Brig.-Gen. George W. Davis, U. S. V., commanding.

Movements of Navy Medical Officers.—Changes in the medical corps of the U.S. Navy for the week ending Feb. 4, 1899.

P. A. Surgeon E. S. Bogert, Jr., ordered to additional duty in attendance on officers of the Navy and Marine Corps, at New York.

P. A. Surgeon C. F. Stokes, ordered to duty as member of the board of medical examiners, New York, February 1.

Asst.-Surgeon G. L. Angeny, order detaching from the naval hospital, Chelsea, Mass., and ordered to the "Indiana," revoked.

Medical Director E. S. Bogert, retired, detached from special duty at New York and ordered home.

Medical Director D. Bloodgood, retired, detached from special duty at New York and ordered home.

Surgeon T. C. Craig, retired, detached from duty as a member of the board of medical examiners, New York, February 1, and ordered home.

Surgeon L. B. Baldwin, detached from the naval recruiting rendezvous, New York, and ordered home to await orders.

Asst.-Surgeon E. G. Parker, ordered to the "Pensacola."

Asst.-Surgeon W. H. Garton, order of January 14, detaching from the "Supply" and ordering to the Washington navy yard, revoked.

Surgeon G, E. H. Harmon, detached from the "Newark" and ordered to the "Amphitrite."

Surgeon A. C. H. Russell, detached from the bureau of medicine and surgery and ordered to the "Newark," February 8.

Asst.-Surgeon J. J. Snyder, detached from the "Wabash" and ordered to temporary duty at the naval hospital, Newport, R. I.

CHANGE OF ADDRESS.

Crump, J. M., from Fairfax to 1111 South 9th Street, Tacoma, Wash.
Chapman, W. S., from Ft. Mouroe, Va. to Rouse, Colo.
Collins, T. S., from Ryan to Burchinal, Ia.
Dean, W. W., from Chicago to Stromburg, Neb.
Edwards, F. H., from Rockford to 1562 Maple Ave., Evanston, Ill.
Folkland, M., from Mt. Pleasant, Ia. to Aberdeen, S. D.
Heflebower, R. C., from Groton to Berkshire Bldg, Cincinnati, O.
Hendley, F. W., from 785 E. McMillan to 2528 Chatham Street, Cincinnati, O.
Hulen, V. H., from New York City to 406 Sutler Street to San Francisco, Cal.
Hulett, C. M. T., from Kirksville, Mo. to The Hollenden, Cleveland, O.
Korn, A., from Chicago to 1219 Madison Ave., New York City.
Law, H. L., from Boston, Mass. to 100 Washington St., Hartford, Conn.
Lisle, H. C., from Springfield, O. to Genoa Junct., Wis.
Moore, H. C., from Beeville to Halletsville, Texas.
Mathews, C. O., from Terell to 307 W. Main, Denison, Texas.
Olesen, from Chicago to 61 Howland Street. Battle Creek, Mich.
Outlen, W. B., from Equitable Bldg to 3515 Pine Street, St. Louis. Mo.
Pampel, B. L., from Omaha, Neb. to Livingston, Mont.
Perkins, P. M., from New York Life to Altman Bldg, Kansas City, Mo.
Reedy, E. S., from Colorado City, Colo. to Joliet, Ill.
Stevens, F. W., from Chicago to Bloomington, Ill.
Werner, O. E., from Rib Lake to Brillion, Wis.
Wright, J., from Roseburg, Ore. to Clinton, Ill.

LETTERS RECEIVED.

Abbott, F. W., Taunton, Mass.; Anderson, Winslow, San Francisco Cal.; Abels. H. J., Liverpool, O.; American Traveler, Chicago; Ambrose O. A., St. Louis, Mo.; Ammonol Chemical Co., New York City; Allen & Hanburys Ltd, London, Eng.; Adams, J. F., Bagdad, Ky.

Bartlett, R. H., Chicago; Brockhausen, B. Erp, Lansing. Ia.; Brock. Chas., Fort Wayne, Ind.; Bassett, H. S., Philadelphia, Pa.; Bernheim, A., Philadelphia, Pa.; Bradner, F. C., New York City; Ball, Austin, Charleston, S. C.; Babcock, L. C., Philadelphia, Pa.; Barbour, J. M., London. Eng.; Biedler, H. H., Baltimore, Md.; Blumer, G. Alder, New York City; Blakiston's Son & Co., Philadelphia, Pa.; Bergman, Geo. W., Portland, Ind.; Bush, J. H., Chicago.

Chapman, N. S.. Rouse, Colo.; Cannady, C. G., Roanoke, Va.; Case, F. D., Ashtabula, O.; Caton, C. W., Coshocton, O.: Collins, T, L., Burchinal. Ia.; Collins, E., Ryan, Ia.; Chicago Medical Book Co., Chicago; Clark, L. E., Elk Park, N. C.; Clark, L. P., Sonyea, N. Y.; Chicago Oxygen Gas Co., Chicago; Couch, E. E., Milwaukee, Wis.

David, E. L., Louisville, Ky.; Durham, C. E., Galveston, Texas.

Emrich, E. L., Cleveland, O.; Elliott, H. G. (2), New York City; Egan. J. A., Springfield, Ill.; Etna Chemical Co., New York City; Evans, M. H., Spring Valley, Ill.

Frazer, W. A., Lyle, Minn.; Traveler's Adv. Agency, C. H., Chicago.

Grafe, F. A., Cincinnati, O.; Good, C. A., Traverse City, Mich.; Gorin, J. P., New York City.

Happel. T. J., Trenton, Tenn.: Harman, G. G., Huntingdon, Pa.; Harrison, C. F., Perry, Ill.; House, L. F., Sinking Spring, O.: House, G. V. Mfg. Co., New York City; Hinchman, J. V., Hebron, Neb.; Hunt, B. S., Winchester, Ind.; Holloway, Jas. M. Louisville, Ky.; Hutchings, Guy, Eustis, Fla.; Hektoen, L., Chicago; Hagan, A. W., Buffalo, N. Y.; Hotz, F. C. Chicago; Herman, A. L., Minneapolis, Minn.; Hulen. V. H., San Francisco, Cal.; Hulett, C. M. T., Kirksville, Mo.; Hendley, T. W., Cincinnati, O.; Haldenstein, J., New York City; Hummel Adv. Agency, A. L. (2), New York City.

Ill, E. J., Newark. N. J.

Jewelers's Review, New York City; James, J. A. J., St. Louis, Mo.; Jeffrey, J., Chicago; Jonas, A. F., Omaha, Neb.; Jicinsky, J. Rudis, Cedar Rapids, Iowa.

Kerr, I. J., Cleveland, O.; Kidd, J. W., Joliet, Ill.; Klussman, F. M., Toledo, O.; Keister, B. C.. South Boston, Va.; Kenney, A. C., Astoria. Ore.; Kempson & Co., J. F., New York City; Kress, J. Owen Co., New York City.

Laudick, L. F., Lima, O.; Lambert Pharmacal Co. (2), St. Louis, Mo.: Larkins, E. L., Terre Haute, Ind.; Lentz, Amos, Larchwood, Ia.; Leland, G. A., Boston, Mass.; Long, M. B., Plainfield, N. J.; Lockhart, C. H., Witt, Ill.; Lisle, H. C.. Genoa Junct., Wis.; Lund, T. B., Boston, Mass.; Lyen, J. B., Salvisa, Ky.

Magruder, G. L,, Washington, D. C.; Malsbary, Geo., Cincinnati, O.; Mogk, W. A., Ann Arbor, Mich.; Merrick, M. B., Passaic, N. J.; Mitchell. T. E., Columbus, Ga.; Merrifield, O. G. & Co., Chicago; Murdock, E. P., Chicago; Moore, H. C., Beeville, Texas; Miser, Mrs. M. J., Lovilia, Ia.: Montgomery, L. H., Chicago; Miller, E. L. Detroit, Mich.; Meyen, C. & Co., New York City; Maltine Co., Brooklyn, N. Y.; McBurney, Ed., Jackson Center, O.; McClintock, J. T., Iowa City, Ia.; McSwain, I. A., Paris, Tenn.

N. Y. Post Grad. Med. School, New York City; Northrop. K., Wernersville, Pa.

Oakman Motor Vehicle Co., Greenfield. Mass.

Packard, F, A., Philadelphia, Pa,; Pollock, W. L., Boone, Ia.; Pampel, B. L., Omaha, Neb.; Purdue, P. F., Swinton, Mo.; Plummer, C, G.. Salt Lake City, Utah; Plummer, H. E., Des Moines. Ia.

Raymond, J. H., Brooklyn, N.Y.; Rasco, I., Madisonville, Tex.; Reedy, E. S., Joliet, Ill.; Rectanus, F., Louisville, Ky.; Remalin, R. H., Cincinnati. Ohio; Reed, G. D., Topeka, Kans.; Reed & Carnrick, New York City; Ritchie, Parks, Minneapolis, Minn.: Roberts, W. H., Terre Haute, Ind.; Ross, J. W., Clarksville Tenn.; Russell, E. D., Clare, Iowa.

Sargentide, S., San Francisco, Cal.; Saunders, W. B., (2) Philadelphia, Pa.; Scott, N. Stone, Cleveland, Ohio; Stewart, J. W., The Book Bindery. York, Pa.; Simplex Lamp Co., Brooklyn, N.Y.; Stevens. F. W., Bloomington, Ill.; Sinclair, J. G., Chicago, Ill.; Smith, J. F., Baltimore, Md.; Solly, S. E.. Colorado Springs, Colo.; Street, David, Baltimore, Md.; Stemmler. T. W., New York City; Sherman, J, S., Cassopolis, Mich.; Squibb, E. H., Brooklyn, N.Y.; Stuver, E., Fort Collins, Colo.; Smith, C. H., Lebanon, Ind.; Spearman, W. C., Texarkana, Tex.

Taylor, J. L., Wheelersburg, Ohio; Terry, C. E., Denver, Colo.; Thompson, M. E. B., Cincinnati, Ohio; Trovillion, E. B., Gold Hill, Colo.; Trueheart, P. P., Sterling, Kans.; Treat, E. B. & Co., New York City; Transylvania Printing Co., Lexington, Ky.; Trow Directory Printing and Book Binding Co., New York City; Tuttle, H. H., (2) Springfield, Ill.

Ward, W. K., Washington, D. C.; Wells, G. R., Livingston, Mont.; Weymann, M. F., St. Joseph, Mo.; Wherry, J.W., Chicago, Ill.; Widmer, W. A., Philadelphia, Pa.; Wigginton, J. N., Waukesha, Wis.; Woldert, E. A. (2) Philadelphia, Pa.; Watts, G. W., Chicago, Ill.; Walter, A. F., Gladbrook, Iowa; Wood, H. F., Chicago, Ill.

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ADDRESS.

CHAIRMAN'S ADDRESS.

Presented to the Section on Laryngology and Otology, at the Forty-ninth Annual Meeting of the American Medical Association, held at Denver, Colo., June 7-10, 1898.

BY B. ALEX. RANDALL, M.D.
PHILADELPHIA, PA.

The ordinances of the ASSOCIATION, gentlemen, impose upon your Chairman (unless the imposition be greatest upon the unfortunate hearers) the duty of addressing you in relation to the general interests of our specialties and of our Section. Abler men have used the opportunity to inculcate important teachings or spread the knowledge of advances in our scientific progress: my theme shall be merely the reiteration and nforcement of the self-evident proposition that this hould be *a Section*—a group of men studying and enerally practicing the related and inseparable ranches of otology and laryngology. Each of us vill have his favorite lines within this broad territory; ut none of us should regard it as two territories with ny natural or proper line of demarcation. Let us all ide our hobbies, then, through the length and breadth f the domain; and it may well be that we shall thus earn how little bottom many of them have and how eedful it is that we should secure better mounts.

During the ten years that this Section has been in xistence there has been a growing yet incomplete ecognition of the amalgamation of the usually disnct specialties which it enforces. The laryngologist as been discovering the nose, learning to treat it, unarning many over-treatments and changing from a hysician treating the affections of the throat and chest to a surgeon dealing with laryngo-oto-rhinology. he oculist-aurist of past decades—dare I admit that am still one?—has been learning rhinology as well following the general surgeon in intracranial surry, unlearning many over-minute and finikin ways, hile demonstrating the value of minutely accurate udy and intervention. In short, there has arisen a cognition within the past fifteen years that the nose th its accessory cavities forms an organic whole; d while there has been the inevitable overswing ich would make the ear and larynx mere appendes, engulfed at times in the hypothetic eddy bend a nasal spur, we must remember that it is by anks that most great wheels are set in motion, and ncern ourselves principally with the due utilization the momentum thus attained. Honest work, however narrowly conceived and executed, must continually increase our knowledge at points all along the line; and the presentation of such advances at each of our meetings, pulled to pieces, if they are flimsy, and winnowed of the chaff which they too often contain, must aid in making the real value within them an addition to the common heritage of the profession, general and special. Let us seek the good in every paper presented, whether by some man whose reputation is national or wider, or by some man just entering our Section. The crotchets of the elder may impair or obscure the value of his facts, and his personal bias may warp his conclusions far from the logical result.

The discussion, if properly impersonal and scientific in spirit, ought to bring all this to light, while not rightfully giving any offense. Less experienced men may set forth as new, matter which is new only to themselves; yet their point of view and the variation of conditions may make the presentation well worthy of our respectful consideration, and I trust that you all have come to learn, as I have. Yet, let us remember that we have a duty to perform; that we sit as a jury and ought to pass judgment (kindly though it may be adverse) upon some of the papers read before us. The AMERICAN MEDICAL ASSOCIATION with its Sections seeks to constitute a medical democracy in which every practitioner may make himself duly felt; but it can make and keep itself respected only by firm, reasonable self-government, lest it become a mob in which clamor and self-seeking would prevail. Meeting in widely separated portions of the country, as we do, a large part of the adherents of our Section must be different each time. It will happen that now and then a man whom we can not accept as a representative will abuse his privilege of the floor and by his paper or discussion risk making us as well as himself ridiculous. If these things could be ignored it might be the best treatment; but they will generally find their way into the JOURNAL as a part of our transactions. Herein I believe we have made an important step in beginning the publication of a bound volume of transactions. In its series we may have a continuity and unity which has never before made itself felt in our Section. A list of the adherents—which was unfortunately omitted this year—should annually be enlarged and revised. The *esprit du corps* inherent in such an arrangement will do much to establish a censorship, which in flagrant instances we can make striking by excluding unworthy matters from our records. Let us hope that this will not be needed, but that the knowledge that such censorship is present will serve to keep every one who addresses us within rational bounds; that our discussions may be impersonal dealings with facts as they have presented themselves to each of us, and that with fullest unity of spirit and friendly rivalry in helpfulness we may strive to make our Section the most successful in the AMERICAN MEDICAL ASOCIATION.

ORIGINAL ARTICLES.

EVERSION OF VENTRICLE OF LARYNX.

AND CYST INVOLVING LARYNX AND SIDE OF NECK.

BY E. FLETCHER INGALS, A.M., M.D.
CHICAGO.

D. F., aged 39 years, was brought to me May 4, by Dr. Reagan, on account of difficulty in speaking and a cystic tumor about 1½ inches in diameter just below the angle of the jaw upon the right side. The patient gave the following history: In 1890, after some unusual exposure, an abscess had developed in the region where the tumor now presented. It had swollen rapidly and was lanced at the end of a week, giving vent to yellow pus. Again, in 1892, he had had similar trouble. There had been slight swelling at the point ever since. The Doctor stated that he had seen him about a year ago, and found in this same region what appeared to be a sac containing air, which could be made to entirely collapse on pressure. The patient had been subject to tonsillitis when a boy, but gave no history of any other disease; indeed, he said he had never been sick in his life. He complained of a little aching at times in the region of the growth; the appetite and digestion were good, and his weight was greater than ever before. There was no cough; the voice was a coarse whisper attended by a peculiar vibration that was subsequently found to be caused by vibration of the epiglottis. There was some dyspnea upon exertion; pulse was 68; temperature 99.4.

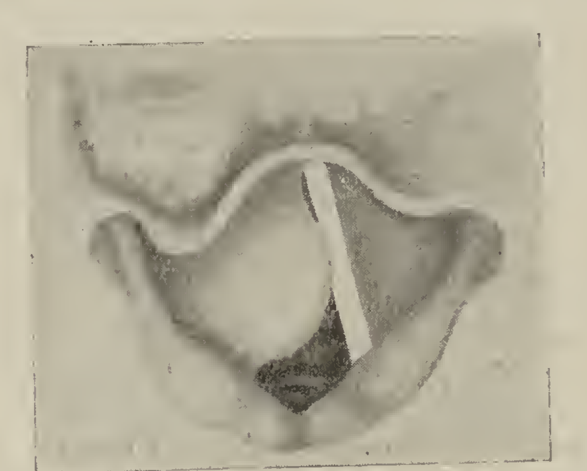

Fig. 1.—Cyst at base of tongue and crowding in the right side of larynx.

Upon examination externally, I found an elastic ovoid tumor about 1½ inches in its various diameters. By pressure it could be nearly dissipated, but it immediately returned when the pressure was removed. I also found that on pressure over the tumor he was unable to speak. Upon examination of the throat the fauces were found slightly congested; there was bulging of the right side of the base of the tongue, crowding somewhat against the epiglottis. The swelling was about five-eighths of an inch in diameter, having a cystic appearance at fissure-like places where the glandular tissue had been parted by the swelling. The swelling extended downward at the right side of the larynx, crowding the epiglottis inward and causing bulging of the ventricular band so as to completely hide the right vocal cord and ventricle upon inspiration (Fig. 1), and to hide the left cord and a part of the left side of the larynx on attempted phonation. The right side of the epiglottis was found to vibrate synchronously with the vibration of the voice.

I inserted the needle of an exploring syringe into the tumor and demonstrated its cystic character. The following day I introduced an aspirator needle and drew off two ounces of a thick, mucilaginous, semi-transparent fluid, when the cyst appeared to be entirely emptied. I then injected three-fourths of a dram of a mixture of equal parts of carbolic acid and glycerin through the same needle; this was allowed to remain for several minutes and was worked about so as to come in contact with every part of the cyst. It was then withdrawn and the needle removed. The puncture was closed with cotton and collodion dressing. No smarting was caused by the acid in the cyst. Immediately afterward the voice was found to be very much improved, and the vibration had ceased; but upon examination of the larynx I found that although the cystic tumor in the base of the tongue and at the side of the larynx had disappeared, there was a smooth reddish tumor about five-eighths of an inch in length and about three-eighths of an inch in its other diameters, projecting from the right side of the larynx just above the vocal cord. This was demonstrated to be a prolapsed ventricle.

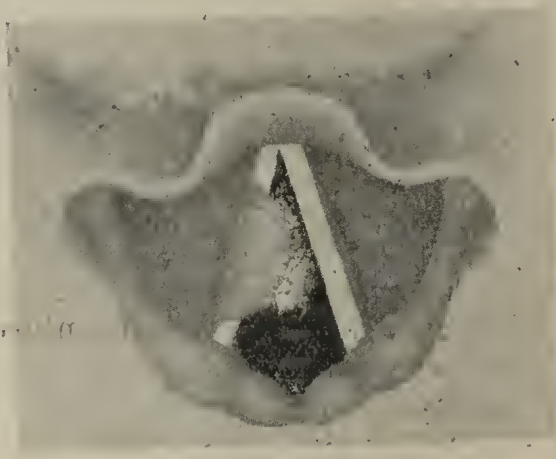

Fig. 2.—Eversion of ventricle.

Fearing acute swelling as a result of the injection of the carbolic acid, I had the patient return to my office about five hours later, when I found some edema of the right side of the larynx. I snipped the mucous membrane with cutting forceps in a couple of places, to let out the serum, and sent the patient to the hospital with the direction that cold compresses be kept applied to the neck all night. The next day I found the everted ventricle in the same condition and no appreciable inflammation of the larynx resulting from the treatment of the cyst. I anesthetized the parts with a 10 per cent. solution of cocain, before attempting to remove the ventricle. The cocain made the patient so sick that he retched and vomited, so that the parts could not be completely anesthetized and i was very difficult to use the instruments in the larynx I attempted, however, to remove the everted ventricle with a cutting forceps, but succeeded only in catching and pinching it strongly without cutting the mucous membrane; but this slightly reduced its size I then wired a polypus snare—for which I have a long bent tube designed for use in the larynx—with a No 8 piano wire, and succeeded in passing this loop over the tumor caused by the everted ventricle. With this I cut the protruding tissues off close to the surface. I had the patient keep cold compresses on th neck during the following night.

When he returned to me, a couple of days later, found the larynx clear of all obstruction, with som depression of the right ventricular band and mode ate congestion and thickening of the vocal cord There had been no inflammation caused by removin the ventricle, and there was no swelling at any pa of the cyst. The voice was still somewhat hoarse in consequence of thickening of the cords, but otherwise he was well. I directed him to use a mild astringent spray in the larynx twice a day and allowed him to go to his home.

36 Washington St.

THE RELATIONS OF THE COLON TO INTRA-ABDOMINAL TUMORS.

BY M. L. HARRIS, M.D.
PROFESSOR OF SURGERY, CHICAGO POLICLINIC,
CHICAGO.

The correct diagnosis of an abdominal tumor is often one of the most difficult problems that confront the surgeon. Nor can the importance of the question be in any way diminished by the statement that an exploratory operation will decide. Notwithstanding the comparative harmlessness of an exploratory celiotomy under proper precautions, no surgeon is proud of having to open the abdomen to diagnose a pregnant uterus, or after thrusting his trocar into a supposed ovarian cyst and drawing it up to find an inextricable mass leading to the pancreas. Still, incidents similar to these are common in the history of surgery.

The object of this paper is not to consider the many means employed in making a diagnosis of an abdominal tumor, but simply to illustrate and emphasize the importance of a simple procedure which is too often neglected.

In arriving at a conclusion as to the nature of an abdominal tumor, the first point to determine is the particular organ or tissue from which it takes its origin. Could this point always be correctly determined, the greatest obstacle to a diagnosis would be overcome. For many years the external topography of the abdomen has been subdivided into various regions or areas by arbitrary lines, and the viscera within, corresponding to each region carefully determined, so that a tumor found occupying a particular region could be referred to an organ normal to that region. Unfortunately, many of the abdominal organs are normally or pathologically movable, and hence are often not found in their habitual locations; and again, many large tumors are so displaced by growth that the region whence they took their origin can no longer be defined. These facts render the subdivision of the abdominal cavity into regions by external lines often of but little value in determining the location of a tumor. What we wish to know is, not the relations of the tumor to arbitrary lines, but its relations to the viscera themselves.

The colon, owing to its peculiar, fixed, circuitous route, and the facility with which it can always be identified, provides us with a most valuable landmark in determining the location of a tumor, and thus, its point of origin.

If we take the inner or mesial layer of the longitudinal mesocolons and the inferior or caudal layer of the transverse mesocolon as a dividing line, we subdivide the abdominal cavity into four regions or areas, namely, the central region, surrounded by the mesocolon; the superior region, lying above, or cephalad of, the transverse mesocolon; and the right and left postero-lateral regions, lying external to and behind the longitudinal mesocolons. While these regions are not at all fixed as regards size and shape, they are quite distinctly fixed in an anatomic sense; and furthermore, as I shall attempt to show, such a subdivision of the abdominal cavity is of considerable value in the diagnosis of intra-abdominal tumors.

The boundary of these several regions as here defined is quite elastic, and a tumor originating in any one of them may by enlargement come to occupy nearly or quite all of the abdominal space. This, however, can occur only by a displacement of the boundary, and it is the recognition of this displaced boundary that enables us to refer the origin of these tumors to their respective regions. This boundary itself can not be recognized through the intact abdominal wall, but attached to its free border is the colon, which at all times can be easily outlined, and a displacement of one corresponds to a like displacement of the other.

To facilitate the outlining of the colon it should be distended by the insufflation of some harmless gas. The distension of the colon as a means of diagnosis in abdominal tumors is not in itself new, as it has been referred to by numerous writers in a desultory way for many years.

Many writers[1] recommend the distension of the stomach and colon with CO_2 and air in the diagnosis of abdominal diseases of these organs, and (Runeborg) in the diagnosis of abdominal tumors, but we have found no attempt at a systematic handling of the subject until Minkowski's article[2] on the combined gaseous distension of the stomach and distension of the colon with water, as an aid in the diagnosis of abdominal tumors. He detailed his resnlts in 100 cases of abdominal tumors, and drew the following conclusion: "An abdominal tumor, on distension of the stomach and colon, usually moves in a direction toward the normal location of the organ from which it takes its origin."

While this is applicable to small movable tumors it does not obtain in tumors so large as not to admit of displacement nor in fixed or immovable tumors. In these cases the tumor can not be located by noting the region toward which it is displaced by a colon distended with fluid, but must be located by noting the manner and direction in which the colon itself is displaced or the relation which it bears to the abnormal enlargement. As a means of outlining the colon the insufflation of air or some harmless gas is decidedly preferable to the injection of fluid. Not only is the colon more easily and quickly located by the insufflation of air, but the method is much simpler and easier of application. Besides the annoyance and inconvenience of at times providing for the evacuation of the fluid, many patients are unable to retain sufficient fluid to distend the entire colon without exciting such violent peristalsis as to be painful and thus interfere with a careful examination of the abdomen.

Before practicing insufflation the colon should be thoroughly emptied and the tumor carefully mapped out upon the surface of the abdomen. For insufflating we make use of the ordinary double rubber bulb of a hand atomizer. To the end of the rubber tubing is fixed a glass or hard rubber tip which is inserted into the rectum and surrounded by a towel or napkin to prevent the escape of gas. Air is now gently pumped into the colon and almost instantly passes around to the iliocecal valve. As the air rushes in, distending the colon, it can be frequently outlined by the eye throughout its entire course including the cecum. Should it dip deeply into the loin or be covered by the tumor, its course can easily be followed and outlined by percussion. The relation of the distended colon to the previously outlined area of tumor dulness can now be determined.

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[1] Ebstein, Volkmann's Klin. Vorträge. No. 155; v. Ziemssen, Deutsche Arch. f. Klin. Med., 1883, Bd. xxxiii. S. 235; Runeborg, Deutsche Arch. f. Klin. Med., 1884, Bd. xxxiv, S. 461.

[2] Berlin Klin. Woch., 1888, No. 31.

I have never seen the use of air in this way followed by any bad results. It is usually quickly expelled spontaneously or should it be retained and produce slight colicky pains the introduction of a rectal tube is all that is necessary to insure its escape.

The diagnostic value of thus determining the relations of the colon to the abdominal tumor may best be shown by referring to actual cases. We will first consider tumors of the central area. Here will be included, not only such tumors as actually have their origin within this area, but also such as originate within the pelvis of the female and project into this area. In the list will be found tumors of the omentum and mesentery, solid and cystic; retroperitoneal tumors; lipomata, lymphosarcomata, lymphangiectatic and ecchinococcus cysts, circumscribed peritoneal exudates, tumors of the small intestine, tumors of displaced or movable kidneys and all tumors of the female generative organs that rise into the abdominal cavity. It is not to be supposed for a minute that simple distension of the colon is going to differentiate all these tumors, nor is it the intention to present here the various points of differential diagnosis, but a knowledge of the location of the colon may be of considerable aid in the diagnosis of many of them, as will be shown.

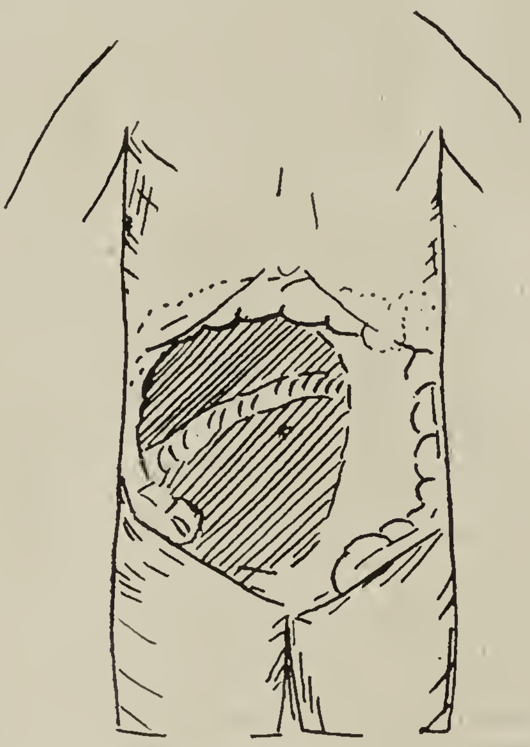
Figure 1.

Case 1.—A boy, aged 5 years, presented a large tumor filling the abdominal cavity, but most prominent to the right and above the umbilicus. Dulness extended into the right loin, and was continuous with the hepatic area. It was impossible to exclude the liver or the right kidney, which, in fact, appeared to be the most likely point of origin. Colonic insufflation disclosed the following condition: Sigmoid, descending colon and splenic flexure in their normal locations; transverse colon arched upward along the superior border of the tumor, passing between tumor and liver, thus excluding the liver as its origin; ascending colon passed posterior to the right border of the tumor into the loin, thence around below and anteriorly to the normal location of the cecum, thus excluding the kidney and placing the tumor in the central area. (Fig. 1.) As the tumor was solid and quite freely movable under anesthesia, we could eliminate everything but tumors of the mesentery and omentum. Careful examination revealed a slightly resonant band crossing over a portion of the tumor, which, the colon being outlined elsewhere, could only be a loop of small intestine, thus eliminating the omentum and reducing us to our final diagnosis—solid tumor of the mesentery. A subsequent laparotomy proved this to be correct.

In doubtful cases of tumors originating in the pelvis in the female, the colon may aid us, as in the following case:

Case 2.—Mrs. ——, aged 44 years, married, had one child at 28 years of age, and has never been pregnant since. Menstruation has always been regular. In December, 1895, she noticed the abdomen was enlarging; missed menstrual flow in May, July and August, 1896; had no trouble with her bowels or bladder; felt poorly without special complaint. In September, 1896, she presented a large tumor filling the abdominal cavity, but decidedly more prominent to right of midline and extending from the right costal arch to Poupart's ligament. Dulness extended without demarcation into the hepatic area and the right loin. To the left of the tumor there was tympanitic resonance of intestines. Tumor was apparently nodular in places, distinctly fluctuating in others. Vaginal examination found uterus normal in size and freely movable. Tubes could be made out as well as the left ovary. Right ovary could not be located. Right tube seemed to be drawn somewhat tense. The resistance of the tumor could just be felt high up. The distinct right lateral location of the tumor, which was practically immovable, and the continuation of its dulness with that of the liver above made its point of origin doubtful. Distension of the colon enabled us to decide. The sigmoid and descending colon were in their normal locations, the transverse colon arched over the superior border of the tumor, and the air was distinctly felt to pass between the tumor and the liver, thus excluding tumors from above. The ascending colon lay deeply in the loin, posterior to the right border of the tumor, thus excluding the right kidney. A very important point was the location of the cecum, which was found displaced upward, outward, and backward, so that it lay above and to the outer side of the anterior superior spinous process. (Fig. 2.) From these facts it was concluded that the tumor had its origin below and probably from the right ovary. Upon opening the abdomen there was found a large multilocular ovarian cystoma with a very long, narrow pedicle, so that it lay entirely outside the true pelvis. It ascended to the under surface of the liver, against which it firmly pressed posteriorly, while anteriorly, between the tumor and the liver lay the flattened transverse colon.

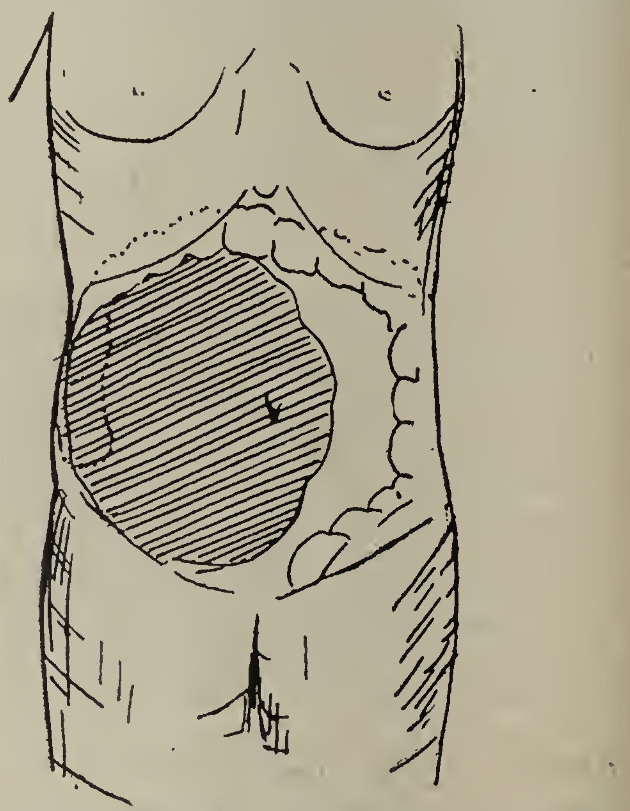
Figure 2.

The displacement of the cecum and sigmoid upward and outward is of considerable importance in the diagnosis of tumors arising within the pelvis.

Case 3. — A female, aged 20 years, a virgin, had gradual enlargement of the abdomen for several months. Menstruation was somewhat irregular for a year or two, and has missed entirely the last four months. About four or five months since she began to have a little cough with gradually increasing shortness of breath. There was no expectoration, no pain, no trouble with bowels or bladder. There was dulness over entire right side of chest. The right side of chest measured four to five centimeters more in circumference than left side. The heart was displaced to the left.

Dulness was continuous with the hepatic area, which extended considerably below the costal arch, and was continuous with that of a large tumor occupying the middle and lower part of the abdomen. There was an area of dulness on each side of the abdomen, shifting with change of position.

Vaginal and rectal examination showed uterus small, high up, freely movable, and inclined slightly to the left. Appendages could not be made out. The tumor was slightly irregular on the surface, and fluctuation could not be detected. The colon was now distended with air. The sigmoid passed up behind and to the outer side of the tumor; the descending colon was in its normal location; the transverse colon arched across the abdomen with convexity downward, clearly outlining dulness above it (hepatic) from the dulness below it (tumor). The ascending colon was normal, the cecum carried upward and outward and lay above and to the outside of the anterior superior spinous process. (Fig. 3.) The location of the colon here clearly separated the tumor from the viscera above, while the displacement of the cecum and sigmoid indicated its origin from the pelvic viscera.

Diagnosis: Effusion in right pleural cavity, with displacement of the liver downward; tumor of ovary with small quantity of fluid in free peritoneal cavity.

Dr. Henrotin, whose case it was, and to whom I am indebted for the privilege of examining and reporting it, removed by aspiration 1600 c.c. of a clear yellowish serous fluid from the right pleural cavity, and by celiotomy, a large multilocular cystoadenoma of the left ovary.

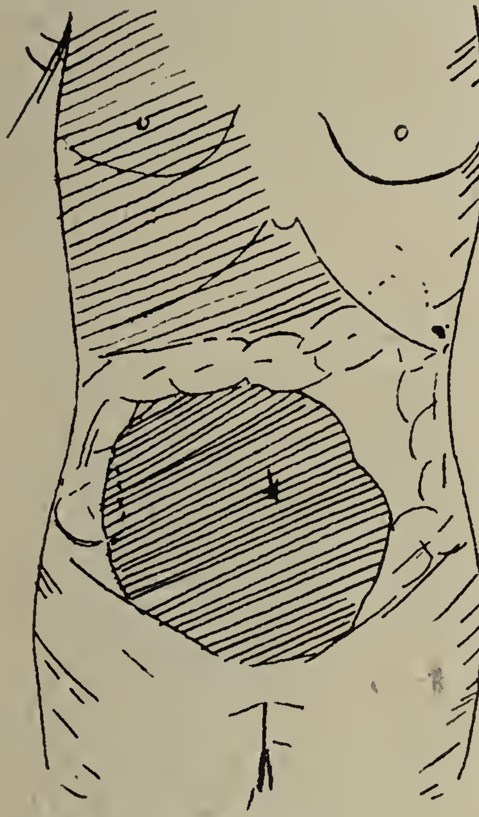

FIGURE 3.

The next case is particularly interesting as showing the diagnostic value of displacement of the sigmoid:

Case 4.—Mrs. S., aged 35, a multipara, missed two menstrual periods and supposed, of course, she was pregnant. She then had a hemorrhage from the uterus which was thought to be a miscarriage. The abdomen, however, continued to enlarge, and as she had several attacks of severe pain, went to one of the hospitals, where she was pronounced to be about five months pregnant. At the end of about seven months the abdomen ceased to enlarge, and it was thought the fetus in utero had died. After some five weeks more, during which time she suffered considerably with abdominal pains and an irregular temperature, she came into the hands of Dr. Henrotin, through whose kindness I had an opportunity of examining her. Examination: A large tumor distinctly and easily outlined filled the major portion of the abdomen. Per vaginam the right lip of the cervix was well marked, os slightly patulous, left lip practically obliterated by being spread out, as it were, over the large solid mass filling the left side of the pelvis. The uterus moved with, and seemed inseparable from, the general tumor, although above and to the right could be felt a slight notch or irregularity, which seemed to be the fundus of the uterus.

That a pregnancy had taken place seemed clear, but the exact location of the fetus was very much in doubt. Was the etus in a normal uterus or in one side of a double uterus? Or was it an extrauterine pregnancy, and was the hard mass to the left a fibromyoma extending into the broad ligament, or simply the placenta? These are some of the questions which presented themselves. The colon was now distended with air. The sigmoid merged from the left lower lateral border of the tumor, and ascended over its anterior surface as far as the umbilicus. It then bent sharply upon itself and retraced its way to the left and posteriorly to the ascending colon, which occupied its normal location, as did all other portions of the colon. (Fig. 4.)

The sigmoid could not be displaced from its position in front of the tumor. Had sufficient importance been attached to the location of the sigmoid a correct diagnosis might have been made. A normal uterus or even a uterus bicornis would not have carried the sigmoid up anteriorly to it.

A tubal pregnancy, rupturing and developing either in the general abdominal cavity or in the broad ligament, could explain it. The obliteration of the left cervical lip with the mass filling the left side of the pelvis would have decided in favor of the broad ligament. At the operation by Dr. Henrotin an extrauterine pregnancy was found, developing in the broad ligament. The peritoneal layers were separated by the enlarging fetus, which dissected up the posterior layer and spread into the mesosigmoid, thus carrying the sigmoid up in front. The mass in the left side of the pelvis was a very large placenta.

We will now pass to tumors occupying or originating in the superior region. Here we have tumors of the liver, gall-bladder, stomach, lesser omentum, pancreas, retroperitoneal lymph-glands, etc. That tumors having their origin in this region are not always easily diagnosticated, is very apparent when we find by a glance through the literature that nearly every case of pancreatic cyst in the female that has been operated was erroneously diagnosticated an ovarian cyst.[3]

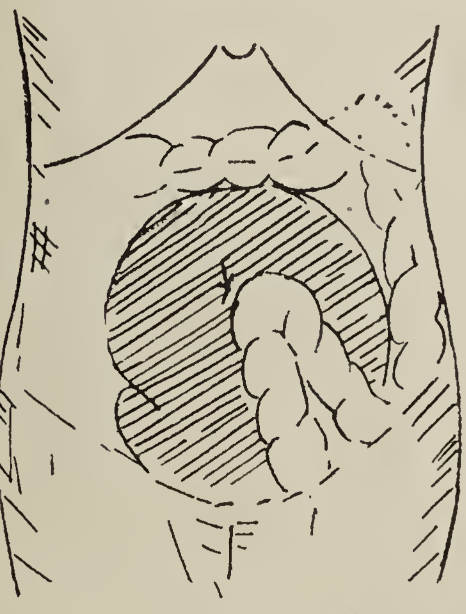

FIGURE 4.

The diagnostic value of distension of the colon is particularly emphasized when we find that all these cases could have been correctly diagnosticated had this simple procedure been instituted, as in all of them, at the operation, the transverse colon was found to pass below the tumor.

In looking over the reported cases of cysts of the pancreas, it is interesting and instructive to note the errors in diagnosis that have been made. Among these we may mention cyst of the ovary, cyst of the liver, intestinal obstruction from fecal impaction, cyst of the mesentery, cyst of the spleen, hydronephrosis, tumor of the omentum, invagination of intestine, abscess of abdominal wall, tumor of the kidney, tumor of the spleen, ascites, aneurysm of abdominal aorta, etc., while in many cases no diagnosis before operation was attempted. These errors were made, too, by men of the highest ability. But what makes it appear all the more deplorable is the fact that in the large majority of the cases the error might have been avoided by distending, and thus mapping out the location of the colon and stomach. The pancreas lies almost entirely cephalad of the transverse mesocolon, hence, as tumors of it enlarge they displace the transverse colon downward. The value of this downward displacement of the transverse colon in the diagnosis of pancreatic cysts will depend upon the constancy with which it occurs.

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[3] Salzer: Zeitsch. für Heilkunde., 1886, Bd. vi, S. 11; Bozeman: Medical Record, 1880, xxi, 46; Riedel: Arch. f. Klin. Chir., 1885, xxxii, 994; Zukowski; Wien. Med. Presse, 1881, No. 45, also diagnosed by Spencer Wells and Rokitansky; Martin: Virch. Arch., No. 90.

I have carefully looked over the records of all the cases of pancreatic cysts I could find in the literature, with the result that in thirty-four cases it is distinctly stated the transverse colon was displaced downward in the characteristic manner; in seven cases it was carried directly forward, crossing the tumor; while in three cases the colon passed along the upper border of the tumor. The seven cases in which the colon crossed the tumor may practically be classed with the thirty-four downward displacements, as part of the tumor lay above the colon and part below. This could only occur with a retroperitoneal tumor spreading the layers of the mesocolon. In nineteen cases, although not distinctly stated, it is quite certain from the description of the operation given that the transverse colon must have been displaced downward, hence it is doing no injustice to the figures to record these cases with the thirty-four and seven, thus making sixty cases, or 95 per cent., in which the colon was characteristically displaced, and three cases, or 5 per cent., in which its displacement upward might have led to error. I say *might*, because even here the tumor had simply grown more at the expense of the inferior layer of the mesocolon, and the colon was fixed to the upper border of the tumor. This fixation itself should excite a suspicion of the probable origin of the growth. In thirty-two cases no mention whatever is made of the location of the colon, while in four cases the cysts not only depressed the colon, but also the stomach, reaching the surface between the liver and the lesser curvature of the stomach by crowding forward the lesser omentum. As illustrating the characteristic displacement of the colon by tumors of the pancreas I will mention a case:

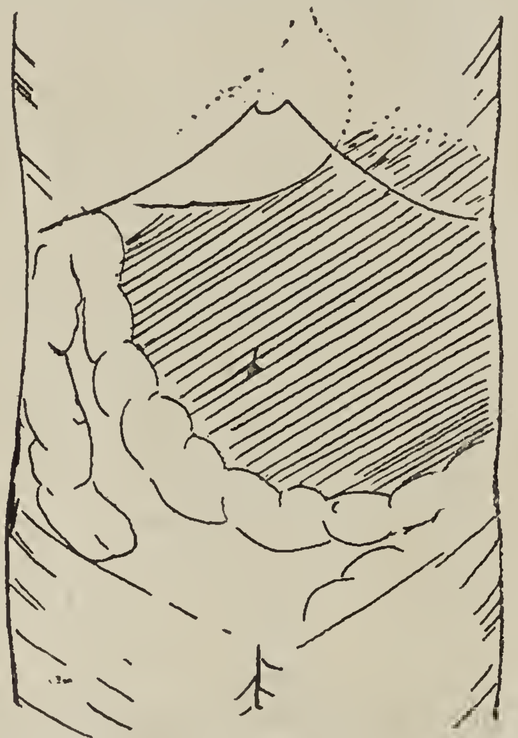

FIGURE 5.

Case 5.—Mr. R., a German, aged 47 years, a laborer. He dates his trouble from June, 1898, when he first noticed his abdomen was enlarging. He began losing weight and strength, and applied to me in November, 1898, more on account of loss of strength than from any physical suffering. He had had some pain in the abdomen a little above and to the left of the umbilicus, but this was not marked. There had been a little nausea at times and once or twice vomiting, otherwise the gastro-intestinal functions were well performed; bowels regular and natural; urine normal. Even after test meals of large quantities of carbohydrates and sugar no sugar appeared in the urine. No free fat in the stools.

Upon examination, Nov. 14, 1898, he presented a large tumor nearly filling the abdominal cavity but extending more above than below the umbilicus and a little more to the left than right. Fluctuation was distinct, the surface was irregular, and some of the irregularities felt rather solid. Upon distending the colon it was found to encircle the lower border of the tumor, as shown in Fig. 5. A diagnosis of pancreatic growth was made, and as fluctuation was present, the abdomen was opened by an incision along the outer border of the left rectus to determine if anything could be done to afford relief. The stomach was found displaced upward, and the colon downward. The surface of the tumor was very vascular. The irregular portions were solid. An aspirator introduced into the cystic portion withdrew dark bloody fluid. Beneath the fluid were still solid portions. The growth was evidently malignant and irremovable, so nothing further was done, and the wound was closed. The wound healed, but the patient failed gradually, death occurring some four weeks later. The autopsy showed a large cystosarcomatous tumor of the pancreas. There were no metastases, and all other organs of the body were normal.

Case 6.—This case, from Heinricius,[4] is one of the rare cases of pancreatic cysts in which the transverse colon was carried upward. (Fig. 6.) It occurred in a female who was five months pregnant. It was thought to be an ovarian cyst, but at the operation was found to have its origin in the pancreas. It had spread into the mesocolon and enlarged at the expense of the lower layer. The cyst was enucleated and recovery ensued. Pregnancy continued without interruption.

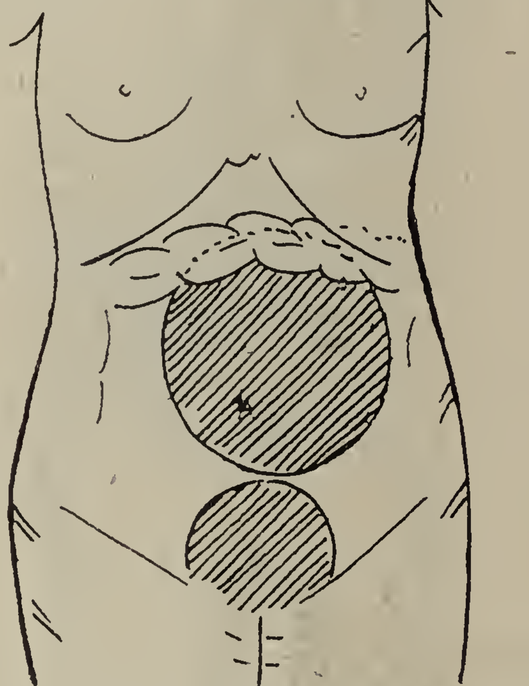

FIGURE 6.

In a case of this kind, the fact that the colon overlay the border of the tumor and could not be displaced from it should excite a suspicion of its origin.

Case 7.—This case shows the downward displacement of the colon by a tumor of the stomach. Mr. C., age 72, presented a tumor easily felt in the left side of the abdomen, extending from the umbilicus to near the costal arch. It was somewhat movable, about the size of two fists. Upon distending the colon all portions were found in their normal locations except the transverse colon, which dipped around the lower border of the tumor. (Fig. 7.) There was slight gastric resonance above and posterior to the tumor.

This case was one of carcinoma of the stomach involving the greater part of the organ, for which I did a complete gastrectomy May 17, 1897. One peculiarity of the case was the fact that notwithstanding the very extensive involvement of the stomach by the carcinomatous process there had been no gastric disturbances. He ate heartily of everything up to the day of his operation. He died on the sixth day, from double pneumonia. The autopsy showed the union of the cardia to the duodenum to be in good condition. Enlargement of the gall-bladder usually depresses the right half of the transverse colon, with a tendency to overlap it and crowd it backward. If the peritoneal fold attaching the gall-bladder to the under surface of the liver be quite long and free, the enlarged gall-bladder may be entirely in front of the transverse and the greater portion of the ascending colon. The next case is an excellent illustration of this unusual condition.

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[4] Arch. f. Klin. Chir., 1897, 54-392.

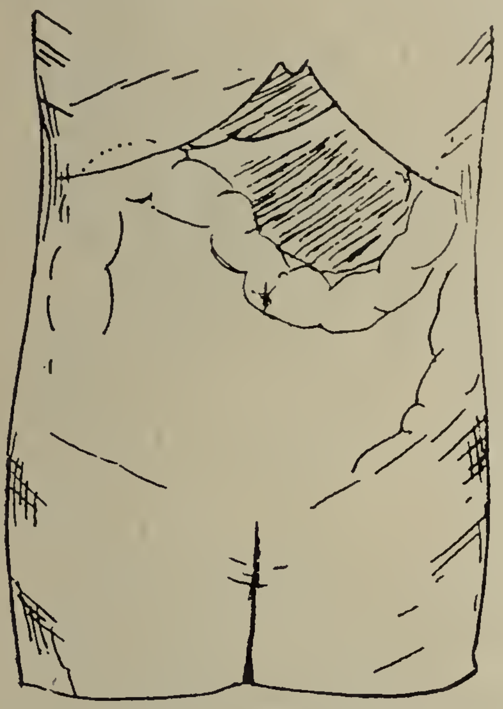

Figure 7.

Case 8.—Miss H., age 16 years, without history of previous trouble, was taken with acute pain in the lower right side of the abdomen, with vomiting, rise of temperature, distension of abdomen and obstinate bowels. She was first seen by me about ten days after the beginning of the illness. The right ide of the abdomen was very tense and tender to the touch. mass was easily felt extending upward from the middle of 'oupart's ligament, in the region of the cecum and ascending olon, and extending to the left as far as the right border of he rectus. Appendicitis was diagnosticated and an operation one at once. Upon opening the abdomen at the usual place, ver the appendix, the mass was found to be an acutely nflamed, distended and enlarged gall-bladder. It was quite novable, owing to its very long peritoneal fold, and lay anter- r to the ascending colon and cecum, the tip of the gall- ladder reaching as low as the end of the cecum (Fig. 8.) A ew incision was made at the usual location for the gall- ladder, and the bladder was pushed up, opened and drained. calculus about one centimeter in diameter was recovered om the cystic duct, which it had occluded. There was no istory of previous hepatic trouble. Recovery followed.

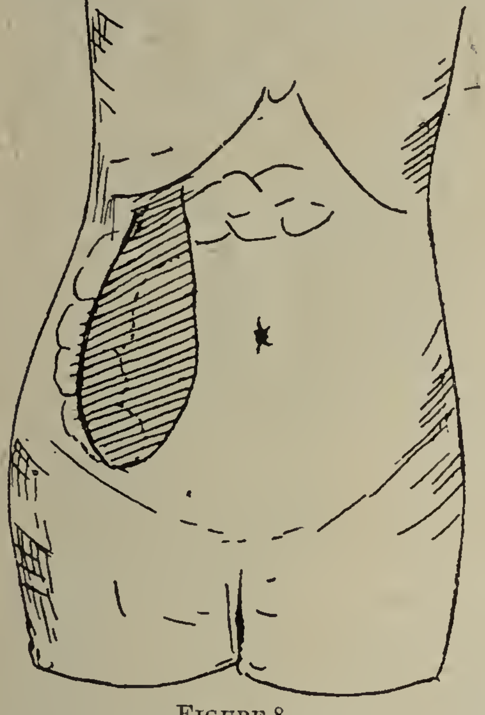

Figure 8.

Tumors or enlargement of the spleen affect the left portion of the transverse colon and the splenic flexure. They may thus be confounded with tumors of the pancreas, or the upper part of the kidney and adrenal. It will be observed that these tumors not only depress but carry forward the colon, being retroperitoneal, while the spleen in enlarging hugs the anterior abdominal wall. Lying, as it does, anterior to the gastrocolic omentum it overrides the colon when enlarged, this organ not only passing below but beneath the border of such enlargement.

Case 9.—Anna B., aged 7½ years, presented a well-marked enlargement of the spleen. The mass extended from the 7th rib to the crest of the ilium, and to the right nearly to the midline at the level of the umbilicus. It was probably of specific origin, and disappeared under treatment. Upon distending the colon it was found that the upper end of the descending colon, the splenic flexure and the left end of the transverse colon wer depressed but completely overlapped by the enlarged spleen. (Fig. 9.) The mass hugged the anterior abdominal wall and the colon lay beneath it.

In turning now to the external areas we find the most common tumors which displace the colon inward or inward and forward develop from the kidneys. In addition to tumors of the kidneys we find rarely cysts of lymphatic orgin, tumors of the normally located or misplaced adrenals and possibly tumors originating in remains of the Wolffian bodies. All tumors which displace the ascending and descending colons forward as well as inward are classed in the external areas, as they are all of retroperitoneal origin. The important questions for us are:

1. Do these tumors produce a characteristic displacement of the colon?

2. Can we correctly assign these tumors to their proper origin by noting the exact position of the colon?

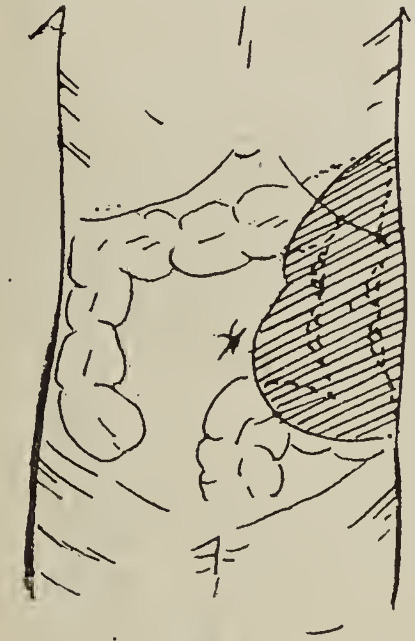

Figure 9.

The kidneys lie in the loose retrocolonic connective-adipose tissue. Movement of these organs upward is interfered with by the dense, firm organs and tissues abutting in this direction, while movement downward is almost unimpeded, hence enlargements of these organs from whatsoever cause usually move in a direction downward, forward and inward. In so doing they carry the colons, ascending and descending respectively, forward or forward and inward. Typic illustrations of this characteristic displacement are as follows:

Case 10.—R. H., a male, aged 36 years, presented a tumor of the right side, extending from the lower border of the liver nearly to the crest of the ileum and inward to about four centimeters to the right of the umbilicus. Distension of the colon showed the hepatic flexure in about its normal location. The ascending colon then passed forward over the anterior surface of the tumor with a distinct curve toward the midline. (Fig 10). Operation proved the case one of pyonephrosis with perirenal abscesses.

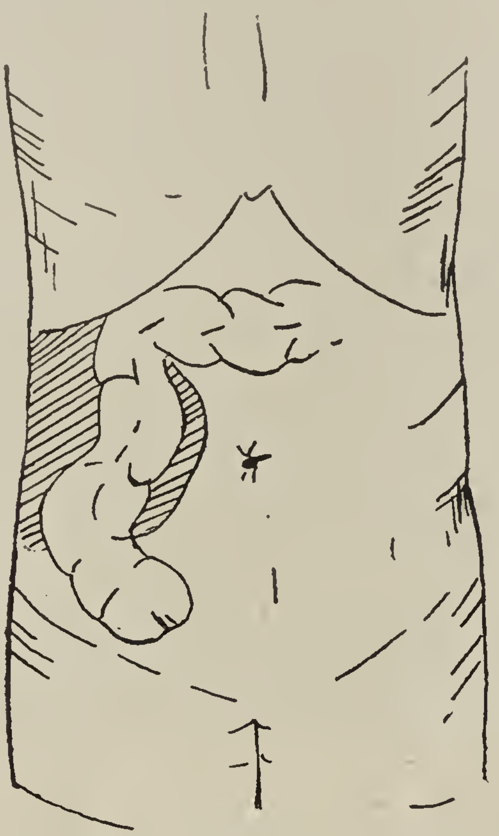

Figure 10.

Case 11.—A female child, aged 1½ years, presented a large tumor filling the abdomen, but more prominent on the left side. The colon was outlined as follows: Splenic flexure displaced forward and inward but not downward. Descending colon displaced forward and inward, passing over the anterior surface of the tumor, with a curve to the right reaching the umbilicus. It then curved backward beneath the lower border of the tumor. (Fig. 11.) Operation proved the case one of so-called sarcoma of the kidney.

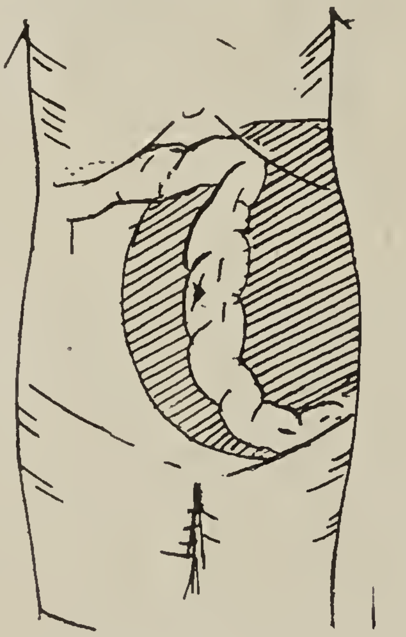

Figure 11.

Case 12.[5]—A female, aged 32 years, had a tumor filling the right side of the abdomen from the costal arch to the ilium, and extending very slightly to the left of the umbilicus. The hepatic flexure of the colon was in its usual position. The ascending colon passed anteriorly to the tumor with a marked curve to the left, reaching the umbilicus. The cecum, appendix and lower end of the ilium were distinctly felt spread out on the lower portion of the tumor. (Fig. 12.) Operation proved the case one of hydronephrosis.

A case of hydronephrosis displacing the ascending colon directly inward without carrying it forward is that of Loebker.[6]

Case 13.—Frau W., aged 23 years, presented a tumor filling the right side of the abdomen, extending eleven centimeters to the left of the umbilicus and fourteen centimeters above t. The case was considered an ovarian cyst and much trouble resulted from trying to remove it through a median incision before its true character was recognized. The ascending colon was found curving around the inner border of the tumor, but more posteriorly than anteriorly.

Had the location of the colon been recognized by distending it with air before the operation the errors in diagnosis and faulty operation could have been avoided.

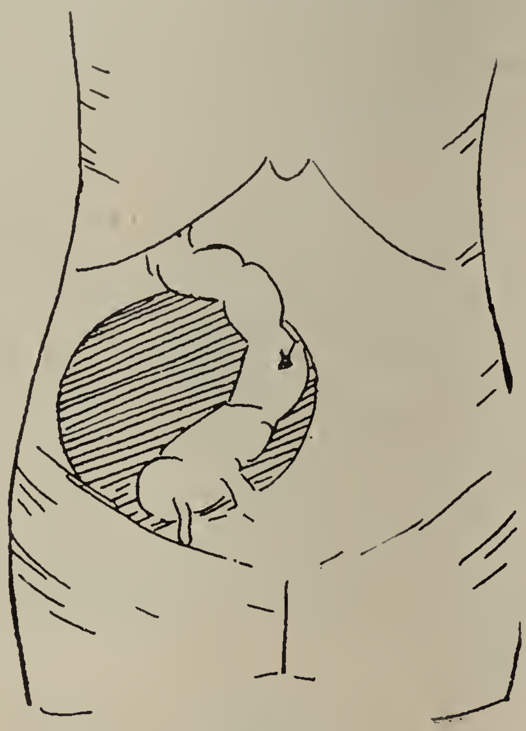

Figure 12.

These cases are all typic displacements of the colon by tumors of the kidneys. The value of this displacement as a diagnostic aid in tumors of the kidneys depends upon two facts, namely:

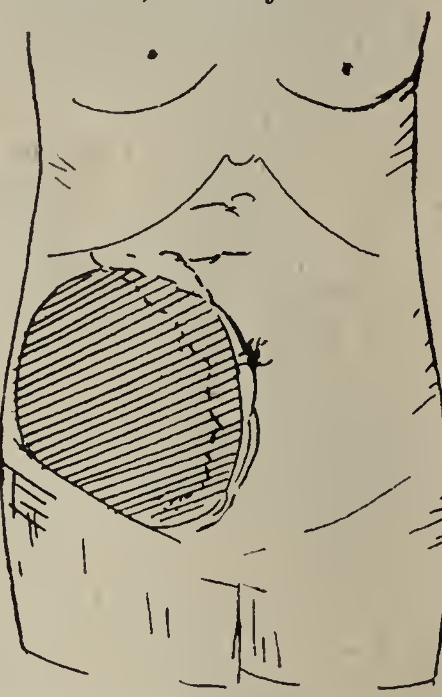

Figure 13.

1. May we have an enlargement of the kidney without the characteristic displacement of the colon?
2. Are there any other tumors which may produce a like displacement? I have spent considerable time and labor in searching the literature for cases bearing upon these two questions. Relating to the first question I have found the following cases:

Case 14.[6]—A female, aged 24 years, presented a round, firm, elastic tumor in the right side of the abdomen extending from two fingers-breadth above the umbilicus to the anterior spinous process, and from the right mammary line to three fingers-breath to the left of the midline. The right kidney was clearly palpable in its usual location; right ovary not to be felt. Diagnosis, tumor of right ovary. Operation, median incision. The tumor was found to be retroperitoneal and to spring from the lower pole of the right kidney, to which it was attached by a small pedicle extending at right angles toward the midline. It is stated that the colon lay external to the tumor (Fig. 14). The tumor was an adenocarcinoma, with hemorrhagic cysts and psammoma corpuscles. Truly this is a most rare and unusual case.

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[5] From Kehrer, Arch. f. Gyn., xviii, 371.

[6] Arch. f. Gyn., xiv, 455.

[6] Lotheissen: Arch. f. Klin. Chir., lii, 726.

Tumors originating in certain movable kidneys may fail to produce the characteristic displacement of the colon. A kidney may be movable up and down in the loose cellular tissue between the layers of the mesocolon remaining retrocolonic all the time, or it may move inward, carrying the inner layer of the mesocolon forward and entirely to the inner side of the colon. In the latter case a tumor originating in the kidney would have the colon lying to the outer side, as illustrated by the next case.

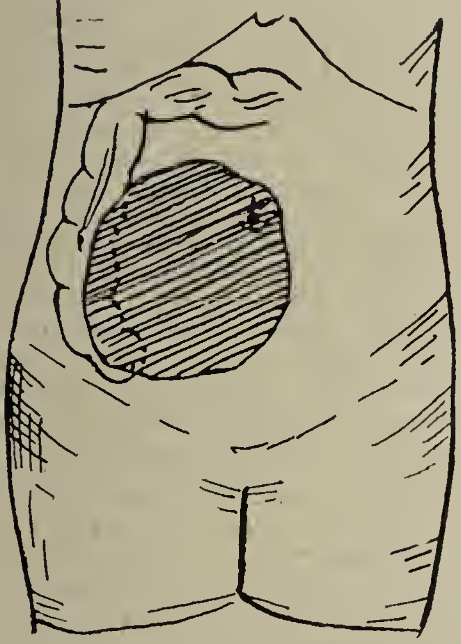

FIGURE 14.

Case 15.[7]—This was a case of hydronephrosis developing in a movable kidney in a female aged 47 years. It had been growing for seven years. At first it was freely movable in the right side of the abdomen but eventually became so large that it fillled the entire side, extending beyond the midline. The ascending colon lay to the outer side of the tumor. (Fig. 15.)

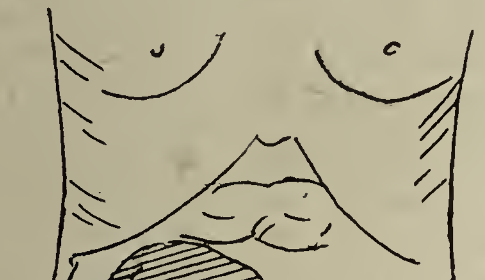

FIGURE 15.

A tumor of a movable kidney may, however, carry the colon forward, provided the kidney move simply upward and downward in the retrocolonic space as in the following case.

Case 16.[8]—Female, aged 27 years. Tumor appeared in the pelvis to the right of the uterus, which it pushed to the left. It grew upward until its upper border was near the liver and extended to the left of the umbilicus. It was diagnosticated by Ahlfeld and Credé as ovarian. At the operation it was found to be a case of hydronephrosis originating in a movable kidney. The ascending colon passed anterior to the tumor a little to its inner side. (Fig. 16.)

This was not recognized before the operation. Had it been distended with air, a correct diagnosis could have been made. The second question: May other tumors than those orignating in the kidneys or adrenals produce a similar displacement of the colon? must be answered in the affirmative. I have found reported a very few retroperitoneal or pararenal serous cysts which, developing in the pararenal tissue or possibly from remains of the Wolffian body, as suggested by Przewoski, produced a similar anterior or inward displacement of the colon.

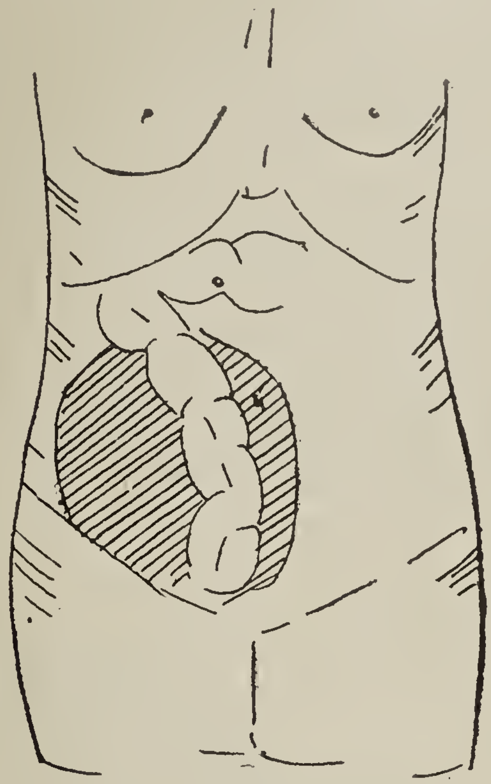

FIGURE 16.

Case 17.[9]—Female, aged 43 years. Trouble began some two years since, with enlargement of the upper portion of the abdomen. The epigastric region and whole left side of the abdomen became prominent, the tumor extending from the diaphragm above to the groin below and into the lumbar region behind. The tumor was elastic and fluctuated distinctly. Dulness over the entire tumor, which may be outlined as follows: beginning two fingers-breadth above the xiphoid appen-

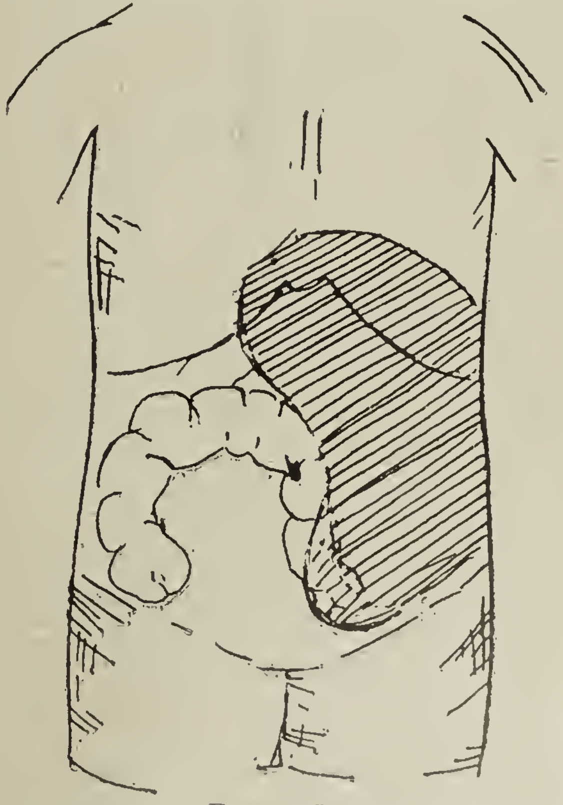

FIGURE 17.

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[7] Justus Schramm: Berl. Klin. Woch., 1883, xxxvii, 571.
[8] Ahlfeld: Arch. f. Gyn., xv, 114.
[9] Pawlik: Arch., f. Klin. Chir., liii. 571.

dix, thence to right sixth rib, thence to left of midline just above the umbilicus, thence in a curved line with convexity crossing to right of midline to the symphysis, and along the groin to the crest of the ilium. The colon skirted the right border of the tumor as far upward as the umbilicus, when it passed in a curved line to the right and downward. (Fig. 17). The stomach was crowded to the right between the tumor and the liver.

The case was supposed by Pawlik to be one of hydronephrosis, notwithstanding the fact that catheterization of the ureter showed the urine from that side to be practically normal in quantity and quality. Operation proved it to be a pararenal cyst, unconnected with the kidney. Obalinski[10] describes three cases of pararenal, retrocolonic cysts found postmortem, and one case in a female aged 57 years, that he operated for ovarian cyst. The relation of the colon to the cyst in this case is not given. Péan[11] operated such a cyst which filled the left side of the abdomen, under the supposition that it was ovarian. It was found behind the descending colon, and unconnected with the kidney, which was normal.

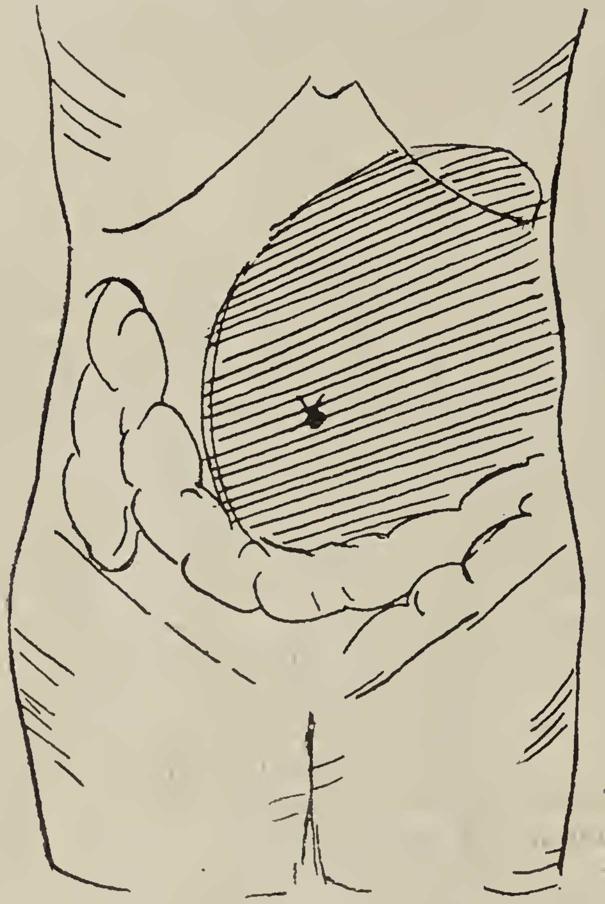

Figure 18.

It will thus be seen that a tumor may develop in a kidney without displacing the colon forward or inward, and that other than kidney tumors may cause such displacement of the colon; hence, the absence of colonic displacement does not exclude the kidney as the point of origin of the tumor, nor can such displacement be looked upon as pathognomonic of a kidney tumor. While this must be admitted, still the exceptions to the rule are so exceedingly rare that a tumor which displaces the ascending or descending colon forward or inward presents the greatest probability of having its origin in the kidney or adrenal.

Tumors of the kidney that do not displace the colon to some extent are also very rare, and have their origin either in kidneys that possessed a wide range of mobility, or else the tumors are pedunculated—a still rarer condition—as in Lotheissen's case.

Cysts of the head, or particularly the tail of the pancreas, may occupy a lateral position in the abdominal cavity, similar to that assumed by an hydronephrosis, so that these two conditions have been frequently confused. While a cyst of the tail of the pancreas may descend behind the descending colon, thus carrying it forward, it should be remembered that the characteristic and predominant displacement produced by pancreatic growths affects the transverse colon, while kidney growths affect pre-eminently the longitudinal colons, the transverse being rarely involved, and then not depressed, but carried laterally. A single rare case of a large cyst not pancreatic, depressing the transverse colon, is reported by Narath.[12]

Case 18.—A male, 52 years of age, presented a large fluctuating tumor filling the upper left portion of the abdominal cavity. It extended below the umbilicus and bulged the left loin. Inflation of the colon showed it to pass from the left side of the symphysis pubis along Poupart's ligament to the left anterior superior spinous process, thence encircling the lower border of the tumor and passing into the ascending colon in the right iliac fossa (Fig. 18). From the symptoms, including a "probe puncture," a diagnosis could not be made, but hydronephrosis was favored. A posterior incision was made, and the sac stitched to the wound and drained. The patient died, and the autopsy showed both kidney and pancreas normal. It was considered to be a lymph cyst, originating near the hilus of the kidney. The kidney was crowded upward against the diaphragm and the pancreas upward and to the right.

It is of interest to note the effect of distending the colon in a case of tumor of the colon itself.

Case 19.—Mr. M., aged 38 years, presented an abdominal tumor about the size of the fist. It was firm and possessed a remarkable degree of mobility. One could make almost a complete circuit of the abdominal cavity with it. It could be placed under the left costal arch, under the right costal arch, and from the left iliac fossa to the right iliac fossa. When allowed to assume its location without interference, it would be found not far from the umbilicus, sometimes to the right and sometimes to the left of the midline. Upon distending the colon the tumor was carried upward and a little to the left. It became quite indistinct, and the air could be felt passing through it. Operation proved it to be a carcinoma of the transverse colon, originating near its center. About 15 cm. of the colon were resected with part of the mesocolon, and the gut closed by end-to-end suture. Recovery was uninterrupted.

As a result of this study I wish to emphasize two points:

1. The great importance, clinically and diagnostically considered, of the subdivisions of the abdominal cavity as herein outlined.
2. The colon, or some part of it, bears a characteristic relation to most intra-abdominal tumors, and an accurate knowledge of such relation is of greater diagnostic importance than any other single point.

IRON IN INTERIOR OF THE EYE.

REMOVAL WITH A MAGNET: REPORT OF TWO CASES.

Read before the Southwestern Kentucky Medical Association, at the semi-annual meeting, held at Mayfield, Ky., Oct. 25, 1898.

BY WARWICK M. COWGILL, Ph.B., M.D.
PADUCAH, KY.

Case 1.—J. T., a negro, aged 31 years, section hand on the I. C. R. R., was referred to me by Dr. D. G. Murrell, assistant chief surgeon I. C. R. R. Two days before I saw the patient he was struck in the left eye by a piece of iron. The size of the fragment proved to be 4x3x1 mm., weighing one grain. The iron pierced the cornea at its inner pupillary border, lacerated the edge of the iris slightly, and passed through the crystalline lens into the vitreous.

The eye was somewhat injected T+2. The increased tension was due to the swollen traumatic cataract. The lens was entirely opaque: V=p.l. Under chloroform anesthesia, I made a section of the cornea upward; did an iridectomy just as I would for a combined cataract extraction; cut the capsule and removed the lens nucleus, and as much of the broken-down cortex as possible without doing too much violence to the eye. Then I introduced the magnet point deeply into the vitreous through the section in the cornea. Two attempts were made without success, but on the third introduction I drew out the iron from the eye. A drop of solution of atropia was instilled, and both eyes closed with a roller bandage.

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[10] Cited by Pawlik.

[11] Diag. et Traite. des tumeurs de l'abdomen: 1880. T. i, p. 282.

[12] Arch. f. Klin. Chir., l, 763

On the second day there was marked chemosis but no pain. The wound healed nicely, and the operation looked as if it would prove a success. However, after the third week the eye became soft, T—2, V=nil.

One month after the first operation I enucleated the eye. On opening the eyeball I found total detachment of the retina, which stretched in a funnel-shape from the O.D. to its ciliary attachment. At the former site of the lens was an encapsulated mass of pus the size of a pea.

Strict antisepsis, so far as was possible in the old R. R. Hospital at Paducah, was attempted in this operation. But the eye was inoculated with pathogenic germs in some way, either through the piece of iron or through the instruments. As the wound in the cornea and iris healed so promptly I am inclined to believe the pathogenic matter was introduced by the foreign body.

Case 2.—J. H. P., aged 26, white, an employe of I. C. R. R., was referred to me by Dr. D. G. Murrell. On June 26, 1898, nine days before I saw him, he was struck in the right eye by a piece of iron, which cut through the cornea and iris (outer quadrant), and pierced the lens at its outer edge, leaving a localized opacity at site of its passage. The pupil was widely dilated with atropia; the eye was not tender on palpation; there was no pain; eye but slightly injected; T. quite normal: V=f. at four feet. The fundus could be seen quite clearly, but I could not make out any sign of the foreign body being in the eye. As these deep wounds in the eye are made sometimes by a sharp corner of a flying particle which does not penetrate the eye, but after wounding it passes on, I hesitated in my diagnosis, thinking it safer to watch the eye for a time than to draw a too hasty conclusion.

On July 19 vision remained at counting fingers at four feet, but the eye was irritable and slightly softened (T—1). On consultation with Dr. Murrell, we decided to try the magnet on the eye. So on July 21, with the assistance of Drs. Murrell, Taylor and Fort, under chloroform anesthesia, I made an equatorial incision into the eye between the external and lower recti muscles. On the third withdrawal of the magnet point from the vitreous chamber, the iron, which weighed one grain, was brought to the opening, which had to be enlarged to allow it to be extracted. The wound in the sclera was closed by drawing the conjunctiva over it with two sutures. Seven days later the wound had healed; irritation almost disappeared and the Tn. The fundus was quite clear, except some floating particles in the vitreous. There was no detachment of the retina, V=$3/10$+.

He was on this day, one week after the operation, discharged from the hospital. On August 21, one month after the operation, his vision equaled 15/200. On October 24 I met this patient on the street. His eye looked as natural, full and bright as the uninjured eye. Patient said the eye was doing nicely. I had no opportunity of testing the vision on this occasion.

The magnet operation is a substitute for enucleation in cases where an eye contains a piece of steel or iron. The object we wish to attain by this operation is to preserve the eyeball. If perchance, we save an eye that retains some, or useful vision, which is not an infrequent sequence, then so much happier is the result of the operation. The magnet (small electromagnet; I have had no experience with Haab's powerful magnet) is not infallible. We can not reason that if, after the magnet point has been introduced into an eye three or four times, in as many different directions, and has not brought out the offending particle, there is none in the eye. The particle may be so entangled, encysted by exudate, or so forcibly driven into the inner walls of the eye that the magnet will not be strong enough to dislodge it. Nor when the foreign body is removed is the eye free from dangers. Suppuration or chronic irido-cyclitis may follow.

I quote two extracts from Knapp on these points (*Arch. Opth.*, Vol. xiv, p. 307): " . . . Even when the foreign body is removed the disease may progress; suppuration, or, what is more chronic, irido-cyclitis, may develop and threaten the other eye. I therefore make it a rule before I undertake to remove a foreign body from the interior of the eye, to obtain discretionary power from the patient to remove the eyeball whenever I find it advisable. I resort to enucleation without much hesitation when the wound is in the ciliary region, and the extraction of the foreign body offers even moderate difficulty, requiring several introductions of the tip of the magnet, and more probing of the interior in order to find and get hold of the foreign body."

Again, when the foreign body can not be located (*Arch. Ophth.*, Vol. xiv, p. 308): "It seems legitimate, even when the foreign body can neither be seen, nor by an exudation or a limitation in the field of vision be localized, to open the capsule of the eye in the center quadrant, introduce the point of a magnet . . . directly to the bottom of the vitreous then withdraw. In case the foreign body is not reached, a second or third attempt, cautiously probing a larger area of the interior of the eye can be made with sufficient safety; but when the foreign body then is not brought out, it is more advisable to enucleate the eye than to make further attempts, because rude dealing with the interior of the eye, even if the foreign body is at last removed, frequently enough causes cyclitis, which is dangerous for both eyes.

A successful issue in these cases is most promising when the foreign body has not passed through the ciliary zone; when it can be located in the eye; when the eye is seen early; before inflammatory changes take place, or traumatic cataract has precluded examination of the fundus.

This operation should always take precedence of enucleation in these cases, except when the eye has been so torn and lacerated by a large foreign body that any hope of saving it is out of the question, then enucleation should be done at once.

When success follows this operation how beautiful are the results. Instead of the sunken, unsightly orbit, or the staring artificial eye, we preserve the human face in all its natural appearance, and even more, in many instances, preserve an eye retaining a useful amount of vision.

415 Broadway.

CONCEALED TRAUMATIC MENINGEAL HEMORRHAGE.

Read at the Fifth Annual Meeting of the American Academy of Railway Surgeons, held at Chicago, Oct. 5 to 7, 1898.

BY H. REINEKING, M.D., SURGEON C. & N. W. R'Y.
SHEBOYGAN, WIS.

The appropriateness of the title of my paper may, strictly speaking, well be questioned, for to the well-informed physician or surgeon no intracranial hemorrhage, of any considerable amount, could long remain *concealed.* I have applied the term, and shall limit my remarks, to cases in which there is absence of outward flow of blood and of fracture or fissure of the cranium, but in which the presence of a hemorrhage is usually indicated by unmistakable symptoms relating to the intellectual, sensory and motor functions. The following case illustrates so typically the usual symptomatology and course, as well as the results to be expected both under the expectant and the operative plans of treatment of this important class of cases, that I wish to put it on record, and might well offer it in lieu of any dissertation on the subject. If, in attempting to present briefly the most advanced views on this subject, so important to the railway surgeon, I shall succeed in calling forth discussion and eliciting an expression of the experience of the Fellows present, I shall have reached my purpose.

Case 1.—C. W., a farmer, aged 54 years, of good previous health and good habits, was injured May 13, 1898, in a runaway. So far as could be ascertained, he was thrown from his wagon and struck his head on the stone curbing. He was stunned for a few minutes, then regained semi-consciousness and never afterward became fully unconscious. According to the statements of the attending physician, he acted, during the first few hours after injury, very much like a person under the excitement of alcoholic intoxication—wanted to go home, and was very unmanageable. Up to the time of being put to bed, which was nearly an hour after the injury, he seemed to have full control of his extremities. Aside from a few bruises on various parts of the body, there were two deep scalp wounds in the upper portion of the right parietal region, but no evidence of fracture or fissure of the skull was found at this or any subsequent time. The wounds were dressed and the patient put to bed and quieted by a hypodermic injection of morphia. The next morning the left side of the face, trunk and upper and lower extremities were found paralyzed, both as to sensation and motion; delirium continued, temperature and pulse were normal. The exact time at which the hemiplegia set in could not be determined.

On my first examination, two days after the injury, there was complete left hemiplegia; the pupils equal, fixed between dilatation and contraction; both eyeballs turned upward and to the right, the patient able to turn them to the left to a slight degree, but unable to hold them under control beyond a few seconds. The tongue was protruded normally. The patient was partly comatose, at other times very restless, talking incoherently. Urine and feces were mostly passed unconsciously. Temperature and pulse were slightly above normal, breathing not disturbed. The symptoms described pointed unmistakably to the existence of a clot, producing pressure over the motor area of the right cerebral hemisphere, and of sufficient size to interfere with the function of this entire area. The scalp wounds were found infected; they were, therefore, reopened, enlarged, and treated openly. A very thorough examination of the skull made at this time failed to show the least injury to the bone.

The conditions described called urgently for operative relief of the pressure, and this was promptly advised, but it was not until May 21, eight days after the injury, that full consent was obtained and the operation undertaken. Meanwhile there had not been the slightest improvement in the symptoms, showing that little was to be expected from absorption or contraction of the clot. Hemiplegia was absolute; urine and feces were passed automatically; mental condition was very irrational, with great restlessness.

In planning the operation and deciding as to the point at which I should enter the cranium, I took into consideration the length of time elapsed since the injury, which, together with the stationary character of the symptoms, made it almost certain that there would be no necessity of ligating any vessel at this time; it was also evident that an opening made anywhere over the motor area of the injured side would be certain to expose the clot. The location of the scalp wound was therefore decided upon, the wound slightly enlarged downward, and the trephine applied at a point four and one-half inches behind the external angular process of the frontal bone, and four inches above the external auditory meatus. This locality proved a favorable one for the evacuation of the clots, but subsequent events showed that for the purpose of good drainage, an opening farther back would have been even more advantageous.

The opening was made with a three-quarter-inch trephine. As soon as the button of bone was lifted, the black mass of clotted blood presented itself, showing it to be extradural. While the mass showed slight pulsation, imparted to it from underlying vessels, it did not bulge into the opening, owing probably to the length of time the pressure had existed and to the consequent loss of elasticity in the compressed structures. The clots were turned out with a small Volkmann spoon and a strong current of sterilized water from a fountain syringe. They were found to cover an area measuring about five inches antero-posteriorly and two and one-half inches vertically, and separating dura and cranium for fully an inch at the central portion of the mass. As the greater portion of this space lay below and behind the opening, the latter was enlarged in these directions with a rongeur forceps, until free access was had to every part of the cavity. Hemorrhage was slight; there was no evidence of laceration of the dura, no roughness of the inner table. It soon became apparent that there was not the slightest tendency for the brain to expand and fill the cavity, so the latter was loosely packed with iodoform gauze, the wound left entirely open, and a gauze dressing applied. After the operation the temperature, which on the day previous had been 102.2, fell at once and, after four days, was normal and remained so. Pulse, after operation 124, came down to 90 in a few hours and remained good.

The patient's mental condition began to improve almost immediately, and always kept in advance of the improvement in the functions of motion and sensation. Involuntary passage of urine and feces ceased after three days. An early sign of improvement was the return of normal action of the ocular muscles and of the pupils. Then the face resumed a natural expression, together with the return of sensation and motion on the affected side. For two days after the operation there was not the least evidence of improvement in the extremities. On the third day the patient could move the hand and fingers, on the fourth could raise hand and forearm. On the fifth day motion was first noticed in the foot, and he could raise his hand to the face. Motion in the toes returned on the ninth day, on the eleventh he lifted leg and foot slightly, and could move them freely the next day. Sensation returned slightly in advance of motion.

The intellect had by this time become quite clear, and his general condition was good. But the local conditions were not so satisfactory; the cavity had diminished but slightly, and there was a large amount of discharge of a reddish-brown liquid which was but imperfectly removed by the gauze drain. A small dressing forceps could still be passed about freely in the cavity, and could be passed backward and downward for a distance of four inches. A counter-opening was accordingly made at a point four inches behind and below the first opening, and the same distance from the external auditory canal, which brought it over the most dependent portion of the cavity when the patient was resting on his back. A gauze drain was inserted from opening to opening, and further packing dispensed with. This afforded good drainage, the cavity diminished rapidly, and healing was soon complete. Meanwhile the improvement in regard to intellect, sensation and motion had been rapid. June 9, nineteen days after the first operation, he walked about his room unaided, and soon regained the full control of his extremities. He left the hospital June 24, just six weeks from the day of injury. August 31, nearly four months after the injury, he called at my office, to all appearances a perfectly well man. The trephine openings had become filled with hard cicatricial masses, apparently containing considerable bony callus, and no tendency to hernia cerebri could be detected.

Of the clinical features of the case, the absence of dilatation of the pupil of the injured side was unusual, considering the great increase of intracranial pressure and the regularity with which it is found in similar injuries. As the *modus operandi* of the effects of intracranial pressure on the pupil is not understood, I will venture no theory for the explanation of the absence of the dilatation in this case.

The important questions which confront the surgeon in the consideration of this class of cases are: 1. Whether to operate; and if so, at what time? 2. The choice of the most advantageous point for opening the skull. 3. The method of operating, including the choice of instruments for perforating the bone.

As to the first question, whether to operate in a given case, and as to the best time for such interference, it may be said, that, with the indications and diagnosis reasonably clear and certain, the less time is lost in expectant treatment, the better will be the patient's chances, both as to immediate and remote results, provided that he is not in a condition forbidding all operative interference, or that, on the other hand, rapid improvement has not already set in. Not only will the immediate danger of fatal hemorrhage be thus removed, but the deleterious and often permanent effects of long-continued pressure will also be avoided. But on the other hand, the surgeon should not hesitate to undertake the operation, even if called at a late stage of the case, as very good results are known to have followed on surgical measures instituted many days after the injury.

The diagnosis is, as a rule, not difficult. The symptoms will vary in minor respects, according to the location of the hemorrhage and the centers pressed upon, and must be interpreted in the light of anatomic and physiologic data and the teachings of cerebral localization. The lapse of a varying interval of time between the receipt of the injury and the onset of unconsciousness, or of hemiplegic symptoms, is one of the most pathognomonic evidences of meningeal hemorrhage, and generally indicates the extradural form. The length of this interval is in inverse proportion to the rapidity of the hemorrhage; it may be entirely wanting where the hemorrhage is rapid, or other grave lesions present, or may be unnoticeable or obscured by unconsciousness due to concussion or other conditions. When present, it serves to distinguish the attack from an ordinary apoplectic seizure. The longer this interval, the more likely is the hemorrhage to be found extradural, as the attachment of the dura to the inner surface of the skull offers some resistance to the accumulation of blood, and thus retards the onset of pressure symptoms.

Inequality of the pupils, due to the dilatation of the one on the injured side, is one of the most constant symptoms, yet too much importance must not be attached to its absence, as shown in the case just reported. The same is true of the deviation of the eyeballs upward and toward the affected side. The condition of the sensorium also varies widely: from perfect clearness of intellect, through all the shades of mild disturbance, to restless delirium and deep coma. In severe forms, the respiration is usually slow, irregular and stertorous, but may remain unaffected, even when other symptoms are very pronounced. Slowness of the pulse is another symptom of some positive value, yet the pulse may be found normal, or even increased in frequency. Hemiplegia of the arm, arm and leg, or of the entire side, generally appears in the order mentioned, and rarely affects the eg alone or in advance of the arm; as a rule it is well-marked, but is found in all grades of severity. Sufficient diagnostic data can usually be gathered, that, when taken in connection with a history of trauma nd evidences of injury to the scalp or cranium, they will suffice to lead the medical attendant to a pretty lear conclusion, both as to the presence of a hemorhage and to its situation in relation to the brain centers and to the cranium. Cases in which the sympoms are so obscure as to afford no clue as to the ocation of the clot are not favorable for operation, ut whenever the indications are reasonably clear, the atient should be given the benefit of possible relief y surgical interference, as the opening of the skull nd dura, if properly done, exposes the patient to but ttle risk.

As to the second question, the most favorable point r entering the skull, the surgeon must be guided by natomic considerations, the stage of the case at hich he is called, the focal symptoms present, the cation of wounds of the scalp, and the requirements r drainage. In all recent cases, unless the focal mptoms point clearly to other localities as the seat pressure, it will be advisable to make the opening the point usually recommended in the text-books, z., one and one-half inches above the zygomatic ch and the same distance behind the external angu- process of the frontal bone. Here an opening of an inch in diameter will expose the anterior branch of the middle meningeal artery, which, in the great majority of cases, is found to be the bleeding vessel. If the dura has been separated from the bone, the artery will be found imbedded in this membrane, lifted away from its groove in the bone. If bleeding, it should be ligated with a catgut ligature passed around it by means of a small curved needle, care being taken to include as little as possible of the dural tissue. In case the artery can not be secured, packing with iodoform gauze should be resorted to. The opening is to be enlarged by means of rongeur forceps, as the necessities of the case may require. If the operation is undertaken after the lapse of several days and the pressure symptoms have become stationary; in short, when the necessity for ligating the vessel has pretty certainly passed, the surgeon will first of all be guided by the focal symptoms, and when the compressed area is large, by the other considerations above mentioned.

As to the method of operation, no strict rules can be laid down, except that it must be done under the most rigorous antiseptic precautions, with the least possible amount of injury to the structures protecting the brain. The hemorrhage must be controlled, the clots thoroughly removed, drainage whenever there is a cavity must be thorough, and the results which often remotely follow these traumas must, as far as possible, be guarded against.

There is some diversity of opinion as to the advantages and disadvantages of the trephine on the one hand, and the chisel and mallet on the other, as implements for opening the cranium. It probably matters little which instrument is used, provided the operator is thoroughly familiar with the one he uses. Personally, I consider the trephine best adapted to these cases. The dura is either found separated from the bone, so as to be protected from injury by the instrument, or, if the hemorrhage is intradural, it generally requires free incision, unless lacerated beforehand. The chief argument advanced against the use of the trephine—that of injuring the dura—has no weight, in these cases at least.

Moses Gunn, in an address before the American Surgical Association, in 1882, said: "In this connection I venture to put in a plea for the much-dreaded trephine. The operation of removing a disk from the cranial walls, performed with proper care and skill, is not an 'operation fraught with danger.' There is very little risk of injuring the dura mater with that instrument. If that membrane has not been wounded in the occurrence of the accident for which we resort to the use of the trephine, its safety from injury by that instrument may be pretty confidently assured. And while I thus defend the proper use of the trephine, I desire also to protest against the use of the chisel or gouge on the cranial walls, if the propelling force is applied by a series of blows from mallet. A single blow of the force usually required may be insignificant, but the result of a number of them in rapid succession must be proportionate to the aggregate amount of all the blows. Thus estimated, we may not be surprised at symptoms of concussion following its use." With the use of the rawhide mallets and improved cutting instruments, there is no doubt but that the chisel can be used with perfect safety if the mallet is used with that care and delicacy which should characterize all operative work on the cranium, while in large osteoplastic operations these instruments are simply indispensable.

Wounds of the dura mater should, when practicable, be sutured, but when the injury is such that this can not be done, a piece of gold foil, large enough to extend beyond the margin of the defects, should be inserted *between dura and cortex cerebri.* This will prevent adhesions and protect the patient against many of the remote effects of head injury. This gold foil can be prepared by annealing a number of layers of dentist's foil, may be cut into sections to facilitate introduction, and should be stiff enough only to be easily inserted. In the absence of a cavity it will be held in place by mere contact with the tissues. It should be one of the articles constantly in the surgeon's armamentarium. In recent and perfectly aseptic cases, where drainage is not required, the bone removed should be cut into chips, replaced, and the wound closed, or a trap-door-shaped flap of bone and overlying soft structures may be raised, to be put back into place after stopping the hemorrhage and cleaning away the clots. When drainage is required, it is advisable to leave the defect in the bone open, as infection and retention of discharges must above all things be guarded against, danger from this source being far more likely to occur than any subsequent trouble from hernia cerebri.

DISCUSSION.

Dr. W. W. Grant of Denver—There are several points in this paper worthy of thorough discussion. In the first place I believe that the opening in trephining, whether for depression of the skull or not, should be as small as possible and permit the accomplishment of our purpose in operating. Not infrequently the ulterior consequence of an operation—owing to the large cranial defect—has been worse than the disease we have attempted to remedy. Epilepsy quite constantly follows firm cicatricial adhesions between the dura and the cortex, and for this reason many surgeons now hesitate, unless there are decided symptoms of compression, to operate, guided as well by the fact that many of these patients do exceedingly well and never have any bad after-consequences. I have had personal experience with a number of such cases. To prevent the formation of cicatricial tissue or adhesions, it is a question in surgery what is the best material to use, but gold foil is generally so accepted. Dr. Freeman of Denver, has been experimenting with the lining membrane of egg shell for this purpose, and he has had some satisfactory results which he reports in a recent issue of the *Annals of Surgery*. Small fractures can be better treated by chisel and mallet than by the trephine, for one may often put an elevator under the depressed portion and raise it without removing it. In this way you will minimize the danger and unpleasant consequences which result from adhesion of the tissue.

Dr. W. L. Smith of Streator, Ill.—A few years ago I saw an operation on the head. The Doctor quotes the late Dr. Moses Gunn, who was a good surgeon in his day. I have also heard Dr. Gunn say that pus was dead or dying blastema. This statement was all right for that period. So far as making a hole in the skull where an injury is concerned, if there is not a hole already made, I believe the better plan is to use a chisel and mallet, so that we may have plenty of chance for drainage. We can not secure effective drainage through a three quarter-inch trephine hole; neither can we tie an artery if it is bleeding. So far as making pressure to control hemorrhage is concerned, I have little faith in it. I have made several operations on the head with chisel and mallet, and have not had any serious results from concussion or anything of that kind, and I believe, if we are as careful in making a hole in the head as we are in the abdomen we will have just as good results. If the Doctor had used chisel and mallet and raised the flap of bone, he would have had plenty of room for drainage, and, I think, would not have had to make a second operation.

Dr. Fred J. Hodges of Ashland, Wis.—From an analysis of the case and history related one would interpret gradual hemorrhage from a small vessel. That being the case, I do not think that the inequality of the pupils is a matter of any new or added interest, for the reason that the brain is very tolerant of pressure, when gradually applied, and if this same degree of pressure had been applied as a result of the hemorrhage from a large vessel, there would undoubtedly have then been a difference in the pupils, and the same difference in effect would have been observed in regard to the mental faculties. The mental faculties would have been entirely and quickly extinguished; whereas the pressure being so gradually applied, they were impaired rather than extinguished. I have seen the same group of symptoms produced from an extradural rupture of the superior longitudinal sinus. So even with this group of symptoms it is not safe to assume that you are going to come down on a mass of clotted blood. In a case I operated a short time ago, after making a small trephine opening in the skull, there escaped a column of venous blood at least two and a half inches in height. We waited a few seconds to see if there was a blood clot, but there was no change in the extent or force of the stream. The opening was closed, and another made farther down on the parietal with the hope of getting outside the hematoma. But that giving us the same result, a small piece of gauze was introduced from without to encourage clotting, and the scalp wounds closed. As soon as a blood clot formed the symptoms disappeared, and the patient recovered without any further interference. Bearing this in mind, it is just as well to investigate, as far as you can, the state of affairs before removing the entire button, if you use a trephine, or as soon as you make a small opening, if you use a chisel. I do not know how the case could have been treated if a large button had been fully liberated. Evidently there was a large rent in the sinus and to have controlled that through a large opening would have required considerable ingenuity.

Dr. Arthur D. Bevan of Chicago—I just want to defend Moses Gunn in his definition of pus. I do not believe that any more rational short description of pus has ever been given than that by Dr. Gunn, namely: "Pus is dead or dying blastema." It certainly fills the bill even in our advanced stage of pathologic knowledge. Pus is derived from the white blood corpuscles and the embryonal cells, and although Gunn's knowledge of the more refined pathology involved in the production of pus was not up to our present data, yet I should like to defend the general proposition. In the same way, I should like to defend the use of the trephine in just such cases as the Doctor has described in his paper. I would use the trephine in preference to the chisel, because, as a rule, in cases of rupture of the middle meningeal artery we can locate approximately the point of rupture. I do not say that is constantly so, but the general anatomic rule given is fairly accurate—an inch and a half above the zygoma and an inch and a half behind the external process. A 1½-inch trephine will locate the seat of rupture in nine cases out of ten, and 90 per cent. of the cases of hemorrhage are from the middle meningeal artery. The trephine exposes a small area, and you can locate it definitely. It is covered by the temporal muscle and deep fascia, and is in a position where the loss of half an inch of bone is not as apt to result in symptoms at the end of a month or years as it would be in the upper portion of the parietal eminence, for instance, where it is not covered by the deep fascia and temporal muscle. With reference to the inability to ligate a vessel through a trephine opening, I should say that I have done this twice, having ligated the middle meningeal artery through a half-inch wound, and in another instance through a three quarter-inch opening.

I am opposed to the use of gold foil. In a case where w have to remove a small area of bone, especially where it i deeply covered by muscle and fascia, I am inclined to believ that we would be less likely to have epilepsy follow in th lapse of months or years where we had allowed the externa periosteum to remain, than where any foreign body is interposed. The use of celluloid, of a gold plate, of gutta-perch tissue, has been tried in a few cases, and the results have bee unsuccessful. I know of several cases where either celluloi or gold foil has been employed and it was necessary to remov it. I do not think those cases have found their way into th literature; it is the successful cases that are reported. Whil not wishing to consume too much of the time of the Academy I desire to relate briefly a case which I have had recentl illustrating this class of lesions:

A man, a bricklayer, was in a shaft; his companion ha been working with him. The companion left to go to som other part of the building, was gone about half an hour, an when he returned the man was lying unconscious at the bo tom of the shaft. An ambulance was called; the man wa brought to the Presbyterian Hospital; we examined him car fully and found no evidence of any lesion with the exceptio of a slight contusion on the side of the head. The uri showed sugar; a diagnosis of diabetes was made. We watche the case carefully, as one of probable diabetic coma. T patient died. Postmortem examination revealed rupture the middle meningeal artery as the cause of the coma and deat I am inclined to think in such cases as that we would be ju tified in making an exploration for diagnosis. I am rath inclined to believe from my experience with a few similar cases, that an early operation would have saved the man's life.

Dr. Edward Dooley of Buffalo, N. Y.- I was very much interested in the paper, and from the remarks made by several gentlemen I noticed a great deal of stress was laid on the danger of the adhesions that are apt to form. I recall a case that came under my observation about five years ago:

A young man riding on an engine, in jumping off, struck the top of the switch frame and sustained an extensive compound, comminuted fracture on the left side of the skull. Much of the bone was broken into small splinters, which I removed without using either chisel or trephine. I should say I removed altogether an area fully two and a half inches square, including the left parietal eminence and the bone below and in front of it. The dura was lacerated, a blood-clot that had formed was removed, the wound united with catgut and dressed with iodoform gauze. The condition of the patient was such that I was in a hurry to get him off of the table, thinking he was going to die, but to my great astonishment the young man recovered. He suffered from aphasia for ten days, but gradually his intelligence and speech returned, so that at the end of six weeks he was able to leave the hospital. The young man has been at his occupation as a switchman ever since, it now being five years since he sustained the injury. There is certainly cicatricial tissue covering the entire space over the left parietal eminence, and he has not had any epileptic seizure or paralysis.

This is an exceptional case. I do not wish to be understood as saying that it is unnecessary to use gold foil, but there are undoubtedly cases where we will not have epilepsy or paralysis, even though there be a cicatricial scar over the brain substance.

Dr. R. Harvey Reed of Rock Springs, Wyo.—There is one point I would like to refer to in regard to the Doctor's paper, and that is with reference to the instrument which is to be used in opening the skull. I have used the chisel very freely, the trephine and the DeVilbiss instrument, and I do not think that, from a surgical standpoint, it makes much difference which is used. There is an important point in the matter, viewed from a medicolegal standpoint which a personal experience of my own well illustrates.

I was once called to see a man who had been assaulted and left for dead by his assailants. He had been attended by some physicians of the neighborhood until he developed a paralysis of the right side of the face and the left arm and leg some four days later, when I was called in consultation. I recommended operation, which was agreed to. I removed a good-sized flap by means of the chisel and mallet, and over the arm and leg area found the dura bulging out boldly and without pulsation. This naturally led to the expectation of finding a clot under it, but an incision only released a little serum. Aspiration of the lateral ventricles removed about two ounces of blood and serum and allowed the brain to resume its normal relations. Wounds of the dura and scalp healed primarily, and the patient did well for a time, but two weeks later began to do badly and finally died. At the trial of his assailants, the defense assumed the position that the doctor had killed the man. In his argument the attorney said: "Gentlemen of the jury, think of this man taking a great chisel and an enormous mallet and pounding and pounding until he cut a hole in the poor man's skull three inches in diameter. Is not that enough to kill any man?" Of course the murderers were set free and I was discountenanced. Gentlemen, we are treating patients that are corporation cases, and while I feel and know that I contributed in no way to the death of this man by the use of the chisel, yet at the same time if I had used the DeVilbiss rongeur, I would have avoided the charge by the attorney of having "pounded his head with a mallet" and would have accomplished the same results. For this reason I believe that it is well to avoid the appearance of evil—at least in such cases as may eventually come before the courts—and by so doing avert trouble for the corporations for which we are working, or as in this instance, turn loose criminals whose place is in the penitentiary.

Dr. W. J. Mayo of Rochester, Minn.—I am going to ask the essayist one or two questions, which I hope he will answer in his closing remarks. The first one is this: In case the focal motor symptoms do not agree with the injury, would he go down on the focal lesion, or go on the side of the injury? I consider this an important point. In two of the three cases which I have seen, the external wound and the motor symptoms did not agree. There is no class of cases more confusing o us than these. A man sustains an injury of this kind and develops thrombosis; you cut down, open up the calvarium, nd find an edematous brain, the symptoms coming on soon fter the injury. I recall one case, the history of which was xactly that of the case described by the Doctor, yet it was due o a progressive thrombosis. Dr. Reineking is certainly to be congratulated on the result obtained in his case, and it is an encouragement for us to operate whenever we encounter these cases.

A good deal has been said in regard to the use of the chisel and trephine. I do not think it makes much difference which we use. My brother and myself do considerable surgical work on chronic cases of this character in two large asylums, and I should say that it is a question of choice between the chisel and trephine. I do not think the little taps we give with the chisel would make much difference. I am inclined to think that those who oppose the chisel so strongly have not used it many times. The DeVilbiss instrument is certainly a fine one to work with.

Dr. Reineking.—In reply to Dr. Mayo's question as to where I would trephine in a case where the symptoms disagreed, the injury being on one side and the focal or pressure symptoms on the other, I should first trephine on the side toward which the pressure symptoms pointed, and if unsuccessful there and the symptoms persisted, I should not hesitate to trephine the other side also.

Dr. Fred J. Hodges of Ashland, Wis.—I would like permission to make one further remark in regard to this class of cases. Dr. Mayo touched upon one of the most important points in the whole matter when he asked the question as to the site of the operation. In the July number of the *American Journal of the Medical Sciences*, for 1894, I think, Walton, one of the senior surgeons of the Massachusetts General Hospital, in an elaborate paper, cites a number cases in which he reaches the same conclusion or lays down the same proposition as that announced by the essayist, namely, that he would operate at the site of the focal symptoms. I believe this to be radically wrong. Surgeons have gone far in advance of the physiologists. If you will consult a standard text-book on physiology, you will be reminded that the decussation in the anterior pyramids varies all the way from no decussation whatever to complete decussation. It takes a vivid imagination to make a great many reported cases conform with the generally accepted idea among surgeons that injury on one side produces paralysis on the opposite side. If you will study cases in the light of physiology, you will find that decussation is not constant by any manner of means, and the surgeon is misled in operating at the site of focal symptoms. I had a case at the time of this report which beautifully illustrated that point. The man was operated upon for epilepsy about a week after his first convulsive seizure. On examination, there was a scar found on one side of the head which he said marked the infliction of a bullet-wound eleven years previously. This was on the right side of the head, and the post-epileptic paralysis was on the right side of the body. Following the Walton rule an operation would have been undertaken on the left side; but following the common-sense rule, operation was made on the right side, when two thirds of a 38-caliber bullet was found encysted in scar tissue just within the surface of the cortex. The bullet was removed, and the scar tissue excised. It is now nearly four years since the operation was done, and the man is absolutely free from any central disturbance.

If you will gather carefully the clinical reports of skull injuries, you will find that it requires a vivid imagination to make the clinical history correspond with the idea of invariable decussation, and for the best of reasons—it does not exist.

While an interne in Cook County Hospital in this city, a man was brought in with fairly well-marked focal neurologic symptoms following an injury to the head—an injury that was not easily localized externally. A surgeon of this city, who has given a good deal of attention to brain surgery, cut down upon the supposed point of pressure and found nothing. He needled the brain in various directions with the same results. We had the gloomy satisfaction the following day of discovering a large clot on the opposite side of the head. The clot was on the same side as the paralysis. The proper explanation occurred to none of us at that time. Now I am certain that it was a case in which there was no decussation. Surgeons can not safely go in advance of the physiologists. The site of the injury is a safer, more rational guide to operation than the localization symptoms.

Dr. R. Harvey Reed of Rock Springs, Wyo.—The remarks of Dr. Hodges recall a case which to me was a very odd and interesting one, and which I will report briefly:

A miner was struck on the top of the head by a falling rock, which inflicted an extensive compound comminuted fracture of the skull. I did not think he would live, but felt it my duty to go ahead and do the best I could, so I removed an area of bone, perhaps 2½ x 3 inches, that was completely comminuted. The dura mater was lacerated apparently by almost every piece of bone, and in addition the brain substance itself was crushed. I should say that I removed from that patient brain substance to the quantity of at least half an ordinary teacup, and it oozed out for some little time after operation. Being an infected wound, I packed it and allowed it to heal by granulation. To my utter surprise, on the fourth day after the operation, the man got up and went out of the hospital without a single symptom of paralysis, notwithstanding that the injury was immediately over the leg and arm area. On that day he walked four miles in looking up witnesses for a lawsuit that was to come off the next day. I supposed that if he did not die from the injury he surely would from the effects of so great an exertion. However, he remained in the hospital about two weeks, the wound healed rapidly, and he got well without any paralysis whatever. If we had any fear whatever of the formation of cicatricial tissue, we certainly would have it in a case of that kind. After leaving the hospital he resumed work for a considerable time, and was afterward run over by the cars, the leg and arm taken off, and the last I heard of him he was still living.

Dr. REINEKING (closing the discussion)—I purposely did not speak of depression or depressed fracture as indications for operative interference. I discussed cases presenting evidence of intracranial hemorrhage. Personally, I do not recommend the use of gold foil unless the dura mater is lacerated so that it is not readily sutured. I had a very happy experience with the use of gold foil between the dura and cerebral cortex, in a case of epilepsy. The man had as many as three attacks a day, and as many as fifteen or sixteen during the year, and since relieving the adhesions which bound down the cerebral cortex to its coverings and protecting him against further adhesions by the use of gold foil, thick enough to prevent adhesions, the seizures have completely ceased. It is now (October, 1898) eighteen months, since which time he has had no attack whatever. Shortly after the operation he had two slight attacks. I am afraid of adhesions between the dura and cerebral cortex. If we investigate the literature of operations for epilepsy, we will find it occurs where the adhesions and cicatricial tissue were beneath the dura.

In such a case as the gentleman from Buffalo (Dr. Dooley) cited, there was no occasion for using gold foil. I am not surprised that his case did well. We have all seen similar cases. It makes little difference how large the defect in the bone is as long as the adhesions are not deep. Even where they do exist epilepsy will not invariably occur any more than will nerve injuries be invariably followed by a neurosis or paralysis. In the case in which I placed gold foil between the membranes, a skiagraph was taken about a year and a half later, and it showed the plates in position. The defect was large, and the foil, which was flexible, was inserted in four sections. The man has brightened up mentally, has been relieved of epilepsy, and certainly the case is one to make a surgeon a little enthusiastic in the use of gold foil. I am free to confess that I am an enthusiast on this subject. In cases where there is fracture or depression, I would use chisel and mallet, a gouge, or a DeVilbiss forceps, but in cases of simple hemorrhage without depression or fracture, I think a trephine is the nicest instrument. With it we remove no more than is absolutely necessary; we can enlarge the opening and do it well with a rongeur forceps. The size of the opening is no argument, and it was advised in my paper to enlarge the opening in accordance with the indications. In the case I reported, the bad drainage was not due to the use of the trephine, but to the location of the opening. If it had been made at the most dependent portion of the cavity, the drainage would have been good with the trephine opening, and with a single one. That was the sole occasion for making a second opening.

As I have previously remarked, many of these severe injuries will recover without the use of gold foil; but we never know which are going to be the bad cases any more than we know about injuries to the nerve trunks, etc., and we had better adopt the precaution of using gold foil. Sufficient clinical experience is on record, as evidenced by the cases of Roswell Park, Estes, and others, that the gold foil can be used with satisfactory results. I would not recommend its use in infected cases, because the first consideration must be thorough drainage and good antisepsis; neither would I make a bone flap or expose the bone chips in cases where the scalp is infected, as it was in my case. I thank you for the free discussion of my paper.

Acne Rosacea.—Jadassohn applies the following salve with massage at night, after washing the face in hot water with soap or borax if there is much greasy secretion: Ichthyol 1 to 5 gm., resorcin 1 to 3 gm. adip. lan. 25 gm., ol. oliv. 10 gm., aq. ad. 50 gm. Wash off in the morning with hot water and afterward with spirit.—*N. Y. Med. Woch.*, January.

THE ACCOMMODATION.

Read before the Chicago Academy of Medicine, Jan. 13, 1899.

BY J. G. HUIZINGA, M.D.

PROFESSOR OF OPHTHALMOLOGY, CHICAGO EYE, EAR, NOSE AND THROAT COLLEGE; OPHTHALMOLOGIST TO HALSTED STREET DISPENSARY, CHICAGO.

Accommodation is that function of the visual organ whereby it is able to adjust itself so that rays of light coming from different distances may all be focused upon the retina consecutively. In other words, it is that power of the eye whereby the refraction of the organ may be increased or decreased within certain limits at will.

"The contraction of the ciliary muscles causes the zone of Zinn to advance, and thus diminishes the traction exerted by the latter upon the crystalline. The lens, abandoned to itself, assumes the form which the elasticity of its fibers naturally gives it, and becomes more convex, especially its anterior surface.

"When the innervation ceases, the ciliary muscles are relaxed; the ciliary processes become tense, and stretch the zone of Zinn, which, in turn, flattens the crystalline by exerting upon it a traction in the direction of its equator." Thus during a large portion of our lives the lens is compressed and cramped into a shape that is not natural to it. The result is that the lens ultimately assumes that shape which it would possess when the zonula is in a state of maximum tension. Any relaxation of the zonula at this time will have no effect upon the form of the lens because the lens fibers have gradually accommodated themselves to the conditions imposed upon them.

Another result of this tension of the zonula is that the lens "changes in its constitution." The peripheral layers of the crystalline being compressed and more dense increases their index of refraction, so that in the latter years of life, the index of refraction of the nucleus and the peripheral layer is very nearly alike, and the lens becomes more and more homogeneous as age advances.

The difference between the refraction of the lens with the zonula tense and its refraction with the zonula relaxed is the measure of the range of accommodation. The normal range of accommodation is a very vague term, and may signify almost anything. What is normal in one case may be abnormal in another, and vice versa. But while this may vary considerably in different individuals and at different ages, there ought nevertheless to be, what, for want of a better term, we may call, a proper range of accommodation, and where this is deficient it must be supplied by artificial means, i.e., convex lenses.

By the *proper* range of accommodation we mean that condition of ciliary muscles and lens in which the action of the former combined with the inherent elasticity of the latter is sufficient to change the refraction of the eye to such a degree as is necessary to meet all the requirements of vision in the discharge of the particular duties of the patient without requiring the muscle to expend more than two-thirds or three-fourths of its strength and endurance. It is possible for a patient to have a *normal* without a *proper* range of accommodation. For instance: a man 29 years old whose normal range of accommodation is equal to 7 diopters, but who is hyperopic to the extent of 3 diopters, and who, in the discharge of his ordinary duties, requires 4 diopters of accommodation, is obliged to use constantly his entire accommodation, consequently, the ciliary muscle must contract to its maximum extent, which it is possible to do only for a very limited time. Again, take a child 10 years old, whose range of accommodation is normal—about 14 diopters—who is also a hyperope to the extent of three diopters and requires 4 diopters of accommodation to do her work, or in other words, who must use, more or less constantly, 7 diopters of accommodation. While the conditions are practically the same, as in the case of the man, she only uses one-half of her range of accommodation, and thus only one-half of the strength and endurance of the ciliary muscles are required. The child is able to go about without suffering any inconvenience from her hyperopia, while the man is constantly handicapped. In both, the range of accommodation is normal, but the man does not have the *proper* range while the child does have it.

Anomalies of accommodation may result from the following causes:

1. From irregularities in the length of the zone of Zinn. The investigations of Priestley Smith have demonstrated the fact that the length and symmetry of the zonula may differ very much in different individuals. If it should be longer than normal, the lens would naturally assume that shape which the elasticity of its fibers will give it, even when the ciliary muscles are relaxed to a certain extent. It would be influenced less by any contraction of the ciliary muscles, and the range of accommodation would diminish proportionately. Or, if it should be shorter than normal, the lens would necessarily be compressed all the time to a certain extent, and any relaxation of the ciliary muscles can then only partially accomplish that which they ought to. Its effect upon the range of accommodation would be quite similar to the above.

2. The range of accommodation depends upon the strength or weakness of the ciliary muscle. This muscle, like every other one in our body, is influenced by a weak or debilitated condition of the system. It may have the necessary strength to give the patient, for a limited time, the normal accommodation to which he is entitled, but its power of endurance is more or less diminished. The term "accommodation asthenopia" should be applied only to such cases, and not as is often done, to an inability of the accommodation to overcome high degrees of hyperopia, because in these latter cases the ciliary muscle is not usually in an asthenic condition. It is often stronger and better developed even than in the normal emmetropic eye. To determine whether this muscle has sufficient power and endurance it is necessary to ascertain the proper range of accommodation. If this is sufficiently great to meet all the requirements of ordinary work, we must next determine the endurance of the muscle by requiring the patient to read continually for at least three-quarters of an hour, holding the book or paper at such a distance from the eyes as will call into action at least two-thirds of the total range of accommoda-ion. If the muscle is normal in strength and endurance, the patient will meet this test without any in-onvenience whatever, but if not, he will soon lay aside his work with the expression that the words seem blurred after the eyes are used a few minutes. This blurring is simply a relaxation of the ciliary muscle because it had become tired out, allowing the lens to emporarily assume the same shape and position that would if it were under the influence of a cyclo-legiac. The muscle has become exhausted, and it is impossible for the patient to accommodate at all until it has rested for a longer or shorter time. This condition is usually found in such patients as are suffering from a general debilitated condition of the system as the result of some disease, malnutrition, or deficient excretion of poisons generated in the body. Their treatment, therefore, should be general as well as local, and while we may prescribe a weak convex glass temporarily for such patients, it is only to assist them until this muscle, with the rest of the system, has again returned to its normal condition.

3. In the third place the range of accommodation depends on the density of lens. The density of the crystalline varies at different periods of life. At an early age its consistency is nearly the same throughout the whole substance, but in advanced years there is a difference between the deeper or more central portions of the lens and those at its exterior. There is no abrupt transition between these parts, and the condensation appears to be due entirely to the absence of metabolic changes in the interior. The lens is nourished only by intercellular transmission of fluids, and the condensing process consists mainly in a loss of water." This hardening commences in childhood and is not completed till old age. The investigations of several different authorities, however, have demonstrated that the index of refraction of the lens in different persons may differ considerably. This difference can result from only two causes: 1, from a change in the physical condition of the lens; 2, from a change in its density. Of these two the second is most probable. The more dense a body the less compressible it is, is a law in physics. Apply this law to an unusually dense lens and we would expect that our relaxation of the ciliary muscles would not compress the lens as much as it ought to. The reverse would follow in a lens that is less dense than normal. So that both of these conditions, increase or decrease of density of the lens, would be followed respectively by decreased and increased range of accommodation.

4. In the fourth place, the range of accommodation depends on the elasticity of the lens. It has already been stated that a gradual and progressive loss of the range of accommodation is a normal accompaniment of increase of age. Since the elasticity of the lens differs at different periods of life, it is possible that it may vary in different individuals to a certain extent. This has been affirmed by some, and to this condition the term "pre-senility of the lens" has been applied. If there is such an undue loss of elasticity, its effect upon the accommodation is quite evident. With the contraction of the ciliary muscles, the lens will fail to respond as much as it would otherwise, and presbyopia would appear unusually early.

5. In the fifth place, the range of accommodation depends on the index of refraction of the lens.

The measuring of the index of refraction of the lens is an exceedingly difficult piece of work, and the possibility of error must not be overlooked. Yet a careful study of the literature on this subject would lead one to believe that the index of refraction of the lens may differ to a certain extent in different individuals. That it does differ at different periods of life is generally accepted. What, then, will be the effect of a difference in the refractive index upon the accommodation? This can best be illustrated by comparing two lenses exactly alike in every way except in their indices of refraction, both during accommodation and its suspension. In the table at the end of this article such lenses are compared, both with reference to their index of refraction and their size. For illustrating this it is necessary to assume that during accommodation the transverse diameter of the lens diminishes a certain amount, which we have taken to be 1.25 mm. The table gives first the measurements of four lenses whose radii of curvature are exactly alike and whose other dimensions are made to correspond to a perfectly formed lens. The only difference between lenses Nos. 1, and 2, and Nos. 3 and 4, is in their indices of refraction. With an index of 1.4371 the range of accommodation of lens No. 1 is 7.63 D., while the same lens with an index of refraction of 1.40 (marked lens No. 3 in the table) has only a range of accommodation of 4.98 D., making a difference of 2.65 D. in the range of accommodation, due to only a slight difference in the index of refraction. This is still more marked in the case of the smaller lens, where the difference in the range of accommodation equals 3.82 D.

From this we may deduct the law that the range of accommodation increases with the increase of the index of refraction and decreases with its lessening.

6. The range of accommodation depends on the size of the lens.

The size of the crystalline lens differs at different periods of life as well as in different individuals of the same age. The great range of accommodation in children has generally been attributed to the increased elasticity of the lens during this period, but a glance at the table at the end of this article will show that part of this may be due to the smallness of the lens. The range of accommodation of lens No. 1 is 7.63 D, while that of lens No. 2 is 10.6 D., giving the smaller lens nearly 3 D., more of accommodation than the larger one. The reason for this is as follows: The volume of both lenses remains the same under all conditions and their transverse diameters are equally reduced during accommodation, but the curvature of the surfaces of the smaller lens and consequently its refraction increases correspondingly. From this table we may formulate the rule that the range of accommodation decreases with an increase in the size of the lens, and vice versa.

	Accommodation at rest.			
	1	2	3	4
Transverse diameter	10 mm.	8 mm.	10 mm	8 mm.
Antero-posterior diameter	4 mm.	2⅜ mm.	4 mm.	2⅜ mm.
Radius of curvature of anterior surface. .	10 mm.	10 mm.	10 mm.	10 mm.
Radius of curvature of posterior surface.	6 mm.	6 mm.	6 mm.	6 mm.
Index of refraction of lens.	1.4371	1.4371	1.40	1.40
Index of refraction, aqueous and vitreous	1.3365	1 3365	1.3365	1.3365
Refraction of lens	D19.72	D19.82	D12.52	D12.58

	Accommodation, Active.			
	1	2	3	4
Transverse diameter . . .	8¾ mm.	8¾ mm.	8¾ mm.	6¾ mm.
Antero-posterior diameter	4 11/16 mm.	2 13/16 mm.	4 11/16 mm.	2 13/16 mm.
Radius of curvature of anterior surface.	6 mm.	6 mm.	6 mm.	6 mm.
Radius of curvature of posterior surface	4 25/32 mm.	4 1/16 mm.	4 25/32 mm.	4 1/16 mm.
Index of refraction of lens	1.4371	1.4371	1.40	1.40
Index of refraction, aqueous and vitreous.	1.3365	1.3365	1.3365	1.3365
Refraction of lens.	D27.38	D30.46	D17.50	D19.36
Range of accommodation.	D 7.63	D10.60	D 4.98	D 6.78
Difference in range of accommodation due to difference of lens.	D 2.97	D 2.97	D 1.80	D 1.80
Difference in range of accommodation due to difference in index of refraction.	D 2.65	D 3.82	D 2.65	D 3.82

DISCUSSION.

Dr. William H. Wilder—This is an interesting topic to the physiologist as well as to the specialist, and also to a certain extent to the general practitioner. I wish to concur with the essayist as to the importance of duly considering the general condition of the patient in certain so-called cases of accommodative asthenopia. Too often the specialist is imbued with the idea that his chief function is to correct refractive errors and prescribe glasses. He is liable to see everything through a pair of glasses, and is disposed to correct every error of a refractive nature. Very often we find the chief cause of the patient's asthenopic symptoms is his depraved general condition, and many so-called cases of accommodative asthenopia more properly belong to the general practitioner or nerve specialist than they do to the ophthalmologist, because this trouble is so frequently due to fatigue of the ciliary muscle rather than to any real impairment of the function of accommodation. Such fatigue of the ciliary muscle my be dependent largely upon impaired nutrition, or it may be due to neurasthenia. That the power of accommodation depends directly upon the refractive index of the lens together with its elasticity, and also upon the strength of the ciliary muscle, is a well-established fact, but with the data before us, I should be disposed to question the last proposition of the essayist, namely, that the range of accommodation is directly dependent upon the size of the lens.

Dr. Henry Gradle—Claude Bernare, who was a great philosopher as well as a remarkably ingenious experimenter, says in one of his recent writings, in regard to the interpretation of certain experiments, that it is not so important to explain how these things might happen as to show how they really do happen, and I think that this criticism applies too to the paper of the evening. The Doctor has brought forward interesting data, but they are largely hypothetic. The measurements which we have concerning the size of the lens, are all fragments that were collected by different persons at different times under different circumstances, and we have yet to determine in a single given case all data concerning one eye. It is an impossibility to do this with our present means. We do not know how far those various conditions that he specified apply to the variations in the range of accommodation as we meet with it clinically. There is one point which he has not sufficiently pointed out, and which may render useless the most patient calculations, namely, the compensatory arrangement so often found in the eye. In absolute emmetropia the radius of curvature of the cornea is by no means the same in different persons. It may vary considerably in a given case. In hypermetropia or myopia we find almost as large a variation in the radius of curvature of the cornea as we do in absolute emmetropia. Yet a given refractive condition can exist because the deficiency (or excess) in the refractive power of the cornea is compensated for by the opposite condition in the lens, be it due to the curvature of the lens surface, to the location of the lens or its distance from the cornea, or be it due to the variations in the refractive index of the lens. The refractive index of the lens, moreover, varies from periphery to the center, and the law of increment does not seem to be the same for all individuals.

Dr. Harold N. Moyer—I want to call attention to one point made by Dr. Wilder and emphasized by Dr. Gradle, namely, the confusing clinical data often furnished by patients. A large number of patients with refractive errors suffer from eye-strain, headache, which they attribute to injury or accident, and prior to which they never had any difficulty with their eyes. An examination shows a refractive error that has existed since early life. The injury has impaired the muscular power for accommodating; this being superadded to a general neurasthenic state, refractive errors which were latent cause symptoms.

The physician, in dealing with the general subject, does so from the standpoint of pure optics. He must remember that he is dealing with living tissue, not only are there muscles but also nerves that are concerned in this process. The disturbances which lie behind refractive errors are frequently as elusive as those which underlie the pathology of neurasthenia and hysteria.

Dr. William L. Ballenger—Dr. Huizinga's paper is only intended to be suggestive. We know that the lens in the living tissue refracts rays of light. We know that a lens made of vitreous substance, as glass or other material, also refracts rays of light. So far, the analogy is true. The essayist compares two lenses with reference to their refraction both during accommodation and during its suspension. Their indices of refraction and radii of curvature are exactly alike; the only difference between the two is in their size or volume. He finds that with the transverse diameter of both lenses equally diminished, as during the act of accommodation, the radii of curvature of the smaller lens changes more than that of the larger. Therefore the refraction of the smaller lens increases more as a result of accommodation than the larger, and the range of accommodation is correspondingly increased. The size of the lens must have something to do with its range of accommodation, and as I understood the essayist, his intention is to raise that question in the minds of those present, so that they may bear it in mind, and, if possible, make due allowance for it in their clinical work. Oculists can not, for instance, demonstrate the exact power of the ciliary muscle, nor do they always take into account corneal imperfections. They presume there are cases in which there are certain differences in muscular power, etc., and they try as nearly as possible to make allowance for them in their work. Their allowances are based upon hypotheses, and somewhat upon clinical experience.

While the paper is not in the nature of an exact demonstration, it offers a valuable suggestion, and one which in future will, perhaps, influence the work of the ophthalmologist to the betterment of the condition of the patient. We all know how unsatisfactory the work of the ophthalmologist is in refraction. No one knows it so well as the ophthalmologist himself. On account of the lens and other parts of the eye being a living organism, instead of a mechanic apparatus, it is difficult for ophthalmologists to make due allowance for the varied conditions and compensatory phenomena that are supposed to exist in it. But the little knowledge they have of these varied conditions aids them in arriving at more correct conclusions, and the more they add to this knowledge the better will be their work. The science of optics of the human eye is not yet perfected, and anything which leads the way to the betterment of this science should be hailed with pleasure by the profession. I wish, therefore, to thank Dr. Huizinga for his very valuable paper, and to express the hope that he will pursue his investigations and reduce his hypothesis to a scientific demonstration. Faraday did not demonstrate the principles of what is now known as electric faradization. He was only a prophet of what was to be in the future. His work was hypothetic, but was very valuable nevertheless.

Dr. Huizinga (closing the discussion)—Dr. Wilder spoke about asthenopia being due largely not only to the general condition of the patient, but to the condition of the ciliary and other muscles of the eye. I recall the case of one of my first patients treated years ago, which illustrated this forcibly. I refracted him perfectly, each eye separately, but he did not get along very well. He returned after two weeks for another consultation, and as an experiment I gave him some nux vomica in ascending doses, and at the end of a few weeks he returned, saying that he had thrown away his glasses and had entirely recovered. Since then I have followed this method of treatment in a large number of cases of asthenopia of the ciliary muscle. (Here Dr. Huizinga explained the size of the lens by reference to charts.)

With reference to Dr. Gradle's last question, why the accommodation tires more easily in old than in young people, even when only a certain fraction of it is called into use, my answer is as follows: With the accommodation suspended, the lens is flattened and its fibers are forced to maintain an unnatural and cramped position. There is a constant effort on the part of these fibers to overcome this restraint. This tendency is in direct proportion to the elasticity of the lens. The result is that there is a constant tension exerted through the zonula upon the ciliary processes. This drawing upon these processes is a constant encouragement for the ciliary muscles to contract, and when only a slight enervation takes place the muscle immediately responds and is materially assisted by the great elasticity of the lens in young people. This assistance diminishes progressively with the age of the patient and the loss of elasticity of the lens, so that in an old person the muscle is obliged to do practically alone that which it formerly did with the assistance of the inherent elasticity of the lens. We would therefore expect this very delicate muscle to become more easily fatigued in old than in young persons.

DISSIMILAR EYES.

BY NORBURNE B. JENKINS, M.D.

KNOXVILLE, TENN.

Many persons have considerable difference in the size and conformation of the eyes. The external measurements of one eye may differ from those of the other. One eye only may be perfect. Both eyes may be imperfectly formed, the imperfection of one eye differing in degree or in nature from that of its fellow. The combinations met with are numerous and varied. Occasionally one eye sees distinctly only distant objects, while the other is of service only for near vision. Often one eye is used for both near and distant vision, the other eye being used but little or not at all. A considerable difference sometimes exists until late in life without affecting the vision or comfort. On the other hand, slight differences frequently cause strabismus, amblyopia and asthenopia early in life.

The above condition is called "anisometropia." The reasons advanced for the frequent failures to correct it with lenses are herewith given. This one is taken from Fuchs' "Text-Book of Ophthalmology:" "The obvious course to pursue would seem to be to correct the anisometropia by ordering different glasses for the two eyes. Nevertheless, this measure in most cases proves impracticable. If the difference between the two glasses is somewhat great, the patients complain of an unpleasant sensation in the eyes, of vertigo, headache, etc., and lay the glasses aside. This fact is explained in the following way: Glasses alter not only the distinctness but also the size of objects. This is enlarged by convex and diminished by concave glasses, and the more so the stronger the glass is. With different glasses the retinal image of the same object is altered in size, more in one eye and less in the other; the images then no longer match one another, and can not be perfectly superimposed. We therefore prefer in anisometropia either to give the same glasses for both eyes, or to correct only one eye and place a plane glass before the other. In doing this we always have regard to the better eye, namely, the one which appears more efficient for the purpose in view (distant or near vision)."

In regard to this theory the following are offered: A convex lens magnifies objects and corrects hyperopia. A concave lens minifies objects and corrects myopia. A given person has in the right eye a myopia of 3 D., and in the left eye a hyperopia of 2D. Without lenses an object appears larger to the myopic eye and smaller to the hyperopic eye than to an emmetropic eye. If perfectly fitting lenses are used, the retinal images of both the myopic and the hyperopic eye are made the same size as the retinal image of an emmetropic eye.

Of frequent occurrence are analogous cases to this: A given person has a total hyperopia of 4D. in each eye. He wears with comfort, R.E.+ 1.75S.; L.E. + 3.25S., notwithstanding there is considerable difference in the power of such lenses, while the total error of refraction in either eye is the same.

Another explanation found in some of the text-books on the eye is this: "Owing to the wide difference in the refraction of the two eyes, only one eye, the less ametropic, is used for vision. The retina of the other eye has not been accustomed to clear images, consequently a glass which entirely corrects the error of refraction will not be tolerated. In these cases the less ametropic eye should be fully corrected and the more ametropic eye should be partially corrected, fitted with a plane glass, or given a glass of the same focus as that worn on the less ametropic eye."

The foregoing is probaby founded upon the observation of imperfectly refracted eyes in which, in addition to myopia or hyperopia, there is astigmatism. It is probable that, with the methods laid down in the text-books, such errors of refraction can not be corrected to any degree of certainty.

After cataract operations the best obtainable retinal images are tolerated. Often persons with high degrees of ametropia pass many years of their lives without the retinæ receiving clear images. When the errors of refraction are perfectly corrected, such persons experience no inconvenience from too distinct vision.

When the axis of the astigmatism is estimated to within three degrees, and the susceptible ametropia corrected to within 0.25D., there is probably nothing to prevent an anisometrope using both eyes simultaneously for near or distant vision.

NOTE. Deformity ametropia, i. e., astigmatism of more than 3.5D., myopia of more than 7D., and hyperopia of more than 7D., have not been considered in the above article.

TYPHOID FEVER.

ITS DIAGNOSIS AND TREATMENT.

Read before the Baltimore County Medical Association.

BY H. S. JARRETT, M.D.
TOWSON, MD.

The subject of my paper is familiar to all, and I sincerely hope my humble efforts will at least be the means of bringing out a discussion of this very important subject, so that we may gather to ourselves even one point that will aid us in the future management of this dreaded and treacherous disease. My experience leads me to believe that we should *do more than do nothing* in typhoid fever cases, and treat the disease with antiseptic remedies. When called to a case of fever I always prescribe quinin and calomel, and if the fever does not yield to this treatment I consider the case as suspicious, and immediately change to an antiseptic, having already gotten the good effects of the calomel and preparing my patient for further treatment, which will be given later.

Obraztsow calls attention to the value of palpation of the ileum and mesenteric ganglia in the diagnosis and prognosis of typhoid fever. For the past four years he had observed, in examining the right iliac fossa, in cases of typhoid fever, that in 60 per cent. of the cases an intestinal loop can be felt beyond the cecum, about the size of the index finger, of varying consistence and at the level of which pain and gurgling were localized. Autopsy verified the author's belief that the loop was none other than the terminal point of the ileum, where it joined the cecum, and clinical observation has shown that the larger and more painful this loop the graver the prognosis of the case. The absence of this loop does not exclude typhoid fever.

As the palpation of these points is often rendered difficult by the sensitiveness and swollen condition of the large intestine, it will be seen that the greatest delicacy of touch is required. The diagnosis is often difficult, especially in children, as the symptoms are never as well marked as in adults.

You have feelings of malaise, which are often accompanied by a chill or chills. There is headache, dulness and listlessness, general soreness and chilliness, sometimes epistaxis, often diarrhea; sometimes moderate abdominal tympanites, with tenderness and gurgling in the right iliac fossa; and the tongue presents a thin, whitish coat, not extending to the tip and edges, which may be rather red. All or only some of these symptoms may be present, but are hardly pathognomonic, as many of them may be present in the early stage of other febrile affections. In the temperature, however, we find an important aid to diagnosis—that terrace-like rise from morning to evening. If, in addition to the above systemic symptoms, the temperature rises steadily from day to day and from morning to evening, and reaches 103 to 104 degrees by the fourth day, there will be little reason to hesitate as to the diagnosis. By this time the fecal discharges will begin to exhibit the characteristic light yellow color and pea-soup consistency. By the end of the first week the temperature will have reached the maximum point, which it is likely to hold during the disease, and the stage of invasion may be considered as at an end.

From the end of the first week the temperature pursues a pretty steady course from the highest point, rising from morning to evening and falling from evening to morning from one to two and one-half degrees, the chart developing the characteristic zig-zag appearance, the countenance becomes more dull, the eyes more suffused, the face more flushed, the tongue more coated, the intestinal discharges thinner and more frequent, the abdominal tenderness and tympanites more marked, the skin dryer and congested. Both skin and breath exhale a peculiar odor, the pulse increases in frequency, rising, perhaps, from between 80 and 100 to between 100 and 120, and is more in proportion to the temperature. The petechia or rose spots, slightly elevated above the surface and disappearing upon pressure, present themselves upon the abdomen and back. They usually appear, when present, about the seventh day. I remember some time since, during a discussion in our Society on this subject, great stress was laid on these spots. You will fail to diagnose many cases of typhoid fever if you depend on the spots. They are not always present, at least in my experience, and I believe they appear in only about 30 per cent. of the cases noted. In a report of 162 cases of typhoid fever in Porto Rico by Dr. Senn, army surgeon in the late war, he found the spots in only 37 cases.

We are indebted to Widal of Paris, who has given us the means of diagnosing a case of typhoid fever when diagnosis can not be based upon precise symptoms—the serum test—a drop of blood on your slide or visiting card, sealed and sent to your health board.

The urine should always be examined for traces of albumin, and microscopically for the bacilli, when possible. We all know the importance of good nursing and careful feeding in these cases. I invariably insist upon a definite amount of milk, given at stated intervals, as follows: Three ounces of cow's milk every two hours, giving one and one-half ounces of beef tea or broth alternately. I continue this dietetic treatment throughout the disease until the fever becomes normal in the evening, when I commence to increase the diet gradually. I do not give alcohol in any form, unless called for by the condition of the pulse.

Osler says that at least 75 per cent. of enteric fever patients recover under any and all forms of treatment, and even without the good nursing and regulated diet upon which we lay so much stress; and medicines are not, as a rule, indicated. No known drug shortens by a day the course of the fever. No method of specific treatment or of antisepsis of the bowels has yet passed beyond the stage of primary laudation. An impression has gone forth throughout the whole profession that all that could be done in the management of these cases was to regulate the diet and treat them symptomatically. This, I believe, is an error.

I certainly claim for the antiseptic treatment, that it modifies, if not cuts short, the disease. I say this with all due respect to Dr. Osler, who is one of the most distinguished members of our profession. I have a record of two hundred cases of typhoid fever, treated in the past twelve years by my father and myself on antiseptic principles, with a mortality of 10 per cent. in private practice.

Among the antiseptic remedies used in the treatment of this disease are turpentin, calomel, salol, Lugol's solution, lysol, guaiacol, naphthol, sulphocarbolate of zinc, bichlorid of mercury, subnitrate of bismuth, eucalyptol, thymol and many others too numerous to mention. There are many other forms of treatment mentioned, such as the expectant plan, the Brand method, Woodbridge treatment, etc. I believe the latter to have produced good results.

The treatment my father and I have pursued for the past twelve years has been chiefly antiseptic, and the mortality has been low, and the course of the disease shortened. I have never seen any ill-results follow, and diarrhea has been the exception. The tongue cleans and remains moist throughout the disease. There is an absence of sordes about the teeth, very little or no tympanites, no delirium; in fact, your patients are as easily managed as a new-born babe. You have improvement in every direction and rapid convalescence. The earlier you get your patient under treatment the better the result. Many of these cases were treated under very unfavorable circumstances; bad hygienic surroundings and little or no nursing. Five of these cases were treated in the Baltimore County Jail while I had charge, and you can imagine how much attention a patient would get in our jail; yet they recovered under this mode of treatment. One of these jail cases was over-fed and had fever for thirty-five days, including three hemorrhages from the bowels. He finally made a good recovery.

You should watch your patients closely and the dose should be accurate. I allow my patients all the water they want, and order a tepid sponge bath twice a day. It freshens a patient and aids in the reduction of temperature. I will close my paper by a report of a case I have under treatment at the present time.

Case 1.—I was called to see E. B., aged 7½ years, on August 28, in the evening. He was complaining of feeling chilly, with muscular soreness and rigidity of muscles of the neck. His tongue was coated; temperature 102.75; pulse 110. His mother informed me he had not been well for a week. I gave him quinin and calomel, which had no effect whatever upon the patient's fever. I continued the treatment until I got three or four actions of the bowels a day. The fever continued to rise from morning till evening until it increased 3.6 degrees. I thought the case looked suspicious and immediately changed my treatment. It turned out to be a well-marked case of typhoid fever. There was tenderness in the right iliac fossa, with slight tympanites. The spots made their appearance on the abdomen and back on the seventh day, gurgling in the right iliac region in the second week. He had a typic typhoid tongue; no nose bleed. The bowels were constipated and remained so throughout the attack. The case yielded promptly to treatment. His fever was normal on the morning of the thirteenth day and a normal evening temperature on the sixteenth day.

This is only one of the many cases mentioned in my paper, but this case agrees with the others as to the average duration of the disease under the antiseptic mode of treatment.

A BREECH PRESENTATION, WITH AN UNUSUAL COMPLICATION.

BY J. HUNTER PEAK, M.D.
LOUISVILLE, KY.

July 22 at 6 A.M., I was called to see Mrs. F,, aged 26, multipara, in labor. History: general health good; family history not good. She was the mother of two children; one died in a few months, and the other is about two years old. Patient had a bad fright and fall about one week before present confinement, and suffered severe pain in right side four inches external to umbilicus, until the date of this confinement. She is of Irish birth, large and angular in form, with broad pelvis; height five feet six inches; weight 140 pounds.

When I arrived, she told me that labor had been in progress all night. Digital examination revealed a breech presentation, first position, the nates already engaged in the superior strait. The amniotic fluid escaped at the first examination, the membrane being then accidentally ruptured. The size and shape of the membranes is a diagnostic point well to be remembered. Instead of the broad and more firm protrusion of the membrane in vertex presentation, it is long and not unlike a glove finger. The diagnosis of breech presentation could easily be made. The scrotum, penis, tuber ischii and anus could all be well distinguished, and the first pain after the membranes were ruptured forcibly expelled a large quantity of meconium.

Abdominal palpation also showed the back of the child anteriorly, or toward the belly of the mother. It must be remembered that the back does not look directly, but obliquely, forward and to the left of the median line. The anterior of the two ischii came down more advanced than its fellow, and was found lower in the pelvis, so that the nates passed the entrance cavity and outlet of the pelvis in a position which is oblique both as to its transverse diameter and to its axis. In this position the left ischium corresponded to the right acetabulum, the right to the sacro-iliac juncture. The left ischium, being anterior, was depressed, and it will be remembered is felt first at the os uteri. It came down and passed first through the vaginal orifice, its fellow sweeping around the sacro-coccygeal curve, the belly of the child looking to the right thigh of the mother. Here, instead of labor progressing in the normal way, it was arrested. Pains steadily increased, and the mother was extremely heroic in her efforts. The diagnosis of the position was not made known to patient or attendants, for obvious reasons. After waiting for one or two hours and no progress being made in labor, I passed my index finger around the front of the child to find but one leg, the right, it being in normal position against the breast. The position of the left leg was finally determined, it being flexed with the knee in axilla and foot securely engaged between the child's shoulders, preventing lateral flexion and right ischium from passing over the perineum, the lateral diameter being increased by the thickness of the leg and preventing flexion on account of unyielding femur.

Placing left index finger around the child's left thigh and passing right index and middle fingers into the mother's rectum, lateral flexion was forcibly made by lifting directly upward during pains. I appreciated the fact that there was danger of breaking the child's leg, and then told the mother and the attendants what the position and complications were, and suggested what would in all probability occur. The mother was now becoming exhausted, and the leg could not be put in correct position any way; hence something had to be done. By making traction during pains, as stated above, the right ischium finally passed over the posterior commissure, and the remainder of labor was easy. The rest of the trunk came down in this position, and as the breast approached the inferior aperture of the pelvis the shoulders passed through its superior aperture in left oblique; the arms and elbows were not down by the side of the breast, but were up by the child's head, but when the shoulders passed down the arms and hands were brought down, so as not to interfere with adaptation of the head. During the descent of the shoulders, the head with the chin resting closely to the breast, entered the superior strait in the right oblique diameter, with the forehead corresponding to the sacro-iliac juncture. The head descended and rotation took place, and by raising the child over the abdomen of the mother, the face looking toward the anus of the mother, passed through the vulva.

Recapitulation.—The perineum was supported by the palm of the right hand, while the index and middle fingers were in the rectum assisting in lateral flexion of the child, and to further facilitate the protection of the perineum, the hips of the mother were slightly elevated and the legs lowered and extended, this position completely relaxing the perineum. The left leg of the child was bent at about the juncture of the lower and middle third of the femur at an angle of 95 degrees, but was easily straightened and without complete fracture, as was decided by Dr. Corrigan and myself—Dr. Corrigan being called in consultation for the child. But the reduced fracture was maintained by a fixed dressing, which held the foot and leg in proper position. All dressings were removed in about three weeks, and at present the little one has perfect use, to all appearances, of each leg. In fact, recovery of both mother and child was uneventful.

ANTISTREPTOCOCCIC SERUM.

BY C. P. THOMAS, M.D.
SPOKANE, WASH.

I contributed to the JOURNAL of Dec. 18, 1897, a report of eight cases of acute sepsis in which I had used Marmorek's antistreptococcic serum with complete success, and I now have fifteen more cases to report.

Case 9.—Mr. J., age 50, was suffering from acute gangrene of the lung following pneumonia. His breath was extremely fetid, temperature 101; the entire body covered with an eruption, appetite poor, and he was apparently in a hopeless condition. Phthisis was suspected; two microscopic examinations failed to detect tubercle bacilli, but confirmed the diagnosis of gangrene of the lung. This condition having continued for several days without any apparent improvement, he was given 10 c.c. of serum, and in twenty-four hours his temperature and pulse were normal, the odor of the breath less offensive, and the eruption disappearing. His condition continued to improve until the tenth day, when he left the hospital free from any septic symptoms. This case was under the care of Dr. J. N. Starr.

Case 10.—Mrs. G. suffered from facial erysipelas, beginning in the nose and extending over the entire face and head. Her temperature was 105, she was delirious and suffering great pain. She had been given the usual internal treatment, also local applications of ichthyol and bichlorid, but without improvement. Ten c.c. were administered, and within twelve hours her temperature and pulse were normal, pain relieved, and after another day her delirium disappeared. She was under the care of Dr. P. S. Byrne.

Case 11.—Dr. Byrne contracted the disease upon a slight abrasion on the hand, while attending the above case. Six hours after he first began to feel the pain, there was considerable swelling of the hand, and it had extended up the arm to the shoulder. He was then given 10 c.c. of the serum, and his temperature dropped from 101 to normal in twelve hours; the swelling, pain and soreness had decreased. A few hours later, however, the inflammatory symptoms began to recur and a second dose of the serum was administered. On the following day all the symptoms had disappeared, and he was well. No other treatment except a moist bichlorid dressing was given him, and I am thoroughly convinced that without the serum, he would have had the usual course of erysipelas.

Case 12.—Compound, comminuted fracture of the tibia. Violent sepsis developed the fourth day, temperature 104, pulse 120, the limb red and much swollen. Ten c.c. of antistreptococcic serum were administered at 6 P.M. and his limb not dressed until morning, when the temperature was found to be normal; and although a slight evening rise was observed, all symptoms of acute sepsis had subsided and he continued to improve until recovery.

Case 13.—Miss C., acute facial erysipelas, developed upon a slight abrasion of the ankle, was seen first the second day of her illness, when the blush had extended to her knee, temperature 104, and she was in great pain. She was at once given 10 c.c. of serum, and in eight hours her temperature was normal, and she was comfortable. The following morning the disease was found to have extended in both directions, and her temperature was 105; the serum was repeated with about the same results as before. The third morning her temperature was 102, the disease was stationary, when a third dose was given. The fourth morning the temperature was normal, the blush nearly all gone, and she was apparently well. It has not been my pleasure to see any other case of its severity recover so rapidly, and all other treatment in her case was abandoned.

Case 14.—Mrs. K. was brought to the hospital the fifth day after her confinement, during which it was necessary for her attendant to introduce his hand for the removal of the placenta. Her abdomen was distended and a purulent discharge was coming from the uterus. Considerable placental tissue was removed with a curette, and the bowels thoroughly opened. She was also suffering from bronchitis, and her urine contained pus. At the end of forty-eight hours after the curettement, the temperature having remained nearly normal up to that time, she was taken with a severe chill, which was followed by all the symptoms of violent sepsis. She was then given 10 c.c. of antistreptococcic serum and the same repeated every day for four days, but her temperature remained from 102 to 105. The bronchitis increased and she continued to grow weaker until she died the seventh day. This death, I think, was due to the bronchitis and other complications and not to the puerperal sepsis.

Case 15.—Mrs. H. was confined in the hospital the day that No. 14 was curetted. All went well with her until the eighth day when, through the carelessness of a nurse in the training-school, she was infected, it doubtless having been carried from the other case. Her temperature suddenly rose to 104, the abdomen became distended, and the normal lochia changed to a purulent discharge. She was at once given 10 c.c. of the serum, her bowels opened after much trouble, the uterus irrigated with bichlorid and creolin. The following morning her temperature was 102, the abdominal tenderness and distension decreasing, when she was given 10 c.c. more. Twenty-four hours later her temperature was 100, and she gradually continued to improve for five days, when she again showed symptoms of sepsis, which disappeared with intrauterine irrigation.

Case 16.—Miss C., under the care of Dr. Ewing. At 9 A.M. on the third day of a severe attack of facial erysipelas, in which her temperature was 104, the face and ears distorted with inflammation, marked delirium and pulse bad, 10 c.c. were administered, all other treatment abandoned. Temperature at 6 P.M. same day, 102; the following morning, temperature 100, swelling subsiding, all further spread of the disease stopped, and recovery rapidly took place.

Case 17.—Mrs. M. was forcibly delivered of six-months twins after twenty days' severe bleeding from placenta previa. Forty-eight hours after the delivery, violent sepsis with chills and high temperature developed; 10 c.c. were given, and at the end of twenty-four hours, her temperature was 100, remaining so for about forty-eight hours, when it again rose to 104, and she had several chills until the serum was repeated. The temperature then came down, and she continued to improve until recovery.

Case 18.—Mrs. T. was delivered of her first child after a difficult instrumental labor. A slight laceration of the perineum was repaired at once. At the end of twenty-four hours, she had a severe chill, followed by high temperature, suppression of lochia, abdomen slightly distended, no peritonitis, but otherwise septic to a high degree. Intrauterine irrigation, cold bathing, and the administration of iron and quinin were begun at once. At the end of eight hours she was, if anything, more septic, and there was no amelioration of the symptoms whatever. She was then given 10 c.c. of the serum, and the other treatment continued. Within six hours her temperature began to fall, and at the end of twenty-four hours from the beginning of sepsis, she had considerably improved. She then had another severe chill followed by high fever, and she was given 10 c.c. more of the serum, and after eight hours her temperature again came down, remaining so until she was well.

It has been my pleasure to have furnished this remedy to five of my medical friends in this vicinity, who have used it successfully in each case, three of which were puerperal sepsis. Inasmuch as the death-rate from all forms of acute sepsis is high, and especially from puerperal sepsis, and is affected only slightly, if at all, by any other method of treatment, I can not but think that the number of recoveries is largely due to the serum treatment; and it is my firm belief that it is a very valuable remedy which, if administered early, in those septic cases where there is not already acute peritonitis, will effect a cure in a large percentage of them. I would advise in its administration that at least 20 c.c. be given at the first dose, and repeat it in smaller doses every twenty-four hours, until the desired results are obtained; and I would suggest in this connection that a large antitoxin syringe be used for administering it, instead of the ordinary hypodermic syringe, which, however, can be used in an emergency.

ECLAMPSIA.

A CASE WITH POSTPARTUM HEMORRHAGE, PUERPERAL MANIA AND PLEURITIS.

Read before the Lake County Medical Society, Oct. 13, 1898.

BY W. C. BOUTON, A.B., M.D.

Professor of Histology, Northwestern University Dental School, 1893-94; Clinical Instructor in Neurology, Northwestern University Medical School, 1893-96; Medical Inspector of Chicago Health Department, 1896.

WAUKEGAN, ILL.

I have the pleasure of reporting this interesting case by the courtesy of Dr. J. M. G. Carter, with whom I attended in consultation:

The patient, a young primipara, seven months pregnant, was first seen by me June 8. She gave a history, if I remember correctly—having no notes of the case at that time—of headache, disturbance of vision and epigastric distress. There was marked edema of the lower limbs and the Doctor reported considerable albuminuria. The treatment instituted was milk diet and active elimination by means of pilocarpin and salines, keeping careful watch upon the quantity and quality of the urine. I did not see the patient again until June 17, when I was suddenly called, in the Doctor's temporary absence, and found the patient lying on the floor and having a typic uremic convulsion. This was controlled by chloroform, and as soon as the patient was in bed, 30 grains of chloral hydrate were given by enema. About an hour later, another milder convulsion occurred, and the enema was repeated. The convulsions then ceased and consciousness soon returned, but the chloral was continued in 30-grain doses, together with 30 grains of sodium bromid, four times daily, for several days, and then in diminishing doses. Elimination by the skin and intestines was also encouraged, but although the daily amount of urine averaged fully 50 ounces, the uremic symptoms did not improve and it was decided dangerous to delay interference.

With aseptic precautions, a bougie was introduced between the membranes and uterine wall, and labor soon began. The following morning, in the absence of more bougies, a couple of sterilized catheters with the eyes plugged, were introduced, and soon digital dilatation was possible. The attempt was made to employ a colpeurynter, but without success. The pains, however, steadily increased in force and frequency, and in the evening a puny, anemic infant was born, which died in about twelve hours, despite artificial heat and feeding, evidently the victim of the mother's uremia. There were no convulsions during labor, and the patient's condition afterward appeared better than was to be expected, pulse being but slightly above 100. Hemorrhage, however, was quite free, in spite of repeated doses of ergot.

I did not see the patient until twenty-four hours later, when I was again called in consultation, and found her complaining of severe pain through lower part of abdomen. Examination revealed the fundus extending well up toward the umbilicus, pulse 116, temperature 103. A vaginal douche, followed by a 1 to 6000 bichlorid intrauterine douche, was given, a clot almost as large as a child's head was expelled and the uterus contracted. It soon, however, began to relax, and as ergot had very little effect, Dr. Carter and I spent most of the night, in alternate half-hours, manually compressing the uterus until it remained firmly contracted. The following noon the pulse was 128 and temperature 102, but at 6 P.M. pulse had fallen to 92 and temperature was normal.

We supposed then that our troubles were mostly over, but were mistaken. There was no further hemorrhage, but next morning the symptoms of mental disturbance, which had been slightly apparent during the previous day, became very decided. By afternoon the patient was mildly delirious and during the night became maniacal. Her delusions were rather amusing and were largely influenced by the disturbance of vision due to albuminuric retinitis. She declared the room was full of smoke, and insisted upon being removed to another room. When her demands were finally complied with, she found her new quarters in as bad a state as the old. Dr. Carter, although close-shaven, was advised to shave again, and your humble servant was complimented by being called the prince of evil spirits. That her delusions were not all amusing, however, was well proven by the marks of her finger-nails upon our hands. Chloral and sodium bromid, 30 grains each, were given by enema several times during the day, and in the evening the much-needed sleep came.

Next morning her mind was almost clear, but at 4 A.M. the pulse was 136 and temperature 103. At the morning visit she complained of sharp pains in the right side of the chest and, upon auscultation, the fourth complication was discovered in the form of pleuritis, the friction sounds being well-marked. Pulse was then 128, temperature 103, respiration 26. Morphin, gr. ¼, and atropin, gr. 1/75, were administered and a bag of hot salt applied, and soon the pain was relieved, but at noon pulse was 126 and temperature 104. Pulse reached 132 at 3 P.M., but respiration was only 20. During the day, 30 drops of aromatic spirits of ammonia were given every three hours, and also a few tablets containing 7½ grains mixed bromids and 5 minims each of tinct. hyoscyami and tinct. cannabis indicæ. In the evening, she began to take 10 grains of potassium iodid every four hours, and pulse falling to about 110, the aromatic spirits was given but once in four hours. The nourishment consisted of milk freely given and liquid peptonoids, ʒss about every three hours. At 10 A.M. the next day, pulse had fallen to 100 and temperature to 101. During the twenty-four hours she passed 130 ounces of urine. I did not see her after the following morning, as she was then progressing favorably and continued a slow convalescence, varied with mild salivation and mammary tenderness. Her temperature did not return to normal until nearly a week later, but was at no time above 102, and pulse remained about 100.

A few days ago, the lady made a social call, having just returned from a couple of months' absence. Her health seemed to be perfectly restored, with the exception of considerable impairment of vision, due to the injury resulting from the retinitis. She stated that she weighed about twenty pounds more than she ever had before.

In reviewing this interesting case and drawing some conclusions, the questions which naturally present themselves are: What were the causes of the various complications? Were they preventable? Was the treatment up-to-date and could it not be improved? Taking them in order and considering them as concisely as possible, we need not inquire the cause of the eclampsia, knowing the increased liability to renal disease in pregnancy. We do not doubt that the necessary precautionary advice was given, but I understand that it was not carefully followed, and the Doctor was not called until the symptoms became troublesome. We doubtless all agree that it is best in all cases, where we are consulted early, to examine the urine thoroughly, taking a specimen of the carefully measured and mixed twenty-four hours' amount, and to repeat these examinations at least once a month during the latter half of pregnancy, examining more frequently if there are any signs of renal trouble, and regulating the patient's diet and habits accordingly. If the symptoms become marked, milk diet, saline laxatives and diaphoresis are necessary. For diaphoresis, I prefer the alcohol sweat or hot bath to pilocarpin, on account of the latter's depressing cardiac action.

If, in spite of these measures, a uremic attack comes, it is decidedly dangerous to long delay induction of premature labor. Nothing is to be gained by waiting, and the child has a much better chance for life if delivered early. The danger to both mother and child increases with every attack. My esteemed instructor, the late Professor Jaggard, one of the best obstetricians of Chicago, lost his wife from uremia by yielding to her entreaties and delaying interference too long. In the uremic attack, a cloth between the teeth and other measures to prevent injury to the patient are first to be provided, together with chloroform inhalations. Then, I believe there is nothing better than enemas containing 30 grains of chloral repeated *pro re nata*. It is the physiologic antidote and, it seems to me, far preferable to morphin, which, although advised by Loomis, is certainly a dangerous remedy, as it checks the secretions and the elimination of urea. Moreover, with impaired elimination, we may easily get the toxic effects of morphin if freely given. Of other remedies, tinct. veratri viridis in 5 to 20 minim doses hypodermatically is recommended, also ol. tiglii, a drop or two on the tongue, to promote quick catharsis. I have, however, never employed these remedies nor venesection, which may possibly be useful in some extreme cases, but as the patient is already weak and anemic from the nephritis, it seems wisest to resort to it very seldom. In the induction of premature labor, unless the symptoms are urgent, the gradual dilatation of the cervix is much better for the mother, I believe, than the rapid method, and natural delivery preferable to the forceps.

Postpartum hemorrhage is the second complication to be considered. Albuminuria was doubtless a causative factor, and probably also the weakened contractive force resulting from the continued use of chloral. With such a history, the safest course, after completely emptying the uterus and bladder and giving ergot, would probably be to maintain manual compression of the uterus for at least an hour, and then, if it still showed a tendency to relax, to give first a 1 to 4000 sublimate, or preferably a 2 per cent. carbolized or creolin vaginal douche. This would probably expel all clots, act as an excellent hemostatic and promote vigorous contraction. The water should have a temperature of 110 to 112, and it is needless to add that only an irrigator or fountain syringe should be employed and the necessary precautions observed to prevent the introduction of air. This method is far preferable to either the introduction of a piece of ice or a solution of vinegar, either of which may contain pathogenic germs. The use of a solution of perchlorid of iron is to be unreservedly condemned as barbarous and very dangerous, favoring thrombosis and embolism. One injection of a quart of the hot, sterilized water would usually be sufficient, but it might be repeated if necessary, and manual compression continued until the uterus remains firmly contracted. The restorative measures after a severe hemorrhage, such as subcutaneous injection of sterilized, normal saline solution, administration of hematinics, etc., need not be here considered.

Puerperal mania is the next complication. Sepsis, eclampsia and anemia are among its most frequent causes. Sepsis may here be fairly excluded, as aseptic precautions were carefully observed, and Dr. Carter stated that at no time were the lochia offensive nor was there other evidence of infection. Without doubt, in almost every case of insanity during pregnancy, the puerperium or lactation is due either to toxemia or anemia, both causes being present in this case. Puerperal mania is more frequent than melancholia, and gives a more favorable prognosis. According to Menzer's statistics, about 75 per cent. of puerperal cases recover. The important principles of treatment are isolation, rest and an abundance of easily assimilable nourishment, predigested, and in the form of nutritive enemata if necessary. Hematinics are called for, and stimulants may be required. Nerve sedatives are to be used with care and discrimination, chloral being one of the best hypnotics. Hydrobromate of hyoscin is among the preferred remedies for quieting maniacal states. Opiates are generally to be avoided, but may prove useful in melancholia.

The last complication to be considered is pleuritis. Sepsis is undoubtedly its most frequent cause in the puerperal condition, but this may here be excluded for reasons given. Knowing the liability to inflammations of the serous membranes during nephritis, I think we need not look farther for the cause, nor need we concern ourselves with the prognosis or treatment, which, when the disease is not due to sepsis, are practically the same as at other times.

SUPRAPUBIC CYSTOTOMY vs. PERINEAL SECTION.

BY JAMES M. PARROTT, M.D.
KINSTON, N. C.

In 1561 that bold surgeon, Pierre Franco, performed the first suprapubic cystotomy for the extraction of a vesical calculus. It is said that he performed it only as the last extremity and that his patient died. The first operation of this character performed in this country was by Gibson, with like results; his patient, Agnew says, died of peritonitis. Prior to Gibson's feat the "high operation," as it is frequently called, was attempted with more or less success by several eminent English surgeons. Though it did not fulfill the expectations of a great many at that time, yet it even then gained a certain amount of popularity. This prominence, however, was of short duration, the operation very soon being set aside and generally considered as one to be performed only in certain rare conditions where none other could be done. It met its early fate at that period because of the prevalent ignorance concerning sepsis and asepsis. Surgical technic along this particular line was especially imperfect, urinary infiltration and peritonitis very often resulting.

Perhaps no operation known to surgery has been brought forward so often and met with such short-lived popularity as this particular one. Under the impulse of modern surgery it has now reached as near perfection as it is possible for any surgical procedure, fulfilling as it does, with astonishing results, its works of usefulness. For many years the disastrous results produced by disturbing or wounding the peritoneum frightened the timid and perplexed the bold. At last Peterson solved the problem by introducing his method by which the distance from the pubis to the anterior peritoneo-vesical attachment could be greatly increased. The operation immediately rose to even greater prominence than ever before, and at last, after several improvements of more or less importance, it reached that high plane on which it now rests, and from which it will never recede. Its simplicity, its very low mortality and its quickness and thoroughness in effecting a cure, together with the rarity of dangerous or annoying complications or sequelæ will forever keep it the operation par excellence when a cystotomy is demanded by the exigencies of the case.

Perineal section is the oldest operation by which stones are removed from the bladder, it is indeed one of the most ancient of all surgical procedures. We are taught by the professional historian that it was performed by Hippocrates and later in the time of Christ, by Celsus. In the early days of modern French civilization "cutting on the gripe," as it was then called, was often done, and by a great many with remarkable results, if the literature of that time is to be believed. This operation was then most successfully performed by traveling quacks, who demonstrated by their dexterity that the "apparatus minor" was superior to the "apparatus major" of the regular profession. Indeed from these quacks and their methods a great many modern surgeons could learn with advantage a great deal in the way of dexterity, simplicity and boldness. At first perineal section offered to the profession the only means by which cystotomy could be performed. When men came to understand something accurate concerning the human body they began to look about for an operation which might be an improvement on the old method. As a result today we find perhaps the majority of the more advanced surgeons holding the view that suprapubic cystotomy is the ideal operation for the purpose for which it was intended.

In preparing the patient for suprapubic cystotomy the usual surgical rules should be followed. If the kidneys permit it, salol might be given several days prior to the operation. It certainly has a most happy effect in rendering the urine septic. It is of special service in certain cases of septic cystitis. I can not recommend too highly its use in those cases of vesical inflammation of a gonorrheal origin. The renal organs should be examined carefully prior to its administration as well as before the operation. The very few instruments and dressings necessary should be sterilized thoroughly even in cases where sepsis already exists. An uncomplicated infection is much more easily handled than is a mixed one. The pubis, scrotum, perineum, thighs and rectum should be cleaned scrupulously and the bladder irrigated with an aseptic solution, boracic acid preferred. A large-size Barnes or rectal bag is now introduced into the rectum and filled with six or eight ounces of water, being particular to guard against its over-distension. The using of this little device is not always necessary; in fact, when one has thoroughly acquainted himself with the operation it is really of but little assistance. I never use it now; in fact, I find it very often annoying if I am operating upon the prostate, by producing a gorging of the vesico-prostatic plexus. It also often causes a continuous hemorrhage by producing a turgescence of the pre-vesical veins. This hemorrhage, however, always ceases when the bag is removed.

A catheter is now introduced and eight to ten ounces of saturated solution of boracic acid is forced into the bladder, caution being exercised in its introduction. In children, from one to four ounces of the fluid is sufficient. This raises the bladder toward the umbilicus, and greatly increases the distance from the symphisis to the anterior vesico-peritoneal attachment. If used at all, the rectal bag should be introduced before the bladder is distended, since it prevents the viscus burying itself deeper in the peritoneum than it would should the bladder be first filled and the rectum afterward distended. An incision is now made in the median line immediately above the symphysis, the length of the wound being governed by the condition calling for the operation. It should not be too long, still, it is always best to have sufficient room to work dexterously. The pre-vesical fat is pushed up and with it the peritoneum, by introducing the index finger-nail against the symphysis. If the peritoneum be torn or cut it should be sutured immediately, before the bladder is opened. Any pre-vesical veins which may be in the field should be pushed aside. After all hemorrhage has been checked, a ligature is introduced into the bladder on each side and this passed through the skin and securely tied. This holds the vesical walls in place and later prevents urinary infiltration. The incision into the bladder is now made between these sutures, and the operation completed according to the demands of the case, be that prostatic work, drainage, the removal of stones, foreign bodies, etc. If there be septic infection the operation had best be done in two stages, as recommended by Senn. When I wish to close the vesical opening immediately—and it should always be done when expedient—I introduce the above-mentioned sutures only in the bladder itself and at the upper and lower ends of the wound, that is, its pubic and umbilic extremities. By this device I am very greatly aided by having my assistant hold each ligature taut, thus producing a straight wound and a steady surface.

Let me pause just here to condemn the distension of the bladder by air, either before the viscus is opened or in testing the thoroughness of the bladder sutures afterward. It is often wise to establish drainage from the pre-vesical space; however, this must be determined in each case.

Of course, after immediate suture the urine should be drawn off every four hours, though very often the patient will urinate voluntarily. When possible to prevent it this should not be allowed, catheterization being much preferred. A stone, foreign body, and even tumors, when possible, should be removed with the fingers, using them here as in every operation as much as possible. Never fear cutting too close to the symphysis, for if the sutures be used as above described the vesical walls can not drop out of sight or reach when the distension is removed. The cutting of the attachments of the recti or the cross-section of the muscles, so commonly practiced by many surgeons, is to be condemned, unless the exigencies of the case demand it, then the division of the attachments is to be preferred, since it gives more space at a point where it is most needed. All blood-clots should be removed and all hemorrhage checked (hot water being the best agency for this purpose) before the dressings are applied. When permanent drainage is desired it is probably best to use the instrument devised by Senn. It is easily retained, and by it the urine is very nicely and thoroughly collected. When temporary drainage is necessary it should be by siphonage, and should be discontinued as soon as the conditions calling for its use will permit. The patient should be allowed to sit up very early, though much caution should be exercised in this particular. When drainage from the pre-vesical space alone is necessary, gauze strips (very weak iodoform preferred) should be snugly but loosely packed in both ends of the wound. This, with the assistance of two or three sutures properly introduced at the upper end—and sometimes at the lower one—and the use of common sense in the after-treatment, will in almost all, if not in all cases, prevent urinary infiltration, abscess formation and peritonitis. The failure to observe the fundamental laws of cleanliness in these cases is frequently the cause of fatal results.

When a case for cystotomy presents itself to us the question very naturally arises: Shall we do the perineal section or the high operation? In order that this question may be solved correctly each case must be studied in detail, for that there are instances in which perineal section had best be done must be admitted.

When foreign bodies are to be removed from the bladder the wound made in doing the suprapubic operation may be immediately closed, and the patient, all other things being as they should be, makes a quick and complete recovery. Not so with the perineal section; in this instance the wound must be left open and the patient is unnecessarily submitted to the annoyances and dangers resulting from a possibly permanent fistula, sterility and urinary infiltration. To these must be added the dangers which usually attend this method when used in any indication demanding a cystotomy.

In removing any variety of tumors from the bladder, the suprapubic operation is by far the better. By this method we can expose all or as much of the bladder as may be desired, while by perineal section the field for manipulation is limited. I remember quite well a case which came under my care, in which a papilloma was located on the upper wall of the fundus, and which escaped detection at the hands of another operator doing the perineal section. When doing the high operation any hemorrhage following the removal of a neoplasm can be better controlled than when doing the lower one. The suprapubic wound for the removal of tumors can generally be immediately closed. The advantages of this are obvious. Care must be exercised to check any hemorrhage before the vesical wound is sutured.

In entering the bladder because of an enlarged prostate the suprapubic operation is again to be prefered. By this method we have the greatest freedom in manipulations, and if it is desired, we are in the best possible shape for prostatic operations of any kind whatsoever. Very often—in fact it is the rule when we are called upon to enter the bladder of one suffering from an enlarged prostate—we find it almost impossible to pass the proper bougie or catheter; because of this in doing a perineal section another very annoying and often serious complication arises, of entering the bladder through the perineum without a guide. If permanent drainage is desired, and with these patients such is often the case, suprapubic cystotomy is equally as good if not better.

In cystitis, whatever its nature may be, I much prefer the high operation. The bladder is then under perfect control, and except in very rare instances the wound may be made to close at will. Experience has taught me that drainage can be more thorough by the suprapubic operation than perineal section, theory to the contrary notwithstanding. The various complications which frequently arise during the performance of a cystotomy, as in the after-treatment, can be better treated by this method than by any other. I was once consulted by a gentleman who had had what was considered an uncomplicated case of cystitis, due to catheter infection. The sufferer had been operated upon by the "low method" in order that the bladder might have rest by perineal drainage. He improved somewhat, and the wound was allowed to heal. Later, I did suprapubic cystotomy to establish drainage, and much to my surprise I found an imbedded stone. In this patient the perineum was very deep because of concentric prostatic enlargement, and the calculus could not be reached by the finger when the operator explored the bladder. In drainage through the perineum the patient must be kept in bed, while in suprapubic drainage, after a few days the sufferer can be allowed to sit up a short while at a time. This is a very decided advantage. Suprapubic cystotomy is especially to be preferred to tubercular or septic cystitis, particularly when the operation can be performed in two stages.

The advantages of high operation over the low one in removing foreign bodies and neoplasms from the bladder and in treating cystitis are not greater than those it possesses in lithotomy. It is really in this class of patients that it has done the greatest good. Here, as elsewhere. suprapubic cystotomy presents its special benefits. It is most often the case in a perineal section that we are compelled to extract the stone with forceps. By it we not only submit our patient to the danger of damaging the bladder wall but also to the ofttimes bad result from the necessary enlargement of the perineal wound. Frequently we are compelled to crush the stone. This is, to say the least, very annoying and expensive as to time, the latter being quite an item if the patient be weak and emaciated, as is generally the case. The Dolbeau-Harrison operation is certainly very objectionable. Litholopaxy, if performed at all, had best be done as laid down by White and Bigelow. Occasionally the stone is imbedded, and might then be overlooked if a perineal section was done. If the imbedded stone were discovered it is quite a difficult and often impossible procedure to remove it through the perineum without doing irreparable damage. This is illustrated very nicely by the following case:

Case 1.—Mr. S., age 58 years, a farmer, gave the history of a deep urethral stricture of fifteen years' duration; produced by traumatism. When seen he presented well-marked symptoms of vesical calculus, though the stricture was too tight to permit a confirmation of the diagnosis with a bougie or stone-searcher. I determined to do primarily an external urethrotomy and secondarily a perineal lithotomy. I performed the lateral operation, relieved the stricture and entered the bladder. By digital examination I discovered two stones, a very large one and a rather small one. While attempting to remove the large one I discovered a third stone imbedded in the base of the bladder, near the prostate. I was unable to remove this one by way of the peritoneum and at once did a suprapubic cystotomy, with perfect success. Cystitis was very pronounced, and I therefore put in a siphonage drain and applied the usual dressing. On the sixth day, without any apparent cause, a violent vesical hemorrhage occurred which threatened the life of the patient; this originated from the neck of the bladder and the prostatic urethra. After a long while the hemorrhage was controlled by hot water, and had it not been for the opening above the symphysis it could not have been checked. Twenty-six days later the patient was discharged cured.

This man is now annoyed, as are all when a perineal section is done, by the weekly passage of a bougie in order that the urethra may be kept dilated; this disagreeable procedure is unnecessary after suprapubic cystotomy.

Not only has the high operation its special advantages over the perineal section in each particular indicated for cystotomy, but it also presents superior advantages which might be urged in its behalf in all cases demanding this kind of surgical interference. The suprapubic operation is much the simpler and quicker; simpler because of the uncomplicated construction of the parts, and quicker chiefly because of this anatomic simplicity. This is a special advantage in children, their little organs are so very small and delicate and the bladder so high and mobile that great and fatal damage can be done in perineal section, very often without the knowledge of the operator, until possibly the little sufferer dies of urinary infiltration, peritonitis, etc. For women, the suprapubic operation is much the better, a vesico-vaginal fistula being most undesirable. When the stone is removed per vaginam the wound should be closed immediately.

Urethral stricture often has resulted from perineal section, while the very great possibility of impotence and sterility should be remembered. There is no doubt but that the left ejaculatory duct is wounded much more often than is generally supposed, the right genitals remaining intact and performing the proper functions. When a fistula results from a perineal section it is much more difficult to cure than is one from the high operation. In fact a perineal fistula is often never cured, while a simple operation and rarely the more serious one, its complete dissection, will always cure the suprapubic sinus.

Lastly let us study the statistics and see what is the result from the application of these methods. Thompson's tables are not admissable because of their antiquity. Borling's statistics cover the years from 1888 to 1892, and while they are now more or less valuable, still they are not entirely reliable because even during the few years since their collection, great improvements have been made in surgery and men have become more experienced with the suprapubic operation. The statistics collected since 1892 show a very remarkably low mortality for the high operation. McGuire's experience is very decidedly in its favor. In July, 1897, Wyeth reported in the *New York Policlinic* fifty-one cases of suprapubic cystotomy, with eight deaths. Apparently and without close study this is a high mortality. Upon examining his report more closely, however, we find that one with prostatic cancer recovered from the operation and died four months later of metastasis; that two with papilloma recovered from the operation and died of recurrence and cystitis; that one with sessile elevation in the trigone recovered from the operation and died one year afterward of pyelonephritis; that one with cystitis died two weeks after stopping the drainage, of exhaustion; that one with concentric prostatic hypertrophy died of exhaustion and cerebral oftening; that one with tumor of the middle prostate lobe died of apoplexy and he had had one previous stroke; and lastly we find one with a calculus died on the eighth day from urinary suppression. It is thus seen that out of the eight ultimately fatal cases, four recovered and died later. A study of the four fatal cases remaining shows that three died of effects not attributable to an omission or commission on the part of the operation. The eighth fatal case would doubtless have proven so had perineal section been performed. It is readily seen, therefore, that the mortality with Wyeth was really nothing, so far as the method of operating is concerned, unless the last case before mentioned be counted against him. Then his mortality would be only 2 per cent.—one more favorable than any results ever obtained under similar circumstances from the low operation.

I hope to be pardoned for personal reference when I state that I have never lost a case from suprapubic cystotomy, and my experience along this line, comparatively speaking, has been very extensive. There is no doubt that the statistics of very recent vesical work will be more favorable to the high operation than to the perineal section. Experience and observation have demonstrated that the suprapubic operation is much the simpler, easier and more practical and that with a perineal section we often fail to accomplish our purpose and that it frequently leaves some disagreeable and irreparable sequel, particularly sterility, stricture or perineal fistula.

A FEW CLINICAL OBSERVATIONS DURING AN EPIDEMIC OF VARIOLA.

Read before the El Paso County Medical Association, at El Paso, Tex., Jan. 11, 1899.

BY J. FRANK McCONNELL, M.D. (Tor.)
HEALTH OFFICER FOR DONA ANA COUNTY.
LAS CRUCES, N. M.

During a recent epidemic of smallpox in this county, I was able to watch very closely this disease, which privilege is not accorded to the larger number of practitioners. The disease was confined wholly to the Mexican population—who as a rule are unprotected by vaccination—and made the greatest ravages among children under ten years. In some cases vaccination had been performed during early life; and in others more recently, and in the large majority of instances, never.

Several extraordinarily severe cases coming under my care, in whom vaccination has been successful, I was curious to note the outcome.

Sophia G., aged 15 years, was successfully vaccinated at an early age, scar being quite distinct and typic, and again six weeks previous to her illness. She was taken ill with smallpox, showing all the ordinary symptoms, except as regards pain in back, which was more severe than usual. The attack appeared to be a mild one, and a good prognosis was made on first appearance of the eruption, which was discrete in character. The temperature, however, continued high, with laryngeal involvement, subsequent examination revealing fibrinous exudate and edema. Death followed on the ninth day, the pustules being fully developed. Three other children in the same family who had had most typic vaccinations became infected. All had severe attacks, two recovering. Four other cases in different families, were taken with the disease; all had been vaccinated six weeks prior to the attack, and in all the disease ran its course, showing nothing of the "varioloid" type; but with all the symptoms of moderately severe discrete variola. Recovery occurred in each case.

In this connection I would like to say that it is my opinion that the vaccin matter as supplied to physicians is at fault—the virus being more or less attenuated in its potential elements, if such an expression is admissible, and for this reason *such* a degree of protection is not established as to ward off infection. I would also draw attention to the fact that this epidemic illustrated very clearly to me the old axiom "The more scars, the less liability to smallpox," no person having more than two scars becoming infected. I would, therefore, earnestly advocate that the old practice of inoculation in two or three places be adhered to, rather than the single scarification now in vogue.

A peculiar phase of the epidemic was the almost constant complication of catarrhal or purulent conjunctivitis and the appearance in such cases of the initial macular or measly-form rash.

Regarding the term "varioloid," which we accept as meaning a modified smallpox in persons previously vaccinated, the following may be of interest. Among the Mexicans a mild form of smallpox exists during an epidemic, which they call "*Viruela blanca*" or white smallpox. This condition seems to me to be closely allied to the so-called varioloid, setting in with abruptness and severity, and continuing more mildly, with few papules and no secondary fever. I have seen many such cases, but the curious feature is—*there is no history of vaccination.*

A few words in regard to treatment: I should like to make known the satisfactory therapeutic power of tartarated antimony, commonly known as tartar emetic, in this disease. Thirty-three cases in which this remedy was used showed results which were highly gratifying; in no case did the secondary fever last more than two days, and in no case was it as severe as in those cases in which the drug was not exhibited. A valuable feature also was the complete absence of pruritus, without local treatment, and the general return of the skin to its pristine normal condition, with little or no pitting. A case will illustrate: Two Mexican children, aged respectively 7 and 9 years, in one family, were treated. To the youngest I administered tartar emetic throughout the disease, to the elder child I gave routine expectant treatment, merely meeting the indications as they arose. The secondary fever and delirium in the latter was most intense, the skin irritation was so great that the hands had to be padded. The youngest child, while presenting all the skin eruptions, seemed to be little affected by the toxic properties of the disease; the contrast was so great between the two cases, that even the mother noted the results from the different treatment, and begged me, with the religious fervor characteristic of the race, to give the little white powders to the elder child. I felt guilty for my experimentation, and commenced administration of the tartrate—with little amelioration of symptoms, however. Both cases made good recoveries.

I observed in this latter case, as in others, that the remedy must be given early in the disease in order to obtain its full therapeutic effect.

The dose exhibited varied from 1/250 to 1/16 grain, given at intervals of two to four hours, according to age and the severity of the symptoms. I found that smaller doses were more efficient, that is to say, 1/100 grain was more satisfactory than 1/16 grain, and it was the former dose that I gave almost exclusively after my first dozen cases of experimentation. The larger doses frequently exaggerated the symptoms, and in one case in which they were persisted in, a crop of furunculi called attention to the presence of its physiologic effects.

I, therefore, believe that we have in this drug a very valuable agent in the treatment of smallpox, and I hope to have my experience verified in the practice of others. I have written these few observations in the hope that they may be of service in the treatment, both prophylactic and active, of this much dreaded disease.

A FEW CLINICAL PICTURES.

Read before the Washtenaw County Medical Society.

BY J. A. WESSINGER, M.D.
ANN ARBOR, MICH.

Case 1.—About Dec. 20, 1897, Mrs. N., of Ypsilanti, a widow, aged 50 years, mother of three children, concluded that with her son's help she would do a small washing. The contents of the tub were passed through an ordinary clothes wringer which the lady operated with her right hand. The labor thus performed was trivial. At 4 P.M., of the above date the patient began to suffer pain in the tip of her right ring finger, becoming more marked as time went on. At 6 P.M., she had a severe chill, at 7 P.M., her temperature was 105, pulse 130; and she was suffering violent pain in the finger and was slightly delirious. Her medical attendant succeeded only in part in allaying these symptoms, despite a somewhat heroic medication. On December 21, patient's temperature did not go above 105; pulse 120; extreme pain in the finger. The finger was becoming somewhat ecchymotic and the hand was very much swollen and pitting.

The writer saw the patient with Dr. Hueston at 2 P.M., December 23. At this time the finger in question was gangrenous; the hand and forearm were enormously swollen, temperature was 104, pulse 120. The hand was very painful and there was marked prostration. No line of demarcation was visible. There was fluctation in the palm of the hand. I saw the patient daily, with the attending physician. On December 25, we opened several pus pockets in the palm of the hand. Well marked fluctuation existed in the dorsum of the hand, but still no line of demarcation, and the condition seemingly threatening the whole forearm and even the patient's life.

December 27, we summoned Dr. Nancrede to determine when and how to operate, as an amputation at some point was now inevitable. Of course, waiting was the only alternative until a limitation of the process would be obtained. On December 28, the patient's condition had improved somewhat, temperature subsiding, and swelling of forearm less marked. The finger in question was absolutely dead and shriveled; enormous abscess in dorsum of hand. Patient's general condition improved sufficiently so that on December 31, Dr. Nancrede, assisted by Dr. Hueston, Dr. Wilson and the writer, removed the finger; disarticulating at the carpo-metacarpal joint. Aseptic precautions were the best possible under the conditions. Patient was anesthetized with ether. Recovery after operation was uneventful.

Several queries occur at this juncture: What caused this condition of things in this woman? Was it a case of infection? No atheroma was detected, yet could the interdigital branches of the palmar arch have undergone atheromatous change sufficient so that fracture of their walls resulted from pressure of the wringer handle? Or was it the work of a thrombotic plug? Or again, was this one of those cases resulting from the ingestion of diseased grains. Does malignant pustule ever begin at the finger tips? The patient had enjoyed excellent health previous to this accident.

Case 2.—On Feb. 24, 1898, I was consulted by P., a robust appearing German lady aged 37 years. She was the mother of seven children, the youngest being 6 months old. The complaint of this woman was that since the birth of her last baby, she had menstruated every two weeks, and at no time was she entirely free of a sanguineous discharge. She had no pain, but a feeling of weight through the back and pelvis. Bowels were somewhat constipated; digestion good; nursing the baby at the breast; pulse and temperature were normal. Patient readily submitted to an exploration of the pelvic organs. Digital touch reveals a large, soft, pultaceous mass presenting at the vulva. The growth was attached to the uterus. On the left side of the cervix was a deep unilateral laceration. The growth, as large as an ordinary orange, was attached to, and involved, the antero-posterior and right side of the cervical tissues. It was very vascular, and bleeding on slightest touch; very granular in appearance, with exudation of pus between the granules, but no odor. We had here, in outward appearance at least, a very nice picture of papillary carcinoma, or what the older physicians perhaps better understand under the name of "cauliflower excrescence."

Preparatory treatment, with removal of the growth as soon as convenient, was advised, and accepted by the patient. On March 10, assisted by Drs. L. P. Kapp and M. L. Belser and Misses Brigham and Zarrett, we removed the growth by an Emmett's amputation of the cervix, going well above the growth externally, and emerging internally through the internal os, covering the stump by attachment of the anterior and posterior flaps to the mucous membrane of the internal os. This operation, at the same time that it covers the stump, also makes a new os externum. Chloroform was the anesthetic used, and the patient made an uneventful recovery, and at present is in perfect health, with no recurrence.

The criticism I would make of the operation is against the use of silver wire as a suture material, on account of the difficulty of its removal In these cases there is usually marked retraction of the uterine tissues and a burial of the suture, and as a result, a good deal of tissue disturbance in removing the wire. The uterus in this case at time of operation measured six inches in depth; at present its depth is scarce two inches, thus showing the marked involution process undergone by a uterus after cervical exsection. The specimen was examined at the pathologic laboratory of the University of Michigan, but nothing of a malignant nature could be detected, there being simply a hypertrophic change of normal tissue.

Before closing this case we desire to make a suggestion. It is this. When a woman between the ages of 30 and 45 years consults a physician on account of an abnormal bloody flux from the vagina, she should *never* be permitted to go until, at least, the importance of an examination of the uterus and adnexa, has been fully impressed upon her. Statistics show that in about 11 out of every 15 cases cancer of the uterus has its origin in a lacerated cervix.

Case 3.—I first saw this patient at 6 o'clock on the morning of Aug. 13, 1898, in consultation with Dr. Lee of Dexter. The scene presented in the bed-chamber was not the most pleasant ever witnessed by the author. The patient, a very large muscular young woman, was in violent post-partum eclamptic convulsions, whose onset dated from 3 o'clock of the same morning. At 3 A.M. of August 12 she had given birth to a healthy male child, accouchment being uneventful. It will be noticed that eclampsia did not occur until twenty-four hours after the birth of the baby. Her lower extremities were enormously edematous, her entire body in a semi-anasarcous state. Pulse was 130, small; no fever. The attending physician informed me that the patient passed an abundance of dark smoky urine, which statement I was permitted to verify soon after my arrival.

The previous history in this case is important. About one year ago this woman gave birth to a seven-months still-born fetus. Three years ago she was delivered of a monstrosity. She was married five years ago. During the latter third of her last pregnancy she suffered some from headache, dizziness, and blindness, at times with nausea. During her previous pregnancies she was normal, so far as the attendant could determine.

At 6:15 A.M. of the above date we began the following treatment: Norwood's tinct. veratrum viridi 30 minims, hypodermically, followed with pilocarpin muriate ⅓ gr. under the skin. Hot bottles were placed about the patient at 6:30 A.M. and 15 grs. calomel given in one dram of soda, by the mouth. At 7:15 she had another severe convulsion. Each of these two spasms was of two minutes in duration. At 7:30, 20 minims of veratrum was given under the skin. At 8 A.M. the patient was perspiring, resting easy. Pulse had fallen to 80 per minute. At 10 A.M. she had a light convulsion, and 5 minims veratrum were given hypodermically. At noon patient recovered consciousness, and conversed with attendants; mind cloudy. Marked ecchymoses over both masseters, the result of the convulsions. At 3 P.M. she had a light convulsion, and another and the last one at 10 P.M. Free catharsis at this time. The last convulsion was followed with a hypodermic of 10 minims veratrum.

The attending physician and myself were with the patient continously for twenty-four hours. During this time she voided 70 ounces of urine, drawn with the catheter, being therefore, rather an excess than a suppression of this excretion. On my return home the following day, I brought a sample of patient's urine, with the following result on analysis: s. g. 1012, alkaline, albumin abundant, pus, blood, renal and bladder epithelium; no casts detected. I should also mention that the patient suffered a partial laceration of the perineum during delivery.

The convulsions having ceased, the patient was placed upon bland diet, absolute rest and quiet, close attention to all the emunctories, and iron chlor., strychnia and benzoic acid in combination, internally, and in alternation with liq. ammon. acetat., each every four hours. Under this treatment she was able to leave her bed at the end of four weeks. On August 21, the urine, on analysis, gave: color milky; odor fetid; sp. gr. 1016; alkaline; no blood, but pus, albumin and epithelial detritus; quantity 60 ounces in twenty-four hours; granular casts present. August 28, analysis reveals about the same condition as before.

September 13, urinary analysis, sp. gr. 1020; albumin; pus diminished; slightly acid; abundant renal epithelium and a few granular casts.

October 23. I saw the patient personally at my office. Her outward appearance was not far from normal. She had no edema; was constipated; had a good appetite; no disturbance of vision and no headache. She *had dull pain in the right loin*, but not tender to pressure. Described pain as in the region of the coccyx. She had a quite marked leucorrhea: pulse 70; tongue clean; urine abundant; odor fetid; light yellow, white sediment; slightly acid; albumin present. Pus cells in small quantity, also epithelium, with here and there a granular cast. She has taken no medicine for three weeks. I put her back on strychnin and benzoic acid, 1/32 gr. of former and 5 gr. of latter every four hours. The patient is still under observation.

In regard to this case we interrogate ourselves in this wise: Is this a case of chronic unilateral suppurative pyelitis? If so, had it anything to do with the previous pregnancies? Was the last pregnancy a complication rather than a cause of Bright's disease? What about the future of this woman? Before closing this case I desire to emphasize the value of large doses of veratrum viride in the treatment of puerperal eclampsia.

Case 4.—About 11 P.M. of Sept. 6, 1898, I was hastily summoned to the bedside of Miss G., aged 30 years, a healthy, robust, and exceptionally intelligent young woman. I found her apparently in great agony. She was wandering about her room in a delirious and somewhat dazed mental state. However, I detected the odor of carbolic acid and surmised the rest. After a short interval the patient gave me time enough at least to find the internal surface of both lower limbs badly burned from the body down. Her pulse at the time was 120, temperature normal; shock. I gave morphia et atropin ¾ gr. hypodermically. The effect of this, together with the anesthetic action of the carbolic acid, calmed the patient sufficiently to enable her to give me the following account of the accident:

During the day she had taken a long ride, and as was her custom after such a journey, at bedtime she repaired to the bathroom and proceeded to take a vaginal douche of hot water with a small quantity of carbolic acid added. On this occasion she poured the acid in the fountain syringe first, following this with the hot water. On opening the stopcock with the vaginal tube in position, of course, carbolic acid in a pure state passed rapidly into the vagina and out over adjacent tissues and down the limbs, before the patient could realize what had happened. At this instant she withdrew the vaginal tube. I afterward found that about two ounces of the acid had been used, the mistake occurring because the electric light in the room was not in order.

We applied a temporary carron-oil dressing. On the following morning a more rigid inspection revealed the vaginal mucous membrane entirely destroyed from the cervico-vaginal juncture posteriorly, extending laterally around the vagina and involving also the anterior two-thirds of this tissue. The eschar also included the urethral orifice, both nymphæ, both labiæ majoræ, the anus and both buttocks, with deep furrows down the internal surfaces of the thighs and legs. Dorsum of both feet were also burned. The treatment was anodynes internally as required. A vaginal tampon of sterilized cotton saturated with 50 per cent. borolyptol in sterile water, was repeated every twelve hours. On the third day after the accident the mucous membrane of all the parts involved came away entire. It might be remarked that the patient was soon to be married, and was, therefore, quite solicitous as to the result upon the vaginal tissue, it being highly important that no marked atresia should result. Without entering upon a prolix report, suffice it to say that the patient made a good recovery with no perceptible vaginal contraction. I last saw her on Sept. 28, 1898.

I desire to call attention to the rapidity with which normal mucous membrane is reproduced under favorable conditions, also to the fact that no renal complications developed in this patient. In our limited reading we are unable to recall an accident with carbolic acid similar to the one recorded above.

Case 5.—This lady first consulted me July 1, 1898. She is 39 years old, a widow and the mother of two children, the younger of whom is nine years old. She relates that for the past three years she has menstruated every two weeks, flowing from five to six days each time. Intestinal flatulence is marked; constipation. She has bearing-down pain and severe headache; is very "nervous," and sleeps badly at night; has leucorrhea. She has had local medical treatment for two years, with no improvement. Digital touch reveals a lacerated perineum. Uterus somewhat prolapsed; os admits the index finger; uterus painful; ovaries normal. On further examination we find the cervix elongated and slightly lacerated on one side, the cervical canal patulous and filled with a plug of tenacious mucus. There is marked cicatricial change of the mucous lining of the canal; endometrium is sensitive and bleeds easily Depth of uterus is 2½ inches. We advised curettement, with amputation of the cervix, and perineal closure, as a procedure offering the best prospects of recovery. To this the patient consented.

On Nov 10, 1898, the patient was placed under chloroform. With the assistance of Drs. J. F. Breakey and L. P. Kapp and Misses Brigham and Cotter, we removed a large mass of fungosities from the endometrium with a sharp curette. The cervix was repaired by a Newman's tracheloplasty,[1] and the perineum by an ordinary flap-splitting method. The patient made a rapid recovery with no rise in temperature nor pulse-rate at any time, and no pain, all wounds healing by first intention.

I will describe briefly the technic of a Newman's tracheloplasty. Grasping the lips of the cervix with an ordinary bullet forceps, the uterus is drawn well down and then cut through the posterior cervical tissue from within outward and a few lines below the cervical canal, thus making a posterior flap. The anterior flap is made next by the same method. You then have the cervical stump left in the grasp of the bullet forceps. Draw this down, and with curved serrated scissors cut the stump squarely off on a level with the flap formation. The flaps now fall together and are stitched to the cervical mucous membrane at the point of amputation. The first suture is passed through both the middle of the posterior flap and the mucous membrane, and then on each side of this a slightly radiating suture is passed through the same tissue, and the same procedure is followed with the anterior flap. Then on each side of these the flaps are brought together by as many sutures as are needed, each suture being tied as soon as placed. The first three sutures in each flap are left long and knotted on the outside to facilitate their removal after healing is complete. Silkworm gut is the suture material used.

Criticism.—Newman's method is no doubt a good procedure in all cases in which the cervix laceration is trivial, but in which the tissues of the cervical canal have undergone a marked cicatricial change, in cases of marked patulous os. In the above case we used the full-curved Hagadorn needle, but the leverage of the needle-holder is such as will frequently break the needle and delay the work. From this it would seem better to use a short, half-curved needle. We also believe that posterior flap suturing should be done first, as this renders the method much less difficult than when anterior flap suturing is the beginning step.

Case 6.—The subject of this picture is a young man, 26 years old, of good ancestry, strong and robust. About the first day of last June, while under a violent physical strain, he produced a right inguinal hernia. As is often the case under such circumstances, he repaired to a drug store, where a truss was applied. The first attempt being a failure, a second instrument was adjusted, with results about as before. The patient, tiring of these repeated failures, consulted me about November 5 in regard to his condition. I found what *appeared* to be a complete oblique inguinal hernia on the right side, easily reducible but difficult to retain. The hernial sac slipped well down into the scrotum, and its contents were massive. The patient being very solicitous for relief, if possible, we suggested operative interference, to which he consented.

On November 21, after a careful preparation, assisted by Drs. J. F. Breakey and L. P. Kapp, we proceeded about as follows: We started out to do a Fowler's herniotomy. The first incision, beginning at the pubic spine, was carried parallel with the os pubis for about one inch, and then curved obliquely outward and upward upon the line which marks the general direction of Poupart's ligament, until a point was reached corresponding to the level of the internal ring. Skin, fat and fascia to the aponeurosis of the external oblique were included in the first incision. The curved flap thus marked out was reflected back and the entire region involved in inguinal hernia, the inguinal canal, external abdominal ring and the site of Heselbach's triangle brought to view. Slitting up the anterior wall of the inguinal canal to facilitate the work, we began to isolate the hernial sac and cord together. About the first thing we found was that we were dealing with a *direct* inguinal hernia, strictly a ventral hernia, with a large opening. The next thing that we *did not* find, at least in its proper place, was the spermatic cord, and to make it still more interesting, we came upon a hydrocele of the cord. This was dealt with first. Opening the hydrocele sac, we emptied its contents thoroughly, mopped the sac with bichlorid, tied it off with catgut and left it to itself. Then began the search for the cord. This we found behind and attached to the internal surface of the hernial sac; in other words, the hernia had pushed itself through between the cord and Poupart's ligament. The spermatic cord was now easily separated from the sac for the required distance. Having the sac thoroughly isolated, we slit it open to reduce its contents. We found quite a mass of omentum adherent to its inner wall. This was loosened with the finger, and together with the protruding intestine, passed back into the abdomen, the sac, thoroughly cleaned out now, with the operator's finger in the slit, to prevent tying in intestine, was tied with stout catgut on a level with the muscular structures of the region. After tying, the ligature was passed through the stump and again tied to prevent its slipping off, and the hernial sac was then severed a half inch external to this ligature. The stump was then again sewed with a through-and-through catgut suture, then two interrupted sutures were taken between the internal ring and the stump, catching the divided muscle and at the same time the transversalis fascia. The next four sutures were taken through divided muscle and also the end of the stump. Below the stump we brought out the spermatic cord external to the anterior inguinal wall, with, however, two sutures between it and the stump, thus passing the next suture just close enough to the cord so that it rests easy in its new ring. Each remaining suture was passed through Poupart's ligament on the outer margin, and included the conjoined tendon and aponeurosis of the external oblique on the inner, each suture also catching up the transversalis fascia, the last two sutures also passed into the rectus muscle, thus absolutely obliterating both the inguinal canal from the point of incision, and also the external abdominal ring. The skin flap was closed with intermitted silkworm gut sutures. The procedure left the spermatic cord in its transit below the site of the perineal protrusion, in a new channel immediately under the superficial fascia. Healing was by primary union throughout, except at the upper angle of the skin wound, where granulation took place, owing to a faulty coaptation. Patient had no rise in temperature, pulse never above 70; some flatulence the first night.

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[1] Journal Am. Med. Association, Vol. xxxi, p. 565.

During the first evening he also vomited some. Chloroform was the anesthetic used. Was out of bed on the twelfth day, but will not be permitted to do any labor for six weeks or two months.

I might say a word regarding the general preparation for such work, or any ordinary operation. When one is doing the work in a hospital everything is supposed to be aseptic. In a private residence this is not so, yet an apartment may be rendered safe with the proper precautions. First ,the room to be occupied should be divested of all drapery and unnecessary furniture. The walls and woodwork should be dusted with a moist cloth and the woodwork washed with 1 to 1000 bichlorid solution. The patient should take an antiseptic bath on the morning of the operation.[2] The field of operation must be thoroughly scrubbed with antiseptics two or three days previous and continued up to time of operation. The catgut sutures should be immersed in ether for from thirty-six to forty-eight hours, then taken out and cut in the required lengths, each suture wrapped in tissue paper and then sealed in a small envelope and subjected to 300 degrees of dry steam heat for three hours just previous to the operation. These envelopes should not be opened again except as needed by the operator. Silkworm gut should be boiled for one and one-half hours in a glass jar immersed in water.[3] Both the operator's and assistant's hands must be aseptic and kept so, until the work is complete. The same also applies to the field of operation.

SOCIETY PROCEEDINGS.

Chicago Academy of Medicine.

Regular Meeting, Jan. 13, 1899.

Dr. William L. Baum officiated as chairman of the meeting. Dr. Homer M. Thomas read a paper on the

MECHANISM OF NEBULIZATION IN THE TREATMENT OF PULMONARY TUBERCULOSIS.

He said that in recent years much progress has been made in the study of the mechanism of medicated vapors in phthisis, and that in the address of the evening, it would be taken for granted and as proved that nebulized medicaments reach the pulmonary alveoli both of the lungs of animals and of the human healthy lung. Formerly our medical resources in local nebulized medication were supposed to be confined wholly to the treatment of the larynx, trachea, larger bronchial tubes, and in the very rarest of instances to the opening of the smaller bronchial tubes. Such was the status of our knowledge of this subject at that time. All text-books on physiology state that inspired air does not reach the air vesicles. These statements have been handed down for a long time. It is now well established that oil globules suspended in the air do reach the air vesicles. If there is any function whatsoever residing in the air vesicle, if there is absorption of gases from the air vesicle on the one hand, and the excretion of gases on the other, from the blood current into the air vesicle, then there must be a current between the air in the larger tubes and that in the air vesicles. It may be that this is merely a diffusion of gases. But the only difference between the current in the diffusing of gases, and the larger current that is recognized as such, is merely one of volume. We have in the existence of pulmonary tuberculosis sufficient evidence that foreign bodies find their way into the air vesicles. If the tubercle bacillus can find its way into the air vesicle, and can fall on its wall, it follows that suspended oil globules can likewise find their way into the air vesicles and fall on the wall. It is true, we have cases of tuberculosis in which infection is primarily through the bronchial glands. In others we have tuberculosis in which the primary infection takes place in the wall of the air vesicle itself, and there is no law by which the tubercle bacillus as a foreign body would differ from an cil globule. In dust pneumonias, particles of foreign material inspired with the air find their way into the air vesicles. I recently made an experiment in which a young guinea-pig secured from a place where the air was perfectly pure was placed in an atmosphere of vaporized oil. At the end of half an hour the pig was killed, the lungs removed, instantly frozen, and in the epithelial cells of the air vesicles oil globules of considerable size, and easily recognized as such, were demonstrated. Some of the specimens were hardened in osmic acid, and the oil within the epithelial cell or vesicle stained nicely with the acid.

The first question then to determine is whether the medicament can reach the origin of the disease, and the second is, will it prove effective when it has reached it? The air vesicle route would seem a reasonable one, since tubercle bacilli are discharged through the air and are found in the sputum. The absence of general infection in curable cases shows that the possibility of connection with blood-vessels is not large. All inflammatory areas are areas in which the mechanism of extravascular interchange is materially interfered with. The point more directly put is this: Large numbers of tubercle bacilli are discharged by the air vesicles. Few get into the blood or lymph current; therefore the air vesicles must be in closer touch with the tubercle bacilli. The presence of large quantities of pigment from the air around tubercular areas would show that considerable absorption through the lymphatics from the air vesicles is still possible. If we allow that air currents do not penetrate to the air vesicle, we meet the assertion that suspended solids will not go beyond the zone of air current. Beyond the zone of air current, interchange of gases must be by diffusion. Diffusion is only a substitution of smaller currents for the larger currents that are recognized as such. An oil particle having reached the area beyond the limit of current, finds there a greater probability of falling on the epithelial covering and of being absorbed therefrom than if it had reached only to a zone of current, for in such an extra-current area no force is operating save gravity. In an area of currents, these currents overcome the operation of gravity, and the foreign matter is wafted out. Again, on reaching an extra-current zone, it falls on squamous epithelium, and encounters actively phagocytic cells; whereas, in a zone of current, it falls on ciliated epithelium, and is wafted to the outside. These mechanic laws would hold true whether the foreign body be tubercle bacilli, dust, or oils in suspension. We have now several times thrown oil thus suspended into the smaller tubes and air vesicles of animals and of man. These have been demonstrated within the epithelial plates, and free in the air vesicles, both by examining fresh specimens made by freezing, and by examining specimens stained with osmic acid.

Admitting that this is true, when we speak of healthy lungs, is it true of tubercular lungs? Oil globules suspended in the air will reach the air vesicles and cavities of tubercular lungs just as well as though those lungs were healthy. But if there are considerable zones in which the air vesicles are obliterated, these zones would necessarily be difficult to approach from the side of the air vesicle. Oil globules falling in the air vesicles of the neighborhood would be picked up by the phagocytes, thence absorbed, and finding their way into the lymph and into the blood, would reach these masses of tubercular overgrowth with as much readiness as they could be reached in any other way. But it would seem clear that the presence of large areas without air connection would make access through air routes somewhat difficult. In treating cavities of the lungs that are accessible to the air current, there is certainly a very large field for nebulized medication. There is no pathologic reason why a phthisic cavity accessible to the air current can not be antisepticized in this way. There is no reason why an alveolar cavity should not be disinfected with antiseptic nebulæ just as readily as a bronchiectatic. Where there have been pathologic changes in the lungs, we strike a limitation to the natural respiratory process. Doubtless much of the inhalant would be diverted to those portions of the lung which are compensating for the diseased areas. In inspiratory tuberculosis, up to the time we have necrosis of lung tissue there is a portion of a lung considerably blocked by catarrhal products both within and without the alveoli. In tuberculosis due to infection from the lymph- or blood-cells, we have a focus upon which it is deposited extra-alveolar. This focus is usually surrounded by more or less connective tissue growth, which theoretically would seem to offer a serious barrier to passage of any vaporized medicament through the alveolus, even supposing through osmotic action or any other process such a passage were posssble. It is probably true that inspired solid particles do not reach beyond the area of ciliated epithelium, but in the form of nebulæ as here produced there is an intimate mixture of the molecules, which favors passage beyond this area. Diffusion is a molecular rather than a gross current. The residual air in the lungs is changed every seven inspirations.

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[2] For two days previous to the operation we are in the habit of giving small doses of strychnia three times a day, and a little morphin just before beginning the anesthetic.

[3] H. O. Walker, M.D., Leucocyte, Vol. vi, p. 8.

Admitting that encapsulated tubercular foci can not be reached by nebulized medicaments, is there any known therapeutic agent which can reach them? I know of none. Nature has walled them off by connective tissue barriers and in that way makes an effort to effect a cure. Therefore, the most rational way to locally treat these tubercularly encapsulated foci is to render healthy and antiseptic the contiguous areas. In this way we afford a greater opportunity for vital resistance and maintenance of healthy functional activity of contiguous areas.

I now wish to report the history of two experiments which were taken with a view of demonstrating to what extent vaporized nebulæ would penetrate the alveoli of tubercular lungs in the human being.

The first case was that of a male, 35 years of age, in the second stage of pulmonary tuberculosis, who had a cavity in the right lung at the third interspace, to the right of the main bronchial tube. An operation was performed upon this patient by Dr. Murphy, the third rib resected, and the cavity drained. Two days after the operation the cavity was packed with antiseptic gauze, saturated with starch solution. The external opening in the chest was hermetically sealed, so that it was not possible for any air to enter from without. A nebulized mixture of 10 per cent. of pure iodin in liquid petrolatum as a base was used. Pressure to produce the nebulæ was secured by hydrostatic means; that is, water was introduced into a thirty-gallon tank and allowed to run until the pressure of air equaled the pressure of water, some twenty pounds to the square inch. As the air was drawn off for nebulization, the water rose in the tank. When the water had reached the top of the tank, the nebulæ was stopped until the water had run out of the tank, and the tank filled with air, then the water was allowed to enter again. This process was a little tedious, and the respiration of the iodin mixture was interrupted, but the whole time of nebulization was about thirty minutes, with interruptions of about five minutes and inhalations of about four minutes. At the end of the time the starch gauze was removed from the cavity and was found, both by microscopic and macroscopic examination, to show the typic starch reaction of iodin—a blue color. This experiment appears to prove conclusively that this cavity was medicated by the iodin.

The next case—and I am indebted to Dr. George W. Johnson for his courtesy in assisting me—was that of a man at Dunning, who was in the third stage of phthisis and was dying. A nebulized mixture consisting of liquid petrolatum, slightly flavored with oil of gaultheria, was given to him for about twenty minutes. It was administered from the same apparatus as previously described, and there were the attendant interruptions in its use. About twenty minutes covered the consecutive time of nebulization. Shortly after the man's death a postmortem was made by Dr. Johnson, and specimens of the lung were taken to the Columbus Medical Laboratory and carefully examined by Professor Evans. The specimens sent consist of three pieces of lung. The larger one is an apex. In it are two large irregular cavities about the size of a walnut. The apex proper seems to be entirely free from involvement. The smaller pieces are filled with miliary tubercular nodules. Pieces were taken from the apex away from the tubercular area, from the tubercular area involving the wall of the cavity, and from the smaller pieces containing the miliary nodules. One set of each was frozen, and the fresh sections showed oil globules within the epithelial cells that lay loose in the air vesicles; that is, the air vesicles contained clear, round globules. Another set was thrown into 1 per cent. osmic acid. Hardening was completed with alcohol. They were imbedded in paraffin and cut. Some were stained in 1 per cent. aqueous thionin, some in 5 per cent. aqueous saffranin, and some were mounted unstained. In a moderate number of the air vesicles large, flat epithelial cells containing round black masses are seen. In many air vesicles, small round black sharply refracting masses are found free in space. In addition, and especially in the specimen taken from the tubercular area involving the wall of the cavity there is much pigment. This is angular; the osmic stained masses are globular. The fresh and the osmic showings taken together demonstrate the presence of oil in the air vesicles. The microscopic slides exhibited demonstrate conclusively the accuracy of what has been stated.

The practical point which we all look to in this experimental work is its application to the treatment of pulmonary tuberculosis. Since it is pathologically proven that nebulized medicaments can penetrate the alveoli of the lungs, it would then seem that they are a necessary adjunct in the treatment of pulmonary tuberculosis. The apparatus that we are using now, a nebulizer designed by myself, solves the question of the mechanism of vapor production. Its weakness lies in the therapeutic action of the drugs that we are using. The experience I have had in treating these cases in this way, not neglecting other therapeutic agencies, has led me to favor the generous use of antiseptic oils, particularly the Ceylon oil of cinnamon, Merck's oil of cloves, oil of eucalyptol, beechwood creosote, thymol, and the chemically pure oil of wintergreen.

At Dunning there has been recently established a tubercular hospital with a capacity of 380 beds. One of the equipments for treatment there is an abundant supply of chemically pure air compressed at a pressure of some forty pounds to the square inch. This is supplied in such volume that it is possible to nebulize the antiseptic oils I have mentioned day and night and keep tubercular patients in an antiseptic atmosphere all the time. As yet, it is too soon to claim anything definite for this treatment there, but it seems to me, that so far as we have gone, the results are gratifying, and that the pathologic basis of the treatment is so scientifically established that we have one means at least in the treatment of pulmonary tuberculosis which is an invaluable adjunct, and the use of which should never be neglected.

Dr. GEORGE W. JOHNSON—Dr. Thomas has demonstrated that foreign bodies suspended in air, and the essential oils, when nebulized and respired, reach the alveoli and every portion of the lungs where air in any form reaches. This proposition is proved. What is of greater concern is to demonstrate that medicaments introduced through the pulmonary air-passages, reach the interior of those areas, that by reason of pathologic processes are cut off from the influence of the lymphatic blood current and air-passages. What are the pathologic conditions we have to deal with? Briefly, these: Lowered vital resistance in the lung elements; development of tubercle bacilli in these tissues; hyperplasia of the fixed cells; formation of epithelioid cells; development of knot-like foci where the tubercle bacilli multiply; giant-cell formation in which there is no new capillary formation, inflammation, degeneration of the blood-vessels, lymphatics and air-passages in these areas, leucocytosis, further retrograde changes, mixed and secondary infection.

The process and method of invasion and encapsulation up to this point are complete and thorough. No avenues for reaching these areas are left open; the air is shut out; the lymphatics are closed; no blood enters, and no new capillaries are formed. The vital resistance is constantly being lowered and new invasions being made. These foci can not be reached by any known law of osmosis or dialysis. In the later processes of breaking down and cavity formation, I believe air reaches many of these areas, for if it did not, we would not have the physical findings we use in demonstrating cavity formation.

That medicated vapors have a beneficial influence on those parts of the lung that they reach, there is no doubt. In such places the laws of osmosis and dialysis co-operate to aid in the prevention of new invasion. That vapors do not reach the encapsulated areas is no argument against the efficacy of this method of treatment. For neither can these areas be reached through the blood nor lymphatics by antitoxins or any other method of hemotherapy, for no blood-vessels or lymphatics reach these forbidden fields. That vaporized medicaments enter tubercular cavities, I think Dr. Thomas has also conclusively demonstrated. Now, the real value of the presence of vapors in the cavities and elsewhere in the pathologic line depends much upon their constancy and the medicament used. Dr. Thomas has done his work well; the field is still open for the therapeutist.

Dr. WILLIAM L. BALLENGER—I have had slight knowledge of the work done by Dr. Thomas since its inception, having seen some of his earlier experiments with medicated vapors, as demonstrated on animals, and in those early experiments he demonstrated the presence of oil globules in the lung tissue. At the time he was making his first experiments, I remember hearing him, in conversation with brother practitioners, state what he was doing, and some of them assured him that this work had been gone over very thoroughly, and it had been conclusively demonstrated that medicated vapors did not penetrate to the air vesicles. But Dr. Thomas has persevered in his efforts, and I presume, without doubt, has demonstrated the fallacy of that statement. Whatever medicament is used, it must do its work, as has been suggested by Drs. Thomas and Johnson, not by entering the diseased area itself, which seems at present to be impossible, but to get into the tissues contiguous to the diseased areas and thus limit the progress of the pathologic process. I doubt very much if any vapor that has been used so far will have any very marked effect in arresting the progress of tuberculosis. I have no doubt that some time in the future, if similar investigations are pursued in the light of the demonstrations that have been made, something will be found either in the nature of an animal product or otherwise, that will stimulate cell activity, that may be introduced by means of a nebulizer, as well as through the blood current itself, and in this direction is the hope of the future for tuberculosis. While I do not believe anything that has been used up to date will be found efficacious to any very marked degree, yet in a measure something will be found, and Dr. Thomas and others are upon the highway to the successful medical treatment of tuberculosis. I believe that the treatment, whatever it may be, should not be directed toward the extermination of the tubercular germs; that is not the idea, but it is toward the stimulation of the cellular structures of the system of the patient to resist the invasion of these germs, as well as the toxins which are manufactured and thrown out by the germs themselves. There is a latent reservation in my mind always in regard to disease, and that is this: If we only knew in what direction to extend our energies, or if we only knew the means by which we could stimulate cellular activity, all disease could, if taken in its earlier stages, be arrested. I believe the time is coming when such diseases as carcinoma may be controlled, if attacked before too great destruction is done. This is a law of natural life and its preservation that must be true; so that however discouraging our efforts in the treatment of tuberculosis, and that other disease, carcinoma, may seem, it is yet worth while to continue researches for years and centuries, if need be.

Dr. Henry Gradle—Dr. Thomas has undoubtedly proven the point he wished to emphasize tonight, namely, the possibility of getting nebulized oil as a vehicle into the lung alveoli. We should fully admit it as a proven fact, and congratulate him on his success. By his experiments and work in this direction he has opened up a vista of therapeutic possibilities. But there is a great difference between therapeutic desiderata and actual facts in therapeutics. Our prospect of accomplishing anything in this manner for the present in the treatment of tuberculosis is not very flattering, not so much on account of mechanic difficulty of getting nebulized vapors into the lung, because I think he has overcome that, as the inefficiency of the drugs at our command. One or more of the gentlemen present daily see tuberculosis in a locality where it is directly exposed to view and can be treated by drugs. I refer to lupus. Others amongst us have, in their practice, tubercular ulcers in the larynx, equally accessible to direct medicinal applications. But who can cure these lesions by the local influence of drugs? Hence, the therapeutic possibilities are not so much within our grasp as a listener might think in hearing this paper. Possibly further efforts may lead to satisfactory results in the treatment of other diseases that are more amenable to drug influence than tuberculosis, and perhaps even in tuberculosis, by influencing the secondary infections which play so serious a rôle in tuberculosis of the lung.

Dr. Harold N. Moyer—I feel like adding to the praise that has been accorded Dr. Thomas for the experimental scientific work he has done. Although it is opposed to some preconceived notions, it may have its value in the future. After all, I fear we may get away from the basic principles that underlie the tubercular process, whether it affects the lung, or other tissues of the body. Tuberculosis is most dangerous in the nervous tissues and in the lung, especially in the latter. I believe it is well settled that tuberculosis of the meninges not uncommonly recovers. It is generally believed by pathologists that its peculiar deadliness in the lung is due to the character of the tissue and the liability to secondary infection. It is not tuberculosis that kills in the lung, but the consumptive process. In an old work on practice it is stated that there is no danger that the consumptive patient will become tubercular. Not long since I saw an article in which the statement was reversed, namely, the danger was that the tubercular patient would become consumptive. That is the present view. In other words, there is superadded to the tubercular process a secondary or mixed infection.

A lung with a tubercular process shows an immense amount of newly formed connective tissue. This is an effort on the part of nature to wall off the pathologic process. If nature succeeds, there is nothing left but scar tissue. The tubercular process is enclosed and the patient recovers. If the process does not succeed, secondary mixed infection takes place, we have sepsis, and the patient dies. There is only one cure, that is, by walling off the tubercular process by embryonal tissue. Whether medicated vapors are of any value in favoring such a process or not, I can not say. Perhaps they are.

We forget one other principle. In advancing infection with the tubercular bacillus, another element comes in: not the virulence of the tubercle bacillus, but the vital resistance of the cells and the possibility of the reproduction of embryonal tissue, which means the vital resistance of the patient. How much we may assist these processes it is difficult to say, but only along these lines can success be reached.

Dr. Alexander H. Ferguson—I would like to ask Dr. Thomas whether he has any knowledge from his experimental work or that of others that the antiseptic oils have a stimulating effect upon granulation tissue. If the antiseptic oils have a deteriorating effect upon the granulation tissue which nature throws around the tubercular focus, then they would only do harm. In surgery we deal with tubercular joints; we inject them with iodoform emulsion in glycerin or olive-oil, and we maintain that by that means granulation tissue is stimulated, believing that it is the best fighter against tubercle bacilli.

Dr. Thomas (closing the discussion)—My original animus in this work was more to personally vindicate a proposition than to scientifically carry a point. The possibility of vaporized medicament entering the pulmonary alveoli was so vindictively opposed some three years ago that these investigations grew out of the feeling at that time that it could be microscopically demonstrated that they did. The aim of all scientific workers should be in the line of arriving at the truth. None of us should maintain a dogma, as such, unless we can prove it; and there is no greater problem at the present day confronting physicians than measures for the alleviation or cure of pulmonary tuberculosis. It seems to me that fundamentally we have to rely, for any value nebulization may have in tubercular tissue, upon the scientific data which have been gathered as to the antiseptic value of the essential oils. It has been proven by careful workers that the oil of Ceylon cinnamon is antiseptic in a culture-medium of 1 part to 2100; that of the oil of cloves is antiseptic in 1 part to 1150, and so on, representing large antiseptic powers. I am painfully aware of the truth of the remarks of Dr. Gradle as to the inefficiency of antiseptic solutions in laryngeal tuberculosis. My effort has been to maintain before you that there is a natural route for treatment, by inhalation, leaving the larger question as to the selection and use of drugs to the experience and scientific research of the Fellows and others of the Academy.

I think the consensus of opinion among physicians is that there is no danger from the use of nebulæ. If the respirations of a tubercular patient are 20 per minute, during twenty-four hours he would make over 28,800 respiratory efforts. If during that time he is drawing into the lungs nothing but an antiseptic medicament, and if there is any truth in the observations of those who have investigated the antiseptic properties of these oils, it would seem theoretically that the soil for the extension of tuberculosis would be markedly inhibited.

In reply to the question of Dr. Ferguson, as to whether the use of nebulæ has a stimulating effect on granulation tissue which surrounds the tubercular focus, the researches of Vaughan and McClintock tend to show that the effect is not so much a stimulation as an inhibition. If that be true, they have a definite place in the therapeutic treatment of tuberculosis.

Cincinnati Academy of Medicine.

Regular Meeting, Jan. 30, 1899.

Dr. Louis Schwab, president of the Academy, occupied the chair.

The evening was devoted to case reports.

Dr. C. E. Caldwell exhibited a girl of about 7 years of age on whom he had made an operation late in September of last year for genu valgum involving the left knee. The operation merely consisted of a linear osteotomy, Macewen's operation, with forcible straightening and retention in position in a plaster-of-Paris cast for about four weeks. The operation had been entirely successful, as after that length of time she had been able to walk without a dressing of any kind and without noticeable limp. The right leg was affected by a similar condition, but far less pronounced, so that he did not consider operative interference necessary. In addition to the genu valgum of the left side there was also a decided angular bend of the left femur forward, but he had not attempted to relieve this in the first operation, fearing a bad result with two fractures so near together. He believed the latter condition to have been superinduced by rickets. He had presented the patient to illustrate that in even most pronounced cases of this affection—and this was certainly most pronounced—linear osteotomy was sufficient to correct the deformity. He deprecated Ogston's operation of sawing off the internal condyle, because the joint being opened, danger of a stiff joint was greatly to be feared. Photographs showing the condition before and after operation were presented.

Dr. Heady presented a specimen of perforating round ulcer of the duodenum, the second that he has reported within a year. In this case death with symptoms of shock had resulted very rapidly. Postmortem examination showed a large ulcer with clear-cut margins involving about one-third of the circumference of the bowel. The ulcer was situated about an inch from the pyloric end of the stomach.

Dr. Albert Freiberg presented a specimen of arteriosclerosis involving the lower portion of the right femoral artery and the beginning of the popliteal. The specimen had been taken from a man on whom he had that day made an amputation of the lower third of the thigh for gangrene of the foot. The patient had suffered a slight traumatism of the right great toe some little time ago. Examining it himself he had noticed a peculiar blanched appearance. Examination by the physician showed the posterior tibial and dorsalis pedis to be without pulsation and existing as firm painful cords. Gangrene gradually supervened in the great toe, eventually spreading to the other toes, to the dorsum of the foot and finally to the sole almost as far as the heel. On the left foot several superficial gangrenous spots developed, but there was not present abolition of circulation as in the other foot. Within about a week of the primary attack, an almost similar condition came on suddenly in the right forearm, and absence of the radial pulse. Circulation was, however, re-established in about four days, and no gangrene appeared. In consultation with the attending physician, and with Dr. E. W. Walker, amputation was decided upon and the lower part of the thigh selected. But slight constriction was made above the point selected; after amputation the main trunk was tied and the constriction then loosened, but no hemorrhage, such as is usual from the small superficial vessels, followed. On account of this fact he had great doubts as to the success of the operation.

Dr. B. Merrill Ricketts did not advocate the use of the Esmarch bandage in these cases, claiming that it increased the dangers of sloughing.

Dr. Freiberg said that he had not made a tight constriction, and claimed that the principal objection to the Esmarch bandage was the vasomotor paralysis it produced, its withdrawal causing increased hemorrhage of the small vessels, the latter necessitating an increased number of ligatures, thus delaying the operation and increasing the liability to suppuration by the added amount of foreign material present.

Dr. Gau exhibited a new instrument of his own invention which he has named the "recto-pelvic depressor." It was intended to pass into the rectum behind the uterus or left appendages, and with the other hand in the vagina a very satisfactory bimanual examination could be made. He regarded it as especially valuable in retroflexions and retroversions of the uterus. It should not be used in acute inflammations of the pelvis. As regards the exact uses and contraindications, he was not prepared to say. On the cadaver he had been able to bring the instrument to between two and three inches to the right of the middle line, so that if this could be done on the living subject the right appendages could also be examined by this method. However, he thought that this could be done on but a very few, if any, living subjects. The instrument was of the shape of a male sound, with the curved end beveled and flattened to about five-eighths of an inch wide and one-eighth of an inch thick. The instrument had been used and commended by Drs. A. W. Johnstone and C. D. Palmer.

Dr. A. W. Johnstone, in speaking of the invention, said that while the instrument was new and sure to prove useful, the idea was an old one, as he had himself been using for years an ordinary male sound for the same purposes proposed by the inventor. He also spoke of the value of the instrument in backward displacements of the uterus. He did not think that it could be used more than half an inch to the right of the median line.

Dr. C. A. L. Reed also spoke in commendation of the instrument, though he had not as yet used it. Dr. Reed reported a case of a young woman who had come under his care about a year ago with a history of more or less irregular attacks of pelvic pain followed by a discharge of pus from the rectum, with subsequent relief for a while. He thought, as he was able to find a swelling a little posteriorly and laterally to the uterus, that the pus was coming from a large pus-tube, and proceeded to drain through the vagina. This operation gave her so much relief that she declined to submit to the more serious one of obliterating the pus pocket. The wound in the vagina having been allowed to close, the attacks of pelvic pain and rectal discharge of pus again began. An abdominal section having been consented to, he was surprised to find, after the patient had been anesthetised, an enlargement in the lower abdomen on the side opposite the original swelling. On opening the abdomen this tumor was found to be a large parovarian cyst with such firm adhesions that the bowel was injured in dissecting away the mass. After repairing the bowel he determined not to open the pus cavity of the opposite side, but to drain through the vagina, as before. The patient made a very tedious recovery, and the vaginal opening having been allowed to close, the old attacks of pain again supervened. A few days ago, the patient complaining of rectal tenesmus, he made an examination and found a polypus apparently coming from a fistulous tract that itself opened into the rectum. On exploring this with a sound, he brought away a foreign body, which proved to be an incisor tooth. On removing the supposed polyp he found therein a piece of bone containing six fairly well formed teeth, in other words the remains of a dermoid. He regarded the case as rather a unique one of dental surgery. Specimens were exhibited.

Dr. H. W. Bettman reported a case of a man 97 years of age, with cystitis, attacked with retention of urine. Examination of the penis showed the lumen of the urethra to be filled with small, irregular calculi. These could be readily felt through the penis. They were removed, with more or less difficulty, by means of urethral forceps. The patient afterward passed some blood, but is now doing well.

Dr. B. Merrill Ricketts reported a case of a gall-stone lodged in the cystic duct, in a woman who had not had attacks of colic. On opening the abdomen he had found the gall-bladder greatly distended. He withdrew about twelve ounces of clear, colorless fluid by aspiration, and on opening it a little more fluid escaped, followed by a small amount of muco-pus. On exploring the cystic duct he found a large stone impacted therein, which was easily removed. The curious point in the case was the absence of jaundice.

Dr. C. A. L. Reed said that far from being curious not to have had jaundice in impaction of the cystic duct, it would have been curious if jaundice had been present. If this duct had been impacted suddenly, probably some little bile would have been present in the gall-bladder at that time, and slow absorption from this source might have been sufficient to have given the faintest possible yellowish tinge to the conjunctivæ, but even this was improbable. As regarded the clear fluid present, it was the result of a catarrhal inflammation that ensued as the result of irritation and was also to be looked for. In his experience this fluid had very frequently been opalescent.

Dr. A. W. Johnstone agreed with Dr. Reed and thought that the peculiar shimmering appearance of the fluid was due to the presence of cholesterin crystals.

Dr. J. C. Oliver reported four cases of gunshot wounds of the chest admitted to his service in the Cincinnati Hospital during the last six weeks. Three of the cases, strange to say, had been in women. The first, a young married woman, about 20 years of age, had made several desperate attempts to kill herself. She had first taken a large amount of sugar of lead, but had vomited that in great portion. Next, placing a revolver over the region of the apex-beat, she fired; about an hour afterward, the first shot proving of no avail as far as dissolution purposes were concerned, she fired another shot a little higher. She was taken to the hospital, where it was found that the first shot had entered at the fifth intercostal space and at about an inch internal to the left vertical nipple line; the second in the fourth interspace. Posteriorly there was a wound of exit a little external to the left erector spinæ muscle; the other bullet was beneath the skin. The chest was promptly strapped. The day following a murmur was heard over the heart, and thought to be pericardial in origin. The chest was strapped for two weeks, overlapping adhesive strips being used, extending from beyond the middle line in front to beyond the spine behind. On removing the adhesive straps permanently, a considerable amount of pus was evacuated through the lower bullet wound, enlarged by the surgeon, which pus was in all probability from the left pleura. Since that time the discharge had gradually lessened, and the tube had been shortened daily until now it was not over an inch long. The lung had expanded, and she was in a good way to make a perfect recovery. The fact that the bullet had entered at a point where we are accustomed to locate the exact position of the apex-beat, combined with the significance of the location of the point of exit, had almost caused him to doubt that he really knew the exact location of the heart; and his second case, also in a young woman with suicidal intent, had not tended to deprive him of that belief. The ball had entered the fourth interspace on the right side, so close to the sternum that a piece of the latter had been chipped off. A good recovery had also been made in this instance. The third case, also in a woman, was an attempt at murder. The ball had struck and penetrated the eighth rib on the left side. When the opening was cleared it was found that the diaphragm had been opened, but the opening could be seen only on deep inspiration. This case had afterward vomited a coffee-ground vomit, which, when tested, was found to contain blood. In the fourth case, a man, the ball after entering had torn through the left lobe of the liver and the mesentery of the lesser curvature of the stomach. Vomiting of blood had also occurred in this case. The patient lived but a few hours. The treatment in all the cases that recovered had been the same; complete rest of the parts injured by means of the adhesive straps applied in the same manner as in the first case. He believed that the mortality of penetrations of the chest, provided no essentially vital organ was injured, would not be large if this method could be applied very early in the case.

Dr. A. W. Johnstone narrated the history of a case greatly resembling Dr. Oliver's first case, and in whom the bullet had entered at apparently the same place. The next day the man had what he had regarded as a traumatic pneumonia involving the whole left lung; there was typic bronchial breathing over this area, dulness complete, but no râles, and curiously enough no fever. In about a week this was all explained when about a gallon of pus was evacuated from the pleural cavity. After the injury the pleura had completely filled with blood, which solid mass had readily transmitted the breath sounds, causing them to simulate bronchial breathing. The blood-clot became septic and had rapidly changed to pus.

Dr. H. M. Brown mentioned a number of cases of gunshot injuries of the chest which had been treated by adhesive straps and had all recovered; also three stab-wounds with recovery.

Dr. Albert Freiberg reported a case, a carpenter, 41 years of age, well developed and nourished, who, five months ago, while carrying a scantling on his shoulder, in an attempt to recover himself from falling, felt a sudden pain in the back on the right side and also in the right buttock. Following this, typic sciatica had developed on that side. When he saw the case, in addition, a lateral curvature in the dorso-lumbar region with a slight compensatory curve in the dorsal region with elevation of the left shoulder and "winging" of the left scapula, was present. The man had not noticed the deformity of the spine previous to his injury, and it was so pronounced that he surely must have noticed it had it been present. The pain in the buttock was almost constant, and when standing the man endeavored to throw the whole weight of his body on his left leg, giving him a most peculiar slanting attitude. The thigh muscles on the right side had atrophied to the extent of several centimeters. He had looked upon the case as one of sciatic scoliosis, and had presented it on account of its rarity, only about forty to fifty cases having been hitherto reported. In these the scoliosis had been occasionally alternating, sometimes with compensatory curve. The treatment thus far had been anything but satisfactory. He now proposed, after making firm extension, to put the chest in a plaster cast.

Meeting of February 6.

Dr. Louis Schwab, president of the Academy, occupied the chair.

Dr. Joseph Eichberg read the regular paper of the evening, entitled

ARTERIOSCLEROSIS.

For proper nutrition to be maintained in the body there must be four factors, as regards the circulatory apparatus, in perfect working order. These are: 1, the blood; 2, the vessels themselves; 3, the heart; 4, the nervous mechanism of the vessels. A failure in any one of these three regards will result more or less seriously to nutritive exchange. If the vessels themselves are diseased, while the nervous mechanism may be perfect, yet nutrition will greatly suffer. As regards the etiology of arteriosclerosis, a number of factors play a rôle of exceeding importance, but all can be resolved to one cause, namely, an irritative poison circulating in the blood. Chronic lead-poisoning, chronic tobacco-poisoning, chronic alcoholism, the gouty diathesis—in all there are some irritative poisons at work. The disease is specially liable to come on in those who have persistently and recklessly thrown great strain on their arterial system, as in those who follow some physically laborious occupation; in athletes, in those who lead lives of dissipation, in successful men who have for many years been subjected to severe mental strain and who, having finally settled down to the enjoyment of their wealth, find themselves prematurely aged. Thus, a man of 30 years might have the arteries of a man twice his age. Before discussing pathology, he wished to state one fact regarding the structure of arteries in their different positions; in the aorta and large vessels the elastic tissue is present in great amount, occupying almost the entirety of the so-called muscular layer. In the smaller arteries, however, the elastic tissue is relatively smaller in amount, and forms the outer and inner boundaries, as it were, of the muscular coat. Thus could be explained the differences in function of these different vessels. The arteriosclerotic process affects, as a rule, the medium-sized and smaller arteries, yet the presence of atheromatous changes in the aorta is very common. It is difficult to explain why, in different cases, different organs and parts of the body seem to bear the brunt of the attack. For instance, in one case the vessels of the kidneys seem to be particularly involved, and in time a typic chronic interstitial nephritis with contracted kidney results; it is now pretty definitely settled that Bright's disease is the result of the arteriosclerosis, and not the arterial disease the result of the nephritis. In another case the arteries of the brain might be principally involved; in a third those of the heart muscle itself, the coronary; again, the arteries of the extremities. The symptoms would naturally be extremely varying under these circumstances. With Bright's disease we would have the urinary changes of chronic interstitial nephritis, the passage of a considerable amount of pale urine of low specific gravity, containing a small amount of albumin and hyaline and granular casts; the heart, especially the left ventricle, would be hypertrophied, and as a result of this combination the pulse would greatly increase in tension. In time the compensatory hypertrophy on the part of the heart might fail, and insufficiency of the valves with regurgitation follow—in other words, a dilatation might be added to the hypertrophy. The picture might then pass into that of a rupture of compensation with congestion of the lungs, dilatation with incompetency of the right side of the heart, venous congestion of the liver, and dropsical effusions into the serous cavities and into the subcutaneous tissues of the lower extremities. Or, uremic symptoms, even coma, might come very suddenly. When the coronary arteries are the principal sufferers, chronic myocarditis will result, and attacks of angina pectoris not uncommonly. Sudden death may ensue. Aneurysm is a very common result of arteriosclerosis, particularly in the larger arteries, as the aorta and the arteries of the soft tissues, the brain and retina. Rupture of the aneurysm of the brain might cause sudden death or the symptoms of apoplexy; hemorrhagic retinitis would result from rupture of an artery of the retina. In the extremities diminution of the blood-supply might cause gangrene. As regards treatment, the first point is to endeavor to remove the cause. The treatment is of necessity palliative, no remedy being able to remove the diseased tissue already formed, though some had ascribed some chemic curative properties to the iodid of sodium. Nitroglycerin and the nitrates, in causing dilatation in the peripheral vessels and rendering more equable the flow of blood, are to be commended. He recommends the Schott treatment in case of impending failure of compensation on the part of the heart; he regards it just as valuable here as in the treatment of valvular lesions with failure of compensation.

Dr. E. W. Mitchell, opening the discussion, spoke particularly of the finding of these cases in the opposite ends of society so to speak; in the laboring man and among the wealthy classes who had striven many years for the attainment of their position, particularly among the dissipated, who, burning the candle at both ends, were unable to obtain a sufficient amount of sleep.

Dr. C. E. Caldwell spoke of syphilis as a prominent etiologic factor, and laid particular stress on gout in this relation, in that but lately a typic case of the latter had come under his notice.

Dr. Kennon Dunham spoke of the frequency with which diseased arteries were found in pathologic specimens at the Cincinnati Hospital, a section in which normal arteries were present being regarded as quite a "find."

Dr. F. W. Langdon hoped that the study of arteriosclerosis would throw some light upon certain obscure affections of the nervous system, particularly disseminated sclerosis. He also called attention to the value of the extract of the suprarenal capsules during certain stages of cardiac failure in this disease.

Dr. B. K. Rachford laid stress upon the presence of some poison circulating in the blood as the principal offender. The non elaboration of certain food products by the liver, resulting in an over-accumulation of urea in the blood he also regarded as of importance. So that attention in treatment must be directed to the diet and to the liver in addition to the other precepts for treatment already laid down by the essayist. Compounds of sodium were useful for the purpose, particularly the phosphate.

Dr. Eichberg closed the discussion.

Philadelphia Pathological Society.

Meeting of February 9.

Dr. Henry Williams read a paper on "Primary Carcinoma of the Right Suprarenal Gland." The specimen obtained was from a woman past middle life. The history had been one of progressive emaciation, and later the development of uterine trouble, for which an operation was decided on. The ovaries were highly cystic and were removed. Some time afterward the symptoms increased in severity, and emaciation progressed to a marked degree, death occurring several months later. The autopsy showed a small nodular growth from the right suprarenal body and into the pelvis of the kidney. The gall-bladder was slightly elongated and packed with gall-stones. There had been no history of hepatic colic or jaundice.

Dr. A. O. J. KELLY was of the opinion that the case was not one of carcinoma but partook more of the nature of adenoma.

Drs. H. C. MOSLAND and W. W. BABCOCK presented a specimen of Paget's disease of the nipple, of thirteen years' duration, without carcinomatous involvement of the mammary gland. The history had been that a small ulcer had developed on the gland thirteen years previously, over which a cicatrix had formed. The cicatrix was pinched off, leaving a raw surface which constantly extended toward the periphery. Mild ointments had been applied throughout the existence of the trouble, but there had been no amelioration of the symptoms, the growth finally involving one-half of the anterior surface of the gland. An amputation was finally done.

Dr. JOHN B. SHAFER presented a specimen of villous tumor of the rectum which had been removed from a woman past middle life. The principal symptom in the case had been one of intercurrent hemorrhages with expulsion of large quantities of mucus. At one time the mass projected from the anus. Owing to the troublesome hemorrhage encountered at operation and the fact there had been profound anemia, death resulted on the following day.

Dr. H. F. HARRIS read a paper on "The Techic and Relative Value of Paraffin and Celloidin Embedding." The speaker preferred the paraffin method, as it was more liable to yield good results, especially the nuceli of the different cells being shown to good advantage, tearing of the tissues was less likely to occur, and because the specimen could be kept indefinitely.

Dr. W. M. L. COPLIN coincided with the views of Dr. Harris, and stated that he had specimens from a liver which had been injected and stained three or four years ago, the sections now being in good condition.

Dr. DAVID REISMAN stated that at the University of Pennsylvania both methods had been practiced, and that while he thought each had its advantages he was gradually being won over to the side of the paraffin method. However, he thought celloidin sections might also be well preserved. He had a specimen of angiosarcoma of the brain, three years old, which showed very distinct staining of the nuclei and karyokinetic figures. In the paraffin method bad results frequently were obtained because pathologists had cemented the specimens to pine blocks and probably the paraffin had dissolved some substance, preventing proper staining of the sections.

Dr. A. O. J. KELLY stated that in contradistinction to the views expressed by others regarding the relative value of the two methods, he was an advocate of the celloidin method, on account of the rapidity with which the work might be done and the good results obtained. He thought that with due care sections might be cut as well after being imbedded in celloidin as by any other method.

Dr. H. F. HARRIS also spoke of an easy and rapid method of preparing hematin solution, which had given good results. Pathologists had ascribed the staining properties of hematoxylin to slow oxidization, but in order to bring about the reaction or oxidization of the substance more quickly, he prepared it very quickly by boiling an alcoholic solution of the hematoxylin with mercuric oxid, which caused a rapid oxidation of the staining substance.

SELECTION.

Functional Changes in Nerve-Cells.—The current fascicle of *La Cellule* contains two contributions to a subject of increasing interest: the physiology and pathology of the pyramid cells, with reference, in particular, to the retractility of their dendrites. The fact that these researches emanate from the laboratory of van Gehuchten at Louvain lends them additional significance, for upon this point van Gehuchten, of the few men entitled to speak with authority upon the Golgi method, has expressly reserved judgment. Cajal and v. Kolliker, on the other hand, have rejected the evidence in favor of retraction, on the ground that the so-called abnormalities are artifacts, due either to the imperfection of the method itself (Kolliker), or to faulty manipulations (Cajal and Lugaro). The recent literature upon this subject has, notwithstanding, become significantly voluminous, and is constantly upon the increase. In the early stages of the development of this hypothesis, it was more or less contradictory and heterogeneous in character, since the specific function of retractility was associated by some with the axis-cylinders and their terminations, by others with the dendrites and the gemmules. Demoor has the credit of having given to the theory the trend which it has since maintained, since he was the first to institute careful experiments upon animals, and to base his conclusions upon an observed increase in the number of varicosities of the dendritic processes, as compared with the normal animal. He maintained that these changes, physiologic in character, as he believed, could be satisfactorily demonstrated by the Golgi method. The first article of Soukhanoff is devoted to a reconsideration of the work of Demoor upon an experimental basis. Demoor has asserted that the cerebra of dogs poisoned by morphin, choral or chloroform, exhibited an extremely varicose condition of the dendrites. Lugaro and Azoulay had already questioned these conclusions, but Soukhanoff, under the direction of v. Gehuchten, has again put them to the test. From a series of eight experiments upon the effects of acute poisoning by ether, chloroform and alcohol, upon three species of animals, the author concludes that the varicosity of the dendrites is not at all abnormal in amount. This renunciation of the territory won by Demoor is interesting in connection with the fact that Demoor himself, at the recent meeting of the physiologists in Cambridge, reiterated and emphasized his previous statements. Two other experiments upon the action of trional on guinea-pigs, indicated a marked increase in the number of varicosities. In addition Soukhanoff verifies the observation of Stefanowska, that invariably associated with the manifestation of retraction is the disappearance of the gemmula—"appendices pyriformes"—of the dendrites. The author interprets these changes as pathologic in character, a specific atrophy, due to the disturbance in nutrition. The second article of Soukhanoff contains the result of experimentation upon the effects of acute and subacute poisoning by arsenic, of thyroidectomy, and of inoculation with hydrophobia and tuberculin. A single control rabbit, supposed to be normal, was used for microscopic comparison. The effects of arsenic, as gathered from nine experiments, are in general, the production of a condition of varicosity of the dendrite, with a corresponding disappearance of the gemmules. The amount of the change is very variable, and not at all proportional to the amount of poison injected, nor to the length of the period of poisoning. The lesion, as the author considers it, is diffuse and not well localized, either with reference to the layers or to the superficial areas of the cortex. The same more or less indefinite result followed the inoculation of hydrophobia. The injection of tuberculin and the experimental hydrophobia produced the greatest alteration in the cortex; the number of cells affected and the extent of the change in the dendrites left no doubt as to the action of these agencies upon them. These two articles represent perhaps the most satisfactory experimental evidence, save that of Lugaro (1897), for the theory of dendritic retraction. The constancy with which the changes succeed the action of any given agency, their significance from a physiologic standpoint, and their diagnostic importance are still, however, matters of great doubt.—R. WEIL: *Jour. of Comp. Neurol.*, December, 1898.

PRACTICAL NOTES.

For Hyperidrosis Axillaris.—Adipis lanæ 20 gm., sol. formalini 10 to 20 gm., vaselin 10 gm. M. f. ung.—Unna, *Monatsh. f. Prakt. Derm.*, xxvi, 4.

For Pruritus Analis.—Natrii subsulphuros. 30 gm., acidi carbol. 3 gm., glycerini 20 gm., aq. dest. 450 gm.: For frequently renewed compresses.—Penzoldt, *Derm. Cbl.*, January.

Vibratory Massage of the Eye.—Sneguirew determined the amount of diffusion after vibratory massage with fluorescein, according to Bellarminow's colorimetric method, and announces that it materially aids in the diffusion of the contents of the conjunctival sac into the anterior chamber.—*Rev. Gen. d' Ophth.*, Dec. 31, 1898.

Czerny on the Murphy Button.—Czerny had three deaths from perforation when he first began to use the button, but since he renounced using it for the large intestine, for which he does not consider it adapted, preferring sutures, he has not had a single failure in over a hundred cases. He considers tying the button tight the most important point. He has performed gastroenterostomy 83 times with the Murphy button; 63 for cancer of the pylorus and 20 for non-cancerous stenosis; mortality 12.5 per cent.

Inequality of the Pupils.—An article in *Médicine Scientifique*, states that the pupils are not rarely unequal in healthy persons, evidently a congenital peculiarity. In these cases the right pupil is more frequently dilated than the left. In cases of cancer of the stomach the left pupil will be found dilated more than the right. In hypertrophic cirrhosis, the right pupil is more dilated than the left. In pleurisy, the pupil on the side affected is dilated.—*Crónica Méd. Méx.*, February 1.

Codevilla's Trephine.—This trephine for explorative craniectomy consists of a central perpendicular rod on which turns a horizontal arm carrying the cutter, which can be slanted as desired. Both hands are required to manipulate it. Three patients trephined were dismissed cured on the tenth day, as the edge of the osteoplastic flap was cut slanting, and consequently the flap fitted firmly on the edges of the breach with no danger of sinking in or slipping.—Italian Cong. of Surgery.

Sublimate in Infective Iridochoroiditis.—Addario states that subconjunctival injections of sublimate have very little effect upon chronic infective iridochoroiditis, while they rapidly cure the acute form. Inflammatory products with a tendency to organization fail to disappear with the sublimate treatment. It may prove effective in the premonitory symptoms of sympathetic ophthalmia, due to infective choroiditis, but once established it is a long and difficult task to influence it.—*Rev. Gen. d'Oph.*, Dec. 31, 1898.

Nervous Blindness.—J. Ramos relates a number of interesting cases of sudden, absolute blindness appearing in nervous subjects after severe emotion, and gradually passing away in a few days or weeks. Another case was a healthy, serene young woman entirely free from nervous or hysteric antecedents, suddenly affected with blindness while calmly sewing in her room. His favorable prognosis was confirmed by the gradual recovery of sight in a fortnight. No disturbances could be noted in either eye, in any case.—*Gaceta Médica*, Mexico, January 1.

Sodium Chlorid for Detachment of Retina.—Lodato asserts that subconjunctival injections of sodium chlorid produce more or less remarkable improvement, amounting to a complete cure in some cases, in recent detachment of the retina. The improvement is marked even after the first injection, or possibly the second or third. If two or three injections are not effective, it is best to desist. These injections are useful in myopic or traumatic detachment, but not if there is much disturbance in the vitreous body. There is very slight, if any, pain and no inconveniences.—*Rev. Gen. d'Oph.*, Dec. 31, 1898.

Liquid Air in Medicine.—The *Medical News* remarks that the range of useful applications of this substance that can be developed, especially in hospitals, appears to be well-nigh unlimited. A quart of it placed in a ventilator will furnish pure air for a day. Fever patients can be kept in rooms cooled to zero, even in the tropics, which would make the nursing of yellow fever perfectly safe, and at the same time facilitate the recovery of the patient. It might be used with great advantage as a cauterizing agent in cancer, as its action is perfectly under control, and can be instantly stopped.

Decortication of the Lung.—Pascale has successfully treated three patients with chronic empyema rebellious to treatment, even extensive resection of the ribs, according to Delorme's method of detaching the lungs from the thickened and indurated pleura, decorticatio-pulmonis. After an incision as far to the rear as possible, the indurated pleura was detached from the lung with the knife, when it was seen that the lung, in spite of its long inactivity, retained its elasticity, and the definite cure of an empyema of many years' standing was accomplished. No inconveniences of any kind were observed during or after the operation, and he endorses warmly this method of healing empyema.—*Italian Congress of Surgery.*

Shot Wounds of the Eye.—Professor Tornatola reaffirms the benefits to be derived from a conservative treatment of wounds while hunting. The shot is always aseptic after the explosion, and the lead does not per se irritate the tissues. The danger to be apprehended is secondary infection from without, as he demonstrates by a number of convincing instances. He therefore reduces this danger to the minimum by suturing the tiny hole where the shot enters, after excision in the shape of a small, long ellipse. The wound heals in two or three days and thus shortens the danger period materially.—*Revue Gen. d'Ophth.*, Dec. 31, 1898.

Prostate Tablets in Prostatorrhea.—H. Oppenheimer writes to the *Derm. Cbl.*, January, that the administration of prostate tablets produces a rapid and permanent cure in cases of prostatorrhea from chronic prostatitis, without the gonococcus. If the gonococcus is discovered in the secretions, the treatment is contraindicated or should be discontinued. In cases complicated with posterior urethritis, local treatment should be combined with it, and if there is no improvement in a week, it is useless to persist. Out of sixty cases he considered organ therapy only indicated in seventeen; the success was immediate and unmistakable in the eight cases of noncomplicated prostatorrhea, the secretions drying up in two to fourteen days.

Intestinal Invagination.—An experience of six cases, all manifested with sudden pain, fluid discharges, meteorism in a few, some degree of collapse, induces von Eiselsberg to formulate the following suggestions for treatment. In each case the invagination was at the iliocecal valve. Tumors were felt more or less distinctly in each case; after preparation, but no irrigation, laparotomy and attempts to reduce the invagination; if successful, anchor the intestine to the wound; resection if possible; if not, and if there is too much rectal prolapsus, resection of the invaginatum, with partial or total resection of the intestine if this is impossible. Entero-anastomosis is the last resort, and is to be preferred to an artificial anus. In the two latter cases the patient must be strengthened before operating.—*Mitth. a. d. Grenzgebieten der Med. u. Chir.*, iii, 5.

Tropacocain for the Eye.—Rogmann concludes a review of the various local anesthetics used in ophthalmology, by expressing his preference for tropacocain (Giesel and Liebermann, 1891). The anesthesia is more complete than with others, more rapid in its appearance and more permanent than with cocain. It affects even inflamed tissues. Mydriasis is rare and slight. It has antiseptic properties, and the solution keeps a long while and is much less toxic than cocain. He uses a 3 per cent. solution with marine salt, 6 per 1000, which deprives it of all irritating properties. The anesthesia is so prompt that for the extraction of a foreign body the cornea can be scratched almost immediately after the instillation of a single drop. Two drops in the conjunctiva opposite each muscle are sufficient for a strabismus operation. In some cases the consecutive painful reaction seems more pronounced than after other anesthesia.—*Belg. Med.*, 1897, 40.

Surgical Treatment of Hay-Fever.—Barnhill's suggestion of excision of the hyperesthetic patches of mucous membrane in the nose which become irritated by floating pollen, emanations from certain animals or intense light, and cause the syndrome known as hay-fever, is attracting much attention at home and abroad. He states that medical treatment is absolutely useless, his opinion being confirmed by inquiry among the professors of colleges throughout the country. Change of climate does not cure it, nor treatment of the uric diathesis, although treatment of the ocular affections occasionally accompanying it frequently helps the asthma. The hyperesthesia in the membranes is caused sometimes by a polyp, but more frequently by the rubbing together of two hypertrophied patches, usually due to hypertrophy of the middle and inferior turbinate bones. If the lesion has proceeded as far as necrosis, the affection is incurable.—*Medicine*, August, 1898.

Cerebrospinal Meningitis and Tetanus.—The *Presse Méd.* of December 24 contains a study of several recent cases in which the diagnosis of these two affections was confused and a meningitis treated for tetanus, and vice versa. Pronounced trismus seems to be the only infallible indication of tetanus, although Maragliano has noted trismus in meningitis and its absence in some cases of tetanus. Muscular contractions may be absent during the first stages of true tetanus, while they may be a marked feature of meningitis. The temperature is usually progressively higher in tetanus (Wünderlich observed one case in which it attained 45.4 degrees C.). Owing to the difficulty of raising the patient to a seated posture in some cases, it may be impossible to apply Kernig's sign. Examination of the cephalorhachidian fluid is perhaps the surest test. Although three have recovered out of the seven treated with intracerebral injections of antitetanus serum, yet it is best to wait for certainty in regard to the tetanus and the severity of the case, before making the injection.

Treatment of Uremia.—According to Lemoine, when a person affected with Bright's disease begins to have persistent cephalea, disturbed eyesight, decreased diuresis and other symptoms indicating the approach of an acute uremic attack, he should be treated in such a way as to secure rapid and abundant diuresis, avoiding all diuretics that affect the renal cells. One or two liters of milk a day should be taken and the functions of the skin stimulated by gentle frictions or tepid lotions rubbed in, followed by light massage. The diuresis is attained by stimulating the heart, using digitalin if the heart is beating softly, intermittently, irregularly, a quarter to three-quarters of a milligram in twenty-four hours, for several months. If there is parenchymatous degeneration of the heart, strophanthin is given instead, in the same doses and in the same way. Two or three baths a week are also ordered, not over ten to fifteen minutes, adding, rather for the psychic effect, a certain amount of borax or bicarbonate of lithin. Pilocarpin can also be cautiously administered to assist in stimulating the functions of the skin; one centigram pilocarpin in a hundred grams mucilaginous potion; three to six tablespoons a day. This small dose is sufficient for the purpose.—*Presse Méd.*, Jan. 11.

Success of Cinnamic Acid in Tuberculosis.—A. Landerer has been making a study of cinnamic acid in the treatment of tuberculosis during the last eight and a half years, and while he does not consider it a specific, yet he finds that it cures all cases in the early stages and many others. It causes an intense hyperleucocytosis, characterized by the presence of polynuclear and eosinophile cells, while not affecting the red corpuscles in any way. This effect of cinnamic acid is only evident in tuberculosis, as he never succeeded in producing it in healthy persons nor in persons with other than the tuberculous infection. In 119 cases of pulmonary tuberculosis, the apyretic cases were cured rapidly and completely; a number of the cases with cavities were also cured, and even advanced cases were very much improved locally and in the general health. Fever caused by the tuberculous toxins was almost invariably arrested, but not hectic fever, and cases of galloping phthisis were not affected by the treatment. Intestinal tuberculosis in the early stages was invariably cured, 17 cases; also recent non-suppurated baciliary adenopathy, and all cases of surgical tuberculosis, 70 cases, in which there was no communication with the exterior, and mixed infection. He finds sodium cinnamate or cinnamylate most effective, dissolving it in physiologic salt solution and injecting it into a vein, repeating every forty-eight hours. He commences with very small amounts, half a milligram of the sodium cinnamate, or hetol as he calls it, increasing by a milligram each time, to a maximum of 25 milligrams. He continues this treatment for four to six months, suspends for a month or so, and recommences with the small doses. He has published his researches in a handsomely illustrated book of over three hundred pages.—*Presse Méd.*, January 7.

Curable Paraplegias.—Plicqué reviews the wonders accomplished in syphilitic paraplegia by specific treatment, and in the paraplegia following grippe by cutaneous friction, massage, systematic exercises of the paralyzed members by attendant, sulphur baths, sodium, sulphur or saline water cures, and the continuous current, 5 to 6 milliampères, with the positive pole on the lumbar region, passing the negative pole around over the lower members. Gonorrheal paraplegia is amenable to a certain extent to the same measures, but treatment of the bladder or stricture that favors retention of urine will often have the best effect. Stagnation of the urine will aggravate any paraplegia, and great attention should be paid to this point, and also to prevent sacral eschars in typhoid fevers, which may induce paraplegia by a meningomyelitis. Paraplegia due to alcohol is frequent, and frequently misunderstood, especially in female cases. The patient takes more alcohol to relieve the paraplegia, but its suppression and the measures indicated above will produce rapid results. Paraplegia from intoxication with arsenic, carbon sulphid or carbon dioxid are rare, but should be borne in mind. In hysteric paraplegia care must be taken not to allow the weight of the bedding to press the feet into a deformed position, which may outlast the paraplegia. Isolation in a sanatorium, faradization with a brush, static sparks, succeed better in this form; relapses occur after hypnotic treatment. Paretic troubles frequently characterize a certain form of neurasthenia, and this requires energetic treatment, with general hygiene, isolation, electrotherapy and hydrotherapy.—*Presse Méd.*, January 7.

To Abort a Cold.—Max Nassauer asserts that an incipient cold in the head can be checked every time if the nose is thoroughly rinsed out with a weak solution of potassium permanganate, which seems to have a specific action upon the germs causing the trouble. He claims that the public will have a higher respect for the profession when it is proved that colds can be successfully aborted by following the physician's directions. He checks colds in the first hour or so, and thus escapes all the catarrhal and bronchial annoyance that follows in their train. He has a strong solution of potassium permanganate on hand: about what can be taken up on the tip of a small knife, to half a liter water. A few drops of this strong solution are added to warm water until it is colored a pale pink. After blowing the nose vigorously, both nostrils are rinsed out well with this weak solution, allowing the fluid to run out through the other nostril and through the mouth. Each nostril is then wiped out with cotton on the finger to mechanically remove all remaining germs. A small dry plug of cotton is then pushed well up into each nostril and the nostrils filled with the weak solution, with the head held back, allowing the cotton to soak it up. The cotton is left undisturbed for about an hour, for the warmth and moisture to produce their effects, when the plugs are expelled by blowing the nose. Even an established cold is favorably influenced by this treatment, but it is most effective when the sneezing, tickling and increased secretions announce the advent of the cold, which he considers a highly contagious infection.—*Klin. Therap. Woch.*, January 1.

Microbiologic Test for Arsenic.—Di Mattei calls attention to the odor of garlic that accompanies the growth of mould fungi on substances containing arsenic.—*L' Ufficiale San.*, 12.

Morphin and Ether when Death is Imminent.—Ferrand states that a fiftieth solution of morphin and ether, half and half, will be found a very much more effective injection than the former alone, while all danger of syncope or asphyxia is avoided by the addition of the ether.—*Semaine Méd.*, January 25.

Ichthyol for Fissura Ani.—L. Conitzer confirms the rapidly healing properties of ichthyol in fissura ani, and describes eight cases cured in a few days by painting the anus with undiluted ichthyol, morning and evening, and after defecation, rubbing it in well.—*Munich Med. Woch.*, January.

Opium and Phosphorus Intoxication.— Schreiber recommends copious lavages of the stomach in acute opium or phosphorus intoxication, with a .2 per cent. aqueous solution of potassium or sodium permanganate, leaving half a liter in the organ, and even trying hypodermic injections in urgent cases.—*Gaz. degli Osp.*, Oct. 30, 1898.

Stomatitis Ulcerosa.—Rissel claims that a more rapid cure is obtained than with the kali chloricum treatment, by rinsing the mouth with boric acid and rubbing iodoform into the ulcers, scraping them with a sharp spoon if the improvement is not promptly evident, then continuing the boric acid and iodoform.—*Munich Med. Woch.*, January 17.

Alcohol for Dressing the Umbilic Wound.—Budberg recommends alcohol for this purpose, as he has found it extremely satisfactory in two hundred cases, rapidly drying up the cord without inflammation or discomfort. He prefers absolute alcohol for fatty cords, diluted for others. After the first bath he advises not to bathe the infant again until the cord has dropped off.—*Presse Méd.*, January 11.

The New Anesthetics.—Our foreign exchanges contain very favorable reports of the reception of the new anesthetics, orthoform, "orthoform neu" and nirvanin. The dentists are especially enthusiastic. One mentions that he extracted twenty-two teeth with nirvanin at one sitting (vide JOURNAL, p. 311). Bardet combines ethyl chlorid with 2 to 4 per cent. cocain or eucain and applies it as a spray or tampon, thus avoiding the prick of the syringe. It is especially effective for application on the mucous membranes, gums, anus, etc. The tests with it are described in the *Presse Méd.* of January 24.

Resection of the Vas Deferens for Epididymitis.—It has been noticed that resection of the vas deferens for prostatism was always accompanied by the cure of epididymitis, and A. Redi of Florence now announces that recurring epididymitis calls for resection of the vas deferens as the rational and only effective treatment. He does not leave the stumps of the vas loose on the affected side, but sutures them to the corners of the wound to prevent ascending infection.—*Gaz. degli Osp.*, January 22.

The Glue Salves.—Pelagatti asserts that the addition of lanolin to the glue salves so much used recently in cutaneous affections makes them keep without hardening more, and enables other medicinal substances to be easily incorporated with them. His formula is: Zinc oxid glue 30 gm.; glycerin 20 gm.; water 50 gm.; pure lanolin 48 gm.; zinc oxid 20 gm. It is softened in a water bath, spread on the affected part with a brush and dusted with lycopodium. It hardens in five minutes and clings close to the skin. It can be detached in about three days.—*Semaine Méd.*, January 25.

Palliative Occlusion of Cancer of the Cervix.—S. Gottschalk treats ulcerating and inoperable cancers of the cervix by curetting the surface of the neoplasm, and cauterizing intensely without injuring the surrounding tissues. A circular incision is then made with the thermocautery in the vaginal mucosa, 2 to 3 cm. below the tumor. The flap is detached all around except on the side toward the tumor. It is then turned over on the tumor, the external or epithelial side down, and tamponed with iodoformed gauze for a week. The patient can get up in twelve days, and she is ensured several months' peace without hemorrhages before the ulceration perforates the comparatively healthy flap-cover.—*Semaine Méd.*, January 25.

Potassium Permanganate in Lupus.—Kaczanowsky of St. Petersburg has been very successful with the following method, which he highly recommends: After softening and removing the scabs, pulverized potassium permanganate is spread 2 to 5 mm. thick over the patches and covered with cotton. Eyes and nose should be protected with cotton if the patch is near them. When soaked with secretions remove, and after cleansing with a solution of boric or phenic acid or of potassium permanganate, if there is a putrid odor dust with iodoform. Repeat twice a day at first, and later every second or third day. If cicatrization is slow, the granulations may be touched with nitrate of silver. One application of the permanganate is usually sufficient.—*Presse Méd.*, January 18.

Local Treatment of Diphtheria.—A Swedish physician, N. Englund, whose practice is remote from a large town, and who finds it impossible always to obtain diphtheria serum when needed, has been so successful with local treatment that he has only lost three patients out of 197, a mortality of 1.52 per cent. His method is the simultaneous use of trichlorid of iodin, which Behring and Kossel recommend for rinsing the mouth in diphtheria, sodium sozoiodolate, sulphur and ferric chlorid. The formula for the gargle is: trichlorid of iodin 5 gm., aq. dest. 500 gm., saccharin .50 gm.; for internal use. Dilute with ten parts water and gargle ten times a day. Insufflate into nose and throat, after each gargle a powder composed of sodium sozoiodolate 5 gm., sulphur 15 gm.; for internal use. Administer in addition fifteen to forty drops ethereal tincture of ferric chlorid four times a day.—*Semaine Méd.*, January 18.

Thymol in Whooping-Cough.—Fischer has treated five of his own children with thymol extract prepared by Taschner in Berlin, and called by him "pertussin." The mixture is sold in bottles, and has a brownish color, aromatic smell, and is of a syrupy consistence. Taschner's formula is: thymol, one part; syrup seven parts. Children take it well in doses from a half to one tablespoonful three times a day. The effect of the medicine was quite remarkable in these cases; the distressing cough was soon relieved and the attacks of cynanosis speedily diminished. Several of the well-known remedies had previously been tried, with no success. The author tried giving the extract in other conditions, such as chronic catarrh of the larynx and bronchi; these cases were greatly relieved by pertussin; it diminished the tendency to spasmodic cough, and at the same time loosened the phlegm. Cases of emphysema, in which there was a sense of oppression on the chest, were greatly benefited, and in a few days the patients were able to walk upstairs with little discomfort.—*British Med. Jour.*

Tetanus Serum.—The fact has been established at Professor Pawlik's obstetric clinic, Prague, that tetanus serum has no therapeutic effect, but acts by conferring immunity. A long article in the *Klin.-Therap. Woch.* of January 8, containing the account of the experimental and clinical research that has led to this conclusion, closes as follows: "So much has certainly been established, that injection of serum simultaneous with the tetanus infection confers immunity upon the individual. We therefore consider a subcutaneous injection of serum in the period of incubation or in the early stages of symptoms, not as serotherapy but as sero-immunization. Intracerebral injections of serum have no therapeutic effect in the strict sense o the term. They act rather as a late immunization, like

Pasteur's treatment of hydrophobia. As this immunizing action of tetanus serum is fully established, we have been forced to the conclusion that in order to prevent the appearance of tetanus in cases operated in our clinic, we must inject the serum as a preventive measure at the time of the operation or immediately afterward, although we may be confident that the operation has been performed with every antiseptic precaution. We have been impelled to this course by the number of cases of tetanus that have occurred in our service, even in the absence of puerperal infection. Consequently now, after disinfection, we keep our operated patients immunized against tetanus by subcutaneous injection of tetanus infection, thus completely satisfying our professional and personal conscience."

Inguinal Hernia Operation Without Buried Sutures.—Jonnesco was among the first to insist upon the importance of dispensing with permanent buried sutures (vide Journal, xxx, pp. 626, 672,). His perfected method, illustrated in the *Cbl. f. Chir.* of January 21, obliterates the inguinal canal completely without permanent sutures, merely two rows of three U-stitches with medium-sized silver wire, after mobilizing the different layers of tissues, avoiding injuring any important blood-vessel with the needle. An Emmet needle is inserted in the under side of the wound 3 to 4 cm. from the edge, passing under the Fallopian ligament, through under the lip of the obliq. intern. muscles and transvers., taken together, passing above the peritoneum and the transverse fascia and through the upper lip of the obliq. min. muscles and transvers., 1 cm. below their free edge. The wire is then inserted in the needle and drawn through to the under side of the wound and the other half of the stitch made in the same way. The second U-stitch passes besides, through the two lips of the hernial sac. A space of 2 cm. is left between the stitches. The superficial row of stitches is a centimeter above the first. They pass through the same tissues and beyond to the skin, except the lower stitch, which only passes through the skin and both ligaments of the superficial ring. As the first row of sutures is drawn tight, the upper muscle lip is pulled over until it covers the under lip completely, obliterating the inguinal canal, while leaving space for the emergence of the cord below. The ends of the wires are tied over rolls of gauze slightly wider in diameter than the U, and rolls are also placed under the loops of the superficial row of stitches. Each U should include a space of 1 to 1.5 cm. He sutures the skin with four simple stitches, removed in eight to ten days, the deep row in fourteen to fifteen.

Technic of Intrauterine Injections.—From an exhaustive article on this subject in the *Presse Med.* of January 11, we note the following points: The physician must never entrust an intrauterine injection to another, but attend to it himself, the patient in the obstetric position on the edge of the bed. A double glass sound curved forward to fit the anteflexion of the uterus is most effective, and all antiseptics should be rejected except iodin and potassium permanganate. Formula for the iodin: Metallic iodin 3 gm., potassium iodid, 6 gm., boiled water 1 liter. This is for serious infection. In lighter cases, potassium permanganate at 1 to 2000 or 1 to 4000 is to be preferred. For merely prophylactic injections, a weak solution of sublimate, 1 to 4000 or 1 to 8000, is recommended, followed by an injection of boiled water. The assistant should hold the receptacle not higher than thirty to forty centimeters above the level of the bed. It is wiser to make an abundant injection, thus at one time evacuating all the clots and débris, than to repeat the injection. Professor Budin observes: "If it proves a difficult matter to insert the sound past the cervix, the probabilities are that the injection is useless." The dangers are: hemorrhage, which is usually insignificant, and perforation, which is serious, and must be avoided with the utmost prudence, bearing in mind the anteflexion of the uterus. Chills and fever frequently follow intrauterine injections, and the family must be warned of the possibility of their appearance. If a spasmodic and painful contraction of the uterus occurs, suspend the injection. The nervous accidents are frequently serious: syncope, convulsions, dyspnea, cyanosis, and rapid or sudden death. Tarnier ascribes these accidents to the absorption of the toxic fluid injected. There may be tardy intoxication from retained sublimate.

Spasmodic Coryza and Partial Turbinotomy.—A comprehensive study of recurring or spasmodic coryza and the various methods of treatment, in the *Revue. Hebd. de Laryng.*, Dec. 31, 1898, concludes by proclaiming the value of partial turbinotomy as the only effective method of treatment of spasmodic coryza with degenerated nasal mucosa. The effects are rapid, much more than with galvanocauterization; if there are relapses, renewed intervention is much less frequently required. The inflammatory reaction is much less than with any other process, and there are none of the accidents liable to follow galvanocauterization: prolonged suppuration, cicatricial synechia, etc. After painting the nasal mucosa with a 10 per cent. solution of cocain, scraps of the mucosa over the inferior turbinate bone are cut away with Mattin or Laurens forceps, and the mucosa leveled smooth over the bone. If the bone is hypertrophied and hangs down into the rhinopharynx, this portion is removed with the cold loop on a Knight polypotome. The inferior turbinate bone is thus decorticated, and this may prove sufficient. If not, slices of the bone may be removed, reducing the size of the bone as desired, to give ample space for respiration. A few slight galvanocauterizations of the bleeding vessels will arrest the hemorrhage. The patient is dismissed without dressing the wound, with his nasal fossa open. Seventeen observations are given in detail. Care must be taken not to remove the entire bone, as this might seriously interfere with respiration. Special points are: plenty of light on the field of operation and careful attention not to seize more of the mucosa or of the bone than it is judicious to extirpate.

Treatment of Abortion.—A careful review of the opinions of prominent gynecologists on the subject and an experience of 500 personal cases, induces E. Chenevière of Geneva to formulate the following principles: In case of an inevitable abortion the case must be supervised to prevent its becoming an incomplete abortion; if it is already an incomplete abortion it must not be allowed to become septic by the retention and decomposition of débris. If it is already septic the débris must be removed without delay, as they constitute a permanent source of infection for the organism. Even if the abortion seems complete, the development of future accidents must be prevented by removing the last traces of the decidua. Applying these principles in practice, the treatment should consist in evacuating the uterus as promptly and as effectively as possible, and this is best accomplished with the curette. He prefers a curette as large as possible. One six to ten millimeters in diameter will enter the cervix without difficulty in an abortion of a few weeks, and later, a curette thirteen to fifteen millimeters wide will be found most useful. He prefers the instrument a little dulled by use and antiseptics. In 390 of his cases he had no accidents except a bloody discharge for a few days in 4, and fever and chills in 2, apparently healthy women, which he attributed to latent inflammation from severe puerperal accidents in preceding childbirths, a view afterward confirmed. His remaining 104 cases were all affected with serious puerperal accidents before intervention. Eight died, but a large number of others who seemed in a desperate condition, were undoubtedly saved by it. He mentions that the fever that occasionally follows removal of putrid débris is insignificant and transient. —*Semaine Méd.*, January 4.

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SATURDAY, FEBRUARY 18, 1899.

THE TRANSMISSIBILITY OF TUBERCULOSIS THROUGH MILK.

There can be no doubt that the most common medium for the transmission of tuberculosis is the atmosphere, and it is probably for this reason that the pulmonary localization is the most common. On the other hand, it must be conceded that the gastro-intestinal tract is the portal of entry in a not inconsiderable number of cases. It is generally believed that in children the bowel suffers most commonly from tuberculosis, and the explanation is found in the large use by them, as food, of a ready medium for conveying tubercle bacilli, namely, milk. It is known that the milk of tuberculous animals may contain the bacilli, even in the absence of a lesion of the udder or teats. The recognition of the disease in such animals is, therefore, of the highest importance, and when discovered the milk should not be used for food. The negative results of a single examination of the milk are not sufficient, as even when the disease is known to exist the bacilli may not be constantly present. The investigation must therefore be supplemented by the tuberculin test or by animal inoculation. While there is, perhaps, less danger from tuberculous meat, partly because the lesions may be detectable, but principally because the tubercle bacilli are likely to be destroyed in the process of cooking, this source of infection must not be ignored.

A good deal of work has already been done to show the danger and the importance of milk as a medium for the conveyance of tuberculosis, not less than of scarlet fever, diphtheria, typhoid fever, cholera and other infectious diseases. In further proof of the danger of spreading tuberculosis through milk, KANTHACK and SLADEN (*Lancet*, Jan. 14, 1899, p. 75) report the results of a study of the effect upon the spread of tuberculosis produced by the various milk-supplies to the different colleges of Cambridge, Eng. In the experimental observations six guinea-pigs were used daily, two being inoculated on two successive days with each sample of milk. It was found that of ninety animals inoculated twenty-three died from tuberculosis—25.55 per cent. Of these twenty-three thirteen were inoculated with the creamy layer and ten with the sediment. Of sixteen dairies examined the milk of nine caused tuberculosis. These figures are little less than startling, and, while it is probable that not all who ingest tuberculous milk are infected, the risk is one not to be invited or considered lightly. The remedy nearest at hand is thorough sterilization of the milk, but apart from the fact that every one can not or will not use such milk, the correct solution of the difficulty consists in suppressing the sale and use of the milk from tuberculous animals, or, even better, preventing the sale or use of any milk that is not certified as being derived from cows known to be free from tuberculosis. Of the necessity of some such precaution further evidence is afforded by the detection by a number of trustworthy observers of tubercle bacilli in butter.

SLOW DEMONSTRATION OF PARASITIC ETIOLOGY.

The validity of the doctrine of pathogenic bacteria has been much criticised because of the seeming slowness with which pathogenic bacteria have been demarcated. This slowness is lightning-like compared with that with which the etiologic relations of other parasites have been demonstrated. The pathogenic nature even of such gross parasites as the *Acarus scabiei* took a century and three-quarters to establish. The itch insect was discovered by MOFFAT (*Theatrum insectorum*) in 1663. As late as the time of HAHNEMANN its pathogenic relation to scabies, while gaining ground in popular medical belief, was still in dispute. About a century and a half after MOFFAT's discovery, HAHNEMANN, advancing his inventively stupid doctrine of psoric diathesis, denounced with unusual emphasis those who believed in the parasitic origin of scabies. As late as the thirties of the present century, an animated controversy still was waged in the ranks of scientific medicine over the parasitic nature of scabies. Of the picturesque settlement of this controversy the *Lancet* (January, 1835) gives the following vivid picture:

"The antiquity," it states, "of the disease vulgarly known as the itch will not be contested, and nearly of as ancient a date has been the popular opinion that it is accompanied by an insect to which the appellation *Acarus scabiei* has been given. This popular supposition has always existed, not so that of the learned, for, although at periods it has by some authors been zealously adopted, it has at others been as obstinately repudiated. The existence of the acarus, however, as an attendant on the itch is now placed beyond doubt by late experiments at the Hôpital St. Louis in Paris.

"*Gale*—the French word used to express itch—is by some derived from the Latin *callus*, but according to more judicious etymology, it takes its origin from the Latin *Galla*, "a nutgall"—a supposition which, if correct, would show the antiquity of the belief that an insect is present in the itch, just as the nutgall is produced by the *Cynips quercusfolii* on the leaves of *Quercus infectoria*. The Arabian physicians, particularly Avenzoar, firmly believed in the presence of an insect in the itch pustule. It was distinctly described by Moffat in 1663. Among the Italians, Redi and Bononio have noticed this insect, the latter having given a particular description of its physical character and its habits. After these writers, Linnæus confounded it with the cheese mite. It was subsequently made an object of special research by DeGeer, who described it so well and gave so accurate a drawing of the insect that it was dubbed the 'acarus of DeGeer.' Latreille placed it among the genus *Sarcopte*.

"In 1812 the subject again became a matter of dispute, and a series of experiments were instituted in Paris, the result of which was that the acarus was found and exhibited to the eyes of both the credulous and the incredulous, and its existence was once more considered an article of medical faith. However, at a subsequent period, Lugol, who in his lectures on diseases of the skin, had for six years taught the existence of the acarus, on being appointed to the Hôptal St. Louis, considered it unworthy of a hospital professor to ask his students to believe in the absence of ocular demonstration which was within reach. Accordingly, pins and needles and various probing instruments, together with microscopes, were again in requisition and employed most assiduously by M. Lugol and his class.

"Strange to say, the acarus, formerly so complacent, evaded every research. Microscopes of greater power were provided, but after several days of scrupulous examination nothing was found. Lugol, from being a firm believer in the existence of the acarus, became from this time a decided skeptic. So fully was he convinced of the impossibility of finding this insect that, in conversation with Alibert, who rather leaned to the opposite doctrine, Lugol declared he would give a prize of three hundred francs to the first student who should extract the acarus in his presence. This challenge was thrown out in 1828, but not until 1834 was it met, not, however, that the interval was allowed to pass without repeated attempts to discover the insect. Several students sought for it in vain. Gales, the head apothecary at St. Louis, in 1812 showed what he described as the acarus and wrote a thesis thereon, accompanied by a drawing, but the insect figured by him was recognized to be nothing more than the cheese mite. Whether he found the real insect or not is a matter of doubt, but no doubt can exist as to the incorrectness of the drawing he has given.

"Three days were devoted to a further investigation at the Hotel Dieu, but the three sessions were unavailing. Some time after Mesmer, a naval surgeon, came to the Hôpital St. Louis and boasted of having found the acarus, but what he exhibited was nothing but a flour mite. Believers in the acarus now lost ground and said little about it, referring to it in their lectures, only very cautiously, if at all. Even the courageous Alibert preferred laying before his class the host of great names in favor of the acarus to declaring to his pupils his personal convictions on the subject.

"Thus matters stood when, about the beginning of April, 1834, a girl presented herself at the consultation room of the Hôpital St. Louis to be treated for what she called the itch. Some doubt arising as to the exact nature of the eruption, Renucci, an Italian student, offered to remove all difficulty as to the diagnosis by ascertaining the presence or absence of the acarus, which, he said, was so commonly found in cases of itch in his country that the peasants extracted them from each other with pins and needles. No objection being made to the experiment, Renucci examined the girl's hand and in an instant extracted a small, roundish semitransparent body of about two-thirds the size of an ordinary cheese mite. This was exhibited in the presence of a number of students of the hospital. On being placed on black paper, or on the nail, the whitish speck displayed powers of locomotion, scampering about with activity, unaware of the noise it might make in the annals of science. On the arrival of Alibert—as it was that professor's morning for receiving patients—the facts were detailed by Gerdy, the interne. Alibert ordered a report of the circumstances to be drawn up and signed by the students present (thirty in number), reminding them, at the same time, of the three hundred francs offered by Lugol.

"A short account of the discovery in one of the medical journals elicited a reply from Lugol, questioning the reality of the occurrence and treating it as a fresh mystification. But Renucci was not to be deterred from pressing his claim to the merit of the discovery. Backed by Alibert, he inserted a rejoinder, offering to extract the acarus alive before Lugol himself or the whole faculty.

"The affair now began to cause some excitement. Nothing was talked of or looked for in the hospital but the acarus. The wards allotted to itch patients, heretofore so quiet, were now thronged with students and visitors, anxious to discover or view the long disputed insect. The day appointed for convincing Lugol arrived, and with it a number of scientists.

"Several acari were extracted, placed under the microscope and seen as plainly as an insect of that magnitude could be. Lugol's doubts vanished before the mass of living evidence, who congratulated Renucci upon his success and upon the benefits he had thus conferred upon science. At the same time Lugol assured him that the prize of three hundred francs should be forthcoming as soon as he wished to claim it. Upon this occasion Alibert declared that the reward should not be limited to three hundred francs, but that he would add a gold medal bearing the name of the discoverer and the date of the event. Praise is due to Alibert for his efforts on this occasion and for his encouragement of Renucci, whose exertions would otherwise most probably not have been successfully made. But few insects were found during the first experiments, but stimulated to perseverance by the persuasion of Alibert, the searchers for the acari produced them at last en masse during the repeated sessions, and thus finally forced conviction on skeptics."

Since 1835 the pathogenic relations of the *Acarus scabiei* to the itch has been accepted without question by scientists, albeit the psoric doctrine still survives by its advertising qualities among the homeopathists. This doctrine was the subject of the following naive discussion at the International Homeopathic Congress of 1890, when a paper was read on the psoric doctrine and the efficacy of psorinum or pus from the itch corpuscle. The British homeopathist, Hughes, denied the existence, reliability or utility (*Medical Current*, 1890) of psorinum — "it was a nasty preparation." Dr. Henry of Alabama claimed that the psoric doctrine was the foundation stone of homeopathy. Dr. Millie J. Chapman, the reader of the paper, did not know whether there was any such thing as psorinum or not. She had purchased a bottle of what was so designated in the price current of Dr. Swan of Boston, and from it had gotten good results.

If a century and three-quarters were required to place the parasitic etiology of scabies on a firm basis, certainly the demarkation of pathogenic bacteria, judging from this rate of progress, must be admitted to have proceeded with astonishing rapidity.

HAVE WE AN INDEX TO INTESTINAL PUTREFACTION?

A few years ago, when the subject of intestinal antisepsis was more prominently before the medical profession, on account of the supposed value of antiseptic remedies in the treatment of such diseases as typhoid fever, it was earnestly hoped that we might obtain an index of the amount of intestinal putrefaction going on by the estimation of certain excretory products thrown off in the urine. When we come to consider the value this index would be to us and the rapidity with which it might be obtained, the importance of the subject becomes at once apparent.

By the more delicate method of counting the number of colonies of bacteria in a given quantity of the feces, an index to putrefaction in many cases might be obtained. However, since the number of colonies in the given quantity of feces may be so variable, depending, as it does, upon such contingencies as diarrhea, constipation, the administration of drugs, etc., and since the micro-organisms are with such difficulty grown, isolated and counted, the data obtained might be controlled entirely by such modifying antecedents, and grave error would ensue. For instance, it is known that some pathogenic micro-organisms (as the Eberth bacillus) live and thrive in potable water in such numbers that typhoid fever is caused by its use. It is also known that bacterial examinations are made time and again of contaminated water without ever isolating this special micro-organism. If we ask the bacteriologist why this is so, he will say that it arises from the fact that in such a large quantity of water there must be only a very few bacteria, and that in selecting a small amount of water for examination, none of the micro-organisms looked for could be found. This would be the case also in such a medium as the feces, which must necessarily be examined early after expulsion, otherwise the multiplication of the different varieties of germs would lead to fallacious results. So few men in general practice have the necessary skill, experience and required apparatus to investigate this question of bacteriology that we are compelled to look about us for more simple ways of obtaining the desired end.

The next easiest excretion to be obtained is the urine, and in that medium investigators are continually searching for some distinct principle resulting from bacterial life which might give an index to the amount of putrefaction going on elsewhere. One of the principles which was once thought to yield this information is indican. Indican is a substance derived from indol—a product resulting from the action of bacteria on albuminous material. Indol, when absorbed, becomes oxidized into indoxyl in the tissues, and uniting with sulphuric acid in the liver, and potassium throughout the body, is excreted in the urine in the form of indoxyl, potassium sulphate or indican.

To determine the amount of indican in the urine it was found only necessary to add an equal amount of hydrochloric acid to the urine, then one drop of a concentrated hypochlorite solution, thereby converting the indican into indigo blue; the latter to be dissolved out by a small quantity of chloroform. This was found to be a procedure readily attained and one which could be done by any graduate of medicine.

This theory has, however, been rejected, on account of the fact that it has been proved to be erroneous. For instance, in many cases of typhoid fever supported upon a milk diet containing much albuminous material, it is frequently the case that indican is entirely absent from the urine, although no special medicine has been given for its reduction.

Indican in the urine is now looked upon as being an index to wasting disease, and its increase to denote also a catarrhal condition of the intestinal canal with hyperacidity of the gastric juice. Other substances must, therefore, be isolated, which, being increased or diminished, might give us the direct information sought.

More recently, the prevailing tendency among physiologic chemists is to look upon the entire group of ethereal sulphates as being more capable of furnishing the guide to the amount of intestinal putrefaction, a large increase in the normal amount of ethereal sulphates indicating an increased amount of intestinal putrefaction, and a decreased amount of ethereal sulphates showing a decrease of intestinal putrefaction. In other words, by estimating the relative percentage of all the ethereal sulphates, such as those combined with the aromatic bases, indol, skatol, phenol and paracresol, we may obtain this necessary index for which we seek. Here again we meet with much difficulty, since the estimation of these bodies entails a long procedure, as well as requiring apparatus which demands some skill in managing, so that, like all other kinds of original research, the method will be embarrassed by its difficulty of employment. The progress of knowledge along this special pathway is necessarily so slow that we have not yet isolated diseased conditions and associated with them the relative proportion of ethereal sulphates which might be found in the urine. The way is clearing, however, and from the development of the *specialty* of internal medicine in the past few years, we have reason to hope for more brilliant results in the future along this line.

Further study of the relative amount of ethereal sulphates in the urine may prove that we have only been started in the right direction, and that years have been spent upon the first stepping-stone which leads to the alluring but yet distant goal. We may possibly find that, instead of the ethereal sulphates being our indicator, it is other bodies or principles which will yield this result, and should we lay aside the pursuit in this direction, we have at least some reason for suspecting that the amount of ptomains or leucomains may be the dominant bodies sought for but not easily found. That method, however, is yet to be devised which will rapidly yield the relative amount of these bodies in the urine or feces, and our knowledge regarding them is yet so limited that it has been the special privilege of only a very few to have ever estimated them. If not the ptomains or leucomains, it may be some toxin, toxalbumin, bacterial cellular proteid, albumose, or some less toxic product of microorganismal life derived from saprophytic bacteria which gives rise to the production of carbonic acid, ammonia, sulphuretted hydrogen, and various coloring principles. The investigations of these latter-named bodies are yet to be made by the more diligent, and, the question of the first few named bodies being open to doubt, we may well ask ourselves: Have we an index to the amount of intestinal putrefaction?

ACUTE LEUKEMIA.

Until very recent years the tendency of medical teaching has been to assign all forms of leukemia to the realm of chronic diseases. A case of leukemia running a course of about six weeks, reported by Fraenkel almost half a century ago, received but little attention at the time. Succeeding this case there appeared from time to time reports from other sources, describing practically identic cases both as regards symptoms, including blood count, and pathologic lesions appearing at autopsy. A little over ten years ago these cases were collected by Ebstein, and from this date we must look upon this rapidly fatal form, acute leukemia, as classified as a distinct disease. During the last decade so much has been added to our knowledge of all forms of leukemia, and because of this, descriptions of the disease have changed so much, that the separation of the varieties has been almost too much for one to grasp. At present the classification of Cabot seems to be the one generally accepted, and certainly may claim advantage in simplicity: 1. The splenomyelogenous, in which the spleen is enormously enlarged, marked changes in the marrow of bones are present, the lymphatic glands but little if at all affected, while the blood examination shows great leucocytosis, averaging in the neighborhood of half a million, of which the most conspicuous figure under the microscope is the abnormal leucocyte, the myelocyte, while the other varieties of leucocytes are all relatively diminished; and 2, the lymphatic, in which the spleen as a rule is not enlarged, though it may occasionally be enormous, in which there are usually visible enlargements of some lymphatic sets, and clinically a leucocytosis of about one hundred thousand, about 90 per cent. of which leucocytes are lymphocytes, large, small, or mixed. The division into acute and chronic lymphatic leukemia is a division principally according to duration, though there are some differences in the blood which will be taken up later. Acute leukemia usually terminates fatally within six weeks of the origin of the trouble, although Fraenkel and others have endeavored to put off the time limit to four months; over six weeks the disease is regarded as chronic, and cases have been reported in which typic lymphatic leukemia has existed several years. A point of some error must necessarily exist when such an arbitrary division is made, for cases of leukemia have been known to have remained latent for a considerable period of time, to suddenly break out with pronounced acute symptoms, and a fatal termination to ensue within a few days or weeks. Enough cases have been gathered, in whom the blood was normal at least some days previous to the onset of their symptoms, to show conclusively that an acute lymphatic leukemia of a six-weeks duration or less as a distinct disease does exist. As regards the hematologic distinction of the acute and chronic lymphatic leukemia, the difference is mainly in the predominance of the variety of leucocyte present. In the acute form the large lymphocyte, with its faintly staining nucleus, a rather infrequent figure in normal blood, is here vastly in excess of the small lymphocyte, while in the chronic variety, the reverse is the truth, the small lymphocytes taking the stain deeply, and forming fully 90 per cent. of the whole count. When an acute case becomes chronic, this change in the blood, from the predominance of the large leucocytes to a similar excess as regards the small, is as a rule readily observed. Another point of some value is that the more acute the process the greater the anemia, as regards the count of red corpuscles. Conversely, as the type verges to the chronic the red corpuscles increase in number, and a red count as high as three million is not unusual. One other point, of perhaps minor importance, is that in the acute disease the blood usually contains a similar number of enucleated red corpuscles, while in the chronic form these are but infrequently seen.

Since the publication of EBSTEIN's article, several lists of cases of acute lymphatic leukemia have been published. Lately (*Phila. Med. Jour.*, January 7), FUSSELL JOPSON, and TAYLOR have collected the more recent cases from the literature, to which have been added the authentic cases from the previous lists, together with two undoubted instances which have come under their personal observation—in all fifty-six cases in man and one in a calf. Their own cases have been worked up with great care, both clinically and at the autopsy. Of especial interest is the first case presented, a woman in whom, with a history of continued fever for several weeks, abdominal symptoms, and epistaxis, one would not be unjustified in making a diagnosis of typhoid fever. The profound anemia present led to a blood examination, by which means the diagnosis of acute lymphatic leukemia was unmistakably made. The blood here showed 1,273,000 red, and 362,000 white corpuscles; in the differential count the lymphocytes numbered about 80 per cent., while the nucleated corpuscles numbered over two thousand per cubic millimeter, so that this case resembled, but not very closely, the type of the disease as set down above. An interesting feature brought out in the autopsy, though not uncommon, was that "along the line of the ileum, Peyer's patches were much enlarged, with hard, raised, everted edges, and their centers ulcerated." The second case reported, also in a woman, follows the acute type more closely, though apparently the course, from the symptoms described, covered a somewhat longer period of time than in the former case. Hemorrhages and fever were also prominent in this patient, but aside from this the resemblance to typhoid ceases. The red count was 800,000, the white corpuscles numbered 134,000, almost 90 per cent. of which belonged to the lymphocyte variety, large, small, and mixed. The nucleated red cells were very numerous, there being almost 5000 to the cubic millimeter. In both these patients glandular enlargement was present, but was not universal, different sets of glands being involved in each instance. The liver and spleen were slightly enlarged in both patients. In the first case the marrow was apparently "normal in color and consistence," while in the second patient slight fatty change was the only alteration in evidence. On microscopic examination in both cases, diffuse almost universal lymphatic infiltration was found, as was also noted in a similar case seen by the writer. Minute hemorrhages in various parts of the body were common, as is usual in the various diseases distinguished by marked anemia. While the second case undoubtedly follows more closely the classic picture of the disease, the greatest interest must center in the first case. Not only were many of the clinical features of typhoid fever presented, but at the postmortem the presence of ulcerations in the intestines involving Peyer's patches would have easily led superficial observers to have regarded the disease as one of enteric infection. Besides, with a clinical history pointing to a certain disease, attention is naturally first and principally directed postmortem to the organs where the specific manifestations of the disease, if any, would be found. Continuing the autopsy, an enlarged spleen and liver, together with various other glandular enlargements and hemorrhages into the different organs, would but lend strength to the diagnosis of typhoid. An enlargement of the solitary follicles and Peyer's patches without ulceration might easily lead to a supposition of typhoid, for death not infrequently supervenes in this disease before any ulceration of the lymphatic structures is discernible. This one case, then, resembling as it does another totally different disease, from which it can only be positively differentiated by a thorough examination of the blood, opens a large field for speculation and makes another strong plea for the routine examination of the blood whenever possible. It may be remembered, too, that aside from the blood examination there was every reason to believe that this case was typhoid. While a thorough autopsy would disprove this, yet it is the exception that outside of institutions a postmortem examination is or can be obtained.

In the summing up of their table of cases several statistic points have been brought out with great prominence. In the 56 cases, hemorrhages either in the form of petechiæ, or from the mouth, nose, or other mucous surfaces occurred 39 times. Lymphatic enlargement was present in 47 cases, and enlargement of the spleen in 40. As regards temperature, a more or less marked rise was noted in 31 instances; in some it was silent, in others resembling, as in the case here dwelt upon at length, typhoid fever, while occasionally pyrexia of the septic type has been recorded. One other point of rather curious interest has been the formation on the tonsils of a membrane, resembling in appearance that of diphtheria but not yielding the Klebs-Loeffler bacillus in the culture-media, occurring with sufficient frequency however to make the hypothesis of coincidence untenable.

One word as to diagnosis, and it can best be given in the words of the writers of the article quoted: "The occurrence of a rapidly increasing anemia, with its accompanying symptoms, petechiæ over the body, or hemorrhages from the mucous membrane, with enlargement of the lymph-glands, fever and a moderately enlarged spleen and liver, accompanied by a decrease in the blood of the red cells and an increase of the white cells of mononuclear form, makes diagnosis conclusive."

In conclusion, it may be stated that leukemia is no longer the rare disease it was once thought to be. As in the other blood diseases proper, cases are being reported with increasing frequency, because facilities for making hematologic examinations are being more and more widely distributed among physicians. Not only this, but we are all frequently brought forcibly to recognize how important a thorough examination of the blood sometimes is. With the publication of reports similar to those here cited, it will not be long until acute lymphatic leukemia rests upon a much firmer foundation than is at present afforded it.

JAMES HENRY ETHERIDGE, A.M., M.D.

A few weeks ago the pages of the JOURNAL chronicled the death of the then editor, Dr. JOHN B. HAMILTON, and now his college-mate, his faculty colleague, his long-time friend, joins him in the long rest. JAMES H. ETHERIDGE died late Thursday evening, February 9, at his residence, 1634 Michigan Ave., Chicago. The cause of death was fibrous myocarditis, the result of coronary sclerosis. Slight attacks of angina had for a few weeks given some warning of danger. Death was sudden at the last.

JAMES HENRY ETHERIDGE was born at St. Johnsville, Montgomery Co., N. Y., March 20, 1844. On both his father's and mother's side he was of English descent. He received a common school education and was preparing for college when his plans were changed by his father's departure for the war. He was favored in being reared in a medical atmosphere, as his father was a practicing physician. With four years of reading with his father as preceptor, he entered Rush Medical College, and was graduated in 1869. He took what was for that time an unusually long course of study—three winter courses. Leaving college he located in Evanston, then, as now, one of Chicago's choicest suburbs. After about two years of practice here he went to Europe, devoting much time to the hospitals, particularly those of London and Paris. He returned to Chicago, and on July 31, 1871, began work in that city, the scene of his uninterrupted labor up to the time of his death.

After the first years of struggle for practice, embracing the period of the great fire and the panic of 1873, professional work increased more and more, and the young man became truly busy, doing a large family practice. He was eminently successful in attaching families to him, and after giving up general work it was hard for him to resist the urgent personal appeals made by his old patrons, who counted him their trusted friend and adviser.

JAMES HENRY ETHERIDGE.

But his leaning had been for some time toward gynecology. Even before the death of WILLIAM H. BYFORD, he had been teaching this subject clinically in Rush. Upon the death of Professor BYFORD he was, therefore, promoted to the professorship of gynecology, which chair he held up to the time of his death.

As an operator he was wonderfully deft in the use of instruments. He was an unusually rapid worker, and once having mastered the theory and practice of asepsis his results were to be favorably compared with those of the most eminent and successful surgeons. The amount of work done, the number of operations performed were, in some months, truly stupendous.

So great was it that it really left him little time to read, study and write, a fact he always regretted.

On the death of Professor KNOX, Dr. ETHERIDGE was asked to fill his chair, so that he was, at the time of his death, professor of obstetrics as well as of gynecology.

As a lecturer he was plain and straightforward, seldom indulging in theories, never shooting above the heads of his students. His teaching was eminently practical. He taught what the practitioner of medicine would find necessary in his everyday practice and not what he might need in some rare case encountered perhaps once in a decade. This, with his happy disposition, his jovial wit, his apt illustrations, made him an ever popular teacher.

It would seem as though this would be all that a man could well attend to; but Dr. ETHERIDGE found time to take an active part in other medical matters. In 1886 he was elected president of the Chicago Medical Society, and in 1890 of the Chicago Gynecological Society. He was a member of other local and national societies and was one of the founders and a life member of the International Association of Obstetrics and Gynecology. He long served as attending physician to St. Luke's Hospital, and at the time of his death was attending gynecologist to the Presbyterian Hospital, consulting gynecologist to the St. Joseph's Hospital, and professor of gynecology in the Chicago Policlinic, of which institution he was one of the founders, and in whose success he always took great pride. For many years he was secretary of the Faculty of Rush Medical College and one of the most trusted and valuable working members of that body,

This is but a plain recital of facts concerning the life of this busy, this overbusy man. Yet, with all the toil, care, responsibility and anxiety, he preserved his sweet and sunshiny nature unsoured and unclouded. He looked on the bright side of things, was hopeful and joyous. He was always a capital table-companion, was just the man one would like to travel and share a seat with on a long or short journey; for he was jolly, witty, companionable, without being coarse or offensively obtrusive in manner or remarks. But he was more than this. He was a true friend, and tears fell from many a manly eye when the startling news came that his warm heart had ceased to beat.

He will live in memory as a successful practitioner, a trained and eminent gynecologist, an operator whose dexterity and skill were most widely known, a practical and popular teacher, an active and honored participant in local and national medical affairs; but if we mistake not he will more truly live in the memory of his hosts of grateful patients and of his many lay and professional brethren who delighted to call him friend. The suffering woman who looked into his eye knew instinctively that her surgeon was also a man, and she trustingly underwent the operation, feeling that she was to be treated not merely as a mass of muscle and nerve and blood-vessels, but as the wife, the mother, as a human being. To see him visit one of these patients was a most valuable lesson on the importance of cordial sympathy with the patient as a human being and not a sick animal. Hundreds of these patients mourn his loss and share with his professional colleagues a sense of personal bereavement.

Dr. ETHERIDGE was married in 1870 to Miss HARRIET POWERS, daughter of HEMAN G. POWERS of Evanston, Ill. Mrs. ETHERIDGE and two daughters survive him. It is not the place to discuss family affairs, but it can be truly said, and by one who knows, that no husband and father was more idolized than this man, and he returned with full measure the love and devotion he received.

CORRESPONDENCE.

Medical Practice Act of Indiana.

LAFAYETTE, IND., Feb. 7, 1899.

To the Editor:—The article of Dr. Vinnedge, in the JOURNAL for January 21, calls timely attention to the Indiana law governing the practice of medicine, and to its operation.

To some, even to many, this law seems directly to violate the natural right of every man to follow any occupation of a legitimate character which may seem to him most conducive to his own welfare and interest, in so far as it may not conflict with the rights of others. But it must ever be borne in mind that the existence of a right and the justice and propriety of its exercise are entirely different and distinct things. Constituted as human society is, the right of the individual is, and must be, largely subject and subservient to that of society, while the duty of society to conserve the right of the individual, so far as is consistent with the greater right of society, is imperative. The preservation of the life and health of the individual is of supreme importance to society, and all means that will wisely and properly tend to assure and preserve that life and health, without prejudice to higher interests, are legitimate and proper.

In few things can the ordinary capacity and knowledge of men in the common walks of life give less ability to judge wisely than in those which are the subjects of the law referred to. To the majority of men is given neither the time, opportunity nor desire to acquire the knowledge which will enable them to judge wisely in these matters of such vital importance to all, and in no way can the obligation of society at large therein be more fully and justly performed than by a judicious law of the State, prudently and impartially administered by wise and judicious men.

In a general way such seems to be the character of the Indiana law. It can not be questioned, however, that on the part of very many, even in the profession, serious opposition to that law, in its principles and in its details, is already threatened, and it becomes the duty of all those who recognize its real value and importance, to promote and increase its continuance by a calm and dispassionate examination of its weak and of its strong points with a view to the eradication of the former and a greater emphasis of the latter. In this examination the just and discriminating views of Dr. Vinnedge in his paper should have great weight.

Primarily, the law should scrupulously avoid any and all interference with the natural rights of individuals not imperatively demanded by the higher public good; while it can not deny to any man the right to select his medical adviser, it may, in the interest of the public, determine, not so much who may as who may not be recognized as a medical adviser.

While it should not, and can not properly, determine and decide upon the conflicting claims of different and differing medical schools and systems, it should, however, clearly set forth the minimum course of study, and the character of the work done by all medical schools of all systems, carefully avoiding all partisan rulings between their varying methods of carrying out their teachings.

The value of a diploma should be determined by the extent to which it bears evidence that the applicant has received at least the minimum professional education required by the legal standard, and in order to do this understandingly and justly the Board should be fully empowered to require that a full, accurate, and certified course of study of any medical school, not well and generally known, shall be laid before it upon its requisition.

But it seems to the writer that the great and important work and duty of the Board should be, thoroughly and impartially to investigate and examine, with all due and proper aids, the characters and characteristics of the individual applicants for licenses: 1. As to their moral character and conduct. This is of such prime and preeminent importance that failure here and herein should at once and promptly exclude an applicant. When the intimately close and confidential relation of the physician to the patient is considered, it should be clearly evident to all that the one who fills the position of physician should be above and beyond all suspicion, and that the patient should to the utmost be protected from even the apprehension of evil. In this connection full power should be given to the Board, and it should be made their binding duty at once to cancel the license of any physician, however high, who should be proven guilty of prostituting his professional relation by immoral and improper acts or words. 2. As to the mental and general intellectual qualifications, and acquirements of the applicant. 3. As to his professional studies, attainments and ability, covering especially his process of diagnosis. When these can not be determined fully or satisfactorily by the diploma presented, the Board should have power to make such examination as in their judgment will enable them to form a correct conclusion. In such examination, however, no attention should be given to the applicant's peculiar views of therapeutics and treatment, as such may be governed by the principles of the peculiar school to which he may belong, but, as far as possible, should be wholly individual.

In the case of those who have for years been in the practice of their profession, but who hold no diploma, the Board would necessarily be compelled to rely much upon the professional history and life of the applicant, giving full weight to his success, or want of success in his practice.

Beyond this it would seem that the Board can scarcely go. It would clearly be impossible for it to examine any large number of applicants clinically, and if it were, no guarantee of infallibility on the part of the Board could be given to justify them in compelling all applicants to agree with their personal views.

John S. Irwin, M.D.

ASSOCIATION NEWS.

The Columbus Meeting.—According to the *Dispatch* of Columbus, Ohio, February 2, active preparations are going on for the next meeting of the American Medical Association in Columbus in June. The chairmen of the several committees recently met and accomplished considerable looking toward the entertainment of the delegates. Plans have been presented for an exhibit building, 44 x 190 feet and to contain eighty-seven spaces, at an estimated cost of $1500. It is also expected that a souvenir book embodying the history of the city, with numerous illustrations, will be published, and the general sessions of the meeting will probably be held in the Grand Opera House, with adjacent halls for use of committee and other meetings.

PUBLIC HEALTH.

The Bubonic Plague.—Reports from Port Louis, Mauritius, indicate that the plague is increasing.

Effect of Physical Exercises on the Organism.—An international committee of hygienists, physiologists and physicians has been appointed to follow the international games and athletic sports that are to form a feature of the Paris Exposition of 1900, and study their effect on the organism. A full report is to be published.—*Semaine Méd.*, January 25.

Health in Indiana.—January reports from sixty-four counties to the State Board of Health indicate an increase in area of prevalence over the preceding month, of influenza, pneumonia, bronchitis, tonsillitis, pleuritis, scarlet fever and measles. The diseases which apparently decreased in area of prevalence were: typhoid fever, intermittent fever, erysipelas, inflammation of bowels, diphtheria, croup and puerperal fever. The deaths from pulmonary consumption increased 20 per cent.

The Sanitary Condition of Havana.—Dr. Alvah H. Doty, health officer of the port of New York, returned from Havana February 11. He had several official interviews with the various representatives of sanitary interests, both local and military. There will not be any radical changes, he said, until a new sewerage system is introduced and the streets are properly graded and paved. The cleaning of streets, so far as progressed, has been of much benefit. He highly praises General Brooke and staff for their earnest efforts. There is no friction or conflict of authority.

Conference of Health Officers.—In New Orleans, La., February 9, was held a conference of health officers and merchants of Louisiana, Mississippi, Alabama and Texas. The Atlanta agreement of 1897 relative to quarantine regulations during the existence of yellow fever was approved, with some modifications, the most important of which is this: quarantine is not to be declared against any locality on account of the existence of suspicious cases nor even on account of the existence of a few cases known to be yellow fever, provided they be properly isolated and all necessary precautions taken to prevent the spread of the disease.

Rational Use of Tetanus Serum.—"The fact seems to be established that tetanus serum has no therapeutic effect, but acts by conferring immunity. An injection of serum simultaneous with the tetanus infection confers immunity and saves the individual, and a subcutaneous injection of serum during the incubating period or incipient infection is not sero-therapy but sero-immunization. Intracerabral injections of serum act as a late immunization, like Pasteur's treatment of hydrophobia." — *Klin. Ther. Woch.*, January 8. . . . The obstetric clinics of Prague have been temporarily closed on account of an epidemic of tetanus, the number of cases progressively increasing during the past two years in spite of disinfection and the subcutaneous injections of tetanus serum which have been systematically practiced at Professor Pawlik's clinics as a prophylactic measure.—*Presse Méd.*, January 21.

A Life-Saving Plant.—It may be said that when Mr. Nathan Straus of New York City donated to the Infants' Hospital at Randall's Island a plant for the sterilization of milk, he builded wiser than he knew. The superintendent of that hospital has recently sent to Mr. Straus a letter of thanks, in which he claims to show a most extraordinary reduction in the death-rate among his infant charges, as due to the effect of the sterilizing plant. The statistics given in that letter appear to show, for the two years last past, that 1284 cases were treated in 1898, against 1179 in 1897; and that the deaths last year were 255 against 524 in 1897, the percentage of deaths thus having been reduced from 44.44 to 19.86 per thousand. It has probably been many a long year since the death-rate in that institution has fallen below 35 per thousand.

A Water-Famine Threatened.—The water-supply of Newark, N. J., is threatened by the continued cold weather. The contract is for 27,500,000 gallons daily, and a few millions of gallons are pumped from wells at Belleville. On February 11, only 33,000,000 gallons were let go out of the reservoir. The engineer of the Board of Works contemplates pumping direct from the Passaic River, a source somewhat fought over, or else making some arrangement with the East Jersey Water Company. The trouble began with the waste through faucets as a precaution against freezing in the pipes. A week, however, may modify, perhaps entirely cancel, this paragraph. No gas or water company, however, can be compelled to thaw out their pipes. Meanwhile our outlying provinces are complaining over the intense heat.

Former Scavengers of Santiago.—An article in *Leslie's Weekly* states that: "The scavengers of the city before and during the war were dogs and vultures by the thousands. The dogs were unowned, and roamed at will, like the dogs of Constantinople, operating in their own districts, and repelling any invasion of dogs from other districts. They attacked and actually devoured one another. These dogs, according to Major Bourber, were not curs nor mongrels, but blooded animals of good size, and many were bloodhounds from the stock used in the slave times in Cuba." Many details are given in addition, to-wit: that over 4000 dogs were poisoned on account of ferocious raids upon men and animals when the city's waste became insufficient. The sewage, too, was dumped into a middle gutter of the streets; unclean vaults completely saturated the porous coral limestone and the filtrate through this medium found its way into the bay; the tropic heat; the foul condition of markets, slaughter-pens and warehouses, all added to the sanitary horrors. After the American occupation the military inspection, which was rigorously thorough, a sanitary department was organized. At first only the Cuban carrettas, or two-wheeled carts, could be obtained; then some of the Government four-mule teams and other equipments were introduced, until at the present time the condition of affairs is such as would satisfy the ambition of even the late Colonel Waring of New York street-cleaning fame.

Smallpox.—The recrudescence of smallpox in various parts of the country is still a subject of interest, and while the disease is under control or well checked, in most of the larger cities, it seems to be spreading in certain rural districts, especially in some of the Southern States, where the ignorant negro population is probably mainly responsible for the condition of affairs. In Arkansas the situation is serious enough to have called out one or two special messages from the Governor, and shotgun quarantines have been reported as established in some quarters by the excited populace. In Georgia several counties have been so badly ravaged, chiefly among the negroes, that the Governor of the State has made inquiries as to the right to enforce compulsory vaccination, and finds that under existing laws such measures by county authorities are impossible. In Ohio, to February 11, there had been 770 cases since the beginning of the outbreak, with only 7 deaths reported, a fact that speaks for a mild type of the disorder. While in the Northern and Eastern States the outbreak can be traced in many cases directly to infection from the late Spanish provinces, it appears that in some of the Southern and Gulf States it has been long prevalent. The state of affairs in Alabama was noticed in a recent issue of the JOURNAL (p. 322), and it would be somewhat remarkable if it were absolutely confined to the limits of that State.

Health Reports.—The following cases of smallpox, yellow fever, plague and cholera have been reported to the Supervising Surgeon-General of the U. S. Marine-Hospital Service for the week ended Feb. 11, 1899:

SMALLPOX—UNITED STATES.

California: San Francisco, January 31, 2 cases, 1 a railroad employe from Colorado, 1 a leper in pest-house.

Colorado: Denver, January 7 to 14, 1 case.

District of Columbia: Washington, January 31, 2 cases.

Indiana: Indianapolis, January 31, 4 cases.

Kentucky: Louisville, December 20 to February 8, 47 cases.

Michigan: Detroit, January 21 to February 4, 7 cases.

Nebraska: Omaha, January 22 to 28, 3 cases.

New York: New York City, January 28 to February 4, 1 case.

Ohio: Cincinnati, January 21 to February 3, 49 cases; Cleveland, January 21 to 28, 1 case.

On S. S. *Tarascon*, at Louisville, Ky., January 30, 3 cases.

SMALLPOX—FOREIGN.

Argentina: Buenos Ayres, November 4 to 30, 5 cases.

Brazil: Bahia, December 17 to January 7, 56 cases, 6 deaths; Rio de Janeiro, December 16 to 23, 21 cases, 7 deaths.

England: London, January 7 to 14, 1 case.

Mexico: Mexico City, January 22 to 29, 5 cases, 3 deaths; Monterey, December 23 to January 5, 2 deaths.

Russia: Moscow, January 7 to 14, 3 cases, 2 deaths; Odessa, January 7 to 14, 1 death; St. Petersburg, January 1 to 14, 7 cases, 1 death.

YELLOW FEVER.

Brazil: Bahia, December 24 to January 7, 2 cases, 1 death; Rio de Janeiro, December 16 to 23, 7 cases, 4 deaths.

Mexico: Chihuahua, January 22 to 28, 2 deaths.

CHOLERA.

India: Calcutta, December 17 to 24, 21 deaths; Madras, December 10 to 16, 6 deaths.

Diphtheria Prevalence in Pennsylvania.—In the December issue of *Public Health*, Dr. Benjamin Lee has given an extract of his official report, presented to his State Board, Nov. 17, 1898, in one section of which he treats of the above subject, especially from the point of view of the want of care on the part of the parents and teachers as to continued prevalence of the disease. He refers to an instance at Hanover, York County, where a conference was called under instructions of the Governor of the State, for the purpose of eliciting information in reference to the frequent appearance of diphtheria in that borough. The following morning certain buildings and localities which had been suspected by some of the residents of being responsible for the existence of the disease, were inspected. The conclusions arrived at were, that the history of the several outbreaks had been in no way materially different from that of the prevalence of the disease in other towns in the State of about the same size. No local insanitary conditions were found which could be assigned as a cause. While certain cases existed, in which offensive industries were permitted to be carried on, they were constantly kept under surveillance by the Health Board of the borough, and any accumulation of filth was prevented. Objections were made to a small stream which flows through the town receiving pollution sufficient to make it offensive in warm weather. To none of these conditions, however, could the disease be attributed. Since August, 1897, forty-three cases have been reported; the majority were found to have occurred among children attending school, particularly the primary school. The sanitary condition of this building was found to be good. The continued prevalence of the disease was decided to be due to the carelessness of parents who failed to appreciate the infectiousness of the disease, and the readiness with which it could be communicated, thus allowing children suffering with sore throat—which might have been, however, diphtheria in its early stages—to go to school; also carelessness in families where the disease was known to exist, and the invasion of quarantine either on the part of families or of the neighbors desiring to offer sympathy and assistance. The occasional failure of physicians to report the disease to the local Board of Health was also in part responsible; as also the incomplete disinfection of the premises, and the use of infected books, slates and pencils in schools which may have become infected. This incident has been considered of sufficient interest and importance to dwell upon somewhat at length, for the reason that it is simply typic of what is going on all over the State.

BOOK NOTICES.

Annual and Analytical Encyclopedia of Practical Medicine. By CHARLES E. DE M. SAJOUS, M.D., and One Hundred Associate Editors, assisted by Corresponding Editors, Collaborators and Correspondents. Illustrated with Chromo-lithographs, Engravings and Maps. Volume II. Bromid of Ethyl to Diphtheria. Philadelphia, New York, Chicago: The F. A. Davis Co. 1899.

As the name implies, this is as much an encyclopedia as it is an annual review of medicine and surgery. Under the various headings, alphabetically arranged, are found not only the more recent knowledge and abstracts of work done in the past two or three years, but an epitome of old and well-established facts. Thus, under the drugs, as bromid of ethyl, chloral, digitalin, the action of the drug, its preparations, the untoward effects, its therapeutic uses, old and new, are described. As a work of reference the book is, therefore, valuable according to the merits of the articles furnished by the several contributors, and the supervision of the editors.

In general the work has been carefully done. Worthy of special mention are some of the more important, and at the same time lengthy articles, as those on "Cholera," by Rubino of Naples; "Cholelithiasis," by Graham of Toronto; "Diphtheria," by Northrup and Bovaird of New York; "Cataract," by Oliver of Philadelphia; "Deaf-Mutism," by Mygind of Copenhagen; "Dilatation of the Heart," by Vickery of Boston. Of all the articles read by the reviewer, the one by Adami of Montreal, on "Cirrhosis of the Liver," is the best. This is so, perhaps, because he handles this rather complex and hitherto not clearly understood topic in such a masterly manner as to make the subject appear simple and plain. Very briefly he gives the salient features of the pathology and symptomatology of this affection, and makes the differential points on which he bases his classification very plain indeed. His objection to the use of the term "hypertrophic," as applied to biliary cirrhosis, is certainly well taken and one that should be more generally heeded. Adami has, as shown by this article and that on "Inflammation," in Allbutt's System, a rare power of condensation and of lucid and systematic statement of fact.

The make-up of the volume is excellent, both text and illustrations being of a superior order of merit.

Diet and Food: CONSIDERED IN RELATION TO STRENGTH AND POWER OF ENDURANCE, TRAINING AND ATHLETES. By ALEXANDER HAIG, M.A. and M.D., Oxon., F.R.C.P. Philadelphia, Pa.: P. Blakiston's Son & Co. Price $1.

This is a little work that will attract more attention, from the peculiarity of some of its views taken in connection with the well-established reputation of its author, whose prior publications have certainly had a very considerable influence on medical thought and opinion. It is in fact, a plea for vegetarianism, and that of a very thorough type, for the author would discard eggs in his diet list as well as all stimulants, including tea and coffee. Of course, uric acid is the text, and it is as containing or engendering this poison that all animal food except milk and its products are rejected or condemned. The author's views and statements as to the comparative power of endurance of vegetarians and meat eaters are rather too comprehensive, and the work is to some extent a purely *ex parte* argument that does not duly take into account all the facts. The fact that a rigid vegetarian diet would seriously contract the habitable limits of the earth, to say nothing of the cutting off of very important sources of food-supply, and thus diminishing the living resources of our species, is a sufficient argument against it. Undoubtedly the publication of this work will come as something of a shock to many of those who have heretofore moulded their opinions in accordance with the theories hitherto advanced by Dr. Haig.

Ocular Therapeutics: FOR PHYSICIANS AND STUDENTS. By F. W. MAX OHLEMANN, M,D., Minden, Germany, late assistant physician in the Ophthalmologic Clinical Institute of the Royal Prussian University of Berlin, etc. Translated and edited by CHAS. A. OLIVER, A.M., M.D. (Univ. Pa.), one of the attending surgeons to the Wills Eye Hospital, and one of the ophthalmic surgeons to the Philadelphia Hospital, etc. Pp. 274. Philadelphia: P. Blakiston's Son & Co. Price, $1.75.

This book is of a handy size, and printed on rather dull paper, and in large type. It is a pity more books are not similarly produced. It is well and clearly translated by Dr. Oliver, who has not fallen into the error so frequently observed among translators, of using language so hopelessly verbose, ponderous and unintelligible as to completely disguise the original meaning of the author. German medical books are sufficiently obscure under the best of circumstances, but when brought to us in the garb of an average English translation they are frequently simply impossible. Dr. Oliver, therefore, deserves credit for his departure from these stereotyped lines, and it is to be hoped that he will still further clarify German medical literature. The book is well indexed. It is not a treatise on ocular diseases, but treats merely of the subject of ocular therapeutics, as its name implies. It performs this office thoroughly and well, and is full of valuable and practical suggestions from cover to cover. It gives many well-matured prescriptions by ophthalmologists of note, written both in the metric system and in the old apothecary system. It should be read by every ophthalmic surgeon, and especially by those of small and immature experience.

Transactions of New Hampshire Medical Society. Cloth. Pp. 276. Concord, N. H.: The Rumford Press. 1898.

This volume has to do with the proceedings of the 107th anniversary of this Society, held at Concord, N. H., May 26 and 27, 1898. Besides other data usually included in society transactions, there are papers as follows: "Expert Testimony Again;" "Hippocratic Oath and Medical Ethics;" "Value of Proper Equilibration of Nervous System;" "Middle Ear Disease in General Practice;" "Foreign Bodies in the Eye;" "Inflammation of the Middle Ear;" "Puerperal Eclampsia;" "Adenoids and their Complications in Children."

Nursing: Its Principles and Practice. For Hospital and Private Use. By ISABEL ADAMS HAMPTON. Second Edition, revised and enlarged. Illustrated. Pp. 512. Philadelphia: W. B. Saunders.

This able and complete work is, beyond all question, the best book on nursing extant. It stands without a competitor. The first edition has been retained almost in its entirety and has been greatly added to, to bring the work up to the latest methods. Illustrative of this fact is the outline of a suggested scheme for a three-years course of undergraduate instruction for nurses. Everything in the line of the organization and management of training-schools for nurses, of caring for every variety of sickness, is outlined fully in this volume. Nought in the way of omissions seems to be found. An appendix of several pages, in fine print, contains very numerous suggestions, hints and material from nurses and superintendents of training-schools, not found in any other work on nursing. Altogether, commendation of this book is the only verdict left after reading it.

Holden's Human Osteology. Edited by STEWART and REID. 8th Edition. Philadelphia: P. Blakiston's Son & Co., 1899. Price, $5.25.

The fact that "Holden's Human Osteology" has passed through eight editions is conclusive evidence of the high character of the work.

The eighth and last edition contains but few changes or additions, which is but another evidence of its completeness. It stands at the head of monograms on human osteology.

Self Examinations of Medical Students. Cloth. 2d Edition. Pp. 189. Philadelphia: P. Blakiston's Son & Co., 1899. Price, 10 cents.

This little volume contains 3000 questions on medical subjects, with references to standard authorities, where correct answers may be found.

Braithwaite's Retrospect of Medicine. Edited by JAMES BRAITHWAITE, M.D., Lond., and E. F. TREVELYAN, M.D., Lond., B.Sc., M. R. C. P. Cloth. Vol. cxviii. Pp. 445. London: Simpkin, Marshall, Hamilton, Kent & Co., Ltd., 1899.

This half-yearly journal covers the period July–December, 1898, and contains, arranged similarly to former volumes, abstracts and short articles from the medical journals of this period in the several departments of medicine and surgery.

Report of Surgeon-General of the Army. Paper. Pp. 265. Illustrated. Washington, D. C.: Government Printing Office. 1898.

This report of the Surgeon-General of the Army to the Secretary of War is for the fiscal year ending June 30, 1898. A number of full-page plates of various army hospitals add to the interest of the report.

SOCIETY NEWS.

German Congress of Surgery.—This Congress will be held at Berlin, April 5 to 8.

American Orthopedic Association.—This association will hold its annual meeting at the N. Y. Academy of Medicine, New York City, May 31 to June 2, inclusive.

Society for Original Research.—At the regular meeting of this society, Cincinnati, Ohio, February 9, Dr. Joseph Eichberg presented specimens of arteriosclerosis.

German Congress of Internal Medicine.—The Seventeenth Congress of Internal Medicine will be held at Carlsbad, April 11 to 14. Subjects announced: Asystolia, leukemia and leucocytosis.

Philadelphia Academy of Surgery.—At the annual meeting of the Academy, February 6, the following officers were elected; President, J. Ewing Mears; vice-presidents, Drs. W. W. Keen, and John Ashhurst, Jr.; secretary, Wm. J. Taylor; treasurer, Wm. G. Porter.

Lucas County Medical Society.—This Society held a meeting in Toledo, Ohio, February 3. Dr. M. H. Bowman read a paper on "Immunity," and Dr. Suker one on "Chlorosis." "Manifestations of La Grippe" was the general subject for discussion, followed by a banquet.

Grand Rapids Academy of Medicine.—About thirty members of the Academy of Medicine, Grand Rapids, Mich., attended the annual banquet recently. Dr. G. K. Johnston was toast-master, and Drs. J. B. Griswold, C. H. Johnson and Henry Hulet responded to toasts.

Minnesota Academy of Medicine.—The annual session and banquet of the Academy was held in St. Paul recently. Dr. L. C. Bacon presented a paper, also J. W. Mayo one on "Primary Tuberculosis of the Intestines," reporting seven cases. Governor Lind was present as an invited guest.

New Medical Association.—The physicians of Phœnixville, Pa., and vicinity have organized the Phœnixville Monthly Medical Association, and elected the following officers: President, F. D. Emack; vice presidents, Drs. W. B. Wynne and Geo. Umstad; secretary, E. J. Hadfield.

Polk County Medical Society.—At the meeting of this Society, February 7, Des Moines, Iowa, Dr. Lewis Schooler presented a paper on "Amputation Without the Ligature or Suture," and Dr. G. B. Hibbs a paper on "Double Pleurisy with Effusion."

Northwestern District Medical Society of Michigan.—At the Forty-seventh annual meeting of this society, held at Lapeer, recently, the following officers were elected: President, B. B. Burr of Flint; vice-president, Dr. Platt of Port Huron; secretary, S. E. Connor of Port Huron. The next meeting will be at Port Huron.

Central District Medical Society of Missouri.—This Society held its quarterly meeting at Sedalia, February 7. Papers were read by Drs. W. C. Overstreet, W. O. Dunlap, C. F. Wainwright of Kansas City, A. E. Monroe of New Lebanon, and W. J. Ferguson.

Bucks County Medical Society.—Prof. W. L. Rodman of Philadelphia considered the radical cure of hernia, and Prof. L. Webster Fox, also of Philadelphia, gave a talk on "Diseases of the Eye," before this Society at the mid-winter meeting held at Quakerstown recently.

Allen County Medical Society.—This Society held its regular meeting at Ft. Wayne, Ind., early in the month. Dr. Porter reported a case of sarcoma, which he had successfully treated by the serum process, and Dr. Bulson a case of unusual susceptibility to cocain and one of excessive hemorrhage following the removal of tonsils.

N. Y. State Medical Society.—At the recent meeting this society elected the following officers: President, Willis G. MacDonald of Albany; vice-president, John Gerin of Auburn; secretary, F. C. Curtis of Albany; treasurer, C. H. Porter of Albany; legislative committee, Frank Van Vleet of New York, A. G. Root of Albany, and Ernest Wende of Buffalo.

Arizona Medical Association.—At the eighth annual meeting, just held, seven counties of the Territory were represented. The next meeting of the association is to be held at Prescott, and the following officers were chosen for the ensuing year: President, Winfred Wylie; first vice president, T. B. Davis; second vice-presidents, S. B. Claypool and N. H. Natas; secretary, E. Plath of Phœnix; treasurer, W. B. Purcell.

Iowa State Medical Society.—Preliminary announcement of the forty-eighth meeting of the Iowa State Medical Society, to be held at Cedar Rapids, May 17-19, is noted. The president is H. B. Young, Burlington; the secretary, Jas. W. Cokenower, Des Moines. The program will be mailed to members about May 1. This society is making an effort to have medical societies organized in each county in the State in which none now exists.

Northwestern Medical Society.— The annual banquet of this society was held in Philadelphia, Pa., recently. The following officers were elected: President, John A. Boyer; vice-president, Samuel P. Gerhard; secretary, W. C. Robertson; treasurer, H. Hanna; censors, Charles Herwisch, Howard S. Kinne, D. A. Modell; members of executive committee, Wendell Reber, chairman, J. M. Koch and Frank Massey.

Chicago Medical Society.—At a clinical meeting held February 8, Dr. F. Kreissl narrated a case of hypertrophy of the prostate, with retention, cured by Bottini's operation, and also reported a case of obstruction of the left ureter, which was removed by ureteral catheterization, and a case of extensive congenital stricture in which he performed a perineal operation with very satisfactory results. Drs. James Nevins Hyde, Arthur Dean Bevan and Ludvig Hektoen jointly reported a case of blastomycetic dermatitis. Dr. Hyde discussed the dermatologic aspects of the case, Dr. Bevan the surgical, and Dr. Hektoen the pathologic. Dr. Edward H. Ochsner reported a case of syringomyelia and exhibited the patient, and Dr. J. Homer Coulter narrated a case of pharyngomycosis.

Allegheny County Medical Society.—At the fifth annual reception and banquet of this Society, held at Pittsburg, Pa., Dr. James T. Whittaker of Cincinnati, Ohio, was the guest of honor and presented the principal paper of the evening, on "Arterial Sclerosis." One of the features of the evening was the adoption of the resolution endorsing the position taken by Dr. W. H. Daly, a member of the Society, who was on the staff of General Miles, and was Surgeon-in-Chief, United States Volunteers, regardinghis recent testimony as to the "embalmed" beef furnished the soldiers.

Luzerne County Medical Society.—At the recent meeting of this society, held at Wilkesbarre, Pa., Dr. L. L. Rogers read a paper on "Heredity," and Dr. C. H. Miner one on "The Serum Test for Typhoid Fever." Dr. Miner stated that in examinations which he had made in cases of continued fever, where the diagnosis remained in doubt, after the sixth day the test had proved of great value. Among these cases was one each of osteomyelitis, meningitis, obscure septic infection following an operation, appendicitis, pelvic abscess, and typhoid following labor.

Philadelphia County Medical Society.—At the meeting held February 8, Dr. J. T. Rugh reported "Two Cases of Unusual Length of Umbilic Cord with in Each Case Five Turns about the Child's Neck." Dr. Frederick A. Packard reported a case of gangrene following amputation of the posterior tibial artery by an atheromatous plate occurring in a woman past middle life. The principal point of interest about the case was that the embolus was found corresponding to the line of demarcation, which was found by a proper dissection. Dr. Joseph Hearn, in discussing gangrene of the foot in general, advised a high amputation, and thought that as a rule the point of election should be above the knee-joint. Dr. Solomon Solis Cohen made a few remarks regarding the subject of emboli as the cause of gangrene, and thought that "intermittent claudination," first described by Charcot, and later by a certain English writer, as well as by Virchow, was very frequently an early symptom of approaching gangrene. He had seen this sign present in a case which was subsequently reported. Dr. Packard stated that emboli as the result of atheromatous plates did not occur frequently, as might be expected, when one considered that atheromatous arteries formed one of the most common conditions found in patients in all large hospitals.

Wayne County Medical Society.—At the regular meeting of the Society, February 2, Dr. Samuel Bell, Newberry, Mich., read a paper entitled "Some Mental Defects Following Diseased Physical Conditions." The Doctor considered only such cases of insanity as occur in females, especially those who suffer from diseases of the procreative organs. He said that it is conceded by the best authorities that insanity is often caused by diseases of the generative organs, and also that mental disease frequently disturbs the normal action of other organs of the body and, in some instances, modifies diseased action itself; while, on the other hand, there are those who believe that mental conditions are practically independent of any disease of the body. He declared that his experience had taught him to take the human organization in its entirety, bearing in mind the relation which each organ or part bears to each other, and the possible result upon the brain and nervous system when one or more parts become diseased. The Doctor read the statistics of operative cases as treated in the London (Ont.) Asylum during the past three and one-half years, which follows: One hundred and ten insane women were operated on, representing 196 distinct operations, all of them upon the organs of generation. Of these, out of 12 ovariotomies, 7 recovered and 4 improved; of the 17 hysterectomies, 5 recovered and 3 improved; of the 22 cases of suspension of the uterus, 4 recovered mentally and 11 have showed mental improvement; of 30 cases for removal of diseased cervices, 12 are now well mentally and 9 others have improved; of 21 cases in which minor uterine diseases were treated, 12 recovered and 2 improved; of the 8 remaining cases, none recovered, and in only 3 was any improvement observed. At the Upper Peninsula Hospital the author had examined 26 out of 31 admitted. Eleven had cervical laceration, 10 had endometritis, 5 had ovarian disease, 13 had a discharge, either mucous or mucopurulent, or both; 6 had perineal rupture, 8 had uterine displacement, 10 ulceration, 5 congested and enlarged os, 3 vaginitis, 1 ovarian tumor, 1 pinhole os, 4 menorrhagia and 5 pelvic cellulitis. The improvement following the treatment for the above physical derangements was followed by improvement in the mental condition in the majority of cases treated, though not in all. The Doctor then considered the question of puerperal insanity. He said that 10 per cent. of all mental diseases in women originate in connection with the function of reproduction, there being insanity of gestation, insanity of lactation and insanity during the time of uterine involution. Besides these causes there are also: 1, shock to nerve centers following severe postpartum hemorrhage; 2, shock to patient during the lying-in period, induced by bad or startling news; 3, disgrace attending illegitimate childbirth. As to the treatment the Doctor said that patients usually could not be cured at home. Strangers have a better influence than relatives or friends. Rest in bed and a quiet room were essential, with nutritious diet, proper treatment of any abnormal physical condition and removal of septic matter if the uterus contains any.

NECROLOGY.

George Henry Rohè, M.D., Sykesville, Md., died in New Orleans, La., February 6. Dr. Rohè was borne Jan. 26, 1851, began the study of medicine in 1867, and received his degree of M.D. from the School of Medicine, University of Maryland, in 1873. He afterward studied dermatology and then spent several years in travel, returning to engage in general practice in Baltimore, when he was appointed Superintendent of the Maryland Hospital for the Insane at Catonsville, in 1891. In 1885 the Doctor was acting assistant-surgeon in the United States Army, and from 1882 was connected with the College of Physicians and Surgeons of Baltimore. At the time of his death he was President of the American Public Health Association; a member of the American Medical Asociation, the American Association of Obstetricians and Gynecologists, its President in 1893; a member of the Medico-Chirurgical Faculty of Maryland, also its President in 1894; a member of the American Academy of Political and Social Science, of the Committee on Organization of the First Pan-American Medical Congress, besides other American and foreign societies. Dr. Rohè was also the author of a text-book on hygiene, a work on practical electricity and surgery, and a manual of skin diseases.

Alvin C. Henderson, M.D., University of Michigan, 1872, also Long Island Hospital Medical College, 1872, died in Brooklyn, N. Y., February 6. He was born in Cadiz, Ohio, fifty years ago; his wife died about five years ago, and a son of sixteen was killed by an explosion in his father's laboratory. He himself had his toe severely injured by the weight of a heavy fellow-passenger in a trolley car, a few months ago. The resulting gangrene necessitated amputation of the left leg, in the Long Island Hospital. He was physician under Coroner Delap of Brooklyn.

Henry W. Owen, M.D., Detroit, Mich., a veteran of the Civil War, aged 78 years, and according to the press dispatches founder of the Soldiers' Home at Washington, died January 24 He entered the army at the beginning of the war as a specia surgeon in the Fourth Ohio. Soon afterward he was transferred to the Seventy-fifth Ohio, and remained with that regiment until he was detailed by General Burnside, just after the battle of Fredericksburg, to establish a field hospital. Following this he had charge of the field hospitals until he was ordered to Washington, where he was instrumental in organizing the Harewood Hospital, which is now the Soldiers' Home. Dr

Owen remained in the service of the government a year after the close of the war.

Rufus W. Peacock, M.D., N. Y. University, 1875, died February 7, at his home in Jersey City, N. J., where he had lived since 1875. He was born at Goldsborough, N. C., June 18, 1827, and practiced in the South for eighteen years. His father was a wealthy planter and his grandfather an aid-de-camp on General Washington's staff.

William Cunningham Campbell, M.D., College Physicians and Surgeons, N. Y., 1880, son of the late Dr. John L. Campbell, died at his home in New York City, February 5.

Joseph Borden Goodenough, M.D., College Physicians and Surgeons, N. Y., 1852, of Long Branch, N. J., died of cardiac disease, February 1.

Harry Young, M.D., serving with the Utah Artillery Division at Manila, was captured and murdered by the Filipinos, February 5.

James Edward Keegan, M.D., aged 27 years, died of pneumonia, February 10, at his home in Jersey City, N. J., where he had practiced about four years.

Edward North, M.D., Jefferson, 1868, was killed by an express train on the Pennsylvania Railroad on the afternoon of February 11. He was prominent in South Jersey, was a member of the State Assembly in 1884 and 1885, president of the Board of Health, and also a member of the Board of Education, his home being Hammonton, N. J. He leaves a wife and three children, also three brothers, all physicians of Atlantic City, as well as three sisters, resident there.

Clark A. Deakyne, M.D., Philadelphia. Pa., died February 6, from chronic nephritis. He was a native of Delaware, being born in Newcastle in 1838. He was a graduate of the Pennsylvania Medical College, class of 1859, and practiced for forty years. After he ceased to practice, Dr. Deakyne entered largely into charitable work, and there are several institutions in this city which owe their achievements to his personal efforts in their organization.

Orvis F. Bigelow, M.D., Amherst, Mass., February 2, aged 63 years. . . . M. J. L. Burchard, M.D., Princeton, Ky., February 5. . . . D. O. Crist, M. D., Indianapolis, Ind., January 31, aged 74 years. . . . S. J. Engle, M.D., Susquehanna, Pa., February 1, aged 44 years. . . . J. M. Estill, M.D., Lexington, Va., January 25. aged 55 years. . . . Charles S. Grant, M.D., Saratoga, N. Y., February 5, aged 54 years. . . . Wry Grayson, M.D., of Washington, D. C., at Orlando, Fla., aged 72 years. . . . C. W. Hardin, M.D., Longwood, Va., January 30, aged 85 years. . . . F. M. Lancaster, M.D., Wayside, Md., January 30, aged 70 years. . . . Charles W. Morse, M.D., Dowagiac, Mich., January 24, aged 71 years. . . . W. T. Pirie, M.D., Waco, Texas, February 2. . . . Robert C. Stewart, M.D., University of Pennsylvania, 1872, of Shippensburg, Pa., February 9.

MISCELLANY.

Dr. James C. Avary.—After ten years' service on the Board of Health of Atlanta, Ga., Dr. Jas. C. Avary has resigned.

Dr. Thomas H. Manley.—We learn that Dr. Thomas H. Manley, New York City, has been reinstated as visiting surgeon to Harlem Hospital.

Dr. Walter Greiss.—At the meeting of the trustees of the Cincinnati Hospital, February 6, Dr. Walter Greiss was elected resident physician.

Dr. Clarenoe W. Leigh.—Dr. Clarence W. Leigh, Chicago, has been named as past assistant-surgeon with the rank of lieutenant, of the Illinois Naval Militia.

Harvard's New Professorship.—We are informed that a professorship of hygiene is to be established, which in time will yield a larger income than any salary now given to any professor in the University. The incumbent of the chair is to be not only a teacher but a practitioner, and his services, are to be at the disposal of all the students.

Dr. Aaron Schloss.—Dr. Aaron Schloss of Stockton, Cal., has been appointed adjunct professor to the chair of the Sciences of Eye, Ear, Throat and Nose, in the College of Physicians and Surgeons, San Francisco.

Meningococcus in Nasal Passages.—Schiff found the meningococcus in the nasal passages of seven out of twenty-seven healthy persons examined, pathogenic for mice and guinea-pigs. Autoinfection from the nose may explain the origin of the disease.—*Rev. Gen. de Path. Int.*, January 5.

University of Tennessee.—It is reported that at the recent meeting of the Board of Trustees of the University of Tennessee, it was decided that the medical department would continue to be located at Nashville, and permission for a new building costing $50,000 was given. The new site selected for the building is more centrally located than was the old building recently burned.

"Gynecologic Diseases": Correction.—In the article under this head in the Journal of February 4, beginning on page 221, column 2, line 12, read: "If there is relaxation of the pelvic outlet, without much accompanying prolapse of the vaginal walls, which does not seem to produce symptoms as above enumerated, or uterine displacement, operative treatment is *not* indicated."

Unusual Convulsions in Child.—In *Pediatrics* for February 1, Fischer reports a case of convulsions occurring in a child every fifteen or twenty minutes, beginning from an overloaded stomach, and accompanied by high temperature and marked thirst. The convulsions lasted over four days, with ultimate recovery following varied therapeusis, local depletion by leeches seeming markedly effectual.

Rabies an Intoxication.—The latest theory in regard to rabies assumes that the dog secretes some poison in his saliva, like snake poison, and thus hydrophobia is not an infectious disease like cholera or typhus, but a poisoning as from a snake bite. "We must accustom ourselves to the idea that the production of toxins is a very general function of living cells.—*St. Petersb. Med. Woch.*, January 7.

Library Burned.—A disastrous fire in Johnstown, Pa., on January 25, destroyed the library of the late Dr. Joseph M. Toner. This collection was unique and chiefly of a medico-historic character. Although during life Dr. Toner made a large addition to the Congressional Library, along the same lines, the gift did not quite tally with the exacting tastes of the antiquity hunter.

Ohio State University.—It is reported that the Board of Trustees of this University has decided to establish a short course of lectures for the instruction of health officers throughout the State and for those of mature years who may be fitting themselves for such office. The course will probably be given in April and May of each year and at the close of the course a certificate given stating the amount and character of the work accomplished.

Pellagra.—C. Lombroso has for years insisted that pellagra was caused by eating decayed corn, and his theory is now generally accepted. The substance in the decayed corn that causes the disease produces a pseudo-strychnin intoxication, and frictions with salt solution, and the administration of Fowler's solution have proved the most effective therapeutic measures. Since the introduction of prophylactic measures, destruction of spoiled corn, etc., the number of cases in Italy has been steadily decreasing.—*Vienna Klin. Woch.*, January 12.

"The Good Regent."—The above is the title of a drama written by Sir Thomas Grainger Stewart of Edinburgh. It takes the form of a chronicle play in blank verse, is historic in its theme, and the leading personage is the Regent Murray, who figured in the time of Mary Stuart. Dr. Stewart is said to have developed the play as a means of recreation during an autumn holiday. It is not impossible that the drama may be publicly presented and that Dr. Stewart will make himself appear in the title rôle.

Mosquito Theory of Malaria.—The priority of the idea of carriage of the infection of malaria by mosquitoes was editorially credited to Laveran in the JOURNAL of February 4 (p. 249). In fact this theory decidedly antedated the publication of Laveran some two years ago, it having been very fully elaborated in a paper read before the Philosophical Society of Washington, D. C., Feb. 10, 1893, by Dr. A. F. A. King, which brought out quite thoroughly the arguments in favor of this origin of malarial inoculation.

Modifications in Progressive Paralysis.—Mendel reviews the modifications in progressive paralysis, noted in all civilized countries during the last quarter century: dementia is much more common, the intermissions are more frequent and last longer, often allowing the resumption of business for years; the great increase in the number of cases and the number of women affected, when formerly it was a disease almost exclusively masculine, and the younger age of the subjects. He suggests that these modifications may be due to some modification of the syphilitic toxin.—*N. Y. Med. Monats.*, January.

"The Conscientious Objector."—It is not easy to get any amusement out of the New English laws about vaccination and conscientious objections against the operation, but the London *Lancet*, Dec. 31, 1898, refers to the following somewhat comic case: One father presented to the justice his objection to the vaccination of his young son on the ground that he had lost two children from diphtheria following vaccination. The justice refused to entertain this man's plea as having anything to do with the operating of conscience or of ordinary intelligence.

Fate of Medical Aspirants in New York.—Dr. M. J. Lewi, on behalf of the State Board of Medical Examiners, reports that out of 809 applicants representing the regular school, 29.9 per cent. were refused. Among the New York graduates there was one rejected paper for every three students. It was decided to hold only four examinations each year instead of five. The faculties of the various medical schools had been asked to furnish thirty questions on every branch taught in these schools, for the use of the question committee. For the comfort of the disappointed, it may be recalled that Governor Roosevelt of the Empire State some years ago suggested the police force as an opening for such young men as had failed in their college examinations, but none appeared to take him seriously.

Specific Immunity Conferred on Healthy Animals.—S. Goldberg announces that by means of the serum of guinea-pigs immunized against the vibrio of septicemia, a serum can be obtained in healthy guinea-pigs that is bactericidal for the vibrio of septicemia. This effect is apparent twenty-four hours after the injection of the serum. It is extremely probable that this immunity is not purely passive, but that the organism takes an active part in the development of the bactericidal property. The therapeutic effect of injections of serum in infective diseases must be attributed in all probability to this bactericidal property of the serum of the animal organism.—*St. Petersburg Med. Woch.*, Dec. 31, 1898.

Birth Statistics for France and Germany.—The annual birth returns of certain foreign countries are watched with interest not only by the sanitarian but by the militarist. The statistics of 1897 continue to show the falling off in France as compared with Germany. In that year 859,107 births were registered in France, one of the smallest totals of the century. In the same year 751,019 deaths occurred. In Germany, 1,991,125 births were registered and 1,205,492 deaths. Marriages, which are generally regarded as a scale by which to measure the wealth of the people, took place in Germany in the proportion of 8.3 per 1000 of the population, and in France 7.5 per 1000. To summarize, in Germany marriages and births are increasing in number, and the mortality is moderate; in France births are decreasing, while marriages are very slowly increasing, and the mortality is likewise moderate.

Hydatid Cysts of Bones of the Pelvis.—Döbbelin reports the case of a workman of 35 years, with a fluctuating tumefaction in the right inguinal region, developing toward the anterior superior iliac spine, diagnosed tuberculous osteitis. An incision released a quantity of pus, and the ilium was found the seat of numerous minute hydatid cysts. After extensive resection sound bone was reached, the wound tamponed and the cicatrization was complete in a couple of months. The cysts were multilocular in twenty-two out of the twenty-three cases of hydatid cysts of the pelvic bones published. The destruction of the bone was so extensive in one case that the femur had penetrated into the small pelvis, the acetabulum region having been entirely destroyed. Only four cases cured are on record. —*Semaine Méd.*, January 4.

Census of the Russian Empire.—According to the last census of Russia, recently completed after six years of laborious enumeration, the population of Russia and of the Grand Duchy of Finland, number 129,211,114 persons. The average density of the population is seven inhabitants to the square kilometer. The minimum density is 1.6 to the square kilometer and the maximum 8.46. The sexes are thus divided: In European Russia there are 100 men for every 102 women. In the Polish provinces there are 98 women to every 100 men; in the steppes there are 89; in the Caucasus also 89, and in Turkestan, 93. There are 19 cities which have over 100,000 inhabitants, and 35 which have from 50,000 to 100,000. In 1892 the empire only included 108,500,000 inhabitants. The Chinese Empire and the British Empire alone have a greater population than Russia. China has 402,000,000, and Great Britain 315,000,000.

Mechanism of Agglutination.—A communication in the *Vienna Klin. Woch.*, January 5, from the Vienna Serotherapeutic Institute, explains the process of agglutination by the production of precipitates. These precipitates are the indispensable preliminary to agglutination. In specific agglutination it is the specific agglutinating substance which, in solution in the bouillon or adhering to the bodies of the bacteria, forms a specific precipitate on the addition of homologous serum. The non-specific agglutinations are caused by the precipitation of the albuminoid substances with alcohol, chrysoidin, etc. This precipitation agglutinates the micro-organic and anorganic particles. This assumption of a common mechanic principle underlying both specific and non-specific agglutination explains and harmonizes the observed facts.

Medical Expert Testimony.—Dr. Homer O. Jewett, Cortland, N. Y., in a paper on the above subject read before the N. Y. State Medical Association, says, perhaps somewhat vehemently: "Doctors who are ambitious to pose as experts and secure emoluments, sometimes linger about law offices, courting favorable attention and awaiting demands for their services, like vultures hovering over a prospective battle-field waiting for the spoils. Such doctors, incited by the promise of liberal fees and flattered by the attentions and blandishments of the men of law, will condescend to search authorities, look up points and precedents and advance suggestions to assist unscrupulous counsel in achieving a victory entirely irrespective of the merits of their causes. Yes! such have been known to boast of the ample fees received and the popularity they had gained as experts, by aiding attorneys to win their cases in the face of truth, law and equity. Money is tempting (*sic*) even to a doctor; flattery is always potent and prejudices are easily, sometimes unwittingly, imbibed by intimate association and familiar converse with an intriguing party in a suit or his attorney."

New York Pure Beer Bill.—According to the *Outlook* of February 11, the pure food bills which for several years have been so popular in the western legislatures and in Congress have been supplemented in the New York Legislature by a pure beer bill. This bill provides that no fermented liquors containing any other ingredient than "pure barley malt, pure hops, pure extract of hops, pure yeast and pure water," shall hereafter be manufactured or sold in the State of New York; and that no fermented liquors shall be sold within three months of its manufacture. Fines are provided for violations, one-half of the fine to go to the informers, the other half to the State Health Department.

Effect of Withdrawal of Water on Nerve-Cell.—Brasch reports investigations with intraperitoneal injections of glycerin, concentrated salt solutions, administration of natrium sulphuricum, calomel, etc., which deprive the tissues of water. The effect is the same with each: the cell nucleus shrinks until it disintegrates into fine granules, which is evidently not a necrobiotic process, but a purely mechanic alteration caused by the withdrawal of the moisture, and hence is capable of restitution. This fact is important in view of the diseases, enteritis acuta, dysentery and Asiatic cholera, in which life is threatened by the rapid loss of water from the organism.—*Fortschritte der Med.*, 1898, 21.

Marmorek's Antistreptococcus Serum.—Moncorvo of Rio de Janeiro adds a very favorable account of the action of Marmorek's serum in infantile bronchopneumonia and acute lymphangitis to the mass of contradictory reports in literature. Some advocate it strongly; others report abscesses around the injecting point and still more serious inconveniences. Chantemesse has had only thirty-five deaths in a thousand cases of erysipelas in which it was injected. Moncorvo mentions the identity of the microbe causing erysipelas and lymphangitis, and the prompt cures of two cases of the latter, in children, who received ten grams in two injections. Its effect in bronchopneumonia was also pronounced, and no local accidents or after-effects were observed in any case.—*Bull. de l'Acad. de Méd.*, Dec. 27, 1898.

Idiopathic Pulmonary Congestion.—Carrière (*Revue de Médecine*, 1898, Nos. 10 and 12, 1899, No. 1) considers at length the condition described by Woillez as idiopathic pulmonary congestion, but which the description suggests may be a modified or abortive form of pneumonia. From this it is said to differ in its less severe onset, in its greater pain in the side and its greater dyspnea early. The expectoration of congestion is said to be gummy and not very viscid, and the crepitant râle to be less often heard when the former exists. From his study Carrière concludes that the affection is dependent upon the activity of various species of micro-organisms, but especially the pneumococcus, and next, but much less in frequency, the staphylococcus and the streptococcus. In all instances the virulence of these bacteria is greatly attenuated, or diminishes rapidly, the pneumococcus, for instance, losing its virulence in cultures within four days. The opinion is expressed that when the virulence of the micro organisms is maintained they give rise to pneumonia, when attenuated, to congestion.

Inguinal Hernia.—From the standpoint of the army and navy surgeon, Braisted (N. Y. *Medical Record*, January 28, p. 116) sums up as follows the service-conditions justifying operation for hernia: 1. Cases absolutely incapacitated for duty, in which the physical condition is such as to permit of operative procedures. 2. All cases up to the age of 35 or 40 years, with good muscular development, whether incapacitated for work or not. 3. Cases in which immense strain has forced a hernial protrusion, and left impaired an otherwise strong ring. 4. All cases in which trusses prove irritating or dangerous. 5. The operation is to be recommended for otherwise desirable applicants for enlistment, and these men are to be considered fit for enlistment after the operation has proved its permanency by from four to six years' trial. 6. In all cases in which strangulation is actually present or threatens, or in which recurring discomfort and pain show the tendency to hernia, and in which the slight repeated engagement of the intestine in the internal ring calls attention to the liability of this accident.

Enteritis Follicularis in Childhood.—Prof. W. E. Tschernow has established the existence of an infection of the solitary follicles, Peyer's patches and Lieberkühn's crypts, without involvement of the mucous membrane, in children. The clinic course varies in different cases: sometimes there is dyspepsia accompanied by colitis; sometimes there is dysentery of a typhoid character, with collapse. The general health suffers and the nervous system is more or less affected, showing the infective character of the disease, which he attributes to the bacterium coli or some similar micro-organism. It is differentiated from dysentery and colitis by the lack of noticeable pain in the left iliac fossa and by the absence of any swelling of the colon descendens, so that it is difficult or impossible to palpate it. The passage, several times a day, of feces mixed with the discharges, differentiates it from other dysentery passages. The prognosis is not unfavorable, but the course of the affection is often very protracted. Milk diet and intestinal antiseptics are the main factors in treatment.—*St. Petersburg Med. Woch.*, Dec. 31, 1898.

Racial Types of Europe.—Dr. J. Deniker gives in *L'Anthropologie*, the results of his studies on the principal racial types of Europe, excluding those which belong to immigrants of historic times, such as the Gypsies, Jews, Moors, Finns, Lapps and Huns. These primary types are: 1, a tall, blonde, long head (dolichocephalic) of the North, now called the Teuton by many anthropologists; 2, a short, blonde and rather broad headed type of the East, e. g., Great Russia and Eastern Prussia; 3, a short, dark, long head of the Mediterranean, sometimes called Iberian, though the name is too local for this widely-spread element; 4, a short, dark, broad head (brachycephalic) of Middle Europe, including the Central French and South Germans, which is now called Celt or Rhaetian, and sometimes the Alpine races; 5, a tall, dark (mesocephalic) or medium-headed type along the Mediterranean littoral; 6, a tall, dark, broad head about the Adriatic. Deniker does not claim that these types are original. They probably result from the union of several types, but these types persist over wide areas.—*London Globe*

Paralysis Agitans Consecutive to Trauma.—In regard to the frequency, Krafft-Ebing mentions that he has had seven cases of traumatic etiology out of a total of 110; Eulenberg, 2 out of 46; Heimann, 3 in 19. He notes that the paralysis always commences at the point of the injury, while in his experience the classic paralysis commences regularly at the distal extremity of a superior member. Even the slightest and most diverse accidents may lead to paralysis agitans. Walz found in 27 cases, general cause in 6, stab or cut in 4, burns 1, freezing 1, luxation, dislocation or fracture 4, contusions 8. In several of Krafft-Ebing's cases there had been no psychic shock, and in none was there a neuritis ascendans. Antiphlogistic and anodyne treatment is indicated, especially for elderly persons, after trauma, to ward off such a serious consequence as paralysis agitans. He closes his article in the *Vienna klin. Woch.* of January 12, with the observation of a man of 38 years, in whom the paralysis did not develop until six years after the trauma, and then was induced by overexertion in farm work. He calls attention to importance of local overexertion as a hitherto overlooked factor in the etiology of this affection.

New Bullet Used by the English in the Soudan.—The JOURNAL has commented on the inhumanity of the Dum Dum bullets used by the English in India (xxx, p. 1416), but the new bullet used in the Soudan seems to be even more murderous in its effects, and the English journals are attributing the success of the campaign to this fact in some measure. Professor von Bruns, who called attention to the violation of the spirit of the St. Petersburg Convention by the Dum Dum, has been testing the new bullet, which differs from the usual Lee-Metford bullet by a small open cavity at the point, lined with the nickel that forms the entire coating. The effect is the same as with an ordinary bullet at a distance of 600 meters, but within this distance—and fighting with uncivilized forces is usually at closer range—the bullet "mushrooms" in the soft parts, although less destructively than the Dum Dum, but the bones are more severely injured, and the bullet explodes with great violence, from compression of the air in the hollow tip, when it comes in contact with the fluid in the hollow organ.—*Semaine Med.*, January 18.

Mortality of Havana.—According to the *Archivos de la Policlinica*, Havana, with a population of 200,000, had in 1895 7724 deaths; in 1896, 11,400; in 1897, 16,948, and in eleven months of 1898, 18,480. The severe form of chronic malarial infection with generalized edema, which has been responsible for so many deaths, is known in Havana as "Weyler fever." The *Archivos* rejoices at the close of Spain's government of "despotism, injustice, inequality and boodling," mentioning as an especial scandal the interested protection extended by the Spanish governors to prostitution. It states that only 25 per cent. of the population of Cuba can read and write, and that with the exception of a private school, there is not a single school building in the island erected for the purpose. All the schools are in small private houses and gymnastic exercises are unknown. The Medical Department of the Havana University has its courses in three remote parts of the city. The Spaniards opposed no restrictions to scientific publications until 1895, when they imposed a tax which caused the suspension of some. Others continued, but have distributed their issues gratis since to avoid the tax, among them the *Archivos*.

The Samuel D. Gross Prize.—The second quinquennial prize of $1000, under the will of the late Samuel D. Gross, M.D., will be awarded Jan. 1, 1900. The conditions are that the prize shall be awarded every five years to the author of the best original essay, not exceeding 150 printed pages, octavo, in length, illustrative of some subject in surgical pathology or surgical practice, founded upon original investigations, the candidates for the prize to be American citizens. It is expressly stipulated that the successful competitor, who receives the prize, shall publish his essay in book form, and that he shall deposit one copy in the Samuel D. Gross Library of the Philadelphia Academy of Surgery. The essays, which must be written by a single author in the English language, should be sent to Dr. J. Ewing Mears, 1429 Walnut St., Philadelphia. before Jan. 1, 1900. Each essay must be distinguished by a motto, and accompanied by a sealed envelope bearing the same motto, and containing the name and address of the writer. No envelope will be opened except that which accompanies the successful essay. The Committee will return the unsuccessful essays, if reclaimed by their respective writers or their agents within one year. The Committee reserves the right to make no award if the essays submitted are not considered worthy of the prize.

The Retina in a Case of Partial Macropsia.—Professor Holmgren published a couple of years ago (*Nordiskt Med. Ark.*) a study of his own right eye which was affected with relative scotoma, partial color blindness and macropsia for objects projecting an image over .75 millimeter on the retina, which were seen two and a half times larger than with the other eye. He explained this macropsia by assuming that the cones had learned to see objects in their natural size, but that they became compressed at some given moment and two and a half times as many cones were crowded into the normal space, causing them to see objects two and a half times as large as normally. He added that he had bequeathed his eye to the professor of histology for examination. After his death the eye was duly examined, but as twenty-four hours had elapsed it was difficult to distinguish between lesions and cadaveric changes. The full report is published in the *Upsala Läkare Forh.*, July 4, 1898. It can be summarized as the discovery of hemorrhagic cysts and a number of small recent hemorrhages. Around these cysts the elements of the retina presented no pathologic alterations, but seemed to be compressed and bent out of their natural position. There was also in the choroid a membrane of vascularized conjunctiva tissue.—*Rev. Gen. d'Ophth.*, Dec. 31, 1898.

The Contract Nurse Bill.—Dr. Anita Newcomb McGee, in the *Evening Star* of Washington, D. C., February 3, throws ridicule on H. B. 11770, now under consideration, to provide for the employment of women nurses in the Army:

This bill, instead of placing the superintendent of nurses at the head of her department, under the Surgeon-General, creates an extraordinary nursing commission, consisting of the Secretary of War (*ex officio*) the general commanding the army, the adjutant-general, the Surgeon-General and three women, which commission is to "have general charge of the nursing service," and is also to make rules to govern the hospital-corps men when on duty in the hospitals. In other words, this commission will control the work of the rank and file of the medical department and have authority not only greater than the Surgeon-General, but also greater than the Secretary of War. To carry out the plans of the ladies who have prepared this bill the women members of the commission will have to propose considerable changes in military methods, some of which would conflict with existing army regulations and would, if adopted, render the latter null and void. If one of the officers on the commission should vote with the women they have a majority which would overrule the Secretary's regulations and present the unique spectacle of an officer being practically the superior of his chief. If, on the contrary, the three officers should sustain the Secretary, the efforts of the women commissioners would result in nothing. If it is maintained that the Secretary might himself be willing to amend the army regulations, I reply that he has that power now, without restriction; has not the least need of a commission to relieve him of the responsibility.

Scientific Basis for Treating Infective Diseases.—Professor Wassermann observes that although we have no specific remedy for many diseases, yet our therapeutics are founded on a scientific basis. We know that the normal course of most infective diseases is most closely connected with the appearance of immunity, and that this depends upon the appearance of certain substances in the blood serum. It has been established that the antitoxins of cholera and typhus, for example, originate in the bone marrow, the lymph-glands and the spleen. Tremendous functional demands are therefore made upon these organs in the neoformation and regeneration of their cells, while at the same time they are fulfilling their usual regular function, the formation of the blood. He considers the anemia accompanying certain diseases due to the partial failure of these organs, especially the marrow, to accomplish all these functions simultaneously required of them, rather than to a destruction of the red corpuscles. The organism supplies its own specific remedy for the disease, and the scientific basis for therapeutics is to nourish, support and assist the organism in its efforts, and promote them by asepsis, preventing mixed infection, and all measures, like hydrotherapy, which support the hematopoietic and especially the leucoplastic apparatus in its regenerative activity. By these means the natural healing process, which is always accompanied with danger, is rendered easier for the organism, and the physician, although he has no specific remedy in his hands, is yet a most important factor in the final results.—*Ztft. f. Diet. u. Phys. Therapie*, ii, 1.

The Unsanitary Court Oath.—In New York City, several of the police magistrates have refused to require witnesses to kiss the Bible in taking oaths. One judge, in speaking to a reporter, stated that he had had his attention forcibly called to the perils of the kissing-oath by an apparently well-authenticated case wherein death was said to have resulted to a young witness who had occasion to testify in his court. He believed that this young girl contracted her fatal malady from the cover of the court Bible, which had been handled and kissed by persons innumerable. Her lips, it is said, were chapped and were noticed to be slightly bleeding at the time she was in court. He further said that the covers of some of the court Bibles have been noticed by him to be filthy and to be worn through in spots by the pressure of the lips of witnesses and prisoners. As there is no legal obligation resting upon magistrates to insist upon the ordinary form of Bible-oath, he had determined to discontinue the use of the book in his court, and he did so principally because he felt that the old form might result in the communication of infectious diseases. Since he has taken this stand, he has been in the receipt of letters of congratulation from many persons, for his advocacy of the cause of cleanliness and hygiene. The question must arise in the inquiring mind how it is that the judges and attendants at the various lower courts permit the books to be continued in use after they have become worn and filthy in appearance; the price of Bibles is not so exorbitant but that the supply could be renewed at least once a week.

Judicious Treatment of Convalescent Soldiers.—In a paper before the New York County Medical Association, Dr. Wickes Washburn records the following experience in caring for returning troops at the hospitals at Montauk Point. He says that on the afternoon of August 18 or 20 there arrived at the general hospital a group of ambulances containing about seventy-five men, only a few of whom probably had a pulse at the wrist; many were unconscious. They had endured on the transport, for three days without food, to the limit of their physical strength, and with the long, hard ride up from the dock, seated facing each other as in a stage, had simply, as they became exhausted, one by one, fallen over and were tangled in among each other in a most woful condition. By good fortune we were apprised of their approach by an army surgeon who happened to be coming in that direction and urged the ambulances on, himself coming forward at a gallop to let us know the desperate condition of the men. We abandoned all else, the doctors and nurses administering small doses of whisky to each man before he was taken out of the ambulance, unloading them as rapidly as possible, and placing them in the shade of the tents upon mattresses on the floor. Before this was quite completed I went to the kitchen and brought ten or twelve quarts of hot milk, and the nurses under my supervision and that of another doctor fed these men—many of them too weak to raise their heads—a few ounces of milk every fifteen or twenty minutes for two hours or more. I am glad to be able to state that only one of these seventy-five men died.

Mediastino-Pericarditis Without Endocardial Complication.—Cases of primary disease of the pericardium without valvular affection are not very common. For this reason, and because of the unusually early age at which the disease appeared, this case seems to be worthy of record. In 1895 Dr. Thomas Harris published a monograph containing accounts of his own cases of mediastino-pericarditis and all others recorded up till hen. The youngest patient mentioned by him was a child 2 years of age, so that the above case probably represents the arliest age at which the affection has as yet been known to be present. Dr. Harris distinguished three pathologically disinct classes of "chronic inflammatory conditions in relation to he pericardium and mediastinum." In the first of these there is "adherent pericardium with marked increase of fibrous tisue in the mediastinum, not infrequently associated with caseus affection of the lymphatic glands of the mediastinum, and ith adhesions of the exterior of the pericardium and the surrounding parts." These cases, following Kussmaul, he named indurative mediastino-pericarditis, and the above case seems to be an excellent illustration of the condition, occurring, however, at an unusually early age. Such cases are of interest clinically because of the difficulty in diagnosing the condition, and pathologically because their etiology is so obscure. If they are regarded as rheumatic, one is confronted with the absence of endocardial affection—an absence which, at any rate in children, is so rare in rheumatic heart affections as almost to negative the supposition. Moreover, besides the absence of endocarditis and of joint affection, there is in many of these cases no history of any illness which could be regarded as an attack of an acute pericarditis, the disease beginning insidiously and the first symptoms being those of the consequent cardiac dilatation or of dropsy. In the present case, except an increased area of cardiac dulness and an occasional lividity of the extremities, there was nothing for weeks to lead anyone to suspect any affection of the heart. Cases such as these differ on one hand from cases of obviously tuberculous pericarditis with generally much other evidence of tubercle, and on the other from the obviously rheumatic cases where there is endocarditis as well.—Blumfield: London *Lancet*, Dec. 31, 1898.

Infectious Disease Reports Under a Fee System.—According to the *Medical News* (Jan. 28, 1899), Dr. Paddock Bate, health officer of Bethnal Green, London, in his report for 1897, points out some of the tribulations confronting a health officer when the local physicians are allowed a fee for making reports of contagious diseases. The notification fee is half a crown, or about sixty-three cents. Duplicate reports were received and paid for in nearly 6 per cent. of the total certification. It would appear that the law is so framed as to unintentionally permit of the payment of partners in a medical firm if each of them reports the same case. Dr. Bate says this duplication of certificates represented a cost of $65, and that the expenditure of this sum is pure waste, though unavoidable by the wording of the law. In nine instances the notification certificates were withdrawn by the reporter, the lapse of time having afforded an opportunity to amend the original diagnosis. In ten cases there were no grounds to justify the practitioner in reporting the case as one of infectious disease. "A certain medical man certified thirteen cases of membranous croup within a month. I made no examination of the first half dozen, but could not help noticing that the patients did not appear urgently ill when the premises were visited in the ordinary course of my duties. One morning four of these certificates were sent in, whereupon notice was given the certifier that I should personally examine these and any future cases of membranous croup he might report. I did so, but failed to find symptoms of laryngeal obstruction in any instance. I reported the result of my examination to the Sanitary Committee and the fees for the certificates were disallowed as to the cases I had personally investigated, together with another certified on postmortem examination only. This was the subject of an inquest. The child was found dead in bed; the jury brought in a verdict of suffocation on the medical evidence; on the same afternoon I received a notification that the child had suffered from membranous croup, though nothing was said about this at the inquest. I may just mention that this was the only fatal case out of the whole thirteen, a magnificent testimonial to the skill of the doctor, supposing his diagnosis to have been correct. The medical man referred to wrote, protesting against his fees being disallowed, but took no further action beyond ceasing to certify membranous croup."

Iowa Osteopathy Law, 1898.—Chapter 69 of the laws of Iowa of 1898, is entitled "An Act to regulate the practice of osteopathy in the State of Iowa. [Amendatory to title XII, chapter 17, of the code, relating to the practice of medicine.]" It provides that any person holding a diploma from a legally incorporated and regularly conducted school of osteopathy of good repute as such, and wherein the course of study comprises a term of at least twenty months or four terms of five months each in actual attendance at such school, and shall include instruction in anatomy, physiology, chemistry, histology, pathology, gynecology, obstetrics and theory and practice of osteopathy, shall upon the presentation of such diploma to the State Board of Medical Examiners, and satisfying such Board that they are the legal holders thereof, be granted by such Board a certificate permitting such person to practice osteopathy in the State of Iowa, upon the payment to said Board of a fee of $20, which certificate shall be recorded by the county clerk, of the county in which the holder desires to practice, for which he shall receive a fee of $1. But the certificate thus provided for shall not authorize the holder thereof to prescribe or use drugs in his practice, nor to perform major or operative surgery. Any person who for the purpose of securing such certificate shall falsely represent himself or herself to be the legal holder of any such diploma, shall be deemed guilty of a misdemeanor, and on conviction be fined not less than $50 nor more than $100. Any such certificate may be revoked by the State Board of Health upon satisfactory proof of fraudulent misrepresentation in procuring the same or for any violation of the provisions of the certificate or for any gross immorality by the holder thereof. The system, method or science of treating diseases of the human body commonly known as osteopathy is further hereby declared not to be the practice of medicine, surgery or obstetrics within the meaning of section 2579, title XII, chapter 17, of the Iowa code.

As to Examiners Being All Regulars.—After the court of civil appeals of Texas rendered its decision in the case of Dowdell vs. McBride, as reported on page 1534 of the JOURNAL of June 25, 1898, under the heading, "Members of Board Can all be Regulars," the court named certified to the supreme court of Texas the question of whether Article 3778 of the Revised Statutes of Texas of 1895 violates the State constitution, in that said article provides that the "Board of Medical Examiners shall be composed of not less than three practicing physicians of known ability, and who are graduates of some medical college recognized by the AMERICAN MEDICAL ASSOCIATION." The answer of the supreme court, handed down Nov. 3, 1898, is that, as the court of civil appeals decided, Article 3778 is not in violation of the constitutional provision, that "the legislature may pass laws prescribing the qualifications of practitioners of medicine in this State, and to punish persons for malpractice, but no preference shall ever be given by law to any school of medicine," although it was established as a fact on the trial that the AMERICAN MEDICAL ASSOCIATION is composed of graduates of the school of allopathy, and does not recognize any other school of medicine. The supreme court says that the first part of the constitutional provision above quoted confers upon the legislature general power to pass laws: 1, prescribing the qualifications of practitioners, and 2, to punish persons for malpractice. Continuing the same sentence, the latter part of the provision, as the court construes it, subtracts from such otherwise general power, the word "but" being used in the sense of "except," by prohibiting the legislature in such laws from inserting any provision making a distinction in such qualifications or punishment on account of the "school of medicine" to which any of such "practitioners" or "persons" may happen to belong. The first portion dealing solely with "qualifications of practitioners" and "punishment," and there being nothing in the context to indicate that the latter portion was intended to embrace any wider range of subjects, the court says, it must be given the effect, indicated by its situation and close connection with what precedes, of being merely a limitation upon the previous general power of prescribing "qualifications of practitioners" and "punishments," and should not be construed as intending to control the legislation in the entirely different matter of prescribing the qualifications of members of the "Board of Medical Examiners" provided for in Article 3778, above quoted.

State Power to Compel Vaccination.—The general assembly may, in the exercise of the police power, the supreme court of Georgia holds, in the case of Morris vs. City of Columbus, confer upon the municipal corporations of the State authority to make and enforce ordinances requiring all persons who may be within the limits of such corporations to submit to vaccination whenever an epidemic of smallpox is existing, or may be reasonably apprehended. Particularly does it insist, which seems to be a question now for the first time decided, that the legislature can give a city jurisdiction in this matter over a person who, while he has his legal residence outside the city limits, is actually in the city during the day, while engaged in his employment, though it refrains from deciding whether or not it could give the municipal authorities jurisdiction over persons who live outside the city limits, and do not come into the city, as for example those living within a radius of one and a half miles from the city limits. In confirmation of what it does decide, it says that, even without express legislative permission, it is the current of authority that municipal ordinances have the same effect upon persons who come within the limits of a city, as they have upon regular inhabitants. But, on the ground that the right to enforce vaccination is derived from necessity, it says that, although the authority to compel vaccination conferred upon the municipality under consideration was very broad, still it can not assume that the legislature intended that it should be exercised save in cases o necessity. With the wisdom or policy of vaccination, it says that the courts have nothing to do. Their only province is to see that none of the rights guaranteed by the fundamenta law are infringed. The ballot-box must do the rest, if the popular conception of right and justice is violated by an act o the legislature. There are several cases holding that an ac of the legislature authorizing school boards to require vaccination, as a condition precedent to admission to the public schools, is not an invasion of any constitutional right of th pupil. Now, the court says that pupils of schools constitut a general class of persons. If the legislature can authoriz the imposition of this condition upon one class, why not upon another? If it can say that the penalty for refusing to be vaccinated must be a denial of the pupil's right or privilege t attend school, why can it not say to another general class "The penalty for your refusal to submit to vaccination sha be a fine or imprisonment?" And the court holds that bot questions must be answered in the affirmative. It maintain that there can be no legal reason for refusing to allow a chil to invoke a law to secure him in his right or privilege (whichever it may be termed) to attend a public school, which a cit zen might rely on to secure him a residence in a given place However, for municipal corporations to compel vaccination the court holds that they must have express authority from the legislature, as no such power will ever arise by implication And, in conclusion, it expressly declares that in no prope sense can such an act of the legislature as it in this cas holds constitutional be said to deprive a person of any righ without due process of law, or to deny to any persons the equ protection of the law.

Chemic Composition of Drugs and their Effects.—Ehrlich deli ered an address at the meeting of the Berlin Internal Medici Society, Dec. 12, 1898, on recent efforts to obtain differe physiologic effects with synthetic remedies by altering the chemic composition. Reviewing the new antipyretics, hy notics and anesthetics, we are impressed with the fa that the specific effect is always associated with a certa definite grouping of the atoms in the molecule: in the anesthetics, upon the presence of the benzoyl group, in the hypnotics, of the ethyl group, etc. The chemic constitution, however, is not sufficient to explain the complicated processes of biology, but we are able sometimes to decide from the chemic composition of a stain which tissue it will affect. He has established that certain very poisonous substances can be rendered non-poisonous by the addition of sulphonic acid (as, for instance, anilin and sulphanilic acid), just as anilin can be deprived of the nerve-staining property by the addition of sulphonic acid. The same has been established in regard to the carboxyl group. He considers this change due to the change in the manner of splitting up the organism. The substance splits in the organism in a characteristic manner, and frequently with a specific predilection for certain organs or tissues. He mentioned, as an instance, that acetylparaphenylendiamin stains certain groups of muscles brown, the central portion of the diaphragm, and the muscles of the eye and outside of the throat—the same muscles which show a nerve-stain with a vital injection of methylene blue, and are the special haunts of the trichinæ. Witt's hypothesis may explain some of these processes observed in the organism. He assumes that the stains are not chemically bound in the tissues, but are merely in the form of a "stiff solution." As anilin dissolved in water can be shaken out of it with amyl alcohol, the stain passes out of the aqueous solution into a "stiff solution" in the tissues. In the same way the poison introduced into the living organism is "shaken out" of it—assuming that the poisons, like the stains, do not pass into the protoplasms but only into the paraprotoplasmic bodies. He concluded, by asserting that "synthetically produced substances must fulfil two conditions to possess certain definite physiologic effects: they must be so constituted chemically as to combine with the elements of the tissues in a stiff solution, and they must contain the atom complex which exerts the specific effect. Thus, in cocain, the benzoyl group is responsible for the anesthetic effect produced, while the only use of the other molecule is to enable the benzoyl group to form a stiff solution with the nerve.

Legal Age of Puberty.—For the first time in the judicial history of the State of Virginia, extending over a period of more than 100 years, a case drawing in question the rule of the common law in respect to the age of puberty has come up for review in a court of last resort in the State. The case referred to is the recent one of Foster vs. Commonwealth. This case presented for decision the important question whether a boy under 14 years of age is capable, under the law, of committing the crime of rape or of the attempt to commit it. By the common law, a boy under 14 years of age is conclusively presumed to be incapable of committing the offense, whatever be the real fact. And evidence to rebut the presumption is inadmissible. After making these statements, and having called attention to the fact that, in the United States the rule of law has not been uniformly followed, and after reviewing some of the authorities on the subject, the supreme court of appeals of Virginia holds that the presumption, from the inaction of the legislature, which is the representative of the sovereign power of the people, and specially charged with the duty of making or amending laws to meet their needs, is that it has not been found that the climate of the State or the habits and conditions of its people require any change or modification of the rule. And the court says that it is itself not aware of any climatic influence on the people of the State, by reason of their locality, or difference in their habits or condition, that calls for a modification of the unwritten laws of the State as to the age of puberty, even if it were satisfied that it had the power to make it. The inconvenience, if not absolute inability, of obtaining evidence of the puberty of a boy under the age of 14, and his capacity to commit the crime of rape, except by the exposure of his person, either voluntary or compulsory, and the questionable right of the commonwealth to obtain it by compulsion, the court adds, do not invite a modification of the arbitrary rule of the common law; while unreliable and unsatisfactory evidence of the capacity of the accused to commit the crime, when so obtained, and the statement and discussion of indecent things which must attend its introduction before the jury, should cause hesitation to depart from a long-established rule, which has had the sanction of the wisest judges and undergone the test of years. So the court holds that a boy under 14 years of age is conclusively presumed to be incapable of committing the crime of rape, and as a plain legal deduction, is also incapable in law of an attempt to commit it.

Septic Endocarditis.—An interesting case of septic endocarditis is reported by Dr. Ernest Sanson in the London *Lancet* for Dec. 10, 1898. A case may assume an aspect of extreme danger, threatening death from other causes than the complication of infective endocarditis, and believing therapeutics may be an agency to avert the fatal tendency, quotes the instance in point; A young American, aged 15 years, had a severe attack of rheumatic fever. He recovered sufficiently to take a tour in Norway, but five months after the first attack he suffered from rheumatic fever of greater severity a second time. Treatment by the salicylates was followed by improvement, but there was a relapse after a fortnight. The heart became greatly enlarged, the systoles irregular and ineffectual, and the murmurs first of mitral regurgitation and afterward of aortic regurgitation were manifested. With great care the patient was brought from Bergen in charge of his physician, to London. For many weeks the condition was one of extreme gravity. I observed the case on many occasions. There were successive enlargements of the heart. On many occasions it was noted that the enlargement was followed by recession almost to the normal in a brief period; on one occasion the area of dulness receded from a line considerably to the right of the sternum on the right side of a finger's breadth outside the nipple on the left to the mid-sternal line and a line just within the nipple, in the space of twenty-four hours. Then there was for a time considerable improvement and for about five weeks comparative calm, but again the grave signs returned and on one occasion I was called to the patient when death seemed imminent; the area of the heart was much enlarged, the heart-beats were very feeble, the pulse small and never under 100, the face pallid, the breathing short and hurried, and there was orthopnea but no dropsy. I then determined to try in this acute case a plan which had seemed to me to be of much usefulness in some chronic cases—the continuous galvanic current in the course of the vagus. There was a temporary improvement, and we continued the galvanism, administering the current for six minutes three times a day, the current being from eight bichromate cells—three or four milliampères. One electrode—the anode—well moistened with warm saline water was kept pressed over the nape of the neck, and the other—the cathode—was applied in the groove outside the larynx and the trachea for six minutes on the right and left sides of the neck alternately. The pulse-rate progressively diminished to 88, 84, and 76, with few variations. The course of treatment was not interrupted for some months, but there was soon sufficient recovery to permit of the patient returning to America. I have seen him here since (in the summer of this year), a hearty, strong, well-developed young man. He has now no cardiac symptoms, though there is the warning note of the murmur of aortic regurgitation.

Prizes Offered by Paris Academy of Medicine.—Omitting the four prizes not open to foreigners, the list is as follows: The articles or works must be in French or Latin, and accompanied by the name of the writer in a sealed envelope, except those prizes marked with an asterisk, which are exempt from these latter conditions, as manuscript or published works are received

They become the property of the Academy. No article is received after the end of February, to compete for the current year. The prizes alone confer the title of "Laureate of the Academy." Academy prize, 1000 francs; 1899, physiology and pathology of the thyroid gland; 1900, medication with organic juices; 1901, partial epilepsy from the clinical and experimental point of view. Alvarenga prize, 800 francs, annual; awarded for the best article or unpublished work in any branch of medicine. Amussat, * 1000 francs: 1899, for the best combined anatomic and experimental work that has realized or prepared the way for the greatest progress in surgical therapeutics. Argenteuil, * 6,800 francs: 1889, treatment of stricture of the urethra or other affections of the urinary passages. Audiffred, * an annual income of 24,000 francs: for a sovereign preventive or curative remedy for tuberculosis, discovered before 1921. Barbier, * 2000 francs, annual: for an effective cure of the so-called incurable diseases—cancer, epilepsy, scrofula, typhus, cholera morbus, etc. It can be divided among those who have accomplished the most in this line. Bourceret, * 1200 francs, annual: for the best work or works on the circulation of the blood. Capuron, 1000 francs: 1899, modifications in the placenta and membranes retained in the uterus; 1900, hydromineral treatment of albuminuria; 1901, rigidity of the cervix during parturition, not due to cancer or fibrous growths. Chevillon, * 1500 francs, annual: cancerous affections. Civrieux, 800 francs: 1900, delirium in general paralysis; 1901, rôle of alcohol in mental pathology. Clarens, * 400 francs, annual: for the best manuscript or printed work on hygiene. Daudet, 1000 francs: 1899, lymphadenoma; 1900, results of surgical treatment of cancer of the ovaries: 1901, the best surgical means of "opposing cancer of the mamma." Desportes, * 1300 francs, annual: awarded to the author of the best work on practical medical therapeutics. Godard, * 1000 francs, annual: for the best work on external pathology (1899 and 1901; internal, 1900). Herpin, 3000 francs: 1899 and 1901, for the best work on epilepsy and nervous affections. Laborie, * 5000 francs, annual: awarded to the "author of the work which has notably advanced the science of surgery." Larrey, * 500 francs, annual: for the best work on medical statistics. Lefèvre, 1800 francs: 1899, melancholia. Lorquet, * 300 francs, annual: for the best work on mental affections. Meynot, * 2600 francs: for the best work on diseases of the eyes, 1899 and 1901; ears, 1900. Nativelle, * 300 francs, annual: for the best work on the extraction of the active, definite, crystallizable principle of a medical substance, never before isolated. Portal, 600 francs: 1899, experimental research in regard to the inoculation and contagion of cancer; 1900, pathologic anatomy of salpingitis and its relation to its determining cause; 1901, lesions of the nerve-centers produced by the tetanic toxin. Pourat, 700 francs: 1899, experimental research in regard to the question of the immediate or final destination of albuminoid foods; 1900, "intravascular sanguine tension"; 1901, circulation of the blood in the lungs. Ricord, * 600 francs: 1899 and 1901, to the author of the best work on venereal diseases that appears during the two years. Vernois, * 700 francs, annual; for the best work on hygiene. Baillarger, * 2000 francs: 1900, for the best work on the therapeutics of mental disease with clinical observations, supplemented by a second part containing a study of the best means of improving public and private insane asylums, and especially what changes are required to promote moral and individual treatment. Boullard, * 1200 francs: to the physician who has produced the best work or attained the best curative results in mental diseases, arresting or attenuating their progress. Dupierris, * 2300 francs: 1900, for the best work on anesthetics or affections of the urinary passages. Falret, 700 francs: 1900, clinic forms of neurasthenia and their treatment. Itard, * 2400 francs: 1900, awarded to the author of the best book on practical medicine or applied therapeutics, published at least two years. Orfila, 2000 francs: 1900, alkaloids of belladonna, hyoscyamus and datura, studied from the standpoints of physiology, pathology, pathologic anatomy, therapeutics and legal medicine; also their effects upon the organism and the fluids of the animal economy, methods to combat intoxication, detect them in life and after death, and determine when all possibility of detecting them is past, etc. Perron, * 3,800 francs: 1900, for the work that has proved most useful to the progress of medicine. Saint Iager, 1500 francs: 1900, for the experimental student who succeeds in producing a thyroid tumor in an animal by the administration of substances extracted from the waters or soil of localities where goiter is endemic. Saintour,* 4,400 francs: 1900, to the author of the best work in any branch of medicine. Stanski,* 1400 francs: 1900, to the person who has best demonstrated the existence or non-existence of miasmatic contagion by infection or by contagion at a distance; or to the one who has thrown the most light during the two years on any question relating to the contagion of inoculable diseases.—Hugo, * 1000 francs: 1901, for the best work published or unpublished, relating to some point in the history of the medical science. Jacquemier,* 1700 francs: for the work on an obstetric subject that has realized an important progress; it must have been published at least six months before the opening of the *concours*. Louis, 300 francs: 1901, thyroid medication. Mège, 900 francs: 1901, pathogenesis of simple ulcer of the stomach.

Movement of Troops via San Francisco, Cal., to Manila.—According to reports recently received by the Surgeon-General of the Army, the transports *Morgan City* and *Scandia* sailed from San Francisco, Cal., Jan. 26, 1899. The former carried many tons of freight and a number of the officers of the Twentieth U. S. Infantry, together with their families and those of the enlisted men of the regiment, with several civilians, including five undertakers in the employ of the quartermaster's department, who go to Manila for the purpose of disinterring and preparing for shipment to the United States the remains of all soldiers buried there. This ship carried two army medical officers, Lieuts. Irving W. Rand and Thomas J. Kirkpatrick, a hospital steward, an acting steward, three privates of the hospital corps and four female nurses, with an ample medical and hospital supply for the voyage. The *Scandia* is the first transport sailing from San Francisco which has come strictly under the regulations for the Army Transport Service. On the presumption that she is to be maintained as a regular transport, extensive alterations and additions were made to her. A new steam galley was constructed, doubling her former galley capacity, a large cold-storage compartment, which will enable her to carry fresh meat sufficient for the voyage to Manila and return for her complement of men, some fourteen hundred in number; a dispensary complete in all essential points and a medical storeroom conveniently fitted up, the last two containing an adequate supply of instruments, dressings, medicines, etc., for one regiment for six months. She has two hospitals, one of twenty berths and one of eight berths, also a small dispensary in connection with the stateroom of the transport surgeon. This vessel carried most of the officers and all the enlisted men of the Twentieth Infantry. The ship's officers and crew numbered 120. With the troops were Acting Asst.-Surgeons Burke L. Johnson, W. R. Van Tuyl, Francis M. McCallum and R. F. Gray, the last being the surgeon of the transport. In addition to the medical supply of the vessel and that brought by the regiment, a brigade allowance was put on board for the use of the regiment. A medical inspection was made before sailing and one officer and three privates were detained on account of sickness, two of the latter were in the eruptive stage of measles. This disease was reported as epidemic at Fort Leavenworth, Kan., at the time of the departure of the regiment from that post and several cases were left behind, while en route, at Fort Douglas, Wyo., and Fort Logan, Colo. No effort was spared by Capt. T. U. Raymond, the medical superintendent of the transport service, to properly equip these ships and provide for the comfort and welfare of the troops.

On the same day that these two vessels were steaming out of the Golden Gate with the Twentieth Infantry, a train of 37 tourist sleepers, 5 Pullman sleepers and 5 baggage cars, drew out from Fort Crook, Neb., in five sections, carrying the Twenty-second Infantry westward for embarkation to Manila. The command consisted of 29 officers and 1224 men, accompanied by 3 medical officers, 4 non-commissioned officers, and 12 privates of the hospital corps. In addition to the medical and surgical chests, supplies were taken to last the regiment for three months. In anticipation of this movement a general inspection and vaccination of the command was instituted Dec. 12, 1898, and as recruits reported from time to time, was continued to Jan. 10, 1899, and all the men who were thought to be unfit for duty in the tropics were placed under careful medical observation. On final examination before starting only nine of these men were detained.

Advices from San Francisco of a later date report the sailing of two other chartered transports, the *Senator* and the *Ohio*, at noon Feb. 1, 1899. The former carried 16 officers and 643 enlisted men of the Twenty-second U. S. Infantry with 10 wives of officers, 2 officers and 30 men of the Twentieth Infantry and 2 medical officers, Capt. John S. Kulp, assistant-surgeon U. S. A., and Acting Asst.-Surgeon Isaac M. Brewer, with 1 hospital steward, 1 acting steward, 6 privates of the hospital

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ADDRESS.

THE HIGHER THE ORDER OF RAILWAY SURGERY, THE GREATER THE PROTECTION TO THE EMPLOYE, THE PASSENGER AND THE COMPANY.

The President's Address, Delivered before the Fifth Annual Meeting of the American Academy of Railway Surgeons, held at Chicago, Oct. 5, 6 and 7, 1898.

BY R. HARVEY REED, M.D.
Superintendent and Surgeon-in-charge, Wyoming General Hospital; President Wyoming State Medical Society; Assistant Surgeon Union Pacific Railroad.
ROCK SPRINGS, WYO.

The deaths resulting from the slaughter and illness in the Spanish-American war, which has scarcely closed, saying nothing of the wounded and sick who will recover from their misfortunes, have enlisted the sympathy of every citizen of this, the greatest nation on the earth. Those who participated in this brief but decisive war would scarcely number more than 400,000 people, including the armies of both nations.

It is true, if we can place reliance in the reports made from time to time, that thousands have been killed and wounded, and tens of thousands have been ill from disease. Our papers, from the smallest sheet on the frontier to the greatest daily periodicals of the world, published in the metropolis of our nation, were filled from day to day with harassing accounts and heart-rending stories of the suffering and loss of life, the result of this short and most extraordinary combat. This great war was precipitated quite unexpectedly to the majority of the people of the country, whose minds at that time were occupied with business transactions, but notwithstanding the thirty years of peace, our plowshares were turned into swords and our pruning-hooks into spears, and in the short space of four months war had been declared and all preparations for raising an army of over 200,000 men had been accomplished, and provisions made for the caring of their sick and wounded, and a proud, haughty enemy conquered.

If the reports of the daily press are to be relied upon, one is led to believe that the most complete preparations for the care of the sick and wounded have not been invariably at hand. Yet it seems strange that an educated people like those of the United States, and especially those who guide the pencil of the press, would expect in so short a time, with such circumscribed laws, to prepare a corps of surgeons who could show to the world the highest order of military surgery. Nevertheless, under these adverse circumstances, we believe, so far as our surgeons were concerned, and the facilities they had granted them by the laws of this country, they distinguished themselves as *well* as any other nation could have done in the short space of time allotted them under existing statutes.

In this connection, permit me to quote from one whose opinions are honored and respected where surgery is known, one who left a most prosperous professional practice, and for the love of his country and his profession, turned his back on his home and its comforts, and went to the very front, where he had an opportunity to witness the fiercest of the fight, and the most dire ravages of disease. I refer to Lieut.-Col. N. Senn, U. S. V., Chief of the Operating Staff with the Army in the Field, who, in a paper published in the JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, Sept. 17, 1898, on page 655, says:

> The executive power of the Surgeon-General is indeed an exceedingly limited one. Everything of importance has to pass through the hands and by the sanction of the Secretary of War. The Secretary of War is a busy man in keeping track of what is going on in his department *outside* of the Surgeon General's office. On the other hand, the medical department *depends entirely* on the quartermaster's department in forwarding and distributing medical supplies. No wonder that many collisions between these departments occurred during the present war. Our experience has taught us in the most forcible way that the medical department should have charge of everything pertaining to the sick and wounded, in order to accomplish that for which it is intended.
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> The Secretary of War is not supposed to have any knowledge of medicine or surgery, or other wants of the sick and wounded, and yet the Surgeon-General is powerless in the execution of *his orders* without his co-operation. If the forwarding and distribution of the medical and hospital supplies were directly under the control and management of the medical department we would have heard *less of well-founded complaints* of the scarcity of medicine and hospital supplies. To make a department strong and efficient, it must be independent.

I do not believe there is a member of the medical profession here today, and I might say I do not believe there is any member of the medical profession, who realizes the actual condition of the medical department of the United States Army, who can gainsay the remarks just quoted from Lieut.-Colonel Senn, and if these remarks are true in great armies, where their sole object is that of maiming and killing each other, then it certainly must hold true in any line of business where accidents may occur, in which the surgeon must be relied upon in times of emergencies. Railroads, so far as their management is concerned, are very much the same as the army. It is just as essential to have the so-called red-tape in the successful management of railroads, as it is for that of a large body of troops on the field of battle. When we consider that the railroads of this country employ in round numbers about one million men, who, as a rule, are the very cream of the physical strength of our nation, and who are exposed daily to the dangers of a large variety of casualties, which may snuff out their life in the twinkling of an eye or maim one, the very picture of physical health, for life, we begin to realize the importance of the very highest order of surgery for the protection of the employes and passengers, not on the basis of humanity alone, but in the interest of the company which employs them. From the statistics of the railroads of the United States for 1897, compiled by the Interstate Commerce Commission, we find that for the year ending June 30, 1897, there were 43,168 casualties, 6437 of which resulted in death and 36,731 in injuries of varying characters.

In the recent war we learned the lesson that inadequate care, the result of inadequate laws, caused an *increase* in the suffering, simply because the medical department, instead of being independent and held responsible to the War Department for its acts, was dependent upon *non-professional* men for practically every need. Men who knew nothing of either medicine or surgery, of the laying out of camps, of the equipment of hospitals, of the furnishing of medical supplies, were the men whom the most skilled surgeons of this country were obliged to look to for orders for the care of the sick and wounded. I have maintained for years that the same holds good in railway surgery, and trust you will pardon me for quoting from a paper I read before the New York Medico-Legal Society, at the request of its secretary, June 14, 1893, in which I made the following statement:

> It is to be regretted that a large majority of the railroad companies, and especially so on our eastern roads, leave the selection of surgeons to non-professional men; men who are not able to judge of the scientific qualifications of surgeons, but who, nevertheless, employ them to take these responsible positions, which often mean thousands of dollars to the company, without taking the precaution to ascertain their ability in advance, but usually appoint them through *friendship* rather than merit.
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> The idea of placing a surgeon under a non-professional man and expecting to get the best service out of him, is just as reasonable as it is to place over an attorney, who is trying a case before a jury, a judge, who knows nothing of law, and who was picked from the laity, and who might be a good gardener, a good horseman, or a fine singer, but who knows as little of the law and the conducting of a suit on trial as the "wharf rat" does of theology.
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> This, we regret to say, has been the status of railway surgery for years, and to a certain extent is the policy adopted by quite a number of railway companies today, which either place the surgical department under the control of the general manager or general superintendent, or, in some instances, the claim agent of the company. But notwithstanding all this, I have always had faith enough in humanity to believe that the time is coming when these errors will be righted, for I am sure the thinking, reasonable man, when it is once explained, will see how utterly impossible it is to get the best service out of a surgeon by placing him under the control of one who knows nothing about his business and has not the least practical appreciation of the services he has to perform. In comparison it would be just as reasonable to place a surgeon at the head of the legal department and compel the corps of "Company Council" to abide by his judgment and decisions whether right or wrong, as it is to place the claim agent at the head of the surgical department, who must listen to his dictations in reference to the surgical service of the company they represent. Or again, it would be just as reasonable to place a surgeon at the head of the operating department of the railway company and expect him to manage that with success, simply because he was a good surgeon, as it would be to place a general superintendent over the surgical department and expect to get the best service possible from his surgical staff.

Young as I am, I am thankful that I have lived to see the majority of the leading and progressive railroads of this country make rapid strides toward the higher order of railway surgery, and I have every reason to believe they did it because it was a protection to the employe, the passenger and the company. We can not expect railway surgery to spring out of chaos, and like a mushroom, attain its full size and strength in a single night, any more than we can expect any other department of the railroad to develop to its highest point at a single bound. It has taken years for our railroads to develop from the wooden rail over which a few clumsy, uncomfortable, unsightly coaches were hauled by oxen, mules or horses, into the magnificent palaces drawn by engines of inconceivable power over tracks of the smoothest steel, at almost incomprehensible speed, which have lashed our continent from north to south and east to west, abolishing time and making travel a comfort, yea, even a luxury, rather than a drudgery. Likewise, it has taken time for the development of the surgical department, which most naturally has been looked upon by the operating department as a *necessary evil* of which the less they had to do with it, the better. It is very easy for the writer to recall numerous conversations he had with different railroad operators relative to the advancement of railway surgery. It was amusing to hear some of them advance what they considered one of their strongest arguments, that the equipment of a railroad for the care of emergencies was prima facie evidence that it was in a condition in which accidents were most liable to occur and for that reason its operators had prepared for something they expected and thus would deter the public from traveling over their line. This, however, I am glad to say has gradually been eradicated from the minds of most of our progressive railway operators, for it has been demonstrated over and over again that the very best railroads, managed by officers of the highest skill and experience, are bound to meet with accidents. Notwithstanding the automatic coupler, the air brake, and the numerous minor improvements, we have had during the year 1897, as has already been mentioned, a whole army of more than forty-three regiments of 1000 men each injured in a single year, out of which more than six regiments of 1000 men each were killed outright, and more than thirty-six regiments of 1000 men each were the victims of injuries of varying severity. From these figures it would appear that it is important, notwithstanding the advancement of the railway management, that they be prepared for the inevitable, and by this I mean, that so long as railroads exist, emergencies are bound to arise and must be taken care of.

I believe it was on August 28, 1830, that the first railroad accident occurred, which consisted in an injury to the thumb of one Peter Cooper, who was a master mechanic as well as an engineer, and who not only gained the distinction of having built the first railroad engine in America, and drawn the first passenger car in the world, but was the first railway employe to meet with an accident requiring surgical care. From that time to this, railway surgery has been gradually developing, and notwithstanding it has had many backsets, it today stands the peer of any other department of surgery in the world. There was, and we regret to say still continues, with some few roads, a time when a railroad surgeon, as an employe of the company, was unknown. A physician was simply called when an accident occurred, whoever was nearest, and the case was turned over to him without regard to future consideration, and when his bill came in it was paid, but oftentimes with deep-seated remorse on the part of the company. By and by, railway companies began to find out that this was an expensive method of operating that department of their road, for not only exorbitant bills were charged for incompetent services, for trivial accidents, by physicians thus employed, but exorbitant demands were made against the company for damages, frequently the result of incompetent surgical services rendered the employe or passenger, who, by the railroad company had been placed in the hands of an unskilled, inexperienced, and consequently, incompetent physician, for treatment. This, in time, led to the appointment of "company surgeons," who, in the early history of railway surgery, were under the direct control and guidance of superintendents or managers. This was an important improvement over the former, but far from attaining the highest order of railway surgery.

Less than twenty years ago the first association of railway surgeons was organized, which had for its object the advancement and improvement of railway surgery. At that time such an office as Chief Surgeon was practically an "unknown quantity," and the now familiar "hospital system" was in its swaddling clothes, and it is less than ten years since the following resolution was offered by a prominent railway surgeon of Ohio, at a meeting of the Association of the Bee Line Surgeons, held at Cleveland:

> In our opinion the surgical service of the Bee Line Railroad will be much improved by sending to well-established hospitals the injured employes, there to be treated by the regularly appointed surgeons of the road.

The question of the importance of railway surgery has been agitated by local, district and national associations, which have met from year to year and discussed the good and the bad methods of treatment of emergencies arising from railway accidents. The question of railroads without a surgical corps has been thoroughly considered, and the result weighed in the balance of economy. Heterogeneous systems of different methods where company surgeons were appointed by the superintendent or manager were tried by the different railway companies of the country, all of which have been carefully scrutinized and their results in dollars and cents to the stockholders carefully compared, whilst the hospital system, which has been adopted by a large number of the greatest railway systems of the world, has been held up before the piercing eyes of the active railway surgeon, as well as the advancing and observing manager or superintendent, and its merits thoroughly investigated.

During all these years, it has been the aim of the conscientious, active and experienced railway surgeon to ascertain from practical experience that method which will give the best service to the employe, the passenger and the company, for experience has taught him that these three factors were essential elements that cut a large financial figure, annually, and reduced the exchequer of every railway company. They realized that railway companies were not organized for philanthropic purposes, but on the contrary, were organized on purely business principles, and looked forward to a given amount of returns on a given investment with the least amount of expense and liabilities. From this standpoint, it is a logical sequence that a dollar saved is equal to a dollar earned, and while it has been found impossible to avoid the occurrence of accidents, the next best thing was to provide a method of caring for those who were injured by these accidents, not only in the most humane manner, but at the least expense and loss of time and permanent injury to the parties afflicted.

To accomplish this, I believe it is now beyond question and has been fully demonstrated by the leading and progressive railroads of this land, a majority, if not all of which, have hearkened to the advice of their railway surgeons, that in order to attain the highest order of professional service, it was not only necessary to have an independent department, under the management of a competent chief surgeon, but in addition a well-organized and economically conducted hospital system that is prepared at all times to care for any class of injuries or illness that may occur in the operating of a railway system, with the least loss of time, the least permanent injury and the least expense, and the least suffering to the sick and wounded.

It seems a strange, but a happy coincidence, that at the close of the nineteenth century, not only the leading railway surgeons, but also the leading military surgeons, have, from experience, arrived at the same conclusion: that to make a department strong and efficient it must be independent.

ORIGINAL ARTICLES.

TRAUMATIC INJURY OF PERIPHERAL NERVES.

Read before the Fifth Annual Meeting of the American Academy of Railway Surgeons, held at Chicago, Oct. 5-7, 1898.

BY C. S. FAIRCHILD, M.D.
SURGEON C. & N. W. R'Y.
CLINTON, IOWA.

Peripheral nerve injuries constitute a very interesting chapter in railroad surgery, on account of the uncertainty of the remote effects on the nerves themselves and on the organs and parts supplied by them. As implied in the above statement, peripheral nerve injuries may be considered under two heads: 1, the effects of injury on the nerve itself; 2, the effects on the tissues supplied by the nerve. In fact, however, the results, so far as the nerve itself is concerned, are so closely associated with the effects secondarily induced in other tissues supplied by it that they can not be considered wholly separate, and therefore can be more properly stated as the primary and secondary results of nerve injuries. The more recent advancements in neurophysiology and neuropathology have served to clear up—from a scientific standpoint at least—much that in the recent past was obscure, and have put us in possession of much valuable practical knowledge of what may be expected in the presence of a certain state of facts.

Every variety of peripheral nerve injury may be expected in the practice of railway surgery, but they do not materially differ from such injuries occurring in general surgical practice, except that the injuries themselves are more severely crushing in their nature. The pathologic changes which take place in an injured nerve are essentially the same in all cases, but the details will differ in certain respects. If a nerve is separated from its trophic center by division, the fiber below the point of section undergoes degeneration and is finally converted into a fibrous cord. Trophic changes in the muscles supplied by the nerve soon follow. These practical facts are well understood, and the surgeon promptly avails himself of them in endeavoring to reunite the divided ends and bring about as speedily as possibly a union and a restoration of function.

According to Strobe a down growth takes place from the axis cylinder of the central end, and the distal or peripheral end, which rapidly undergoes degeneration after division, is regenerated—at least to a certain degree—hence, if the nerve is united immediately, it is restored sooner or later with a more or less complete restoration of function. If the nerve can not be united on account of extensive destruction, the down growth will take place to the extent of forming a bulbous growth at the central end of the nerve, as is so well illustrated in the division of nerves in amputations, and which so frequently cause great suffering to the patient. It is important, then, to remember in an amputation that when a nerve is divided, a bulbous extremity is formed in every case as a down growth from the axis cylinder, and that in the bulb new nerve fibers grow from the old nerves, and that these are joined by newly formed connective tissue fibers. The remote difficulties which arise from this conservative effort influence our course in relation to the management of the several nerves, particularly in their relation to the scar. Dr. Senn has suggested a flap formation in addition to the shortening of the nerve, as lessening the liability to bulbous development, particularly in patients who suffer from amputative neuromas when resection becomes necessary.

Omitting more than a passing notice of the facts in relation to divided nerves and amputative neuromas, we shall devote this paper chiefly to the consideration of injuries of nerves which do not involve their entire division.

1. Crushing injuries received by employes or others, in machinery or while engaged in various employments, involving the nerve in its continuity. In this division may be found two classes of cases: *a*, cases in which the nerve is seriously injured and is involved in the scar arising from the healing of the soft parts, or in the callus from the union of a fractured bone; *b*, crushing of soft parts in which the nerve escapes being caught in the scar but is seriously contused.

2. Strains and contusions received by employes and others, in wrecks or otherwise, which do not involve any structural change or serious lesion in the nerve and only for a short time interfere with its functions.

3. Injuries in which the peripheral end of the nerve is caught in the scar, incident to the healing of the soft parts.

Clinically, it is not always possible at first to determine just what the condition of the nerve is. The laceration of soft parts may involve also a laceration of the nerve, and in healing, the lacerated nerve may be involved in the healing of other soft parts, and a subsequent search for the nerve may show that it is difficult to distinguish the nerve from other tissues in the scar formation, and it may be necessary to seek for the nerve at a point above the seat of injury and trace it down with considerable difficulty. In other cases the soft parts may be extensively lacerated, and the nerve escape more than a severe contusion, which, for a considerable period of time suspends its conducting activity.

In the two classes of injuries referred to the symptoms will, for a time, be essentially the same, viz., paralysis. In these cases, however, if the arm is the part injured, and the laceration of tissues is so serious that the part is kept in a state of rest, the full disability may not be discovered until the healing process is well advanced, and then it is found that voluntary movement in certain muscles is impossible. Something can be done in determining the probable condition of the nerve by ascertaining if the scar is adherent to the bone or deep enough to include the nerve, also if the reaction of degeneration is present in the muscles supplied by the nerve. If the nerve is torn across, or is so extensively lacerated and involved in the scar as to practically separate the proximal from the distal end, in the course of six weeks trophic changes will take place to such an extent that when the distal portion of the nerve is stimulated by the interrupted current the muscles will not respond. If, however, the nerve is only contused, trophic changes are less marked, and a more or less ready response to electric stimulation is found to exist.

Two patients, illustrating each of the above conditions, have come under my care. The first was a case of extensive laceration of the soft parts above the elbow. After the healing of the arm had progressed sufficiently to permit of motion, it was found that paralysis of the musculospiral nerve existed, as shown by the inability of the patient to supinate the forearm and to extend the hand. The reaction of degeneration, to a moderate degree, existed. As soon as healing was complete, an operation was made to discover the condition of the nerve. The nerve could not be recognized in the scar and it was sought for at a point above the injury. On tracing the nerve down it was found so intimately associated with scar tissue that only with the greatest difficulty could it be followed. A part of the nerve to the extent of about two inches was represented only by a connective tissue cord. This portion was resected, the nerve stretched from above and below and sutured. The arm was dressed in a flexed position, to relieve tension as far as possible. But, as was expected, the reproduction of scar tissue was so extensive that the former condition of the nerve and its surroundings were reproduced and the same disability continued. I doubt if nerve implantation would have succeeded in this case, for it has been my experience that any operation for the liberation of nerves in extensive scars has been attended by failure, or at least with very unsatisfactory results, on account of the reformation of the same dense fibrous tissue, with a recurrence of the former condition. It is quite different from the union and regeneration of a divided nerve in tissue where we have only the scar tissue incident to the healing of an incised wound, or where the scar is not so extensive as to forbid the anchoring of the nerve in normal tissue just outside the scar, so as to protect it from the multitudinous formations of new connected tissue.

In a second instance a man suffered an extensive laceration of the soft parts of the arm involving several points between the elbow and shoulder. As soon as the arm healed sufficiently to permit of voluntary movement—or at the end of the fifth week—wrist drop and an inability to supinate the forearm were found to exist. An examination showed an extensive scar over the musculospiral nerve, but the scar was not adherent to the bone, nor did it appear to be deep enough to involve the nerve. An electric examination showed that the muscles supplied by this nerve reacted well, and that there was but little atrophy of the muscles. I, therefore, became convinced that the nerve had suffered a contusion and was not lacerated or involved in the scar. I gave a rather favorable prognosis and continued the use of the interrupted current, with the result of a complete restoration of the functions of the arm in about three months.

In the second class are found injuries to nerves from strains and contusions in which there is no open wound. These cases are quite common, and are often seen in litigation. They are often seen in association with general morbid nervous states as the primary condition. The pain is frequently exaggerated and may lead to a suspicion of malingering. A careful examination will generally reveal the facts. If the pain and tenderness follow definitely the anatomic distribution of a nerve, it may safely be assumed that the symptoms are genuine, for it is not often that the patient is sufficiently familiar with anatomy to successfully simulate pain that is confined to the nerve itself or referred, as it often is, to the nerve ends.

I have had cases under my care where a genuine nerve pain from an injury has continued for a few weeks and has led to morbid nervous states after the neuritis—which is no doubt the pathology—had subsided, and I am inclined to think these patients do not always receive proper consideration and treatment. Absolute rest is the essential treatment, and if promptly and persistently carried out, will save patients and corporations a great deal of trouble. But, unfortunately, neither the patient nor his doctor always fully appreciate the condition, and the best time for the treatment of these cases is allowed to pass unimproved.

The third class of cases includes compression of the peripheral nerves in scar tissue without the nerve itself being primarily involved in the wound, or not involved to such an extent as to destroy its transmitting functions, and no symptoms appear until some time after the wound has completely healed, when the evidences of an irritation lesion appear from the contraction of the scar tissue. If a nerve in its course is caught in the scar, the first symptoms are burning sensation, pain and numbness, followed by muscular spasms occurring at intervals, and at a somewhat later period, by anesthesia and motor paralysis below the lesion, due to interference with transmission of sensation and motion. The severity of these symptoms will depend upon the rapidity of the developing compression. If the compression is slow, the nerve accommodates itself to the condition, and the more severe symptoms are much delayed in appearing. If the scar compression occurs near the peripheral end of a nerve, the interference with transmission is less noticeable and the painful impressions are the first symptoms that attract the notice of the patient.

A case of this kind has recently come under my care. A bridge carpenter suffered an injury to his right hand, due to his hand being caught between two planks. The skin was broken on the palmar surface at the junction of the thumb with the hand and some muscular tissue forced out. The wound healed promptly. About five weeks later, after he had returned to work, he began to experience severe pain in the thumb, which extended up the forearm; this was soon followed by a twitching movement of the thumb and hand. This increased in severity, and he was obliged to discontinue work. After a little delay I cut down on the nerves supplying the palmar surface of the thumb and released them from the very abundant scar tissue. The wound quickly healed. But in about five weeks the old symptoms returned and increased in severity. Thinking that my operation had not been thorough enough I repeated the operation of liberating the nerves and removed all the scar tissue. The relief was complete for about six weeks, when the old symptoms of pain and muscular twitching returned. As nothing could be expected from medical treatment, a third operation was made, which consisted in again removing the scar tissue and with it an inch of the two principal nerves supplying the thumb. This operation was followed by sensory paralysis of the palmar surface of the thumb and a complete relief of the painful symptoms. We now entertained the hope of a cure, save the anesthesia. In this, however, we were disappointed, for in about six weeks the pain again returned, followed by extremely painful contractions of the adductor and flexor muscles, which would violently flex the thumb closely down into the palm of the hand. These spasms would frequently occur every day and sometimes twice a day, lasting from fifteen minutes to an hour, and were attended by intense pain which would extend to the middle of the forearm. Associated with these spasms was a vasomotor paralysis, shown by the dilated blood-vessels and redness of the skin. This condition would disappear on the relaxation of the muscles and the return of the thumb to its natural position.

As the pain and spasms increased in severity, a fourth operation was made, and, at the suggestion of Dr. W. J. Mayo, all the tissues, including the muscle tendons, nerves and blood-vessels, were divided down to the metacarpal bone, circumscribing the thumb except on the dorsal surface at a point three-quarters of an inch from the original injury scar. Very profuse hemorrhage followed, but in the large wound inflicted the arteries were easily secured by catgut ligatures. The wound was united simply by skin sutures and a gauze drain introduced. The painful symptoms again disappeared and remained absent for so long a time that I concluded at last relief had been obtained, and just as I was in the act of writing Dr. Mayo, congratulating him on the success of his suggestion, the man appeared in my office to tell me that all the old symptoms had reappeared in an aggravated degree; that the pain was more severe than ever and the spasms more intense; in fact, the thumb was almost constantly drawn tightly into the palm of the hand. For short periods the spasms would relax and the thumb be restored to its proper relations. As a result of this fourth operation, the retraction of the soft parts and the maintaining of the thumb in an extended position, allowed some period of time to elapse before the parts were united by the formation of new tissue elements. As soon, however, as this had been accomplished and condensation had been reached, the pain and spasms returned. Before the painful symptoms reappeared after the last operation, the power to flex the thumb had returned, and this fact led us to hope for permanent results. After the pain returned the hyperemic condition of the skin from vasomotor paralysis still bore a constant relation to the periods of muscular spasms.

The condition demanded further efforts, and the thumb was now amputated below the head of the metacarpal bone. Skin flaps were only made. The entire length of the metacarpal was cleared of soft parts to its carpal junction, care being taken not to injure its median nerve, leaving nothing but periosteum and skin to cover it. The wound had scarcely healed when the most violent symptoms appeared; pain of the most violent character developed in that part of the hand supplied by the median nerve. The fingers supplied by this nerve were drawn into the palm of the hand for hours at a time. Sometimes vasomotor spasms existed and sometimes vasomotor paralysis. The pain would extend to the shoulder, and the hand was in constant motion. At times the heart's action would be seriously disturbed; it would become irregular and intermittent. Gastric crises would occur, and, without nausea, the contents of the organ would be expelled. The periods of cardiac disturbance would be of short duration, but the gastric trouble would last for a week, no food being kept in the stomach, seriously interfering with nutrition and confining the man to his bed for a week at a time. During this time one-half grain morphin hypodermically was necessary, and to support the heart's action aromatic spirits of ammonia were freely used. In about three weeks, intervals of relief would come, at first for one day only; gradually these periods became longer, extending over two days, then several days. The heart improved, food could be retained, and strength was regained. At the end of three months recovery seemed to be well advanced. He exercised the hand a little in light work, but was quickly admonished by the return of some of the old symptoms, and now slight use of the hand, any exhausting influence or exposure to cold will cost him an hour of acute suffering. All the rhythmic motion of the wrist has disappeared, but there is an almost constant pain of slight degree present. The hand is slowly improving, but it is altogether extremely discouraging and causes considerable despondency at times.

The pathology of the case seems clear. A slowly developing neuritis followed the irritation lesion in the compressed nerve, and although the nerves were repeatedly freed from the scar formations, yet before the final and permanent release had been accomplished the degenerative process had extended up the nerve to a point which our operations did not reach. The fifth operation was made fifteen months after the injury. One thing which I especially noticed at each operation was the remarkably large amount of scar tissue which formed, and its extreme density. This appeared to indicate a peculiar trophic influence exercised by the nerves. This is supported by the fact of the frequent vasomotor disturbances witnessed. The additional fact of rhythmic movement in the wrist indicated that the ascending degeneration had reached the spinal cord and affected the motor cells in the anterior horas of grey matter to a certain degree. To what extent the degenerative change has involved the cord is an interesting question. The moderate atrophic change in the muscles of the arm affords a hope that the involvement is not extensive, and we find some comfort in the fact that the movements above referred to have ceased.

The fact that, following the early operations the symptoms disappeared, shows that extreme changes had not occurred, and, while the nerve was probably not free from some degenerative change, yet I think it is safe to assume that had the more radical operative procedures which were undertaken later been adopted at first, a much better result would have been obtained.

We have been slow in recommending any additional operative procedure on the ground that further disturbance would seriously compromise the nutrition of the nerve, which is already in a very precarious state. Our present hope is that by rest and general restorative measures the moderate improvement already realized may continue, although I have to confess that at the age of our patient—59 years—with a distinct tendency to nerve degeneration, the prospect is not altogether brilliant.

DISCUSSION.

Dr. **Fred J. Hodges** of Ashland, Wis.—The Academy is to be congratulated in having a paper of this character presented before it. It is a departure from the stereotyped form of papers upon surgery of the peripheral nerves, and brings up a highly interesting case. In speaking of the injuries to which the nerves are susceptible, I would like to include in the Doctor's classification the incarceration of the nerve within the lines of fracture, not simply in the callus. But there are a certain number of cases of fracture in which there is developed, almost immediately, an intensely painful condition, and careful manipulation will discover that the nerve is incarcerated within the line of fracture. Failure to interpret this condition has led to amputation. The description of Dr. Fairchild's case, which he has given us fully and clearly, recalls to my mind one or two cases of the same nature. The point of similarity was that it was a lacerated and extensive wound, caused by the application of a very considerable degree of force. One case was a multiple fracture of the forearm, which was caused by a blow from a log. After the healing of the fracture, there was considerable pain, particularly over the musculospiral area. The arm was examined by a number of physicians, and finally was amputated by Dr. Reinhart of Ashland, on the advice of Professor Herdman of Ann Arbor, against his own judgment in the matter, however, so far as relief of the condition was concerned. Later the man came to Dr. Senn, who dissected down upon the stumps of the nerves in the axilla and removed them. A few weeks ago, we cut down again into the axilla and traced the nerves to their origin in the plexus, and divided them close to the plexus. There is now the same intolerable pain that there was at the time the bone first healed, and it is still referred to the palm of the hand and the wrist. A possible explanation of these cases may be this: The injury tears the more resisting nerve, not at the point at which the bone or the muscles give way, but from its insertion or origin in the plexus, and perhaps all the axis cylinders are destroyed. Some of the cylinders may recover, others produce a neuromatous condition.

In another case, which required amputation at the lower part of the arm, in endeavoring to pull down the nerves to cut them short in the stump, eight or nine inches of the proximal ends of the nerves were easily pulled out of the sheaths, showing that the injury which so smoothly divided the soft parts had also divided the nerve well up in the vicinity of the plexus. In the description of the case I was forcibly reminded of one which Hughlings Jackson mentioned in his Lumleian lectures of 1890. There he describes what he calls convulsive seizures, and locates them in three levels in the cortex—the first and second in the subcortical areas and a third in the cord. His explanation of the case would be, according to this plan, a convulsive seizure of the third or lower level, and whether or not it could be explained on the ground of a peripheral reflex theory, or whether it was, as the Doctor has suggested, simply a degeneration extending up the nerve until it reached those centers, it is impossible to say without examining the cord. These cases are becoming more and more frequent, and in spite of the very best service that can be rendered them, they continue as a monument to what we do not know about neurology.

Dr. **W. J. Mayo** of Rochester, Minn.—I feel very much interested in Dr. Fairchild's paper. It brings to our minds, as Dr. Hodges has said, the fact that the surgery of the nervous system, taken as a whole, is the most unsatisfactory of all the different departments of operative surgery. I have seen a few cases such as the Doctor described in the first part of the paper, namely, the convulsive type, and very little benefit resulted from treatment. My brother, Dr. C. H. Mayo, has resected and reunited portions of the musculospiral nerve in three cases. These cases were the result of fracture of the humerus; power came on slowly, sensation returned promptly and remained. In the cases of direct incision, which I recall, in which the nerves were sutured at once, the results have been fairly good. In one case wherein the median and ulnar nerves were completely cut across, the results were excellent after primary suture.

I have seen two cases of typic paralysis agitans following injuries of the upper extremity—one a blow just below the shoulder, and the other a wound in the hand. The case the Doctor describes at some length is an interesting one. It probably would not come under the head of paralysis agitans, although the convulsive movements may have been the same as those described by Hughlings Jackson. I recall another case in which the great sciatic was divided. In this instance there was some return of sensation three months after secondary suture, but not much motion.

I recall a number of cases in which amputation neuromata developed, and in which operation was made not only once, but several times. I know of but one instance where resection of the stump was followed by other than temporary relief, and if the patients are watched a sufficient length of time, this will usually be found true. One case we operated upon four times; the last time up to the cord, and the result was only temporarily beneficial. In most of these cases we must consider that there is an ascending neuritis, and if we bear in mind that every nerve-fiber has its origin in the central nervous system, and that each axis has a direct continuation from its origin to its point of supply, the particular fiber by the ascending neuritis may be affected clear to its origin. In this way we can explain the reason for such a large percentage of failures following operations on the nerves. In the cases where we have signs of degeneration of the nerve-fibers, the successes are small indeed.

Dr. W. W. Grant of Denver.—This paper is certainly worthy of serious consideration, for several reasons. A simple uncomplicated case in surgery requires little at our hands; but cases of the kind reported are exceptionally complex; they are difficult to cure, and hence are always worthy of serious consideration, not only in showing what we do not know, but in stimulating us to try and improve in our methods of treatment. There is no class of cases more interesting than those of peripheral nerve injuries in their after effects. One of the significant things in the cases reported by Dr. Fairchild, is the absolute failure of the surgical methods employed to cure them. And one other matter which seems to me worthy of consideration is that the disease has been regarded entirely as local in its pathology and has been treated locally. Are there not in some of these inveterate cases constitutional conditions preceding the injury—conditions which materially influence their character and their subsequent progress. Some of them are syphilitic; some of them may be tuberculous. These constitutional vices interfere very materially with the success of operative measures, and while I do not say this phase of the subject was not fully considered by the author of the paper, yet it has not been alluded to sufficiently to make a complete history of the cases. The cases reported by Dr. Fairchild are so instructive in themselves that, even as they are, the Doctor deserves very great credit for the able manner in which he has presented them. I would simply suggest that constitutional measures be added to the local in the treatment of these cases, and if this had been done in the cases reported, different results might have been obtained.

Dr. R. Harvey Reed of Rock Springs, Wyo.—I was very much interested in Dr. Fairchild's paper. It is an excellent contribution to this subject. Indeed, it is excellent in more ways than one. It is excellent because it shows the persistency with which the Doctor has followed out a certain injury with the object of giving relief; and it is interesting from the fact that he did not obtain relief after giving the patient the very best operative treatment that is known at the present day. Whether or not he could have pursued a better course remains a mystery, but I do believe, as has been said by Dr. Grant, that many cases come to us with constitutional contamination, and we can not obtain the same results from the same operations in those cases, or in the same class of injuries, that we do in others. This may have been true in the case of Dr. Fairchild. Of late years I have made it a habit, in cases where I have occasion to sever a nerve, of cutting the proximal end V-shape, so that the neurolemma would cover the nerve-fibers and give it plenty of flap, as it were, and I find that I do not have such trouble with neuromas as I had when I cut the nerve off at a right angle. I think, however, that in some of these cases we may obtain beneficial results by implantation. I have made a number of implantations of nerves after the Galbraith method, in which I have certainly obtained very satisfactory results. Where I am located at present we have a great many injuries to the nerves, and I have had occasion to make a great many implantations and nerve suturings. I find that there is a certain class of cases which behave just as the Doctor described, and which we believe to be tainted with syphilis, or due to some other constitutional condition with which we are not familiar at the time. Why it is, I have not well satisfied myself as yet, except where I can ascertain from treatment that they respond to syphilitic preparations. In this class of cases we derive no benefit from implantation.

I do not wish to take up further time, but I simply desire to thank the Doctor for presenting his interesting paper, which is of value to all of us, and I think worthy of our trip here. I am quite sure that I have been amply repaid for coming here and listening to it.

Dr. Fairchild (closing the discussion)—I am very grateful to the Fellows of the Academy for the courteous manner in which they have received my contribution. There was no attempt on my part to deliver an exhaustive dissertation upon the subject, but merely to give you a suggestive paper. There were two points particularly that I was anxious to dwell upon, and one was the question of implantation or any operative procedure for the purpose of restoring the nerve when there was a large amount of scar tissue present. In many of these cases of railroad accidents to the arm or to other parts of the body, there is an extensive laceration of soft tissues, and when healing takes place the wound is filled in with a large amount of scar tissue. My experience has been that any operative treatment on nerves in these cases is followed by absolute failure. I do not remember any successful cases following operative interference. Where you have a nerve divided without the probability of extensive scar tissue forming, then you may get some results from union of the nerve.

Dr. Grant—Have you operated in any of those cases after infliction of the injury?

Dr. Fairchild—I have waited usually until the wound has healed, because I want to operate through clean tissues. But the reason, it seems to me, was not so much the condition of the nerve below the point of injury as it was the extensive development of scar tissue which followed the operation at the point where the union of the nerve was accomplished. If we cut down on a nerve and remove a considerable amount of scar tissue, join the nerve, and leave the nerve short, in a short time the scar tissue is reproduced, and the nerve is the same as before. If you make the operation where the soft parts have not been lacerated, and where the probability of getting a dense scar is not great, then you can get good results from suturing the nerve, or if the nerve can be drawn from outside the scar tissue to avoid proliferation.

The method of which Dr. Reed speaks, with reference to joining the nerves according to the Galbraith method, could not, I think, be adopted in a case of this kind. The case of injury to the musculospiral nerve, which recovered, was one where there was no serious injury inflicted to the nerve. The nerve had suffered contusion, and the electric stimulation showed the absence of the reaction of degeneration. The nerve below had not undergone extensive degenerative changes, and this patient got well. The case of the man that has been interesting to me and has given me a great deal of trouble, is a patient that does not suffer from any symptoms or indications of syphilitic infection. Indeed, there is no history of any syphilitic infection whatever. He is a man of simple habits; has lived in a small country village, and is entirely free, so far as the history shows, from syphilitic disease, and yet it may be possible. He has been under the treatment of iodid of potassium, but not in large doses. The case appeared to be one primarily of irritation of the ends of the nerve due to the contraction of the scar, or of catching of the nerves in the scar, and the degeneration traveled up the nerve to a point in the central nervous apparatus, as I have shown by the symptoms. I regret now that I did not make a more extensive operation at the beginning. If I had done so, I have no doubt I could have removed that part of the nerve which was involved in the scar entirely, and might have avoided much of the trouble the man has had. Yet, of course, this is uncertain.

There is one class of nerve injuries which I consider extremely important to railroad companies, because of their medicolegal relations, and that is injuries to nerve-fibers that do not give rise to any positive symptoms. A short time since I had occasion to examine a case of that kind, and there are many opportunities of being deceived and imposed upon by persons who are not entitled to consideration. The Doctor is in great danger of being imposed upon by individuals who are not entitled to any consideration whatever. When a patient indicates the seat of pain, following definitely the distribution of nerves, I believe that the pain and symptoms he complains of are genuine. I do not think the average uninformed individual can point out the line which the nerve takes, or can map out the anatomic distribution of nerves. I had a case some time ago in which the individual outlined very definitely the course of the iliohypogastric nerve, and it was alleged that the man was a malingerer because no objective symptoms could be found. This man had not been under any instruction whatever, yet he followed definitely the course of this nerve. A man whom I examined yesterday indicated exactly the distribution of the sixth and seventh intercostal nerves of the right side. Just as soon as he got from one side to the other he claimed that he suffered no pain or tenderness. When a patient comes to me complaining of definite symptoms and follows the anatomic distribution of nerves, he has my confidence.

LEUCOPLAKIA.

Presented to the Section on Stomatology, at the Forty-ninth Annual Meeting of the American Medical Association, held at Denver, Colo., June 7-10, 1898.

BY JOHN S. MARSHALL, M.D.
CHICAGO.

Leucoplakia is a term derived from the Greek λευκός, white, and πλάξ, a surface, literally white surface or whitening of the surface.

Definition.—Leucoplakia is a chronic superficial inflammation of the mucous membrane of the tongue, the palate, the cheeks, and the gums, and is characterized by the presence of pearly-white or bluish-white plaques or patches; in some cases small, in others covering the entire dorsum of the tongue, the cheeks from the angle of the mouth back to the fauces, the palate, or the entire buccal surface of the gums. Various terms, such as "leucoplakia linguæ," "leucoplakia buccalis," and "leucoplakia gingivæ," have been introduced to designate the location of the disease.

Nomenclature.—The disease is variously known as psoriasis linguæ, zona (herpes zoster), smoker's patch, leucoma, leucoplakia, ichthyosis, leucokeratosis, leucoplasia, leucoplaques, *plaques opalines* and superficial glossitis.

Varieties.—There are two forms of leucoplaques found in the human mouth; the milky opaline patches, (*plaques opalines*), represented by the mucous patches of condylomata of secondary syphilis, and the non-syphilitic, smooth white or pearly-white patches for which Schwimmer was the first to propose the term "leucoplakia," and Hutchinson "leucoma." The French writers generally refer to the disease as "psoriasis linguæ," or "*plaques opalines.*" Hulke has described a warty variety of the disease, and applied to it the term "ichthyosis linguæ."

The *plaques opalines* or the mucous patches of secondary syphilis are grayish-white and curdy in appearance, resembling the superficial corrosion caused by the application of the nitrate of silver to the mucous membrane; while the plaques of leucoplakia are usually thin, shiny, bluish-white, white or pearly in color, sometimes having a yellowish tinge, but this, according to Butlin, is almost always due to the stain of tobacco or some other extraneous substance. These two varieties of leucoplaques may be further differentiated by the slight elevation of the syphilitic mucous patches, the secretion of a thin watery fluid, which is the potent source of contagion, and their tendency to become painful and to ulceration; while in leucoplakia the patches are not elevated above the surrounding tissue, except in the warty form (ichthyosis); they are not painful except in the advanced stage of the disease, no secretion is present, and ulceration is not developed until the disease has taken on a malignant form.

To the latter variety of leucoplaques—the true leucoma or leucoplakia—the essayist desires at this time to call your especial attention, for the following reasons: 1. It is an exceedingly dangerous affection, often being a forerunner of carcinoma. 2. It is a disease which, from its innocent appearance and the painless character of its early stages, is seldom recognized until the disease has progressed to a stage which renders a favorable prognosis exceedingly doubtful. 3. The disease seems, from personal observation, to be on the increase. 4. The dentist, from the very nature of his specialty, is in a position to see and recognize the disease in its earliest stages, and to warn the patient of his condition before it has progressed so far as to prove a menace to his life.

The disease in its earlier stages is much more likely to come under the notice of the observing dentist, or stomatologist, than of the surgeon or the laryngologist. As a rule, the patient does not consult a surgeon until the disease becomes troublesome; it may then have progressed so far as to give unmistakable evidences of degenerative changes of a malignant character. The dentist, therefore, should be so familiar with the characteristic features of the disease that he could recognize it at a glance; while it would be his duty to impress upon the patient the urgent necessity of consulting an oral specialist with the view of instituting measures calculated to arrest its further development, or for its complete extirpation.

Etiology.—The etiology of leucoplakia is by no means a settled question in oral pathology. Marked differences of opinion still exist among the very best pathologists as to the causative factors in the production of the affection. The earlier writers looked upon the disease as a local manifestation of psoriasis; others considered it due to certain other forms of skin disease, like zona (herpes zoster or hives) and lichen planus; many have looked upon the disease as a circumscribed chronic inflammation of the oral mucous membrane, due to syphilis, and still others have thought it a distinct affection produced by the local irritation induced by smoking or chewing tobacco. The inflammatory conditions of the oral mucous membrane and of the tongue resemble in certain respects the inflammatory conditions of the skin, while in others they present the characteristic features of mucous membrane in general. (Zeigler.)

Various inflammations and eruptive diseases of the skin have their counterpart in the mucous membranes, as for instance in erysipelas, which is an infectious inflammation usually manifested in the skin, but which often extends to the mucous membrane, especially of the mouth and nose, while upon the other hand, it may originate in some wound or inflammation of the mucous membrane, and later extend to and involve the skin, as occurred in a case recently seen in consultation, in which the disease developed as a complication of acute septicemia caused by an alveolar abscess, and which terminated fatally. Zona is another example in the same line. Although zona is an eruptive disease of the skin, it often attacks the mucous membrane of the lips and of the genital organs at the junction of the skin with the mucous membrane. Lichen planus, another skin affection, sometimes produces buccal lesions. These lesions have been described by Wilson, Hutchinson, Kaposi and Crocker, as whitish, thickened and uniformly elevated plaques upon the mucous surface, sometimes grayish white or resembling in color the places which have been cauterized with nitrate of silver. It is not strange, therefore, that the earlier writers should look upon leucoplakia as a manifestation of some of these forms of skin diseases, and particularly of psoriasis, which it somewhat closely simulates in its earlier stages.

Most modern writers look upon leucoplakia as an entirely distinct affection, having no association with psoriasis in any of its forms. Hyde says: "Psoriasis is not known to affect the mucous surfaces. The lesions of so-called psoriasis linguæ are those of leucoplakia buccalis, of smoker's patches, of syphilitic diseases of the mouth, or of flat epithelioma." Nicholson, however, still holds to the old theory that leucoplakia is a local manifestation of a skin affection, and maintains that the disease is zona (herpes zoster) located in the mucous membrane. The peculiar burning sensation that accompanies the white patches located upon the lingual mucous membrane he considers as almost a pathognomonic sign, and calls attention to the fact that one or two herpetic vesicles may appear on the lower surface of the tongue during the course of the disease. Park is of the opinion that leucoplakia is often due to syphilis, and says: "These late and recurring lesions (syphilitic mucous patches) lose their moist character, become quite smooth, shiny, of a bluish-white color, and may mark the beginning of the condition known as leucokeratosis." Butlin, than whom there is no greater authority upon such matters, considers (Butlin's Diseases of the Tongue) smoker's patches, leucoplakia and ichthyosis as simply different manifestations of the same disease, namely, *chronic superficial glossitis*, which may have its origin in several forms of irritation, both chemic and mechanic, and which may act singly or combined.

Predisposing causes.—Butlin agrees with Debove in the statement that there is in most patients some condition which predisposes to the disease. He says: "I suspect that the mucous membrane of the tongue in leucomatous subjects is from the first less thick and stable, and more easily irritated than in the majority of persons. As some persons are known to have irritable and delicate skins, easily inflamed and prone to eruptions, and as some of those persons develop affections of the skin which are very chronic and difficult to heal, so I believe other people have tongues whose mucous membrane is abnormally delicate, prone to chronic inflammation, and difficult to cure when the disease has been excited." It has been suggested that chronic dyspepsia and the rheumatic and gouty diathesis might be a predisposing cause of the disease, but the evidence upon this point does not seem to be sufficiently strong to give any real weight to its consideration. Sajous says he has reason to think that gout is a cause of leucoplakia, for he has seen it in gouty women who did not smoke and were not syphilitic.

Age and sex are both very important predisposing causes of the disease. Leucoplakia has been rarely seen in persons under 20 years of age, even in boys addicted to smoking; while upon the other hand, it is rarely seen to commence in persons over 60 years of age. Women seem to be almost entirely exempt from the disease. Of the eight cases seen by the essayist, all were in men, and occurred between the ages of 40 and 74 years. Du Castel has reported a case in which the disease had existed since the age of 12 years in a man who had never used tobacco.

Exciting causes.—Among the most common exciting causes of leucoplakia may be mentioned the irritation produced by the habitual use of tobacco, particularly smoking; the later recurring lesions of the mucous membrane due to the secondary manifestations of syphilis—the mucous plaques—acting locally upon the tongue or the buccal mucous membrane; he frequent use of undiluted spiritous liquors; the drinking of very hot fluids, or eating of very hot or highly spiced foods; the mechanic irritation of teeth oughened by the process of caries, fractures, or the ccumulation of salivary calculus; the irritation from dental plates which are rough, ill-fitting or made of material which is irritating to the delicate mucous membrane of the mouth. Wallenberg is of the opinion that the use of tobacco is the most frequent source of leucoplakia, and believes the disease is produced by the irritation of the volatile and empyreumatic oils liberated in smoking it. The essayist has no hesitation in expressing it as his opinion that the use of the pipe is on this account much more dangerous to a sensitive mouth than the smoking of cigars or cigarettes, as the pipe, from long use, is generally saturated with these oils, which often come into direct contact with the mucous membrane of the tongue, causing smarting and burning sensations, with more or less irritation. In the habitual smoker the irritation becomes chronic, producing a thickening of the epidermal layer and infiltration of the papillary layer with round cells.

Erb collected and analyzed 240 cases of leucoplakia, and states as his belief, that the lesions are, as a rule, due to "epithelial thickening, resulting from syphilitic mucous patches." Of this number two only were women, and these were both syphilitic. In about 60 per cent. of the cases there was a clear history of syphilis, while in many others a very strong suspicion of such an infection existed. In four or five cases anti-syphilitic treatment either cured or greatly improved the conditions, even when they had existed for a long time. Out of 148 cases who were interrogated as to their use of tobacco, 47 smoked little, or not at all; 101 smoked moderately, and 2 excessively. Syphilis alone occurred in 36 of these cases, smoking alone in 37, syphilis and smoking occurred in 64, and neither in 11 cases. The following conclusions were reached: 1, syphilis or smoking alone may be the cause of this affection in about the same proportion of cases; 2, in a majority of cases it may be due to both; 3, it rarely appears without being referable to one or the other of these causes; 4, other forms of irritation seem to play only a minor part. He believes that a certain predisposition must be assumed, in view of the great number of syphilitics and smokers who never develop the disease. (Sajous' Annual.)

Symptoms and Diagnosis.—Leucoplakia may be recognized by the presence of circumscribed or diffuse, smooth, white, bluish-white or pearly-white radiating patches appearing in varying numbers upon the mucous membrane of the cheeks, lips, gums, palate or tongue. These patches often coalesce to form larger ones. In their earliest stage they are not elevated above the surrounding membrane, are smooth and glistening in appearance, and range in size from tiny, irregularly-outlined spots, to large plaques the size of a silver half-dollar, or even larger. At first they are not sensitive, and on this account may exist for a long time without the knowledge of the patient. Many cases never progress beyond this stage. Others may slowly increase in size, thickness and intensity of color, the plaque being slightly raised, the surface hard—*cornified*—and roughened. Accompanying this stage—especially when the disease is located upon the dorsum of the tongue—the patient will complain of a persistent dryness of the parts and inability to speak or use the tongue with comfort, except by frequent moistening of the mouth. Later, fissures appear in the tongue, and there is developed a smarting, burning sensation, as though the parts had been scalded. Alcoholic liquors, fermented beverages, acid fruits, highly seasoned or very hot food or drinks, and chewing and smoking tobacco increase these sensations and sometimes render the partaking of food a very great discomfort. Associated with this condition, there is a tendency of some portion of the plaque to peel off or slough out from time to time, leaving a reddened or raw surface which is exceedingly sensitive, and sometimes quite painful. Ulceration may follow, and degenerative changes develop, ending in the formation of a carcinoma. When the disease is in the tongue, warty growths sometimes appear in the leucomatous patches, which show a marked tendency under the stimulation of an irritant to take on a rapid form of carcinomatous degeneration.

Authorities are not agreed, however, as to the earliest developments of the leucomatous patch. Schwimmer and Barker described the earliest stage of the disease as appearing in the form of dark-red spots or reddish patches, which later are covered with the white or pearly-white surface. Butlin, Debove, Nedopil, and nearly all other writers upon the subject, describe the first stage as appearing in the form of radiating, non-sensitive white or pearly-white plaques, and your essayist desires to state that the testimony of his own observation corresponds with the latter conclusion. Another fact should also be borne in mind in diagnosing this affection, viz.: The progress of the disease is in many instances very slow and may have the appearance of having reached the limits of its development, while occasionally the disease may disappear with advancing age. On the other hand, the disease, which has seemed for many years to remain in about the same condition, may suddenly assume a most rapid and malignant type of degeneration. Shield reported a case of leucoplakia linguæ in a man 75 years old, for whom, two years before, one-half of the tongue had been removed for undoubted carcinoma, who gave a previous history of the presence of the disease—"bad tongue"—for more than twenty years.

The following cases are introduced to illustrate the various stages of the disease as found upon the tongue, gums and cheeks, and are taken from the private practice of the essayist:

Case 1.—This was a case of leucoplakia linguæ covering the entire dorsum of the tongue. The gentleman was a Hebrew merchant, 40 years of age, of robust health, and an inveterate smoker of cigars, his daily indulgence being from ten to fifteen strong Havanas. The disease had never given him any inconvenience, and he had not known of its presence until your essayist called his attention to it, when making an examination of his mouth. He was advised to stop smoking, but refused point blank, under any circumstances. There was no history of skin diseases or of syphilis. He drank wine in moderation.

Case 2.—This is a similar case of leucoplakia linguæ, in which, however, the stage of degeneration of the papillary layer has begun. The gentleman was of German birth, 45 years old, of large physique and good health, and also an inveterate smoker, both of cigars and the pipe, and was addicted to the use of liquors, but rarely to excess. He had been cognizant for several years of the abnormal color of his tongue, but it had given him no inconvenience until two years previous to the time when he appeared for consultation, and was referred to me by Dr. Gustav Fütterer of Chicago. The patient complained of an abnormal dryness of the tongue, tenderness of the denuded point, and a smarting, burning sensation, as though the tongue had been scalded. This was increased by taking salty or peppery foods, acids, wines or spirits. There was no history of psoriasis, zona or other skin diseases, nor of syphilis. He was warned of the dangers of the disease, under constant irritation, assuming malignant characteristics, and was advised to leave off the use of tobacco and all irritating or stimulating foods or drinks. This he cheerfully consented to do, and has faithfully followed. The treatment consisted of: 1, removing the salivary calculus and all sharp edges of the teeth and thoroughly polishing the surfaces. Carious teeth were treated by filling with gold, to remove all possibility of mechanic irritation; and 2, the application every other day of tinct. of aconite and tinct. of iodin, equal parts, to the denuded surface of the tongue. The applications caused slight smarting at first, but this subsided after a few minutes. After the first week a slight improvement in all the symptoms was noticed. Whether this was due to the local application or to the removal of all causes of irritation, was a question in the mind of the essayist. The treatment, however, was continued, and at the end of two months the symptoms, with the exception of the abnormal dryness of the tongue, had entirely disappeared and the denuded part was covered with healthy-appearing papillæ. Associated with disease of the tongue were plaques upon both cheeks and the right superior gums.

Case 3.—This case illustrates the disease as seen upon the gums of both jaws in a gentleman of Canadian birth, 50 years of age, and in robust health. This patient was also a great smoker of the pipe. The disease extended from the first bicuspid tooth backward to the maxillary tuberosity in the upper jaw, and from the second bicuspid tooth to the angle in the lower jaw. In this case the disease had not caused the least inconvenience, and the patient had not noticed any abnormal condition of the gums. There was no history of syphilis or of any skin disease, but he had gouty tendencies; he used spirits moderately, generally Scotch whisky. He was cautioned against the use of tobacco and spirits and stimulating or pungent foods or drinks, and advised to report frequently for examination, which he has done. During the last ten months there has been no appreciable change in the condition of the disease, and as it does not trouble him he will not give up his way of living.

Case 4.—This is one of leucoplakia buccalis upon the right and left cheeks, opposite the line formed by the occluded teeth in a retired gentleman of American birth, aged 52 years, and of fair health. The disease was discovered while making an examination of his mouth. The patient had not been aware of any abnormal condition of his mouth, and had not noticed the presence of the plaques. There had never been any pain or inconvenience associated with the affection. He is an habitual but not an excessive smoker of good cigars, and uses liquors and wine in moderation, but does not eat highly seasoned foods. There was no history of syphilis or of skin disease. The same advice was given as in the previous case, but he refused to give up the use of tobacco. This gentleman's case has been under observation for eight months, with no appreciable change in the size or condition of the plaques.

Case 5.—This is the last case to come under my observation, and shows the disease in its early stage, located upon the alveolar ridge in a Hebrew gentleman, 74 years of age, who was in otherwise good health. He was not cognizant of the presence of the affection. There had been no sensation to arrest his attention other than a slight roughness of the tongue, of the gums at the location of the disease, and which he had noticed for several months. No history of syphilitic infection could be obtained, and he has never been affected with any form of skin disease. He has been a moderate smoker since a lad, having rarely exceeded three cigars *per diem.*

The other cases have been reported by the essayist in his recent work on "The Injuries and Surgical Diseases of the Face, Mouth and Jaws." The first was a case of leucoplakia linguæ, the plaque being situated upon the dorsum of the tongue, and the size of a quarter dollar. This gentleman was 40 years old, and an inveterate smoker of cigars. The second case was one of leucoplakia gingivæ and buccalis in a man past 50 years of age, which proved fatal from malignant degeneration. The third was a similar case in a physician 45 years of age. The disease, however, was in its early stage, and had not been recognized by the patient. Immediate operation was demanded, and the diseased tissue removed down to the bone. Eight years afterward there had been no recurrence.

Differential diagnosis.—The affections which may be confounded with leucoplakia buccalis are the mucoplaques of syphilis and epithelioma. In the earlier stages of the disease such a mistake could hardly be made, but in the later period of the affection it might quite easily be confounded with syphilis or epithelioma. A three or four weeks' course of treatment with the iodid of mercury or potassium would clear up the diagnosis of the former, while in the latter it would be necessary to resort to the aid of the microscope for a positive diagnosis, even though there was present the clinical evidence of enlarged lymphatic glands.

Pathology.—In examining the histologic structure of the leucomatous patches, whether "thick or thin," a marked change will be noticed in the character of the papillary layer of the tongue, the mucosa of the lips and the cheeks, and in the cells of the epidermis. The papillæ of the tongue are often very much atrophied, and occasionally have almost entirely disappeared; while the epidermal layer has taken on a horny character more like that of the skin. This is true also of the epidermal layer in leucoplakia of the mucous membrane of the lips and the cheeks. It is also noticed that the epithelial processes, both of the tongue and of those portions of the oral mucous membrane affected by leucoplakia, are much shorter than is natural, and that the corium is infiltrated with leucocytes. In advanced stages of the disease true cell-nests are discovered, which establishes the fact of carcinomatous degeneration. How these cell-nests are formed in carcinoma is still a disputed question, but it would seem more than probable that in carcinoma of the tongue and oral mucous membrane following leucoplakia, the cell-nests were developed from traumatic inclusions of epithelial cells following the repeated ulceration and healing of the leucomatous patches.

Prognosis.—The interest in the prognosis of leucoplakia centers around the tendency or the predisposition of the disease to be followed by malignant degenerative changes, ending in the formation of carcinoma. That such a predisposition exists there is not a shadow of a doubt.

In the "American Text-Book of Surgery" we find this statement: "Many cases of cancer of the tongue are preceded by leucoma, the so-called psoriasis of the tongue." Garretson was of the opinion that the disease occupied the border-line between the non-malignant and the malignant growths. Le Dentu says it is not at all unusual for leucoplakia to become epitheliomatous. He does not, however, consider this to be a general predisposition of the disease, but that it is sometimes induced by a tendency of leucoplakia to degeneration. Sutton says: "In a fair proportion of cases (20 per cent.) epithelioma of the tongue is preceded by changes known as leucoplakia and ichthyosis; and they are frequently referred to as precancerous conditions. In the case of the cheek, epithelioma is sometimes preceded by a patch of leucoplakia. The disease often starts close to the angle of the mouth and extends backward into the cheek; or it begins in the fold of mucous membrane between the gum and the cheek, and occasionally it starts in the center of the cheek, often on a level with the meeting-place of the crowns of the upper and lower molar teeth."

Senn, in speaking of carcinoma of the mouth, says: "Carcinoma of the mucous membrane of the cheek is sometimes preceded by a patch of leucoplakia. The influence of chronic irritation in producing carcinoma is well shown in carcinoma in this locality, as the tumor very often corresponds in its location with the crowns of prominent upper and lower molar teeth." Butlin states that out of eighty cases of cancer of the tongue, sixteen were preceded by leucoma. Park believes leucokeratosis may become the seat of an epithelioma, and its surgical interest depends upon the frequency with which it is followed by this malignant growth. Warren says he "has seen but few cases of leucoma; one of these in a lady on whose tongue it first appeared in youth, and remained in the shape of several large, brilliant white patches, until old age, when it disappeared; in another case, a man 43 years of age, the tongue had been troublesome from childhood; the mucous membrane was sensitive and easily irritated, and it was prone to inflammatory conditions, during which small ulcers appeared. At the age of 34 years typic leucoma appeared, situated for the most part on the right side of the tongue Three years later the patches enlarged, and a warty growth formed in the center. Three years after this he (Warren) removed with the knife the largest patch which was about the size of a silver half dollar. This operation was performed in June, 1891. In October, 1891, a small epithelial growth of an apparently malignant nature appeared on the opposite side of the tongue. This growth was removed and found to be typic cancer. In December a similar growth was removed from the tip of the tongue. In April, 1892, both growths having reappeared, a large portion of the left side and the tip of the tongue were removed by a wedge-shaped incision. The disease never returned on the tongue, but six months afterward a glandular enlargement was observed under the left jaw, and the patient died two months later. The growth was found to be typic carcinoma."

Treatment.—Leucoplakia of the oral mucous membrane is generally exceedingly rebellious to treatment, and quite often shows a marked tendency to carcinomatous degeneration; therefore the measures employed are, perforce, largely those of palliation and heroic operations. Those cases, however, which give a clear history of syphilitic infection may be benefited by a course of antisyphilitic treatment; but it may be stated as a fact, that up to the present time no drug has been discovered which, acting constitutionally, has any beneficial effect whatever upon the progress of leucoplakia.

The preventive measures which may be instituted in the treatment of leucoplakia are the removal or discontinuance of all forms of chemic and mechanic irritation. Persons who suffer from an irritable and sensitive oral mucous membrane should avoid chemic irritants of all kinds, particularly alcohol in any of its forms, acids, pungent condiments, very hot foods or drinks and tobacco. In persons already afflicted with the disease such irritants stimulate the progress of the affection, and should, therefore, be strictly interdicted. It is much easier, however, to advise a patient as to what he should do and what he should not do than it is to get him to follow your advice. In the early stage of the disease—before it has caused any real inconvenience—it is very difficult to get a man who is in the habit of using spirituous liquors or tobacco to consent to give them up. He feels that you may be mistaken, or that you are magnifying the danger, and hence decides not to change his habit of living, at any rate for the present, or until he is convinced that your advice is correct. Perhaps he will consult some other professional gentleman who disagrees with your diagnosis and laughs at your fears. This reassures the patient, and he goes on with his old habit of life for months, perhaps for years—in some cases with impunity; in others with most disastrous effects to his comfort and his life.

The mechanic irritants which are most common in the mouth are usually associated with the teeth or with artificial dentures, such as carious cavities, agged roots, fractured teeth, salivary calculus, rough or ill-fitting plates, or plates made of a material which are irritating to a sensitive mucous membrane. All such forms of irritation should be at once removed, by filling the cavities, extracting the roots, giving appropriate treatment to the fractured teeth, removing the salivary calculus and carefully polishing the surfaces of the teeth, while the irritating artificial denture should be replaced by others free from these objections, or discarded altogether. Too much stress can not be laid upon these points as a safeguard to the patient against the development of the malignant form of the disease.

Local treatment.—Nicholson, who believes leucoplakia to be zona of the oral mucous membrane, considers local applications of only temporary service, while the constitutional treatment for zona is often entirely fruitless. He desires, however, a trial of the tincture ferri perchlorid, 25 to 30 minims (1.3 to 2 grams), three times *per diem*, as in one of his cases it seemed to give relief from the burning pain, and improved the condition of the lingual epithelium in a remarkable manner, when all else had failed. Rosenberger recommends the local application of pure balsam of Peru painted upon the patches with a brush, and allowing it to remain in contact for from three to five minutes. The immediate effect is a slight burning sensation with an abundant salivation. These applications he advises to be made three times *per diem*. In thirteen cases so treated great relief was obtained. The patches, however, heal slowly, a year in some cases being required to produce a cure.

Leistikow advises the local application of the following paste:

Terræ siliceæ	gr. xxiv	1|5
Resorcini	gr. xlviii	3|
Adipis	gr. viii	|5

This he applies to the affected parts with a swab. From eight to fourteen days afterward a contraction or shriveling is observed, and a slightly inflamed condition of the mucous membrane, which by the application of balsam of Peru is brought to a normal condition. Rosenberg reports a case of leucoplakia which had lasted for over seven years, and had resisted all the usual methods of treatment, in which the plaques disappeared in a few days after being painted with a 20 per cent. solution of the iodid of potassium.

In Case 2 presented by the essayist, the local application to the plaques and the denuded surface of the tongue of tinct. aconite and tinct. iodin, equal parts, every other day for two months, relieved all the symptoms except the abnormal dryness of the tongue, while the denuded part healed and was covered with healthy-appearing papillæ. In the other four cases treatment was declined because of the apparent trivial nature of the disease to the minds of the patients.

Palliative treatment.—This consists of the use of alkaline lotions or mouth washes. Butlin recommends for this purpose in the milder cases, bicarbonate of potassium, 15 to 20 grains in one ounce of water, and in the syphilitic cases, chromic acid, 1 to 2 grains to the ounce of water, or a 5- to 10-grain solution may be painted upon the plaques. Bicyanid of mercury is also recommended in solution of 1 to 2 grains to an ounce of water, and painted upon the plaques. In the severer cases, he recommends solutions of bicarbonate of soda or of boric acid. He thinks mel boracis (honey and borax) is better suited to some cases than alkaline solutions, but as a general rule, the alkaline solutions give greater relief in cases of leucoplakia of long standing. A trial of these various remedies is necessary in order to find the one best suited to the individual case.

Surgical treatment.—In the severer forms of the disease, radical operation is the only safe method to follow. The tendency of the disease to assume a malignant character should cause it to be treated as a malignant growth, and thorough extirpation practiced at the earliest moment. Temporizing by the use of caustics is worse than useless, and most authors deprecate their use for the reason that the irritation seems to increase the dangers from malignant degeneration. Garretson was very emphatic in his denunciation of the use of caustics, of every form, in the treatment of this disease. Butlin says: "One general rule holds good for all cases of leucoma, namely: not to use caustics. Whatever danger there may be of the development of carcinoma is certainly increased by the employment of nitrate of silver and other caustics."

In the fatal case of leucoplakia buccalis and gingivæ reported by the essayist, the physician who had charge of the case treated it with nitrate of silver, and later with chromic acid, with the result of stimulating the more rapid spread of the disease. On the other hand, we may contrast the results obtained by a radical operation in an almost identic case, also referred to on a previous page, in which a permanent cure resulted, as proved by the fact that there has been no recurrence after a period of over eight years. The consensus of opinion obtained from the perusal of the most eminent authorities is, that thorough and complete extirpation of the diseased tissue is the only reliable method of treatment, and this, to be effective, must be practiced before malignant symptoms have developed.

Perrin, who reports a case of leucoplakia linguæ and labialis with papillomatous epithelial degeneration, secured a permanent recovery by the thorough extirpation of the plaques by surgical means. He urges early and complete extirpation as the only way by which to avoid a final transformation of the disease into true epithelial carcinoma. Dubois-Havenith has exhibited a case of leucoplakia linguæ upon the left border of the tongue, which was successfully treated by curetting and the galvano-cautery. Butlin does not recommend the early excision of the plaques when the disease is located in the tongue, unless it "is very obstinate, and scarcely at all relieved by treatment"; but he has no doubt of the wisdom of such an operation in "indurations, warty growths and very obstinate ulcers, particularly when they present the slightest increase of induration about their bases. Such conditions must be considered as young cancers, and must be dealt with as if they were in truth cancers." Hulke urges early excision of all hard and warty patches (ichthyosis) upon the tongue before they attain a large size as the only means of cure.

In closing this somewhat lengthy paper, your essayist desires to thank you for your forbearance and kindness in listening so attentively, and trusts that the presentation of such a subject has not seemed to you out of place, but rather in its right place, and that the suggestions herein made will have so interested you that in the future you will carefully observe the mouths of your patients with the view of studying this disease and reporting your discoveries. The disease is no doubt on the increase, if your essayist may judge from his own experience, for up to one year ago he had seen but three cases in all his practice; since this period he has recorded five additional cases.

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KERATOCENTESIS IN INFECTED WOUNDS OF THE EYEBALL.

BY M. F. WEYMANN, M.D.

Professor of Ophthalmology and Otology, Central Medical College;
Oculist and Aurist to Home of Little Wanderers.
ST. JOSEPH, MO.

Thanks to antiseptic and aseptic treatment, we are now pretty well enabled to eliminate wound infection. Still, there are parts of the body, chiefly cavities, where, even with the greatest care and most rigorous asepsis, this can not be accomplished. Then, too, there occur wounds that become badly infected before the physician is able to see them. What should be done in such instances?

Antisepsis is certainly not the principal thing, though we do not care to entirely deny its usefulness. It must be borne in mind, however, that antiseptics are, as a rule, severe tissue irritants and only help to increase the discharge, which, in itself, opposes healing. Furthermore, in many cavities the application of antiseptics would be an actual menace to life, by absorption. What, under these conditions, is the most vital point? Drainage, no doubt.

We know that the dangers of local infection are twofold: 1, irritation of the tissues by decomposition products and ptomains, resulting in suppuration and preventing healing; 2, systemic intoxication by absorption of microbic products. Outside these two points we have little to fear. Now, the *vis medicatrix naturæ* is so great that it will successfully combat disease, if assisted a little. By providing for free drainage all oozing is allowed to seep away, if the drainage be made at the lowest point. As soon as the poisons are elaborated by the bacteria they drain away, minus the inconsiderable portion that *clings*, but even with the latter a wound will do well and heal, although not always by first intention.

Perforating wounds of the eyeball with infection are frequent, at least in a comparative sense, and quite often lead to destruction of the organ. Nor are antiseptics indicated for use within the ball, for even so mild an agent as boracic acid will produce a most decided reaction, hence drainage would be he thing called for. The application of a contant drainage-tube is not allowable and not practicable, nd for that reason, perhaps, the great principle remains untried. However, seeing infected eyes lost constantly which I thought might be saved, I, two ears ago, for the first time practiced intrabulbar drainage by repeated paracentesis of the cornea, and the results have certainly been astonishing, at least so far.

In illustration I offer the following representative cases:

Case 1.—A boy, 14 years of age, had his eye perforated by a flying piece of steel. When first seen the upper lid was swelled, with great photophobia, lachrymation, injection and edematous thickening of conjunctiva. He had excruciating brow-ache, cephalalgia and aching in ball; the iris was sluggish, discolored; aqueous cloudy; ball quite tender. I immediately applied hot fomentations and instillations of atropia, and obtained partial mydriasis and some relief from suffering. On the second day the iris was nearly up, but there were excruciating pains in the eye, yielding to nothing. Paracentesis of eyeball was performed on the lowest point of the sclero-corneal circle. Great relief soon followed, although the iris came down somewhat. During the first week kerato-paracentesis was performed twice daily, with constant use of atropia.

The symptoms gradually subsided until the eye had practically paled out. There was, after the first two days of treatment, very little complaint, except an annoying lachrymation and photophobia, which continued nearly five weeks. Today the eye is well, i.e., it shows no trace of irritation, though the foreign body must be imbedded. A cataract also persists.

Case 2.—A young man presented himself with zonular cataract, bilateral, of course. The opaque zone was very large and had within the past two years clouded completely. Before and after operation (discission) instillation of atropia was made. The first night the patient suffered severely from iris irritation, which, however, subsided after repeated atropinization. At the end of the second day the eye again became quite tender and red and there was severe throbbing pain in the ball; the upper lid was swollen and the conjunctiva strongly injected, also copious lachrymation. The aqueous was murky and cloudy, tension distinctly increased. I thought at first that glaucomatous symptoms might, in connection with iritis, explain all the trouble.

I made a double incision, such as would be obtained by passing a cataract knife through the ball and stopping after counterpuncture is made; freely drained off aqueous, then ran through the anterior chamber a sterilized solution of boric acid (gr. viii to ℥i). This was done with a small canula fitted to a rubber-ball bulb, while counterpuncture was kept open by means of the spreading branches of an iris forceps. This lavage was continued fully fifteen minutes in short intervals, after which the eye was bandaged. Relief was immediate. Six hours later the the local irritation of the boracic acid was well apparent, for the cornea was clouded to such an extent that the iris and pupil were hardly visible. It had very much the same appearance as in interstitial keratitis. The punctural incisions looked like two infective corneal ulcers of the worst type. The first look rather annoyed me, but I was soon reassured when the patient told me that there was no pain to speak of. I instilled atropia and re-bandaged. The next morning the cornea was clear, the aqueous somewhat dirty-looking and some dull ache in ball. The iris was pretty well dilated. Paracentesis was repeated. Without stringing out the story, I want to add that my patient recovered in about ten days. Today—a year since—his cataract is absorbed, his V.=$^{20}/_{40}$, very good after a zonular cataract and a discission operation followed by unmistakable infection.

In practicing keratocentesis, I choose the most inferior spot of the corneal circle, about one-sixteenth of an inch away from the sclera. A small keratome is very good in uncertain hands, owing to the stays, but personally, I prefer a Graefe cataract knife, which I hold parallel to the plane of the iris. This creates a valve-like wound that will not drain except when worked. This is also a prevention against ingress of infective matter from without. Care must be exercised not to wound the iris, and the withdrawal should be very gradual, the tip of the knife remaining in the incision. This makes the flow of the aqueous slow and thus prevents coming down of the iris. Again, with the tip, the inner margin of the lower wound-lip may be depressed at or near the end of the work, so as to enable the operator to draw off almost the last drop.

I would like to call attention to an odd occurrence in one case, in which there formed a large hypopyon. The aqueous would be full of matter forming a cloudiness or dirtiness of the aqueous when the ball was kept in motion, and settling on the lower margin in the form of a lunula when the patient held the eye still in an upright position. No pain coexisted, and though the eye would clear after keratocentesis, the pus would return in two to four days. I finally ceased operating, the ball paled out and the pus became absorbed. The eye, though still under observation, is now well.

I would like to see other confrères try the measure to determine its value, and any communications on the subject would be received very gratefully by me.

N. W. Cor. Seventh and Felix Streets.

ELEPHANTIASIS SCROTI.

MODUS OPERANDI OF OPERATING FOR ITS REMOVAL.

BY F. E. BRAUCHT, M.D., M.D.S.
APIA, SAMOA.

Every case of elephantiasis of the scrotum can not be operated upon in the same way, as the disease involves the tissues of the scrotum and integument of the penis in a variety of ways, and each case must be dealt with accordingly. It is our purpose to discuss in this paper but a single class of these cases. This class has those cases in which the penis is intra-scrotal. That is, the dangling tumor has so dragged down and overgrown the penis that it has finally receded into the growth from two to five inches; and the urine is passed through a canal which is lined by the integument that was the former covering of the penis. The true condition of the penis can not be better described than by skinning a cat or rabbit, beginning at the hind quarters and pulling the skin forward over the body until the head is reached. With this explanation, we think the condition can be fully understood by a study of the figures. This class of cases gave us the most perplexity to know how to remove all the tissues involved, and yet have a good covering for the testicles and the penis, and have a good plastic effect. We tried many plans and devices, but none were satisfactory from a plastic standpoint until we hit upon the simple plan it is our purpose to describe.

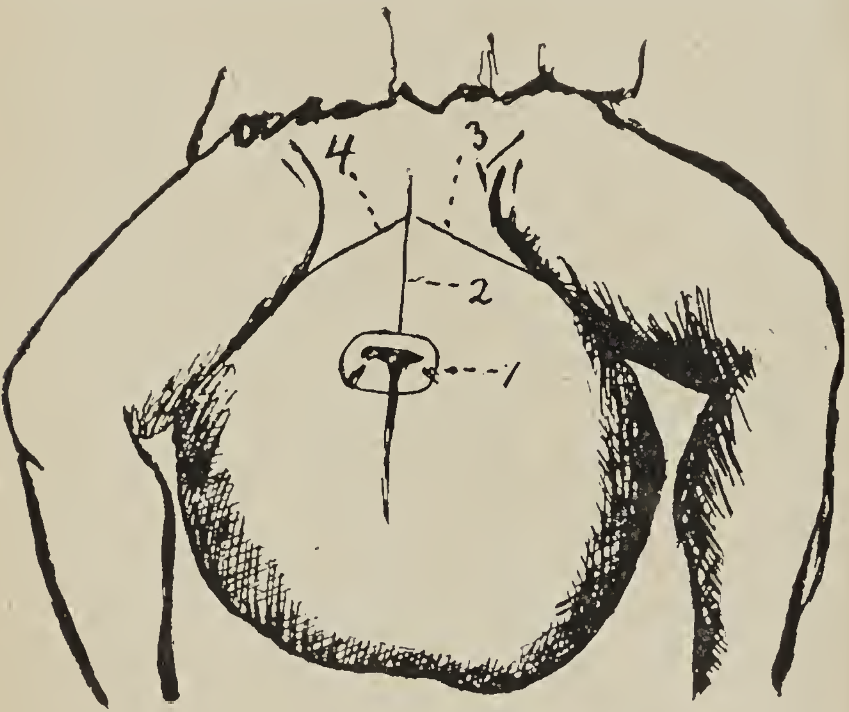

Fig. 1.—Intra-scrotal penis.

The first incision (Fig. I, 1) is made with a pair of angular scissors, around the orifice of the canal leading to the glans penis. This incision is made far enough from the mouth of the canal to insure plenty of integument for after-use. What is not needed is afterward trimmed away. The second incision (Fig. I, 2) is made at right angles with the top of the first incision, and runs almost to the pubis. These incisions need not be any deeper than the skin. The skin surrounding the penis canal is now caught with a pair of artery forceps and dissected out with the penis, well down to the pubis. In dissecting out the penis, it should be cleaned as free as possible of all connective and adipose tissue. It is then wrapped in a sterilized towel and laid out of the way. Thus far there is usually very little bleeding, but with the next incision a good supply of artery forceps is needed.

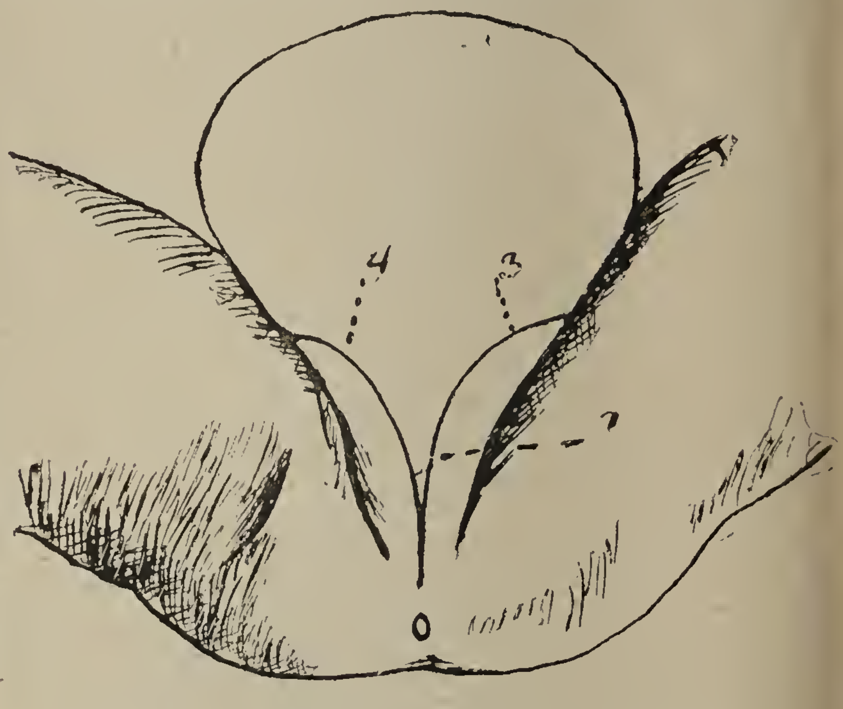

Fig. II.—Incisions behind and down the perineum.

The integument around the base of the tumor, or the huge pedicle is not usually affected by the disease, and it is out of this that the new scrotum is formed.

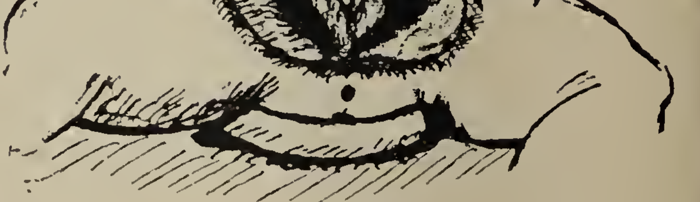

Fig. III.—Showing skin reflected off tumor behind.

The third and fourth incisions (Fig. I, 3 and 4) are commenced at the second incision, about an inch or so from the pubes, and run from it around the base of the tumor, being sure to keep high enough upon the tumor to insure plenty of skin for scrotal flaps, and down on to the perineum as far as it is deemed necessary in order to remove all diseased tissue (Figs. II, 3 and 4). This incision is made through the skin only, which is then dissected off the tumor all around, well down into the groin, and back off the perineum, reflected out of the way and held by an assistant. The testicles are now found and dissected and wrapped in another towel, and laid out of the way. Fig. III shows the tumor from behind, with the skin dissected off ready to be cut away. The tumor is handled with a rope and tackle, the rope being supplied with two snaps at one end to snap into the handles of a large pair of tumor forceps. This is not needed in small tumors, but for those of forty-five to eighty-five pounds or more, it will be found very convenient. The tumor is now lifted by the tackle, and the tissues put on the stretch. Then with a pair of pedicle forceps the base of the tumor is grasped close down to the perineum and cut away. Then another pair is clamped on above these and again cut away, and so on until the tumor is freed from its attachment. Care must be taken not to injure the urethra or the spermatic cords. The flaps of skin are now trimmed and fitted for sewing up the scrotum. The skin is trimmed over the perineum so as to come nicely together and from two to three stitches taken n it, as when the repair of the perineum is made in he female, only that not so much tissue is pulled into he wound. Fig. IV shows the tumor removed with he flaps of integument drawn off on either side, the enis held perpendicular, and the testicles wrapped in towel. After the perineal stitches are placed, the sticles are brought down into place and the flaps e trimmed to make the new scrotum, which is en sewed up to near the base of the penis. Then e integument which was the former covering of e penis, and which has been pulled over the glans nis like a skinned rabbit, is thoroughly trimmed d drawn back over the penis into its proper place. The superficial integument is now trimmed off all round, the edges sewed together, and the operation is completed, as in Fig. V.

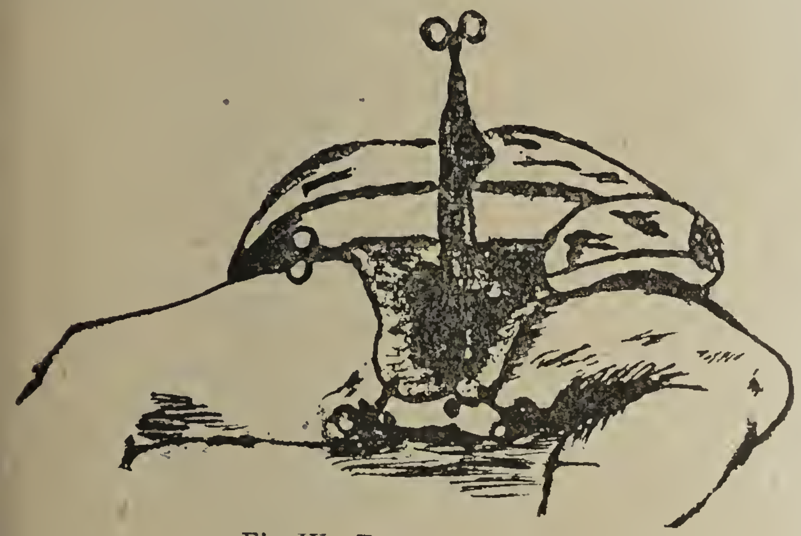
Fig. IV.—Tumor removed.

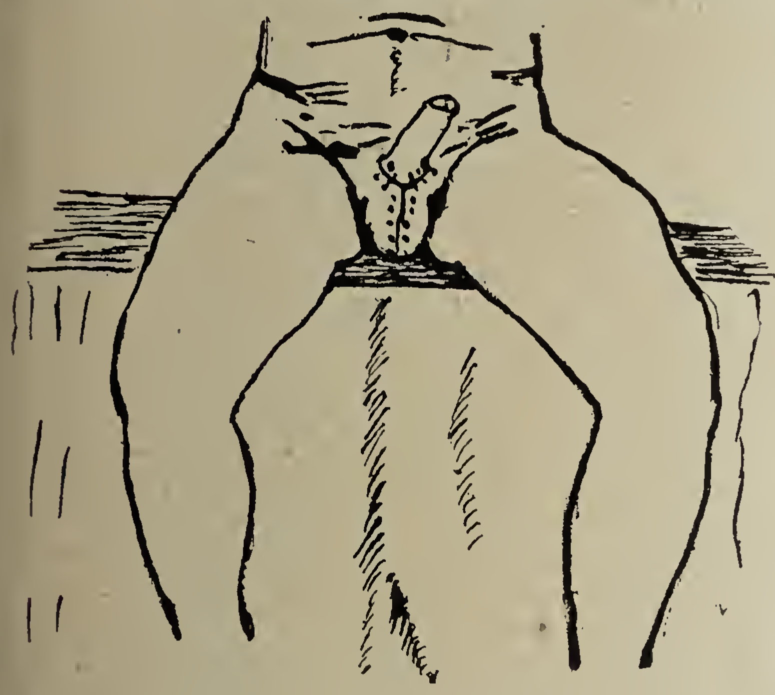
Fig. V.—Operation complete.

THE EPIDEMIC OF SMALLPOX IN CUBA.

BY R. S. WOODSON, M.D., U. S. A.

MEDICAL INSPECTOR, DEPARTMENT OF SANTIAGO.

The present epidemic of smallpox in this Province may be said to be practically at an end. No new cases are appearing; all unprotected persons have been vaccinated, and all infected houses have been disinfected. We have isolated and treated in our isolation hospitals more than twelve hundred cases. These hospitals are located at convenient centers of inspection—Holguin, Gibara, Auras, Fray-Benito, Puerto Padre, Las Nuevas, La Caridad and Mayari. Their records show respectively, 475, 230, 210, 123, 50, 93, 15 and 5 cases. At the present time there are less than three hundred cases under treatment, most of which are convalescent. Our rate of mortality has been less than 12 per cent. We attribute this excellent result to open-air treatment and to bichlorid baths—every patient receiving daily baths in strong solutions (1 to 1000) of bichlorid of mercury. The open-air treatment is a necessity in this locality, the open Spanish sheds constructed of palm leaves, of which the hospitals are composed, affording but little protection, and likewise affording but little lodging for the germs of disease and consequent virulence of infection. This treatment is permissible in this warm, equable climate.

The low rate of mortality can not be attributed to the mild type of the disease, for, as a matter of fact, the disease is of more than average severity. Nor can it be attributed to previous vaccination, for our records show only 2 per cent. of persons possessing such partial immunity, with no deaths. The municipal records of Holguin during the past summer show an average of six deaths a day, with 800 deaths, all told, from smallpox during the year. There have occurred in Gibara 250 deaths from smallpox during the same period. Numerous other small towns have become depopulated and deserted, and have converted their cornfields into graveyards.

No effort had been made by the Spanish authorities to combat the disease; indeed, it would appear instead that they had, with devilish intent, encouraged its ravages as a method of inhuman warfare against the Cubans. The Cubans themselves seemed to have accepted the inevitable with dogged resignation. Twelve thousand Spanish soldiers had been quartered in Holguin for three years, until the city was submerged in filth and overwhelmed with disease. Such were the conditions met by Hood's Regiment upon taking possession of this district.

We are happy to repeat that after two months of arduous labor we have placed the district in an excellent condition and have done much toward relieving the oppression and misery consequent upon the Spanish domination. On January 7 the lazaretto of Holguin was destroyed by fire, it having outlived its usefulness. The lazaretto at Gibara was likewise destroyed some days previously. Our methods of control have been: 1. the establishment of isolation hospitals as above; 2, the isolation of all cases therein; 3, house-to-house inspection; 4, the establishment of convalescent hospitals for final disinfection; 5, the vaccination of all unprotected persons; 6, the disinfection of infected houses. Our territory has embraced nearly a third of the Province of Santiago, presenting numerous foci of infection, the isolation of cases being rendered difficult by the lack of roads, the wildness of the country and the superstitious dread of the natives for vaccination and isolation hospitals, many cases fleeing to the mountains, carrying infection to new localities and necessitating the sending out of members of the commission along the byways and into the untraveled forests of the district.

The sanitary commission organized by the department commander, General Wood, over which I have the honor to preside in my official capacity as Medical Inspector of the Province of Santiago, is composed as follows: Col. Felipe Veranes, chief surgeon of the Cuban Army, in charge of the District of Holguin; Major Guillermo Dolz. surgeon, U. S. V., secretary of the commission; Dr. Meyer Herman of New Orleans, in charge of disinfection and vaccination; Dr. O. H. Stone of Mississippi, member of the commission; Dr. Vincent Gomez of New York and Gibara, in charge of the District of Gibara; Capt. I. B. Massie, Company G, Second U. S. V. Infantry, and M.D., of Houston, Texas, in charge of isolation hospital at Gibara; Dr. Edward C. King, Second U. S. V. Infantry, of Houston, Texas, in charge of isolation hospital at Fray Benito; Lieut.-Col. Rudolfo Socarras, surgeon of Cuban Army, in charge of isolation hospital at Holguin; Col. Antonio Lopez, surgeon of Cuban Army, in charge of the District of Tunas; Lieut.-Col. Faustino Silven, surgeon Cuban Army, in charge of the District of Puerto Padre; Dr. Calixto Garcia of Gibara, in charge of isolation hospital at Auras; Dr. Jose Maceo Chamorro of Havana, in charge of isolation hospital at Puerto Padre; Dr. Humberto Manduley of Havana, sanitary inspector of the city of Holguin; Ramon Reyes Zamora, pharmacist; Marcelino Torres, clerk of the commission, and Capt. Charles Muercke, Artillery Cuban Army, chief of sanitary corps of 100 men.

All the above are selected men and have done excellent work in their various capacities. We have been greatly aided in our work by Col. Duncan N. Hood and his regiment of immunes, the Second U. S. V. Infantry. In strange contrast to the insanitary horrors of Spanish occupation is the present occupancy of this regiment, with their careful attention to every detail of military hygiene. Although having taken possession of a district recently garrisoned by 12,000 Spanish soldiers, with the accumulated filth of three years, with a fierce epidemic raging and malarial fevers rife, yet this regiment presents an unparalleled effective strength as compared with other regiments serving in this tropic climate, and as yet no American soldier has fallen a victim to the disease.

REPORT ON MASSAGE.

EFFECT OF MASSAGE ON THE BLOOD—MASSAGE IN AFFECTIONS OF THE HEART—MASSAGE IN SURGERY.

PAPER NO. II.

BY DOUGLAS GRAHAM, M.D.

BOSTON, MASS.

(*Continued from p. 173.*)

EFFECTS OF MASSAGE ON THE NUMBER AND HEMOGLOBIN VALUE OF RED-BLOOD CELLS.

One of the most interesting and elaborate investigations in the past few years is that of Dr. J. K. Mitchell into the effect of general massage on the blood.[1] These observations were made upon thirty-five people, a few of whom were well, but most of them were suffering from anemia, slight or severe; anemia from hemorrhage and from toxic causes, from chlorosis, from senile and other malnutritions, and one from pernicious anemia. As a rule, in nearly all the cases after massage, there was found a great increase in the number of red globules, and in about half the cases an addition to the hemoglobin also. This increase was found to be greatest at the end of an hour after massage, and after this it slowly decreased. This decrease was postponed more and more when the massage was given daily; and in one case of severe anemia that had been under rest, feeding and massage, after all these had been stopped, the corpuscles and hemoglobin still continued to increase amazingly, thus dispelling the presumption that the improvement in these cases is due to a temporary effect. In this case the white corpuscles were enormously increased; before massage they were 1 to 1200; after, 1 to 134. The red corpuscles on January 11 and 12 were 1,500,000 and 15 to 18 per cent. of hemoglobin; on January 24, under rest and massage, the amount was 3,800,000 before and 5,400,000 after massage. All treatment was stopped on January 24, and yet the corpuscles continued to increase until on January 31 they had reached the amazing figure of 5,500,000, with 50 per cent. of hemoglobin.[2]

Some cases that seemed to be anemic were found on examination of the blood not to be so at all. Massage can not manufacture blood-cells or coloring matter; it simply puts into circulation those that are dormant in the system. This state of things, as Dr. Mitchell aptly puts it, "may be like the want of circulating money during times of panic, when gold is hoarded and not made use of, and interference with commerce and manufacturers results."

The same things have not always the same effects. That often depends on the previous condition of the patients, as well as upon how the same treatment is applied. In two of the three persons whose blood count was lessened after massage, active exercise had just been previously taken. One had walked two and a half miles on a very cold day; the other a mile. In both of these there was marked diminution of the red globules after massage. The author thinks that inasmuch as these cases had already an increased activity of circulation from exercise, the rest and the massage tended toward a reduction of their blood globules. But he does not tell us that they probably received as much temporary benefit from the manipulation as those that were resting and had an increase in the number of blood-cells after massage. A very important point that he has called attention to is that headaches frequently occur after general massage in sensitive individuals, as a result of temporary plethora. It need not, therefore, be regarded as a reason for stopping massage, but rather as a good indication for its continuance.

MASSAGE IN THE TREATMENT OF HEART DISEASE.

Before Schott or Œrtel were ever heard of your reporter advocated and practiced the careful use of massage for weak bodily conditions, and as the patients grew stronger passive motion was added; then as they improved, resistive movements were combined with the preceding, and when recovery was sufficiently far along they were told to exercise actively, to go about their business. Dr. Douglas Powell has become converted to this way of thinking, and in the *British Medical Journal* of April 9, 1898, he helps to define more clearly the use of massage and exercise. He tells us that massage is a means of helping on the convalescent stage of acute heart disease, and of combating the tendency to stagnant circulation in those who are disabled by chronic heart disease. The treatment, he thinks, is still more useful in maintaining the circulation and mildly stimulating the coronary circulation in those who are bed-ridden, and on that account suffer from impairment of heart nutrition and chilly extremities, feeble pulse, torpid digestion and passive congestion of the lungs. The treatment is not advisable in acute affections of the heart.

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[1] American Journal of the Medical Sciences, May, 1894.

[2] Eleven years ago the reporter called attention to the fact that in cases of local or general neurasthenia, improvement still went on after the discontinuance of massage, in cases that had apparently come to a stand-still.

The effects of the Schott or Nauheim exercises are a stimulation of the heart's action, with a steadying effect or increased completion of the systole, improved circulation through the coronary vessels and an increased motility of the blood, by its readier passage in greater bulk through the muscles, thus relieving stagnation in the great internal organs, especially of their veins. The graduated exercises may be regarded as a *counsel of perfection*, as a preliminary to the return to this increase of active life of which the condition of their heart admits, and also as a guide to what that measure of exercise will be. Resistive exercises are especially adapted for the initial treatment of those flabby, irritable, "stuffy" hearts, applying this term to cases of fatty infiltration and impaired metabolism which are met with in people of venous plethora.

In cases of chlorosis with dilated heart, after a preliminary week or two of rest, the Schott treatment is valuable if combined with a dry, bracing air and mild chalybeate. It is useful in commencing failure of the heart, in chronic valvular lesions, combined with less of other exercises, and also after such cases have been restored to a certain extent by digitalis. It is unsuited in all cases of acute endocarditis while there is any trace of activity of lesion left, and in cases of advanced cardio-vascular changes of the nature of sclerosis, or in introspective people with neurotic hearts.

An excellent summary of this treatment of heart affections was given by Sir Grainger Stewart before the British Medical Association at Carlisle. He has fully satisfied himself on the following points:

1. That in the great majority of cases of cardiac dilatation, the area of cardiac dulness diminishes perceptibly during each administration of massage.

2. That the character of the cardiac sounds, and the rhythm and strength of the pulse correspondingly improve.

3. That the patients usually experience a sensation of comfort and feel the better for the treatment.

4. That although the immediate favorable effects pass off in a few hours, yet they frequently do not pass off completely, for he has often found the line of cardiac dulness within that with which they had started at the previous séances.

5. That repeated applications of massage bring about a permanent diminution of the area of dulness, with improvement of pulse and of the patient's sensations.

6. He has seen a case in which the so-called Schott treatments produced a deleterious effect, rendering the heart more irregular and intermittent. It was afterward treated by massage alone on the following day with most striking benefit. It turned out that the patient was not sufficiently well to bear the active movements, but was greatly benefited by the passive ones.

7. That on one or two occasions he has seen the manipulations produce unfavorable effects, apparently because the heart was too feeble and the patient was fatigued at the time of application.[3] (In this last case it is possible that the massage was too vigorous, in that the manipulator himself was not in good condition. Your reporter recently had to walk three-quarters of a mile in the teeth of a cold wind to give massage to a patient with a weak heart. The result was the only unfavorable one of the kind he ever had. The patient was unduly fatigued. If I could have ridden to the patient's door the result would most likely have been different.)

The distinguished Dr. Schott[4] himself demonstrates to us by means of drawings and wood-cuts that fifteen minutes of systematic resistive exercise perceptibly diminishes the size of weak and dilated hearts, as seen by the fluoroscope; while straining, irregular and unsystematic exercise, such as wrestling, on the other hand, produces dilation and weakness of the heart. The immediate effect of the Nauheim baths was not so marked as after the exercises, but it seemed to last longer, while the exercises have the advantage of being used more easily and several times a day. A few years ago who would ever have imagined that we could look right through a patient and see the effects of massage, exorcise and baths on their internal organs?

Dr. Albert Abrams[5] finds that any cutaneous stimulant—mechanic, chemic or electric, will produce diminution of the size of the heart, with temporary dilatation of the lungs. Vigorous cutaneous friction by means of a wire brush seemed to afford him results in heart disease nearly as good as that obtained by the more elaborate treatment by means of baths, massage and exercises. He quotes Moccucci, who sprayed the left half of the abdomen with ether in twelve cases of enlarged spleen, with the result in decrease in volume of the spleen in all the cases. In repeating these experiments Dr. Abrams noticed a decided diminution of the size of the spleen in all the people he tried it on, irrespective of the fact whether the spleen was enlarged or not. Ether spray over the heart and over the liver caused decrease in size of both these organs. The results were confirmed not only by percussion but also by sight, by means of the fluoroscope.

Maas[6] has reported two cases in which patients apparently dead from chloroform syncope were resuscitated by compression in the region of the heart. In both cases respiration and radial pulse had entirely stopped, and the pupils were dilated. The manipulation of the heart in both cases was carried out for over an hour. Compression over the heart was used 120 times a minute, and soon after it was begun the pupils became smaller and the paleness of the face disappeared. Afterward both patients suffered from mental derangement, difficulty of swallowing and speaking, all of which passed off shortly.

All this strengthens our belief in what we are told of Mary, Queen cf Scots, which hitherto, we must confess, was not very great. She was stricken down, Oct. 17, 1566, with a fever, caused by fatigue and the annoyance of her Darnley husband. She was very ill and sank rapidly. She became cold and rigid, her form straightened out, and her pulse and respiration were no longer perceptible. All despaired of her save her physician, Dr. News, who, hoping against hope, *continued to use vigorous friction, and at length succeeded in restoring her to life.* She began rapidly to improve. Her death meantime had been reported in Edinburgh. No doubt, many times afterward she wished she had then died; for it would have saved her from a vast amount of trouble and an ignominious death.

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[3] Mechano-Therapy in the Treatment of Heart Disease: Dr. T. Stretch Dowse, 1898.

[4] New York Medical Record, March 26, 1898.

[5] Medical News, Jan. 7, 1899.

[6] Berlin Klin. Woch., 1892, No 12.

MASSAGE IN SURGERY:

Observations at Surgical Clinic of the University of Berlin.

Zabludowski[7] tells us that massage is of value in the prevention of thrombosis, and that it also relieves the symptoms of existing thrombosis. Good results are obtained from it in peripheral disturbances of the circulation in varices, venous stasis, lymph-stasis, local syncope of arteriosclerosis, and in obstipation and pains in the abdomen, enteroptosis, spasm, residual perityphlitic exudation and cicatricial stenosis of the pylorus.

Massage used at the right time acts as prophylaxis against pleuritis and the formation of thrombosis. In a case of weakness of the heart after influenza, under similar circumstances, one leg which had no massage became gangrenous and soon had to be amputated; the other leg, which soon after began to have similar appearances, stasis, etc., got well under careful massage.

In paralyses of central and peripheral origin, where the functions of the affected centers, nerves and muscles can not be exercised, massage often succeeds in again restoring the capability of action, not only by its effect on the periphery, but also by psychomotor impulses in the formation of new associations and coordinations.

Massage is contraindicated in cases in which the cerebral or spinal affection is accompanied with muscular spasm, contracture and exaggerated tendon reflex.

In order to obtain good results in chronic neuritis, massage should be applied with considerable energy properly directed. Zabludowski is often convinced that, even where there are permanent anatomic changes with lasting functional disturbance and pain, it is possible to do much good by means of massage. It is a sovereign remedy "against surgical affections which have kept the patients long in bed, as it helps them, in a short time, to get to their legs again" (when they have any left to walk on).

Zabludowski insists on a long and careful training of those who intend to do massage. He mentions many affections of a serious nature, which may result from ignorance of the details of the method, or carelessness in its practice. These are: 1. The appearance of *furunculosis* in one case of diabetes, with a fatal termination. 2. Extensive abscesses of the abdomen, in one case of pyemia, with a fatal result. 3. Break of the formation of callus in consequence of too brusque movements in old people and children. 4. Dislocation of fractures, mostly of the patella and olecranon. 5. Transition of processes almost recovered into subacute and acute, mostly cases of arthritis sicca and tuberculosis. 6. Transition of acute cases into chronic, most frequently of slight sprains into chronic arthritis. 7. Joints becoming stiff by adhesion and not being loosened at the proper time. In many cases, through long inactivity, the joints have undergone changes that can not be alleviated. 8. The production of tendo-vaginitis, myositis and neuritis. 9. The causation of movable kidney and enlargement of hernia, especially umbilic hernia, both by too strong pressure and long-continued kneading of the abdomen. 10. The transition of slight forms of neurasthenia and hysteria into severe ones by tedious and painful manipulation and by long continued or too extensive peripheral nerve irritation.

MASSAGE FOR GOUTY DEPOSITS IN THE SOLE OF THE FOOT.

Dr. Kittel[8] mentions that in the aponeurosis of the foot and of the bones there sometimes occur collections of small particles like concretions of sand, which by pressure interfere with walking. These are thought to be the result of interference with the circulation of the foot from exposure to dampness. A gradual degeneration takes place, followed by necrosis of tissues; deposits of urates follow; stiffness, deformity and distortion of joints occur. The clinical symptoms are not those of true gout, but seem to be an atypic form of gout. Medical treatment proved to be useless, as the deposits were encapsulated in necrotic tissue beyond the reach of medicinal means of promoting absorption. For treatment, the author recommended mechanic exercises with massage, and the application of cloths wet in alkaline solutions, from which much benefit was derived.

MASSAGE AFTER OPERATION IN INFANTILE PARALYSIS.

Sixteen operations for the transplantation of muscles in infantile paralysis are described by Drobnik.[9] He states that it is very difficult to determine by electric examination what muscle is paralyzed beyond massage, and what muscle can be developed. In certain cases he found that atrophied muscles which did not react to electricity developed activity after the partial restoration of the use of the limb. Massage and, later, passive and active motion, should be commenced with great care in these cases.

MASSAGE IN SPASTIC PARALYSIS.

Lorenz advises tenotomy of the spastic muscles, with attempt through separation to lengthen the divided tendons. In spastic equinus the foot should be kept from four to six weeks over-corrected. After this the pronators, the weakened tendo-Achillis and the whole of the foot can be used. Where the knee is spastically contracted after tenotomy of the tendons of the semi-membranosus and gracilis, a lengthening of the tendons is to be expected, and a stretching of the knee, even into the position of a slight genu-recurvation, is desirable for a while. Instead of tenotomy or myotomy of the adductors, Lorenz advises the use of force under an anesthetic. He prefers stretching to an open myotomy (a heroic form of massage). In certain cases neurectomy is combined with myotomy. All retaining apparatus is laid aside at the end of from four to six weeks. Massage, electricity and resistive movements, combined with gradually increasing use of the limb, will in time enable the patient to get about without any apparatus.[10]

(*To be continued.*)

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[8] Sammlung Klin. Vortrage, 1898.

[8] Berliner Klin. Woch., 1897, No. 17.

[9] Zeitschrift für Chirurgie, Bd. xliii.

[10] Münch. Med. Woch., 1887, No. 23, and Boston Medical and Surgical Journal, July 7, 1898.

SIMPLIFIED METHODS OF BLOOD EXAMINATION. THEIR PRACTICAL APLICABILITY TO GENERAL DIAGNOSIS.

BY ALFRED C. CROFTAN, M.D.
Late Assistant Professor of General Diagnosis, College of Physicians and Surgeons, Chicago.
PASADENA, CAL.

Laboratory aids to diagnosis, to be universally employed by the practicing physician, should be simple and rapid of execution, should require no costly or complicated paraphernalia, and should yield quicker and more positive results than purely clinical methods.

No period in the history of medicine has been free from attempts to find diagnostic clues in the examination of the blood; it was tried to interpret the rapidity of coagulation, the *crusta phlogistica* of eighteenth century physicians, the appearance of the blood as it flowed from the incised vein. With the development of microscopic technic and an insight into the truths of cellular pathology, valuable data relating to the morphology of the corpuscular elements of the blood in health and disease were discovered. During the last decade, especially through the efforts of German and American investigators—at their head Ehrlich of Berlin and Neusser of Vienna—a mass of purely empiric data on the appearance of the blood in a variety of morbid conditions has been gathered and the recurrence of a characteristic blood-picture in certain diseases verified; inversely, diagnostic clues have been gathered from the appearance of the blood.

The object of this paper, in which no claims to completeness are made, is to describe and elucidate some of the *simplified* methods of blood examination that have been elaborated and put to practical use by the author in practice, in the clinic and hospital ward during the last few years, and which have enabled him in a great many instances to place the keystone into a diagnostic arch by the simple observation of a colored blood-slide. A good microscope, a few coverslips and slides, a bottle of Ehrlich stain,[1] on the one hand, a general knowledge of the morphology of the normal blood corpuscles and a memorized appreciation of the changes they present in different diseases, on the other hand, constitute our working material.

A study of the physical and chemic properties of the blood plasma, i. e., specific gravity, chemic constituents, reaction, etc., have up to date revealed no practically useful information.

The counting of the red and white blood corpuscles is a tedious and, to all intents and purposes, an inexact procedure. Discrepancies running into the hundred thousands in the red, and the hundreds in the white cells will occur. Information sufficiently accurate for diagnosis can be obtained in this direction from a single glance at the colored blood-slide. The same, though not quite so radically, may be said of the determination of the hemoglobin; the percentile measurement of this constituent of the blood is a simple procedure with the aid of Gower's or Fleischl's apparatus; but it is not necessary, and in my experience again, a careful and appreciative study of the blood-slide will give information that suffices for diagnostic purposes.

A very few words on the most practical method of preparing such a blood-slide and a short résumé of the morphology of the blood corpuscles, as we need to remember it for our purposes, must be given before we can proceed to the discussion of the value of blood-slide examination in general diagnosis:

Under ordinary aseptic precautions the ear-lobule of the patient is pricked with a clean needle, the droplet of blood that oozes out (no pressure should be exerted) is spread in a thin layer between two coverslips and allowed to dry in the air; in order to fix the blood on the slide and to prevent its being washed off in the subsequent manipulations, the slips are wrapped in paper and placed into a little copper box (usually called a blood oven) and heated to 110 C.—or they can be placed in a mixture of equal parts of alcohol and ether for twenty-four hours. A few drops of Ehrlich's triple stain are placed upon the coverslip and allowed to remain for about two minutes, then washed off with water, the slips dried between filter paper and mounted on a slide with a drop of Canada balsam. The slide is now ready for examination. The observations detailed in the following relate to the magnification obtained with a 1/12 oil immersion lens.

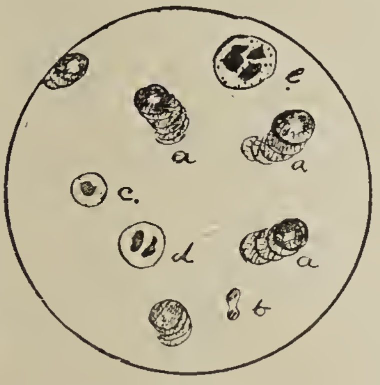

Fig. 1.

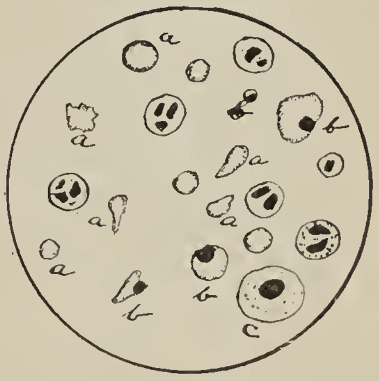

Fig. 2

Fig. 1.–Normal blood-slide corpuscles (purely diagrammatic). *a*, Showing arrangement of red-blood corpuscles in rolls, their uniformity of size and shape, the absence of a nucleus and the distribution of the hemoglobin normally. *b*, The central depression (side view of normal red corpuscle). *c*, Mono-nuclear leucocyte (lymphocyte) with homogeneous protoplasm. *d*, Polynuclear leucocyte with fine granulations. *e*, Polynuclear leucocyte with coarse granulations (eosinophile cell).

Fig. 2.–Pathologic forms of blood-slide corpuscles (purely diagrammatic). *a*, Showing diminution in number of red-blood corpuscles, abnormalities in size and shape, and decrease in hemoglobin of individual cell. *b*, Same abnormalities as *a* and showing nucleus. *c*, Myelocyte; this slide shows also a leucocytosis.

There are three kinds of corpuscles in the blood, the red (erythrocyte), the white (leucocyte), and the blood-plaque. The latter plays no rôle in diagnosis, so we describe the former two alone.

The *normal red-blood corpuscles* present themselves as round discoid elements with a central depression. They are arranged in rolls, have no nucleus, are uniform in size and shape, and their hemoglobin (with Ehrlich stain) is colored reddish-yellow, and forms a concentric ring around the central depression. Pathologically, five abnormalities must be observed: 1, they can be reduced in number; 2, they may have a nucleus; 3, they may present differences in size; 4, they may present differences in shape; 5, the hemoglobin of the individual cell may be reduced. All these abnormalities can be determined by a glance at the blood-slide; reduction in number by the fact that the blood corpuscles are not, or only in part, arranged in rolls, and appear as individuals; the presence of a nucleus by the appearance of a blue circumscribed body within the cell; changes in size and shape are apparent, and the reduction of the hemoglobin may be determined sufficiently accurately for diagnostic purposes by a narrowing of the concentric red ring described above. A glance at Figures 1 and 2, which are purely diagrammatic, will elucidate this paragraph.

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[1] "Ehrlich stain" (triple stain) is conveniently prepared as follows: Concentrated watery solutions of orange-g, acid fuchsin and methylgreen are made; 40 c.c. of the orange-g, 45 c.c of the acid fuchsin and 55 c.c. of methylgreen solutions are mixed with 50 c.c. of distilled water, 50 c.c. of alcohol and 15 c.c. of glycerin, and the mixture allowed to stand a week in a cool, dark place. This formula for making the stain has proved useful in my hands.

The characteristic features of the *normal white cell* or leucocyte are that it is larger than the red-blood corpuscle, has one or several nuclei, and a protoplasmatic content which may be homogeneous or have fine or coarse granulations. The nuclei are stained blue, the homogeneous protoplasm pink, the fine granulations violet, and the coarse ones bright red. A leucocyte with the bright red coarse granulations is called "an eosinophile cell."

The abnormalities observed are chiefly numerical, i. e., an increase relatively of all or a part of the different kinds of leucocytes. An increase of leucocytes is called "a leucocytosis"; if the leucocytes with several nuclei are increased, we speak of a "polynuclear leucocytosis." A simple method of determining whether a leucocytosis exists—one that does away with the tedious counting and is all-sufficient for diagnostic purposes—is the following: Normally, one leucocyte should be found on an average in every fifth field; when we find two or three in every five fields we speak of a slight leucocytosis, while one leucocyte to every field and more constitutes a severe leucocytosis. Many observations have been chronicled on the different forms of leucocytosis, but their diagnostic significance is doubtful. It is, for the present, sufficient to verify that an increase of leucocytes obtains; especial attention should be given to the absence, presence or increase of the above mentioned eosinophile cells.

A knowledge, appreciation and understanding of the above facts constitute our sole working material, and it is the object of this paper, in its essentially practical scope, to explain how, with this knowledge, a glance at a blood-slide may be of such paramount value in diagnosis. We are dealing with empiric facts, the exact interpretation of which in many instances must still be forthcoming. The most concise form in which the diagnostically important points can be presented will be the most useful; it is quite impossible, in the nature of the subject, to be systematic, as only a limited number of positive findings of diagnostic value are known in only a limited number of diseases.

Carcinoma of the stomach.—Normally, two or three hours after meals we have an increase of leucocytes in the blood, the so-called "digestion leucocytosis"; this is absent in carcinoma of the stomach. In carcinomata, further, we usually find nucleated red-blood corpuscles in the circulation. Therefore inversely, if we examine the blood of a patient presenting some of the clinical evidences of carcinoma ventriculi without permitting of an absolute diagnosis by clinical methods or the examination of the stomach contents, then the absence of a digestion leucocytosis or the presence of red-blood corpuscles with nucleus is a most valuable adjuvant to the diagnosis, a much more positive adjuvant than the presence or absence of hydrochloric and lactic acid in the stomach contents. A differentiation between carcinoma and ulcus ventriculi can also sometimes be made from the blood, in so far as the former is accompanied by a greater reduction of red-blood corpuscles than the latter.

Prediction of the crisis in pneumonia.—During the course of a pneumonia a great polynuclear leucocytosis is found in the blood, but no eosinophile cells—the chlorids, as we know too, are absent from the urine. Some twelve to eighteen hours before the crisis (clinically speaking) occurs, we find that the eosinophile cells re-occur in the blood and chlorids in the urine. If then, we examine the blood and urine of a pneumonia patient daily, from the fifth day on, and find eosinophile cells in the blood and chlorids in the urine, we may predict with absolute certainty a favorable crisis within twelve to eighteen hours. I have seen some most remarkable predictions of this character made in the Vienna Hospital, and have never so far been disappointed in my own practice. On the other hand, the absence of eosinophile cells and chlorids, after the disease has lasted some time, is always a bad prognostic sign.

The early diagnosis of complications and of the suppuration of intestinal ulcers in typhoid fever.—Polynuclear leucocytosis is absent in the early stages of typhoid fever; only when complications occur—pneumonia, nephritis, parotitis, etc.—do we get polynuclear leucocytosis; in the later stages of an uncomplicated case, the suppuration of intestinal ulcers, too, is accompanied by the same phenomenon. Inversely, we may suspect a complication if we find the polynuclear leucocytes increased in the blood.

Differential diagnosis between measles and scarlatina.—In scarlatina we find an increase of polynuclear leucocytes and the presence of eosinophile cells; in measles there is a decrease of leucocytes and an absence of eosinophile cells.

Differential diagnosis of purulent from simple serous or tubercular inflammations of serous surfaces.—In suppurative inflammations of serous surfaces we have a strong polynuclear leucocytosis and peptone (albumose) in the urine; in the other forms we do not. Thus we can readily differentiate an empyema from a tubercular pleuritis, a purulent endocarditis from a simple one, suppurative meningitis from the other forms, a gonorrheal from a tubercular joint or any other non-pyogenic form of arthritis, etc. The presence of obscurely located suppurating foci may in this way be definitely determined, and very frequently it is most valuable to have a clinical suspicion that "there is pus somewhere" verified by such a blood test; a careful search will usually discover the location of the abscess. It was my privilege in one instance to turn a diagnosis correctly in favor of abscess of the liver where other lesions of the liver or of adjacent organs could not be excluded, and the clinical diagnosis fluctuated between a variety of possible "tumors." On another occasion I was fortunate enough to make a correct differential diagnosis by this means between a pyosalpinx and a suspected ectopic gestation, in which I felt justified in excluding the pus-tube from the absence of a polynuclear leucocytosis in the blood and of albumose from the urine. In appendicitis, the formation of abscess or the incipiency of purulent foci of inflammation in the peritoneum can be recognized by this method; and I have at different times advised operation, and I believe wisely, on indications that the blood and urine gave us in addition to our clinical findings.

The so-called *diseases of the blood* proper, the anemias and leukemia, can be diagnosed through blood-examination alone. It is a useless task and would lead us too far to discuss the clinical features of these diseases in this paper, or to attempt to classify and subdivide, as to blood findings, the different forms of so-called primary and secondary anemias.

Secondary anemia per se is a symptom only which may accompany a variety of primary conditions, viz.: carcinoma, sarcoma, syphilis, tuberculosis, intestinal parasites, the hemorrhagic diathesis, and may follow in the wake of infectious diseases, severe hemorrhages and the ingestion of certain poisons. The blood findings in this secondary anemia are varied according to the primary lesions producing the anemia, but nothing that is diagnostically valuable as to the nature of the cause can be deduced from the blood-picture.

Different the so-called primary anemias, chlorosis and primary pernicious anemia. Clinically they are very similar in their severer forms, and for prognostic purposes chiefly it becomes imperative to examine the blood carefully in these cases. The differentiation even here is not easy, and hinges practically on the following point: In both diseases, speaking of the severer form of chlorosis—the genuine myelogenic form only—we have a strong decrease in the number, and marked changes in the size and shape, of the red-blood corpuscles and, as a rule in primary pernicious anemia and sometimes in chlorosis, red-blood corpuscles with nucleus. The changes in the leucocytes are varying and diagnostically insignificant. The differential diagnosis lies exclusively in the differences to be observed relative to the hemoglobin. In both diseases the hemoglobin is reduced considerably, but while in primary pernicious anemia the hemoglobin of the individual red-blood corpuscles appears normal, or, if anything, increased, under the microscope, in chlorosis the hemoglobin is greatly reduced in the individual corpuscle, sometimes presenting an appearance to the eye of a very fine ring around the periphery of the cell only. (See Fig. 2.) Herein lies an absolute differential diagnosis between the two diseases, of great simplicity, the easy execution of which makes it most valuable. It does away with the tedious blood-counts and hemoglobin determination and gives, at least in my experience, results that are all-sufficient for clinical purposes.

Of *leukemia*, in the sense of this paper, we may speak briefly. The clinical symptoms of a case of leukemia are insufficient for a diagnosis, and a positive diagnosis of leukemia can not be made without a blood examination. We will not speak of the different forms that are described clinically, but simply mention that from a hematologic point of view we can conveniently describe two forms, viz.: mixed leukemia and lymphatic leukemia.

The former is a chronic disease, and gives a much better prognosis as to longevity than the latter, which runs a much more acute course and is probably of an infectious (tubercular?) nature, with an absolutely fatal prognosis. In mixed leukemia we find a "mixed" blood-picture, and the polymorphous character of the blood-slide is characteristic and diagnostic. All forms of polynuclear and mononuclear leucocytes in great number are found in each field, eosinophile cells, red-blood corpuscles that are decreased in number, changed in size and shape, with greatly reduced hemoglobin and containing nuclei. A special form of blood corpuscle, the myelocyte, can be mentioned here, as it is never found in normal blood; it is a leucocyte with one nucleus, with fine or coarse granulations, and about three times as large as a normal leucocyte. For practical purposes and rapid diagnosis a single glance will make the diagnosis, if we will simply think of the polymorphous blood-picture and the myelocytes.

Lymphatic leukemia, on the other hand, shows a very uniform field, namely, a colossal increase in the small mononuclear leucocytes—lymphocytes—that, as we described above, are also found in normal blood (about 28 per cent. of all leucocytes). Sometimes there are more of these mononuclear leucocytes than red-blood corpuscles; nucleated red-blood corpuscles are sometimes found, but they have no diagnostic significance. Counting red-blood corpuscles and leucocytes ,or determining the hemoglobin in this disease is a perfectly superfluous procedure and a pedantic loss of time.

Before concluding, it may be of value to speak briefly of the very interesting blood-findings in a rather obscure group of diseases that we call (falsely!) "*uric acid lesions*," or manifestations of the "uric acid diathesis." Some valuable observations have lately been published by Neisser of Vienna, which are of diagnostic value in the recognition of the *fons et origo malorum* of certain masked manifestations of the uric acid diathesis. It is an easy matter, comparatively, to diagnose gout and podagra, to discover a "gouty" nephritis or to find the cause of an attack of uremia, but there is a whole army of so-called minor ailments—headache, urticaria, eczema, "lithemic" conditions, certain forms of asthma, neurasthenic states, etc., the etiology of which is obscure. Urinalysis, though religiously executed and recorded, reveals nothing of value; but blood examination does, as follows: Around the nuclei of the leucocytes we find in these cases a series of little blue-black granules—the perinuclear basophile granulations of Neusser—that, as authorities on the subject inform us, are found in large numbers only in the uric acid diathesis. The explanation appears simple after Horbaczewski's recent publications on the genesis of uric acid from oxidation of cell-nuclein—the chief chemic constituent of the nuclei of the leucocytes. An exaggeration or perversion of this oxidizing mechanism, as it probably obtains in "uric acid" lesions, would readily explain the presence of these granules, which are looked upon as intermediate products in the oxidation process from nuclein to uric acid, if not as uric acid itself. Clinically, at all events, their presence can be used in diagnosis, and an anti-uratic medication and diet following this early discovery of the cause of the masked symptoms mentioned above will usually lead us to the goal. My own experience has strengthened my belief in these claims, and I look upon the discovery and interpretation of these granules as one of the most valuable recent additions to laboratory diagnosis. For the sake of rounding off this purely practical review, I need only mention the discovery of the *malaria parasites* and of the *Filaria sanguinis*, and our most modern addition to hemodiagnosis—Widal's typhoid test.

In conclusion, I wish to express my belief that a careful study of the morphologic changes as they occur in the blood in different diseases will undoubtedly bring us many more valuable discoveries in the diagnostic field. Our chief hope in this direction, however, lies in the study of the delicate biochemic changes that occur in the circulating fluid. Empiricism in this instance has preceded scientific understanding, just as empiric therapy by means of the blood has been given us before we have attained an insight into the histogenesis of the processes of cure.

Let us have a Department of Public Health!

IMPORTANCE OF EARLY DIAGNOSIS.

BY JOHN C. MORFIT, M.D.
ST. LOUIS, MO.

From both the scientific and practical standpoint, the diagnosis of a disease or ailment ought to be the most attractive factor in the practice of medicine or surgery. In any case the diagnosis is the foundation or base on which we build our plan of treatment and make our prognosis. It is the fulcrum on which moves the lever of judgment and logical deduction, that raises our unknown quantity into the light of scientific certainty. It is often asserted that any one who can correctly diagnose will have no trouble in treating the pathologic conditions with which he is confronted. I have as frequently heard the statement that scarcely over 50 per cent. of cases treated are accurately diagnosed. There may have been some foundation for the latter statement in former times, but certainly, today, there is less justification for its utterance.

There is still, however, too much empiricism. Nature is a wonderful doctor, and I would not underestimate her marvelous powers. She often finishes her work while we are striving to guide and influence her, but I maintain that it is both our right and duty to be cognizant of the why and wherefore of her action. We should know what she is doing as well as what we intend to do, in a given case. The doctor who wishes to guard his reputation as well as the very best interests of his patient, and who is imbued with the proper earnestness of purpose, and love for the science of his profession, is he who most promptly and exhaustively weighs every indication of cause and effect, and applies his therapy accordingly. Today, when specialism has advanced to the position of exactitude it now holds, when every organ opening on to the body surface can be brought under observation, when the bodily humors and excreta can be chemically and microscopically examined so quickly and thoroughly, when light can be made to penetrate through the tissues, there is little or no excuse why a reasonable, if not an absolutely certain, diagnosis can not be made in every instance.

Through simple instrumentation the large bowel is becoming more familiar to us every day, for we can view it directly as far up as the splenic flexure, and the stomach, too, is susceptible of illumination and instrumental investigation. The genito-urinary apparatus is plainly visible from the meatus to and including the bladder; it is palpable up to and including the kidney itself.

The sense of touch is being rather more exercised through the advent of these instruments of precision. Indeed, some instruments could scarcely be useful were they not backed up by a well-developed tactile sense on the part of the manipulator. Palpation alone is responsible for the correct diagnosis of many conditions, particularly of an abdominal or pelvic nature. Certainly today we are better equipped collectively if not individually, to make a diagnosis than ever before.

Now, as a rule, the physician, particularly the city practitioner, who has the advantage of every useful innovation, does not employ every available means to arrive at an early and positive diagnosis. In many of our public institutions a diagnosis is often not made for several days after the admission of the patient, and this often to his and others' serious disadvantage. I have seen tubercular subjects with acute exacerbations put into wards for the treatment of transient acute cases, as bronchitis or grip, and I have seen the latter develop tuberculosis, presumably because the intruder was not isolated, examined promptly, and properly classified. Specialists too often err in confining their observation to their own limited field. Thus, I have recently seen a weak, nervous, emaciated woman, who was promised complete relief after she had had repaired a lacerated cervix and perineum which, no doubt, ought to have been done. She was not relieved, however, until a more careful and general observer discovered unmistakable signs of gastric dilatation, for which she was treated, with much relief.

In my own practice I have lately had two cases of pyosalpinx which were cured after surgical interference. Both had been treated by estimable practitioners, but neither of them had made a complete physical examination, and consequently each was ignorant of the real trouble. One had been treated for a vague and indefinite "inflammation of the bowels," and the other for malaria. One case of tubercular peritonitis came to me from the country, diagnosed as ovarian cyst or pregnancy. The latter supposed possibility subjected the girl to much mortification and humiliation, all because the attending physician was not decisive in his deductions from the simplest and most significant symptoms. One eminent nose, throat and chest specialist recently showed me two cases which had been treated for frontal headache for over two years, by men prominent in their community, who failed to recognize the true cause of the incessant pain. The specialist found pus in the ethmoidal sinuses, and afforded complete relief by an intranasal trephining. It would have been far better for the patient, and much more to the physician's credit, had he consulted the specialist earlier and availed himself of the latter's special skill.

References to these cases is merely to emphasize the point I wish to bring out, viz.: the duty to ourselves and to our patients of utilizing every available means to arrive at an early and positive decision as to what we are treating. This available means may not, and often does not, lie entirely within ourselves.

It is impossible that any one man can be so skilled in laboratory technic, certain instrumental manipulations, and the activity of general practice, as one who devotes his time and energy to one or the other of these vocations. In other words, we should not make it a rule to diagnose our cases unaided. We must recognize more fully the superior ability in his own special line of the pathologist, bacteriologist, chemist, and often the specialist in other lines than our own, and let their opinions, as far as justifiable, influence us in reaching definite conclusions. We owe it to these laboratory men to reward their labors by a practical use of their peculiar talent, and they should certainly be more substantially encouraged than they have been in the past. In our college and hospital life we all learned the principles of chemistry and microscopic investigation and the handling of simple diagnostic instruments, as well as the amateurish investigation of all special fields, as the eye, ear, pelvis, etc.; and were reasonably well up, theoretically and practically, as far as the teachings of that day could carry us, but when we find ourselves subsequently unable to keep up with the rapid advance along all lines, and the revolutions that take place as the result of new discoveries, we are compelled to confine ourselves to, and endeavor to become thorough and expert in, the field of our selection, while keeping a watch on the general progress, but not the details of other specialties.

Every practitioner of surgery should have an intimate knowledge of pathology and bacteriology in order to be a well-rounded scientist, but in practice it is better and safer, as a rule, to seek the aid of the expert in these branches. Let us be specialists, if we must—and I believe we surely must—for revenue and for fame, but let us be amateurs in the laboratory sciences for pleasure and recreation.

Many men look on consultations as a reflection on their ability, but happily this idea is fast passing away, and conferences are becoming more frequent. Keep well up to the front in your own specialty, and use any spare time you have in keeping as well up as possible in other lines, but acknowledge the right of specialists in lines not your own to your respect and indorsement. In occasional cases we are at a loss to know just what is the matter, in spite of the fact that we conscientiously made every possible effort to find out, but we have done our duty and elicited enough facts to indicate that the trouble is one of a couple or trio of affections. This pardonable uncertainty often determines us on a line of treatment which would be indicated in any one of the possible conditions present, so that, as far as the patient is concerned, the right thing is being done, regardless of the uncertainty.

Statistics show that the mortality of certain diseases increases directly as the time of application is deferred. For instance, the mortality of appendicitis is excessively greater when the operation is done on the third or fifth day of the attack than when done on the first or second day. The same may be said of the antitoxin treatment of diphtheria. Therefore, I conclude, it should be our aim to arrive at a correct diagnosis and apply our treatment accordingly, at the earliest possible moment consistent with the means at our command.

HYPERTROPHIC CATARRH OF MIDDLE EAR.

Presented to the Section on Laryngology and Otology, at the Forty-ninth Annual Meeting of the American Medical Association, held at Denver, Colo., June 7-10, 1898.

BY BURT D. LA FORCE, PH.G., M.D.
OTTUMWA, IOWA.

Although this is not classed as a suppurative disease of the middle ear, it may be the result of the vascular turgescence produced by pyogenic infection of these parts. It has been proven that there is no pathologic difference other than that of degree between acute suppuration and acute catarrhal otitis media. The resisting power of the organism or the great amount of infective material present determines whether the process will appear as a catarrhal or a suppurative process. Since vascular turgescence, hyperplasia and sclerosis are almost always associated to some extent with hypertrophic catarrh of the mucous membrane of the middle ear, they must be considered in any discussion on this subject. There are cases where hypertrophy of the mucous membrane of the tympanum seems to be the predominating result of vascular turgescence of these parts. Some cases of vascular turgescence and hypertrophy of the middle ear progress slowly, while others develop more rapidly to a state of hyperplasia, sclerosis or cicatrization. To foretell whether the progress will be slow or rapid is often quite difficult, although it may be done in many cases.

If the cause of the vascular turgescence and hypertrophy is diphtheria or scarlet fever, or when the cause is a long-continued pyogenic infection where the resisting power of the organism is lowered, or when there is a rheumatic diathesis existing, or if the inflammation is influenced by a syphilitic or tubercular diathesis, there is much danger of the inflammation rapidly progressing to a state of hyperplasia, sclerosis or cicatrization. If the cause of the inflammation is a muco-purulent discharge which finds its way to the tympanum from a chronic inflammation of the posterior nares, and if the patient is otherwise healthy, or if the inflammation is due to a rheumatic diathesis with the exciting causes of rheumatism unassociated with other pathologic conditions of the body, the result of the inflammation will probably be a hypertrophy of the mucous membrane which, in most cases, slowly progresses to a state of hyperplasia, sclerosis or cicatrization.

The deafness and uncomfortable sensations in the ear and the inflammation of these parts, from whatever cause, are greatly increased by the air in the tympanum becoming rarefied. Rarefaction of the air in the tympanum may be produced mechanically, in two ways: 1. By the closing of the Eustachian tube by secretion, adenoid vegetation in the posterior nares, by hypertrophied condition of the posterior portion of the turbinates, by polypi, or by a simple congestion of the mucous membrane of the tube. The air remaining in the tympanum is partly absorbed by the blood-vessels, leaving it rarefied. 2. By sniffing the air through partly closed nostrils, which is a pernicious habit many ear patients have; or simply breathing through partly closed nostrils draws part of the air from the tympanum, causing the air to become rarefied.

When the air becomes rarefied in the middle ear on account of removing the air-pressure from the inner side of the drumhead, the air-pressure from without causes a retraction of the drumhead with all of its untoward results. The habit of drawing the air from the tympanum by sniffing or quickly drawing the air through partly closed nostrils, not only causes a retraction of the membrana tympani by rarefying the air, but it will directly draw the membrana tympani toward the posterior wall of the tympanum.

The patient with pure hypertrophy of the mucous membrane of the middle ear complains of a fullness and numbness in one or both ears. Unless there is an acute exacerbation of the disease there is little or no pain, and when the Eustachian tubes are patulous the tick of a watch can be heard ordinarily at two or three feet. There is little or no diminution of bone conduction. The cracking sounds that are so often complained of are produced by the separation of the walls of the Eustachian tubes or separation of the membrana tympani from the posterior wall of the tympanum. Viscous mucus secretion may stretch across the tympanum, and breaking, may produce a snapping sound. The movement of the jaws or movement of the head may disturb the secretion in the tympanum or Eustachian tube, thus causing a sense of something moving in the ears. Confusion of ideas and of speech may be produced if these symptoms be kept up, as may also an irritable temper. Autophony may be one of the annoying symptoms of this variety of inflammation of the tympanum. A dizzy and giddy sensation may be produced by pressure on the labyrinth of an abundance of secretion in the tympanum. Children having this disease do not often complain of tinnitus aurium, although in many cases of the disease occurring in patients old enough to describe the sounds produced, they complain of many peculiar noises.

The membrana tympani may be apparently normal or may be opaque and retracted. The position of the handle of the malleus may be in a more horizontal position than normal. The reflex of the light, if the membrana tympani is not opaque, may be seen displaced from its normal position. There may be a perforation of the membrana tympani, it having occurred during an acute attack of inflammation. There is an abundance of mucus, and at times muco-purulent secretion present, which often may be seen through the drumhead if it is still semi-transparent; or, if there has been a perforation in the membrana tympani, the secretion may be so abundant that a little of it, especially during an acute exacerbation, may be seen discharging from the perforation, or if there is not enough to discharge through it, it may be seen in the perforation. The membrana tympani may be thinned and seen bulging externally. This bulging of the membrana tympani is frequently produced by blowing the nose so often and hard as to force the air through the Eustachian tube against the inner side of the drumhead.

I can recall a patient who had for years practiced a procedure which almost reverses Valsalva's method of inflating the tympanum. The patient said that when he wanted to hear distinctly he would make a quick pass of one hand to the nose, partly closing the nostrils, and at the same time he would quickly draw the air in through the nose. This he claimed would partly relieve a full feeling in his ears, and help him to hear more distinctly. On examining the patient's membrana tympani while he would make such a pass with his hand, the part of the drumhead below Shrapnell's membrane could be seen to retract very perceptibly, looking as though it was retracted against the posterior wall of the tympanum, but Shrapnell's membrane seemed to bulge outward almost as much as the lower part retracted. I advised the patient to reverse his breathing when he threw his hand to his nose, and under this treatment for about three weeks he was able to abandon any form of treatment. Up to this time, almost four years, he has had no recurrence of his ear trouble. This patient had been having this very uncomfortable ear trouble for six years, and unless he would press the nostrils together and quickly draw in the air he was tormented with noises in the ears like "hooting of owls."

It is to be regretted that the majority of persons do not come to the physician for advice until the disease has lasted so long that the symptoms of hyperplasia and sclerosis have taken place. The great majority of cases that we see are in children during an acute exacerbation of the disease. Physicians and the laity are more clearly recognizing the causes of deafness and are not attributing so many cases to heredity and giving up all hope of good results from treatment.

To properly treat these cases and to prevent their recurrence requires a most careful study of each individual case. In many cases simply removing the nasopharyngeal catarrh will be all that is necessary to cure and prevent a recurrence of the disease in the tympanum. If we can prevent or destroy what we might call a garden in the posterior nares, which so often nurtures so many kinds of germs which find their way to the tympanum or lungs, we will be helping these patients materially to retain not only good ears but better lungs, and, therefore, stronger constitutions. While it is true that nature does remove these growths, and destroy the garden for the germs, and finally remove the obstruction to the lungs and ears, many times before this has been accomplished great and lasting harm may have come to the neighboring organs, and it is our duty as physicians to surgically interfere in these cases. We should be diligent in searching for and treating any underlying diathesis that so often is such a factor in the production of hypertrophic middle ear catarrh.

The hygienic and sanitary surroundings of a patient with this disease should be perfect. The history of all cases having adenoid vegetation in the posterior nares shows them to have been produced at a very early age. While certain diatheses apparently influence these growths, many times they seem to be produced by the parts being almost continually bathed in a secretion full of pus, microbes and poisonous ptomains. Children should be taught early how to blow these discharges from the nose without blowing the secretion into the tympanum, and so that the parts in the posterior nares will be in a more healthy condition. The Eustachian tube should be kept patulous and the tympanum properly aerated by the use of the compressed-air apparatus, Politzer's air-bag or Valsalva's method, but the secretion at the mouth of the Eustachian tube, and in the posterior nares should be discharged or wiped away before the tympanum is inflated and not enough force used to rupture or cause too much bulging of the drumhead. It is not advisable to use any form of inflation of the tympanum when there is an acute inflammation in the tympanum or posterior nares.

If the posterior nares is kept free from secretion and S. S. Bishop's method of auto-aspiration of secretion from the tympanum is practiced, it will seldom be necessary to perform paracentesis of the drumhead to remove any secretion within the tympanum unless there is an acute exacerbation of the disease.

S. S. Bishop's method of auto-aspiration of the fluid from the tympanum, by closing the nose with thumb and forefinger and drawing the air from the nasopharyngeal space down into the throat very frequently removes much of the secretion from the tympanum. He recommends having the patient incline his head forward and a little to the opposite side and practice an experiment that just reverses the Valsalvian method. This process of auto-aspiration is performed almost every time one sniffs the air quickly through partly closed nostrils. It is not necessary to have the nostrils completely closed to aspirate air or secretion from the tympanum. Patients having ear trouble of any kind should be warned against this pernicious habit of auto-aspiration of the air and secretion from the middle ear, and only do it often enough to remove the secretion from the tympanum. Just after this auto-aspiration of the fluid and air from the tympanum is practiced, the secretions should be discharged from the posterior nares or wiped away from the mouth of the Eustachian tube, and then some form of inflation of the tympanum should be used, as this process of auto-aspiration, as has been previously stated, causes a rarefied condition of the air in the tympanum and a retraction of the membrana tympani.

The pneumatic otoscope may be used by the physician sufficiently to prevent any adhesion of the membrana tympani to the posterior wall of the middle ear and to insure a normal movement to the ossicles. But in this particular variety of inflammation massage of the membrana tympani by any method is not so important as in sclerosis of the middle ear.

ISCHIORECTAL ABSCESS.

RECTAL FISTULA IN ITS CAUSATION—REPORT OF A CASE WITH TWO LARGE PUS-POCKETS.

Read before the Mississippi Valley Medical Association, at Nashville, Tenn., Oct. 11-16, 1898.

BY WM. BRITT BURNS, M.D.,
DECKERVILLE, ARK.

I am aware that it is maintained that ischiorectal abscess is an etiologic factor in rectal fistula rather than the reverse; indeed, I am convinced that in the main it originates from an untreated or improperly treated abscess, an abscess that has been punctured instead of having been widely incised, but for my purpose it will be only necessary to affirm that in the case I desire to direct attention to, the abscess was set up or reignited, if you please, by a rectal fistula of two years' standing.

S. T., a colored woman, aged 40 years, called on me one Sunday afternoon about 4 P.M., to lance a boil. She gave a history of having had a similar trouble two years before, but she had drawn that to a head and it opened itself; it would get better and then worse again; this condition of affairs continued with never more than a small discharge coming away, until about six months previous to consulting me, when the discharge ceased and she thought she was well. On examination I was particularly struck with an excresence just to the right of the anus, not unlike a rudimentary pig-tail, and upon closer observation, could make out that this excresence was provided with a caliber. The diagnosis of fistula was plain. I did not attempt to find the other end of the fistuous tract, because the swelling was so great and the parts were so intensely painful that I did not care to nflict unnecessary pain upon the poor sufferer. As have stated, the swelling was great, the most promient symptom in fact; there was such a swelling hat the rectal and gluteal folds were obliterated, the ectum was pressed closely upon the left ischium and emporarily obliterated the ischiorectal fossa, the right abia majora suffering a similar infringement. The iagnosis of abscess was also plain.

I stated to the patient that I could give her relief emporarily by opening the abscess and emptying the avity well, but she should have an operation done for emoval of the fistula, if she would have a radical ure. I believe all will agree with me that this proedure is correct. But in this particular case I would ave failed on the first proposition, as I will state a ttle further along. She would have none of it. fter suffering the tortures of the condemned for so any hours, that were evidently days to her, on Monay evening she called me and consigned herself to y care and keeping. I gave her two compound thartic pills to be taken at bed hour and instructed at she should not eat anything for breakfast, that e be given a thorough bath, and an enema of a half llon of hot water and two tablespoonfuls of glycerin, d that I would operate at 10 A.M. the next day.

Promptly at the appointed hour, with the assistance of Dr. Waldron Abernathy, who administered the anesthetic, and three or four negresses, who took their turn in "falling out," a term used among the negroes of the South to designate any condition that renders a person *hors de combat*—from nausea to extreme syncope. Suffice it to say, I did the cutting, sponging, and most of the holding.

Putting a grooved director into the pipe stem, I cut down upon it with the edge of the knife into the ischiorectal fossa, cutting wide and deep. Then, after an enormous quantity of foul pus had poured out and a copious bichlorid solution had been played over the exposed surfaces, with scissors and sharp curette I extended the cavity back to the sacrum, outward to the ischial tuberosity, and forward to the upper extremity of the labia majora, removing all the bluish spongy-looking tissue that is found in an ischiorectal abscess—and I do not remember to have seen this condition in any other locality—a tinge that it appears to me is given to these tissues by the gases from the rectal pouch coming through the fistulous opening. I have always allowed the extent of this smoky or stained tissue to govern the extent of my operation. I am in the habit of removing every vestige of this colored and rotten tissue in whatever direction. After extending the wound as mentioned before, I likewise, with finger and curette, went to an alarming depth, removing the bluish spongy tissue described above, and cutting down hillocks to fit the valleys, if you please, to a smooth surface. It may be well to state that there were no tributaries to the fistulous tract, which tract was obliterated entirely by scissors and curette, the end opening into the gut being closed with two ordinary interrupted catgut sutures. The wound being thoroughly cleansed was now to all intents and purposes ready for the dressing.

It occurred to me to make one more survey of the upper part of the cavity; I swept my finger into the apex of the wound—the wound described a pyramid, base downward—and, though all the bluish spongy tissue had been removed, I felt it give, and to my surprise, indeed, horror, a full pint of very foul discolored pus poured out and over my wound. I was in despair. I was afraid I was into the pelvic cavity. I had the misfortune to have been initiated into rectal surgery on a case of ischiorectal abscess that communicated freely with the pelvic cavity—a fatal one. If I was not into the pelvic cavity, I was, I feared, so close to it that infection of that cavity might prove a strong probability. After again curetting and washing out the wound with a hot bichlorid solution, I inspected closely and found there was yet a barrier to the pelvic cavity. I was relieved. The wound was then packed with iodoform gauze and covered with a large pledget of cotton and a T bandage was put on. The wound was similarly dressed every day for two weeks, then every other day for four weeks; after this the patient was discharged to care for the wound herself, which I was persuaded she would do admirably.

The cicatrix extends—at this date, after a full recovery of eight months—from a level with, and one inch to the right of, the tip of the coccyx to the middle of the right labia majora, a straight white line, presenting the appearance of having united by first intention, with a little puckering at a point between the ischial tuberosity and anal opening.

It will be noted that this extensive cutting operation—indeed I believe it is designated a capital operation by Professor Matthews of Louisville—was done outside the sphincter muscle. I have neglected to say that the sphincter was divulsed early in action, and it might be of interest to mention that a Matthews' speculum—that being the instrument used—was broken in doing so, so strong was the sphincter muscle.

I shall not conjecture what would have been the outcome if I had left that second pint of pus in this patient a few hours longer.

THE ARTHRITIC DIATHESIS.

BY R. ALEXANDER BATE, A.B., M.D.

CHIEF OF THE MEDICAL CLINIC AND ASSISTANT TO THE CHAIR OF THE PRINCIPLES AND PRACTICE OF MEDICINE AND CLINICAL MEDICINE, HOSPITAL COLLEGE OF MEDICINE.
LOUISVILLE, KY.

The term "diathesis" is applied to an inherited predisposition to alterations of nutrition. Nutrition consists of the transformation of non-living molecules into living cells (assimilation) which undergo chemic changes with oxygen (reaction), producing waste material that in time is thrown off to make room for fresh cells (disassimilation). Nutrition is controlled by the nervous system, and is modified by age, sex, climate, food, geographic and geologic position, occupations, manners and customs, hygienic conditions, variations of light, heat, moisture and atmosphere (environment). Continuous subjection to any of these conditions modifying nutrition becomes apparent in the progeny of individuals; and this functional alteration of nutrition, causes a predisposition to pathologic conditions, or a pathologic condition itself, known as diathesis.

Bouchard defines "constitution" as including all that is concerned with the structure and framework of the body; while the word "temperament" includes everything that pertains to the individual characteristics and functional activity. Constitution and temperament are the gifts of heredity, and, either healthy or morbid, are transmitted from parent to progeny. Hence diathesis is morbid temperament.

Two diatheses are admitted: scrofula, or a predisposition to tuberculosis, and arthritism, or a predisposition to certain diseases characterized by retardation of the processes of nutrition. The latter is for our present consideration. The alterations in arthritism are purely functional, consequently there is no morbid anatomy. Since there are disturbances in which the retrograde changes produce a persistent increase in the products of disassimilation, such as uric and lactic acids; and since, in some instances, in spite of diet and exercise, these materials are formed, we must assume that in this diathesis there is an inability on the part of the cells to produce oxidation, even when the necessary articles are furnished.

The various manifestations of arthritism are those forms of arrested metamorphosis characterized by the presence or excess of organic acids. Some of the acids are volatile, and are eliminated by the skin and lungs; some may remain in the blood or be stored in the tissues; some effect changes by increasing acidity, while others unite with bases and do not affect the relative reaction of the fluids. Consequently, we have the manifestations or symptoms of arthritism varying according to the stage at which metamorphosis is arrested and according to the character and consequent retention or channel of retention. Thus uric acid, the most prominent product of disassimilation, causes one class of diseases when it is in solution in the blood, and another totally different class when it is precipitated into the tissues.

The diseases generally conceded as dependent upon the arthritic diathesis are: acid dyscrasia, rickets, osteomalacia, obesity, lithiasis, embracing biliary, renal and pancreatic; diabetes mellitus and insipidus; rheumatoid arthritis; articular and abarticular rheumatism; gout in all its phases; the constitutional insanities, anemia, eczema, neuralgia, migraine, arteriocapillary fibrosis; nasal, bronchial and cardiac asthma, hemorrhoids, biliousness, dyspepsia, paralysis, neurasthenia, hysteria, epilepsy, Reynaud's disease, albuminuria and Bright's disease.

In other words, as has been taught for some time, diseases may be divided into two classes, those having an external or foreign cause, as the microbic diseases, those having an internal or auto-cause, as those due to errors of metabolism. In the microbic type the oxygen is extracted from the blood by the foreign sources; in the metabolic type functional alteration or deficiency lessens oxygenation. Haig and Bouchard likewise strongly suggest that the action of drugs depends upon their power of increasing or diminishing this or that step of metabolism. Various forms of auto-intoxication are paralleled by the reaction from certain alkaloids.

In the first-mentioned manifestation of the arthritic diathesis—acid dyscrasia—there occurs during the process of oxidation a number of organic acids, such as uric, hippuric, oxaluric, oxalic, lactic and its derivatives, caprylic, caproic, valerianic, butyric, propionic, formic, acetic, stearic, oleic and palmitic, resulting from the incomplete oxidation of nitrogenous, saccharine, starchy and fatty substances, also from cholesterin, from the pancreatic juice and peptones and from glycocoll. Those formed in the alimentary canal, as lactic, its derivatives, etc., become absorbed and pass into the circulating liquids of the body and the tissues, where they undergo more or less transformation and elimination through the excretory organs. Carbonic and uric acids are usually combined with bases, and do not by their presence increase acidity in the tissues. Formic, acetic, butyric and several other volatile fatty acids are eliminated by the skin; butyric and cholalic also with the feces; renic, hippuric, oxaluric, carbonic, taurylic, damaluric, damalic, succinic and oxalic acids with the urine. Hydrochloric acid may exist in excess in the stomach, but more frequently the acidity is produced by the presence of some of the organic acids, as a consequence of fermentation induced by the presence of microphytic ferments.

In rachitis the primitive blood change is believed to be an excess of lactic acid, which holds the phosphate of calcium, etc., in solution, thus preventing the formation of infantile bone. Osteomalacia, on the other hand, occurs in the adult, and an excess of lactic acid dissolves the already formed bone. Obesity seems directly dependent upon oxidation. In addition to fat formed directly from food, there is a certain amount formed during retrograde metamorphosis, both of the nitrogenous and albuminoid constituents of the tissues. Obesity occurs in the anemic, on account of the diminished blood-current being insufficient to carry a normal amount of oxygen; likewise in the paralyzed, the nerve-cells being deficient. Oxidation of emulsified fat is more difficult than of the saponified, consequently arrest of the action of the pancreatic juice by the too acid contents of the stomach being passed into the intestine causes fat to be stored up. Diabetes mellitus we find alternating with obesity and following osteomalacia when the latter has received the benefit of improved hygiene or increased oxidation. In diabetes insipidus probably the nervous system is first affected by retention of uric acid, since we have the disease following lead and alcohol poisoning and sudden refrigeration of the body, which things Haig has shown favor the precipitation of uric acid by raising the acidity of the blood. Dilatation of the capillaries of the kidneys may be the immediate result of mechanic obstruction in the form of the precipitated uric acid in the arterioles.

In biliary lithiasis the cholesterin becomes precipitated from the bile, when the calcium salts unite with the organic acids to form insoluble salts. Renal calculi result directly from the acids, uric acid being the most frequent form. Pancreatic calculi are dependent upon the precipitation of the calcium salts from an acid medium.

Rheumatoid arthritis, according to Haig, is one stage of the same condition known as gout. He reported a postmortem at St. Bartholomew's Hospital in which Sir Dyce Duckworth observed rheumatoid changes, that is erosions without urates, and gouty changes or erosions with a deposit of urates in the joints, in the same cadaver. In the rheumatoid joint the urates had been dissolved out and eliminated in the urine prior to death. Rheumatism, gout and valvular disease of the heart are produced by the deposit of the urates in the tissues, which is caused by increased acidity of the blood. Asthma, cephalalgia, epilepsy, arterio-capillary fibrosis and all the other conditions are dependent upon uric-acidemia, which increases arterial tension and affects the interstitial circulation of the various organs and tissues.

In speaking of these diseases as dependent upon arthritism, it is not meant that no other causative factor exists, or that these diseases may not be acquired, but that the essential condition corresponds to the "arthritic diathesis." Bouchard says: "The reaction of a disturbed nervous system, by corrupting for the moment nutrition, can produce morbid opportunity, and may modify nutrition in a lasting manner and develop an acquired diathesis. The acquired diathesis, once established, may become transmissible." Horbaczewski has shown uric acid may be derived from nuclein. Haig believes a proportional amount of urea is also derived from nuclein, and the uric acid and urea are always formed in the system in the proportion of 1 to 35 or 40. If a less proportion of uric acid is eliminated, it indicates that uric acid is being retained in the tissues. If a greater proportion is being eliminated, it indicates uric acid previously stored up is being dissolved out.

Since uric acid is so frequent a factor in disease, the treatment must embrace such measures as free uric acid from both the blood and the system. In general the treatment is dietetic, hygienic and medicinal. Haig says "the one thing needful is a proper diet," and restricts all red meats, coffee, tea and eggs. Breads, milk, vegetables, fruits and nuts are permitted.

In rickets and osteomalacia, however, that food richest in phosphates should be selected, that is eggs, fish, cracked wheat and oatmeal. Strawberries, tomatoes, bananas and excessive saccharine materials are generally harmful in the uric acid diseases.

The hygienic treatment consists of outdoor exercise, mountain-climbing, sea voyages, baths and massage, to increase oxidation. Flannels should be used to prevent sudden refrigeration of the surface. A dry, warm climate should be selected. The medicine should vary according to the individual type of the disorder. The salicyl group is the best to eliminate uric acid from the system, the iodids to remove it from the blood and to lower arterial tension. Hence, the prognosis in such disorders as glycosuria, albuminuria, asthma, lithiasis and the arthropathies, when observed before morbid changes occur, is much better than the former uncertain results permitted. Cells once destroyed are not replaceable, but since, by exercise, diet and the uric acid solvents, we can prevent the further destruction of cells, the disease may in many instances be arrested.

Good results from antilithemic measures in the disorders of arthritism are reported by such observers as Lyman, Potter, Shoemaker, Wilcox, Oleve and Hunter, Bigelow, Satterthwaite and many others too numerous to mention. Personally, I have experienced favorable results from antilithemic remedies in glycosuria, nasal and bronchial asthma, lithiasis, albuminuria, obesity, eczema, paresis, rheumatism, angina pectoris, recurrent typhilitis, vertigo, biliousness, dyspepsia, neuralgia and migraine.

THERAPEUTICS OF COAL-TAR PRODUCTS[1].

A CLINICAL REPORT.

Presented to the Section on Materia Medica, Pharmacy and Therapeutics, at the Forty-ninth Annual Meeting of the American Medical Association, held at Denver, Colo., June 7-10, 1898.

BY W. R. INGE DALTON, M.D.
Member American Medical Association, New York County Association,
Medical Society County of Kings, and New York
County Medical Society.
NEW YORK CITY.

Ægrescite medendo: "The medicine increases the disease," is an appropriate motto for the introduction of this paper, for by the unskillful exhibition of coal-tar products in disease great harm has resulted. The immense and very extraordinary development of synthetic chemistry has exerted a profound influence upon the medical practice of recent times. The German school has inundated this side of the water with their synthetic compounds—legions of them have been introduced—we have been bombarded with discoveries of new organic compounds by the organic chemist, all purporting to possess marvelous and rare virtues, and foisted upon us with the brazen assurance that they open up vast possibilities of therapeutic application. Is it not time to call a halt upon the arrogant assumption of these foreign proprietors of synthetic drugs who dictate to us with such unblushing effrontery, and give the older medicine as chance? I lift my voice against the indiscriminate use of coal-tar products, and assert that more harm has been done by the use of antipyrin, phenacetin, laotophenin, acetanilid, etc., than any good derived by their exhibition. True, they reduce temperature, but at what expense to the economy! How do they exert such a reduction? Antipyretics do so, either by lessening the generation of heat, or by aiding the operation of its loss through radiation—the labor of evaporation of perspiration and conduction. Those remedies which lessen oxidation, which depress the circulation, or which produce a specific corroborant influence upon the heart center, reduce temperature, thereby diminishing heat production, while those which dilate the vascular (cutaneous) system cause the thermal loss. Antipyrin, phenacetin, lactophenin, and their congeners do certainly increase radiation by circumscribing the tissue metamorphoses. As high an authority as Shoemaker—and in my opinion there is none higher—states that phenacetin is not toxic in ordinary doses, but I have had some cases to whom I administered it which caused me great anxiety. One, in particular, a woman suffering from dysmenorrhea (congested form), to whom I gave four 10-grain doses, four hours apart, had alarming prostration, uncontrollable emesis, vertigo, profuse perspiration, with urticarial rash and deep cyanosis. Possibly, however, I may have used an impure product, made by imperfect conversion of paraphenacetidin into phenacetin. Lately, I have tried lactophenin, a closely-allied product to phenacetin—with better results. Still, I was not entirely pleased with it, as it acted on the heart too strongly. The best one of the lot, which has given me entire satisfaction in dysmenorrhea and typhoid fever, is ammonol. It reduces the temperature without exerting any depressant cardiac action; on account, I suppose, of ammonia, with which it is combined. Dr. Francis E. Stewart, chairman of the National Legislation of the American Pharmaceutical Association says that practically all synthetic compounds are foreign made, and their manufacturers or agents have secured letters patent for the processes of making, or copyright protection of their names. In nearly all cases, not an ounce is made in this country; no native industry is protected, but a foreign made product is imported through an agent to whom the sick of the country are made to pay tribute. Were these agents content to accept reasonable profits there would be less ground for complaint, but when phenacetin sells in Great Britain for $1.25 a pound, and in the United States for $1.00 an ounce, the tax on the public becomes burdensome, and the ruling of the patent office, which makes such a condition of affairs possible, demands protest.

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[1] Original abstract of the paper read before the American Medical Association.

If I have succeeded in impressing one member of my beloved profession with the necessity of using circumspection in exhibiting these coal-tar products indiscriminately, then I am content, and I feel assured that then the afflicted may exclaim, "*Ægroto dum anima est, spes est*," for then, indeed, "to the sick while there is life there is hope."

THE RADICAL TREATMENT OF DISEASE OF THE HIP-JOINT.

Presented to the Wyoming State Medical Society, Nov. 1. 1898.

BY CHARLES G. PLUMMER, B.S., M.D.

SALT LAKE CITY, UTAH.

During the past two or three decades we have learned much in the treatment of disease of the hip-joint. Some of our knowledge is the direct result of years of research, yet more has the freshness and nearness of the teachings of men of our own age. The equipment of recent graduates in the theoretic treatment of this class of ailments is immense, but what they lack is the illustrated application. This we call experience. It is that something which we do not attain didactically—it only comes by personal contact. This fact holds equally good with almost any subject we might mention, but it is especially impressed upon our minds with reference to surgical procedures. There was a time—and it is not so far in the past that we can not witness living examples of the fact—when cases of hip-joint disease went unrecognized. I do not say they do not go without recognition today—I wish I could. But, with the advent of new ideas, new methods have taught us more of the subject, and now fewer cases are overlooked than at any time in the history of surgery.

Much valuable time is lost in many cases by the diagnosis of rheumatism or "growing pains," and I am compelled to admit, in deference to those who treat the condition in its early manifestations from that standpoint, that their error seems excusable, for there is quite a similarity, in a general way, in the very early stages of the seizure. But when such a diagnosis is made and treatment instituted and maintained, where the cardinal points which go to make up the diagnosis of hip-joint disease are in evidence, the mistake is culpable. To be sure, neurotic reflexes with symptoms referable to the region of the hip and knee, such as preputial adhesions, anal fissures, or rectal ulcerations, have misled many most excellent men. I believe it is the search for some of these little things wherein lie our most pronounced successes. With their removal, or the elimination of their possible existence, our diagnosis is so much easier. Still, when we take into consideration the fact that the great majority of these cases occur in childhood or early youth, we may be pardoned when we say we sometimes meet cases wherein a diagnosis is not easy.

Children are so apt to magnify their ailments, they are often so unmanageable and reticent that our diagnosis is almost wholly subjective. It is sometimes impossible to conclude positively that we have morbus coxarius, from a single inspection and examination. It will pay us to keep the suspected case under close observation, seeing it perhaps every few days, with instructions to the family to look for certain prominent symptoms, upon which we are to base our conclusions. We may not observe in any one case all the pathognomonic signs of the disease, still when we see the marked flexion and abduction of the limb, either in the prone or upright position, the limited motion, the apparent ankylosis at the hip, night pains and pains referred to the knee, we can not miss it much by pronouncing it coxitis. Perhaps the subject has suffered some traumatism, perhaps not—it does not matter, for whatever the cause, the treatment is identic.

In coming to the question of treatment, I wish to state that I believe all the successful methods of treating hip-joint disease today may be termed radical. That there are degrees of radicalism we can not deny. Looking upon the results of treatment of these cases in the hands of some whom we might term antiradicals, or extremists in conservatism, I am not much impressed with the wisdom of their medico-supportive and expectant methods. The physician who allows a case to progress so far as to permit of the formation of abscess in or about the region of the hip-joint makes a grave error. And one who has not seen cases of advanced disease of the joint will find that he is totally unable to appreciate the terrific ravages such abscesses will commit. Extensive suppurative sinuses will penetrate the deeper structures of the hip and thigh, extending in some cases down the leg to the knee, forming large bulging pockets of pus in the popliteal space, or above the patella; or they will burrow beneath the gluteal muscles across to the other side, or come out under Poupart's ligament, or through the ischiorectal region. And just as sure as hip-joint abscess develops, deformity in some degree may be expected.

My experience has taught me that every deformity—by which I mean modified or absolute ankylosis with shortening resulting—is due either to abscess, or neglect and deferred treatment. Why is such deformity in evidence? Often because of the expectant and medicinal treatment of misguided conservatism. Do not misunderstand me, please, for I believe in every endeavor to prove the value of conservative measures; but there comes a time when conservatism is not a synonym for good sense, when delay is dangerous, when hesitancy loses the day. For just such cases as these radical surgical procedure is necessitated. Radical treatment means the institution of active surgical measures, as opposed to the delay, linger-and-wait methods of the ultraconservative. My interpretation of radical advances begins with the use of injections of emulsions of iodoform, iodin, or any other drug into or about the joint cavity; or with extension alone; or with extension combined with hypodermatic injections at the site of the disease, of Vaughan's nuclein solution; or with resection of the head of the femur and thorough removal of all evidences of the disease.

I have purposely refrained from saying anything about the etiology of hip-joint disease, for I am certain we are a unit on that subject, if not entirely so on that of treatment. My reading and my own experience convince me that morbus coxarius has its origin in the tubercle bacilli; hence it is merely a circumscribed tuberculosis. It does not matter whether there be a cachexia or not, or whether it result from a traumatism, I believe the cause always the same. One may not always be able to demonstrate the tubercle bacillus, he can not find it every time he examines the sputum of a tuberculous subject; nevertheless, the existence of foci of disease absolutely characteristic in every particular proves the origin to be one and the same.

While the name "hip-joint disease" is used to designate a tubercular inflammation of the hip-joint, it may have its origin in any one of three places: first, on the femur, called epiphyseal; second, acetabular; and third, arthritic, or synovial. The place of its origin has something to do with its treatment later. If it begins, as is usual in the majority of cases, among children especially, in the epiphysis, the treatment must be more rapidly enforced, and of a much greater degree of severity. For my own convenience, I have divided radical measures into three classes: 1, injections of drugs into or about the joint cavity; 2, the employment of extension; 3, resection of the head of the femur.

In the first and second classes, as I have already indicated, we may use a combination of methods to suit the exigencies of the case, and to promote the best results. For instance, one would not give intra-articular injections of iodoform emulsion and allow the patient to perform his ordinary duties, because rest is one of the first considerations. So with a judicious use of the very best means combined, it becomes our function to save the vast majority of cases from the dreaded fate of the last degree of radical surgical procedure, viz., resection of the hip-joint.

Upon the recognition of a case of hip disease, no matter what the age of the patient, the tripod of success is: 1, perfect immobilization with the Thomas splint; 2, the prone position; 3, extension. Without any other means whatever, I feel confident, in at least 90 per cent. of all cases, of securing the best results, when the above rules are strictly adhered to, and intelligently carried out. With the intra-articular and parenchymatous injection of a 10 per cent. emulsion of iodoform in glycerin, properly sterilized, we get better results than with a similar use of any other of the numerous solutions that have come before the profession. This treatment has been followed some years, but is, properly speaking, one of the weapons of modern surgery. Since the discovery that the tubercle bacilli existed in the so-called cold abscesses and joint affections, its employment has been more a matter of scientific application, with results directly proportionate to the thoroughness with which it is carried out.

Sometimes iodoform intoxication occurs among those who are particularly susceptible, but it is infrequent and rarely of much violence. Nevertheless, in its administration one should give but from twenty to thirty grains, according to the age of the patient, at the first treatment, and watch the effect. If the patient bears it well, it may be increased to a much larger dosage. After we are satisfied of the existence of disintegrating material, boldly plunge a small, perfectly sterilized canula into the capsule, or the body of the abscess, and draw off all the contents. Leave the canula in position, and with an aseptic rubber tube attached to it, thoroughly irrigate the interior with a warm Thiersch solution, or a 2 to 4 per cent. solution of boric acid. Continue irrigating until the returning solution is perfectly clear, then fill the cavity moderately full of the iodoform emulsion, remove the canula, and place over the opening a close aseptic dressing. The parenchymatous injection is about as effective as the intra-articular, and the same technic is employed.

In the hands of many surgeons, balsam Peru, corrosive sublimate, iodin, carbolic acid, and arsenious acid have proved of more or less value in their antibacterial action. The violent inflammation set up by the most of these agents is a hindrance to their more general adoption, so that iodoform in glycerin is much more popular. Different operators publish a variety of statistics on the employment of iodoform in this manner, some going so far as to absolutely deny any antibacterial action whatever, while others consider it the best and most curative agent in our hands. As far as I am able to judge of its value in the few cases in which I have used it, I believe it has a definite, germicidal power, depending largely, as a cure, on the stage of the diseased process wherein it is used. True, I have not always found the tubercle bacillus in the gross discharges from such a condition—it is sometimes quite difficult—neither can we always attest the infallibility of the Widal test in typhoid fever; yet, to him who has come in contact with very many representatives of these diseases, the phases are so pertinent, that a mistake in diagnosis is improbable. And we are certain, absolutely so, in spite of all the tests, that the above diseases exist, even when their bacilli can not be demonstrated. So much for the first method of treatment alone, which may be combined with the second, that of extension, and often to great advantage.

As I have previously declared, the success of treatment by extension depends on perfect immobilization of the affected part, and rest in the prone position, during the acute stages at least. I am unwilling to admit that a patient can do as well with the joint immobilized and be allowed to go on crutches. The great requisite is rest for the joint and also for the tissues enveloping it. No one can be sure of the entire absence of muscular, and even of joint motion, when a patient is in the upright position. And it is this perfect rest, with separation of the diseased synovial membranes, upon which we base our assumptions for relief and cure. We know full well how little motion or disturbance can be borne by the sufferer, when we attempt to make an examination of the hip-joint without anesthesia. It does not appear that age makes much difference; from extreme childhood to old age the excruciating agony they endure upon the slightest motion goes to show why perfect rest is best.

One of the best means for securing immobility is the Thomas splint, perfectly fitted, applied and maintained. I do not deem it always requisite to use this splint. In adult cases it is not needed as much as among children. Where immobilization can not be secured by ordinary bandaging for extension, then the Thomas splint is the best appliance known. Its use should be maintained after the acute stage has passed, and the patient is allowed to go about on crutches, with a patten under the foot of the well leg.

Another most beneficial agent incorporated in the armamentarium of the surgeon for the treatment of this condition, is Vaughn's nuclein solution as produced by Parke, Davis & Co. I have used it in conjunction with extension in a number of cases. In one case, that of a man aged 44 years, it was not administered hypodermatically. I gave him the 5 per cent. solution by the mouth in rapidly increasing doses, until he was taking 60 minins four times daily. From the very beginning an attempt was made to thoroughly saturate him with the nuclein, and the happy results more than repaid us. A rapid decrease in the swelling about the hip-joint took place, the tenderness wholly disappeared, his appetite improved, and there was a complete subsidence of the usual train of annoying symptoms, that rarely, in previous cases, had been accomplished by extension alone. During the incarceration of this patient's hip-joint, he gained over twenty pounds in weight. He had previously undergone amputation of the foot, on the same leg that now suffered from hip disease, for tuberculosis of the ankle. At the time the extension apparatus was adjusted there were several small tubercular ulcers on the tibia above the stump; hence it was not without misgivings that radical treatment was instituted. And I feel compelled to admit that without such a powerful agent as Vaughn's nuclein solution, producing a vigorous leucocytosis, the result in this case could not have been good. The great increase in the disease-resisting power afforded the human body by such an element, its germicidal influence and antiseptic properties, recommend it very strongly to our consideration in these cases. Experimenters speak of it very highly also, in cases of mixed infection. Its use, either by the mouth or hypodermatically, is attended by no evil results. I presume I have given nearly 1000 injections of it, and have had as yet no needle abscess—something one can not say of all the various antitoxins we use nowadays.

The third and most extreme measure adopted for the treatment of this disease, resection of the hip-joint, I have found it necessary to employ three times. It is so radical, and the deformity is so marked, that one hesitates to resort to it, often putting off the evil day until he feels he is not doing the patient or himself justice. Some writers may deem it the only treatment employed that might be termed radical. To be sure, it is the extreme of radicalism, but is demanded in a certain class of cases. There are degrees of severity of the invasion of the hip-joint by the tubercle bacillus, just as there are of any other disease with which we come in contact. One type we can treat by a measure as radical as any other, because it singles out the cause and eradicates it; another by means just as effective and as far-reaching, but perhaps not so brilliant; and a third by the last-resort method, the sacrifice of more or less tissues, but the permanent removal of all growth interfering with local and general recovery.

Surgical good sense, for which conservatism is so often and improperly used as a synonym, should be the bulwark of every well and properly-equipped operator. With a case in hand, one can not go over the ground and make an operation of selection, for you have something to do other than a mere removal of the head of the femur. The anatomic relations are so changed that one would scarcely recognize the vicinity, and the attack on the great bulging, sloughing mass can not be made upon any hard and fast lines. The idea is to get to the seat of the trouble as rapidly as possible, and with the loss of as little tissue as is practicable, and at the same time be thorough. The simple resection of a practically normal case is nothing compared with what confronts one in a last stage case. The amount of pus that can burrow around the hip and pelvis, and the amount of disintegrated tissue that comes away through a free incision is astonishing. The removal of all adjacent diseased tissue and the scraping of the foci are secondary to the rapid and careful resection of the head of the bone. Remove all signs of disease, but leave all the bone that it is possible to leave. In doing the section, leave the great trochanter, if possible; if it must be sacrificed, saw through it just above the lesser trochanter at an angle, thus maintaining the integrity of the muscular attachment for the great muscles of the thigh.

Notwithstanding the deformity which must result from the removal of such an important factor, it is neither as great nor as maiming as that which follows the usual suppurative processes involving the hip-joint, when allowed to heal by natural resolution. Resection presents the horrors of an operation to patient and relatives. It also guarantees speedy and permanent relief from pain, but a permanent shortening. This shortening may be much or little, many times depending on the attending surgeon in his removal of tissue, and also on his after-treatment and care of the case. If the case be young, we have every reason to believe that there will be a continuation of the growth of the femur, thus modifying more or less the permanent shortening. In my experience, those who have endured this operation are lame only from the shortening, while, in the result of a spontaneous cure, a very aggravating ankylosis and tilting of the pelvis accompanies it, with even a greater amount of shortening.

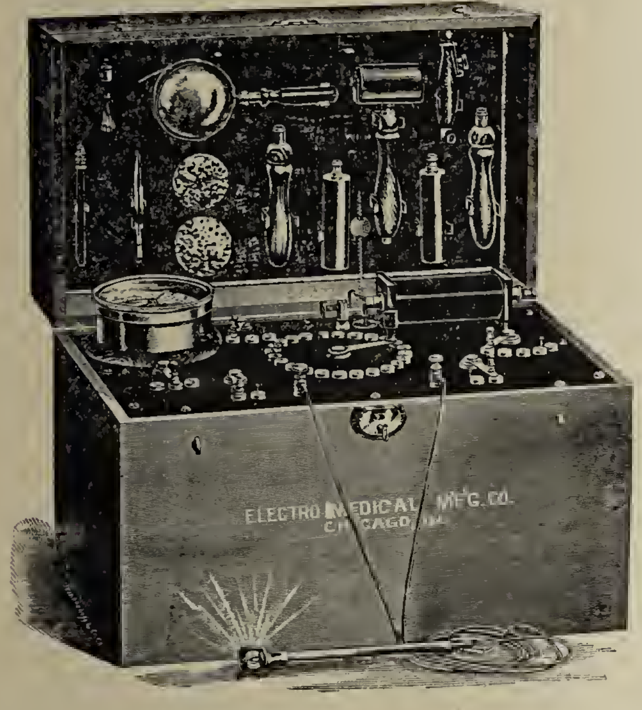
Much more might be said on this subject; cases could be cited of the various methods of treatment, and details pursued, but it is not pertinent at this time. I am satisfied that not all is accomplished by radical measures that should be expected. Still, with the improved methods at our hands, the greater knowledge of cause and effect, we may hope to accomplish much more than has ever before rewarded our efforts.

A NEW PORTABLE ELECTRIC OUTFIT.

BY GUSTAVUS M. BLECH, A.B., M.D.

CHICAGO.

Electricity as a therapeutic agent, while quite popular with a few specialists and wealthy practitioners, is employed by the majority of general practitioners with no scientific precision, because of lack of suitable apparatus. The results are poor, for to obtain good results good apparatus is necessary. It is therefore for this reason that electricity is decried by many as a valueless agent, while in reality it is a very valuable means of curing a large number of nervous and muscular affections. The idea prevails among many practitioners that electricty can be administered scientifically only by means of large, stationary and expensive "machines." The price and impossibility of moving the batteries from the office to the bedside of the patient have proven objectionable features, preventing the general introduction and practice of electrotherapeutics. It is perhaps of interest to know that the most renowned specialists in Europe, for example Dr. Erb, who has become famous through his lectures and writings on electrotherapy, use, in their private practice, small portable batteries. Of course, the term "small, portable" is not to be confounded with the so-called family batteries, for self-treatment, which, as a rule, are not worth the material used on them. The erroneous idea that large liquid cells yield more electro-motive force and ampèrage than small dry cells has prejudiced the profession against anything but stationary cells. We know today that the size of the cell has nothing to do with its electromotive force and that a small dry cell about as large as a vaginal speculum will do more for a longer period of time than, for example, a Laclede sal ammoniac cell. The cost of renewing a dry cell is not larger than the refilling and keeping in good order of large liquid cells.



Knowing these facts, and to overcome the objections mentioned, with the co-operation of the manager of the Electro-Medical Mfg. Co., I have devised a combination battery which, while cheap, admits of the scientific administration of galvanism, faradism, the practice of electrolysis, and the illumination of small lamps for diagnostic purpose. The following illustration gives a fair idea of its construction.

The battery has twenty-four cells, connected to the galvanic circle, yielding 33 volts. The faradic current produced in the coil is even and smooth, but can also be regulated with Lindstrom's rheotome to from 100 to 4000 interruptions per minute. There is a selecting switch for primary and secondary currents. By means of a switch, connection is made with a strongly built milliampèremeter for the measuring of the galvanic current. Four extra large cells are connected to a German silver wire rheostat for the purpose of running a small incandescent lamp (25 hours) for the illumination of cavities—throat, vagina, rectum, etc.

The battery can be used for electrolytic work, such as the removal of superflous hair, warts, moles, etc., and has for that purpose an electric needle and holder, epilation forceps and magnifying glass. To the battery are added several sponge and metal electrodes, one roller electrode, one metallic brush and one interrupting handle, all which are fastened between strong clamps to the inner side of the cover.

SOCIETY PROCEEDINGS.

Cincinnati Academy of Medicine.

Regular Meeting Feb. 13, 1899.

Dr. J. W. MURPHY read the paper of the evening entitled

TREATMENT OF DISEASES OF THE MIDDLE EAR, WITH REPORTS OF CASES.

About one sixth of all ear cases come under the heading of chronic otorrhea. It has been proven that suppuration in the mucous membrane of the middle ear leads to hardness of hearing and deafness, through the impairment or destruction of the delicate structures contained therein. Incased in the deep bony cavity, freely communicating with the pneumatic cells of the mastoid, with important structures adjacent to or passing through it, we can see how any suppurative process of the ear is a standing menace to the life of the patient. He had seen in Professor Schwartze's clinic the skull of a boy 13 years old, where the suppuration had continued through the bony wall of the lateral sinus, and sudden death followed. There had been no symptoms beyond a purulent discharge from the middle ear.

In children in whom this disease is especially frequent, the various parts of the temporal bone are not united, but only held together by a fibrous matrix, and consequently secretions from the diseased mucous membrane may find an easy entrance to the meninges and brain itself. The bony covering of the Fallopian canal may be eroded and the horizontal semicircular canal opened through this suppuration. When the facial nerve is injured the paralysis is permanent. Pathogenic organisms may pass along the nerve sheaths, either toward the cerebellum, or upward and forward through the foramen enclosing the great petrosal nerve. According to Macewen, when the inflammation extends along the nerve sheaths it is more apt to give rise to leptomeningitis than brain abscess. Quoting the same authority, the essayist said: "When the tympanic cavity has become the seat of chronic suppuration with ulceration of the mucous membrane, extending into the antrum and mastoid cells, it becomes a standing menace to the safety of the patient. A person might as well have a charge of dynamite in the mastoid antrum or cells, as one can not know the moment when accidental circumstances may arise which may cause the infected matter to become widely disseminated all over the cerebrospinal system. Chronic otorrhea is much too lightly regarded, and is frequently considered as a mere inconvenience instead of a menace to life. It is a disease which advances insidiously, often without pain, until very extensive destruction of the middle ear and the mastoid antrum and cells, with thinning of their osseous walls and serious inflammation of the blood-vessels and the brain itself, occurs. One who has a chronic purulent otitis media is liable to have, with very little warning, a most serious or even fatal illness. The records of most aural hospitals show that their patients are all confined to the earlier decades of life. It is probable that many people die from such causes before they reach 40 years of age. All persistent purulent discharges from the middle ear ought to be regarded seriously, and the medical attendant ought not to rest satisfied until the discharge is cured."

Till within recent years we did not meet with the measure of success desired in these cases. We were too intent on treating the ear itself and failed to see that the primary seat of the disease was not in the ear, but in the nose or nasopharynx. The bacilli found in the nasopharynx may readily pass up the inflamed Eustachian tube, producing an inflammation of the middle ear. On the other hand, the secretions of the middle ear may pass down the Eustachian tube into the nasopharynx, producing inflammation there, or possibly an infective pneumonia if inspired, or an infective diarrhea if swallowed. If all source of fresh infection can be removed, the germs are gradually weakened until they are no longer capable of reproduction and the discharge ceases. Most of these cases give the history of both ears having formerly discharged, but that in one the discharge had ceased without treatment, and an examination shows a large perforation or perhaps that the entire drum membrane has been destroyed, the other ear still continuing to discharge. The pharyngeal opening of the Eustachian tube on the one side is able to prevent the passage of the micro-organisms, while the other is not, and the discharge continues. In nearly every case we find the least nasal obstruction on the side that has ceased to discharge.

Adenoids in children are the primary cause of more otorrheas than all other causes. Their complete removal is the only treatment, and often all the treatment that is necessary. The German clinics teach that these chronic otorrheas are best treated by the mastoid operation. The experience of the essayist has been that if more attention is given to the removal of the obstruction about the pharyngeal end of the Eustachian tube, the discharge will soon disappear without such radical treatment. The troubles of neither the patient nor the physician end with the mastoid operation. When indicated, it should be done, but if these cases are treated before dangerous symptoms appear, the vast majority may be cured. Give these chronic cases careful treatment beforehand and they will frequently get well without opening the mastoid cells. True, not all cases will recover under this line of treatment, but all patients should be subjected to this plan of treatment before resorting to operative procedures.

The essayist then reported a few cases of chronic otorrhea which had remained cured for from three to five years; also a case of facial paralysis with opening of the Fallopian canal and horizontal semicircular canal from a chronic otorrhea.

Case 1.—Louis R., aged 21 years, was first seen in October, 1894; had had purulent otorrhea for fifteen years. The removal of a large post-nasal hypertrophy of the inferior turbinate had caused the discharge to cease in a week. The ear had remained well with considerable improvement of hearing on the same side.

Case 2.—John B., aged 17 years, had had discharge from both ears for ten years. Removal of hypertrophy from both nares had caused the discharge to cease in four weeks.

Case 3.—Emma B., aged 8 years, was first seen in January, 1895; had had discharge from the right ear for four years; had difficulty with her lessons at school and was gradually growing deaf. The removal of the large tonsils and adenoids caused the discharge to cease in two weeks. By means of Politzer's method of opening the Eustachian tube, in six weeks the hearing was almost normal.

Case 4.—Robert H., aged 12 years; facial paralysis and dizziness following injury to the Fallopian canal and the horizontal semicircular canal from middle ear diseases; had had a discharge from the right ear for the past ten years; there were no symptoms of pain until in October last, when he applied to the Miami Medical College Clinic for relief from pain; the right ear was full of foul-smelling pus, through which granulations could be seen in the middle ear; watch was heard only on contact. The left ear was dry, the drum membrane absent and the watch heard at but six inches. He was ordered a solution of boracic acid, to be warmed and dropped in the ear three times a day; this gave relief and was continued for three days. Facial paralysis then came on suddenly, with staggering when he attempted to walk, staggering always toward the side of the affected ear. These symptoms might have been caused by pressure from the granulation tissue in the middle ear and mastoid antrum; the dizziness and staggering by pressure on the horizontal semicircular canal. Opening of the mastoid and removal of the granulation tissue was advised, and the mother was warned that it was not likely that the facial paralysis would disappear. The patient was sent to Christ's Hospital and, assisted by Dr. S. E. Allen, the radical mastoid operation was performed. The middle ear was found filled with granulation tissue and the surrounding bone soft and necrotic; but fragments of the hammer and anvil were present. When the granulation had been removed, it was seen that the Fallopian canal and the horizontal semicircular canal had both been eroded by the disease. Probing of the facial nerve failed to elicit twitching of the muscles about the corner of the mouth. The probe could be passed into the opening of the horizontal semicircular canal, plainly showing its direction. After thoroughly curetting out all the diseased bone, the membranous auditory canal was split so as to cover as much of the denuded bone as possible, and the wound entirely closed with silk sutures. The middle ear was packed with iodoform gauze through the external canal, and a bandage applied. The dressings were not removed for seven days, when the external wound had closed by first intention. The patient made an uninterrupted recovery. When he attempted to walk, for the first few days there was considerable staggering, always to the side of the affected ear. The facial paralysis still remains, and will likely be permanent. He is outgrowing the staggering, and now runs and plays the same as any other boys of his age. Dr. F. W. Langdon kindly saw the case in consultation and gave an unfavorable prognosis as to the disappearance of the facial paralysis. He considered it fortunate that no attempt was made to remove the granulation tissue at the first visit; had the attempt been made and paralysis followed, it would have been thought that the operation had caused it. The child had enlarged tonsils and adenoids, which were no doubt the primary cause of the otorrhea. The child was presented, as were many specimens of ear pathology and anatomy, and several plates on the same subjects.

Dr. S. E. Allen said that he had been present at the operation and was confident that the Fallopian canal had been eroded and the horizontal semicircular canal opened by disease, and that the facial nerve had been irreparably damaged from the same cause. He took the same stand as the essayist concerning the prevalence of diseases of the nose and throat with those afflicted with running ears. He had not yet made up his mind which was the more dangerous, a chronic insidious disease with gradual involvement of the mastoid or an acute fulminating one, whose first warning might be so quickly followed by meningeal involvement as to make the prognosis extremely grave.

Dr. D. T. Vail wished to corroborate many of the statements of the essayist. He himself was a living witness of the efficacy of thorough and intelligent treatment of chronic otorrhea, from which he had suffered for many years and from which he had been rescued not by operation, but by a vigorous use of two simple remedies—the peroxid of hydrogen and the spirits of boracic acid. While he still had a large perforation in one ear and the drum had entirely disappeared from the other, yet he had no particular difficulty in hearing even in the back part of a theater or church. As regards the pneumonia that sometimes occurs as a result of involvement of the mastoid, he was inclined to think that it was due, not so much to the discharge passing down the Eustachian tube and then into the lung, but that the lymph-stream was involved, and finally the blood and the lung by systemic infection.

Dr. J. A. Thompson was inclined to think that while both were dangerous, he was more in fear of the acute disease, in view of a fatal case of pyemia, the result of acute mastoiditis, which he had reported to the Academy last fall.

Denver and Arapahoe Medical Society.

Regular Meeting, Feb. 14, 1899.

Dr. Wm. P. Munn, health commissioner, gave an extemporaneous talk on the

PREVALENCE OF SMALLPOX IN DENVER AT THIS TIME.

He recited the history of all the epidemics of smallpox in Denver prior to 1890: One in 1886, which originated in Leadville, and which was suppressed in 1887 by Dr. McLauthlin; another epidemic in 1888–89, which was suppressed by Dr. Clark, health officers respectively. Denver has been free from smallpox since 1890, with the exception of imported cases: in 1891, one case from Trinidad; 1892, one case from New Mexico; 1893, four cases from Seattle; 1895, one case en route from Mexico. The city was free from smallpox until Nov. 15, 1898, when a sheepherder from New Mexico, suffering from the disease passed through the city, going to Fort Collins, where it is reported he died. Ten days after he passed through Denver, two railway employes with whom he had come in contact developed smallpox; a week later the child of one of these men and a sister of the other were taken down. All were removed to the hospital; all recovered and were discharged by Jan. 15, 1899.

A negro from Pueblo, of whom the health officers had a description, but whom they were unable to discover, came to Denver about Christmas time. One of the persons who had come in contact with him came to Dr. Kleiner for treatment, and he at once recognized the trouble as smallpox. The Doctor did not allow him to leave his house, and at once notified the health officers. Within an hour and a half the patient was in the hospital. The next day another case was discovered by a health officer.

On November 27 Drs. Blair and Parkhill reported another case; that of a merchant of the city who returned from a trip through Southern Texas, where he had been exposed to smallpox. From this case two cases arose, one being the child and the other the partner of the gentleman originally affected. By this time a succession of twelve cases among negroes have occurred as a result of the first importation, all having been removed to the hospital, and all are out there under treatment at this date. About January 18 a prisoner in the county jail complained of illness; he had been an inmate of the jail for two months, and was not known to have been in any way exposed to smallpox. After several days, however, typic eruption developed, and he was removed to the hospital. On Jan. 27, a man just discharged from jail was found to have the disease; he had been a prisoner for three months and in the same corridor with the preceding case. Dr. McLauthlin has discovered another case, that of a white girl. The origin of infection seems to be traced to contact with a soldier from Manila. The total number of cases occurring from the above sources of infection has been twenty-three. There are two other cases in which diagnosis is not yet positive. They would have been discharged, but their history of exposure is certain, and therefore they are kept under surveillance. At this time all known cases of the disease are isolated at the Sand Creek Quarantine Hospital. Two deaths have so far occurred, and it is probable that several of the colored persons affected will die, as the disease is confluent with some of them. Of all cases, only one refused to be removed to the hospital. After three weeks he begged to be removed, and complained bitterly that they had not removed him at once by *force*. Indeed, the Commissioner remarked, aside from the moral point of view—that of lessening the danger of infection in the community—it is impossible for any but the very rich to stand the expenses of home treatment. They have to pay for the quarantine guard, double price to nurses and physicians. The danger to the community is always minimized when the patient is at once removed to the hospital. The quarantine hospital is situated seven miles from the city. It is well kept and in good repair. Its capacity is fifty beds.

In each instance of infection all persons whose exposure has been great have been removed to the hospital for supervision or observation, or else the occupants of the infected premises have been kept under surveillance for two full weeks. Vaccination has been done for all persons in infected districts. General vaccination has been urged through the daily papers. In the health office alone 8000 vaccinations have been done. The wholesale drug firms report the sale of 15,000 tubes of lymph to physicians. It is assumed that nearly 24,000 persons have been vaccinated since January 1.

Infected goods in the houses where the cases occurred have been burned in every instance. The houses have been disinfected twice, and in some instances three times, using either sulphur or formaldehyde, as the circumstances seemed to justify.

Notwithstanding the fact that a city has a right to destroy infected goods, but since it is almost always the poor that suffer most from infection, and the destruction of their property would entail great hardship upon them, he has taken the liberty of reimbursing those who presented a reasonable bill for goods destroyed. The health offices used glycerinated lymph, and 99 per cent. were successful. This proves that vaccination should be done oftener. Many who showed successful vaccination scars took readily, and a Chinaman who bore the marks of smallpox took the vaccination well.

The diagnosis of smallpox is at times a difficult matter. The first two cases were diagnosed at sight. The third was treated for syphilis. A policeman diagnosed the case, and the doctor agreed with him. Another case was treated for two weeks as chickenpox, and another was kept under observation by several prominent physicians, and thought to be chickenpox.

The first source of infection has distributed smallpox all over the State. There were cases in Florence, Boulder, Trinidad, Pueblo, and in a few smaller cities. It is due to the vigilance of Dr. Henry Sewall, the secretary of the State Board of Health, that the spread was checked. He was untiring. He went to every infected city and personally investigated every case. He delivered public lectures, and encouraged all the local health authorities by his presence.

Dr. McLauthlin said that the city of Denver is under great obligation to its health officer. It is certainly due to his untiring energy that a city like Denver, surrounded by so many smaller cities where smallpox raged, should show only twenty-three cases. He advocated the early reports of all suspected cases. From his experience he concludes that the most pathognomonic symptoms before the eruption appears are the intense headache and backache. Chicken-pox is very uncommon in adults, and therefore should be looked upon as suspicious.

Dr. Miel gave a detailed description of the first case of infection. He traced the sheep-driver's movements from point to point. The man of whom he bought tobacco in Pueblo was taken with smallpox. He ascribes the source of infection to the paper money.

Dr. Whitney said that Kaposi used to base the diagnosis of smallpox from the halo surrounding the papule, which is very characteristic. It does not fade into the surrounding skin, but is sharply defined in its whole circumference.

Dr. Munn has noticed the halo in some cases, but was sure it was absent in the case found in the county jail.

Dr. Rogers reported an interesting case which he saw some twelve years ago. This man was in Denver only a few days; came here for pulmonary trouble; was taken with severe headache and backache. On the third day he commenced to spit blood, which was thought at first to be of pulmonary origin. Then he had nose bleeding, and a day later, blood in the urine. There was a universal hemorrhage and the patient died. The diagnosis of hemorrhagic smallpox was based upon the intense headache and backache.

Dr. Levy urged the importance of examining the mouth and throat in all cases, especially in colored people.

Dr. Shallenberger recited the history of a case which commenced with slight symptoms in which headache and backache were absent, and no eruption appeared until the ninth day.

Dr. Munn, in closing the discussion, expressed his thanks to Drs. McLauthlin and Sewall for their active co-operation, and to Drs. Worthington and Stratton, his associates, for their aid.

Dr. H. B. Whitney reported the following rather remarkable case of vaccinia:

A boy, aged 8 years, was vaccinated with glycerinated lymph on January 15, together with five other children in the same family; all successful. He was called January 25 and found the following condition: Child in bed, dull, apathetic; rectal temperature 105.51 degrees, pulse regular, respiration not accelerated. The arm presented a small superficial ulceration at the site of the inoculation. Around it the skin was much redder from elbow to shoulder; moderate infiltration. In the immediate neighborhood of the place were four large blisters. An attempt to empty one of them by puncture was unsuccessful. Upon the face and back were found numerous macules; a few already showed small vesicles in the center. The mucous membranes of cheeks, soft palate and lips were the seat of an efflorescence. The whole interior of the mouth looked grayish-white, as if the patient had swallowed a strong caustic. It was somewhat painful and swallowing was difficult. The same state was found in and around the rectum. There was marked photophobia. On the following day the temperature was found the same, the eruption more advanced. He had called Dr. Zederbaun in consultation. The boy was stupid and drowsy, pulse good, tongue moist. The arm presented a curious condition. New vesicles had formed of the same enormous size as the first, so that from elbow to shoulder over nearly its whole circumference, the arm was a confused mass of bright red raw surfaces of various stages of vesiculation and adherent sheets of epidermis. Eventually there was complete exfoliation of the whole arm. The central part remained as a superficial ulcer throughout, and eventually healed by granulation.

The most extraordinary feature, however, was the general eruption. The muscles on the face and ears remained small and vesiculation was slight, but those on the trunk reached an enormous development. Imagine a large, irregular macula, perhaps two inches in diameter, rather light red toward the center, but surrounded by a red halo, the margin of which is as sharply defined as if made with a brush. In the center is a flabby and shallow vesicle about the size of a two cent piece and containing pure serum. Imagine these immense maculæ scattered irregularly over chest and back, especially thick and confluent toward the median line, and you may conceive the curious picture presented. There was no rash on the extremities.

The condition of the mouth was simply horrible. The odor was extremely foul. The general condition slowly improved although the temperature kept up at 104 for several days. The macules continued to appear, and presented in a few hours a beginning central vesiculation. The subsequent course of most of these vesicles was rupture and the formation of large, yellow crusts. The mouth has cleared up, and the arm too, under zinc oxid ointment. The chest and back are thickly strewn with large and small, irregularly shaped, yellowish crusts. It seems quite probable that some, at least, will leave cicatrices.

Dr. Edson, in discussing the above case, advocated a State farm for the manufacture of vaccin lymph. He said that no matter what precautions the physician may take, he is at the mercy of the lymph manufacturers. If manufacturers can produce lymph and make profit, why can not the State produce it at cost and control its purity? He recited the history of an epidemic of infected arms following vaccination in an Eastern city, traced to the uncleanliness of the cows in a lymph farm.

Dr. Axtell thinks that glycerinated lymph has no advantage over the vaccin points. There are as many successful vaccinations with the one as with the other. He cited eminent bacteriologists who claim that dry vaccin is the better article. Glycerin is but a feeble antiseptic.

Dr. Schallenberger reported a case of a child that revaccinated itself at seven different places. The cause was pruritis.

Dr. Love asked whether a woman at term should be vaccinated.

Dr. Munn said if she was not directly exposed to infection, he would not vaccinate. He finds that when one has wounds and is vaccinated the wounds become infected. A pregnant woman may abort, or have a lacerated perineum, and therefore become infected.

Dr. Warren wanted to know whether one suffering from acute tuberculosis should be vaccinated.

Dr. Munn said that he has never noticed any deleterious effects from vaccination in tuberculous patients.

Drs. Spivak, Tyler and Whitney each reported cases in which the vaccination took on the fourteenth, fifteenth and twenty-first days respectively.

San Francisco County Medical Society.

February Meeting.

Dr. S. J. Hunkin presented a report to the Society embracing FORTY-SIX CASES OF ANESTHESIA WITH THE SCHLEICH MIXTURES.

He called attention to the advances of surgery since the surgeon had acquired anesthetics, and to the objections to both ether and chloroform as anesthetics; in his opinion there were more objections to be raised against any of the recently suggested anesthetics. He then reviewed the position and statements of Schleich. The theory of the Schleich mixtures was founded on the belief that if the anesthetic possessed a boiling point at or near the body temperature, it would not be retained in the blood, would be rapidly eliminated and hence produce few, if any, dangerous complications. This being the aim of the suggester of these mixtures, the objective solutions were obtained by mixing together varying proportions of ether, chloroform and petroleum ether, or benzine. Three mixtures have been advocated by Schleich, and all three were systematically tried at the Children's Hospital, San Francisco, most of the administrations having been made by Dr. Phelan, at present in Manila. The three formulas were about evenly distributed among the forty-six cases, and the observations and recorded data were most complete. It was found that very little difference could be noted as to the ease of administration, time required, etc., between the three mixtures. With mixture No. 1, which has a boiling point at 38 degrees C., the average time for going under the anesthetic was ten minutes; for coming out, fourteen minutes; the average amount used was about 50 c.c., ranging from 47 c.c. to 100 c.c. Some symptoms of excitement were noted, but there was little or no vomiting. With mixture No. 2 the results were about the same, save that administration was perhaps easier and there was a little less nervousness noticed. Mixture No. 3 exhibited but little variation from the other two. The patients ranged from 22 months to 24 years; the average pulse-rate going under was 105, and coming out 111; the operations lasted seventeen to ninety minutes. Two cases died some little time after operation, and in three there were grave symptoms of nervous excitement with collapse. One patient exhibited some nervous stimulation for three days after the operation. In one case the nervousness at the time of administration necessitated the substitution of chloroform for the Schleich mixture, and with chloroform no further trouble was noted. None of the nervous complications were noticed when the mixture No. 3 was used. The Doctor concluded that as the relative amount of chloroform increased in the three mixtures from No. 1 to No. 3, the lessened amount of nerve complication was in direct proportion to the increased amount of chloroform. In his estimation the Schleich mixtures represented the cardiac depressant action of chloroform, together with the objectionable action of ether on the kidneys, and consequently were much worse than either chloroform or ether alone. He referred to the work and the statistics of Meyer and others, and concluded by saying that chloroform seemed to be the best anesthetic, ether the next best, and that all mixtures, like all mixed drinks, were harmful.

Dr. Sherman said that as he had operated in most of the cases cited, he felt implicated to a large degree. From the point of the operator the mixtures were all right; the patients were sufficiently and properly anesthetized and so remained during the operations. The deaths noted in the report were undoubtedly due to the nature of the disease and the required operation, and the anesthetic could not be responsible. In the Children's Hospital the giving of an anesthetic is a very formal matter. One of the internes is deputed to that task, and serves for three months at a time. She is first carefully instructed in the method of administration, and the proper course to pursue in case of any and all complications, and is not allowed to give an anesthetic alone, nor till it is evident that she is quite able to handle any situation liable to arise. She is provided with blanks which she is required to fill in with the necessary data: the pulse-rate at commencement and during the operation, respiration, time of going under, time consumed by the operation, time of coming out, amount of anesthetic used, etc. Dr. Sherman said that it was difficult for him to see how the mixture of benzin or lucin, which petroleum ether really was, with chloroform and ether, could be an actual solution and not a mechanic mixture. He thought that they would separate, or at least have different distillation points, and hence they would be absorbed not as a unit, but consecutively, and that the action would therefore be unequal. In his estimation any of the simples was much to be preferred to any mixture of them with or without other material. In this he agreed with the clinical experience of Dr. Hunkin. He suggested that, as in Ireland the habit of drinking kerosene, and in Paris the habit of drinking benzine, were now well known methods of becoming intoxicated, perhaps the nervous action of the Schleich mixtures might be due to the contained petroleum ether or lucin.

Dr. Robertson said that each man used that anesthetic which he individually thinks the best, and all men who use any other anesthetic, save in special cases, are guilty of gross carelessness. The choice of anesthetic is largely a matter of personal experience and opinion founded thereon. Some years ago every one was using and recommending the "A C E" mixture of alcohol, chloroform and ether; now it is seldom used and almost never heard of. Other mixtures had been suggested and used, but they seemed to meet with the same fate as the "A C E." He could not but be impressed with the astounding length of time which a person could be kept under a properly administered anesthetic. The proper administration was the problem of anesthesia, and on that largely depended the good or bad results.

Dr. Huntington said that he could not pass unchallenged the statement of the writer of the paper, to the effect that ether was the much more dangerous anesthetic, when chloroform and ether were considered alone. It was quite the reverse of his teaching and his experience for the past twenty-five years. When ether was properly administered it could be taken with as much ease and in as short a time as was the case with chloroform. Furthermore, he had never heard of a case of ether anesthesia in which death had resulted suddenly from cessation of the heart's action, during the administration of the anesthetic. These cases were not uncommon when chloroform was used, and he had personally heard of many in various parts of the State. There were three points which he wished to emphasize in regard to the advantages of ether: 1. Rapidity of anesthesia. He had found it no infrequent occurrence to have an average patient fully under the anesthetic in from three to five minutes, which was certainly as little time as would be required by chloroform. He used the modified Parkinson inhaler. 2. Safety. All authorities were, he thought, agreed in the one fact that chloroform did have a depressant action on the heart, and that there were occasional deaths due to this action directly, the patient dying while going under the anesthetic. And when the patient's heart once stops from chloroform poisoning, it has stopped for always. When ether is the anesthetic, the respirations may stop for a moment or two, but they are again resumed and all goes well. In twenty-five years, mostly confined to operative work, he had seen but two cases in which the cessation of respiration became alarming and in which strenuous efforts had to be made to restore the patient. 3. The duty of the operator to use that anesthetic which would be the best for the patient, not that which would be least disagreeable. Death from the administration of chloroform smacked more strongly of manslaughter than did death from the use of ether.

Dr. Southard said that he had been anesthetist for one of the large Boston hospitals for many years and had there given many anesthetics, but until he came to San Francisco, he had never made use of chloroform. He raised the question as to the need of any new anesthetic. Was not the death-rate from ether as small as could be expected from any agent as powerful as a general anesthetic? In regard to the Schleich mixtures, there were far too few cases yet reported to draw any conclusions that would be of value. Valuable conclusions must be drawn from thousands and not from a few hundred cases. One who looks through the foreign journals must be impressed with the fact that they so often record the death from administration of chloroform, but have never mentioned a death from ether, or almost never mention such an occurrence. The examination of the urine should be a routine measure before an anesthetic was given, and the result of the examination would disclose the only objection to the use of ether, if it were present. Cyanosis, when it occurred, was due, in his opinion, to the faulty administration of the anesthetic and not to the ether itself. If the cone be pressed too tightly to the patient's face, he can not get enough air to breathe, and consequently suffocates from rebreathing his expired air. Twenty-five years ago, when in London, he observed that no ether was used. Two years ago he noticed that chloroform was never used in at least two of the large London hospitals.

Dr. Sherman said that the Schleich mixtures were worse than either ether or chloroform, but he did not agree that chloroform was to be preferred to ether. He was firmly of the opinion that ether was much the safer anesthetic.

Dr. Hunkin said that there could be no question that the statistics all showed many more deaths from chloroform direct than from the use of ether direct; but that alone is not the question. The secondary actions of ether were much more far-reaching than generally supposed. Ether was safer, in the same way that the layman considers cholera a more dangerous disease than tuberculosis, for the reason that it kills a few people very quickly, whereas tuberculosis kills hundreds of times as many people, but it does it in a more quiet and unostentatious way, taking months or years to produce death where cholera proves fatal in a few hours or days. He had seen many cases of pneumonia and uremia which were undoubtedly caused by the ether administered for anesthesia. If these cases were included in the tables of deaths from anesthetics, they would very materially change the aspect of the case. But they are not, and so we are accustomed to think only of the immediate actions and effects of the anesthetics, and not of the remote consequences which may be fatal, and are, in many more cases than is generally believed.

Dr. H. D. Robertson read a paper entitled

THE HANDLING OF SYPHILIS.

He first cited five cases which represented a few of the typic conditions which he wished to call attention to. In some of the cases the treatment had not been commenced until the secondary or tertiary symptoms had disappeared; in others, the treatment had been undertaken before the secondaries had made their appearance. He had found that if the treatment was undertaken before the secondaries developed, they were sure to appear and to be much more unyielding than if no treatment had been given until they were noted. He urged a concerted action on the part of physicians toward impressing upon patients the necessity of awaiting the development of the secondaries before undertaking treatment. This he stated was in many cases difficult, for patients could not, very often, see the reason for waiting when they might be running chances of which they knew nothing. He urged the legislative control of syphilis, as of any other dangerous and contagious disease, and particularly of this disease, because the innocent were so liable to become infected and to draw upon themselves suspicion. It would be a difficult problem, but it could be done, and it was certainly better to let one person suffer mortification and reproach for an offense, than to have many innocent suffer for the sin of another.

Dr. Krotoszyner said that there was sometimes a certain difficulty in holding a patient until the secondaries had appeared, but that it should always be done; and that general treatment should not be undertaken until secondary symptoms had manifested themselves. He thought there was but one specific for syphilis, e.g., mercury, and that there should be much judgment displayed in the proper method of administering it.

Dr. D. W. Montgomery said the diagnosis of syphilis could not be made with absolute certainty until the secondary symptoms had appeared; consequently it was not wise to employ any systematic treatment until these symptoms were evidently present. It had not been his experience that the taking of systemic treatment before the appearance of the secondaries was productive of any harmful result, but it was simply a matter of waiting for the diagnosis to be sure. He thought it possible that mercury improperly taken might and did accentuate some of the symptoms and manifestations of the disease. He also called attention to the report of Ferguson on the matter of the patients treated and not treated for venereal diseases at the time of the Peninsular War. It was then found that those who had received the most energetic treatment did not do so well as those who had received a less strenuous and thorough dosing. It is true that at that time it was not considered that mercury had been given at all unless salivation had been produced, and the results from smaller doses of the drug caused Ferguson to alter his method of treatment very materially. The Doctor said that he told his patients the disease was one which could not be suddenly stopped, but that treatment properly directed could and would check and direct its life and make many of the unpleasant developments but transitory instead of grave and long-lasting lesions.

Dr. Kuhlman said he had noticed in the reports of the French Academy of Sciences for 1849, the report of some man who stated that by injecting the serum derived from the blood of a syphilitic and drawn from the tissues above a gumma, he had, in sixteen cases experimented upon, cured ten and improved the condition of six.

Dr. Robertson, in closing, said he did not entirely agree with the remarks of Dr. Krotoszyner in the matter of remedial measures. In the secondary stage, mercury and potassium iodid should be used, but in the tertiary stage potassium iodid was the only remedy he had found useful and to be relied upon. Certainly in the common case of tertiary gummata, potassium iodid was the one remedy always found to be efficacious.

Dr. Kreutzmann brought up the question of

CLEAN AND PURE MILK FOR INFANTS,

and desired the opinion of the Society as to the advisability of entering into arrangements with some dairyman to operate his dairy upon sanitary principles and furnish milk as pure and free from contamination as it is possible to be. There were three sources of danger in milk for infants' food: improper changes of the natural order, stable dirt and disease germs. These could be reduced to a minimum or eliminated if the dairy could be properly looked after. A great deal of discussion was raised as to the advisability of the Society going into the milk business, and no conclusion was arrived at, the matter being left open for further consideration. The principal objection raised was that no dairyman would or could with profit comply with the regulations which would be made.

Chicago Medical Society.

Regular Meeting held Feb. 15, 1899.

Dr. Arthur D. Bevan, president of the Society, occupied the chair.

Dr. N. S. Davis read a paper entitled,

WHAT ARE THE CHIEF DETERMINING CAUSES OF DEATH IN FATAL CASES OF PNEUMONIA AND TYPHOID FEVER, AND HOW CAN THEY BE MOST SUCCESSFULLY COMBATED?

At the outset he stated that a critic study of the subject will show that in proportion as the physician comprehends clearly the causes and pathologic conditions that determine a fatal result in diseases, the more accurately and successfully can he select and apply measures for their management. Correct knowledge of the physiology of all parts of the living body constitutes the only legitimate basis from which to trace deviations that lead to disease on the one hand, and on the other, to study the *modus operandi* of both morbific influences and remedial agents. There are structures in the human body, the physiology or functions of which are as yet imperfectly understood. Dr. Davis alluded to the ductless glands, the real function of which is only now clearly under active investigation.

When the discovery of pathogenic bacteria was first announced as the special and essential causes of the various acute febrile diseases, the universal tendency of the profession was to meet and nullify their action by antiseptics and bactericides; and on that basis enthusiastic sanitarians did not hesitate to predict a speedy suppression of the whole class of general fevers. However, it did not require the lapse of a single decade of years to demonstrate that bactericides strong enough to kill Eberth's bacillus (the bacillus typhosus), Klebs-Loeffler bacillus, the pneumococcus, when introduced into the tissues or blood, were also strong enough to kill the patient.

Another step in the progress of investigation revealed the fact that it was only when the bacilli were brought in contact with some part of the living structures that they were able to evolve a specific ptomain, a toxalbumin or toxic agent which, entering the blood, disturbed the properties of the bioplasm of the blood and tissues and induced all the phenomena of general fever. There can be no doubt but that typhoid fever, diphtheria, pneumonia and other acute febrile affections are caused directly by specific toxic agents acting with sufficient intensity on the organized bioplasm of the blood and tissues to produce general metabolic disorder. These toxic agents may act with sufficient intensity to speedily arrest metabolism and cause death in a few hours in a case, for instance, of malignant scarlet fever, etc. It is well known that the ptomain generated by the bacillus of Eberth exerts its degenerating influence on the parenchyma, the structures of the intestines and other abdominal viscera; while the pneumococcus ptomain exerts its greatest degenerating influence on the pulmonary structures, and next on the corpuscular elements of the blood. The physician should ascertain the important structures on which such ptomain or ptomains act with greatest energy, and then find out by what processes of vital natural resistance they are chiefly destroyed or expelled. It is only by studies along this line that radical indications can be obtained for the selection of remedies, both hygienic and therapeutic, as will most effectually aid the natural processes of vital resistance to throw off the morbific agents or ptomains generated from without, or leucomains evolved from within the body.

Dr. Davis then discussed at considerable length the treatment of infectious fevers, mentioning among other things the maintenance of the vital processes in as active a condition as possible. The most efficient measures for accomplishing this are a judicious supply of food, abundance of fresh pure air, pure water, maintenance of thorough cleanliness with suitable bathing, etc. He believes that efficient application of these means alone would result in recovery of a large number of cases of typhoid, diphtheria and pneumonia met with in ordinary practice.

Dr. J. HOLINGER read a paper on the

TECHNIC OF ADENOID OPERATIONS,

in which he stated that a certain number of adenoids will recur after operation. They are those cases where the causes that originally brought them about persist after operation. Another cause for recurrence Dr. Holinger sees not so much in faulty instruments as in the position in which the head is held at the operation. He advises to bend the head forward until the chin rests on the chest, then he presses the Gottstein knife perpendicularly upward, while steadying the head with the left hand. The advantage of this over any other method is that the angle of the base of the skull with the vertebral column is converted into a regular, wide-open curve, which allows a more radical operation than with any other instrument. Another advantage is that the blood as well as the masses of the tumor will not get down the larynx or esophagus, but fall out through the mouth or the nose. He presented several X ray pictures which illustrated these points very clearly.

Dr. J. O. NELSON read a paper on

FILARIA SANGUINIS HOMINIS,

and presented two mounted specimens of the hematozoon which were in the chylous urine of the patient. The case is of peculiar interest, inasmuch as the patient has always been a resident of the States, having been as far South as Florida, but never having been in a foreign country. The history is as follows:

Mr. R., aged 66 years, has been a resident of Indiana for the past thirty years; previous to this he was a resident of Ohio. In the latter State he was afflicted with malarial fever of the intermittent type to a severe degree, and was only relieved by change of climate when he moved to Indiana. No date of infection can be discovered except mosquito poisoning, malaria, or the fact that nearly ten years ago he drank from a well which contained dead organic material and which caused him to immediately vomit, showing its extremely poisonous character. Early in 1898 the patient had a severe attack of catarrhal jaundice, which jaundice was very slow to disappear, and was attended with enlargement of the liver. Early in the fall of 1898 the patient was attacked with a violent impetigo, together with an extreme hyperesthesia of the skin. There was also developed a peculiar form of darting pains which may occur in any part of the body, or extremities, only lasting a few seconds, but being knife-like in character. The patient is a well-preserved man; has absolutely no specific history, and is of very emperate habits. Physical examination shows internal organs normal, except for a little tenderness over the gall-bladder. Lymphatic swellings exist on the ankles, with a tendency to break down, and abscess. The periosteum over both tibiæ was thickened; the ankles edematous. During the past summer the patient has developed a tendency to drowsiness to such an extent that he has trouble to keep awake during the daytime, this being entirely unnatural, as he is of an energetic and active disposition. Several times last summer he noticed that from morning until night he had no desire to micturate, and the edema of the ankles increased. About November 1 his first hematuria occurred in the evening, and the next day the urine was of a chylous character, but Dr. Nelson found no filaria in these specimens. The first specimen of urine which he examined was milky, specific gravity 1020, alkaline, and in each drop of the precipitated specimen from one to three active worm-like bodies, in constant motion, from 1/100 to 1/200 inch in length, easily examined under the low power, and these worm-like bodies he pronounced to be the embryos of filaria sanguinis hominis. Up to the present time he has not succeeded in finding the female parent worm.

SELECTIONS.

Catheterization of the Ureters.—This subject has been up for discussion at the Berlin Medical Society, at several meetings. Dr. Casper reported three cases where a good result was obtained by this procedure. In the first case the patient was a man in whom total anuria had been caused by incarceration of a calculus in the ureter, but after catheterization and injection of sterilized oil the calculus was discharged. In the second case the patient was a woman, 28 years of age, suffering from severe pyelitis, from which she recovered after the catheterization and the injection of a 1 to 1000 solution of nitrate of silver. The third patient was a man, 31 years of age, having a tumor of the right hypochrondriac region which at first was believed to be an echinococcus cyst, but on puncture was found to be the enlarged pelvis of the kidney, and by catheterization of both ureters it was ascertained that the urine from the right kidney was purulent while that from the left was normal. Catheterization and injection of solution of nitrate of silver caused fever, but nevertheless, after a series of injections, the pyelitis disappeared and the urine became normal. Dr. Casper pointed out that in cases where a free communication existed between a renal abscess and the pelvis of the kidney, injections of nitrate of silver may effect a cure. Moreover, extirpation of a kidney ought not to be performed until the soundness of the other kidney had been ascertained by catheterization. Dr. Casper's views were strongly opposed by Professor Israel who, in a very detailed statement, warned his hearers against attaching too much importance to this procedure. In 81 operations for pyonephrosis, performed by him, there were only three in which catheterization of the ureters might possibly have been of any use. His general conclusions were: 1, that catheterization gave little or no information as to the condition of the second kidney when nephrectomy was contemplated, as under certain conditions normal urine may be passed by the catheter although the kidney is seriously affected; 2, that affections of the second kidney were not in every instance contraindications of nephrectomy; 3, that catheterization was unable to ascertain the presence of the nature of an obstacle; 4, that the presence of blood in the urine obtained by catheterization might either be due to hemorrhage from the kidney or to injuries produced by the catheter; and 5, that the operation is liable to produce infection. In the ensuing discussion Dr. Kutner emphasized the impossibility of obtaining sufficient sterilization, as the optical apparatus was liable to be destroyed by the application of steam. Dr. Landau said that in gynecologic operations, as for instance in extirpation of the uterus for carcinoma, etc., the method was useful as a means of avoiding injury to the ureter. Of the other medical men taking part in the discussion, Professor Litten and Dr. Wossidlo opposed the method, while Professor Posner, Dr. Mainzer, and Professor

Dührssen expressed a more favorable opinion.—*Lancet*, January 28.

Vaginal Examinations.—In the *Medical Record* for February 11, Edgar discusses this subject. In experiments on thirteen primigravidæ and seventeen multigravidæ, he showed that when two examining fingers were used and the labia separated to their widest extent, contact of the fingers with the vulva and outer two-thirds of the vulvar canal could always be avoided. On the other hand, contact with the inner third of the vulvar canal and the margins or remnants of the hymen could occasionally be avoided in the seventeen multigravidæ, but never in the thirteen primigravidæ. It was further demonstrated that an ordinary glass douche-tube could, in most of the multigravidæ of over IIpara, after wide separation of the labia, be passed directly into the vagina without touching any portion of the vulvar canal or remnants of the hymen. With wide separation of the labia in the thirteen primigravidæ in only a few instances was it possible, without the use of the greatest precision, to avoid some contact of the tube with the borders of the hymen. The observations upon these thirty cases showed that in three cases the pubic hair was so long and abundant that by the widest separation of the vulva it was impossible to prevent some contact of the examining fingers with it before the ostium vaginæ was reached. Also that the depth of the vulvar canal varied greatly in both primigravidæ and multigravidæ; that in a few instances it was impossible, even with the widest separation of the labia, to avoid contact of the examining fingers with a considerable portion of the vulvar canal. "In private and even in hospital practice the rendering of these sensitive organs sterile, without shaving them, and the use of general anesthesia, is often difficult, if not impossible. Whether complete cleanliness is possible or not, it is safer as a routine to avoid contact with the external genitals as far as possible and pass the examining finger or douche-tube as nearly through the center of the introitus vaginæ as the conditions will permit. We should endeavor to render the vulva and vulvar canal aseptic, or as nearly aseptic as possible, by an abundant use of soap, water, and sublimate solution; absorbent cotton, gauze, or a very soft brush being used in order to avoid unnecessary abrasions. Cleansing and disinfecting of the external genitals should, we believe, always be carried out with the patient in the dorsal posture. We are convinced that cleansing and disinfection can not be properly carried out in the lateral position of the woman by reason of the relation of the anus and position of the buttocks. Our aim in the cleansing of the vulva and vulvar canal should be to remove offending material and, as far as possible, to render the parts sterile. Our attempts at sterilization, however, should never result in too much disturbance of epithelium or in abrasions of the skin or mucous membrane, which may serve as a nidus for immediate or subsequent infection, as a local septic condition may thus be converted into a general one." For vaginal examination with only partial exposure of the patient, his method is as follows: "The gravid or parturient woman is placed in the dorsal posture, with legs and thighs flexed and the latter separated. A clean bed sheet is thrown over the patient's body, reaching to the groins. A second sheet is so draped in the shape of a U as completely to cover both lower extremities, and the narrowed transverse portion of the U is gathered up above the symphysis. The draping is so arranged as to leave practically only the pelvic outlet exposed to view, no part of the sheet coming in contact with the external genitals. Genitals and hands having been cleansed, the physician sits, kneels, or stands at the side of the bed, and with the fingers of the free hand the vulvar canal is as nearly obliterated as possible by placing the outer border of the thumb upon the inner aspect of one labium and ends of the first and second fingers upon the inner surface of the opposite labium, and widely separating them. Then by the sense of sight the vaginal fingers are passed as nearly through the center of the opening of the hymen as possible, the greatest care being used to reduce contact of the examining fingers with adjacent parts to a minimum before the introitus vaginæ is reached. This method and position of the patient are preferable to examination by the sense of touch under a bed-sheet, and also to the lateral prone position and examination by the sense of sight, for the reason that it is most cleanly, most convenient and more in accord with the principles of modern asepsis. As in the lateral position, the patient need not be aware that there is any exposure. In multiparæ, entrance can in this way often be made directly into the vagina, and in primiparæ, unless the vulvar canal is abnormally deep, the examining finger or douche-tube need only come in contact with the inner third of the vulvar canal and the edges of the hymen, and even in these latter we have passed an irrigating tube directly through the orifice of the hymen without touching the edges until two-thirds of the tube had entered the vagina. When contact with the external genitals is unavoidable, as in forceps operations, the introduction of the hand or arm for version or of instruments for embryotomy, complete sterilization of the external genitals should be practiced, and since anesthesia is produced for these operations, the cleansing may be thorough and complete."

General Wood's Early Life.—Governor Roosevelt has contributed to the *Outlook* an interesting sketch of the early career of Gen. Leonard Wood, formerly a contract surgeon in the western territories: "General Wood was a Cape Cod boy; and to this day there are few amusements which he enjoys more than for himself to sail a small boat off the New England Coast, especially in rough weather. He went through the Harvard Medical School in 1881–82, and began to practice in Boston; but his was one of those natures which, especially when young, fret for adventure and for those hard and dangerous kinds of work where peril blocks the path to a greater reward than is offered by more peaceful occupations. A year after leaving college he joined the army as a contract surgeon, and almost immediately began his service under General Miles in the southwestern Territories. These were then harried by the terrible Apaches; and the army was entering on the final campaigns for the overthrow of Geronimo and his fellow renegades. No one who has not lived West can appreciate the incredible, the extraordinary fatigue and hardship attendant upon the campaigns. There was not much fighting, but what there was was of an exceedingly dangerous type; and the severity of the marches through the waterless mountains of Arizona, New Mexico, and the northern regions of Old Mexico (whither the Apache bands finally retreated) was such that only men of iron could stand them. But the young contract doctor, tall, broad-chested, with his light yellow hair and blue eyes, soon showed the stuff of which he was made. Hardly any of the whites, whether soldiers or frontiersmen, could last with him, and the friendly Indian trailers themselves could not wear him down. In such campaigns it soon becomes essential to push forward the one actually fitted for command, whatever his accidental position may be; and Wood, although only a contract surgeon, finished his career against the Apaches by serving as commanding officer of certain of the detachments sent out to perform peculiarly arduous and dangerous duty; and he did his work so well and showed such conspicuous gallantry that he won that most coveted of military distinctions, the medal of honor. On expeditions of this kind, where the work is so exhausting as to call for the last ounce of reserve strength and courage in the men, only a very peculiar and high type of officer can succeed. Wood, however, never called upon his men to do anything that he himself did not do. They ran no risk that he did not run; they endured no hardship which he did not endure; intolerable fatigue, intolerable thirst, never-satisfied hunger, and the strain of unending watchfulness against the most cruel and dangerous of foes—through all this Wood led his men until the final hour of signal success. When he ended the campaigns, he had won the high regard of his superior officers, not merely for courage and endurance, but for judgment and entire trustworthiness. A young man who is high of heart, clean of life, incapable of a mean or ungenerous action, and burning with a desire to honorably distinguish himself, needs only the opportunity in order to do good work for his country."

PRAGTICAL NOTES.

Rectal Temperature.—Unless the bulb is inserted a distance of ten centimeters, the temperature is inconstant and varies with the distance inserted, in children. The difference between the rectal and axillary temperature is .5 to .8 degree C.—*Deutsche Med. Woch.*, January 27.

Tuberculosis of the Kidney.—Friedjung (*Archiv für Kinderheilkunde*, Bd xxii, Heft 5) reports an autopsy where tuberculosis of the spine had invaded the kidneys and ureters. The child had had scarlatina with nephritis two years before, which began the tubercular predisposition of the kidneys.

Thyroid Treatment for Tardy Consolidation of Fractures.—Prof. H. Folet adds another to the cases related by Quénu and Reclus in which thyroid treatment for a few days hastened the formation of the callus to a remarkable degree and placed the patient on his feet. His case was an obliquely fractured tibia that refused to knit after two months' immobilization and cautious exercise, but it consolidated perfectly after two weeks of thyroid treatment, the leg in splints.—*Echo Méd.*, January 29.

Early Diagnosis of Cancer of the Lung.—Claisse has recently confirmed in two cases the existence of a neoplasm when there were no symptoms to indicate it, by the discovery of neoplastic elements in the sputa. He mentions that they are ordinarily very minute fragments, and the best way to distinguish them is to throw the expectorated matters into a large glass jar filled with water, and apply strong stains, such as thionin. —*Semaine Méd.*, January 25.

Quinin in Leucorrhea.—W. W. Hardwicke (*Lancet*, January 7) recommends quinin in simple leucorrhea, in the form of a douche or suppository, but prefers the latter mode of application as affording a better chance for intimate contact, etc. He prescribes three grains of the hydrobromate in a half-drachm suppository with oleum theobromatis, but says that the pessus quiniæ, containing the hydrochlorid answers as well. One insertion a day very soon manifests a good result.

Lambret's Treatment of Ulcerations of Cervix Uteri.—This method applies to all cases of ulcerations not extensive enough to require Schröder's amputation; and equally well to nulliparæ and multiparæ. The ulceration is extirpated and the defect covered by drawing the mucosa together and suturing it in a horizontal line with fine silk. The operation was brilliantly successful in his two cases, and he recommends it for general adoption. It differs from Munde's operation, as with the latter the sutures are perpendicular, and result in puckering up the cervix, necessitating dilation, etc. The horizontal suture has, on the contrary, a distinctly enlarging effect, especially valuable in case of a "barrel" dilatation.—*Echo Méd.*, January 29.

Diagnosis of the Heart.—Soltmann states that accidental anemic systolic sounds do not appear during the first three or four years of life, but are essentially characteristic of pronounced chlorosis at puberty. Cardio-pulmonary sounds, mostly systolic, are variable in their resonance and timber, as well as in their intensity and extent, increasing with stronger respirations and vanishing when the breath is held. A heart systolic sound at the point, with rising point, may be for years the only constant physical sign of mitral insufficiency. If there is a systolic sound which is not strongest at the point, in case of dilation of the heart and accentuation of the second pulmonary tone, there is reason to assume a myocardial origin for the sonnd.—*Deutsche Med. Woch.*, xlviii, 1.

Drainage of Bladder after Suprapubic Incision.—Wacobarn insures the constant drainage of the bladder by a simple contrivance illustrated in the *Revista Méd.*, of January 1. From a water jar on a mantel a tube descends and forks about a meter below, one end descending straight to a jar beneath, the other end fitting into a wide-mouthed bottle, from which another tube that passes into the bladder emerges. The water from the high receptacle falls drop by drop into the jar beneath through the right-hand fork of the tube. As each drop passes it produces a vacuum, the effect of which is felt through the other fork and secondary tube up into the bladder, where it entices out a drop of urine which runs down the secondary tube into the wide-mouthed bottle, in which it is easily examined. The lumen of the tubes is reduced to the necessary size by a couple of Pean's clamps, applied just above and below the fork. For lavage of the bladder the clamp above the fork is transferred below it, thus closing the right end; the bottle is removed and the left fork and secondary tube united.

Best Anesthetic for Infiltration.—Heinze and Braun have been making a thorough comparative study of the various local anesthetics, their concentrations and combinations, personally testing each by injecting it into their arms, not subcutaneously, but endermically, as Schleich recommends. They find that an 8 per cent. concentration of salt solution with distilled water, that is, isotonic with the cell fluids, does not cause pain during an injection and does not affect the sensibility; also that a certain proportion of salt prevents the formation of blisters. They conclude by announcing that cocain is the most effective of all local anesthetics, but as eucain B. equals it in respect to paralyzing the nerves and the absence of irritation, with the additional advantage that it can be boiled again and again without injury, they therefore recommend the following formula as the best under all circumstances for infiltration anesthesia: eucain B. 1 gm., cooking salt .8 gm., water 100 gm. The *Cbl. f. Chir.* considers their statements convincing, and that they deserve general attention.—*Virchow's Archiv*, cliii, p. 466.

Braatz' Method of Secondary Suture.—What seems a great improvement over the usual methods of secondary suture, after extirpation of a kidney, for instance, is illustrated in the *Cbl. f. Chir.* of January 28, as done by E. Braatz of Konigsberg. After the primary operation he prepares for the secondary suture before applying the dressings, by threading a needle with a double thread and drawing it through the tissues of one lip of the wound, leaving the loop projecting inside. One end of the thread is then passed through the loop and tied with the other end, thus forming a double ring of thread through one lip, very loose. Another double ring is then made exactly opposite on the other lip, and so on, until both sides of the wound are provided with a row of these double rings at the points where the final sutures are to be taken, not interfering in any way with tampons, dressings or examinations of the wound. When the time arrives for the final suture a thread the same size as the loop threads, and *wet*, is passed through the opposite loops, the fastenings are cut, and each end of the thread is drawn separately through the stitch-hole by the loop, from within outward on each side of the wound. The loops are cast aside as their mission is accomplished, and after each pair of loops has thus been replaced by a thread, the threads are tied in turn as usual and the wound is closed without danger or discomfort, with the stitches passing through the exact tissues desired, as established when the field of operation was fully exposed to view.

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SATURDAY, FEBRUARY 25, 1899.

AT THE regular meeting of the Board of Trustees of the AMERICAN MEDICAL ASSOCIATION, held in Chicago February 17, Dr. GEORGE H. SIMMONS, of Lincoln, Neb., was elected editor of the JOURNAL of the ASSOCIATION, and will assume its management about March 1.

THE MICROCOCCUS TETRAGENUS.

The micrococcus tetragenus is currently regarded a harmless, saprophytic organism as far as man is concerned, as may be seen by reference to any of the ordinary text-books of bacteriology. During late years, however, occasional observations have shown that it may assume a pathogenic rôle and acquire a considerable degree of virulence for man. Among the researches which have brought out the occasional pathogenic rôle of this microbe may be mentioned those of GAFFKY, of TEISSIER, and others. The most recent contribution to the study of this organism is by BOSC and GALLAVIELLE.[1]

These authors observed three cases of human infection with the micrococcus tetragenus, one of which is especially interesting. It concerns a man, 45 years old, who entered the hospital in a condition of great feebleness, accompanied with dyspnea and a yellowish expectoration which emitted a gangrenous odor. Examination showed a dull area in the lower left lobe, surrounded by a zone over which were heard subcrepitant râles; the prostration increased and death soon occurred.

The postmortem showed a softened gangrenous focus in the lower left lobe, containing a thick, viscid grayish, fetid fluid, from which the micrococcus tetragenus was cultivated in pure form, no other microbes being present. With the cultures thus obtained these authors made extensive morphologic studies as well as animal inoculations. The results may be summarized in the following conclusions:

The micrococcus tetragenus is not infrequently found in human tissues and may be pathogenic for man. It is readily cultivated upon all the ordinary media used in bacteriology. The cultures upon bouillon and agar grow the most rapidly and abundantly. It grows slowly in gelatin and in milk, which is not coagulated. Alkalinity favors the development of the micro-organism, while acidity hinders it. The most favorable temperature is from 37 to 38 degrees C.; above 40 degrees C. the vitality is rapidly diminished. The organism develops to a feeble extent in the absence of oxygen.

In shape the micrococcus tetragenus is very variable. It may form large cocci, diplococci, triads and tetrads, the latter constituting the typic form. All these forms may be present in the same medium, but the relative proportion of atypic forms varies according to the medium and according to the reaction, and in liquid media according as the cover-slips are made from the surface or from the deeper parts of the tube. The different forms may be arranged in groups or chains.

The micrococcus is surrounded by a thick mucilaginous capsule, which is demonstrable in the tissues as well as in the cultures. It is possible to follow the development of the principal forms of the micrococcus tetragenus. A single coccus may divide into four equal or unequal parts, so that the tetrad is formed at once, or there may be formed diplococci and triads. Later, all the elements of the tetrad, diplococcus or triad may divide at the same time, or only one of them. Subdivision in this irregular way may accordingly give rise to zoögleal masses.

The micrococcus studied by these authors is virulent for white mice, gray mice and guinea-pigs; it is also virulent for rabbits, but considerable doses are required. It is very feebly virulent for the pigeon, and has no action whatsoever upon frogs. The authors made inoculations under the skin, into the peritoneal cavity, into the pleural cavity, into the veins, and into the trachea. The effects of these various modes of inoculation are quite characteristic. There results a local production of a grayish, markedly viscid pus; general infection causes, at first, high fever and afterward subnormal temperature, rapid emaciation, and fibrino-hemorrhagic processes. The intratracheal injections result in the production of bronchitis, bronchopneumonia, as well as of a more extensive fibrinous pneumonia.

Successive passage of the organism through mice and guinea-pigs increases the virulence considerably.

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[1] Archives de Méd. Expériment., January, 1899.

The most virulent cultures are obtained from the lesions in the lungs of the guinea-pig, following intratracheal injection. Filtered cultures injected underneath the skin, into the peritoneal cavity, or into the veins, produce toxic effects which vary with the dose and with the animal.

It is necessary to inject large doses several times into the veins of a rabbit in order to produce grave symptoms. The symptoms produced are high fever, emaciation, sometimes a little albuminuria. Efforts at immunization with toxic products have so far given uncertain, mostly negative, results.

The question of the unity or plurality of the diverse types of the micrococcus tetragenus has given rise to contradictory discussions. It will undoubtedly be acknowledged that the virulence is subject to so much variation that it can not be considered as a distinctive property. The chromogenic powers of the tetragenus also vary greatly, and the relation of the chromogenic to the non-chromogenic types is still an open question. Achard and Gaillard[2] found a micrococcus tetragenus in a state of purity in the multiple foci of a case of pyemia. This organism possesses the characters of the micrococcus tetragenus septicus of Boutron and is non-chromogenic. They also isolated a chromogenic form which presents a yellow color (M. tetragenus aureus) from the lesions of a variolous eruption at the beginning of vesiculation. Both these organisms possess the typic tetrad form and arrangement, they are surrounded by a capsule in the affected tissues and stained by Gram's method. On comparing these two forms they learned that their action upon blood serum and upon milk differs precisely the one from the other; there are also differences in the fermentation products.

While the micrococcus tetragenus isolated by Bosc and Gallavielle[3] does not coagulate milk or liquefy gelatin, Chauffard and Ramon,[4] in two fatal cases of septicemia, found in one case a yellow tetragenus which liquefies gelatin but does not coagulate milk; in the other a white tetragenus, which coagulates milk but does not liquefy gelatin. They therefore raised the question whether these forms were not types representing the stages of transition of tetragenus to staphylococci, which liquefy gelatin and coagulate milk. The constant presence of the capsule of the tetragenus would seem to separate it quite sharply from the staphylococci, but it is quite apparent that the relations of the different forms of the pathogenic tetragenus to each other are still unsettled, to say nothing about the non-pathogenic varieties.

ADVANCE IN NEUROLOGY AND PHYSIOLOGY.

From time to time we have noted in certain issues of the Journal the progress in the establishment of the Pathological Institute of New York City, in connection with the New York State Hospitals for the Insane. The founding of this excellent institution has been an object of great interest, both to the practicing physician and to those more especially interested in laboratory research studies.

We note that the former *State Hospitals Bulletin*, edited in greater part by the Institute, has been changed to the *Archives of Neurology and Psychopathology*. The change of name has many practical reasons for commendation, and we extend the right hand of fellowship to this new scientific publication. In Volume I, just issued, we find that the subject of "Correlation of Sciences" is treated at monographic length by Dr. Ira Van Gieson, director of the Institute, and in an unusually clear and thorough manner, It may be that the subject is not treated as concisely as some would perhaps desire, and that there is nothing especially new in the presentation, but we feel the glow of enthusiasm of the writer calling us anew to the ever-broadening field of psychiatry. We grasp the writer's central idea in saying that knowledge in all allied sciences should be placed under contribution to help us in solving the mystery of mind in health and disease.

It does not appear that any unintentional bias in laboratory work on the part of the author has caused him to unconsciously place undue stress on laboratory methods at the expense of careful clinical study; on the contrary, he points out very judiciously that laboratory work upon cases poorly and partially studied and carelessly written up, can be of little value. We hope to see in future studies from the Institute and State Hospitals, most painstaking and careful clinical observations of properly selected cases.

There is no question that asylum physicians would derive great benefit if they could regularly visit some of our large medical libraries to read what has been done already in their special line of research, and thus avoid contributing much mediocre literature. This plan is as important as laboratory study, and takes quite as much time and patience. We know of no more pressing need for asylum physicians at the present time. To consult and refer to three or four books or periodicals no longer constitutes a proper consideration of the bibliography of any given subject.

The time seems near at hand for the establishment of a large neurologic and psychiatric clinic in this country, embracing laboratory, library and extensive clinical work. The idea of establishing such a clinic, suggested by similar clinics in Germany, has recently received attention and elaboration by Dr. Frederick Peterson of New York, in his presidential address before the New York Neurological Society. We hope the scheme will be realized, and all students of the nervous system will rejoice to see the cause of neurology and psychiatry thus advanced.

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[2] Archives de Méd. Expériment., January, 1899.

[3] Loc. cit.

[4] Arch. de Méd. Expériment., May, 1896.

THE TREATMENT OF EPILEPSY BY EXCISION OF THE CERVICAL SYMPATHETIC.

The mystery that surrounds the etiology and pathology of so-called essential epilepsy yet awaits solution. It may tentatively be conceived that the attacks are dependent upon nutritive disturbances in certain parts of the central nervous system, probably the cells of the cerebral cortex, and that these are brought about by the circulation in the blood of noxious substances, between which and the cells there exists a special affinity. Of the stability of such an hypothesis there is yet wanting definite evidence, but from analogy and reasoning, the conception can hardly be considered far-fetched. Some support of this view may be found in the fact that in many, if not all, cases of epilepsy the number and severity of the seizures can often be favorably influenced by attention to the gastro-intestinal tract, maintaining this as far as possible in a condition of relative asepsis. There is no specific treatment. The bromids do good in many cases, and harm in others. No higher commendation can be given to other remedies. It is, therefore, natural that the search for something better should go on industriously.

Some years ago it was proposed to control the cerebral circulation in epileptics by ligation of the vertebral arteries, in the hope of restraining the attacks, but the results were not successful. Subsequently, with a similar end in view, though with an opposite effect, it was proposed to divide or excise the sympathetic nerve. Numerous operations of varying character and extent have been performed by different surgeons, but the reports of the results have been somewhat conflicting. To the statistics already existing JABOULAY and LANNOIS (*Revue de Médecine*, Jan. 10, 1899) add an account of sixteen cases of epilepsy in which excision of the sympathetic nerve was practiced, with results that, to say the least, were not encouraging. In one case cure resulted, in five amelioration, while in nine the condition remained unchanged, and in one death resulted four days after the operation, in *status epilepticus*. In the cases in which improvement was noted hysteric symptoms were present, and it is to the influence of the operation on these that the good results are attributed. In the case in which recovery and in another in which improvement took place the pneumogastric nerve was also stretched, as well as in one case in which the symptoms were not affected.

These results do not encourage the hope that division or excision of the sympathetic nerve will prove in general a desirable means for treating epilepsy, nor was this to be expected from *a priori* reasoning. The operation was suggested on the assumption that the epileptic seizures were dependent upon cerebral ischemia, which it was hoped to overcome by division of the sympathetic, but such dilatation of the cerebral vessels as takes place probably disappears in the course of a few months, through the influence of the trigeminal nerve. There must be some other explanation for the results that have been noted, and while they have been disappointing on the whole, it must be admitted that the operation has proved capable of doing good in exceptional cases.

MEDICAL EVIL-DOERS BEFORE THE ENGLISH LAW.

The transgressors of the laws relating to medicine have been having a hard time in England. Notwithstanding the presence in Great Britain of a certain amount of quackery and medical irregularity, which has existed in all countries in all ages and presumably will continue for time to come as one of the conditions of poor human nature, we find of late that English law has descended with leaden hands upon evil-doers of this class. For the last few months the courts have taken cognizance of numerous medical offenses that come within the scope of the law. Moreover, the newspapers appear to have been diligent in giving the details to the public and in commenting thereon, both favorably and unfavorably; in numerous instances speaking of the presiding judge in terms that would hardly be tolerated in America. Readers of English papers have seen the judges spoken of as "inexperienced, biased, and not competent to give an unprejudiced opinion upon any point at issue." Trials for various irregularities and penal offenses still go on, however, in spite of what critics may think of the even-handedness of the justice meted out. Only of late a so-called medical man has been sentenced to a number of years of penal servitude for practicing in the East End of London without a diploma—or rather with another man's diploma—and for perjury in signing death certificates as a duly qualified physician, when he knew the same to be false. A judge has also spoken from the bench in the strongest terms against the "Medical Halls," which he declares are "bogies" that impose upon the unsuspecting poor and ought to be promptly broken up.

But it is in the matter of criminal abortion that our English cousins take decided steps, and this, too, not without reason. Since the small death-rate among the populace and low infant mortality have much to do with keeping up a strong and prolific race, the warning of GOLDSMITH as to the hastening ills of the bad-faring land "where wealth accumulates and men decay," may well be taken to heart by the jurist, the statesman, and the sociologist. In our own country the crime of abortion, alleged to be more prevalent in New England than in the Southern States, and among Protestants than Catholics, though often brought to public attention, is more familar to the general practioner who has to repair the work of the abortionist whom he can not prosecute for fear of creating scandal that may rebound upon himself.

Aside, though, from general remarks, in an attempt to study the whys and wherefores of the court findings with the legal fiction before us that "justice can do no harm," one's reason gets so confused as to be in the greatest need of help. For instance, in scanning the accounts of several of the more important of these trials it is possible to start with the following premises: 1, a man named Collins, recently tried for the offense of abortion, was sentenced to a term of penal servitude; 2, a man named Whitmarsh tried for the same offense, was sentenced to be hanged; 3, a man named Wark, tried for the same offense, was sentenced to be hanged; 4, a woman, named Inglis, was tried for the same offense and discharged free; 5, the varying severity of the sentences appears to depend upon the manner in which the judge charged the jury; 6, the sentences on Whitmarsh and Wark were promptly rescinded, the latter in lieu of the death penalty getting a term of but three years.

In view of the foregoing the argument is advanced: 1. In common fairness, the prisoner ought to be allowed to select or ballot for his judges; 2. If he must take his chance, then why not allow the equal hazard of spinning a coin—heads, hang; tails, free? 3. Is the hanging sentence merely a grisly farce—a form—a joke—and one of Her Majesty's judges a modern court jester? 4. Is a court of justice a place where judge and counsel play a game for salary and fees, with prisoner for a pawn, or where one may expect even-handed justice? Or do the people who dispense justice hold it to be a matter of no concern to outsiders and, consequently, one with which they have no business to meddle?

Whatever view our readers may take of the argument, there is assuredly much in the subject calling for thought and action on the part of both general practitioners and those engaged in forensic medicine.

MEMBRANOUS ENTERITIS.

Fortunately, membranous enteritis, also known as mucous colic and tubular diarrhea, is not a common condition, as it is often most unyielding to treatment. The disorder may be looked upon as a secondary necrosis of the large bowel, characterized by paroxysmal attacks, principally in neurotic individuals, of abdominal pain, associated with the discharge from the bowel of shreds or masses or tubes of mucoid material. In some cases displacement of the abdominal viscera has been observed; and Einhorn (*Medical Record*, Jan. 28, 1899, p. 113) has recently reported a series of twenty cases, in twelve of which there was pronounced enteroptosis, which, it is believed, favors the development of the disease, though not its direct cause. A study of the gastric functions in twelve of the cases showed further that the motor activity was increased in eight, while five presented gastric achylia, although there was no concurrence between these two conditions.

The diagnosis of membranous enteritis is ordinarily a matter of no difficulty, and having been made, the treatment becomes the subject of serious consideration. Both the underlying conditions and the exciting influences will require attention. The diet thus becomes an important factor, and it must be made sufficient and nutritious. Solid food appears to be better borne than liquids. Da Costa permitted the use of eggs, milk, bread, meat-juice, and such vegetables as did not pass unchanged into the stools, together with baths, and moderate exercise in the open air. Van Noorden has recommended daily eight ounces of bread containing plenty of chaff, vegetables rich in cellulose, and fruits with small pits and coarse skin, such as currants, gooseberries and grapes. Einhorn insists upon an abundant and nutritious mixed diet that is not too coarse, including a generous amount of vegetables, with the object of training the intestines to dispose properly of customary food.

During a paroxysm it may be necessary to apply heat to the abdomen and to give a cleansing enema, possibly followed by codein or morphin or opium, with or without belladonna. In the intervals, enemas of from four to sixteen ounces of olive-oil at the temperature of the body should be given methodically at bedtime and be retained. The injection should be used nightly for three weeks, then on alternate nights for another three weeks, then twice weekly for four weeks; and finally once weekly for five or six months. The habit of a daily morning evacuation of the bowels also is to be acquired. Enteroptosis, when present, may require the use of a supporting abdominal binder, gastric achylia predigestion of food and the administration of hydrochloric acid, and the neurotic state iron, arsenic, strychnin, valerian, etc., and possibly the rest-cure.

ROLE OF THE LEUCOCYTES IN EXPERIMENTAL ARSENIC INTOXICATION.

The theory of phagocytosis, which was first advanced to explain certain phenomena in zoölogy, was applied to pathology, and at the present time its sphere is being extended to the explanation of certain problems in immunity by its strongest supporters, namely, Metchnikoff and his pupils. Heretofore the phagocytic phenomena observed in pathology have always been more or less closely connected with microbic infection; of late the reactions of phagocytes to purely toxic chemic substances are receiving attention.

In a recent communication Besredka [1] records the results of his observations upon the action of leucocytes on a very toxic combination of sulphur with arsenic (*tri sulfure d' arsenic*). This substance is of a clear beautiful yellow color, quite insoluble or nearly so, and is therefore readily recognized in the tissues. The experiments were made on the guinea-pig, the arsenic compound being injected into the abdominal cavity in an aqueous suspension. After having determined carefully the dosage, the same quantity was injected into animals of the same weight. It was found that 3.5 c.c. of an aqueous suspension of 5 centigrams of the arsenic compound in 20 c.c. of water would kill a guinea-pig of 350 grams in 48 hours. Shortly after the injection of a non-fatal dose the number of peritoneal leucocytes diminishes markedly, the diminution lasting for from ten to twelve hours, when a continuous and progressive hyperleucocytosis develops. A quarter of an hour after the injection, cover-glass preparations will show that the leucocytes contain in their interior a number of characteristic yellow arsenic granules, at the same time as there are large numbers of free granules floating in the exudate. In case of recovery the leucocytes gradually increase in numbers, whereas in case of death they become fewer and fewer. In cases that recover, the exudate swarms with leucocytes, whose protoplasm is filled with the yellow granules; the number of large mononuclear forms is especially noticeable; later the leucocytes and the granules disappear completely.

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[1] Annales de l' Institut Pasteur, 1899, xiii, p. 49.

The mechanism of intoxication by this substance requires some explanation. It was found that a suspension containing fine granules will kill the animals much more rapidly than a suspension in which the granules are coarser. The toxicity appears to depend upon the solubility of the substance. Thus, if a membranous sac is filled with a large quantity of a suspension of the arsenic compound and placed in the abdominal cavity of the guinea-pig, death will follow in a few hours, from three to four, or nearly as rapidly as when the same dose of arsenic is injected directly into the peritoneal cavity. Death must depend, therefore, upon the diffusion of arsenic through the walls of the sac. It was also found that a suspension which is permitted to stand for twenty-four hours or so, will show actual solution of a small quantity of the substance: hence, contrary to general belief, the compound of arsenic and sulphur here experimented with is soluble not only in the body but also in the glass.

When one introduces this substance in form of a fresh suspension into the peritoneal cavity, a small part of it passes into solution, and it is this part dissolved which gives rise to the hypoleucocytosis, that is to say, exercises a negative chemotaxis. If the quantity of arsenic which is dissolved is so considerable that the leucocytes do not become accustomed to it, then the animal sooner or later dies. If the dose injected is less than the fatal dose, then the hypoleucocytosis after a certain time is replaced by a hyperleucocytosis and there ensues a marked phagocytosis. In this case the quantity of soluble arsenic is not large, as in the first case; the leucocytes become habituated to it, and there eventually follows a positive chemotaxis. When there is active phagocytosis the animal is saved. At first thought one might think this depended upon the rapid elimination of the solid granules taken up by the cells, but repeated examinations show that the granules persist within the leucocytes in the peritoneal exudate for as long as ten days after the injection. The hypothesis of rapid elimination must therefore be rejected, and there remains only one other interpretation, namely, that the phagocytes exercise some kind of antitoxic power over the arsenic granules, and that it is this action which eventually results in recovery.

The phagocytes do not act toward the arsenic granules as they might be expected to do toward any foreign body. If one injects into the peritoneal cavity, simultaneously with the arsenic, some powdered carmin, it will be found that the carmin will be taken up into the interior of the cells much more quickly and to a much greater extent than the granules of arsenic. The same phenomenon is observed even when the carmin is injected some time after the arsenic, showing that the leucocytes are perfectly capable of making selections. In case the carmin is injected for, say twenty-four hours previous to the arsenic, then the resistance of the animal to the latter becomes notably diminished, principally because the peritoneal leucocytes have filled themselves completely with carmin and remain insensible to the presence of arsenic. Under these conditions an otherwise non-offensive dose may result in death, due principally to the absence of phagocytic intervention.

It was found very difficult to artificially increase the number of phagocytes in the peritoneal cavity before the injection of the arsenic, because the most efficient arsenico-phagocytes were found to be the large mononuclear cells, and there is no ready method known by means of which their number can be readily increased. While it is easy to provoke a marked increase of the polynuclear leucocytes and other forms in the peritoneal cavity, the monoclear leucocytes are not attracted by the substances ordinarily used for inducing hyperleucocytosis. A polynuclear leucocytosis, however, is sooner or later followed by an increase in the mononuclear cells, which now act as phagocytes of the polynuclear cells.

Choosing a period of time after the injection of an emulsion of the leucotactic of aleuronat when the mononuclears would be expected to have reached their maximum number and then injecting a suspension of the arsenic, it was found that the animals thus treated resist the toxic effects much longer than the control animals.

The examination of the phagocytes containing the arsenic granules in their interior from time to time shows that the granules apparently undergo solution, with the formation undoubtedly of a new arsenic compound which is being formed in the interior of the leucocytes, and which is less toxic to the organism than the compound originally injected. Consequently the mere act of taking up the granules into their interior is not the most important of the functions of the leucocytes, but the species of intracellular digestion to which the granules are subjected is the essential act whereby the poison is rendered harmless.

Chemic analysis of the various organs at different periods after the injection of the arsenic shows that elimination begins at the time that phagocytosis commences to diminish, and that it takes place largely through the kidneys, as would be expected.

If we attempt to apply these observations to the interpretation of the various phenomena observed after infection and intoxication, then it would seem that they tend to overthrow certain objections against the doctrine of phagocytosis. One of the most important objections to this doctrine is that, while the phagocytes may perhaps take up microbes into their interior, yet the virulence of these microbes has already been diminished by the preliminary action of the serum and other fluids. As far as concerns the arsenic used in these experiments, this objection is untenable. It is hardly reasonable to suppose that the arsenic compound would suffer any attenuation whatsoever before it is taken up by the cells; as shown by the use of the sacs referred to, the animals are killed by the diffusion of the poison dissolved through the walls of the sacs. If the leucocytes are capable of taking up and neutralizing substances as toxic as this form of arsenic, then there would seem to be no good reason why they might not act in the same way toward virulent microbes and their products. The microbes secrete or excrete soluble toxins, and the solid arsenic acts largely by passing into solution.

BESREDKA holds in promise the early publication of his study of the rôle of the leucocytes in intoxication with soluble compounds of arsenic and of the immunization of animals against arsenic.

It will be seen that the action of leucocytes in infection and intoxication is beginning to appear in a rather new light, and that their action interests not the biologist and pathologist only, but also quite directly the chemist.

CORRESPONDENCE.

Neurasthenia and Its Treatment.

ATLANTIC CITY, N. J., Feb. 15, 1899.

To the Editor:—An article on "Neurasthenia and Its Treatment" (vide JOURNAL, Jan. 14, 1899, p. 72) refers to the frequent mistake in advising patients to go to Atlantic City, N. J., and further says: "Such places are fit only for well people, and in no way adapted to the sick."

As a practitioner in this city, I can not allow this statement to go unchallenged. It is true that many cases of neurasthenia are referred to Atlantic City with instructions to throw away medicines and allow the sea air, sea baths and hot baths to do the rest. Many such cases come to Atlantic City every year, never consult a physician, attend balls and all kinds of amusements and sports, eat every variety of hotel mixtures, take baths indiscriminately and run a race with their healthy neighbors, and then go home physical or mental wrecks—worse than before. What is the cause? "Atlantic City! It is not fit for sick people."

I am very glad that there are hundreds and thousands of invalids, convalescents and neurasthenics who come to this city-by-the-sea, who live here properly and under explicit instructions from their home or local physician. These people *do improve* and gain in health. They sleep better, have better appetites, lose much of their depression, improve digestion and build up nerve force. Atlantic City is certainly classed as a fashionable resort in summer, winter, and all the year. If your patient comes for fashion, he can find it. If he comes for health and quiet, there are hundreds of private cottages and many hotels and boarding-houses where he may find every convenience and home comfort and an absence of gaiety. During the height of our season (July and August) the pleasure-seekers are here; and for real quiet, neurasthenics and invalids must live in the section of the city least frequented by them.

Every case of neurasthenia should live as nearly by strict rule as possible. Strict attention must be given to diet, and under no circumstances should the patient be advised to eat generally of what comes on the table. Above all things, prohibit the mixture of many foods at meals and give a written, explicit diet-list best suited to the case. The patient must be regular in all things, even to the smallest detail. Directions must be given in regard to exercise. Our elevated, broad, four-mile-long board walk on the ocean front is a temptation to the average person, and the stimulus of the ozonized salt air often prompts longer walks than the patient can endure. If he tires of walking, rolling chairs can be obtained at almost any point during all seasons. These chairs are well supplied with robes and are moderate in hire. The board walk is always clean and dry, so that one may go out after a storm. Surf bathing is too tiring for most cases, and when taken, proper directions must be given in regard to the hour and the limit of time. Several hours will cause complete exhaustion. Ten to thirty minutes is the usual limit. Hot and cold salt-water baths can be obtained all the year, but must not be taken without direction. The average case does best by taking the proper bath every second day, two and one-half hours after breakfast. *Hot* baths are usually detrimental to neurasthenics. Late hours must be prohibited. Every moment possible must be spent in the open air between 10 A.M. and 4 P.M. in winter, and 9 A.M. and 7 P.M. in summer—not in merry-go-rounds and places of amusement. Massage, electricity, and sanatorium treatment can be obtained here if desired.

The water-supply of Atlantic City is now obtained entirely from underground springs and artesian wells. No surface water is used. It is as pure a water-supply as can be obtained, and is free from organic and nitrogenous matter. The sewerage system is first-class. Typhoid fever and contagious diseases are almost unknown, In fact, Atlantic City is *the ideal sanatorium* of the East, if not of the United States. The city is located on an island of pure sea-sand and separated from the New Jersey coast by five miles of *salt* meadows and sea water. There are no fresh-water streams within six miles of the city, and malaria is unknown here. If the medical profession would take time for a trip to Atlantic City and see it as it is, I am sure they and their patients would both benefit. Much more could be said on this subject, but direct personal experience is best. Do not condemn Atlantic City before you have been here and have studied its real merits—not from the fashionable but the sanatorium standpoint. W. BLAIR STEWART, M.D.

ASSOCIATION NEWS.

The American Medical Association.—The following, concerning the ASSOCIATION, we clip from the *Lancet-Clinic* of January 28:

"This greatest of professional organizations will hold its next annual meeting in Columbus, Ohio, June 6–9. Of the meeting itself not only the medical profession and other good people of Columbus become hosts of the ASSOCIATION, but in a wider sense the entire medical profession of Ohio are to be entertainers for the occasion. Columbus, the capital of the State, is centrally located and easily accessible not only from every part of the State, but from the entire United States. Located near the center of population, there will be an immense gathering—immense in size and of signal importance to the medical profession of Ohio.

"The meetings of the AMERICAN MEDICAL ASSOCIATION always produce a good effect upon the medical profession in the locality in which they are held. There is an attraction and stimulation to good work and to a bringing about of better conditions in every respect.

"There are more than 5000 members of the regular medical profession in Ohio, not one-third or even one-fourth of whom are members of the AMERICAN MEDICAL ASSOCIATION. This is a condition that is not at all creditable, and should be remedied at the ensuing June meeting. It is no exaggeration to say that not less than 2000 new members from Ohio alone should be enrolled, which may and should be accomplished through a renewed activity among members of the county societies. These organizations should be stirred up in every county in the State.

"The physicians of Columbus are alive to the great work they have before them, and will do their part handsomely in preparing for a generous and satisfactory entertainment of all comers, but they must have assistance from other parts of the State. Two years ago, at Philadelphia, there were 2600 delegates enrolled, and present an equal or greater number of visitors not delegates. There will be as many or more at Columbus. The work of the ASSOCIATION in its addresses, papers and Section work takes up much of the time of the members, but the social features are to be provided for, and on a scale that is not easy to be understood by those who have not had experience in such lines. In this particular work every Ohio man present should wear an Ohio badge to indicate his honorary membership of the committee on entertainment.

"Columbus is located midway between the East and West sections of the country, and but little north of the meridian dividing the North from the South. The great Western and Middle States are staunchly loyal to the ASSOCIATION; as much may be said of the South, but the East needs to show a better adherence than in the past. For some years the body of the profession in New York and of New England have in a great measure held aloof. This has not been to their professional interest, which many are beginning to realize. The accessible location of the meeting should bring large delegations from those States. Pennsylvania will be largely represented, as a matter of course. West Virginia should send 500 delegates, and Virginia an equal number. Kentucky and Indiana are hard by, and should be represented by not less than 2000 from each State. The president is well known and popular in all the Middle States; he is their man. The Southern States will send the largest delegation in their history, and so of the Middle and Northwest, while the Southwest will not be behind.

"Since the last meeting the Nation has terminated a great war, in which the medical department of the army was more prominent than ever as a war factor. This will add to the interest of the occasion. New territories have been acquired, involving tropic sanitary conditions, and a whole lot of questions of importance will come up for discussion and consideration.

"A glimpse at the above signifies an immense meeting as well as an important one. Ohio is a pivotal State, to which there is a natural convergence from every quarter, which is accepted as a very natural order of things, but it means also large delegations, which is what is sincerely wanted by the new host. The ASSOCIATION has met on other occasions in Cincinnati and Cleveland, but never before in Columbus.

"Delegates are particularly urged to bring their wives, daughters and sweethearts. Entertainment will be provided for every one of them.

"The Columbus meeting will be made a memorable one for its pleasant features. Railroad rates will be put down to the lowest notch. In the hotels there will be no overcharges. Accommodations are ample, and comfort will be provided for every one.

"The exhibit-hall will be an exposition unsurpassed by any previous display; but, best of all, the city itself will be a host whose generous hospitality may be reckoned upon with absolute certainty."

SOCIETY NEWS.

Southwestern Iowa Medical Society.—This Society held a session at Creston, Iowa, February 16.

Dental Societies.—The Southern Branch, National Dental Association, and the Louisiana State Dental Society held a joint meeting in New Orleans, La., Feb. 9, 10, 11 and 13.

Erie County Medical Society.—At the meeting of this Society, at Erie, Pa., recently, the following officers were elected: President, Dr. Chapin; vice-president, Dr. Purcell; secretary and treasurer, Dr. Dunn, and censors, Drs. Reed, Dickinson and Ray.

Weber County Medical Society.—The newly elected officers of this Ogden, Utah, Society are: R. S. Joyce, president; H. J. Powers, vice-president; J. L. Dickson, secretary; J. S. Wadsworth, treasurer; H. J. Powers, R. S. Joyce and F. D. Bickford, executive committee.

Alumni Association of Tulane University.—At the annual meeting held in New Orleans, Saturday, February 11, Drs. Isadore Dyer and Hermann B. Gessner were elected to represent the graduates of the medical department on the Executive Committee.

North Chicago Medical Society.—The fifty-fifth regular meeting was held in the Newberry Library Building, Chicago, February 20. The program comprised a paper by Dr. R. B. Preble on "Pneumococcus Septicemia," with discussion by Drs. J. N. Bartholomew, G. F. Lydston, E. J. Senn and John Fisher.

Toledo Medical Association.—At the meeting of February 10, Dr. Samuel S. Thom read a paper entitled "Some Remarks on Fracture of the Elbow," and at the meeting of February 24, Dr. Heneage Gibbes, health officer of Detroit, Mich., late professor of pathology in the University of Michigan, read a paper on the "Duality of Phthisis," illustrating the same with lime light and lantern slides. Dr. Charles P. Wagar was recently elected secretary of this Association.

Western Ophthalmological and Otolaryngological Association.—The fourth annual meeting of this Association has just been held at New Orleans, La. While the attendance was not large it was thoroughly representative. In the absence of the president, Dr. J. W. Elliott Colburn, Dr. W. Scheppegrell presided. The annual address was delivered by Dr. Geo. T. Stevens of New York City, entitled "Historic Notes Relating to Strabismus and other Anomalies of the Eye Muscles." An afternoon luncheon and evening reception added much to the first day's interest. The election of officers for the ensuing year resulted as follows: President, W. Scheppegrell of New Orleans; first vice-president, M. A. Goldstein of St. Louis; second vice-president, H. V. Würdemann of Milwaukee; third vice-president, E. C. Ellett of Memphis; secretary, Thad C. Ewing of St. Louis; treasurer, W. L. Dayton of Lincoln, Neb.

Detroit Medical and Library Association.—At a meeting of this Society, February 13, Dr. E. L. Shurley read a paper entitled "Epidemic Influenza." The Doctor stated that the disease had been recognized and described as early as the year 1126, A. D., when it invaded Europe, but it first made its appearance on this continent in the year 1600. The cause of the disease is the presence of the bacillus of Pfeifer and, as a factor, atmospheric vicissitudes. In describing the pathology of the disease the author said that the observations of Pfeifer and other bacteriologists seem to show that the bacillus actually invades the blood independently of any toxin, but added that this was as yet only problematic. The symptoms as enumerated by the author are sneezing, lachrymation, faucitis, bronchial catarrh, severe myalgia and inordinate vital prostration. Atypic cases are legion; but two symptoms, myalgia and undue prostration, are common to all cases. There is also in connection with the myalgia usually hyperesthesia of the skin. The complications of the disease are pneumonia, endocarditis, pericarditis, pleuritis, acute rheumatism, erysipelas and erythema nodosum. Inflammations of the middle ear are common complications and often even constitute the principal feature of the attack. Dangerous inflammation and suppuration of the nasal sinus frequently occur as well in this disease. Pulmonary consumption is the most frequent seqela of influenza. As to the diagnosis, he said the disease should be differentiated from common colds, rhinitis, follicular tonsillitis, cerebrospinal meningitis, measles and, in some cases, typhoid fever. The treatment outlined was that which is necessary in most infectious diseases, viz., to assist nature in eliminating the poison from the system, to modify the dangerous reactions which the ingress of the poison may generate, to sustain the vital and defensive powers and to combat all complications and sequelæ. Among the therapeutic agents beneficial were calomel, for its purgative and diuretic effect, early in the disease; application of heat for its diaphoretic action; coal-tar products with caution; quinin, salol, salicin, salicylic acid, phosphorus and strychnin; belladonna in the early stages; Dover's powder and codein for pain and distressing cough, and alcohol and digitalis when the patient shows signs of vital depression.

Illinois State Medical Society.—The preliminary program for the forty-ninth annual meeting of this Society, to be held at Cairo, Ill., May 16–18, 1899, includes the following papers:

The Country Doctor, S. C. Hall, Omaha.

Indigestion; its Causes, Effects and Results, C. G. Reagin, Duquoin.

Intestinal Antisepsis; Physiologic and Therapeutic, W. F. Waugh, Chicago.

Stomatitis Materna, J. Schneck, Mt. Carmel.

Variations in Malarial Manifestations, C. D. Center, Quincy.

Atypic Malaria in Children, with a Case in Point, Rosa Engelman, Chicago.

Some Aspects of Chronic Bright's Disease, A. R. Elliott, Chicago.

The Treatment of Uremia, A. R. Edwards, Chicago.

Further Observations of Tube Casts, I. N. Danforth, Chicago.

Alkalinity of the Blood in its Physiologic and Pathologic Relations, J. H. Salisbury, Chicago.

Agents and Methods Used in Alkaline Medication, J. A. Patten, Chicago.

Alkaline Treatment of Rheumatism and Allied Conditions, Ellen H. Heise, Canton.

Lithemia, A. M. Beale, Moline.

Erythromelalgia, W. J. Eddy, Shelbyville.

The X-Ray in the Diagnosis of Brain Lesions, Archibald Church, Chicago.

A Newer Pathology of Epilepsy, D. R. Brower, Chicago.

Surgery, Then Suggestion in Treatment of Hysteria, T. B. Keyes, Chicago.

Review of Work Done in Treatment of Mastoid Disease, N. H. Pierce, Chicago.

Are We Advancing with the Times? G. H. Rice, Sandoval.

Thymic Asthma, M. P. Hatfield, Chicago.

Treatment of Tuberculosis, Edwin Klebs, Chicago.

Drug Habits and the Medical Profession, Richard Dewey, Wauwatosa, Wis.

Chronic Ophthalmia; Some Observations as to its Cause and Treatment. Also the Relation of Chronic Ophthalmia to the Causation of Cataract, L. J. Schifferstein, Effingham.

Psycho-Physical Culture, W. Xavier Sudduth, Chicago.

Psychology vs. Medicine, J. T. McAnally, Carbondale.

Direct Massage in the Treatment of Glaucoma, J. A. Pratt, Aurora.

Diphtheria, with Some Notes on the Modern Serum Therapy, W. A. Matson, Monticello.

Rational Therapeutics, R. H. Henry, Peotone.

Treatment of Scarlet Fever, Herbert S. Worthley, Elwood.

Diagnosis of Locomotor Ataxia, H. T. Patrick, Chicago.

Post hoc, propter hoc, W. J. Chenoweth, Decatur.

Experience of a Country Doctor with Appendicitis, C. B. Brown, Sycamore.

1. Alveolar Sarcoma of the Rectum, Operation, Recovery. 2. Carbid of Calcium Treatment for Inoperable Carcinoma of the Rectum, E. M. Sutton, Peoria.

Report of Some Cases in Gall-Bladder Surgery and Their Sequelæ, J. E. Allaben, Rockford.

When Shall We Operate in Country Practice, C. W. Hall, Kewanee.

Complete Prolapse of an Ovarian Tumor Through the Anus, Operation, Recovery, J. A. Baughman, Neoga.

Symphysiotomy, with Report of Two Cases, H. McKennan, Paris.

Galvanocaustic Treatment (Bottini's Operation) of Senile Enlargement of the Prostate, F. Kreissl, Chicago.

Indications for and the Advantages of Alexander's Operation, Rachel H. Carr, Chicago.

Molar Pregnancy, Carl E. Black, Jacksonville.

Why and When Operate for Appendicitis? W. F. Grinstead, Cairo.

Diagnosis of Ectopic Gestation Before Rupture, C. E. Manierre, Chicago.

Separation of Epiphyses in Relation to the Growth of Bones, F. A. Besley, Chicago.

Medical Ophthalmoscopy, W. O. Nance, Chicago.

Stricture of the Lachrymal Duct, H. W. Woodruff, Joliet.

Common Errors in Diagnosing Follicular Appendicitis as Typhoid Fever; Report of Three Cases, J. L. Wiggins, East St. Louis.

Pancreatitis, F. E. Wallace, Monmouth.

Premature Detachment of Placenta; with Report of Two Cases, E. B. Gilbert, Geneseo.

Influence of Biologic Research on Surgery and Medicine, W. J. Fernald, Rantoul.

Treatment of Dislocation of the Hip in Children, A. C. Wiener, Chicago.

Eclampsia—Causation and Pathology, C. B. Reed, Chicago.

Eclampsia—Diagnosis and Clinical Course, F. B. Earle, Chicago.

Eclampsia—Treatment, J. B. De Lee, Chicago.

Report on Recent Extirpations of the Stomach, with Experiments on the Dog, E. A. Matthaei, Chicago.

Operative Treatment in High Degrees of Myopia, Allen T. Haight, Chicago.

Operation for the Removal of Kidney Stones, A. D. Bevan, Chicago.

Major Anatomic Weak Points of Surgical Areas; Illustrated by Dissected Specimens, W. T. Eckley, Chicago.

Radical Operation for Inguinal Hernia, F. A. Jefferson, Chicago.

What is Eczema? J. Zeisler, Chicago.

Treatment of Accidental Wounds of the Male Urethra, E. J. Senn, Chicago.

Operative Treatment of Retroflexion of the Uterus, W. H. Rumpf, Chicago.

Malignant Tumors of the Adnexa of the Eye, W. H. Wilder, Chicago.

Adrenal Tumors of the Kidney, Bayard Holmes, Chicago.

Uterine Scrapings and Their Microscopic Diagnosis, Maximilian Herzog, Chicago.

Implantation of the Ureters in the Lower Bowel as Preliminary to Removal of the Bladder, F. H. Martin, Chicago.

Cyanosis Neonatorum, C. E. Paddock, Chicago.

Non-Surgical Treatment of Goiter, D. R. McMartin, Chicago.

Use of the Carbid of Calcium in the Treatment of Carcinoma Uteri, J. H. Etheridge (deceased) Chicago.

High-Forceps Operation, C. S. Bacon, Chicago.

Stricture of Anus Due to Orificial Surgery, Successfully Treated by a Plastic Operation, E. C. Dudley, Chicago.

Goiter, A. I. Bouffleur, Chicago.

Surgery of the Eye Muscles, J. E. Colburn, Chicago.

Otomycosis, E. T. Dickerman, Chicago.

Operative Treatment of Grave's Disease, Karl Doepfner, Chicago.

Peritoneal Adhesions, T. A. Davis, Chicago.

Surgeons' Interest in Rheumatism, F. W. Jay, Chicago.

Ambulatory treatment of Fractures, Charles D. Lockwood, Chicago.

Drainage and Washing out the Pleura in Empyema; Conflict of Methods and Opinions Among Eminent Surgeons, Edmund Andrews, Chicago.

Eye Strain and the Diagnosis of Ametropia by the General Practitioner, Cassius D. Wescott, Chicago.

Adipose Tissue as an Etiologic Factor in Hernia, A. H. Ferguson, Chicago.

Puerperal Surgery, Bertha Van Hoosen, Chicago.

Pelvic Reflexes, Byron Robinson, Chicago.

Results of Modern Vaginal Operations, Emil Ries, Chicago.

Report of 400 Operations by My Method for Radical Cure of Hernia, E. Wyllys Andrews, Chicago.

Tumor of Sclera, C. P. Pinckard, Chicago.

Resumé of Herniotomies, L. A. Greensfelder, Chicago.

Prevalence and Fatality of Alcoholic Inebriety, G. W. Webster, Chicago.

Nervous Complications and Medicolegal Relations of Alcoholic Inebriety, D. R. Brower, Chicago.

Etiology and Prevention of Pulmonary Consumption. (Essayist not selected.)

Medicolegal Aspect of Bright's Disease, Columbus Barlow, Robinson.

A Drop of Water, H. C. Fairbrother, East St. Louis.

The following have promised papers, but titles have not been received: F. L. Hall, Perry; M. J. Kearsley, Austin: J. B. Walker, Effingham: R. E. Beach, Vandalia; H. C. Adderly, Chester; J. B. Maxwell, Mt. Carmel; W. L. Suggett, Flora; W. G. Stearns, Kankakee; H. L. Jencks, Galena; S. W. Hopkins, Walnut; H. H. Gray, Galesburg; H. B. Favill, I. A. Abt, H. W. Manning, H. N. Moyer, A. E. Halstead, M. L. Harris, Norman Kerr, J. B. Bacon, J. B. Murphy, W. H. Allport, L. L. McArthur, D. A. K. Steele, C. A. Wood, H. P. Newman, E. Henrotin, Carl Beck and L. Hektoen, Chicago; O. Johnson, Quincy, G. N. Kreider, Springfield.

The address in the Section on State Medicine will be by A. R. Reynolds, Chicago; in the Section on Materia Medica by George F. Butler, Chicago; in the Section on Surgery by Denslow Lewis, Chicago. The annual dinner will take place on Wednesday evening. Railroad rates will be one and one-third fare for the round trip, on the certificate plan. Special rates at all the hotels will be given.

PUBLIC HEALTH.

Influenza in Christiania and Stockholm.—The official returns in the former city on February 12 give 2342 cases, and deaths of the week previous as 198. Reports from the latter city, of the same date, put the cases at 3194, and the deaths at 220.

Detroit Health Report.—For the week ending February 18, the number of deaths was 102; births 96. The number of persons who died from pulmonary disease was 49, of which 20 were pneumonia, 10 consumption and 6 la grippe. There are now only 4 cases of diphtheria in the city. The cases of smallpox have all recovered, with no deaths.

Laboratory Accidents.—In France the superintendent of a laboratory is held personally responsible for accidents that occur. Smoking is considered dangerous in a laboratory, as the cigar or cigarette may be laid down a moment and become contaminated, and then replaced in the mouth. A recent circular of instructions issued by the authorities, suggests that animals infected with a dangerous disease of short duration be placed in a jar instead of a cage, as the jar can afterward be filled with a strong antiseptic, more apt to be effective than the disinfection of a cage.—*Echo Méd.*, January 22.

Prevention of Tuberculosis.—The New York *Times* announces the following, from Berlin, February 12: "A committee representing the International Congress for the Prevention of Tuberculosis, which will sit in Berlin, May 24 to May 27 next, under the patronage of the Empress Augusta Victoria and the honorary presidency of the Imperial Chancellor, Prince von Hohenlohe, called yesterday at the United States Embassy to enlist American interest and co-operation in the undertaking. Dr. C. W. Stiles, scientific attaché to the United States Embassy, is preparing a report for the medical press on the purpose and scope of the Congress, whose main object is to devise ways and means of combating tuberculosis, especially as a popular scourge. Emperor William will entertain the members of the Congress."—(*Vide* Journal, p. 139.)

The Water-Supply of Two New York Boroughs.—According to the annual report of the commission of water-supply, the maximum daily supply of the system in Manhattan and the Bronx is 400,000,000 gallons. The reserve held in storage is 44,200,000,000, which, at the present rate of consumption, would be sufficient for the two boroughs for 182 days, without the natural flow of the rivers from which the supply is drawn. During 1898 the draft on stored water for the old city of New York was 12,330,000,000 gallons. The minimum daily consumption in that year was 238,000,000 gallons, in April, and the maximum 256,000,000 gallons, in September. The average daily consumption for the year was 243,000,000 gallons, or 121 gallons per capita.

Paraffin a Hygienic Covering for Floors.—A thin coat of boiling paraffin poured over a floor, following the grain of the wood, renders the floor proof against moisture, dust, acid or alkalies. It can be wiped up with a damp cloth or swept with sawdust moistened with an antiseptic, and then polished to a high luster with a dry cloth. The coat should be about two to three millimeters thick and well applied, and will last for years. One kilo of the paraffin, costing 1.80 francs, will cover about four square meters. The paraffin should melt at 65 degrees C. and boil at 300. It is boiled two or three hours before being applied. All holes and crevices should be filled beforehand, and Annequin recommends for this purpose a cement made of Spanish white 540 gm., strong glue 180 gm., sienna (hydrated oxid of iron) 150 gm., umber (black oxid of iron mixed with proto- and sesquioxid of iron) 110 gm., carbonate of lime 20 gm. It is applied with a putty knife and left for forty-eight hours to harden, when it is ready for the paraffin.—*Presse Méd.*, January 14.

Sanitary Operations at Havana.—The truly colossal task of putting into proper sanitary condition every dwelling in Havana has been inaugurated, Surgeon-Major Davis having hired one hundred resident physicians for a house-to-house inspection, to compel obedience to the new regulations. All cess-pools under houses are to be closed and sealed. Garbage is to be removed daily. It is expected that the city will be in a fairly sanitary condition within three months, without underground sewerage. The old residents regard the health regulations as unnecessary and meddlesome, and even some well-to-do and well-informed persons, when making their objections, describe themselves as "healthy enough." A thousand persons are engaged in the work of cleaning the streets and public buildings. The quartermaster has already disbursed $10,000 since January 1, in the work of sanitation, and has drawn $13,000 from the custom house to meet the extra expenses in this line. It is a favorite trick of the soldiers when escaping from the camp without leave, to hire Cuban uniforms, so as to pass the sentries. Sometimes the clothing has been exposed to infection and the usual results follow. Nevertheless, there is so little sickness among the United States troops that twenty women nurses out of 100 originally employed, have been dismissed.

The Army Ration in Tropic Climates.—Dr. Louis Seaman, before the New York Academy of Medicine, discussed the above subject, setting forth that a much greater flexibility to the ration will be absolutely essential if Congress adopts the practical lead of England. Since our ration has been proved to be such an improper diet in the tropics, the question naturally presents itself, "What is a suitable ration?" Before proceeding to make suggestions in answer to this question, it will be well to point out more specifically the defects of the present ration, which consists principally of salted and fresh meats, bread or flour, canned beans and tomatoes, and a small proportion of cereals, with little provision for fresh vegetables. The experience of the British in Burmah and the West Indies has shown that the salt ration is the greatest predisposing cause of bowel complaints. As stated by Duncan, in the first Burmese war, for six and one-half months the troops had salt rations shortly after its commencement, and only 8 per cent. of them perished within ten months, principally of scorbutic dysentery, while in a regiment of Cameronians, 700 out of 900 were rendered unfit for duty from the same cause within a period of two months. In both instances these diseases were induced by an almost exclusively salted diet. He further said: "In the changes I have to suggest for feeding the army under tropic or subtropic conditions are the following recommendations: The beef component and the salt pork should be reduced one-half, farinaceous food being substituted therefor, salted rations should be issued at most twice during the week, fresh meats should be provided from animals slaughtered at the points where issued. Of the cereals, one of the best is hominy. Equally valuable is the ration of rice now issued, and which should be quadrupled in quantity. The white bean of this country should not be issued in the tropics. In its place should be used the black or red native bean. In addition to the above, dried fruits, especially apples and prunes, should be added to the ration. Could we have had such a ration as this at Porto Rico and Cuba, or if but a small percentage of the great outlay afterward expended in the care and treatment of the sick had been employed in procuring proper food before disease had developed, an enormous saving would have resulted, and the future pension rolls would have been kept within narrow bounds." Major J. M. G. Woodbury, who was a surgeon attached to the staff of Major-Gen. J. H. Wilson in the Porto Rican campaign, took issue with some of Dr. Seaman's statements, especially those regarding the mortality charged to the rations. Major Woodbury insisted that the deaths among the volunteers were more nearly chargeable to their improper cooking and filthy habits. Fully 40 per cent. of the deaths in Porto Rico, he said, were due to these causes. He instanced the small mortality among the regular troops, who were serving under the same general conditions, as indicative of the care which they took of themselves.

Health Reports.—The following cases of smallpox, yellow fever, plague and cholera have been reported to the Supervising Surgeon-General of the U. S. Marine-Hospital Service for the week ended Feb. 18, 1899:

SMALLPOX—UNITED STATES.

Colorado: Denver, November 2 to February 8, 23 cases, 1 death.

District of Columbia: Washington, February 7, 6 cases.

Indiana: Dana, February 8, 1 case; Evansville, February 8, 1 case; Indianapolis, February 8, 1 case.

Louisiana: New Orleans, January 28 to February 4, 2 cases.

Maine: Auburn, Androscoggin Co., February 11, 1 case; Kennebec Co., at Waterville and Winslow, February 11, 8 or more cases.

Maryland: Baltimore, February 10, 1 case.

Nebraska: Omaha, January 28 to February 11, 4 cases.

New York: Dunkirk, January 28 to February 4, 1 case; New York City, February 4 to 11, 1 case.

Ohio: Cleveland, January 28 to February 4, 4 cases.

Texas: Laredo, January 21 to 28, 43 cases, 9 deaths; Laredo, January 28 to February 4, 69 cases, 14 deaths.

Virginia: Alexandria, February 7 to 9, 36 cases, 8 suspects; Norfolk, February 8 to 9, 15 cases, total on land, 132 cases.

Wisconsin: Appleton, February 7, 2 cases.

SMALLPOX—FOREIGN.

Africa: Lorenzo Marques, November 1 to December 31, 25 deaths.

Brazil: Bahia, January 7 to 21, 25 cases, 1 death.

Canada: Province of Quebec, January 26 to February 6, 11 cases, 1 death.

China: Hongkong, December 31 to January 7, 3 cases.

England: Liverpool, January 15 to 22, 1 case; London, January 15 to 22, 1 case.

India: Bombay, January 11 to 18, 1 death; Madras, December 31 to January 6, 1 death.

Ceylon: Colombo, December 24 to 31, 1 death.

Japan: Awomori Ken, December 9 to 31, 73 cases, 15 deaths; Chiba Ken, December 9 to 31, 1 case; Iwate Ken, December 9 to 31, 1 case; Nagano Ken, December 9 to 31, 1 case.

Mexico: City of Mexico, January 31 to February 4, 5 cases, 4 deaths; Nuevo Laredo, January 31 to February 4, 9 cases, 1 death; Vera Cruz, January 19 to February 2, 2 deaths.

Russia: Moscow, January 14 to 21, 6 cases, 7 deaths; Odessa, January 14 to 28, 10 cases, 2 deaths; St. Petersburg, January 7 to 21, 4 cases; Warsaw, January 24 to 31, 4 deaths.

Turkey: Constantinople, January 9 to 23, 28 deaths.

YELLOW FEVER—FOREIGN.

Brazil: Bahia, January 7 to 14, 2 cases, 1 death; Rio de Janeiro, December 23 to 30, 11 cases, 8 deaths.

Mexico: Vera Cruz, January 19 to February 8, 6 deaths.

CHOLERA—FOREIGN.

India: Bombay, January 11 to 18, 6 deaths; Calcutta, December 24 to 31, 56 deaths; Madras, January 7 to 31, 1 death.

PLAGUE.

India: Bombay, January 11 to 18, 308 deaths.

NECROLOGY.

CHARLES A. TUFTS, M.D., Dartmouth, 1872, died February 12, at Dover, N. H. He was president of the American Pharmaceutical Association for five years, and 77 years of age. He represented his district in the State Senate in 1861–62, and later earned the title of colonel, serving on the Governor's staff. He was for many years a member of the school board, being chairman from 1892 to 1894; clerk of the common council from 1858 to 1865, and a member of the board from 1868 to 1870; associate justice of the police court for nearly thirty years, and for fifty years moderator of the town and ward committee.

MOSES B. ALTER, M.D., Rensselaer, Ind., February 13, aged 61 years. . . R. L. Ashley, M.D., Perry, Ohio, February 13, aged 58 years. . . C. B. Clark, M.D., Kosciusko, Miss., February 7. . . J. L. Dillard, M.D., Richmond, Texas, February 10. . . N. C. Skinner, M.D., Greenville, Miss., February 14, aged 75 years. . . John Edwin Slicer, M.D., St. Joseph, La., February 8, aged 69 years. . . Cyrus Smith, M.D., Jackson, Mich., February 10. . . Otto Steinmeyer, Jr., M.D., Carlinville, Ill., February 9.

DEATHS ABROAD.

DR. HENRY JONES, or "Cavendish" of the *Field* and the *Queen*, who was an international authority on card games, died in London, England, February 15. He was born in London Nov. 2, 1831. His general education was received in Kings College School and St. Bartholomew's Hospital. After practicing surgery in London from 1852 until 1869, he devoted himself to literary and editorial work. He wrote treatises on whist, piquet, ecartè, billiards, tennis, croquet and many minor games. . . Prof. C. L. Studsgaard, Gothenburg, physician to King Christian of Denmark and chief surgeon at the Commune Hospital of Copenhagen, died February 15, at the age of 68. . . Joseph Coats, M.D., professor of pathology, University of Glasgow, Scotland, died from a malignant tumor in the neighborhood of the descending colon, aged 52 years. . . Prof. E. Gurlt, Berlin, aged 75 years, and one of the most prominent surgeons of Germany, especially noted for his historic works on surgery and medicine. His three-volume "History of Surgery," recently published, already ranks as a classic. . . Prof. J. A. Laboulbène, Paris, chair of history of medicine. . . A. Socin, professor of clinical surgery at Basle. . . Dr. Dumontpallier, Paris, aged 72 years, known by his works on hypnotism, neuropathology and gynecology.

MISCELLANY.

"A Plea for Alcohol."—The address of the author of "A Plea for Alcohol," in the JOURNAL of February 11, p. 317, was given as Lima, Ohio, erroneously. It should have been Marion, Ind.

Chicago Clinical School. –Dr. J. R. Pennington has accepted the professorship of rectal diseases in the Chicago Clinical School, formerly the West Side Post-Graduate and Policlinic.

Dr. P. S. Connor.—Dr. P. S. Connor, Cincinnati, Ohio, medical member of the late War Investigation Committee, was tendered a banquet by his medical and business friends, February 14.

Mosquito Theory of Malaria.—In item in our last issue, on "The Mosquito Theory of Malaria" (page 386) there occur two regrettable typographic errors. Instead of two years, read ten years, and 1883 instead of 1893 as the date of Dr. King's paper.

Rush Medical College.—It is announced that Dr. Henry B. Stehman, superintendent of the Presbyterian Hospital, Chicago, will, until further notice, carry on the work of the late Prof. James H. Etheridge, in Rush Medical College.

Cook County Hospital Advisory Staff.—The County Commissioners recently passed a resolution placing the following physicians on the advisory staff of the hospital: Charles E. Humiston, Williams Holland, I. Friedman, Louis Mueller and Arthur M. Corwin.

Eclampsia: Correction.—In Dr. Bouton's paper in the JOURNAL of February 18, read "every two hours," instead of "every ten hours," in line 50, column 2, page 355, and omit "in," in line 15, column 2, page 356—errors occurring through loss of author's corrected proof in the mail.

Ohio Medical University.—Dr. C. M. Taylor has been promoted from the professorship of physiology to the chair of clinical gynecology, and Dr. Yeating Wardlow elected to the professorship of gynecology. Dr. Taylor succeeds Dr. J. F. Baldwin and Dr. Wardlow occupies the chair made vacant by the resignation of Dr. J. M. Dunham.

Embalmers' and Undertakers' Examination.—The fourth of these examinations, under direction of the Illinois State Board of Health, was held in Chicago, February 14. The examiners were: Drs. J. A. Egan, Springfield: J. C. Sullivan, Cairo; Ludwig Hektoen, Chicago; H. D. Sheldon, Frank Ketchum, and W. V. McKinstry.

Chicago Physicians Lecture.—In the course of free lectures being given in Chicago, under the auspices of Northwestern University, the University of Illinois Medical School and the Chicago Board of Education (vide JOURNAL, p. 325), on February 19, Dr. W. T. Eckley discussed "Animal Cells and a Community: An Allegory"; Dr. Bayard Holmes, "The Cost of Preventable Diseases."

Hospitals.—Fire recently damaged the Marine Hospital, Stapleton, Staten Island, to the extent of $400 . . A cottage at the State Insane Asylum, Yankton, S. D., was recently burned with a loss of seventeen lives . . St. Joseph's Hospital, Syracuse, N. Y., netted $1000, from a recent testimonial performance. . . Miss Jean W. Wells has presented the Saginaw (Mich.) Hospital $3000 to endow a free bed.

Hysteric Nasal Insufficiency.—A curious case is related by Lermoyez: a young girl with hypertrophied turbinate bones preventing nasal breathing was operated and the nasal passages cleared perfectly, but she found it impossible to breathe through the nose, and would suffocate if a hand were placed over her mouth. The new synergy of muscular actions required for nasal breathing called for an attention and sustained effort of the will, of which she was incapable.—*Presse Méd.*, January 25.

Oophorectomy in Mammary Cancer.—In the *Brit. Med. Jour.* of Oct. 2, 1897, Boyd reported his observations on five cases of cancer of the breast in which he had performed double oöphorectomy. He now presents further notes (*Brit. Med. Jour.*, Feb. 4, 1899) and believes that in some cases removal of the ovaries does induce the disappearance of the cancer tissue. In summing up his seven cases he considers the effect of oöphorectomy indubitable in two, probable in two, and absent or very doubtful in three.

Cryoscopy of the Urine.—Bouchard has been establishing the average weight of the molecule in the constituents of the urine, finding that it is smaller as nutrition is more perfect (sodium chlorid not included): 60 to 63 in health, but in disease, 68 to 112. Disturbances in the liver increase the weight of the molecule; it is large in gout, but comparatively small in acute articular rheumatism.—*Semaine Méd.*, January 18.

Modifications of Toxins in Alimentary Canal.—Charrin and Levaditi have found that a toxin inserted in a small portion of the intestine of a guinea-pig, ligated at each end and replaced in the abdomen, loses part, if not all, of its tetanigenic properties in fifteen to twenty hours. They ascribe the modifications to the action of the intestinal bacteria, digestive secretions, etc. —*Semaine Méd.*, January 18.

Immunity to the Effects of Morphin.—Gioffredi has experimentally established that by gradually increasing doses the system can be accustomed to morphin, almost to the extent of immunization. The serum of dogs thus immunized possesses a high antitoxic power, sufficient to protect against twice the fatal dose animals particularly susceptible to morphin, such as young cats. This antitoxic property is not chemic, as it does not appear *in vitro*.—*Munich Med. Woch.*, January 17.

An Heroic English Surgeon.—Information has been received of the death of a ship's medical officer owing to a very noble act. The medical officer in question, whose name was Murphy, was serving in a steamer plying between Canton and Hongkong. On the voyage a Chinese child fell out of his mother's arms into the sea, which was running very heavily at the time. Dr. Murphy immediately plunged in after the child, but the sea was so heavy that it was two hours before he was picked up, and he never recovered from his exertions.—London *Lancet*.

State Sewerage Commission.—According to the *Outlook* for February 18, a bill has been introduced in the Connecticut Legislature for the appointment of a State Board of Sewerage Commission. The commissioners are to investigate the subject of a system for disposal of sewerage in the State and prevent the pollution of the inland streams, and without their consent no system of sewerage can be built in the State. They will also have authority to order a change of any system now in existence, when in their judgment such system pollutes inland streams.

Diphtheria Toxins and Antitoxins by the Mouth.—Paltschikowsky found that animals fed by the mouth with maximal doses of toxin, succumbed rapidly and no antitoxic property could be discovered in the blood. Serum submitted to the action of the gastric juice does not seem to be affected by it, and yet it fails to protect the animal when administered by the mouth. He considers it probable that only minimal amounts of the serum are absorbed by the stomach and intestines, and that it is either destroyed or eliminated in some other way.—*St. Petersburg Med. Woch.*, Dec. 31, 1878.

Anthrax Immunization.—In imitation of what Wassermann and Takaki have accomplished with an emulsion of brain matter and tetanus toxin, Aujeszky has succeeded in protecting rabbits against otherwise fatal anthrax infection with a 3 per cent. spleen emulsion. Injections of the spleen emulsion immediately after anthrax infection saved 25 per cent.; the rest succumbed, but much later than the control animals. A fresh mixture of the emulsion and anthrax bacilli *in vitro* delayed the onset of the infection, and when two to six hours old, prevented infection altogether. White mice were not protected by spleen emulsion derived from rabbits.—*Cbl. f. Chir.*; *Cbl. f. Bakt.*, xxiv, 8.

Toxicity of Urine in Skin Affections.—Colombini states that the toxicity of the urine is diminished by more than half in eczema rubrum; evidently the toxins are eliminated by the skin in these cases, which explains the dangers of a sudden cure of an eczema of this kind. He also suggests that the eczema may be due to the non-elimination of the toxins by the kidneys. In other cutaneous affections suppressing the functions of the skin, the toxicity of the urine is increased. In both cases the urine returns to normal after recovery from the dermatosis.—*Presse Méd.*, January 25.

Histology of Foot and Mouth Disease in Man.—The removal of the infected foci from the hand of a butcher's assistant, afforded an opportunity for the first comprehensive study of the histogenesis of the case. The poison, entering by a small laceration, first caused an intense hyperemia of the superficial vessels and a profuse exudation which infiltrated all the layers of the skin, while each layer commenced to proliferate energetically, the epidermis last. The altered conditions of nutrition, in time, led to a fibrinoid colliquation of the separate layers of cells of the epidermis (peripheral portions), followed by restitution (central portion), terminating in a clinic picture resembling parakeratosis.—*Derm. Ztft.*, December, 1898.

Parachymosin: A New Rennet.—It is announced from Professor Hammarsten's physiochemic laboratory in Upsala, that the rennet of the pig's stomach is a different substance from ordinary chymosin. As the calf's stomach contains chymosin and only chymosin, so the pig's stomach contains "parachymosin" and only parachymosin, and in the tests and experiences made, the human stomach was found to contain parachymosin and only parachymosin. It is present in pepsicum siccum which is usually made from pigs' stomachs. The difference between the two rennets is evident by their behavior during digestion, dilution, with $CaCl_2$, when heated and when combined with an alkali.—*Deutsche Med. Woch.*, January 19.

Appeal to Possessors of Antique Surgical Instruments.—The Paris Exposition of 1900 is making a feature of an exhibition of articles dating from the last century, to parallel the contemporaneous exhibits. Those in charge of the exhibit of surgical appliances appeal to collectors, museums, and all possessors of rare or unique surgical instruments and appliances to loan them to the Exposition. Each collection will have a special place; separate articles will be arranged in cases, all with the name of the owner, and a catalogue will be issued of the complete collection. A free pass will be given owners of historic articles deemed sufficiently valuable or interesting by the Committee.

"Anorganic" Heart Sounds.—A long series of experiments with dogs at Talma's clinic, Utrecht, in morphium narcosis, demonstrated that oligemia is only rarely the cause of anorganic heart sounds, but that hydremia favors their production, particularly hydremic plethora, in the conus arteriosus of the right ventricle, and likewise in the rest of the ventricle, in the left ventricle and in the arteries. He also found that quinin produced a dilatation of the heart cavities with heart and arterial sounds, such as are noted in chlorosis. Diminishing the frequency of the heart-beat, that is, filling the ventricle fuller, favors the production of heart systolic sounds. Increasing the systole increases the sounds or may originate them.—*Vienna Klin. Rundschau*, Dec. 25, 1898.

Gonorrhea and Sterility.—Benzler asserted a year ago that seventy-seven out of a hundred men who have had double epididymitis have a prospect of offspring, but later investigations lead him to modify this statement with the addition: "if the wife is not rendered sterile by being infected by the husband." He found that out of 474 married soldiers who had had gonorrhea during their military service, 13.5 per cent. were sterile; 16.5 per cent., one child. Of those who had had double epididymitis, 42.7 per cent. were sterile; 20.8 per cent. had one child. Of those with single epididymitis, 23.4 per cent. were sterile; 13.5 per cent., one child. With uncomplicated gonorrhea, 10.5 per cent. were sterile; 17.3 per cent., one child.—*Cbl. f. Chir.*, January 21.

Influence of Fever on the Production of Antitoxin.—Lemaire has been studying this subject with dogs immunized with dead cultures of very virulent bacillus coli. One set received a dose of antipyrin sufficient to prevent fever; another set was treated with ice-bags as soon as the temperature began to rise, and it was kept down, and in a third set the infection was allowed to take its usual course. Immunity was obtained in each set, and the immunizing substances developed equally well in all three. It follows that fever is not necessary to the formation of anti-infection substances. His experiences as a whole tend to establish that fever is rather injurious than useful to the organism, and also that antipyrin or applications of ice increase the resistance of the animals to the toxins of the bacillus coli.—*Presse Méd.*, 1898, v, p. 225.

Commotio Spinalis.—H. Schmaus summarizes our present knowledge of concussion of the spinal cord or commotio spinalis, as follows: It must be distinguished from concussion of the spine, which may produce lesions in the cord by crushing, tearing, stretching or hemorrhage. The idea of an essential commotio spinalis has lost ground of late, as there is not a single case of pure, uncomplicated commotio spinalis on record that will stand criticism. But there are cases in which a commotio spinalis is certain, combined with other injuries, although it may be impossible to determine the latter with precision. It has been experimentally established that a direct traumatic necrosis of the nerve elements follows commotio spinalis and also that the spurting liquor cerebrospinalis lacerates the tissues in the concussion.—*Munich Med. Woch.*, January 17.

Syphilitic Pseudo-paralysis.—Moncorvo relates seventeen observations of hereditary syphilis causing pseudo-paralysis of one or more members in children under three months (Parrot's disease). In fourteen out of the seventeen there were other manifestations of hereditary syphilis. The paralysis is due to the lack of continuity in the bone levers owing to the separation of the intermediate cartilage consecutive in turn to the dystrophy of the spongy tissue of the extremity of the diaphysis. Edema is frequently noted at this point, and a crepitation like that of a fracture. The point is very painful to pressure. He mentions that the arm or leg lifted up drops like the tongue of a bell when released. The muscles are not affected. All his cases were submitted to a vigorous specific treatment and rapidly recovered, although Parrot asserted that every case of this affection terminated fatally.—*Ann. de Derm.*, December, 1898.

Hospital Work in Persia.—Of the work of the Presbyterian Hospital in Oroomiah, Dr. J. P. Cochran writes in the *Observer* that more than the usual number of Moslems have been treated during the year, and most of them have gone away grateful and under a deep impression of the spirit of religion which impels its followers to provide such means for the welfare of all nationalities. Among the outside patients have been leading people of the place, governors, chief Moslem ecclesiastics, and many Khans. One of the latter class, high in rank, a lifelong friend of the missionaries, was one of a small class of Khans who took a few lessons in English with Dr. Austin Wright. The members of that class, without exception, largely as a result of that intimacy forty-five years ago, have been courteous, kind and helpful to the mission. One of them gives twenty horse-loads of wheat to the hospital annually.

Novel Feature in Artificial Air.—At the meeting of the Académie of Médicine, M. Laborde read a paper on a chemic substance which by its simple contact with air vitiated by respiration regenerates it completely, restoring to it its first qualities. In other words, this substance absolutely removes the carbonic acid from the foul air, as well as the water vapor and irrespirable products, and renders to it in exchange the exact quantity of oxygen required. From the first series of experiments it was discovered that six or eight pounds of the substance would keep alive, in a space hermetically sealed (a submarine boat or a diving bell, for instance), a healthy man during twenty-four hours. Besides, the product was capable of rendering good services to medicine, as with a few grams of it a dozen liters of oxygen could be obtained instantaneously.—Paris correspondent: *Med. Press and Cir.*, February 1.

Sudan III as a Stain for Tubercle Bacilli.—Dorset (*N. Y. Med. Jour.*, February 4., p. 148) speaks highly of Sudan III as a stain for tubercle bacilli, attributing this quality to its affinity for fat, which it has been shown the bacilli contain in considerable amount. In staining pure cultures cover-glass preparations are made and fixed in the ordinary way and then immersed in a cold, saturated 88 per cent. solution of Sudan III for five minutes. The excess of stain is removed by washing in several changes of 70 per cent. alcohol for five minutes. The bacilli are stained better if left in the Sudan III for ten minutes. The bacilli are stained a bright red and present a distinctly beaded appearance. Methylene blue may be used as a counter-stain. Stained sections of tissue may be dehydrated with absolute alcohol, cleared with clove-oil and mounted in Canada balsam. Smegma bacilli are not stained by Sudan III.

The Diphtheria Bacillus in the Organs.—Some recent research establishes that the Loeffler bacillus does not penetrate much beyond its entering point, and that it does not find its way into the blood and organs, except when it is associated with the staphylo-or streptococcus. In this case it is found in the blood and organs in abundance. These facts confirm Barbier's theory that the diphtheria bacillus does not find a ready foothold in man, and that it requires a soil prepared by some other infection. The importance, therefore, of keeping away from diphtheritic infection persons already affected by some other infection becomes more and more evident by these later researches (*Rev. Gen. de Path. Int.*, January 5). When the streptococcus is associated with the diphtheria bacillus, the general condition is serious; there are apt to be cardiac accidents, very rapid and irregular pulses; the patient has diphtheria and also septicemia. The local treatment should be intensive and serum injected early and often.—*Rev. Gen. de Path. Int.*, January 5.

Coincidence of Malarial and Typhoid Fevers.—As the result of 800 examinations of the blood of soldiers at Camp Wikoff, Ewing (*N. Y. Med. Jour.*, January 28 and February 4) concludes that typhoid fever is to a large extent incompatible with active malarial fever, and that during the course of the former the latter infection is usually suppressed. The persistence of old malarial infection may alter the course of typhoid fever through the anemia, but active sporulation of the malarial parasite rarely occurs during the course of established typhoid fever. On the other hand, as malarial paroxysms often appear during convalescence, a scanty growth of the parasite must often persist during the course of typhoid fever, and it is possible that some of the irregularities of temperature observed in these cases are referable to this partly suppressed growth. The anatomic evidence of a postmortem examination is much needed to demonstrate the existence of typhoid fever in cases showing active malarial paroxysms.

Physicians Honor Dr. Garcelon.—The final session of the AMERICAN MEDICAL ASSOCIATION was held yesterday morning at 61 Market Street. A plan of the policy of the ASSOCIATION for the year was adopted, and the newly elected secretary and editor of the JOURNAL of the society, Dr. Simmons, was inducted into office. At noon an adjournment was taken, and the delegates repaired to the Sherman House, where a dinner was served in honor of Dr. A. Garcelon of Lewiston, Me., the patriarch of the ASSOCIATION. Dr. Garcelon is 87 years old. He was war governor of Maine, and later was re-elected. He has always been a leader in the affairs of his State and in professional life in Lewiston. He has practiced medicine for sixty years, has edited influential journals and written several books on therapeutics. His mind is vigorous and clear and he can make a speech with the eloquence of a spellbinder. At the dinner he entertained the other trustees with reminiscences of the early life of the ASSOCIATION, of which he was one of the organizers. —*Times-Herald*, Chicago, Feb. 19, 1899.

Why Quacks Advertise in Religious Papers.—Mr. Moody has an anecdote that will serve to show why it is that the pernicious advertising of quackery thrives so well in the so-called religious journals, namely, that "sick sheep" will heed the call of anybody. "Once upon a time a tourist was journeying through the Holy Land, and heard that there was a shepherd who still kept up the custom of calling his sheep by name. He went to the man and said: 'Let me put on your clothes, and take your crook, and I will call them and see if they will come to me.' And so he did, and he called one sheep, 'Mina, Mina,' but the whole flock ran away. Then he said to the shepherd: 'Will none of them follow me when I call them?' The shepherd replied: 'Yes, sir, some of them will; the sick sheep will follow anybody.'" And blessed be those who, seeing the peril that awaits the sick sheep, and all other feeble folk, will refuse to allow the loud-shouting quack to shout through the columns of their newspapers.

The Reason of the Bicyclist's Hump.—Dr. Eifer, a French physician, has been experimenting with riders to discover the reason for the humped-back "scorchers," and concludes that his curvature-habit, so much a subject of ridicule and comment, is but obedience to the law that the lungs seek to draw in air with the greatest ease. Quick, jerky breaths are to be avoided if the play of the lungs is to be maintained. Dr. Eifer further says that speed is an obstacle to respiration, and not only advocates nasal breathing, but explains lowering the head as presenting a shield against which the shafts of air may beat harmlessly. As speed increases, the cyclist lowers his head still more, until at his maximum of effort his nose is almost parallel with the course. His aim is not reduction of the wind resistance of the body, but a device to avoid swallowing the air, or in common parlance, to become "winded." Thus the wedge as exemplified in the person of the rider, contributes only to the ready purpose of oxygenating the air demanded by the lungs.

Why I Became a Physician.—"It was the longing for certainty. Personally I should have preferred the abstract sciences, but there was so much dubiousness about them that I turned away, hungry for something positive. I felt that I must be doing something—I was ashamed not to be taking part in what is going on, as I should be on a boat in danger in a storm. . . I am an agnostic and do not pretend to say whether there is or is not a God, a future life, but as I thought it over it seemed to me that medicine harmonizes with all theories, even the most advanced Christian. . . What is duty? To help the suffering. Suppose the other theories prove true, to what would morality be reduced? To an instinct that impels us to associate with others, to help our neighbors and be helped by them, confronting a hostile nature. Who accomplishes this task better than the physician? He is the altruist *par excellence.* He is right, whichever metaphysic premise we accept. And this is so true that from the day when I first passed the threshold of the hospital, I have experienced a peace unknown before. I have the evidence that intellectually and morally I am treading on firm ground."—Paul Bourget: *Semaine Méd.*, January 18.

Pseudo-Diphtheritic Affections.—Several articles have appeared recently in our foreign exchanges describing affections of the throat with formation of false membranes, in which the only micro-organisms found were Friedländer's or Vincent's bacilli. The characteristics of the former are the benignity of the affection and its persistence, six to seven months the average, with only a slight general disturbance at the onset. The membrane is confined to the tonsils usually and resembles follicular tonsillitis in several respects. In the acute form recovery is complete in five to seven days. Nicolle and Herbert report ten personal cases and nine in literature, of which fifteen were the chronic form. Out of 2500 examinations they found only the Friedländer bacillus in fifteen cases, Vincent reports sixty cases on record in which the throat was affected with the formation of false membranes on an ulcerative surface, dysphagia, adenitis and fever, suggesting true diphtheria, but investigation disclosed a spindle-shaped bacillus in the membranes in immense quantities, usually alone, occasionally associated with the staphylococcus. It has been found associated with other microbes and even with the diphtheria bacillus in a few very rare cases.—*Presse Méd.*, January 14 and 25.

Saline Solution in the Hemorrhage of Typhoid Fever.—The value of saline injections in hemorrhage and collapse from other causes is now well attested, though they are not, perhaps, as widely used as they ought to be. Not many cases of their use in hemorrhage in typhoid fever have been published. In the *Intercolonial Medical Journal of Australasia*, Dr. J. Ramsay has published the following case: A man, aged 46 years, had severe typhoid fever; the temperature was 104.2, and the pulse 100. He passed 8 ounces of blood and on the following day 10 ounces, and a few more ounces with the stool. The temperature fell to 97.6, the pulse was from 70 to 80, the respiration was sighing, and the skin was clammy. Brandy, strychnin and digitalis were given without effect. The pulse became weaker, and unconsciousness and lividity of the hands and ears supervened. He was practically moribund. Two pints of normal saline solution at 100 degrees were injected into the median cephalic vein. Toward the end of the injection the pulse improved in volume and the general appearance became better. But the effect was only temporary. The patient was livid, and lay with half-closed eyes, hiccoughing, vomiting, and passing urine involuntarily. Four hours after the first injection one and a half pints of the solution were injected. Improvement again followed, which was more lasting. After this the fever ran the ordinary course, a relapse of ten days' duration occurred and he slowly convalesced.—London *Lancet*, January 14.

Spinal Curvature.—Dr. Thos. H. Manley, in the *Canadian Jour. of Med. and Surg.* (February), has a paper bearing on some questions recently discussed in the JOURNAL respecting the etiology and treatment of spinal curvature. Prof. A. M. Phelps had warmly disputed the views of an editorial utterance against mechanic methods of remedying the defect, and Dr. Manley endorses him to a certain extent, holding, however, that he goes too far. Every spinal curvature, even the natural arch, is a deviation due to the disadvantages under which man is imposed by his erect position, and lateral curvatures are also the natural normal result of this condition. Their avoidance must therefore be by mechanic means, and he asks, considering the fact that these deformities are likely to become fixed about puberty, why should we not anticipate them and recommend the wearing of properly adjusted corsets as spinal supports before the weakening dorsal segments begin to give way. According to his experience, if comfortable corseting is possible, the tendency is for the child to outgrow the gross deformity before the bones are permanently set, say at 25 years. Whether these deformities are due to defects in bones, tendons, muscles, etc., is, he holds, of little importance as regards treatment. The deviated column may sometimes be righted if it exists, but prevention is better; arrest or mechanic support are to be resorted to in case this or complete cure is impracticable.

Paludism in Colombia.—An article in the *Revista Méd. de Bogotá.* xxi, No. 233, describes the success of the writer with subcutaneous injections of quinin and antipyrin, āā .20 grams, in malarial infection, an injection each side in severe cases. He has never observed the slightest accident in the course of 250 injections. Three cases that resisted the quinin yielded to ferric ferrocyanid (*prusiato doble de hierro*), and have never suffered from malarial infection during the eight years since. He has observed many cases of paludic pneumonia, yielding to quinin and to nothing else, unmistakably a paludic affection of the lungs in subjects otherwise comparatively healthy. He reduces hypertrophied spleen with a daily subcutaneous injection of strychnin arseniate over the organ, which returns to its normal size in a few weeks. He notes that malarial infection much aggravates the manifestations of syphilis, and that it is more rebellious in syphilitic subjects than in any other. Chronic paludism in his district, Casanare, reduces the subjects to chlorotics, who look as if made of pale yellow wax, blood scarcely tinged with pink, pupils icteric, spleen and liver hypertrophied, staggering gait and occasional slight chills and fever, and who succumb to paludic diarrhea in a few days. He adds that persons arriving from a colder climate become panic-stricken when attacked with malarial infection and rush back to their homes, which is a mistake, as the infection is then more liable to assume a typhoid form. He cites a number of cases of death from peritonitis occurring under these circumstances.

Surgery in the Greco-Turkish War.—As the result of observations in the Greco-Turkish war, Abbot (*Lancet*, Jan. 14 and 21, 1899,) recommends that Roentgen-ray apparatus should always, if possible, be available at that hospital nearest the front in which the wounds can be first properly examined and dealt with. The electricity should be derived from a secondary battery consisting of separate covered cells charged from the nearest town, a man-of-war or other steamer, or by means of a cycle motor. The skiagrams should be taken on positive paper. The apparatus is of no use on the field, where the detection of bullets can only be an incentive to premature exploration. The less wounds are tampered with before satisfactory surroundings are reached the better. All difficult bullets should be removed by a fresh incision and the track ignored. The modern bullet, from its greater penetrating power, will be much less frequently found in the body than its predecessor. It is practically aseptic and there is no urgency for its removal. The orifice of entrance is often exceedingly small. Suppuration is generally due to pieces of clothing carried into the tissues. Superficial septic sinuses should be excised. Wounds of the lung, inflicted by modern bullets, run a comparatively favorable course. Small-bore bullets may bore through a bone without causing any line of fracture whatever, and every and any degree of injury from this up to the most extensive comminution may be met with. Passive movement and massage should be begun early in cases of bullet wound fracture.

The Bacillus of Dysentery.—K. Shiga of Tokio found constantly in the intestines of every case of dysentery examined, a short bacillus with rounded ends, staining with methylene blue, but not with the Gram, moderately motile, no flagellæ, and no spore formation noticed; does not liquefy gelatin; thrives best on an alkalin medium at body temperature. This bacillus was found more or less numerous in thirty-four cases of dysentery, associated with the bacillus coli, with cocci of all kinds, and in five cases with amebæ. It was also found in the walls of the rectum and colon in fresh cadavers, sometimes in the mesenteric lymphatic glands, never in the spleen or liver. On gelatin the round white pin-head colonies appear granulous and yellowish under the microscope, the center rapidly growing darker. In stab cultures the entire canal is lined with the white colonies. There is no development of gas in sweetened agar. On potato the colonies grow dark yellow. It produces intense cloudiness in bouillon in twenty-four hours, but no scum nor indol reaction. Experiments to obtain immunity and secure an immunizing serum (Kolle's method) were successful. He injected into himself some dead cultures in the same way, producing violent inflammation and an abscess, evidently caused by the toxins, as no live bacilli were injected or found, and he had the satisfaction of finding that his serum possessed pronounced agglutinating and immunizing power.—*Cbl. f. Bact., Paras. u. Inf.*, 1898.

Section of the Sacral Sympathetic for Pelvic Neuralgia.—Vaginism and pelvic neuralgia usually disappear after hysterectomy or castration, and Jaboulay queried whether this might not be due to the multiple sections of the fibers of the sympathetic rather than to the ablation of the organs. Proceeding upon this basis, he treated a case of vaginism preventing complete sexual relations, in a woman of 39 years, by excising three centimeters of the sacral sympathetic chain on the right, and simply dividing the sympathetic on the left. He reached the spot through a transverse incision ten centimeters behind and above the anus, detaching the rectum from the anterior surface of the sacrum, and pushing forward this portion of the intestine with the coccyx. In a second case he detached and pushed forward the rectum through a left parasacral incision, thus tearing the anterior branches of the sacral plexus. In both cases the vaginism disappeared completely by the next day and all vulvovaginal hyperesthesia, but in both cases there was retention of urine, two days in the former and four in the latter. Otherwise there were no inconveniences.—*Semaine Méd.*, January 18.

Etiology and Treatment of Landry's Paralysis.—Dr. C. L. Greene reports (*Phil. Med. Jour.*, Dec. 3, 1898) a case of Landry's paralysis of peculiar features that bear on the questions of its etiology and treatment. The patient was taken ill September 27 and admitted to a hospital on September 30. She had been subject to habitual constipation, and there was a large mass of impacted feces in the colon which required removal by digital and instrumental means. The respiratory muscles became affected on the fifth day, from which time on artificial respiration was employed for a period of forty-one days. There was some slight chance of recovery, but nothing very encouraging, and death occurred on November 12. The postmortem findings showed that the case was one of parenchymatous ascending anterior poliomyelitis, involving the whole length of the spinal cord and extending to the medulla and pons. The process appeared to be central and extravascular in its origin. The special features of this case are the probable etiology, which Dr. Greene considers to be intestinal autointoxication, and the long period during which artificial respiration was kept up in maintaining life. The probability of this disease being caused by a toxin is generally accepted at the present time. That it should sometimes be this peculiar toxin from retained intestinal contents is evidenced by this case, which is of greater interest for that reason. It is to be hoped that not every case of Landry's paralysis has an absolutely unfavorable prognosis, and the one reported by Dr. Greene gives some hint that with treatment by artificial respiration there is at least a possibility that some cases may be saved. The paper is noteworthy on these accounts.

First Help in Cases of Electric Accidents.—1. Break the circuit at once if there be an interrupter close at hand and you know how to use it. If not, lose no time, but proceed to rule 2. 2. Do not touch the man's body with your bare hands, but if India-rubber gloves are not at hand pull him off the cable by his coat tail, or fold your coat or some dry article in two or three thicknesses, and using this as a pad to take hold of the body, pull it away from the circuit and resort to rule 5. 3. If unable to get off, raise, with covered hand, that part of the body which is touching the earth, or one of the poles of the circuit. This will break the circuit, and it will usually be thus possible to get him easily away, and, if so, proceed to rule 5. 4. If still unsuccessful, make another pad, and placing it between the ground and that part of the body in contact with the ground, continue your efforts to detach him. 5. Having pulled him away from the cable, free his neck from clothing, and treat the case as one of drowning, one method being as follows: 6. Open his mouth and taking hold of the front part of the tongue with your fingers (covered with a handkerchief if you have one) draw the tongue forward and gradually let it go back, sixteen times a minute. Be sure that the root of the tongue is acted upon and drawn forward. If the teeth are clenched and you can not get them apart with your fingers, gently separate them with the handle of a pocket knife or by a small piece of wood, cork, etc. 7. Resist the efforts of the bystanders to pour stimulants down his throat.—London *Lancet.*

Character of the Sickness Among Troops in the Philippines.—Many exaggerated rumors about the prevalence and dangerous character of the sickness among our troops at Manila were published in the newspapers up to the time when the attack upon our lines diverted the current of public attention into more active channels. The real condition of affairs may be appreciated by a consideration of the following statement by Brigade Surgeon Samuel O. Potter, concerning the character of the cases in his command. Under date of Dec. 21, 1898, he says: In the brigade as a whole (First Colorado, First Nebraska and First South Dakota) there are 258 cases on the sick report, being 11 per cent. of the total present strength, a decrease of 4 per cent. since my last report. The number of cases by diseases is as follows: Intestinal, 45: pemphigus, 10; malarial, 94; venereal, 89; rheumatism, 18; pulmonary, 13; slight injuries, 23; vaccinia, 9; typhoid, 3; mumps, 3; variola, 1; all others, 50. With the close of the wet season the command is now exposed to the influence of a hot sun upon a soil rich in organic material, as also to the prevailing dust of the streets. Greater care is therefore incumbent upon all commanding officers in regard to the sanitary conditions of the quarters and the grounds in their vicinity. Gen. Irving Hale, the brigade commander, commenting on this, says: The general showing in regard to decrease of sickness in all of the regiments of the brigade is encouraging, especially with reference to venereal disease, which steadily increased to 113 cases on December 10, but had decreased on the 17th to 98, and intestinal troubles, which have decreased from 65 on December 3 to 45 on the 17th. Part of this decrease is due to return of sick to the United States, but there is a general improvement outside of this.

Conditions in the Military Department in Matanzas, Cuba.—Lieut.-Col. Timothy E. Wilcox, chief surgeon of this Department, has made an inspection of the villages; and the conditions which he found are reported as being distressing in the extreme. Nearly every railway station and village in the Province was visited, and the physical condition of the inhabitants, as well as their sanitary surroundings, carefully examined. Over 13,000 were found suffering from paludal fevers and starvation, almost invariably with both; and in nearly every village dying or dead from these causes were seen. In one instance seven had died the day previous to the inspection, and an average of three or four per day seemed to be reached in villages with a population of 1500 to 2000. At Alfonso III a reconcentrado hut was pointed out where over 500 had died last year. The hut was about sixty feet long and fifteen feet wide.

The appearance of the poor wretches who were living was harrowing beyond description. With haggard, bloated and bloodless features, and swollen limbs, often covered with festering ulcers, they tottered along or stood staring wildly into vacancy. Children left fatherless and motherless, covered with scanty rags or absolutely naked, were not infrequently met with. Smallpox existed in four localities. These cases were isolated in "lazarettos" or remote houses, but in one it was found necessary to remove the patients from an old barrack, which was to be destroyed. Vaccin virus and medicines are being supplied as rapidly as possible. By prompt action in affording relief by the issue of rations it is believed that many may be saved. The sanitary arrangements everywhere were faulty in the extreme. Water-supplies are from wells sunk into the coral limestone, or very shallow in the more marshy regions, in all cases only a few yards distant from privy pits, which are never emptied. The medical men met with seemed fully competent. They expressed their regrets for the condition of affairs, and hoped that they would soon be able to effect the removal of these pest-producing elements. They were urged to organize health boards and stated they would make every effort to do so. The aggregation of population in villages, with very few homes or fine houses as we see them in the United States, is due to the fact that the people depend upon the sugar estates for means of gaining a livelihood, and as these estates often embrace several thousand acres no room is left for the small proprietor. Wages are low, forty to fifty cents a day, without subsistence. Meat is rarely eaten, owing to the cost, 22 to 35 cents per pound. Sweet potatoes, rice, corn, plantains, breadfruit, bananas, beans, yuca and several other tubers and bulbs furnish the food-supply for the people. Nearly all the towns employ a municipal physician to attend the poor. Hospitals, other than the "lazarettos," and asylums are rare, yet some were found, and these were selected for depots from which medicines are to be issued to the poor.

Contracts not to Practice Medicine.—With conflicting authorities as to the application of the rules for testing the validity of contracts in partial restraint of trade, upon which all agree, the supreme court of Georgia says that it thinks a clear distinction must be taken between the class of cases binding one who has sold out a mercantile or other kind of business, and the good-will therewith connected, not to again engage in that business within a given territory, and that class of cases binding one to desist from the practice of a learned profession. The reason suggested is that a merchant, broker, or shopkeeper might reasonably expect to retain the former patronage of the place of business, while professional skill, experience, and reputation are things which can not be bought or sold, but constitute part of the individuality of the particular person, and die with him. Therefore, the court holds, in the recent case of Rakestraw vs. Lanier, that, in the class of contracts binding one to desist from the practice of a learned profession, such as that of medicine, there should be a reasonable limit as to time, so as to prevent the contract from operating with unnecessary harshness against the person who is to abstain from practicing his profession at a time when so doing could in no way benefit the other contracting party, though such limit is not essential to the validity of a contract not to engage again in a mercantile or other kind of business. A contract in restraint of trade, unlimited as to time, and the enforcement of which literally as made would, in certain contingencies likely to arise, and which must necessarily have been in contemplation of the parties, result in needlessly oppressing one of them, without affording any corresponding benefit or protection to the other, the court further declares, is unreasonable, and should not be enforced. Of this nature, it goes on to state, is a contract for the formation of a medical partnership to continue for twelve months, but which might be dissolved by either of its two members on thirty days' notice to the other, whereby one of them stipulates that, in consideration of the advantages and benefits that will flow to him by reason of the formation of such partnership, he "agrees that, in the event said firm shall at any time hereafter be dissolved, he will not locate or engage in the practice of medicine, surgery or obstetrics" at a named town, or at any place within fifteen miles radius of a specified drug store therein, unless he shall first have obtained the written consent of the other party to the contract.

Act Establishing State Board of Insanity.—One of the Massachusetts Acts of 1898 establishes a State Board of Insanity. The latter is to consist of five members, to be appointed by the governor, with the approval of the council, the term of office to be five years. Two at least of the persons so appointed shall be experts in insanity. The executive officer, to be appointed by the Board, may be a member thereof, but must be a physician and an expert in insanity. The Board may also appoint such agents and subordinate officers as it deems requisite. In its report, among other things, the Board is to present a concise review of the several institutions under its supervision for the year preceding, with such suggestions and recommendations as to the said institutions and as to the general interests of all persons under its supervision throughout the commonwealth as may be deemed expedient. It is also to present in its report information embodying the experience of this country and other countries, regarding the best and most successful methods of caring for such persons as come under its supervision; and it is to encourage scientific investigation by the medical staffs under its supervision, publishing from time to time bulletins and reports of the scientific and clinical work done therein. Moreover, the Board is to have general supervision over the State hospitals and asylums for the insane, and all other institutions and receptacles for insane or feeble-minded patients, either public or private, the Massachusetts Hospital for Epileptics, the Massachusetts Hospital for Dipsomaniacs and Inebriates, the Massachusetts School for the Feeble-minded and the Hospital Cottages for Children, and may, when directed by the governor, assume and exercise the powers of the boards of trustees of the State institutions under its supervision in any matter relating to the management thereof. The Board is to visit and inspect these institutions at least twice a year; is to inspect plans for new buildings; may transfer insane pauper inmates from and to State institutions, and may transfer inmates of private institutions. It is also to act as commissioners of insanity, and all questions as to the sanity of inmates of the penal, reformatory and other institutions of the commonwealth who present indications of insanity shall be referred to it for determination. Patients are to be allowed, subject to the regulations of the Board, to write freely to it, and letters so written shall be forwarded, unopened, by the superintendent or person in charge. Nurses of the institutions are to be employed, as far as practicable, instead of officers of the law, in transferring and taking patients from and to said institutions, a female attendant or nurse to accompany a female patient.

Liability for Services to Pauper.—To recover for medical and surgical services rendered a pauper patient, the case of Taylor vs. Woodbury County was brought. One point that the county tried to establish in defense, was that the township trustees never authorized the rendition of the services. But the supreme court of Iowa holds, Oct. 20, 1898, conceding that the trustees could take no action which would be binding on the municipality except in a formal board meeting, that when the township trustees united, after the services were rendered, in giving a written certificate to the plaintiff, stating the services rendered and their value, and also the fact that the plaintiff acted on their official request, this was a ratification of what had been done; that even if the plaintiff performed the services originally without proper legal sanction, the giving of this certificate cured any such defect; and that the certificate signed by the trustees was binding on the county, in the absence of fraud. Then, notwithstanding that it has held in several cases that, when the Board of Supervisors employs a competent physician to attend all the poor of the county, the township trustees can not disregard such employment, and engage other physicians to render such services at the expense of the county, the supreme court maintains that this case was by its facts taken out of the rule, because the record here did not show that the physician employed by the Board of Supervisors was under any obligation to attend the poor of this particular township, the contract with him appearing to have been for a limited service on his part. Nor does the court deem it material that the pauper patient was, during the course of his treatment, moved to another township, which was covered by the contract of the physician employed by the board, in order to secure facilities for better care and nursing, that being but an incident of the services rendered. Another defense was that the plaintiff did not personally perform all of the services for which he demanded pay. The fact was that the patient's condition required the performance of a somewhat difficult surgical operation, and that the plaintiff procured another to do this work, he assisting. No claim was made against the county except by the plaintiff. He was responsible to his fellow surgeon. How these facts lent support to the county's refusal to pay, the supreme court declares it can not understand. It says that if the treatment was necessary, and was given by authority, and the amount claimed therefor was reasonable, it can not see what more the county could require as a condition precedent to paying therefor. It was not, as urged by the county, a delegation of authority. The plaintiff performed the services required of him in part through another. Of this the county had no reason to complain.

The Bread-winning Dawn of Professional Life.—According to the *New York Times*' report of the annual banquet of the Society of Medical Jurisprudence, Professor Russell of the New York University Law School, in response to the toast, "Law in Precept and Practice," said in part as follows: "There are 10,000 lawyers in New York City. The three law schools in Manhattan have on the rolls about one thousand seven hundred students preparing for admission to the bar, and, besides these, there are many who read law only in offices, where we may safely say that for every man who has been sworn in as an attorney there is at least one clerk who is an aspirant to the honors of the profession. Why do so many study law, and what becomes of all the lawyers? The head of one of our great universities has urged that hard times have made parents reluctant to set up their sons in business, or start them in hazardous ventures, and an Albany editor has bluntly said that the great prizes of politics attract young men to the legal profession as a gateway to the public service. Doubtless the editor is right." He referred to certain instances of what might impress as a change of career, but the advantages of uristic enrichment were not lost. While a merchant may succeed in certain executive vocations, diplomacy certainly demands the skill of the jurist, but "men of large talents do not need the artificial stimulus of a scholastic régime. No teacher of real greatness ever credits himself with the unusual accomplishments of a student who is a genius. Educational ystems exist for the average man. Now, at what age shall the average lawyer or physician become self supporting? That is the practical question. His education will never be finished. Just as a race-horse is prepared by his trainer for a great turf vent by frequent participation in public races rather than by trials of speed in private, so the really valuable preparation for life's great professional tasks is not in the mimic tribunals of a law school, nor in the solemn stabbing of a cadaver in a laboratory, but by the holding of real briefs in actual litigation, and by the heroic efforts to save the life of a patient. If we should agree to place the age of self-support at 23 or 24 I fear that many changes in our educational system would be demanded." From another and independent source we also refer to an "honor man" at Harvard a year or two ago who summed up his college life as a "study of the rudiments of a dozen kinds of knowledge. When I began to form these alphabets into sentences, college life was over." Again, not to multiply quotations, and certainly not to exploit the short cuts to greatness, we are justified by a mere reference to the address of an American medical teacher to a graduating class: "Very few successful men can expect to perform more than one or two great operations in the course of a long practice. The bulk of work already done has been but a training." "Silver and gold have I none," therefore appears to be not so much a plaint as an explanation. There are days and years of labor which go to earn the means to live. "But," says the moralist, "if our faces are turned toward home, every step under the burden brings us nearer to it."

Philadelphia.

Andrews.—Dr. T. Hollingsworth Andrews has been appointed to take charge of the medical corps during the G. A. R celebration to be held in this city in September next.

Nicholson.—At the last regular meeting of the Charles B. Penrose Medical Society the principal address was given by Dr. William R. Nicholson, assistant gynecologist at the University Hospital.

Brinton.—By request, Dr. John H. Brinton, professor of the practice of surgery at the Jefferson Medical College, made an address before the John Ashhurst, Jr., Surgical Society at its last meeting.

Schomberg.—A cablegram has been received by relatives of Dr. Morris I. Schomberg stating that he is en route to New York on the steamer *Berlin.* Dr. Schomberg has for several months past been in the U. S. Army service as assistant-surgeon. For some time he has been at Ponce, Porto Rico.

Jefferson Medical College.—The new laboratory of the Jefferson Medical College is now being rapidly completed for the reception of students for the coming term. The building adjoins that which has always fronted on 10th Street, but in every respect is more modern and adds greatly to the facilities offered by this time-honored institution. All improvements and necessary apparatus will be supplied for the proper pursuit of medical research, which will further stimulate the zeal by all who manifest an inclination in subjects connected with the different departments of medicine.

Lectures on Skiagraphy.—The eleventh lecture in the course given by the Franklin Institute and Y. M. C. A. was delivered by Prof. Arthur Goodspeed of the University of Pennsylvania. Professor Goodspeed, who is one of the pioneers in the special field of skiagraphy, spoke of "Recent Developments in X-Rays and Their Application," describing in detail the gradual improvements made in the necessary apparatus for carrying on the work and its use in surgery. The speaker referred to a recent improvement devised for the detection of a foreign body in the eye or in the cranial vault.

University of Pennsylvania Medical Alumni.—The University of Pennsylvania medical alumni have announced a semi-annual smoker to be held at the Bourse building on the evening of February 18. It is announced in advance that no one will be called upon for a speech unless the person has previously agreed to make a few remarks. These meetings are always well attended, and being free from all formality, each member can welcome the other with a hearty good-will, and for the time being forget the cares which surround us. These meetings also do a great deal toward the upbuilding of the University, for it draws together the full quota of graduates where they can work for the advancement of their alma mater. Each of the medical colleges here sanctions the movement, and grave professors and trustees enter into the spirit of the meeting with no little interest and pleasure.

Wistar Institute of Anatomy.—The Wistar Institute of Anatomy is making some rare and valuable collections of skeletons of animals from different parts of the world for the purpose of adding to its vast store of specimens of this character. While the institution is only yet in its infancy there is at present probably as varied material gathered together for the study of comparative anatomy as can be found in any institution in the country. The building is three stories in height, with wide dimensions, and is specially prepared for post-graduate work on all subjects connected with this specific branch of medicine.

Awaiting Decision of Court.—The case of Dr. George W. Ludwig against the Medical Council of Pennsylvania for not granting him a certificate to practice medicine in this State, which was referred to in a previous issue of the Journal, remains undecided. The case is of special importance, as it involves the standing of a neighboring medical college, and the certificates granted.

Smallpox in Pennsylvania.—Dr. Benjamin Lee, secretary of the State Board of Health has issued the following proclamation regarding the status of smallpox in Pennsylvania: Since January 25 smallpox has been reported in Pennsylvania as follows: Bedford County (West Providence) 1 case, Liberty 3 cases, Philadelphia 1 case, Blair County 1 case. Total, 6 cases. In Bedford all cases have recovered, and the last house has been disinfected. All mails now go to Bedford without being disinfected. At Altoona the one case reported has fully recovered.

Mortality Statistics.—The number of deaths in this city for the week just closed were 527, a decrease of 42 over that of last week and an increase of 79 over the corresponding period of last year; 161 deaths occurred in children under 5 years of age. The following were the principal causes: apoplexy 17, nephritis 21, cancer 13, tuberculosis 50, diabetes 21, heart disease 47, influenza 2, appendicitis 2, suicide 1.

Bequest.—By the will of Emily Roberts, recently deceased, the sum of $500 has been left to the St. Clement's Hospital and Dispensary.

University Day.—Hon. Seth Low of Columbia University has been invited to deliver the principal address to students of the University of Pennsylvania on University Day. Mr. Low will be the guest of Provost Harrison and Dr. J. M. DaCosta.

Busy Day for the Coroner.—February 18 will be remembered for some time by the coroner of this city, the number of inquests being thirteen. In a great many instances casualties resulted from railroad accidents brought about by the snowdrifts which impede the line of travel.

Tetanus from Oyster Shells.—In the case of a patient in this city, 23 years of age, it was found that tetanus had supervened about two weeks after receiving an injury on the hand from opening oyster shells, and a coroner's jury subsequently rendered a verdict to that effect.

The Blizzard in Philadelphia.—The blizzard which began in this city on February 11, finally culminated in one of the fiercest snow-storms that has fallen here since 1888, the depth averaging eighteen inches on a level, and piling in drifts four or five feet high. Railways and street-cars have been blocked and all manner of business has been at a standstill. The hospitals and dispensaries were practically closed for several days on account of the impossibility of attendance by members of the staff. The ice which covered every street and pavement has run the list of accidents up to a considerable degree, and the sequelæ of grippe has begun anew. The necessaries of every-day life have been very scarce, and at the drug stores a run has been made on all kinds of infant foods and condensed milk. The milk-supply for several days had become exhausted, and as the demand still continued, nothing could be done but to make two pints of milk out of one by the addition of water.

CHANGE OF ADDRESS.

Adams, C. E., from Monterey to Santa Clara, Cal.
Bennett, A., from Biltmore, N. C., to Huntsville, Ala.
Breuer, C. H., from Hallettsville, Texas, to 606 W. 18th St., Chicago.
Cook, A. E., from Aspena, S. D., to Randolph, Neb.
Dalton, W. R., from 477 W. 145th St. to 101 Convent Ave., New York City.
Dyson, E. B., from Burton to Rootstown, Ohio.
Gaughler, R. S., from National Military Home to 219 W. 3d St., Dayton, Ohio.
Haralson, H. H., from Biloxi to Vicksburg, Miss.
Herr, A. W., from Chicago to 66 Michigan St., Cleveland, Ohio.
Hill, E. A., from Pennsboro to West Union, W. Va.
Keck, F. C., from 1416 Castro to Croker Bldg., San Francisco, Cal.
Luburgh, J. M., from Elba to Dodds, Ohio.
McGurty, P. H., from Hume, Ill., to Havre, Miss.
Monroe, J., from Blackfoot to Custer, Idaho,
McIlvaine, H. K., from 14 Market to 14 W. Matilda St., Huntington, Ind.
Stanton, S. C., from 358 Dearborn to 9 Cedar St., Chicago.
Wilson, F. S., from Jarrettown to Jenkentown, Pa.

LETTERS RECEIVED.

Adams, C. E., Monterey, Cal.; Andrews, E., Chicago; American Sports Adv. Agency, New York City; Armstrong, C. T., Webster Grove, Mo.

Babcock, L. C., Philadelphia, Pa.; Boehn, Jas. L., St. Louis, Mo.; Bischoff & Co., C., New York City: Braun, O., Merrill, Wis.; Beeny, F. R., Albany, N. Y.; Bonner, C. A., Dayton, Ohio; Broome, G. W., St. Louis, Mo.; Bennett, W. H., Blaine, Ark.; Ball, Austin, Charleston, S. C.; Bryan, E. H., Glasgow, Ky.

Colgan, J. F. E., Philadelphia, Pa.; Conner, L., Detroit, Mich.; Coberly, L. J., Kansas City, Mo.; Couch, E. E., Milwaukee, Wis.; Chambers, H. P., Plymouth, Mich.; Cole, G. E., Girard, Kan.; Crawford, J. C., Waukon, Iowa; Crothers, T. D., Hartford, Conn.; Crowe, J. W., Washington, D. C.

Dalton, W. R., New York City; Dunning, L. H., (2) Indianapolis, Ind.; Darmack Co., The, Kansas City, Mo.; Durham, C. E., (2) Galveston, Tex.; Baltimore, Md.; Dickinson, J. B., Jersey, Ohio.

Elliott, H. G., New York City; Eshner, A. A., Philadelphia, Pa.

Fort, J. A., North Platte, Neb.; Fenno, H. M., Rochester, N. Y.; Follette, H. A., Chicago.

Gies, A. J., Detroit, Mich.; Gessner, H. B., New Orleans, La.; Gillham, C. W., Warsaw, Ill.; Gorin, J. P., New York City; Greene, C. L., St. Paul, Minn.; Griffiths, J. M., Burlington, Vt.; Gulley & Crawford, Chicago; Grosvenor & Co., J. M., Boston, Mass.

Hummel Adv. Agency, A. L., (2) New York City; Hyde, H. C., Baltimore, Md.; Happel, T. J., Trenton, Tenn.; Hatch, W. G., Prairie City, Ill.; Hill, E. A., West Union, W. Va.; Heard, Jr., T. M., Buffalo, N. Y.; Holmes, Bayard, Chicago: Hektoen, L., (2) Chicago; Hogue, G. I., Chicago; Holleman, P. W., Chicago.

Imperial Granum Co., New Haven, Conn.

Jones, G. L., Austin, Texas; Jelks, J. T., Hot Springs, Ark.

Kelly, C. J., Denver, Col.; Klepinger, J. C., Huron, Ohio; Krotoszyner, M., San Francisco, Cal.

Lehn & Fink, New York City; Lord & Thomas, Chicago.

MacMillan Co., New York City; Maher, J. J. E., New York City; Manley, Thos. H., New York City; Manitou Mineral Water Co., Manitou, Col.; Matteson, D. E., Marion, Ind.; Merrell Chemical Co., W. S., Cincinnati, Ohio; Merrick, M. B., Passaic, N. J.; Modern Appliance Co., Middletown, N. Y.; Mitchell, J. F., Chelsea, Mass.; Montgomery, L. H., Chicago; Mogk, W. A., Ann Arbor, Mich.; Moss, V. R., Barboursville, W. Va.; Mulford Co., H. K., Philadelphia, Pa.; Munn, E., Minneapolis, Minn.; Murphy, F. E., Kansas City, Mo.

Nathan, P. W., San Francisco, Cal.

Osler, Wm., Baltimore, Md.; O'Donovan, C., Baltimore, Md.

Pitts, H. C., New Haven, Conn.; Plummer, H. E., (2) Des Moines, Iowa.

Ranney, G. E., Lansing, Mich.; Rawlings, J, A., El Paso, Texas; Reed, G. D., Topeka, Kan.; Riley, W. H. Boulder, Colo.; Ruck, Karl von, Asheville, N. C.; Rundell, Anna S., Flint, Mich.

Saunders, W. B., Philadelphia, Pa.; Schwaemmle, C. H., Battle Creek, Mich.; Seaman, L. L., New York City; Sherman, J. S., Cassopolis, Mich.; Shollenbarger, W. S., Cincinnati, Ohio; Simplex Lamp Co., Brooklyn, N. Y.; Skeer, Mrs. J. D., Chicago; Smith, J. P., Collinswood, Ohio; Standard Water Still Co., Chicago; Stillwill, H. R., Tyndall, S, D.; Sweeney, G. B., Pittsburg, Pa,

Taylor, H. L., St. Paul, Minn.; Thach, S. D., Decherd, Tenn.; Thompson, F. E., Marengo, Ohio; Trawick, J. D., Nashville, Tenn.; Treat & Co. E. B., New York City.

Vance, A. J., Harrison, Ark.

Wagar, C. P., Toledo, Ohio; Walton, Mrs. R. P., Philadelphia, Pa. Warner & Co., W. R., Philadelphia, Pa.; Washington, J. N., Chicago Weeks Drug and Chemical Co., Jackson, Mich.; Welsh, A., Battle Creek Mich.; Wertenbaker, Wm., Charlottesville, Va.; Winton, H. N., Haywards, Cal.; Wood, Albert, Worcester, Mass.; Woodward, R. C., Augusta Georgia.

THE PUBLIC SERVICE.

Assignment Order No. 288.

Chief Surgeon's Office,
Headquarter's Seventh Army Corps,
Camp Columbia, Near Havana, Cuba, Feb. 1, 1899.

In compliance with General Order No. 68, c. s. 1898, Headquarter Seventh Army Corps, Major J. R. McDill, brigade surgeon U.S.V., is hereb assigned as consulting surgeon and chief of the operating staff in th field, 7th Army Corps, in addition to his present duties as commandin officer of the first division hospital.

(Signed) L. M. Maus, Lieut.-Colonel,
Chief Surgeon, 7th Army Corps.
Approved by command of Major-General Lee.
(Signed) R. E. L. Michie,
Assistant Adjutant-General.
A true copy: J. R. Kean,
Major and chief surgeon U.S.V.

Movements of Navy Medical Officers.—Changes in the medical corps of the U.S. Navy for the week ending Feb. 18, 1899.

Asst.-Surgeon L. L. Young, sick leave extended three months.

Asst.-Surgeon S. H. Payne, detached from the "Marcellus" when pu out of commission, and ordered home.

P. A. Surgeon C. P. Kindleberger, relative rank of lieutenant, junio grade, from July 9, 1897.

Asst.-Surgeon J. H. Payne, ordered to temporary duty on the "Franklin," when detached from the "Marcellus."

Asst.-Surgeon D. F. Sughrue, honorably discharged, February 14.

The Journal of the
American Medical Association

VOL. XXXII. CHICAGO, ILLINOIS, MARCH 4, 1899. No. 9.

ORIGINAL ARTICLES.

RIB RESECTION IN EMPYEMA.

INDISCRIMINATE AND EXCESSIVE PRACTICE THEREOF.

BY EDMUND ANDREWS, M.D., LL.D.
SENIOR SURGEON OF MERCY HOSPITAL, ETC.
CHICAGO.

Estlander and Schede devised their extensive thoracic resections for certain desperate cases of empyema over twenty years ago. For a long time many of the profession undervalued their work—in fact seemed almost to forget it. More recently they have awakened to its importance, and some of them go so far as to advocate the resection of ribs in all cases of empyema. They forget the splendid results we have had for twenty-five years in cases that do not need resection. When we learn some new thing in surgery, we seem straightway to forget what we knew before. We ought to repeat Rudyard Kipling's famous "Recessional" hymn; where he prays Heaven for help:

> Lest we forget—lest we forget.

In time past, empyema was usually a fatal disease, especially in children. Old Sir Astley Cooper, with all his immense experience, said he never saw a case recover after tapping for hydrothorax, evidently because he knew nothing about sterilizing the pleural cavity. He, however, felt the necessity of drainage in empyema, and devised a metallic tube with a flange to it to prevent it from falling into the cavity, and a cork stopper to prevent the flow of air through it. This was the precursor of the flanged soft-rubber tube devised by myself, which has been so much used in the United States.

Before antiseptics were systematically recognized, it was well known that admission of air to the pleural cavity caused in some way a fatal blood poisoning. Forty years ago Bowditch of Boston won renown by showing that the patient could, by proper precautions, be tapped, and the pus evacuated without admitting any air, and that by one or several such tappings many patients were cured. Various methods of evacuation on this principle were devised.

About twenty-five years ago we began in Chicago to treat empyema by inserting a flanged soft-rubber tube, and rinsing out the cavity daily by a copious irrigation with antiseptics. At the close of the dressing a small cork was used to close the tube, and an antiseptic compress applied. In almost all cases, the pus in a few days ceased to flow, the irrigating fluid returned clear, and the patient soon began to grow strong and put on the aspect of health. In this treatment we soon learned that air in the pleural cavity had no septic influence, if the cavity itself was well wet with a mild antiseptic fluid. The germs were destroyed and the cavity remained sterile, just as Tyndall sterilized the air in tight boxes in his famous experiments. Meanwhile most of the patients made a rapid recovery, without any resection of ribs whatever.

About twenty years ago Estlander and Schede discovered that certain very bad cases could be cured by extensive resections of the ribs and of the thoracic walls, and a part of the profession now advocate rib resection in all cases of pyemia, and another part dispute them with vehemence. For instance, Bolton[1] of London directs "in all cases the resection of a piece of rib," but C. G. Comstock of Boston reports six cases to show that the siphon can cure without resection, and he thinks the rib operation often unnecessary. A. Rey of Algiers[2] advocates trephining the rib instead of ordinary resection—preferably the ninth rib seven centimeters from the costal angle—but Boisson[3] advocates extensive resection. S. G. Bonney of Boston advises drainage, usually without resection, and states that cases proper for extensive resections like Estlander and Schede's are very rare.

Various Chicago surgeons have found that antiseptic irrigation, commenced very cautiously at first, is entirely safe, but that excellent authority, J. McFadden Gaston of Georgia thinks that antiseptic irrigation is dangerous and should never be used. Dr. B. F. Curtis of New York favors resection in some cases, but opposes it in others, but Dr. F. W. Murray advises resection "in all cases." He quotes a German writer as stating that in 156 cases of extensive resection death directly followed in four cases, and only 56 per cent. were known to be finally healed without fistula, but yet he goes strongly for resection.

Boisson advises to resect ribs, open wide, insert fingers and explore, but Cantley of London says incision is better than resection, and that in resections in children under 2 years of age five out of six are fatal.

Batten of London says resection is the only thing, but Wightman disagrees with him. He says the mortality of resection in 656 children, taking all ages together, was about one in six—16 per cent.—and in younger children much greater. He agrees with Morison of Hartlepool, England, that incision and drainage is usually sufficient.

C. H. Bäumler says, resect in tubercular cases, and also when "suppurative bacteria" are present, but others object that if suppurative microbes are present it has been found there is danger of infecting the cancellated tissue of the resected ribs with osteomyelitis. The same objection is urged against the idea of Bonney, who thinks a fetid odor of the pus to be a reason for resection instead of incision. His opponents reason that the microbes of osteomyelitis are more likely to be present when the pus is fetid, and consequently the cancellated tissue of the bone should not be wilfully exposed to saturation with such pus. They quote cases to show this danger.

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[1] Brit. Med. Jour., Nov. 25, 1895.
[2] Lyons Med. Jour., June, 1895.
[3] Archiv. de Med.

This contradictory state of surgical literature seems to require some consideration on our part. Twenty-one years ago Estlander of Germany published his large resecting operation, which he called pleurectomy, for empyema. A year later Schede proposed a modification of it for the worst cases. He advised to remove very extensively the chest wall, including the thick cicatricial layer sometimes occupying the place of the pleural membrane, along with the ribs, intercostals, etc. He named the operation thoracoplasty. Several modifications have since been devised for these operations, and the result has been to turn attention more decidedly to the resection of ribs in these cases, and there is urgent demand for information as to what cases require rib resection and what should have the safer and milder measure of simple tubing and irrigation. As a description of the technic of all the different treatments would stretch this article to a tedious length, I will give only a condensed statement of the subject.

A generation ago, empyema discharging externally was usually fatal. The first decided improvement came from applying to the disease the principles of Lister. I recollect very well the general horror of introducing anything into the pleural cavity, based on the observed fact that any air admitted there usually brought on sepsis, hectic and the ultimate death of the patient. Sepsis was attributed to the oxygen of the air, and not to the germs floating in it, hence the only effort was to tap, or aspirate without admitting air. It came upon us like a sunburst when we discovered that a pleural cavity already infected, and the patient far gone in hectic, could be easily disinfected and the air admitted freely without danger, if the cavity is washed out as often as necessary, and that the hectic ceased, the patient grew fat and rosy, and actually got well with plenty of air in the pleura all the time. We had discovered that oxygen in the presence of antiseptic solutions was perfectly harmless. This revolutionized treatment in Chicago, and I presume it did elsewhere. I speak now of ordinary cases. I will recur to exceptional ones later.

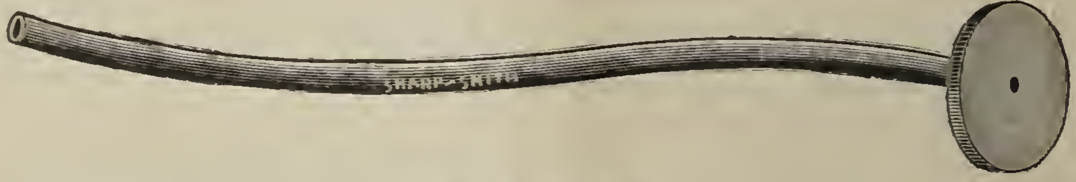

Fig. 1.—Andrews' Flanged Empyema Tube.

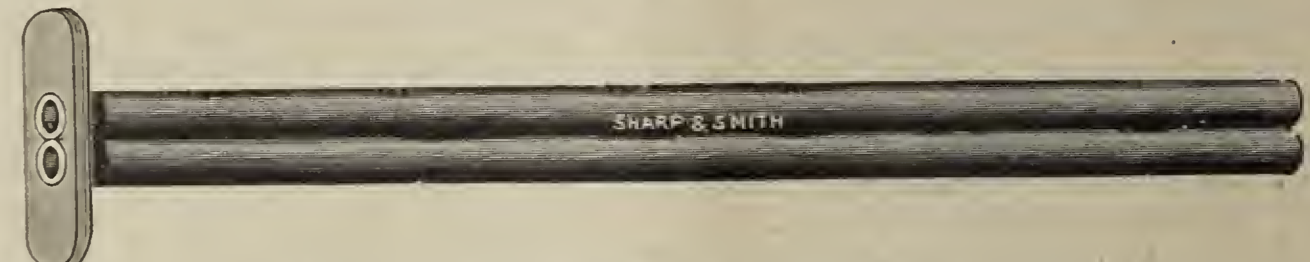

Fig. 2.—Dr. Joseph L. Hancock's Flanged Double Empyema Tube.

For the great majority of cases as they occur among us the following statement is true, especially those of a few weeks' or months' standing: If the cavity has not been opened many of them will recover, as Bowditch showed, by from one to three aseptic tappings with an aspirator, with or without a sterilized boric acid irrigation superadded. The opinion of the profession is that children recover oftener than adults on this simple plan. But if there is already a discharging, infected orifice leading out from the pleura, then mere aspiration does not succeed. In these cases the orifice must be enlarged. The opening is discharging a great quantity of putrid pus daily, the patient has hectic fever and all the other signs of general poisoning. The first thing done is to insert a bistoury and freely enlarge the orifice, or make a new one if the present opening is not conveniently situated. Usually it is found that the original opening is too small, and though daily discharging a large quantity of foul-smelling matter, the latter is forced out through a stricture by a strong pressure from within. As soon as the bistoury enlarges the fistula a great quantity of the retained fluid gushes out. A soft-rubber tube with a flange to it is inserted and the cavity is well washed.

Dr. Gaston of Georgia says this is dangerous and ought not to be done. Long experience has shown us in Chicago that it is safe if properly performed. Of course, one should not irrigate the pleura with corrosive sublimate; nor with a 3 per cent. solution of carbolic acid. We begin with a warm but weak sterilized solution of boric acid—say one of about .5 per cent. in strength. A little is put in at first, to see if there is any cough and irritation produced by the fluid penetrating into a bronchus. Generally there is no trouble. If it is well borne more is thrown in, and so gradually testing the question of a bronchial fistula, you generally finish by a free washing out of the whole cavity. The next day you proceed again, and make the solution a little stronger, and thus come to nearly a 4 per cent. solution gradually. At first we used carbolic acid very cautiously. It succeeded perfectly if carefully watched, but with such a large absorbing surface care had to be exercised against toxic effects. The flanged rubber tubes are of various sizes. We study the spaces between the ribs, and put in as large a tube as will enter a little flattened. Cutting off the tube at whatever length will reach the deeper parts, cut the end sloping and make one fenestrum near the tip. After each irrigation, a small cork is inserted until the next dressing and a borated gauze compress placed over all. Many leave the cork out. The flange on the tube is about two inches in diameter, and being flexible, fits air-tight against the skin. The primary object of the flange is to prevent the tube from falling in, but it has another important purpose. It can be managed in such a way as to cause a suction on the cavity, and thus expand the lung and help to bring it out to the walls of the chest. The technic of this suction is as follows: The irrigation being finished, the flange is pressed against the wet skin. Cause the patient to draw a full breath and then holding his breath, i. e., holding his larynx closed, let him make the muscular effort of expiration. The air in the pleura will rush out, and probably a little retained irrigation fluid. At the acme of the expiration place the end of the index finger on the orifice of the tube. Then let him resume his natural breathing. Then again drawing in a full breath, let him close the larynx and again expel air through the tube. In three or four such efforts a considerably strong vacuum will be produced, so that the suction will be felt by the finger on the tube. At the close of the last expulsory effort set in the cork, and put the compress on and secure it with the bandage. The wet rubber flange acts as a perfect air-tight valve and will maintain the distensive suction on the lung for hours. This is simple and effectual, and far better than the mechanic stopcocks, siphons, etc., devised for expanding the lung.

Fig. 1 is the flanged empyema tube which I usually employ. It is of soft rubber.

This tube is also extensively used for drainage of all large cavities, as in suprapubic cystotomy, lumbar abscess, etc.

Dr. Joseph L. Hancock of Chicago has devised the flanged double empyema tube shown in Fig. 2. In trimming it for use cut the inflow tube long enough to reach the deeper parts of the cavity, and the outflow tube as short as is consistent with reaching the inside of the thoracic wall. If both are left of the same length, too much of the fluid flows straight across from one tube to the other without washing out the distant parts of the cavity. If a suction valve effect is desired for expansion of the lung, Hancock's tube requires to widen the flange by sewing under it a larger disc of soft rubber. The flatness of Hancock's tube fits it for insertion where the intercostal spaces are narrow.

If, however, there is a fistula from the pleura into a bronchial tubule, neither these nor any other device will maintain the vacuum. In a case having bronchial fistula, the irrigation has to be managed very carefully so as not to choke and distress the patient by the solution entering the lung. However, by cautiously trying different attitudes, a considerable washing out can be secured, with an excellent ultimate success. The bronchial fistula gradually closes and the irrigation is then unhindered. In nearly all cases there is plenty of room in one place or another between the ribs for the insertion of a tube without resection. If there is not, a notch may be nipped in the upper border of a rib. In a few days the cavity generally becomes sterilized, pus nearly ceases to form, just as in all other sterilized abscesses, and then the irrigation can be less frequent. At the same time the hectic disappears, the patient gets out of bed, becomes fat, rosy and strong, and generally recovers permanently.

There is a class of cases of this sort in which the cure s a little delayed. A false membrane sometimes covers he surface of the pleura. In that case the formation of pus is not arrested at first, but continues a week or more longer than usual. At length, however, the membrane begins to come away in bits and patches until it is all gone. Then the antiseptic arrests the uppuration as usual and the cure proceeds.

Let no one suppose, however, because resections re rarely needed, that they are never to be performed. Sometimes there is necrosis on the inner side of a rib, r caries in an adjacent vertebra, or abscesses leading n from other adjacent organs which need exploration with the finger, the probe or the eye, and sometimes here are old neglected cavities whose walls are stiff nd firm, with thick cicatricial tissue which must be issected away, or large portions of ribs must be sected to make the thoracic walls flexible, so that they can be folded in to fill the hollow. I am not urging that operations on the ribs shall never be performed, but only calling back to the memory of surgeons what we all knew before, viz., that most new cases are curable without resection. Even in some tubercular cases, tubing and irrigation succeeds perfectly, just as laparotomy does in tubercular peritonitis.

3912 Lake Avenue.

PHYSICAL EXAMINATION OF RAILWAY MEN.

Read before the Fifth Annual Meeting of the American Academy of Railway Surgeons, held at Chicago, Oct. 5-7, 1898.

BY J. F. PRITCHARD, M.D.
SURGEON CHICAGO & NORTHWESTERN RAILWAY.
MANITOWOC, WIS.

When first making an investigation of this subject, about twelve years since, I was surprised to find its complete non-existence except in two systems of railway in which, for the purpose of insurance, examinations were made, but with no reference to service further than this might reach. In both instances there was then no examination made of vision or color perception. Gradually this has changed from an examination first made from a special train, and very hastily, until now, when a few railway systems employ competent examiners to make the tests; but I think there is yet great room for improvement. The recent examinations for service in the volunteer army demonstrated that there are many defective men, and if the temporary service in this war required such physical perfection, certainly the long and arduous service on a railway ought to require men of as perfect physical conformation as can be secured. This scarcely admits of argument.

The examinations that were first commenced by myself consisted only of eye tests for color and correct vision. At that time, on account of strikes and disturbances of all kinds, it was not deemed best to attempt a full physical investigation of each man, but we soon found that the men considered the examination in its true light and understood that it was for their own good, quite as much as for the interest of the railway company. There were nearly twenty-five hundred cases examined of men then in the service or coming in during this period, of which about 2.5 per cent. were deficient in color sense and a less number had other defects of vision.

It always accorded with my observation that there was a special need for a very careful physical examination of men in this service, and great pains ought to be taken to prevent men with stiff joints, deformities from previous injuries or defects, either congenital or from disease, from entering the service. It would hardly be necessary to give instances of disaster in which such cases are neglected, but only to emphasize the fact of care being very needful in selecting examiners and the uselessness of any but medical men who have made the subject a study. Examinations should be made on carefully prepared blanks and not at haphazard. In other words, the medical part ought to have a definite set of questions covering all necessary points, thus making the record specific. I would also suggest that a complete set of Holmgren's worsted would give a better record of color sense than a partial one. And if these yarns are in the hands of properly instructed examiners they can not fail to give correct results. I have had my suspicions aroused in some cases that men are liable to learn the numbers or letters on the brass tags fastened to the skeins and thus wholly defeat the object of the examination. There should be but one method of recording these color tests and regarding examinations for perfection of vision. The usual fraction as represented by the type read at twenty feet is always clear.

In this connection I would like to comment on a recent letter in the Journal of the American Medical Association. The writer evidently misunderstands the objects of examination. We do not attempt to make diagnosis of disease, nor is it required to examine the eye with an ophthalmoscope, but we want to know if he can see the proper color correctly and is able to see clearly at a distance. The old employes on railways are allowed to wear glasses and have any defects corrected by such artificial means as they can obtain. There is no intent on the part of the company to cause any hardship, but the design is merely to protect the public and themselves. These examinations can be made, however, by others than oculists and be quite satisfactory. We have used for years complete sets of Holmgren's worsted, and later, a modified set. I would also say that we require a matching and under no circumstances a naming, of color. As to repeated examinations, these are only necessary when the men give evidence of disease, and then they are very likely to consult proper medical counsel. As to new men for service, under no circumstances should they be accepted unless they are free from all defects. There is no sentiment in such case, no consideration for past services, but the idea is that of selecting the best only.

I have ventured to make a blank for examinations that is intended to cover some of the deficiencies of our present one and to meet the necessary requirements, as I find the tendency of examining surgeons to answer no questions unless specifically stated.

SURGEON'S CERTIFICATE.

In examination of . . . (Applicant should write his name here.) . . . for service in . . . Railway Co. as . . .

Height, . . . ft. . . . in. Weight, . . . lbs. Rate and character of pulse . . .. Is he deformed or maimed in any manner? Give particulars . . . Are his defects from disease or accident? . . . Is he a pensioner? If so, for what cause and how much pension per month is he receiving? . . . Has he any disease either of brain, nervous system, chest, including heart and lungs, abdominal organs, skin, ears, eyes, joints or muscular system? . . . Examine each eye separately with Snellen's test type and give results for right eye . . . left eye . . . both eyes . . . Examine with Holmgren's yarns and give his vision for red . . . blue . . . green . . . rose . . . yellow . . . State distance in inches at which he can hear the tick of watch. Right ear . . . inches; left ear . inches. Can hear ordinary conversation at . . . feet. Do you recommend him for service in this company? . . . If not, give reasons . . . Signed . . . , Surgeon.

In the first place the man should sign his name in the presence of the examiner as a needed identification. His general appearance as to health and habits is very important, as the trained eye of the surgeon can oftentimes judge as to his fitness by this means alone. And in a general way the man should be examined on a plan somewhat after the manner of that used in military service. A glance at the naked figure will give much information otherwise not obtainable. Particular attention is in this manner called to deformities and defects. Hernias are easily seen. Varices and other diseases become at once matters of record.

In the examination of the eyes I much prefer a full set of the usual worsteds and an avoidance of tags and numbers, for the reason that some examinations that have come into my hands show too much of a similarity of one man with another, so much so, in fact, that they might have been copied continuously. At my directions the following instructions were sent out to examiners by the general superintendent *of one system:*

In addition to the questions to be answered in the blank the following rules for examination should be observed:

DEFECTS THAT DISQUALIFY.

1. The wearing of glasses in railway service applies only to old men in the service. Under no circumstances should new applicants be admitted who have defects requiring the use of glasses. Examine men who have been long in the service with proper glasses if necessary, and if they have not been fitted so as to have proper vision they should be before continuing their occupation.
2. Examine carefully, noting defects or disease, such as those afflicted with paralysis, epilepsy, any defects of mental powers, also emaciation, if present, from what caused, habitual cough, disease of lungs, stomach, bowels or kidneys.
3. Note such defects as hernia, lameness, loss of hand or foot or any part thereof, or any deformity; also note character of pulse, whether intermittent or not; and whether the examinee is afflicted with chronic ulcers or open sores.
4. Note the general appearance of applicant, as to his habits, whether dissipated or not, and if he appears to be healthy or otherwise.

If in the examination of men already in the service you find any particular symptom or indication which you are in doubt about, or which on rigid adherence to the rules laid down would be sufficient to lead you to recommend his dismissal or the change of employment, please make a special communication to me (the general superintendent) on the subject, but do not let it appear in your examination, as we desire to be as lenient as possible with our old employes, so far as is consistent with safety.

Now, I have the further suggestion in closing, viz., that all of this work should be reviewed and passed upon by a chief surgeon before going to the operating department of the railway company. The plan now in use is, when there is urgent need, for the man to be put at work on probation, pending his report. But I find in some quarters there is no report ever made to the superintendent, and as a consequence he is left entirely to his own resources. This should be remedied, and it can be very easily by merely sending reports to the head of the surgical department and let him check them. This will soon overcome any tendency to carelessness on the part of examiners and result only in the good of the service.

DISCUSSION.

Dr. T. B. Lacey of Council Bluffs, Iowa—It occurs to me, having had experience along the lines mentioned in Dr. Pritchard's paper, that it would be difficult to take issue with him with reference to the position assumed in his paper. I am fully in sympathy with him. The proposed employe of a railway company should be in good physical condition and in full possession of his special senses, especially sight and hearing. He should be in such condition as to insure the safety of passenger, employe and property. There can be no question that an employe should be able to distinguish different colors, the import being that he will distinguish colored lights that are used on switches at night and light signals that may be given. This enables him not only to protect the passengers on the trains of the railroad company, but it is a protection to the individual himself, because it is easy to conceive how and why an employe who is color-blind might perhaps lose his own life as a result of that condition, and he needs all the special senses.

The Doctor spoke of the watch test and of the distance at which the tick should be heard. Personally, I do not like the watch test, for the reason that if we take the watches we will find no two of them will tick with the same degree of distinctness or loudness. Of course, I realize that the watch test is universally employed in making these examinations, and you have a person apparently on your paper that would come up to the standard, but your standard is not perfect; it is not equal in any respect. It occurs to me that the only reliable test is that of an ordinary conversation. This can be tried on each ear just as well as the watch test. There can be no question whatever as to the condition in which a man should be physically. I know from personal experience that an employe with an imperfect hand, whether it be from disease or from accident, is much more liable to injury in coupling cars than one having a perfect hand. We know, too, there is a greater liability to injury if there is a deformity of the foot or of the limbs, or any disease existing which practically interferes with good and rapid locomotion. If a ruptured individual is required to perform a certain act that must be done quickly and certainly, the exertion may bring down the gut, even if a truss is worn, and the resulting intense pain may render him unable to complete the movement undertaken. Consequently there is a large element of danger in all these cases. The roads that do not require some form of physical examination for proposed employes are losing sight of their own interests.

Dr. W. L. Smith of Streator, Ill.—In regard to the watch test, I think if you have your own watch and make a comparison between the men and yourself how far you can hear the tick of the watch, you can very nearly ascertain the correct distance of hearing. I use a stop watch, the same kind of watch that race track men use, and I find it is much better than the ordinary watch that we carry around. As to examinations of the eye and for color, etc., I believe these examinations should be as thorough as those for the military service. I have helped to examine probably eighteen thousand men within the last six months, and we used the letter test. If a man has good vision in the right eye and in the left half vision, he is allowed to pass, but I do not believe that that is sufficient for railway service.

Another condition not spoken of in the paper, and one of great importance to railway companies, is flat-foot. A man with such a deformity should be disqualified from entering the railway service. The average switchman does as much walking in a day as an ordinary soldier, and if he has flat-foot, his feet give way, and it is the cause of many accidents.

Dr. D. S. Fairchild of Clinton, Iowa—I quite agree with the essayist as to the examination of railway employes, and I am quite in accord with the proposition to give the examining surgeon a certain amount of latitude in conducting those examinations. It is difficult or impossible for the examining surgeon to secure the best class of men outside of answering categorically a series of questions given by the examiner. These examinations for the railway companies should be placed in the hands of those in whose opinions they have entire confidence, even if they are not always conveniently located. It may happen that at headquarters men are not thoroughly competent to make these examinations, and if this be true, they should be conducted by some one not at the headquarters, but one who is competent to do the work. In the last four years I have examined four hundred men for employment on railroads, and I have found that curious things would crop up. As to color-blindness, I find that in mixing the colors great confusion would be created, and after several subsequent trials the men would be able to make a proper selection of the colors. And so it is difficult to determine always whether a man is really color-blind, or color-ignorant. I have a case in mind of a man who a year ago came for examination and was rejected because of color blindness. At least, I thought he was color-blind. He appeared at the office recently, I examined him again, he confused the colors, and was again rejected. He asked for further examination, came to the office, and after several trials he was able to pick out colors properly. I had suspected that the man had learned the figures on the pads, and I gave him a period of probation, giving him to understand that he was all right, but I did not make out his final report. A month later I sent for him again to come to the office and go through an examination with the colors, and I watched particularly that he should not be able to see the numbers on the tags, and he picked out the colors correctly without hesitation. The carefulness with which I watched him, and the length of time which had elapsed, convinced me that the man had actually learned the colors, and that at first he was not really color blind, but color-ignorant. Instances of this kind will come under our observation, and I have become convinced, after two or three similar observations, that it is difficult for the examiner to determine whether a man is color-blind or color-ignorant. I have treated all these cases as color-blind, permitting the applicants for railway service to appear for re-examination, advising them during the interval to study the colors, to learn them as well as they could before appearing the second time, and I have found some of them were able to pick out the colors properly.

In regard to the test for hearing, it is not altogether a question of whether an individual can hear properly at the time of the examination, but I am told by aurists that the tick of the watch is the best test as to the condition of disease. An individual may appear for examination and hear a watch only two or three inches distant, yet he hears conversation well at twenty feet, and this would not disqualify him. The question comes up whether or not failure to hear a watch tick at a certain distance does not indicate some aural disease which is going to become more serious and make the man very deaf in the future. I have no personal knowledge of this matter, but I have been told so by gentlemen who have given this subject special attention.

Dr. M. Gardner of San Francisco, Cal.—I am very glad to have heard this paper, and it ought to be placed in the hands of every chief surgeon of a railroad. In our own company we have been making physical examinations for four years. During the last year, up to June 30, the number of examinations made was 2294. Of this number only 62 per cent. passed perfect examinations. They were mostly of about 45 years of age; 18 per cent. were imperfect, but still not sufficiently so to disqualify them from entering the service, and 20 per cent. were rejected. Of this number we rejected 3.5 per cent. for color-blindness; 4 per cent. for hearing, and 2.5 per cent. for distant reading vision. We go a little further in our examinations than anyone has mentioned today. For instance, we insist on distance vision examinations all the way from 20 to 1000 feet. A man is supposed to see a signal light distinctly at a thousand feet. He is also supposed to see No. 20 test type, on standing, at 20 feet. We further examine them as to reading vision at 14 inches. Every engineer reads his orders at fourteen inches without glasses.

In regard to examinations for colors, a man who is color ignorant ought to be rejected. A man who is also ignorant enough not to call colors when he sees them, ought to be rejected. So we treat such men on the same grounds.

As to age, we accept none over 50, and this year will terminate that by reducing the age limit to 45 years. In our physical tests we have rejected train operators, flagmen, switchmen, and yardmen. As to hernia, varicocele, heart trouble, and deformities, we reject fully 10 per cent. in our physical examinations. We accept a hernia after two years' standing. In the case of varicocele we accept a man as soon as he is able to leave the hospital. We do not allow our surgeons to operate on a man who has been rejected after a physical examination, as a matter of policy. As to hearing, we furnish our own watches. I select them; we use the ordinary nickel plated stop watch. These watches are furnished to all surgeons on the roads with which to make their examinations, so they are all alike. We furnish every surgeon with a supply of the tests with which to make examinations, from one end of the line to the other. We have twenty men to make the examinations.

I recall an instance in the southern part of our system where the examiner failed to strip the applicant, something which we insist on. The man pushed his pants down, and did not take them off, the pants covering a bad ununited Pott's fracture. I recall another case in which a man had an artificial foot, covering it up by pushing his pants down. I simply mention these cases to show you what men will resort to in order to get in the employ of railroad companies.

Of the 2294 cases that were examined last year, we rejected 441 for all causes. We rejected 4.19 per cent. for distant vision, 2 per cent. for errors of refraction, 2.6 per cent. on account of not being able to read at fourteen inches, for defective hearing 5.98 per cent., color sense 3.5 per cent., and for general condition about 10 per cent. Nearly all the men were under 30 years of age.

In making physical examinations we have printed rules and regulations which we furnish to everyone. We insist on having applicants stripped. We take no chances on anything. Each applicant has to undergo a thorough physical examination; if he is under weight, we will reject him. We want able, sound men. The number of surgical cases on the Southern Pacific lines has materially diminished in the last three years as the result of the solid, sound men we have admitted.

Dr. D. C. Bryant of Omaha, Neb.—This paper has brought up some interesting points. The question of an applicant being examined by some one he knows or by some one he does not know is of more importance than one would think at first. In examining employes for the Union Pacific Railroad, I have been called upon to examine a great many strangers. I have had men who were strong, physical athletes, come into the office for examination. Shortly after placing the color skeins before them and having them sit down to watch the colors, the perspiration would roll off their faces, and they would appear to be very much frightened and often confused about the colors. Now, the boys that live in Omaha and who are acquainted with me, come to my office and pass the same examination without any trouble, without any sweating. Examinations with the color skeins are not a great success. In my own office I have a dark room in which I can test applicants with different colored lights. If an applicant fails with the colored skeins, I take him into the dark-room and use a flashlight, such as he would be required to use in his work, and I can then determine whether he is color-blind or not; whether he can distinguish green, red, blue, and white, as he should be able to do in his work. Many of the applicants for railway service that we at first suspect to be color-blind are not. After passing an examination in the dark-room, and the excitement has subsided, these applicants will match the skeins without much trouble. If I understood the Doctor correctly, he stated in his paper that the old employes were allowed to wear glasses for distance.

Dr. PRITCHARD—Yes, sir.

Dr. BRYANT—I think that is a mistake on the part of the company. If an employe has an error of refraction, if he has 2D. of hypermetropia, he is a much better man before he attains the age of 40 years than he is after that age. Before he attains 40 years of age his accommodation is good; he can overcome 1D or 2D. of hypermetropia and have good vision for distance. After this age he loses the power of accommodation, and his vision for distance becomes poorer and poorer.

Speaking of trainmen, I do not believe any man should be allowed to use glasses. If his vision is not good for distance, he should be given some other employment in the service. Of course, men who have been in the employ of railroad companies for years should be treated well. Reading orders is a different thing. An engineer can use his glasses for this purpose, and then remove them; at the same time, if the distant vision of an engineer is poor, not knowing how soon he may break his glasses, or how soon they may get frosted or dusty, it becomes poorer, and a wreck may result in consequence of it. Such men should be taken off the train service and put in some other branch. The rule of the railroad represented by Dr. Gardner, of not employing men for train service after they have reached the age of 45 years is better still.

In considering the question of hearing, I believe the watch test is the best of all for one portion of the test, but we should not stop with the watch test. The average watch tick gives us a high tone. Many applicants for positions in the railway service can hear high tones, but not low ones. Let them be thoroughly tested with the watch, the voice, and the tuning fork. I give them a fair range. I do not take every tone in the gamut; but you will find many men who hear high tones, but not low ones, and vice versa. This usually means that there is beginning trouble in the internal ear, and this is a serious matter. An applicant who is examined today and hears distinctly high pitched tones, in six months may be unfit to enter the railway service. Railway employes should be examined at least once a year, and should not be let go until some accident occurs, and then be re-examined. No employe should be considered to be perfect next year because he is this year. He should be examined yearly, especially as to sight and hearing.

Dr. D. S. FAIRCHILD of Clinton, Iowa—The limit of the Chicago & Northwestern road for men entering the train service is 27 years of age. The question which I raised in my previous remarks, and which Dr. Bryant partly answered, was with reference to men not hearing a watch tick at a certain distance who were under 27 years of age. We know that there are men engaged in machine shops and boiler shops who are accustomed to noises for a long time, and it is impossible for them to hear a watch tick, yet they can hear ordinary conversation well. I refer to men who are not exposed to such noises, who are under 27 years of age, but who may have a mild form of internal ear disease which may give rise to serious results later on.

There is one other point. The Northwestern Railroad Company has adopted a system of examining engineers over 50 years of age. As soon as a man reaches that age his eyes are examined. There are only a few of them whose eyes are normal. Occasionally an engineer will be found with vision of $^{20}/_{20}$ who is 50 years of age. If the vision of these men, after reaching this age, is below $^{20}/_{30}$, then they are required to wear glasses.

Soon after I undertook the examination of these men, and they began to wear glasses, they told me that at night they could not see as well with glasses as they could in the daytime. Contrary to the instructions of the chief medical officer of the company, I advised the men to take off their glasses at night. After a while I had to wear glasses, and I had a practical demonstration of it myself. I always take off my glasses at night because I can not see as well. We can not discharge engineers over 50 years of age whose eyes are slightly defective. Those are the men who are usually in charge of our passenger trains. I am inclined to believe that we should make some allowance for these slight defects. We should consider the intellectual capacity of these men. We find men who will pass an excellent physical examination, yet who are intellectually incapable of taking the responsibilities of trainmen; and we find men who are slightly defective in vision, and are bright intellectually. I am inclined to stretch a point in the cases of such men. Their intellectual caliber makes them valuable, and they are better able to assume responsibility. They make better men than those whose eyesight is perfect, but who are intellectually inferior.

Dr. R. HARVEY REED of Rock Springs, Wyo.—I am very glad I have been here this morning to listen to this interesting discussion and the instructive paper. The question of physical examinations of railroad employes has been discussed more or less by the different roads of the East, but to the best of my knowledge with no such thoroughness as it has been by western men. It is a subject which should interest the management of every railroad, because it is a protection not only to the employes, but to the passenger and the company.

The service inaugurated by Dr. Gardner on the Southern Pacific road is a practical innovation, and I think every trunk line ought to have most carefully selected employes, and such as we only get by careful examinations, as has been suggested by the author of the paper, and by those who have participated in the discussion. I think it is an innovation which should be pursued by the management of railroads in such a way that they will realize the benefits of it, and if our discussions in this Academy accomplish this one thing only, the year will have been profitable.

Dr. PRITCHARD (closing the discussion)—I feel very much gratified to have had this subject so thoroughly discussed, and have but little to note in my closing remarks. As Dr. Fairchild has told us, the C. & N. W. vision standard is $^{20}/_{20}$ for new men under all circumstances. As to the watch test, there is nothing more practical in my opinion. We can not furnish tuning-forks. If we do that, they must be of one pitch. The watch test, with ordinary conversation at twenty feet, will cover the question of hearing in a practical way, and there is very little more needed.

One of the speakers referred to passing a man with flat-foot. Any man who would pass an applicant with flat-foot ought not to be an examiner for a single moment.

There is one point that has occurred to my mind very often, and probably to the rest of you, and that is, that there should be a standard as to colored lights. Railroads oftentimes have all shades of red, from a dark to a bright red, in use at one time. I have had men select colors according to intensity, and this was the only way by which they could understand signals at all. I had one peculiar case quite recently. A man was referred to me for examination who had been a station agent for about fifteen or eighteen years. He turned his red light after the train had passed, went home and left it, and stopped all trains for that night. The question of distinguishing colors came up, and he was referred to me for examination. I found him so near-sighted that he could not see anything at two inches from him, and could not even be fitted with glasses to improve his vision. Such men need to be weeded out of the railway service.

A very important point is to see that all reports are sent to a competent surgeon to check over before they go to the operating department. When this is not done, great confusion results.

FRACTURE OF PATELLA.

Read before the Fifth Annual Meeting of the American Academy of Railway Surgeons, held at Chicago, Oct. 5-7, 1898.

BY MILTON JAY, M.D.

CHIEF SURGEON, C. & E. I. RAILWAY.

CHICAGO.

Fractures of the patella are not of frequent occurrence; they constitute about 2 per cent. of all fractures, and are found more frequently in the male than in the female—in the proportion of about five to one. Fractures of this bone demand careful consideration, on account of its close proximity to the knee-joint, and also in consequence of the imperfect way in which the fragments unite; fracture of the patella is caused by muscular action or direct violence. The direction of the fracture may be transverse, vertical, oblique or even stellate. In the fracture produced by sudden and violent muscular contraction, the transverse variety usually occurs; when the fracture is caused by direct violence, the direction may be vertical, transverse, oblique or stellate, or the fracture may be comminuted. In fracture of the patella the knee-joint is always opened, unless the extreme lower end of the patella is broken, in which case it is possible for the fracture to exist without the joint involvement. In most fractures of the patella there is not only opening of the knee-joint, but the fracture has also associated with it a tearing of the aponeurotic and fibrous coverings of the bone, as well as a laceration of the synovial membrane of the joint, and a rupture of the prepatellar bursa; in consequence of the peculiar nature of this injury the joint is soon filled with blood, and the synovial secretion becomes abundant. The signs of fracture of the patella vary somewhat, according to the manner in which the injury occurred. Crepitus is generally absent in this fracture, on account of the separation of and the intervention of fibrous tissue and blood-clots between the fragments, the patella is lengthened with a well-marked sulcus, with ecchymosis, and swelling rapidly, appearing with a loss of the general contour of the joint. The usual mode of union, to which, of course, there are exceptions, by the older methods of treatment, is not osseous, but ligamentous or fibrous, with separation of the fragments; many ingenious and complicated devices have been invented by surgeons of reputation, all striving to accomplish the same object—to bring the fragments together and retain them in apposition until united—but almost without exception the union was fibrous, with separation of the fragments.

If by any device externally applied the fragments could have been kept in apposition, with our present knowledge of antiseptic surgery it would not have been up-to-date surgical treatment. The extravasated blood should be removed from the joint; that, with the lacerated aponeurotic fibrous tissue between the fragments, would prevent bony union. In some cases it was possible with some of the older devices to bring the fragments well together and retain them sufficiently fixed, yet the result was almost universal—non-union of bone. It was not position of the fragments alone that prevented union, but the condition of the joint filled with blood-fluid, with torn shreds of tissue between the fragments.

I believe that in every case of fracture of patella with extravasation of blood and fluid into the joint with rupture of the capsule—which is the case in almost every fracture of the patella by railroad injury—the joint should be opened and thoroughly cleansed antiseptically and the fragments then sutured together. Before any method is resorted to with a view of bringing the fragments into apposition, the surgeon must endeavor to control and modify the joint inflammation. For this purpose the usual treatment of cold application by ice-bag or cold irrigation is very generally resorted to; where there is a good deal of superficial ecchymosis, warm antiseptic fomentation is applied. You should never operate on fractured patella immediately after the injury has been received. The object of the preparatory treatment having been attained, the question as to the method of operating will next claim the surgeon's attention; this should, to a certain extent depend upon the nature of the fracture, whether simple, comminuted or compound. Yet, when accompanied with the usual complication of hemorrhage and joint injury, the operative procedure should be the same in either case. Should the fracture be compound, the operation should be performed immediately after the accident. Every surgeon will recognize the necessity for strict antiseptic precaution before, during and after the operation; the slightest mistake or carelessness in the minutest detail of the operation may cost a limb, or even a life. At the present time very few, if any, surgeons resort to the various ingenious external devices (with which you are all familiar); but rather open the joint, thoroughly cleanse it, render it aseptic without a doubt. then suture the fragments together. There are several points to be carefully attended to during the operation, First, decide what material to use for sutures. Silver wire has been generally used for the past fifty years as the material most suitable for the permanent fixation of the fragments. When this mode of treatment has been resorted to, whatever the material used, it is with the view that it shall remain permanently. The results attained from the use of silver wire have generally been satisfactory, but in a few cases the result did not fill expectations, the wire acting as an irritant—suppuration and failure being the result.

For some years I have used chromicized catgut for sutures, and have always found it fulfilled every indication required as well as silver wire, and was free from all danger. The incision can be either longitudinal, transverse, crucial or semicircular. I favor the semicircular, with the opening to the outer side. The fragments and the joint are freely exposed, and all blood-clots from the joint, from the synovial pouch under the quadriceps muscles and from between the fragments are removed. The intervening tissue of the anterior fibrous capsule is elevated from between the fragments; the two fragments are refreshed by being scraped. The drill is now made to perforate the upper and lower fragments (care being taken to have the point of the drill emerge from the lower surface of the patella just above the lower cartilaginous surface). If silver wire is used when the fragments are in apposition, it is twisted, cut off and hammered down upon and into the tissues over the line of fracture, chromicized catgut being used, passing it through the drill holes of the upper and lower fragments; they are brought snugly together, the ligature is then tied. The aponeurotic fascia and soft tissues in front of the patella are nicely sutured, which procedure hermetically seals in twenty-four hours the front of the joint from any discharge infiltrating through the tissue made by the fracture from the soft parts over the front of the patella. All loose pieces of tissue are removed, and any torn or lacerated shreds are cut away. The semicircular flap of integument is now sutured and the line of incision is closed. The linear incision can be painted over with a layer of styptic collodion and then dusted over with iodoform, after which a posterior splint and other external dressings are applied in the usual manner.

The success of this operation depends wholly upon conscientiously carrying out the smallest details of antiseptic surgery.

DISCUSSION.

Dr. W. W. Grant of Denver—The unequivocal statement of the essayist that all these cases can be treated by wiring the fragments demands consideration. While it is a fact that Lord Lister established the aseptic treatment of wiring the patella on a sound and enduring basis, I will say that I went through the wards with him in London eight or ten years ago and observed his cases, which he took great pains to explain in detail, and his practice was to use large silver wire. I never saw a case of suppuration, and always a good result. The probabilities are that he would not have the same results with the same treatment today. Yet it is a fact that the profession is not now agreed that it is wise to make a compound fracture of a simple fracture of the patella in order to wire it. As a matter of fact, the result of close ligamentous union is not bad; if the patient has not that bony substantial union that he would have by successful wiring. It must be remembered that, in spite of antiseptic precautions, infection sometimes gets into these wounds, and if such should be the case, there will not only be imperfect union but an ankylosed joint, and surgeons hesitate very much to convert simple fractures of the patella into compound ones. I do not believe such a recommendation would be safe for general adoption. It must be admitted, too, that if the case should fall into the hands of a skilled surgeon, who is always careful to carry out every aseptic precaution, the result will be gratifying, but this will often not be the case, and if it is once generally known as the ultimatum of the profession, that in cases of considerable effusion of blood into the joint the joint should be opened, the clots of débris turned out, and the fragments wired, we are going to have some bad results follow which will bring the operation into disrepute. There is no question but that in compound fracture of the patella, the patella should be wired at once. In those cases where we have considerable laceration of the soft parts, extreme distension, with effusion of blood, it is wise to open and turn out the blood-clots; but in cases seen around the elbow-joint these can be dealt with very well by aspiration. At the present time it is hardly a safe dictum that we should convert simple fractures of the patella into compound ones for the purpose of wiring the fragments together, in order to get bony union, while under our present methods of treatment we can secure close ligamentous union with very good results.

Dr. Fred J. Hodges of Ashland, Wis.—The essayist failed to drawn a distinction between those fractures produced by direct violence and those produced by muscular effort. It is well known that osseous union is practically unknown in those injuries which are produced by muscular action. This field of surgery was illumined by the work of Macewen, who in 1883 called attention to the fact that in fractures caused by muscular action, the posterior thick and elastic covering of the patella stretches before it gives way; that these fibrous bands are brought into apposition when the fracture is reduced, causing a heterogenous new-tissue formation at the site of fracture, that is, fibrous tissue between the two bony surfaces. In such cases the main consideration is not so much the suturing or the method by which the fragments are approximated as it is the removal of this incarcerated fibrous material from between the fractured ends which is interfering with bony union. To become dogmatic and say that every such case should be operated upon, is going too far, as is shown by the course of the eminent authorities now in charge of the case of the Prince of Wales. He is under the care of Macewen, who practically originated suturing the patella, but is being treated by the older methods. There are certain conditions of the body of the royal patient which contraindicate his being treated along the operative line.

In fractures produced by direct violence there is comminution, but no stretching or incarceration of fibrous tissue, and in such cases we may reasonably expect firm bony union from any method which will bring the surfaces of bones into apposition. Intervening fibrous tissue must be removed if you seek bony union, and incarceration of tissue always occurs where the injury is the result of muscular action, which, of course, constitutes the great majority of such injuries. A body which would become authoritative in its field could hardly commit itself to the proposition that every case of patellar fracture should be operated upon, and to that extent I take exception to the paper.

Dr. W. J. Mayo of Rochester, Minn.—I was very much pleased and interested in Dr. Jay's paper. Dr. Hodges struck the keynote when he said that in those cases of fracture of the patella caused by indirect violence the difficulty in securing union is from the interposition of fibrous tissue between the broken fragments. Macewen gave us the reason why in some cases of fracture of the patella we had considerable separation of the fragments and still good functional use of the joint secured. It is because that portion of the anterior ligament, of which the patella is but a part, is separated, while the lateral expansion of the tendon holds the joint in good position.

Another point to be considered is the best time for operation. The knee-joint is a good deal more dangerous than the peritoneal cavity, the reason for which is its liability to infection. In addition to that, it has not nearly the power of protecting itself that the peritoneal cavity has; it has not the lymphatic supply. If we get infection of the knee-joint, we may not only lose the joint but the patient's life. A slight infection of the peritoneal cavity would be harmless as compared with a similar infection of the knee-joint, for the reason that nature has not prepared that protection by which she provides a certain immunity from infection and traumatism in the peritoneal cavity. As to the time for operation, we will be governed largely by the condition of the skin. If the skin is not bruised we can operate at any time, but if it is bruised or covered with blisters, on account of the liability of carrying infection into the joint, surgical intervention should be delayed until a more favorable opportunity presents itself. In connection with operation, I do not think the finger should be allowed to touch the wound. Soiled fingers, which can not be avoided in the peritoneal cavity and are practically innocuous under ordinary circumstances, in the knee joint prove dangerous. The method of working entirely with instruments is good, sound surgical practice.

Dr. Jay (closing the discussion)—I do not know that I have anything in particular to say in my closing remarks. Probably most of you consider the paper a little radical. However, as I said in my paper, when there is a fracture of the patella, with pain in the joint, effusion of blood and synovial fluid in it, ecchymosis, etc., I have no hesitation in opening into the joint, cleaning out the débris, stitching the fragments together, believing that I will have a good result. I call it good surgery to do this. If the lower end of the patella is broken off, does not penetrate the joint, and there is no effusion of blood or of synovial fluid into the joint, there is no necessity for opening the joint. It is not good practice to let a knee-joint filled with extravasated fluid or blood with fibrous tissue incarcerated between the fragments go unoperated. By external applications you can not get the fragments together, nor would you get bony union in such a case if the fragments could be brought into apposition. The interposition of fibrous tissue or of other material between the broken bone certainly prevents you from bringing the fracture in apposition.

Dr. Grant—What would you do in a case where there was no interposition of material between the fragments and there was simply effused blood?

Dr. Jay—You do not wait for the interposition of fibrous tissue. I have operated on fracture of the patella for the last fifteen years, and I have never had an unfavorable result. Before I had carried out the treatment I have described I had the fragments one and two inches apart, particularly in the cases of old men, and they needed a support all the time. I do not operate on every fracture of the patella where the knee-joint is opened, the aponeurotic structures are torn, and there is an effusion of blood. I have had three cases in the last six months in which the fractures were caused by external violence. These were railroad cases. In one case in particular, the fracture of the patella was caused by a railroad tie falling on the man's leg. I did not see him for five or six days after the injury, at which time the knee-joint measured twice what its fellow did. I could not tell definitely whether there was a fracture or not at that time. He was brought to the hospital, hot antiseptic fomentations were applied to reduce the swelling, and then an incision was made, through which a pint of clotted blood was turned out of the knee-joint. The cavity of the joint was irrigated with boracic acid and bichlorid, the tissues washed and rewashed until they were thoroughly cleansed, and the patella sutured. This treatment was followed by a excellent result in this case.

THE BACILLUS AEROPHILUS.

OCCURRENCE IN CHRONIC SUPPURATIVE OTITIS MEDIA.

Presented to the Section on Laryngology and Otology at the Forty-ninth Annual Meeting of the American Medical Association, held at Denver, Colo., June 7-10, 1898.

BY LEWIS S. SOMERS, M.D.

PHILADELPHIA, PA.

Zaufal[1] states that a pure culture of any microorganism is rarely found in the secretion of otitis media purulenta chronica, and as a rule, there is a variety of bacteria, particularly in neglected otorrhea, where the secretion is stagnant. In acute otitis media suppurativa, pure cultures are found more frequently than when the disease has been neglected and assumes a chronic form; usually, however, various bacteria are associated, the most common being the diplococcus pneumonia, streptococcus pyogenes, staphyloccocus pyogenes albus and pyogenes aureus. More infrequently are found the staphylococcus tenuis, bacillus tenuis, micrococcus tetragenus and the bacillus pyocyaneus. That the micro-organisms obtained from the discharge in chronic suppurating otitis at its early stage are the cause of the morbid changes in the middle ear there can be no doubt, but in the form of the disease under consideration the bacteria found after the suppurating process has continued for a considerable time probably bear little or no relation to the primary disorder, secondary infection occurring through the perforation in the membrana tympani.

The following case, in which the bacillus aerophilus was found in pure culture, was discovered during the study of a series of cases of chronic suppurative otitis media, to ascertain the micro-organisms present in the discharges: W. C., aged 10 years, had a suppurating right middle ear since 1 year of age. No cause, such as the exanthemata, could be ascertained as producing the original otitis, and as the boy was a member of the lowest class of society, he presented every facility for secondary infection of the diseased ear. Examination showed the external auditory canal to be filled with foul pus, among which were shreds of gelatinous mucoid material, and after this was removed, the epidermal lining of the canal was seen to be macerated, with the epithelium proliferating and being discharged with the mucopurulent matter in the form of débris. Close to the tympanic ring was a group of bleeding granulations, surmounting a small particle of dead bone; there was a large ragged perforation in the posterior-inferior segment of the membrana tympani, through which a probe could be passed and which grated against necrosed bone in the tympanic cavity.

The pus discharged from the ear presented nothing differing in any way from that observed in long-continued cases of otitis media suppurativa, being of the usual yellowish-green color and possessing the foul odor peculiar to these cases. After the canal had been rendered as sterile as possible, a minute amount of pus was obtained on a platinum point, from deep in the middle ear, and from this a stab culture was made in a gelatin tube; a whitish growth developed in forty-eight hours, entire liquefaction taking place in seven days, with the development of the odor as observed in the patient's ear; the growths then sunk to the bottom of the tube, while the supernatant gelatin was liquefied and turbid. Other cultures made on gelatin tubes, from the pus obtained at different times from the middle ear, presented the same biologic characteristics, and at no time during the examination did other micro-organisms become evident, either from the original culture or during the entire course of the investigations, which extended over several months.

On agar-agar smear cultures there was produced a creamy, yellow colored growth of waxy appearance; there was no liquefaction, and the entire surface of media was covered with the growth. Potato smear cultures showed a yellowish, irregular growth, waxy and dull looking, granular over the entire surface and with a slight odor. A series of gelatin plates were made after the Koch method, and the bacillus on these first appeared in colonies of minute yellow, round and pear-shaped granules, soon surrounded by a zone of liquefaction, which gradually increased in dimensions until the gelatin was entirely liquefied and clear on the surface, the colonies having gravitated to the bottom of the plates. Microscopic examinations were made of the original pus from the tympanic cavity and of the various colonies developed in the culture-media used at different times; carbol-fuchsin was used as the principal stain in all examinations. From the pus obtained from the ear and original gelatin cultures, slides were prepared after the usual manner, and the bacilli were found in large numbers, to the exclusion of all other forms of germ life. It did not differ from the description given by Sternberg[2], in which he figures it as slender rods of various lengths, about two-thirds as thick as the bacillus subtilis and frequently united in jointed filaments. At various stages in the life history of the bacillus, the size was smaller or larger, depending upon the duration of growth; in the early stages ovoid spores were present in large numbers, and a few hours later the bacilli would be seen as small rods, apparently immature; these would increase in size until the fully developed bacterium was seen.

The bacillus aerophilus is found, as far as has been studied, as an accidental contamination, probably from the air. It is an aerobic, liquefying, non-motile bacillus, with oval spores, and grows on the usual culture-media at the room temperature. It is impossible to ascertain the original micro-organism responsible for the primary infection of this case, but as a mere gratuitous supposition we may venture to suggest that several forms existed at various times during the course of the tympanic suppuration, and at the time the cultures were made the bacillus aerophilus had displaced the other forms of germ life and existed in the tympanic cavity as an individual growth. As a usual rule in the chronic cases, investigators have found a greater number of bacilli than cocci, staphylococci being almost constantly present.

Lermoyez and Helme[3] make the following observations in regard to the infective agencies concerned in otitis media purulenta: 1. Acute otitis media is most often of microbic origin; the pus, obtained first from paracentesis of the drum membrane, generally contains but a single pathogenic species. 2. The streptococcus and the pneumococcus are the microbes usually found; the staphylococcus is rarely found at this period, and is generally found with other species. 3. After a varying period, a secondary infection is often grafted on the primary infection and takes the place of the latter. 4. This secondary infection is the result of the staphylococcus, especially of the white variety. 5. It determines the transition of the purulent otitis media from the acute to the chronic stage. Secondary infection of the tympanic cavity determining the chronic phase of the morbid process may occur either through the Eustachian tube from the nasopharynx, or from the external auditory canal and the perforation in the membrana tympani.

Pez and Gradenigo[4] conclude that general secondary infection of the middle ear is of nasopharyngeal origin and very rarely does the secondary infection come from the external auditory canal through the perforation in the tympanic membrane. This somewhat comprehensive statement made by these observers is true in many cases, but it is frequently found that secondary infection, as in the case here described, results through the external canal; and usually the infecting material is carried to the tympanic cavity by neglect of aseptic precautions in the treatment of the previous acute otitis.

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2 Sternberg: Manual of Bacteriology.
3 Lermoyez and Helme: Annales des mal. de l'oreille et du larynx, January, 1895.
4 Pez and Gradenigo: Ibid. July, 1895.

3554 North Broad Street.

SUPPURATIVE DISEASE OF THE EAR.

THE PRESENCE OF POLYPI AND GRANULATIONS THEREIN NOT AN UNFAVORABLE INDICATION.

Presented to the Section on Laryngology and Otology, at the Forty-ninth Annual Meeting of the American Medical Association, held at Denver, Colo., June 7-10, 1898.

BY LOUIS J. LAUTENBACH, M.D.
PHILADELPHIA, PA.

Some years ago, after having considerable experience followed by rather favorable results with cases of suppurative disease of the middle ear, complicated with granulations and polypi, I reported[1] a few of my cases and drew therefrom the conclusion that "restoration of function in these cases is more frequent as well as more thorough than in chronic suppurative cases of equal duration without growths or polypi. I do not mean to say that this is universally so, but that it is usually the case." When this was written I intended it to apply to benignant growths, not to malignant or specific tumors. After several more years of work of this kind, I find my former opinions concerning these growths but confirmed and strengthened by the additional experience. In this paper I shall speak only of such growths as granulations, granulation tumors, the angiofibromata or mucous papillomata, the fibromata and the myxomata, and do not include such growths as the sarcomata, epithelioma, tubercle, lupus, etc. In the former paper I considered this exclusion as being understood, these malignant growths being very rare, much less than 1 per cent. being of this nature. Again, as designated in my original title, I speak of growths in the middle ear only, not pretending to speak of such as occur from the surface of the drumhead or external thereto.

Of these benign growths, by far the greater number are granulations and granulation tumors, these amounting to more than half the entire total of ear tumors. The next in frequency are the mucous papillomata or the angiofibromata. This is the variety present in about two-thirds of the remaining cases, while the fibromata comprise about all the balance except some 1 or 2 per cent. of the myxomatous variety of polyp. That the far greater number, in fact, possibly all, of these growths are the direct result of inflammatory action is apparent when we consider the conditions under which they develop; for all practical purposes never being present in the middle ear unless there has been an anterior inflammation of the drumhead, with congestion, exudation with suppuration and perforation.

The conditions under which the new growths appear are congestion or inflammation, with the presence of moisture. The latter essential is evidently considered of great moment by the large class of surgeons of today who denounce the use of heated cloths, and especially of hot poultices on the ear during the acute stage of an inflammation, one of their most important reasons for denouncing these being the liability of favoring the development of granulations and of polypi. This moist inflammation or suppuration of the middle ear can further develop in various ways: 1. The inflammation may gradually subside, the exudation lessening, the enlarged and leaking vessels gradually shrinking to a more nearly normal caliber, the diseased tissues proliferating where there has been destruction, and being absorbed where there has been thickening and exudation, and if the process has not been too severe, no fibrous or connective tissue bands having been produced within the ear, the structure as well as the function may be restored. 2. The process may have contined to the stage of organization of the elements of inflammation, with the formation of fibrous or cicatricial bands; and with the cessation of the inflammation and the closure of the perforation, we have healing, with impairment of structure and limitation of function. 3. We may have complete subsidence of the inflammation, with the formation of connective and perhaps fibrous tissues, with a cicatricial healing of the edges of the opening of the drumhead, and with considerable impairment of the structure and function. 4. We may have subsidence attended by necrotic processes, involving the soft tissues as well as the bone, eventuating in great impairment to the ear. 5. We may have it subside only after a most virulent and extensive inflammation, destroying through its violence important ear structures, and perhaps some of the surrounding tissues. Here, of course, destruction of structure is accompanied by destruction of function. 6. We may have the inflammation as it continues constantly producing increased sclerosis or increased necrosis, the amount of the impairment being proportioned to the length and variety of the inflammatory processes. 7. We may have the inflammation continue; and as it continues, hyperplastic processes being at work, new structures appear, giving rise to granulations and granulation tumors, if due to the organization of the inflammatory exudate, and the other forms of benign polypi. when the inflammatory action modifies the normal function of the epithelial and fibrous tissues, stimulating them to a new development of their own tissues in varying forms. This varying development is probably more dependent upon the degree of vascularity present than upon any other factor.

I look upon these new growths as an evidence of an activity of the inflammatory action in a benign manner—not in the way of destruction or of necrosis, not in the way of a general fibrous thickening, not a sclerotic or hardening action, nor yet akin to the process of cicatrization—but rather an effort of nature to extend her benignant healing processes to as great an extent as possible, so that, although the healing will not be a primary one, it will yet be akin to that observed in other parts of the body—the healing by the formation of proud flesh. It allows the retention of the necessary vascularity, the nerve innervation remaining, until such time as, through artificial or natural means, everything is ready for a quick healing, and all we need is to take advantage of nature's open door. Through the presence of this prolonged increase of vascularity and of nerve energy, the various ear structures, the lining membrane of the middle air, the articulations, especially the stapedio temporal, as well as the ear nerve, are better preserved in structure and in function than they would be otherwise. This evidence of inflammatory activity is also an evidence of but little fibrous disturbances or of connecting tissue formation.

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[1] Lautenbach, Louis J.: Improvement of Hearing after the Removal of Polypi and Granulations from the Middle Ear. Proceedings of the Pennsylvania State Medical Society, 1893.

In this connection I recall the case of Mrs. Mary C., treated by me in 1884, in whom contact hearing was not present on the affected side, and in whom I found the meatus completely blocked by a papilloma. By removing this, within a few days the hearing was much better, and within one month the perforation was completely healed, and the hearing about normal. In this case, I believe that all the inflammatory action had pretty much subsided except at and near the roots of the growth, but that in this location the violence of the inflammation had centered, and in nature's healing process, this overgrowth occurred, and, mechanically, by its obstruction, and its pressure, it prevented the function of healing being exercised. The growth once removed, the parts in the meantime having been preserved, by a maintenance or exaggeration of the normal vascularity and innervation, they resumed their normal function, and natural good hearing resulted.

The mechanic presence of the growth is in many cases an aid in preserving function by retaining motion of the conducting apparatus through being often thrown into contact with the ossicular chain and vibrating it. It must also at times have some effect in mechanically preventing the formation of fibrous and connective tissue bands in the same way.

That there is present in these cases an increased blood-supply must be evident to all workers in this field. A comparison of the history and appearance of a dozen cases of chronic suppurative disease without such growths, with a like number in which they are present, is convincing, any attempt at cleansing or removal of the growth in the latter class of cases being almost always accompanied by at least slight bleeding. Often when operating on these growths, the bleeding will be so profuse that pressure pledgets must be used to control it. Even when burning out granulation masses with an acid, the bleeding will often be so free as to seriously interfere with our seeing the burned part and its surroundings. The same comparison will likewise give us evidence of a marked deficiency in nerve activity in the non-polypoid suppurative cases as compared with those we are considering, the sensitiveness in the latter being usually much exaggerated as compared with that observed in the former.

As having a bearing on this question, I will very briefly outline the case of Mr. Louis S. whom I treated in 1883 for suppuration, with polypus of the right ear, the result of scarlet fever during childhood. The pain in the ear and head had been excruciating; in fact, on one or two occasions his actions were strange and irrational. He had endeavored to commit suicide, and his family had about concluded that his was an incurable case of brain disorder, and arrangements had been made to commit him to an insane hospital. On examining the ear, it was found closely packed with granulation tumors, which were so exceedingly painful that no attempt at removal was made until he had been etherized. After their removal by the snare the bases were burned with nitric acid, and soon thereafter he became rational, his pain disappeared, and he commenced his daily work as a repairer of street-cars. Later on the hearing became equal to that of the unaffected ear, and now he is perfectly well so far as his ear is concerned. His hearing is, however, somewhat deficient on both sides.

I do not intend to give the impression that in every case of polypoid complication the results are better than in those where polypi do not exist, but I do mean to say that the average amount of benefit derived in the latter class of cases is much greater than in the former. There are mild or exceptional cases of suppurative disease, especially of recent standing, whose course is a quiet and benign one—their tendency being to self healing, but in the chronic cases—and it is usually in these we find our overgrowths—there is no question as to the great difference in results of the polypoid and non-polypoid suppuration cases. For the explanation of this clinical fact, I refer you to the thoughts just given, and to your clinical note-books, which I believe will bear me out.

I desire to note just a few average cases of this disease in addition to the two given above:

Case 1.—Mr. Jacob K., of Buffalo, N. Y., was treated by me for polyps of right ear in 1889, and after their removal, they having been cut out of the ear by scythe-shaped polypi knives, especially made for me for this purpose, and burning of the base of each with nitric acid, the watch showed a hearing distance of 18 inches, as compared with *nil* before the operation.

Case 2.—On March 3, 1893, I commenced to treat Miss Mary H., aged 24 years. For twenty-two years she had had suppuration in both ears, caused by scarlet fever. She heard conversation with difficulty. She heard the watch in the right ear at three and one-half inches, and in the left ear not even on contact. Within the perforations, large masses of granulation tissues were discovered and removed; after this the suppuration ceased and the perforations healed. The watch hearing improved in the right ear to 18 inches, and in the left ear to 5 inches. Conversation is now heard without effort, and she thinks the hearing is perfect. Of course, she has never been able to hear perfectly, and, therefore, she has no accurate means of comparison.

Case 3.—In 1893 I treated Mr. John H., of Wayne, Pa., a case of entire destruction of the drumhead with complete obliteration of the mastoid cells, the mastoid having opened early in life, the result of scarlet fever; the suppuration was of fifteen years' standing, occupying the entire middle ear cavity; and extending out beyond the auricle, was a very large polyp of dense consistency. Yet, despite the extensive destruction present, after the polyp had been removed be began to hear the watch as far as three inches from the ear, and with effort could hear whispered conversation.

Case 4.—In 1888 I treated Mr. George S. of Bristol, Pa., for suppuration of the ear with extensive granulation masses. With great care I was able to preserve intact the entire chain of bones, all the drumhead, however, having been destroyed. By persisting with the treatment, I succeeded in removing all the granulations and curing the suppuration. After this his hearing improved to normal; in fact, the hearing in this ear was better than in his sound one, although originally he could not hear any sound on the affected side except by bone conduction.

Case 5.—In 1897 I treated the ear of Mr. Edg. H. B. of Johnstown, Pa. His ear had been affected for over a year, and there was no vestige of a drumhead. Down at the bottom of the meatus, after the removal of a large polyp which filled the entire meatus, protruding far beyond its outer edge, I found a dense mass of granulations attached apparently not only at the usual seats of the upper and inner side of the tympanum, but to every part of the tympanic cavity. I had no hope, when I commenced work on the ear, of restoring to him even a part of his hearing function, but, nevertheless, I removed as much of the mass as possible by the snare, and after this burned the base with the electrocautery as well as by nitric acid, and continued to remove by these latter measures every diseased spot discoverable within the middle ear, endeavoring as much as possible to avoid the location of the oval and round windows. By persistent work, I succeeded in three weeks' time in completely removing these growths, and stopping the suppuration, and to my surprise, restored the hearing from no contact hearing for the watch, to seven inches. I heard from him some three months after he went home, and he tells me his hearing has continued to improve.

I hope that the recording of these remarks, with the outlines of these few cases, will serve to call especial attention to a class of ear cases which are rather apt to prove the bane of the general physician, and are prone to be so discouraging as to incline him to think they are incurable, whereas, the truth of the matter is, that in suppurative cases with and without granulations and polypi, all other things being equal, the polypoid cases are the more readily cured, and are likely to be followed by better results as to the restoration of hearing.

DISCUSSION.

Dr. J. Homer Coulter—I do not wish to criticise the paper in any particular. It was a most excellent résumé of the subject, and in particular I would compliment the generalization and arrangement of the etiologic factors. At the same time I must dissent somewhat from his use of acid escharotics, particularly in cases where there is hemorrhage. I do not believe we ought to use anything but the cautery in such cases. By its use much, if not all, of the hemorrhage might be avoided.

Dr. J. A. Stucky—I am surprised that the essayist did not refer to necrosis or caries in cases reported. My own experience has been that where there are granulations or polyps, there is necrosis or caries, and these conditions must be scientifically dealt with.

Dr. J. F. Barnhill, Indianapolis—The discussion has led into two very natural channels, the one in which operative procedures are attempted early, and those in which less radical measures are used. It seems to me that the presence of polypi or granulation, can not always be regarded as more favorable conditions than when an inflammatory condition exists without them, for we well know that in many of these cases there is also present bone necrosis; indeed the presence of the granulation often depends upon such necrosis, and can never be cured, or the condition regarded as in any way favorable, unless we are able to entirely remove the necrotic condition. Since the diagnosis of necrotic bone can not always be readily made out, I always feel it best to keep such patients under observation for a time, snaring away and cauterizing the exuberant tissue in the meantime, and thus getting a better view and field of operation, while at the same time thorough cleanliness is maintained. Such simple treatment is all that is often required, the case going rapidly to cure, and thus proving that the origin of the granulations is not from necrosis. Should such treatment not cure the patient, I always strongly suspect dead bone and am usually able to find it. This means that it should be cleared out by one of the delicate surgical procedures, under ether.

Dr. Randall said that he would like to speak in favor of unterrifying measures. Patients will dread operations, however improper that they should not fully confide in the surgeon. It frequently is possible in probing to locate the seat and study the pedicle; not only to do this, but to rotate the growth so as to strangulate by torsion and to twist it off as neatly as a negro cook removes the head of a chicken. Opposition to operation may be thus forestalled. As to the bleeding which has been spoken of, narrow strips of gauze in this and many other surgical measures, far excel any other measure for controlling hemorrhage. These are matters almost too simple to deserve mention, yet they seem inadequately known.

DRUMHEAD PERFORATIONS.

THEIR SITE AND SIGNIFICANCE.

Presented to the Section on Laryngology and Otology, at the Forty-ninth Annual Meeting of the American Medical Association, held at Denver, Colo., June 7-10, 1898.

BY BARTON H. POTTS, M.D., AND B. ALEX. RANDALL, M.A., M.D.
PHILADELPHIA, PA.

Much has been already written as to the portion of the tympanic membrane most frequently perforated by suppurative disease; but it has accorded poorly with our experience, and it has seemed worth while to study a larger series of cases, since even those studies which claimed a basis upon statistics were founded upon quite limited numbers. Thus Moos[1] cites 126 perforations, of which less than 90 are strictly available for our purpose, and of these 35 were in the lower anterior quadrant. The preponderance of these perforations in the light-triangle region has been affirmed by most writers; while some have laid stress upon these or some other form as having special obstinacy and importance.

In view of the pathologic and therapeutic points involved in this matter, it has seemed desirable to secure all available information. A study has therefore been made from private and clinic record-books, using every case in which the exact location was drawn or explicitly stated; and it has been rather humiliating to note how many thousand records had to be gone over to find the 1000 cases used. It has seemed best to exclude all the cicatrices and dry perforations such as are at times hardly distinguishable from depressed atrophic areas of the non-perforated membrane—one type of which has been taken up by Dr. Jas. M. Brown in his "Statistical Study of the Foramen of Rivinus and Scars of the Flaccid Membrane," prepared for presentation at this meeting. Those cases of large disappearance of the drumhead in which cicatricial contraction plays perhaps a larger part than does the destructive process have been also excluded, to the reduction, doubtless, of the percentage of central openings.

The findings are in fair accord with our expectations, although conflicting with those of Moos and other writers, in that the largest proportion of perforations was found in the lower posterior quadrant. While this fairly agrees with the clinical observation that the greatest bulging is generally of the posterior—oftenest of the upper posterior—portion in the early stages, that might have proved more apparent than real and been offset by the statistics of actual openings, the private records, with their larger proportion of acute cases, have as large a percentage in the upper posterior quadrant (38 per cent.), which are 16.4 per cent. of the whole number. This rather weakens the extravagant claims that are sometimes made as to these high-placed perforations. So, too, as to the Shrapnell region above the short process, the presence here of a discharging opening in the flaccid membrane in 10 per cent. of cases fully accords with what has been urged as to the dry, pin-hole, "foramen of Rivinus" at this point, which has been found in 25 per cent. of adults, although never seen in early life.[2] Bad as are the bad cases of attic and antrum disease with perforations at these points, there is no sense in including under their ill-repute the many cases which are of no exceptional severity and in no need of radical treatment by operation.

The anterior-inferior perforation, commonly stated to be the most usual, appears in but 25 per cent. of cases; although to these might be added many of those designated as central, as well as some of those anterior or inferior. Yet all of these combined constitute but 33 per cent., as against 39 per cent. in the lower posterior quadrant. Posterior perforations sum up 49 per cent., as compared with 34 per cent. that can be counted as anterior. Recalling not a few cases of perforation or scar just below the short process in the upper anterior quadrant, it is a little surprising to note but 1 per cent. of these among our cases; which may mean that many such apparent scars are only atrophic, non-perforative lesions.

Turning now to the significance of the various seats of perforation, we have perhaps but negative statements to make. Those who hold all attic suppurations with perforation in the Shrapnell membrane to be serious obstinate cases, generally requiring excision of the ossicles, will find that our list proves too much to support that view; as will those who make like claim as to the openings up and back. The truth is not far to seek, however. Such generalizations are a little too sweeping; and one must suspect that tardy recognition and lack of diligent treatment of these high-placed perforations accounts for more of the obstinacy of some of the cases than any inherent intractability or defiance of gravitation. It gets very tiresome to meet such constant assumption that man never varies from his upright attitude and that a high perforation can not drain this or that cavity. Capillarity and internal pressure, not to speak of irrigation, etc., count for more than gravitation in giving drainage; although this can have its advantage in collecting the discharge along the upper wall of the canal when the patient is recumbent and—unless it be mistaken for cerumen—calling attention to the opening which it often conceals. When one sees such cases by the hundred, and secures more satisfactory results without operation than reliable men gain from their excisions, it is easy to feel that much room yet remains for conservative but thoroughgoing treatment.

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[1] Klinik der Ohrenkrankheiten, 1866, p. 126.

[2] Randall: Trans. Am. Otolog. Soc., p. 89, 1894.

And when due care is given to the nasopharynx and its lesions, which underlie and maintain some of the other conditions alleged to be inherently inveterate, we will hear less of attempts to define treatment upon any mere basis of the location of the drumhead perforation. While the marginal openings up or back often signify caries of the ossicles or of the adjacent tympanic margin, these are yet not such very intractable conditions; and they only become the persistent, grave matters they are claimed to be when the real focus is in the antrum or the mastoid cells out of reach. The same may be said of the lower posterior perforations which are occasionally associeted with caries of the adjacent hypotympanic recess, which has been termed the tympanic "cellar." Curetting or more rigorous operative measures may be required by such a condition; but only in a group that has been small in our experience. Of the group with heart-shaped perforation down and forward, which has been claimed to be especially obstinate until traction has been relieved by section of the tensor tympani, we can not speak from experience, as no such cases have forced themselves upon our notice, and we plead guilty to considerable skepticism.

In closing, it may be said that a single thousand perforated drumhead cases can furnish no great basis for any positive conclusions; and it must be admitted that the component hundreds show sometimes very varying results. Yet, as a step toward clarifying the matter, the study may have value, at least in inducing others to similarly summarize their experience.

DISCUSSION.

Dr. S. G. **Dabney** of Louisville—I have listened with much interest to the paper of Dr. Randall. I was surprised to hear that statistics show 38 per cent. of perforations to occur in the upper posterior segment of the drum membrane. In my experience I do not think the proportion in this locality has been so great. I would fully endorse the remarks of Dr. Randall as to the significance and curability of acute perforations in Shrapnell's membrane. Many such cases have yielded to simple measures, when treated in the acute stage. I wish the essayist had dwelt a little more emphatically on the importance of perforations near the upper and posterior edge in the neighborhood of the entrance to the mastoid, and also on those small, hardly-visible perforations at the very margin of the drum membrane. The former situation is often indicative of a serious complication, and those in the latter are often very difficult to cure.

Dr. J. A. **Stucky**—This is an extremely interesting subject. The larger percentage of cases I have seen have been in the upper posterior quadrant. I am not able to give a reason for this. Perforations in Shrapnell's membrane more frequently than any other, call for intratympanic operations.

Dr. W. W. **Arnold**—In line of Dr. Stucky's inquiry, why such a large proportion should occur in this region, I think it might be explained on the ground that the drum presented the least resistance at that point. I recollect a case of a man who fell from a considerable height and burst the drumhead at this point, from which a severe hemorrhage occurred.

Dr. **Randall** (closing the discussion)—I fully concur as to the seriousness of some of the upper posterior perforations, as of some of those in the Shrapnell region, especially the slit-like, hardly-visible openings close to the margin, generally with a bare bone margin and pouting granulations. Caries is so often here present, and often cholesteatoma formations in the antrum, and some of these cases need thorough operative intervention. On numerous occasions I have urged that only a small number of attic suppurations demanded operative measures and I find more than a confirmation of this in the findings here presented.

ADENOID VEGETATIONS.

HOW AND WHEN SHALL WE OPERATE FOR THEM?

Presented to the Section on Laryngology and Otology, at the Forty-ninth
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BY EMIL MAYER, M.D.
Surgeon to the New York Eye and Ear Infirmary, Throat Department;
Lecturer on Laryngology to the New York Polyclinic; Fellow
American Laryngological Association, etc.
NEW YORK CITY.

The presence of adenoid vegetations, or more properly speaking, lymphoid hypertrophies, having been ascertained, the question arises, how shall we operate? Shall we use an anesthetic or not, and with what instruments shall we proceed? In very young infants it is idle to attempt a radical operation. In the first place, the vitality of the patient would be seriously endangered if an anesthetic were used, and in the second place the entrance into the posterior nares is so small in infants that the usual instruments could not be introduced without seriously lacerating the soft parts. It is my custom to use a Gottstein curette or a similar one on these young infants, always announcing, however, that the operation is for temporary relief only, and that the more radical operation may be necessary later, as recurrence is the rule. I have thus operated successfully on very young children, the youngest being eighteen days old.

In certain instances, where the children are entirely submissive, the operation may be performed without an anesthetic. As a rule, however, complete anesthesia is requisite, and operators differ as to the choice of an anesthetic. Chloroform has its firm advocates; but when we note its dangers we will do well to consider thoroughly before deciding upon its use. In a very admirable paper presented before the American Laryngological Association at its twentieth annual Congress, Dr. F. W. Hinkel of Buffalo reports a case of death from chloroform while operating for lymphoid hypertrophies. He mentions six other deaths reported as occurring under the same conditions, seven in all. Is it not proper then, in view of these facts, to consider this question very seriously before deciding upon its use? Knowing full well the discomforts and even danger that these lymphoid hypertrophies cause to the patient, yet they are not so serious as to permit us to place the patient's life in danger. It is better, indeed, to take every chance of mouth-breathing, possible otitis and even debilitated constitution, than run the risk of cutting short a human life that might have been spared. I wish to indorse as fully as I can the statement of Hinkel, quoted from an article on anesthesia, by Brickner, that chloroform is absolutely dangerous to those having the lymphoid tendency. In the light of our present knowledge, chloroform must be placed as being far too dangerous for use.

Bromid of ethyl acts promptly, but the presence of free bromin makes it dangerous.

Nitrous oxid is much too evanescent. Sulphuric ether, when given alone, is free from danger to life, but there are some objections to its use. The stage of excitement is prolonged, there is much accumulation of bronchial secretions, bronchopneumonia may result, and the subsequent somnolency may be an element of danger, in that hemorrhage may occur while the patient is unconscious and blood trickle down into the pharynx without our knowledge until, some hours thereafter, the attendant reports the patient alarmingly pale and faint. Nitrous oxid and ether make a very valuable combination, the former being used to induce primary anesthesia and the ether promptly follows. The stage of excitement is absent and the amount of ether required is so small that its disagreeable after-effects are minimized. Above all it is absolutely safe.

I have had satisfactory results from the use of the Schleich mixtures for general anesthesia. In a recent paper read before the American Laryngological Association I reported seventy cases in which I had used these mixtures successfully for operations upon the nose and throat. The No. 1 mixture is all-sufficient for our purposes, and is composed of

Chloroform	45 c.c.
Petrolic Ether	15 c.c.
Sulphuric Ether	180 c.c.

These parts are by volume, not by weight. It is important that the petrolic ether or benzin, shall have a boiling point of from 60 to 65 C.

It is best administered by the rapid drop method, as suggested by Willy Meyer, upon an ordinary chloroform mask covered with gauze, flannel and oiled muslin with a hole cut in the center. The amount required to produce complete anesthesia is about four drams, and from four to six minutes is all that is usually required to induce thorough narcosis. After a whiff or two the most unruly child becomes quiet, the breathing is natural and the patient seems to be asleep. No shrieking nor contortions are present, the attendants, whose aid was formerly so valuable in the stage of excitement, have nothing to do, the tension of the pulse is increased, and by the absence of conjunctival reflex we are first aware that the patient is fully narcotized. After the operation is completed it requires from four to six minutes before consciousness is fully restored. This latter fact seems to me to be of the utmost value, as we can promptly detect the presence of undue hemorrhage, by the expectoration.

Anesthesia being decided upon and the anesthetic selected, the time for operation is the next question to decide. Wherever possible the early morning hour should be selected as the most humane. Children want their meals, and it becomes often a severe tax upon the weary and excited mother to stay its pleading for food or drink. The bowels are moved the day previous, and the child goes to bed at its regular hour, having had its meal as usual. It is often asleep when the operator comes, and after a few whiffs of the anesthetic while in its own bed, it is frequently unaware of any operation having been performed. As to place, while operations may, and often are, done in the patients' homes, we naturally give preference to the properly equipped operating rooms of our hospitals. For reasons that will be mentioned, it seems to me to be inadvisable to perform these operations in our offices when an anesthetic is given.

Wherever these operations are performed, they should never be undertaken without ample assistance, and it is my invariable rule to have a trained nurse and a competent anesthetist present. The nurse prepares the table near a window, she has a bowl of cracked ice about the spray bottle of Dobell's solution, the sterilized instruments are placed in a 2 per cent. solution of carbolic acid, a bowl containing sterilized water is at hand, and bichlorid solution for the hands is ready for use. The instruments devised for this operation are so many that their mere enumeration would take up too much of your valuable time. Each instrument has some merit, and there is none suitable to every case. Hence, it is well to have various-shaped instruments at hand. The forceps I use are the Hooper, Gradle, Quinlan and Lowenberg, the curettes Gottstein and Hartmann. The head being dependent over the edge of the table and supported by the assistant, the jaws are held open with a mouth-gag, the forceps are introduced and all tissue within its grasp removed. A smaller forceps follows this one, then the curette is used, followed by the forceps, to detach any tissue loosened by the curette, and the finger now sweeps all over the postnasal space to note if all is removed. The patient is turned over on his face and the blood allowed to flow out, the nose and throat are well sprayed with the iced antiseptic solution and the operation is finished. The patient is now placed in bed, the directions are given for a low diet, and a spray of the iced antiseptic solution in the nose and throat used once every hour. Every case operated upon, either in my private practice or in my clinic at the New York Eye and Ear Infirmary, is kept in bed and under observation for twenty-four hours. This rule is not usually followed in clinics. I have invariably done so for the past three or four years, and I am glad to note that it is being generally adopted. Because I consider rest in bed so essential immediately after operations, I do not operate in my office. After the first twenty-four hours the spray is used less frequently and no longer iced. After the third day warm saline washes with some antiseptic added may be used by means of a nose cup.

This method of operation has been followed by the very best results in my hands. There have never been any disagreeable consequences, no sepsis, no hemorrhage nor any annoyances whatever. It would seem needless to add, but experience teaches the advisability of its mention, and I am sure that you will fully indorse the statement, that no operation for adenoids should ever be undertaken while the patient has any acute inflammatory disease of the throat, or during the existence of any of the exanthemata.

25 East 77th Street.

DISCUSSION.

Dr. J. F. Barnhill—No doubt the part of this paper which interests us most is that relating to the anesthetic. We use practically the same instruments in operating, and our aim is to thoroughly clear the nasopharynx of the adenoids. But as to the kind of anesthetic, or whether an anesthetic shall be given, there is more difference of opinion. One of the seven deaths from chloroform in the removal of these growths referred to in the essay was probably mine, for unfortunately, such a calamity befell me and was reported. The child was 6 years old and healthy in every way, except that it had enlarged tonsils and adenoids. I examined the chest and lungs on the day previous, cleared the bowels with a physic and prepared the child well for the operation, which was done at 8 A.M., a glass of milk having been taken at 6 A.M. The chloroform was given by an experienced physician, the child taking it well and being rapidly narcotized. The operation was done by first removing the faucial tonsils, then the adenoids, the time being less than two minutes. The head was well down over the table and there was the usual amount of hemorrhage. The child recovered sufficiently to cry and blow clots from the nose. I then proceeded to examine the masses removed, when the anesthetist called me, saying the patient was doing badly. A glance showed the assertion true, and means of resuscitation were promptly begun and continued for more than an hour. There was no heart-beat from the instant we noticed anything wrong, the death being apparently due to sudden paralysis of the heart. No postmortem was allowed. Since that time I have used chloroform but very little, for, judging by this case, there was positively no contraindication to its use. I now use nitrous oxid in almost every case in children, and find that the anesthesia lasts quite long enough to complete the work satisfactorily. I keep my own apparatus and use the S. S. White gas and retainers. In adults I operate with cocain anesthesia. First cleanse the parts, then with a properly curved cotton-tipped probe, dipped in a 4 per cent. cocain solution, and then depositing a few crystals of cocain upon the tip and posterior surface of the cotton, with the palate well retracted and the mirror in place, I deposit the crystals directly upon the growth *and nowhere else.* Not more than a half-gram should be used, and then the growth should be removed within a minute. I have often performed this operation thus, with little pain and no symptoms of cocain poisoning. I have always believed that a considerable part of the pain of these operations is due to fright, and another and more considerable part to the spasmodic contraction of the palati and constrictor muscles about the instruments, thus permitting the injury of the parts.

Dr. J. HOMER COULTER—I doubt very much if there is much tendency in these adenoids to return if once they are thoroughly removed. I am blamed somewhat for cruelty since it is known that I do this operation ordinarily without any anesthesia whatever. I can not believe that the very considerable danger in the use of chloroform and ether is counterbalanced by the slight pain which occurs from the operation carefully done. I would prefer that some one else assume the responsibility of giving the anesthetic.

Dr. S. G. DABNEY—One of the chief points brought out by Dr. Mayer's paper is the difference of opinion as to anesthesia. Like the essayist, I very often use general anesthesia. I often have chloroform administered. It would be interesting to know whether the deaths from chloroform reported by Dr. Hinkel were dependent in any way upon the character or situation of the operation, or whether they were just such as are always liable to occur from chloroform or ether. We must all appreciate the fact that there is always danger in the use of an anesthetic for whatever purpose it is used. I can not think that the finger alone is often sufficient to remove these growths. I think we all agree that Dr. Mayer is wise in keeping these children in bed for twenty-four hours, and in selecting the early morning as the time for operation. Like Dr. Mayer, I use first the forceps and then the curette, and if the patient is anesthetized I put my finger in the nasopharynx to see that the removal of the adenoid is complete.

Dr. MAYER (closing the discussion)—This subject causes so much discussion that it brings out the ideas of each participator and a great variety of opinion. I do not indorse the use of cocain, either in spray or plugs, in the nose. In my hands they have been valueless. Chloroform is really dangerous, and I wish to retract the statements that I formerly taught that it is not so. The report of the case of Dr. Hinkel, a careful observer, and that of Dr. Barnhill, whom I know to be conservative, are enough to make us pause and feel that we must always protect our patients. The statement of Dr. Lautenbach that he always operates with his finger only is one which I wish most emphatically to protest against and condemn. It would be a source of infinite regret to me to feel that the endorsement of such an unsurgical procedure would have the sanction of this Section. It is a crude, unsatisfactory and most inhuman method, and more harm than good can ever come from such methods of operating in the long run. Dr. Ingals has suggested the forceps in the nose to remove any pieces of tissue that are not grasped by the forceps and curette. I agree with him entirely, and consider it proper routine practice.

ADENOID GROWTHS.

THEIR RELATION TO DEAF-MUTISM—REPORTS OF CASES.

Presented to the Section on Laryngology and Otology, at the Forty-ninth Annual Meeting of the American Medical Association, held at Denver, Colo., June 7–10, 1898.

BY A. C. GETCHELL, M.D.
WORCESTER, MASS.

Within the last year I have operated on three deaf-mute children for the removal of adenoid growths and enlarged tonsils. I propose to report these cases, and to examine the questions: To what extent are adenoid growths and enlarged tonsils a cause of deaf-mutism? and What may be accomplished by their removal? Two of my cases were boys, aged 8 and 9 years, and the third was a girl aged 3½ years.

Case 1.—P. H., aged 9 years. Both his maternal and paternal grandparents were cousins. There was a history of tuberculosis on the mother's side, but both father and mother were healthy. Besides his brother there had been but one other child in the family, who died at the age of twenty months, of stomach trouble. As a baby, this boy was small, weighing only 4½ pounds at birth, and he was brought through infancy with difficulty. His head is now small, but he is not specially undersized. He was not deaf at birth. As a young baby he seemed very sensitive to sound. He was a light sleeper, and a whisper or soft whistle would waken him. His parents do not know when he lost his hearing. His speech was so poor that they thought school instruction would help him. He could get inflections, but not articulations. His teachers discovered the real difficulty. He has had measles, but not scarlet fever nor convulsions. His parents gave catarrh as the cause of his deafness. With his brother he was taken to the Horace Mann School, and it was there advised that they both be kept among hearing people. They were also taken to the Massachusetts General Hospital and were under the care of an aurist. They have been under the instruction of Miss Littlefield, a teacher of the deaf and dumb, now a year and a half.

Examination showed large tonsils and adenoid growth. In the right ear the membrane was thickened, the light spot but no other landmark being visible. In the left, the membrane was reddened, and no landmarks were visible. June 28, 1897, I removed the adenoid growth and the tonsils, under ether.

In April, 1898, Miss Littlefield gives this report of his condition: "Philip's hearing has improved in so marked a degree as to be noticed by his playmates. Naturally, the better hearing helps to obtain better articulation. A neighboring store forms a convenient place to test the value of his speech. He has often done errands for his mother by carrying a piece of paper on which was written the name of the desired article. During the past winter he has objected to that method, preferring to talk, and when told the name would practice until he could speak it correctly, and then would run to the store and ask for the article. He has never been misunderstood, for he has always done his errand correctly. He has been free from colds, to which he had been subject, and his general health has improved."

Case 2.—W. H., aged 8 years. This patient was a brother of Case 1. He was not born deaf; until the age of 2 years his father thinks he heard. He said a few words: "Mamma take," "papa take," "Ida take," also "ear" and "pie," of which he was very fond! At 2 years of age he had cholera infantum and convulsions, and has not heard or talked since. He can hear only sharp sounds like a bell. There were large tonsils and an adenoid growth. In the ears both membranes were indrawn and thickened.

June 28, 1897, the tonsils and adenoid were removed under ether. Except for improvement in general health, breathing, and freedom from colds, there has been no result from this operation.

It may be interesting to add that the boys are bright and affectionate.

Case 3.—P. L., a girl aged 3½ years. She is an unusually bright and active child, one of a family of seven children, all of whom are healthy. The father and mother are also healthy, and the family history is good. She was not born deaf, nor has she had any infectious or contagious disease. She has, however, had six convulsions, five during teething. It is from a convulsion at a year and eight months of age that her father dates her deafness. She has said a few words and can hear sharp sounds. She had an adenoid growth, enlarged tonsils and both membrana tympani were indrawn and thickened. The adenoid and tonsils were removed June 26, 1897. There has been no improvement.

James Kerr Love found that 70 per cent. of the deaf-mute children in Glasgow had adenoid growths or enlarged tonsils, or both. These figures agree with those of other observers. This proportion is certainly larger than in hearing children, but are these growths an important causative factor of deaf-mutism? Adenoid growths and tonsils alone are prone to cause disease of the middle ear with perforation of the membrane and a running ear. But great deafness does not usually accompany such a condition. There are those who think that mutism as well as deafness follows and is caused by adenoid growths and nasopharyngeal catarrh, but the weight of authority is against this view. Undoubtedly, the presence of adenoid growths and enlarged tonsils, when there exists also serious damage to the internal or middle ear, will make the acquirement of spoken language much more difficult, and it may be impossible. But of themselves they are not an adequate cause, appearing as they usually do, as late as the third or fourth year, when the condition of deaf-mutism already exists. To be sure, there have been cases where no other cause than nasopharyngeal catarrh could be assigned. But when we consider how rare is nasopharyngeal catarrh in a very young child and that the trouble is not detected, as in the two boys whose histories I have reported, until the condition of deaf-mutism has been fully established, and, furthermore, when we consider the undue importance the laity attach to the term "catarrh," and how apt it is to be regarded as the cause of many troubles, it is plain that evidence on this point is not very reliable. On the other hand, clinical investigations and pathologic findings show that deaf-mutism is either congenital or that it has followed cerebral disease, such as meningitis, epidemic or isolated, or such a disease as scarlet fever.

Holger Mygind has collected the reports of 139 postmortem examinations of deaf mutes, the series including both congenital and acquired disease and those cases in which no cause was assigned. The pathologic lesions in the different groups did not materially differ. I have selected from his reports notes describing conditions which were frequent and which serve to indicate the characteristic pathologic lesions of deaf-mutism. Thus, the following conditions were found, and many of them often: Membrana tympani wanting, ossicles wanting, entrance to the Eustachian tube wanting, malleus and incus atrophied, incus ankylosed to the inner wall of the tympanum, stapes ankylosed and the fenestra rotunda absent, the tympanum filled with a caseous mass, the osseous portion of the Eustachian tube to a great part filled with an osseous mass, while the cartilaginous portion was substituted by an imperforated cartilaginous mass; fenestra ovalis and rotunda closed by an osseous mass, the whole labyrinth filled with caseous matter, labyrinth absent, semicircular canals, one or more wanting or replaced by osseous tissue, or closed by an osseous mass, or walls thick and like ivory; semicircular canals replaced by two tubes which communicate with each other; all the semicircular canals ending in a cul-de-sac shortly after their origin, cochlea absent, its entrance from the vestibule and fenestra rotunda leading to two small cavities; cochlea very short, forming only 1¾ turns; modiolus and laminus spiralis only present in the first half turn of the cochlea, in the lap of which a large cavity was produced. There was also reported atrophy of the nervous elements of the auditory nerve, and these conditions existed: auditory nerve only one-third its natural size and of fibrous structure, no part having the appearance of a nerve; only traces of the nerve found, atrophy of the cerebellum; cortical layer of the cerebrum atrophic in several places.

These pathologic data bear out the statement of Love (p. 159). "We know that the essential part of the hearing organ is the internal ear, and without any detailed examination of the morbid processes which accompany deaf-mutism, we may safely predict that the deafness is almost always due to abnormality of the labyrinth. This is true as a general statement."

With the almost absolute certainty that the pathologic lesion in every deaf-mute is in the internal ear, whether the middle ear be involved or not, and with the certainty also that no therapeutic measures will influence these processes, it is evident that the chances are vastly against any material help to hearing coming from the removal of adenoid growths or enlarged tonsils. On the other hand, it is to be borne in mind that in hopeless cases even a small gain is a great deal, and where there is a vestige of hearing remaining there is reason to suppose that some part of the auditory apparatus has escaped and, as is shown by my first case, something may be accomplished to mitigate the condition of these unfortunate persons.

Another question is to be considered: Do these growths have any effect upon the acquirement of spoken language?

The dead voice of the adenoid child and his inability to properly articulate are among the chief characteristics of the disease, and it is now generally recognized that these growths are a serious hindrance to the proper development of voice and speech. If this is so in the hearing child, how much more important do they become in the deaf, where speech has to be acquired through slow and tedious muscular exercise, the initiative faculty being aided by the eye and checked and corrected only by the sense of feeling and not by any appreciation of the result of a proper adaptation of the vocal organs that hearing affords. Since speech is acquired by the totally deaf only by the constant repetition of muscular adjustments anything that interferes with such adjustments makes the task so much the more difficult. These growths do seriously interfere with the free action of the vocal organs and, therefore, on this account should be removed. Again, the general well-being of the child is so much promoted by their removal. This is as true of the deaf as of the hearing, and they should have the benefit of the operation.

We, therefore, arrive at these conclusions: Adenoid growths and enlarged tonsils should be removed from deaf-mutes:

1. If there is any probability that they contribute to the deafness.
2. If they make more difficult the acquirement of spoken language in the oral pupil.
3. To improve the general health of the child.

On the first two points the prognosis should be exceedingly guarded.

DISCUSSION.

Dr. **Randall** opened the discussion with the remark that the views of Dr. Getchell were in full accord with what he had seen. Many of the pupils of the Pennsylvania Deaf and Dumb institution in Philadelphia came under his care as consulting aurist, but Dr. A. A. Bliss, the attending laryngologist and aurist, had examined most painstakingly all of the pupils. He found many affected with adenoid overgrowths, but it is questionable if it is more frequent than in other children. A number were relieved of their adenoids to their great advantage, but so far as he knew without any gain in hearing. Much may be done to improve the speech, and incident to teaching this, much exercise will be given to the auditory apparatus and centers beyond, and the renewal of hearing, which is commonly present, may be made the most of, if not improved.

ADENOID VEGETATIONS IN THE NASOPHARYNX.

Presented to the Section on Laryngology and Otology, at the Forty-ninth Annual Meeting of the American Medical Association, held at Denver, Colo., June 7-10, 1898.

BY JOHN O. McREYNOLDS, B.Sc., M.D.
DALLAS, TEX.

In this brief paper on adenoid vegetations in the nasopharynx I shall confine myself to a consideration of the measures which I have employed at different times, and especially those that I have found most satisfactory in the management of this condition. Its pathology and its importance are both so generally conceded that nothing appears to be required in order to establish these facts which are set forth in all works on laryngology. But as the method of dealing with this trouble has varied widely in the hands of different authorities, it might be well to briefly review these different procedures in the light of our individual experience. The treatment may be either medical or surgical, or the two may be very happily combined. In my judgment the surgical procedures are by far the most efficient, and they consist in the radical removal of the growths.

The question of anesthesia is the first to be considered, and in actual practice it is of the greatest importance. Formerly I always employed a general or a local anesthetic and I have never had any unfortunate results from its use, but during the last few years I have completely abandoned both of these for the following reasons: the local anesthetic does not penetrate deep enough to do any material good, while the effect is sometimes depressing and very frequently unpleasant. The general anesthetic always involves some risk, and especially is this true in operations where blood-clot is liable to form across the rima glottidis, while the sensibility of the larynx is obtunded and the reflex act of coughing is not induced by the presence of a foreign body in the larynx. And then the time and labor and extensive preparation involved in the operation with a general anesthetic will cause an unnecessary amount of anxiety on the part of the friends and relatives of the patient, while the patient will experience as much suffering from the administration of the anesthetic and the subsequent nausea and vomiting as would be incurred by the operation itself. So the entire operation, as I perform it, seldom consumes more than thirty seconds of time, is perfectly free from danger, is quite satisfactory in results, and involves the minimum degree of bodily distress to the patient and of mental solicitude on the part of all concerned. For the removal of these growths I have repeatedly used various instruments, including different forms of curettes and forceps designed for this purpose, and I still employ them in those exceptional cases in which the amount of fibrous tissue is unusually large. But in the vast majority of cases I find that a first-class mouth-gag and the index finger of my right hand will supply all the armamentarium required. I do not even resort to the long, sharp-pointed finger-nail, but I keep all my finger-nails trimmed close and use a method of expression for the removal of the growths. By this procedure the entire nasopharyngeal cavity can be thoroughly explored and effectually cleared of all obstructive lymphoid tissue, and that without any possible injury to the soft, delicate structures of a child's throat. Indeed, I regard a thin layer of lymphoid tissue in the nasopharynx of a child as a perfectly normal condition, and any operation which will be liable to scrape away everything, down to the periosteum, will lay the foundation for subsequent atrophic changes more difficult still to control. Thus, the removal of the adenoids with the finger will restore the proper capacity to the nasopharynx, relieving the postnasal and Eustachian obstruction, and leaving a velvet-like lining which is normal in quantity and in quality and will naturally and gradually diminish as the child advances in age. The details of the plan I employ are as follows:

The child sits in the lap of an assistant with its head leaning against the right shoulder of the assistant, who embraces the child with his arms, holding its body and its hands firmly, while its feet are grasped and secured by the knees of the assistant. Then passing my left arm around the head of the child, I hold the mouth-gag in place with my left hand, while my right hand remains free to remove the growths, which, together with the blood, fall into a basin held in the hands of a second assistant. The subsequent treatment varies according to the special indications presented by each case. Some of the most entirely satisfactory cases that I have ever known have required nothing at all at my hands beyond the operation itself, which did not consume more than thirty seconds.

Cases of this character I provide with an alkaline and antiseptic solution for keeping clean the upper respiratory passages, and this is supplemented by an albolin, an antiseptic solution which I find is very conveniently applied to the wounded nasopharynx by means of an ordinary medicine dropper slightly introduced into the anterior nares. But many cases require also the internal administration of alterative tonics and the more or less prolonged local use of sorbefacient remedies. In my experience the good results of the operation have been pronounced in patients of all ages where I have found these growths present, and I have sometimes operated on infants under one year old with the result of promptly arresting middle-ear suppuration that for many weeks had resisted careful treatment applied through the external canal.

In concluding this very imperfect review of the treatment of adenoid vegetations of the nasopharynx I feel justified in saying that the necessary operation can be performed within a very few seconds, without danger or serious discomfort to the patient, and with the certainty of securing beneficial results that will amply reward our labors.

DISCUSSION.

Dr. B. A. **Randall**—The discussion of adenoids at this and each previous meeting shows considerable diversity among us, but there will always be much to be said on each side. If we consider the physiologic structure and variation in this region, we must recognize that total removal of the adenoid tissue is absolutely impossible, since it extends far up the Eustachian tube mouths, as well as in the Rosenmuller fossa, and numerous nodules may be found upon the upper surface of the palate. Each will have his own choice of instruments and of procedure in general; but while, once for all, operations are quite possible, they risk overdoing, if they go beyond the removal of what is already pathologic. Cases are seen in which the pharynx has been stripped to the aponeurosis.

Dr. FRANK D. BOYD, Fort Worth, Texas—I simply desire to endorse Dr. Parker's idea of the operation for adenoids. I would suggest that the use of some instrument to be introduced through the nares, following the curetting, is of vast importance, as we often find the adenoids extending high up in the nares, which it is nearly impossible to reach with the curette or fingers.

Dr. MAYER—One point in making a diagnosis of adenoids in children has been overlooked, and that is the existence of adenoid tissue on the posterior pharyngeal wall. When present it is always diagnostic of the presence of adenoids. I note that an objection to anesthesia in these cases is that it is too cumbersome and requires more assistants than without anesthetics. Dr. McReynolds uses two assistants and I use no more for anesthesia, hence his objections are not germane. I consider nitrous oxid too evanescent, but if ether is given directly after the patient has become unconscious from the nitrous oxid, we will have anesthesia sufficiently prolonged and absolutely safe. Once more do I wish to protest against the finger-scraping method, and from the discussion of yesterday and my own knowledge, I am glad to see that these views are those of the majority of the profession.

Dr. HARLAN related a case of chronic pseudo-membrane of the conjunctiva which had existed four years, and which developed genuine diphtheria of the conjunctiva and pharynx after the use of jequirity. The case was reported in full in the *Journal of Eye, Ear and Throat Diseases.*

Dr. MCREYNOLDS, closing discussion—Gentlemen of the Section, I wish to thank you for the free discussion which you have accorded my very imperfect paper, and I would say that I should have been surprised indeed if all the members present had coincided with me in every particular; and I wish especially to express my sincere appreciation of the endorsement of our chairman, Dr. Randall of Philadelphia.

AFFECTIONS OF THE EXTERNAL EAR.

Presented to the Section on Laryngology and Otology, at the Forty-ninth Annual Meeting of the American Medical Association, held at Denver, Colo., June 7-10, 1898.

BY B. ALEX. RANDALL, M.D.

PHILADELPHIA.

Although affections of the external ear constitute one-fourth of aural practice, they may well be said to be its simplest part and, in view of their rare seriousness, to be little worthy of much consideration. Perhaps it is this very simplicity and openness to rational measures of general surgery that accounts for much of the neglect they have received, but more potent are the unfortunate traditions of centuries of unintelligent empiric measures to which they have been subjected. When ear-drops were the only known way of treating ear disease, such were indefinitely multiplied, and as ultimate relief followed the use of many medicaments, their supposed potency is a hardly challengeable portion of medical belief. As well save your breath as to argue that laudanum and sweet-oil is not the best possible relief for earache, or that oil or glycerin need not be dropped into the ear for the relief of impacted cerumen.

With the pathology of the ear fairly understood, there should be little need of more than mentioning many of the conditions to have the remedial measures suggest themselves with no great amount of choice or complexity; but even some aurists have not sufficiently clarified their comprehension of these matters, so it is natural that the general practitioner remains befogged. I have no wish to enlarge upon the common and simple affections, with which most of you are as familiar as I can claim to be; but I may be pardoned if I lay stress upon a few points that make for simplicity and clearness.

The external affections make up fully 25 per cent. of all our practice, and more than half of this consists of infected cerumen—about 14 per cent. Of the remainder, diffused inflammations of the auricle and canal, which we can group as eczematous, make up about 5 per cent., and furunculosis, generally sequent upon the eczema, 2 per cent.; leaving a host of rarities to aggregate the remaining 4 per cent. Pardon, all those of you who know that a little hot water will remove any wax plug, when I insist upon this simple point. Use a syringe, alongside of which you can illumine and observe your work, with water of 110 degrees F., and two fluid ounces in as many minutes will almost invariably complete the cleansing. If not, it is because the wax is largely epithelial and probably attached to the walls by incomplete desquamation. The same device will remove almost every foreign body, will relieve many of the furuncles, and never harm if it fail to cure the diffuse inflammations. "But you would not use water when there is a seed in the ear to absorb it and swell?" I am sometimes asked. You may be slow enough to "let the grass grow under your feet," but you must be slower, and lack the sense to dehydrate with a little alcohol, if you are to let such seeds grow under your hands. If you must needs use a traction instrument, try a loop of horsehair, gut or fine wire, before you risk injury by hooks or forceps. Don't be too surgical and ingenious, like the man who with mercury floated up a leaden bullet that would have fallen out of its own gravity had the ear been directed downward. No aural surgeon needs to be reminded that foreign bodies in the ear are harmless unless driven in by firearms or a meddlesome extractor. Whether microbes cause the diffused inflammation or only accompany it, we know that they make an unclean condition which needs thorough cleansing, which must be not only of the surface, but must penetrate the tissues as far as they are invaded. Yet few of the books so much as speak of hydrogen dioxid in this connection, although it is one of the few efficient agents at our command. When it has brought to view some subcuticular foci, and our inunction has been used until these grew transparent again, you can feel fairly satisfied with the beginning you have made in curing these sometimes very obstinate affections. Treat it promptly and carefully, and your patients will avoid many a furuncle which would have resulted from scratching. Where the furuncle is a fact, use pressure by a tampon covered with the yellow oxid of mercury ointment, and you will rarely fail to hasten relief and forestall recurrence.

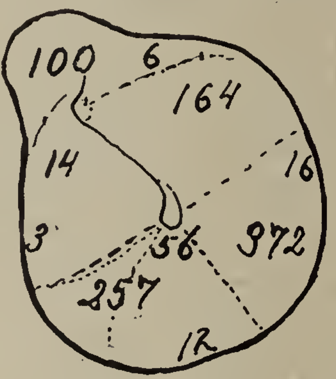


Diagram of drumhead showing sites of 1000 perforations.

It is out of the remaining 4 per cent. of cases that I have chosen most of my illustrations, believing that these rarities will be of interest. Some of them, like leprosy, I may never see again affecting the ear—lupus, carcinoma or sarcoma are much less rare. The keloid fibroma is not uncommon in the negro after ear-piercing, and may attain, even exceed, the size of the fist, although I have had no chance to photograph or operate upon one so large. The various malformations are often of much teratologic and some surgical interest, and I am just now watching a group of the cases of small and distorted auricles in which I believe that my early operation will permit a growth slightly approximating the normal. Loss of the external ear by trauma and stenosis of the canal, whether congenital or acquired, is generally well treated in the books, and the cases of exostosis are rarely stumbling-blocks since aural surgery grew less timid. Herpes and erysipelas of the ear need no special consideration except in the differentiation from the severe erysipelatous forms of eczema which may puzle or alarm.

There is one condition or group of affections that seems to have received insufficient recognition and to lack the differential diagnosis which is generally possible and important for treatment. We know, of course, that furuncle is an inflammation of a gland, generally of the sebaceous gland, but we have in the auditory meatus numerous ceruminous glands also, corresponding to the sweat glands of the general integument. These are really subcutaneous in their coiled position and in closest relation with the periosteum, which they sometimes involve, hence the occurrence of marked cellulitis, periostitis and superficial caries. All the symptoms of a mastoid empyema breaking out into the canal may be present, or it may be impossible to distinguish the affection from a burrowing out of pus from the tympanic attic, and surgical exploration may alone afford the clue. The mastoid cavities may be invaded from without, and cholesteatoma formations within those thus opened may seriously complicate the disease as well as its later recognition. The history and our trained intuition may alone differentiate the condition and point out our duty, and there is always room for mistake; but with due consideration of the pathologic possibilities we should not be long in doubt as to the facts or the indications, upon which it is needless to dilate.

DISCUSSION.

Dr. Mayer—There is one form of deformity of the middle ear that is known as hematoma auris of the insane, that is rather frequent, which might be added to the interesting facts here presented. I would like also to call attention to the cases of congenital deformity here presented, and to ask the reader of the paper what his results are from operation as regards the formation of an external canal, and whether it is usual to ıave a normal tympanum behind it.

DEFORMITIES OF THE SEPTUM NARIUM.

THEIR CLASSIFICATION WITH A VIEW TO TREATMENT.

resented to the Section on Laryngology and Otology, at the Forty-ninth Annual Meeting of the American Medical Association, held at Denver, Colo., June 7-10, 1898.

BY W. E. CASSELBERRY, M.D.
ROFESSOR OF LARYNGOLOGY AND RHINOLOGY IN NORTHWESTERN UNIVERSITY MEDICAL SCHOOL; LARYNGOLOGIST AND RHINOLOGIST TO ST. LUKE'S HOSPITAL; LARYNGOLOGIST TO WESLEY HOSPITAL, ETC.
CHICAGO.

The variety of septal deformities is infinite, no two ases being exactly alike, therefore a classification is est attempted by describing the types most often enountered, with a view to elucidation and systematizıg of the treatment.

I. EXCRESCENCE OR SPUR OF THE SEPTUM.

Cartilaginous spur.—This usually projects horizontally from the base of the quadrangular cartilage, although it is sometimes vertical. It may be ledge-shaped, ovoid, or pointed, and may be implanted upon the convexity of a deviation.

Mixed cartilaginous and bony spur.—This is a continuation of the former type upward and backward, and it usually embraces first the sutural line of the cartilage and vomer, but gathers volume and thickness as it proceeds along the sutural junction of the vomer and ethmoidal plate, terminating opposite the middle meatus or turbinated body, into which it may press. The opposite side is somewhat concave or it may be the seat of an angular deflection.

Bony spur.—This occupies a similar position, but far back, without involving the cartilaginous part of the septum. It may be ledge-shaped or ovoid like a pointed rosette, and may show more distinctly from the rear than in front.

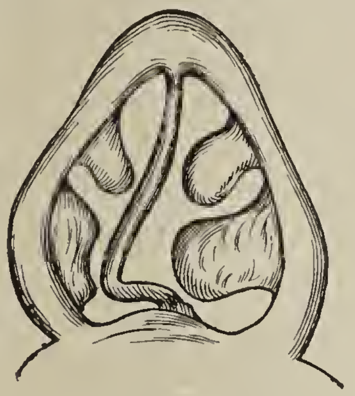


Fig. 1.

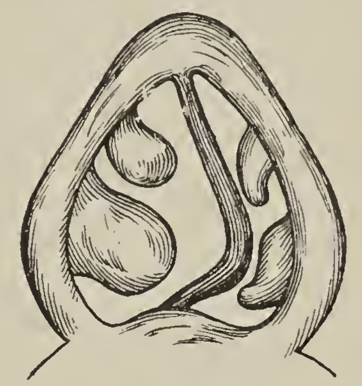


Fig. 2.

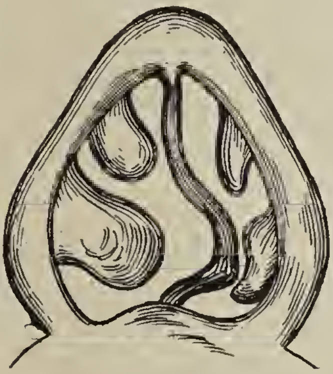


Fig. 3.

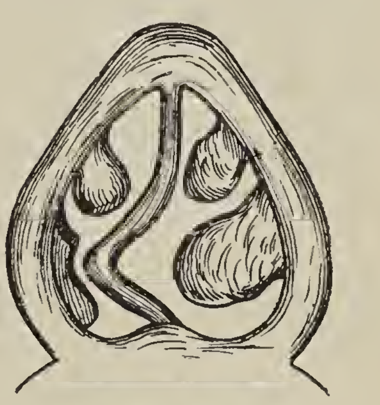


Fig. 4.

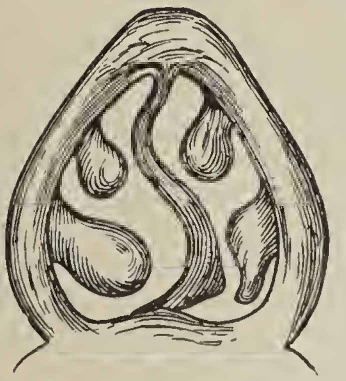


Fig. 5.

II. DEVIATION OF THE SEPTUM.

Cartilaginous deviation.—The cartilage may be alone affected, but more often the angle of articulation of the cartilage, ethmoid plate and vomer is involved or forms the center of greatest concavity. If only a small section of the bony part be encroached upon it still may be regarded as cartilaginous from the standpoint of treatment, for the deformity can be corrected by incisions through the cartilage without fracture of the bone.

Mixed cartilaginous and bony deviation.—This class embraces cases in which with marked cartilaginous deflection the bony segments are so much affected and so far back that straightening of the cartilage will not carry the bone with it to the median line.

Bony deviation.—This includes the rarer cases in which there is marked deflection far back, affecting the anterior two-thirds of the vomer and adjoining ethmoidal plate with but insignificant deviation of the cartilage. The actual rear edge of the vomer is nearly always straight.

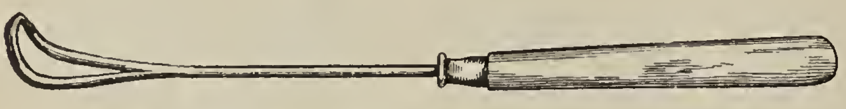
The deflection, whether embracing the cartilage or bone, may be a simple leaning toward one side or the other, connecting at the base by an angular or rounded curve (Figs. 1 and 2), or a simple central bulge (Fig. 3), or an angular formation (Fig. 4), or the lower portion of the cartilaginous septum and vomer may bulge on one side, while, above, the ethmoidal plate and upper part of the vomer is turned to the opposite side producing a sigmoid deflection (Fig. 5), and lastly, any combination or variation of these types may be encountered. Instead of the obliquely horizontal, the acutely angular deflection, especially, may assume a vertical trend; the sigmoid, instead of being vertical, may make a double horizontal curve.

III. COMBINED EXCRESCENCE AND DEVIATION OF THE SEPTUM.

While excrescence exists without deviation and deviation without excrescence; a combination of the two is the most frequent deformity encountered. The formation of a ledge-like spur along the lower border of the convexity of a deviation, as if provided by nature to support and prevent further bending, is the usual condition, although contortions present themselves in any combination of the types already described.

The etiology of deformities of the septum has proved to be most fascinating, but for the sake of brevity it can form no part of this contribution. For the same reason the interesting chain of symptoms is omitted.

Fig. 6.



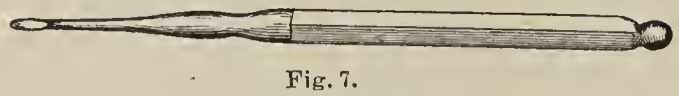


Fig. 7.

Treatment.—Previous to operating, a correct estimate of the class of deformity present, as regards the thickness of an excrescence, its location, the degree of deviation and the extent of involvement of the bone, should be made by a thorough examination with a probe, for on it, by the adoption of a suitable operation, the prognosis will depend. If the deformity be slight, not sufficient to cause obstruction or other symptoms, interference is unnecessary, but when pronounced, the effects are so deleterious that one should not hesitate to advise correction, for the results are highly satisfactory. The operation must vary in accordance with the class of deformity. When not otherwise specified in the description it is done under local cocain anesthesia, 10 per cent., on cotton pledgets squeezed dry and packed upon both sides of the septum for fifteen minutes.

IV. EXCRESCENCE OR SPUR OF THE SEPTUM.

Strictly cartilaginous spurs.—These necessarily lie well in front and are accessible for Ingals' operation as slightly modified by the author. The ala is best retracted by an assistant with the author's retractor. (Fig. 6.)

An incision is made through the mucoperichondrium over the most prominent part of the spur, and the mucoperichondrium, held by small serrated forceps, dissected freely away from the cartilage in both directions, by the author's double-edged sharp spud (Fig. 7); the excess of cartilage is abscised, and the mucoperichondrium then stitched together. If not all the mucous membrane, then as much as possible of it, should be saved, for it facilitates healing and prevents that interminable incrustation, which is certain to ensue if much mucous membrane in the very front of the nostril be sacrificed.

These strictly cartilaginous spurs are also amenable to treatment by electrolysis. With few exceptions I have employed the preferable bipolar method, by which two needles, one representing each pole, are inserted into the spur. My needles are made of irido-platinum, which is nearly as stiff and hard as steel, twenty millimeters in length, about one-half millimeter in thickness, soldered parallel three millimeters apart to copper bars, which run through a light handle.

The current strength necessary for electrolysis of nasal spurs is from fifteen to thirty milliampères, measured with the resistance of the spur in the circuit, and to supply this current from fifteen to twenty cells of a galvanic battery would ordinarily be used, with a corresponding electromotive force of from twelve to twenty volts or more. The inconvenience of this apparatus, and especially its unreliability when called into use only at irregular and prolonged intervals, has deterred many from trying the electrolytic method. I have avoided these annoyances by adapting the Edison electric-light circuit to the purpose by means of lamp resistance and the McIntosh current-controller. The duration necessary depends somewhat, of course, upon the current strength; but with the meter registering from fifteen to thirty milliampères I have not found it necessary to exceed from six to eight minutes for the devitalization of cartilage.

MIXED CARTILAGINOUS AND BONY SPURS.

Bony spurs.—These usually commence well within the nostril and may be simply sawed off, sacrificing the mucosa, for the liability to subsequent incrustation is much less far back in the nose, but, if the anterior end of the spur lie well forward, its mucosa should be saved by the process above described. Gleason's self-retaining speculum is adjusted, an incision through the cartilaginous portion made from below upward, a De Vilbiss hand-saw inserted and worked quickly, upward, taking care not to let the rear end of the spur escape, till no connection remains but mucosa, which is then cut by scissors, the fragments grasped by strong serrated forceps and withdrawn. Occasionally it is necessary to meet the upward saw-cut by one from above downward. If the spur be formed very close to the floor of the nose the author's curved saw devised for this purpose will be more easily inserted. One should estimate carefully and remove as much as possible of the spur without causing perforation. Immediately after operating, the nostril should be packed with 10 per cent. moist iodoform gauze to prevent hemorrhage, which is very liable to recur after the patient has left the office, which packing can be carefully removed, part on the second and part on the third day.

Other means are occasionally employed for the removal of spurs, either alone or assisted by the saw. Next in importance and usefulness are nasal drills and trephines rotated at high speed by an electric motor. These I find very useful for trimming off remaining fragments and angles after the use of the saw, rather than as a substitute for the saw, and for exceptional cases rather than for routine practice. The same may be said of chisels and ecchondrotomes. Electric saws driven at high speed by a motor expedite the sawing operation, but on the whole are scarcely necessary.

DEVIATION OF THE SEPTUM.

Cartilaginous deviation.—When strictly cartilaginous and wholly near the nostril, this can often be corrected by the same submucoperichondrial operation described in connection with strictly cartilaginous spurs. I have found this procedure most successful for perpendicular angular flexion of the end of the cartilage and for semihorizontal flexion with redundancy to the point of causing dislocation or turning downward of the columnar cartilage. After separating the mucoperichondrium from the convexity, the cartilage is grasped by forceps and the redundant, deformed edge removed, or an oval or triangular piece resected, care being taken not to penetrate the mucosa of the opposite side. The mucoperichondrium is then stitched and an iodoform gauze plug inserted for support.

When the deflection is of the bulging or angular sort, involving the whole cartilage and encroaching, perhaps, upon the bone, therefore situated well within the nostril, the most satisfactory operation is as follows: A crucial incision, the lines crossing at the point of greatest convexity and extending well to the circumference of the bulge. is made by a bistoury entirely through the septum, from one side to the other. The little finger is then inserted into the narrow nostril and the septal fragments pushed forcibly into the opposite nostril. In order to destroy the resiliency of the top fragment it may be necessary to weaken its base by an additional cut, but not extending through its whole thickness. The slightly overlapping fragments are then kept in place by an iodoform gauze packing in the narrow nostril, which may be replaced in three days by a suitable size of Asch tube, which is worn for six weeks, to serve as a splint. If the tube is not at hand, the gauze packing may be continued, or a splint extemporized by wrapping a piece of tin with iodoform gauze till the proper size and shape is attained. I have made the operation usually with cocain anesthesia, and in the sitting position, but with children and timid persons general anesthesia may be induced, in which case the posterior nares should be plugged before the incisions are made and the operation must be done largely by the sense of touch. (Figs. 8 and 9.)

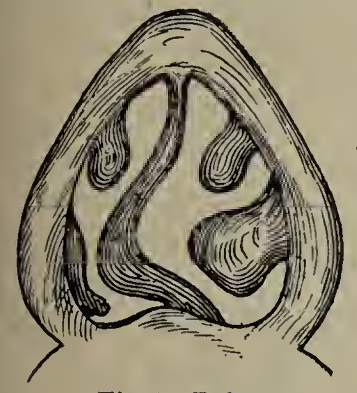


Fig. 8.—Before.

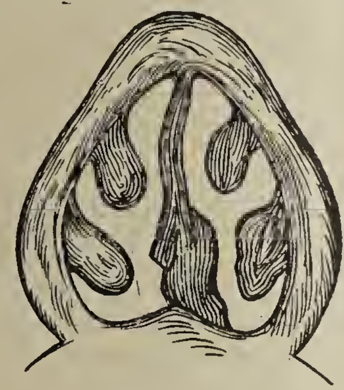


Fig. 9.—After.

Mixed cartilaginous and bony deviation.—These may often be corrected by the operation just described, the placing of the cartilage in the median line, carrying with it the bone, if but little of the latter is deflected. If more bone be involved it can still, at times, be straightened after making the cartilaginous incisions by strong lateral pressure far back with the finger, counterpressure being made against the dorsum of the nose, a sort of "green-stick" fracture being produced.

Bony deviation.—For this class and also for the preceding, when not yielding to this manipulation, Adams' or Roe's fracturing forceps may be employed. This I formerly attempted only under general anesthesia, but recently I have satisfactorily made several such operations under cocain anesthesia, supplementing the crucial incision in the cartilage by a fracture of the bony part of the deflected septum by compression by means of Adams' forceps.

Combined excrescence and deviation of the septum.—If the excrescence be large and the deviation slight, removal of the former may be all that is required; or if the excrescence be small and the deviation great, correction of the latter alone may suffice. If it is desired to remedy both features, and at the same sitting, the spur may first be removed by one of the methods above described and the deviation then corrected. The only objection to this is the contention that if the abscission of the spur involve the sacrifice of much mucosa, union of the septal fragments at their cut edges in their new position will be endangered. Practically I have not encountered this objection; nevertheless I deem it best, unless the spur be a large one, first to correct the deviation; often it is then found that the spur has dwindled into insignificance.

In young persons, when the deviation is a gradual slant rather than a bulge, with a long, ledge-like spur extending far back, I have obtained excellent results by abscising the spur as close as possible to the opposite side without perforating, and then simply pushing the weakened septum into the median line, where it may be held by a packing replaced every other day for three weeks. (Figs. 10 and 11.)

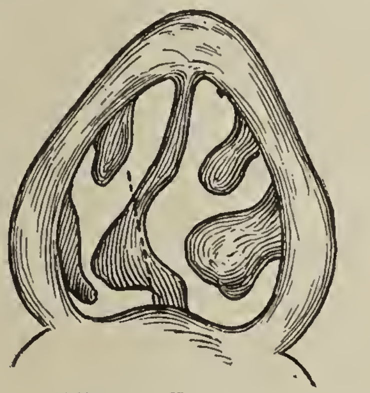


Fig. 10.—Before.

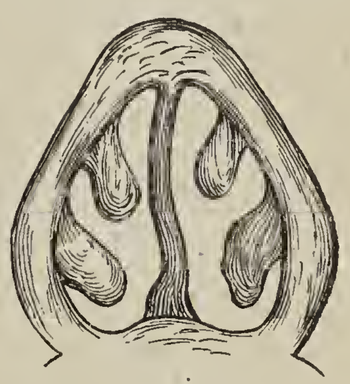


Fig. 11.—After.

39 Washington St.

THE MAXILLARY SINUS.

CHRONIC EMPYEMA THEREOF; ITS TREATMENT.

Presented to the Section on Laryngology and Otology, at the Forty-ninth Annual Meeting of the American Medical Association, held at Denver, Colo., June 7-10, 1898.

BY J. A. STUCKY, M.D.
LEXINGTON, KY.

So much has been written upon this subject that it may seem superfluous at this time to again bring it before you for consideration. That empyema of the nasal accessory cavities, especially the antrum of Highmore, is far more frequent than is generally supposed, and as frequently overlooked, I think "may go without saying." Failure to relieve many of our so-called "old catarrhal cases" after we have removed all visible obstructive and diseased tissue in the nasal and pharyngonasal cavities, is due to not recognizing suppurative and other pathologic conditions in the accessory cavities. Empyema of the maxillary sinus is caused most frequently by dental caries, and the removal of a dead tooth that penetrates the cavity usually gives prompt relief, unless the suppurative process has continued long enough to result in caries and granular or polypoid degeneration of the lining intracellular membrane.

The cause which interests us most is that which comes from the nose, or infection in the frontal or ethmoidal sinus. Atrophic rhinitis or ozena may be a possible cause of suppuration of the antrum by infection or infiltration through the ostium maxillare. In five of my cases where marked atrophic trouble existed, with shrunken and degenerated (polypoid) middle turbinate, with no dental caries or evidence of suppuration in any of the other accessory cavities, the antrum was full of pus and granulations. In these cases I am at a loss to know to what to attribute the empyemic condition, unless it be the infection from the mucopurulent and purulent secretion from the nasal cavities. Another probable cause is the damming up of the ostium maxillare by nasal polypi or enlarged middle turbinate, the retained secretion undergoing such a change as to result in irritation, inflammation and suppuration.

The symptoms of this trouble are frequently undefined and misleading. Very little attention is drawn by the patient to the cheek. The pain most complained of is in the back of the head and the supraorbital and temporal region. I need not emphasize the necessity of a very careful examination in order to make an accurate diagnosis. Tapping sharply with a heavy probe the first, the second, and the canine teeth, will cause pain if the suppuration is extensive or if there is dental caries. Transillumination is frequently a great aid, but is by no means certain. When in doubt, the exploratory puncture with trocar and canula or small burr attached to a dental engine, will settle the question beyond a doubt.

In the treatment of these cases our first attention should be directed to the nasal cavity. If there be any obstruction to free drainage or respiration, it should be removed. If the middle turbinate is so enlarged as to encroach upon the middle meatus, or enough to interfere with the ostium maxillare, the anterior portion should be removed. In the majority of cases I have found this operation of turbinectomy to be of greatest value. If the ethmoid cells are involved in the suppurative process or have undergone a polypoid degeneration, these should be thoroughly dealt with, and the same may be said of the frontal sinus. Sometimes we find the maxillary sinus filled with pus and granulations, with no symptom of frontal or ethmoidal disease, but a close examination often reveals trouble in one or both of these—more frequently the ethmoid.

Having attended to the nasal cavity, the operation upon the maxillary sinus is performed in the following manner: If necessary the second molar is extracted, and with Buck's mastoid drill a large opening is made through the alveolar process into the antrum. With a sharp-edged bone spoon the opening is made smooth, and shaped to admit the introduction of a medium or large-sized speculum, so the cavity can be illuminated (with head mirror) and thoroughly examined. If granulations, polyps, necrosis, or caries exist, Myles' curettes are used to remove all diseased tissue. After this is done the cavity is thoroughly irrigated and loosely packed with iodoform gauze. The first dressing is not removed for forty-eight hours, unless elevation of temperature and throbbing pain indicate the necessity for so doing. After the removal of the first dressing the antrum should be irrigated daily, the opening and drainage maintained by a tampon of sterilized or iodoform gauze. I think that in many cases, where a large opening is made, and the cavity thoroughly cleaned and drained, spontaneous healing takes place "by the filling up of the antrum with connective tissue." The nasal cavities should be cleaned with alkaline antiseptic spray, anteriorly and posteriorly.

Of the cases which I reported at the meeting of the Kentucky Medical Society in 1896,[1] all remain free from antral trouble, and I desire to emphasize the superiority of entering the antrum through the alveolar process, rather than the canine fossa. By the latter procedure, in order to make an entrance sufficiently large, we are liable to split the thin bony (external) wall, leading to prolonged and painful complications. The tendency of the soft parts of the cheek to overlap and close the opening seriously interferes with drainage and is a source of constant annoyance and irritation to the patient. A counter-opening through the inferior meatus to facilitate drainage, I have never found necessary, and do not think it advisable. The gauze drainage has proved far more satisfactory to me than either metal or rubber tubes.

DISCUSSION.

DR. MELVILLE BLACK—I desire to endorse two points made by Dr. Stucky: the place of making the opening into the antrum, and the non-use of tubes. The loss of a tooth is a small thing to be considered when a cure is to be accomplished in a disease so essentially chronic and hard to cure. By making the opening through the alveolar process, a hole can be made large enough to remain open a long time. The tube causes granulation tissue formation about the entrance of the tube into the antrum. This end of the tube soon becomes covered with granulations, repeated curettement being required to prevent it.

I am surprised that Dr. Stucky has not laid more stress upon the extreme chronicity of this disease. My experience has been that it is a very hard disease to cure, that the patient becomes discouraged long before he is cured, and is liable to drift into other hands.

The tendency to granulation tissue formation after curettement is marked. A few days after curettement it has been my practice to cauterize the interior of the antrum with pure trichloracetic acid; this will prevent granulation tissue formation and hasten resolution. To apply the acid the interior of the antrum should first be cocainized; a piece of cotton is wound tightly on the end of a cotton carrier so that we will have a round ball of cotton on the end of the probe, which is about ¼ inch in its diameters. This is dipped into the acid, when it is carried into the antrum and the latter wiped over thoroughly with it. The membrane caused by the cauterization is exfoliated in about ten days. No reaction follows the application of this acid. Another method I have practiced to avoid granulation tissue formation is that of packing the antrum with strips of linen or muslin ¼ inch wide, saturated with balsam Peru.

I desire to call attention to a method I have of opening the antrum for acute empyema: A small trephine, propelled with a dental engine, is passed into the antrum through the palatine side of the alveolar process. Drainage and cleansing is usually all that is required; it is not desirable to sacrifice a tooth, and this opening will remain patent long enough to accomplish this.

DR. EMIL MAYER—Operations for the drainage of antral abscess, made either through the alveolar process or anterior to the malar ridge, are the usual methods employed. Drainage is quite as effectual, and less annoying to the patient, when the operation is done posterior to the malar ridge. Regarding puncture, we must bear in mind that puncture if made should be performed properly, and that the thinness of the bone at the proper spot makes such procedure easy of performance. The point I enter is about one and one-fourth inches from the external orifice. Many of these antral abscesses are associated with ethmoidal disease, and here I use, after curetting, the method of washing out the cavity by attaching the silver tube to the ordinary antitoxin syringe. It has been very effective in my hands and is very convenient.

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[1] American Practitioner and News, June 27, 1896.

Dr. Gradle—I would like to ask Dr. Stucky what length of time was required for a cure in the different patients, and what percentage of failures he has had?

Dr. Randall said more stress might be laid upon the not infrequent occurrence of empyema of the maxillary sinus as a mere result of drainage of the frontal or ethmoid cells into a healthy or secondarily involved Highmore. No amount of treatment of the lower cavity will cure the condition. As to the point of opening, if man were as upright as supposed, an opening directed downward would be best; but in point of fact we find that other influences, such as capillarity and the suction effect of air currents through the nose, surpass the force of gravity in determining the easiest direction of drainage.

THE CLIMATE OF COLORADO.

ITS INFLUENCE UPON THE NASAL MUCOUS MEMBRANE.

Presented to the Section on Laryngology and Otology, at the Forty-ninth Annual Meeting of the American Medical Association, held at Denver, Colo., June 7-10, 1898.

BY MELVILLE BLACK, M.D.
Professor of Ophthalmology and Otology, Gross Medical College; Formerly Professor of Laryngology and Rhinology in the Medical Department of the State University.
DENVER, COLO.

The most important function of the nose is that of warming and moistening the inspired air. According to the experiments of Aschenbrandt and Keyser, 7715 grains of fluid are extracted every twenty-four hours from the turbinated bodies by a process of serous transudation.

According to the United States Weather Bureau reports, the average relative humidity for the years 1895–96–97 for the following cities is: San Francisco, 81 per cent.; Portland, Maine, 80 per cent.; New Orleans, 77 per cent.; Duluth, 76 per cent.; New York, 74 per cent.; Seattle, 74 per cent.; Chicago, 70 per cent.; Philadelphia, 68 per cent.; Omaha, 65 per cent.; Salt Lake City, 54 per cent.; Denver, 49 per cent.; Yuma, Ari., 41 per cent. It is to be seen that the average relative humidity of Denver is about 50 per cent. less than upon the Alantic and Pacific seaboards. It is therefore necessary that, to bring the inspired air to saturation, a nose in Colorado should secrete about twice as much fluid as is required at New York, San Francisco or New Orleans. To enable the nose to secrete this additional amount of fluid there must be an additional amount of blood sent to the vascular plexuses of the turbinated bodies. It is from these vascular plexuses that the major part of this fluid, consisting as it does of the watery constituents of the blood, is obtained. This increased blood-supply is a compensatory function, and is called forth by the extreme dryness of the atmosphere.

Before discussing the results of this extreme vascular dilatation, the influence of our altitude must be taken into consideration. Denver is one mile above sea-level. The atmospheric pressure is about twelve pounds to the square inch, or three pounds less than at sea-level. A person coming to Denver from sea-level experiences a dilatation of his entire superficial capillary system because of the lessened resistance of the atmospheric pressure. To keep these superficial capillaries in a state of contraction requires an increased amount of vasomotor nerve force, and until the individual has been here for some weeks he may not be able to supply it.

I would not assert that this superficial capillary dilatation obtains in all subjects upon their arrival in Colorado, but of the fact that it does obtain in a goodly number I have had ample verification. The vascular plexuses, exposed as they are, give greater evidence of insufficient vasomotor nerve control than any other portion of the body. The nasal symptoms of this vascular dilatation are those of a mild vasomotor rhinitis. It may be possible that some of my hearers have these symptoms now. The time required on the part of the economy to supply this additional vasomotor nerve force varies from a few days to a few weeks. That the vascular plexuses do not contract *pari passu* with the other superficial capillaries is evident, because of the increased function these parts have to perform. I believe that our altitude plays an important part in enabling the nose to quickly adapt itself to supplying the additional moisture required by our very dry atmosphere.

You will naturally ask, to what does this vascular dilatation of the turbinated plexuses lead? We know that increased function of any part of the body leads to hypertrophy. There is no exception to the rule in this instance. We know that in the nose hypertrophy of the turbinated bodies sooner or later leads to sclerosis. My observations have convinced me that hypertrophy of the turbinates gives way to sclerosis sooner in Colorado than in more humid climates. The newly formed tissue of an acute hypertrophy is subject to more rapid contraction than a hypertrophy that has been chronic in its course. I have observed many cases in which hypertrophy was slow to take place; instead, there was a long period of intumescence or boggy condition of the turbinates.

The term "sclerosis" which I use is not to be confounded with atrophy. The latter condition does not exist in these cases, but rather a condition of constriction, because of the contraction of this newly formed tissue. The vascular plexuses are so compressed that there is not sufficient serous transudation to supply the amount of moisture required by the inspired air. The muciparous glands are still operative, but as only 10 per cent. of the nasal secretion comes from these glands, it is plainly evident that it alone is insufficient to bring the inspired air to saturation. When the sclerosed stage is present we have absence of all the symptoms of stenosis, so annoying during the hypertrophic stage. There is usually free breathing-space unless other obstructions are present. The patient complains of thin, dry secretion forming in the anterior nares, of the nasal chambers feeling dry, and finally, of an accumulation of postnasal secretion. The latter symptom results from the postnasal mucous membrane being called upon to perform the function of the turbinated bodies. It is not endowed with such a vascular apparatus as are the turbinated bodies, and in consequence soon becomes diseased by attempting to perform an abnormal duty. The typic condition of the nose of an old resident of Colorado is that of sclerosis. There are few who escape it.

The nose of the human race is a degenerate one at best. The question arises: Are we worse off than our neighbors in more humid climates? I should say in answer to this question that, inasmuch as sclerosis does not lead to serious consequences, we are not. The object of this paper is to point out that our climate, though greatly benefiting pulmonary troubles, has not the same beneficial influence upon nasal disorders. A case of hypertrophic rhinitis sent here will arrive at a stage of sclerosis sooner than it otherwise would. The patient will not be required to use the handkerchief so often, but for a time will be more annoyed than ever by stenosis. Atrophic rhinitis is not benefited by a residence in Colorado. The odor is less because the dryness of the atmosphere militates against decomposition. The scab formation is harder, however, and the scabs more difficult of removal.

I believe that myxomatous degeneration is rarely acquired here. We see the usual number of cases, but it is because most of our residents formerly lived elsewhere. My experience has been that my myxomatous patients have had polypi before coming to Colorado. I have noticed that polypi once active are as annoying to the patient and as hard to eradicate here as where they originated. Septal deformities are operative in increasing stenosis during the hypertrophic stage as well as in the stage of sclerosis. Modern nasal surgery calls for their correction here as elsewhere.

Denison Building.

DISCUSSION.

Dr. BLACK—We hoped to have Dr. Geldea of Colorado Springs with us to present a paper on the influence of our climate on the ear. It is unfortunate that he can not be with us. My experience has been that non-suppurative inflammation of the middle ear is as liable to progression in Colorado as elsewhere. I have frequently had patients tell me that their deafness had markedly progressed since coming to Colorado, but it is a question in my mind whether their statements were correct.

FALSETTO VOICE IN THE MALE.

REPORT OF FIVE CASES.

Presented to the Section on Laryngology and Otology at the Forty-ninth Annual Meeting of the American Medical Association, held at Denver, Colo., June 7-10, 1898.

BY G. HUDSON MAKUEN, M.D.
Professor of Defects of Speech in the Philadelphia Polyclinic and College for Graduates in Medicine; Laryngologist to St. Mary's Hospital and the Frederick Douglas Memorial Hospital.
PHILADELPHIA.

The falsetto voice, as its name indicates, is essentially a false voice. Its chief characteristics are a high pitch and a thin, piping quality. Its resonance is limited to the region of the head, and therefore it lacks volume and strength. There is also a manifest effort in its production which makes it appear forced and unnatural. The labor seems altogether out of proportion to the results attained. It suggests weakness and a lack of muscular control. It is somewhat characteristic of the eunuch, and therefore it has been called the eunuchoid voice. This quality is not uncommon in the female, whose larynx is comparatively small and delicate and whose nervous organization is often highly tensioned, but it is rare, and therefore more noticeable, in the male. In an experience of more than twenty years as a vocal teacher, not more than ten or twelve cases have come under my observation, and only five of these have reported to me for examination and treatment. A rather close study of these cases, both externally to the larynx and internally by means of the laryngoscope, has revealed some interesting facts as to the nature and cause of this peculiar affliction, for so I think it must be regarded. In the first place, viewed from without, we find the larnyx in an abnormally high position during the production of this voice. The high position is brought about by a faulty action or a faulty co-ordination of the extrinsic muscles of the larynx. These extrinsic muscles may be divided into two sets and designated respectively the levator laryngei and the depressor laryngei.

In the production of the normal voice there is a contention constantly going on between these two sets of muscles, and thus the larynx is held nicely poised in the correct position, and more or less firmly fixed against the spine for each tone of voice and for each syllable of speech. If this natural poise of the larynx in the correct position be interfered with in any way, there will be an immediate change both in the character or timbre and in the pitch of the voice. The change in character is due to the change in certain resonators of the voice, and the change in pitch to the varying conditions of the vocal ligaments. If, for instance, the larynx be pulled down below its normal position either by the over-action of the depressor or the under-action of the levator muscles, the voice will be heavy and sepulchral in character and unnaturally low in pitch; and if, on the other hand, the larynx be pulled high up in the throat by a reverse action of the extrinsic muscles, we shall have a thin, high-pitched voice, and if at the same time there be a looseness of the intrinsic muscles the resonance will be impaired and the result will be the falsetto or eunuchoid voice.

It will be observed that this quality of voice is due not only to the high position of the larynx, but also to the consequent unnatural adjustment of the cartilages of the larynx and to the effect which this adjustment has upon the vocal ligaments. Another important factor is probably a lack of rigidity or contractility in the intrinsic muscles of the larynx, thus cutting off the resonance which comes from these muscles and the surrounding parts to which they are attached.

My first case was a young clergyman, who affected this quality of voice because it seemed to him more soft and agreeable than the resonant chest tone. So strongly and favorably did it appeal to his own ear and to his sense of the fitness of things that he was not persuaded to give it up, although it would have been quite possible for him to do so with a lttle effort and training. In fact, he could produce the true chest voice, but he said it seemed hoarse to him and he preferred not to make the change; and thus was illustrated the old adage: "You may lead a horse to water but you can't make him drink."

My second case was referred to me by a well-known laryngologist in Philadelphia. The patient was 15 years of age, and a tinsmith by trade. At about the time of puberty he went in bathing while overheated and developed a severe laryngitis and lost his voice almost entirely. The usual remedies were applied, and the only sound he was able to produce afterward was that of the falsetto character. Local applications were made to the larynx for a long time, and electricity was applied in all its various forms, but with no effect whatever upon the character of the voice. It took but a short time to discover that he did not appreciate the fact that his voice was different from that of his fellows. He had been told that it was peculiar, but it sounded all right to him. After two or three visits, at each of which he was given various exercises to correct his errors in voice production, he was enabled to sound a good chest note, and when he succeeded in getting it, he said, in a clear resonan voice: "Is that the way you want me to talk?"

said, "Yes"; and he said, "Well, I think I can talk in that way now all the time," and I suppose he did, for he never appeared at my office again.

My next case was a young man 17 years of age, referred to me by Dr. Max Thorner of Cincinnati. The patient had always been strong and vigorous, except on two occasions, when he had pneumonia—the first attack at 13 and the second at 14 years of age. When he was convalescing from the latter attack the larynx underwent the change which is usual at that period of life, and the voice presented a peculiar and unusual character. Instead of being a combination of the chest and falsetto tones, the former breaking into the latter, as is common in the male voice at puberty, the chest tone was absent entirely, and in its place there was complete aphonia. The voice was a mixture of a whisper with the falsetto tone, the one breaking into the other in a most curious manner and at the most unexpected times.

The patient usually began speaking in a whisper, which by very great effort he soon forced up into a peculiar falsetto squeak, which seemed ludricous to those not appreciating the serious aspect of the case. At times it was with great difficulty that he could even whisper or make himself understood at all, and, being an exceedingly bright and intelligent youth, his affliction bore the more heavily upon his mind and made the past three years of his life very miserable. The young man comes from the South, where the humorous side of life is well developed, and his friends at first regarded the whole matter as a huge joke, called him a gosling, and advised him to go back to long dresses. His nervous system was somewhat impaired by his recent illness, and his larynx underwent a greater change than is usual—for it is now a very large one—and he was unable to adjust the various parts of the vocal machinery to the new and varying conditions. Three things, therefore, may have combined to bring about this unfortunate state of affairs: an impaired physical condition, a sudden and unusual increase in the size of the larynx, and a nervous anxiety brought on by the sportive jeers of his friends. Soon after the onset of the trouble he had various minor operations performed in the throat and nose. Hypertrophied faucial tonsils were reduced and a spur was removed from the nasal septum, but no improvement in voice followed.

He was seen first by me in September of last year. A regular course of breathing exercises was instituted for the development of the respiratory muscles, and all attempts at speech were for a time interdicted. There was a marked tremor of all the organs of speech. The pharynx was cocainized and a careful laryngoscopic examination revealed nothing unusual except that the larynx was somewhat above the average size. The vocal cords overlapped both anteriorly and posteriorly in the falsetto tone, and the glottis presented the usual elliptic shape in the aphonic condition. It was observed that during phonation there was a strong contraction of the palatopharyngei muscles, drawing the larynx high up in the throat. To counteract this up-pulling of the larynx, the tip of the index finger was placed on the dorsum of the tongue, well back against the anterior surface of the epiglottis and firm downward pressure made, and at the same time with the right index finger in the groove on the upper border of the thyroid cartilage externally the larynx was held in a fixed position and the patient was told to say "ah," which he succeeded in doing in a low chest tone for the first time in his life. After several repetitions of the tone with the larynx held for him in this position he was able to control it himself, and after two weeks' faithful practice he went home with a full, rich chest tone which he used in speech with remarkable facility, while it was with great difficulty that he could imitate his former mode of speech.

The next case was a boy 15 years of age, referred to me by Dr. John B. Roberts of Philadelphia. His aunt, who came with him, said he had always talked like a girl, and that sometimes his voice would fail him entirely and he could not talk at all; that he was a very nervous boy, and came from a nervous and consumptive family. At 7 years of age he had measles, complicated by a very severe attack of la grippe. He had high temperature and was delirious for some time. He is now weak and nervous, and complains a great deal of headache. He fainted during the throat examination. Like the last case, the larynx was found to be pulled up high in the throat by a kind of spasmodic contraction and hardening of the levator laryngei muscles. The muscles under the chin, the geniohyoid and hyoglossus were almost as hard as it is possible to make the biceps by flexing the forearm, while the depressor laryngei were weak and flabby. He had some slight tonsillar hypertrophy, which was reduced, and he was put on a general tonic treatment. In addition to this, he was put on a course of what we call laryngeal muscle training by methods which I shall describe briefly after referring to my fifth case.

This boy was 15 years of age. He was nervous and by no means strong. His maternal grandmother and uncle and his paternal grandfather and uncle had died with consumption. His voice was normal until about the time of puberty, when he took a severe cold. It then seemed rough and harsh to him, and he tried to hold it back, with the result of acquiring the falsetto voice. Like Case No. 2, he himself was quite satisfied with his voice, and he said it sounded better to him than the average voice he heard. His father thought it was his own fault that he did not speak as other people. Upon examination it was found that the adjustment of the cartilages was very unusual. The thyroid cartilage was tilted forward and downward so that the pomum Adami was very prominent, and the thyroid rested upon the upper border of the cricoid cartilage, and the two appeared to be united anteriorly. They could not be separated, and there was no cricothyroid notch.

In some respects the last two cases were similar. They were of the same age; they were both of the neurasthenic type, and they both inherited a tubercular taint. The onset of the trouble was different, however, the former having always used the falsetto voice, while the latter acquired it at the age of puberty. The treatment was similar for both. In fact, the same general plan of treatment was followed in all these cases, and the results were prompt and entirely satisfactory.

Let me explain the plan of treatment. In the first place the general physical condition of the patient was looked into, and nervine tonics were indicated in every case. Then the nose and throat conditions were looked after, and local treatment was resorted to pretty generally, and slight surgical interference in three of the cases. These things are all important and necessary, but not in themselves sufficient to correct the defect. They are only adjuvant to the thing that cures, viz.: muscle training. The direct cause of the difficulty was found to be in every case a faulty co-ordination of certain laryngeal muscles, and this faulty co-ordination was mainly extrinsic to the larynx. The extrinsic muscles were not uniformly developed. The levator laryngei were overdeveloped while the depressors were underdeveloped and there was a lack of proper laryngeal balance. The weak muscle was singled out and trained into right action. The best way to do this is to teach the voluntary control of this muscle, and then, by repeated contractions and relaxations, the patient may strengthen it to do its normal work, and thus acquire a harmonious action of the laryngeal muscles. Massage of the larynx was also helpful in restoring the balance and harmonious action of these muscles.

FORMALDEHYDE.

ITS USE IN THE TREATMENT OF TUBERCULAR LARYNGITIS.

Presented to the Section on Laryngology and Otology, at the Forty-ninth Annual Meeting of the American Medical Association, held at Denver, Colo., June 7–10, 1898.

BY THOS. J. GALLAHER, A.M. M.D.
PROFESSOR OF LARYNGOLOGY AND RHINOLOGY, UNIVERSITY OF DENVER. DENVER, COL.

Among the numerous remedies used in the treatment of tubercular laryngitis the following are the most prominent: lactic acid, guaiacol, iodoform, various remedies such as the zinc and copper compounds introduced by means of cataphoresis, and latterly formaldehyde. It seems proven that lactic acid is decidedly most efficient upon the ulcerated tubercular tissues, but there is no proof that it penetrates beyond the unbroken membrane. Recognizing this fact Heryng has recommended the scarification of the tissues before its application. Following a thorough application of lactic acid there is considerable pain after the effects of cocain have worn off, which lasts for many hours and is exceedingly distressing in some cases. As to the advisability of curetting the unbroken structure and introducing lactic acid there is considerable doubt. In my own experience, owing to late methods of treatment, I have limited the use of the curette to indolent tubercular ulcers, in the hope that stimulation may promote healthy granulation, which it often does.

Guaiacol applied upon infiltrated membrane has a very good effect, but is much more effective if injected into the tissues. Its most prominent result is the alleviation of the dysphagia, which is due to the well-known analgesic effect of guaiacol upon the peripheral nerves. It also probably arrests the progress of tubercular infiltration.

Iodoform is used as a supplement to other applications; in this list also come aristol, dermatol and the coal-tar products. The use of other remedies by means of cataphoresis is as yet in the experimental stage.

Dr. S. Solis-Cohen, in the *New York Medical Journal*, Oct. 24, 1896, reports favorable results in tubercular laryngitis from the use of formaldehyde. Since that time I have had considerable experience in the use of this remedy, and believe that it is the most useful treatment both in ulcerative and infiltrative types of the disease that I have ever used. It has been my custom to thoroughly cocainize the larynx before application, and to begin with a weak solution of formaldehyde of from .5 to 1 per cent. and to gradually increase the strength of the solution to 10 per cent. After the application of formaldehyde to ulcerated areas I have insufflated aristol, iodoform and other powders. Sometimes I substitute for these menthol, 20 to 60 grains to the ounce of liquid vaselin. If the larynx has been thoroughly cocainized, the pain from the strong solutions of formaldehyde will be very slight. If, however, a weak solution of cocain is used, the pain is very severe for several minutes, gradually decreasing, so that in ten minutes the larynx is perfectly comfortable. These applications I make two or three times a week as the exigencies of the case may demand.

It is necessary that the surfaces be clean before applying formaldehyde. For this purpose the usual method of using peroxid of hydrogen followed by an alkaline spray is the best. In the interim between the treatments by the stronger solutions, I direct my patients to use a mild solution of formaldehyde, not stronger than one drop to the ounce of water, and spray the throat night and morning, or oftener, if there is discomfort. The rapidity with which this mild solution will relieve the pain in the larynx is exceedingly gratifying.

I have frequently had cases in advanced pulmonary and laryngeal tuberculosis, in which it was necessary to use a solution of cocain to insure comfort in swallowing, which were relieved to such an extent by this weak solution of formaldehyde as to be enabled to forego the use of cocain entirely. This is no small item in a chronic case, as the effect of this drug on the nervous system is positively detrimental. From my experience I am led to believe that while the first effect of the solution is of a mild stinging character, its secondary effect is certainly analgesic. Latterly, I have been employing eucain instead of cocain in some cases, with quite satisfactory results, but with a preference for the latter, owing to its power of contracting the vessels. The application of formaldehyde to tubercular variations causes them to contract and finally disappear. In several instances I have shrunken up vegetations in the interarytenoid commissure, which were producing aphonia, by mechanic interference with the movements of the arytenoids, so that the voice was markedly improved.

I wish to point out one danger in the use of formaldehyde—the possibility of its producing a gangrene of the parts. It has been shown by Cohen that when formaldehyde is applied to a rabbit's ear in a concentrated solution, the part dies and is cast off; but bacterial infection does not take place. I believe this is due to the peculiar effect formaldehyde has upon the tissues and also upon the blood-vessels, causing a degeneration of their coats, and finally cutting off the blood-supply. This is not unreasonable to suppose, as the formicaldehyde gas being liberated penetrates the tissues and forms peculiar chemic compounds with them. Personally, in the laryngeal application of the remedy, I have never seen such results when used as I have mentioned above. Owing to this penetrating power of formaldehyde, it has an enormous advantage over lactic acid, which does not penetrate the unbroken surface. In the simple infiltrative types I have repeatedly noticed the superiority of formaldehyde over lactic acid in relieving pain. While I must admit that pain is not a common symptom of infiltration, yet on pressure being made on these tissues by the epiglottis and food, incidental to deglutition, they do become painful and our patients seek relief.

The climatic treatment of pulmonary tuberculosis is practically the only one which has yielded satisfactory results up to the present, and in tubercular laryngitis this treatment applies peculiarly. As the patient's general condition improves so may we expect the natural resistance of the laryngeal tissues to be increased. This gives us a great advantage in this altitude over the results to be expected by any line of treatment at sea level. I have seen cases of tubercular infiltration of the larynx following pulmonary tuberculosis arrested and remain quiescent for nearly three years, which have received no treatment whatever. This is to be explained solely by the beneficial effect of the climate of Colorado upon the pulmonary condition, improving the general health and increasing the power of resistance. However, in the ulcerative conditions I have never seen a spontaneous cure either in Denver or in the East.

Incidentally, in passing, I would like to state that I have two cases of unilateral infiltration of the aryepiglottic fold corresponding to the affected lung. Whether there is any relation between the lymphatic, blood and nerve supply of the left chest and that of the larynx to such an extent as to favor the production of local tubercular trouble of the same side of the larynx is an interesting question.

In summing up the uses of formaldehyde in tubercular laryngitis, I present the following;

1. It is safe to allow the patient to use a mild solution of 1 to 500, two or three times a day.
2. The relief to the dysphagia is very marked, and in many cases formaldehyde is a good substitute for cocain.
3. Its most brilliant results are to be seen in the vegetative and ulcerative types.
4. It is the most satisfactory remedy I have ever used in infiltrative cases.
5. The results from the use of formaldehyde are probably due to its effect upon histologic tissues as well as upon the bacilli themselves.
6. The stronger solutions, from 1 to 10 per cent., should be applied two or three times a week, as deemed expedient.

California Bldg.

PARAMONOCHLOROPHENOL.

ITS USE IN THE LOCAL TREATMENT OF LARYNGEAL TUBERCULOSIS.

Presented to the Section on Laryngology and Otology at the Forty-ninth Annual Meeting of the American Medical Association, held at Denver, Colo., June 7-10, 1898.

BY GEO. L. RICHARDS, M.D.
OTOLOGIST AND LARYNGOLOGIST TO THE FALL RIVER AND EMERGENCY HOSPITALS; FELLOW AMERICAN LARYNGOLOGICAL, RHINOLOGICAL AND OTOLOGICAL SOCIETY, ETC.
FALL RIVER, MASS.

The symptoms of tubercular laryngitis are so troublesome and inconvenience the patient so much that anything in the way of additions to our armamentarium in its treatment merits attention. Although constitutional involvement is the rule and the ultimate prognosis bad, it is not necessarily always so, and recoveries do take place. There is also the case—denied, it is true, by some—where the larynx alone is affected. In many cases the local laryngeal lesion is the thing most complained of, even in cases where the constitutional lesions are considerable. The hoarseness, difficulty of speech, and perhaps difficulty in swallowing, are more troublesome than the pulmonary symptoms, hence it is our duty to do all we can toward the cure and relief of the laryngeal manifestations. Laryngeal tuberculosis manifests itself in two forms. The first, characterized by a general infiltration of the laryngeal structures, does not seem to me to offer very much, so far as topical applications are concerned. Submucous injections have been used, but of them I have no experience, having regarded this form as decidedly unfavorable for local treatment. In the second and larger class of cases, characterized in the main by ulcerations and erosions of the true and false cords, by interarytenoid swelling, granulations and ulcerations, by the patient complaining of hoarseness and it may be slight difficulty in swallowing, with only moderate pain, the results of local treatment are often surprisingly good. Especially is this apt to be the case if the pulmonary lesions are not extreme. Under local, combined with suitable constitutional, treatment the ulcerations heal, the cords become smoother, the voice improves, and the patient feels better. Even though there is a final succumbing to the general tuberculous process, the laryngeal conditions are so much improved that we are more than compensated for the efforts put forth in that direction.

The routine treatment mostly used for this purpose has been curettement when indicated and the use of lactic acid. As an addition to that treatment, I wish to make a plea for the use of paramonochlorophenol as giving better and more rapid results than lactic acid alone. Paramonochlorophenol is phenol with one H replaced by one Cl. It is only slightly soluble in water, but freely so in glycerin and water. Opinions as to its value have been somewhat contradictory. Spengeler of St. Petersburg[1] is cited as warmly recommending its use and as having reported ten cures out of twenty-six cases. Hedderich[2] reports thirty cases treated in Jurasc's clinic with fair results, all the patients admitted being improved. The difficulty in swallowing and irritability of throat speedily disappeared, the breathing became freer, the ulcers became clean and slowly healed, and the edema and infiltration grew gradually less. Two cases seemed to be cured; in three nausea and vomiting were produced, but as this often attends the use of any topical application, it is not necessarily a contraindication. In all his cases the usual constitutional measures were also employed.

I have used paramonochlorophenol in a number of cases during the last year and a half, using it in from 4 to 10 per cent. solutions in equal parts of glycerin and water. When not preceded by cocain, it at first causes some pain, quickly followed by a certain degree of anesthesia somewhat like that of carbolic acid. Like lactic acid, it does not seem to injure any sound tissue with which it may by chance come in contact. On one occasion, when the applicator by mistake went into the pyriform sinus, some pain and edema followed, the patient complaining for a day or so of discomfort. This is the only time that I have had any unpleasant experience with it, and this might just as well have happened with anything else. It produces a white eschar of slight depth, disappearing in a short time. It appears to act both as a powerful astringent and as a caustic. I have used it to the exclusion of any other local application, but not as a rule, having found it to work most advantageously when used in connection with lactic acid, following the application of the latter. The tubercular tissue disappears more speedily and the ulcerations clean more rapidly than with lactic acid alone, while the addition of the phenol in no way adds to the disagreeableness or painfulness of the local treatment. I have used the phenol in the following manner: The larynx is painted with 20 per cent. cocain, then the diseased tissue is thoroughly rubbed over with 25 per cent. lactic acid, followed immediately with 4 per cent. phenol (paramonochlor). The strength of both solutions is gradually increased as the patient can bear it, until at the end of the second or third week the lactic acid is being used pure and the phenol in 10 per cent. solution; stronger solutions I have not tried. This is continued once or twice a week, or at longer intervals, according to the conditions present, and kept up as long as needed. It is needless to say that the earlier treatment can be begun the better the results. Curettement, if needed, should be done first. I will now very briefly report a number of cases in which I have used the remedy, in most of which I have been pleased with its action.

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[1] Jour. of Laryng., Vol. xi, p. 286.

[2] Loc. cit.

Case 1.—T. H. General and laryngeal tuberculosis. Cords thickened; edges eroded, almost like saw-teeth; granulations in the interarytenoid space cauliflower like; voice absolutely gone. Removed the granulations with Krause double laryngeal curette, and applied lactic acid and phenol to all the tuberculous area. At the end of nine months the cords were smooth, the interarytenoid swelling was nearly gone, and the voice was nearly normal. Treatment is still occasionally given and the voice remains clear. So far as the laryngeal manifestations are concerned, he is practically cured.

Case 2.—A late stage of general and laryngeal tuberculosis; hopeless from the first. There was general laryngeal infiltration, with ulceration on the cords and of the arytenoids. Here treatment contributed to his comfort and improved the voice as long as he was able to come for treatment. He had to give up the treatment, and succumbed to the disease. As long as he was able to have the local treatment he always maintained that it did him good, although there was so much tumefaction and infiltration as to preclude the possibility of any local treatment doing much good.

Case 3.—Early stage of interarytenoid granulations with slight involvement of right apex. Lactic acid and phenol were administered in the manner described. After three months' treatment the voice is now clear and patient can sing; granulations are all gone.

Case 4.—Interarytenoid granulations with pulmonary involvement. Patient came for treatment for hoarse voice. After four months' treatment the granulations have disappeared and the voice is clear. Patient still has an occasional treatment.

Case 5.—Ulceration of left cord at vocal process with tumefaction of false cords; hoarse voice. Patient is still under treatment; is already, at the end of two months, greatly improved.

Case 6.—Interarytenoid ulceration with tumefaction of both false cords; great general involvement. Contrary to expectation, patient is better in every way. The voice came back after about six months' treatment, and though not entirely clear, is nearly so. At the beginning it was entirely gone. The ulcerations have healed, but the infiltration of the false cords has not disappeared entirely. Compared with former conditions there is great improvement.

Case 7.—Interarytenoid thickening without ulceration; voice hoarse, but not entirely gone. Under observation, with occasional treatment, for eighteen months; no pulmonary lesion could be discovered. Improves under treatment, but infiltration is still present though in a lessened degree. In cases of tumefaction and infiltration it does not do as much good as in the ulcerative, granulation forming variety.

Case 8.—Ulceration and erosion of cords and interarytenoid space, with constitutional involvement. After eight months' treatment the process in the larynx is at a standstill. The voice is still hoarse, as the cords were too much damaged to admit of complete repair. He is in fair condition, but will probably succumb to the pulmonary lesion sooner or later.

Case 9.—Late stage of general tuberculosis. Swallowing was difficult; great tumefaction of arytenoids, epiglottis and folds, while the voice was not very hoarse. Here treatment in no wise changed the course of events, but the swallowing was made much less difficult, and the local pain was much lessened. Treatment was continued up to a few weeks before death.

Case 10.—Granulation, probably tuberculous, on right cord near the vocal process. Constitutional signs were few, yet sufficient to render the diagnosis in all probability correct. Patient was under treatment some time for hoarseness, without any result. Removed as much of the granulation as possible with Schroetter forceps and then applied lactic acid and phenol at gradually increasing intervals. The hoarseness has now nearly gone, and he has even been able to sing a little. Applications are now made about once in three weeks. Even in cases of apparent cures I have kept up the treatment for some time thereafter.

In nearly all the above the diagnosis was confirmed by repeated bacillar examinations. In only one can there be the slightest doubt as to the diagnosis, and this is the case without any pulmonary involvement, although I have always regarded it as laryngeal tuberculosis. The local treatment seems to me to have always done some good, and in a few cases the results have been surprisingly good. Even the late hopeless cases have seemed to improve, for a while at least, and have been only too glad to have the treatment continued as long as possible. That the phenol is a decided advantage and aid to the lactic acid is to me an assured fact. Several of the above cases were treated at first for a considerable time with lactic acid alone. When the phenol was added the improvement was always more pronounced and rapid. The phenol seems to me to go deeper than the acid. I now invariably use the two in conjunction and find they give the best results I would urge upon any one who may feel discouraged over the treatment of his cases of laryngeal tuberculosis, that, if he has not already done so, he try the use of paramonochlorophenol in conjunction with lactic acid. Cures may not occur, but life will be more bearable, the voice will improve, and even if the final end is the same, the comfort of the individual will have been increased. As physicians it is our duty and privilege to comfort where we can not cure.

NOTE.—Present condition (Feb. 20, 1899) of cases here recorded:

Case 1. Laryngeal manifestations remain in abeyance. Voice good. Is slowly succumbing to general tuberculosis. Case 3. Died of general tuberculosis. Voice remained clear and there was no recurrence of granulations in larynx. Case 4. In good condition so far as known. Case 5. Slight hoarseness. Not under treatment. Case 6. Under treatment. Voice fairly clear. Whole process under control. Case 7. Practically well. Appears for examination about once in three months. Case 8. Now living in a distant city. Writes that he is feeling well, voice quite clear and has not had to see a physician for several months. At work every day. Case 10. Apparently cured. Is seen once in two months.

DISCUSSION.

Dr. COULTER—Doubtless each one has his preferences in the matter of remedies for this condition, and I have mine, of course. I have used the formaldehyde solution in one or two cases, but with such unsatisfactory results that I have lately returned to my first love—guaiacol. But in the use of guaiacol I have pursued somewhat different lines than do most others. I use it in strengths varying from a 5 per cent, to a 100 per cent., just as strong a solution as the patient can stand without pain. The direct results of the application of the guaiacol are often miraculous. The healing of the ulcerations is usually very kindly and speedy. It will in many cases produce an anesthesia lasting for eighteen or twenty hours, and thus allow the patient to eat and sleep with much more comfort.

Dr. J. F. BARNHILL—I desire to speak a word favorable to the use of a new remedy in this disease. I have recently used orthoform in four cases, in all of which the remedy was useful in relieving the pain for many hours—much longer than after the use of any other remedy. My method is: 1, cleanse the part thoroughly; 2, cocainize the parts; 3, dust thoroughly with the orthoform; and 4, spray with albolin to retain the powder.

Dr. Mayer—My experience with paramonochlorophenol alone has been unsatisfactory and I question how much improvement is due to the lactic acid or the paramonochlorophenol. Regarding the curette and operative procedures, there seem to be two objections on the part of those who have used this method. The first objection is that patients will not tolerate it and it opens a nidus for further infection. The second objection is that the results of operation in this country are by no means that of Krause and others. I have used absolute alcohol in these proliferative forms of laryngeal tuberculosis with very satisfactory results. I wish to endorse Dr. Barnhill's statement regarding orthoform. It has been a very satisfactory remedy in my hands in the few cases in which it was tried, and I believe that with it we have an added remedy of value to our armamentarium.

Dr. Richards (in closing)—In reply to Dr. Mayer, I would say that I can not, of course, absolutely prove that my good results are not due to the lactic acid alone. In those cases of this group which were at first treated with lactic acid alone, the results did not seem as good as when the phenol was added. It in no sense adds to the difficulty of the treatment, and seems to do more good than lactic acid alone. I agree entirely with Dr. Colby and Dr. Mayer that local treatment should be continued as long as possible, inasmuch as it always gives relief. I do not favor curettage unless the larynx is fairly tolerant, as more harm than good may result. Only one of my cases was curetted, and this patient was quite tolerant of laryngeal interference. In this case the granulations removed were large enough for microscopic examination.

THE ETIOLOGY OF PHTHISIS.

A SUMMARY OF SCIENTIFIC POINTS INVOLVED IN CHURCHILL'S THEORY.

BY R. W. GARDNER.
NEW YORK CITY.

The animal system contains an essential constituent of the brain and nervous substance, of the blood discs, of the muscles, of the albuminoid compounds, of the spermatozoa, of the egg, in a word, of the most important part of the organism—a *phosphide* element which has not yet been completely analyzed or isolated as a chemic compound, which has been called by many different names, but which is now clearly recognized as distinct from the phosphatic element. The essential characteristic of this *phosphide* element is that the phosphorus is contained in it in a state of molecular combination with the other chemic principles, and is not yet oxidized, while in the phosphatic element, such as the phosphate of lime in the bones, it is completely oxidized. This phosphide element is, of all the materials of the system, the one which has the greatest affinity for oxygen, and seems to be in animals, one, if not the first, of the primordial initiators of vital activity. Its office is not only to become oxidized itself, but to promote intraorganic combustion and hence, very likely to initiate the molecular metamorphoses of most of the other proximate animal principles.

The decrease in the system of this phosphide element, either from excessive waste or from a deficiency in its reintegration, constitutes a distinct and special morbid condition of the whole system, to which Churchill gives the name "phosphology." This pathologic condition leads to a decrease of oxidation, consequently, of all organic metamorphoses and of all vital action, and is characterized by the whole series of symptoms which precede or accompany a numerous class of diseases, and which have vaguely been called "deficient or lowered vitality." When this decrease of the phosphide element attains a certain degree of intensity, the oxidizability of certain compounds in the system is so much diminished that they become incapable of sufficient combustion, either to proceed to a higher state of vitality, or to go through that process of disintegration which would lead to their excretion from the system. Under such circumstances these compounds constitute an abnormal material, consisting of incompletely developed bioplasm or proteic substance, variable in its composition, forming the different pathologic deposits known under the name of "tubercles," which are the anatomic characteristics of phthisis and scrofula.

The biochemic difference between phthisis and scrofula consists in a different degree of phosphology. In scrofula the phosphology is less than in phthisis, so that the exhaustion of the phosphide element in the bioplasm only takes place during a secondary or subsequent phase of its evolution. This theory of "phosphology" enables us to account for nearly all the phenomena hitherto met with in tubercular disease: Such are the morbid physiologic phenomena in the respiratory, circulatory, urinary and calorific functions; the elective preference shown by the tubercular deposit for different systems or organs; the affinity between tuberculosis, scrofula, spanemia and chlorosis; the antagonism between tuberculosis and cancer, and between tuberculosis and cyanosis; the prevalence of tuberculosis in certain classes of animals, and its rarity in others; the mode of action of the different etiologic causes which promote or produce, and of the different cosmic or organic conditions, which aggravate or interfere with and retard, tuberculosis and tuberculization.

The administration of an oxidizable and assimilable compound of phosphorus under certain determinate, pathologic and therapeutic conditions has the constant effect of preventing any fresh deposit of tubercular matter. Hence, we must conclude that this substance produces in the system some peculiar modification incompatible with the existence of the tubercular diathesis, or, in other terms, that it destroys some one of the essential conditions of this morbid state. If the existence of the tubercular diathesis is prevented by an increase of the oxidizable phosphorus in the system, we are naturally led to conclude that just as the want of iron in animals is the cause of spanemia, owing to a deficiency of the globulin in the blood globules, of which iron is an essential element, so the want of the phosphide element is one of the essential conditions, or, in other terms, a proximate cause of the tubercular diathesis.

But what other reasons are there that should induce us to admit that the initial stage of tuberculosis is the want in the system of the proximate organic principles containing phosphorus in an oxidizable condition? In the present state of our knowledge it can not be settled by chemic analysis; 1, because the best process hitherto known for isolating the phosphide principles, cerebrin, protagon or lecithin, and phosphoglyceric acid is complicated and uncertain; 2, because they can only be obtained in such small proportions that their quantitative analysis is difficult and uncertain; 3, because, even if a sufficient quantity of the proximate element itself be obtained, it has been found impossible hitherto to separate the phosphide principle from it without previously oxidizing it, or breaking it up. All the attempts hitherto made to adequately analyze the blood of consumptive patients for the determination of this point have failed. We must therefore seek for proofs of the theory of a phosphologic diathesis in a complete and exhaustive survey of the physiologic and pathologic bearings of tuberculosis. Among the half-understood, and often contradictory facts hitherto ascertained about the proximate principle, there are certain results which we may take as a starting point. The elements of which living bodies consist are all primitively derived from inorganic matter. But at first sight they may be divided into two great classes. The first class is composed of compounds made up of the elements, carbon, hydrogen, oxygen and nitrogen, the elements which are common to all biologic or living compounds. The elements potassium, sodium, calcium, magnesium, chlorin, silicon, sulphur, iron and phosphorus are less uniformly present. Their sphere of action is much more limited; they seem chiefly intended, either by themselves or for the purpose of modifying—through their secondary combinations, whether saline or others, carbonates, phosphates, chlorids, etc.—the condition of the special proximate principles composed of the first four elements, and of varying their qualities and affinities according to the different combinations produced between the compounds of the first and those of the second class. This view has governed the chemistry of vegetable bodies, and has led to important applications in agriculture. The use of the saline compounds in vegetation has been established, and to a certain degree, elucidated.

For animal life the results obtained are not so far advanced. Liebig was the first to establish the fact that the elements of the latter class are the indispensable mediators of all functional action; that they are necessary to the assimilation of nutriment by the system; and that life can not be supported by any substance where they are absent.

We may, therefore, assume it to be an established fact that the changes which take place during life in the proper organic matter (compounds of carbon, oxygen, hydrogen and nitrogen) of living beings, are modified and regulated by the elements of the second class. Among these principles, some such as potassium, sodium, calcium, magnesium, the phosphates, carbonates, sulphates, chlorids, etc., are found in the system as proximate principles, that is to say, they either exist in the same form as in inorganic chemistry, or may be separate from their compounds without breaking them up and destroying their chemic composition. These may be called the immediate inorganic principles. There is, therefore, a fundamental difference between these two classes of biologic elements. The first always form saline combinations of the same type as in the mineral kingdon; the second often exist in the proximate principles in a molecular state. The first have no affinity for oxygen, either because such affinity is very weak or is already completely satisfied. These elements and their compounds, therefore, take no immediate share in the process of intraorganic oxidation, which is the primordial fact of all higher vitality, and are thus without any direct influence upon the primary molecular changes which flow therefrom. When their secondary part in the system is played out, they are excreted in the same chemic form as when fulfilling their functions, hence we may conclude that these functions are rather of a static than a dynamic character.

On the other hand, the substances comprised in the second class, the mediate biologic elements, have all three as much affinity for oxygen as the elements, carbon, hydrogen and nitrogen themselves, sometimes even more. Usually they are expelled from the system after their affinity for oxygen has been completely satisfied. Hence, we may reasonably conclude that, like the elements carbon, hydrogen and nitrogen, their function is rather dynamic than static, and that like these elements, they bear some direct and immediate relation to the initial phenomenon of all vitality—oxidation. Now, as oxidation is the primordial phenomenon of vitality, as there is no function, no act of living beings in which this chemic process is not either directly or indirectly concerned, we shall not be overstepping the limits of scientific induction by concluding that the importance of the constituent elements of the system is in direct proportion to the strength of their affinity for oxygen. If we examine the different oxidizable elements contained in the animal system, we see that their affinity for oxygen varies very much. They may be ranged in the following manner according to their increasing affinity for oxygen—nitrogen, hydrogen, carbon, sulphur, iron and phosphorus.

Another consideration of equal importance with their tendency to combine with oxygen is their power of producing heat. Heat is both a result and a constant condition of all the molecular actions which take place in living beings, and above all in animals. Here, however, we find that the power these bodies have of developing heat by combining with oxygen does not follow the same scale as their affinity for it. If we class the combustible elements of the system according to their heat equivalent, that is to say, according to the quantity of water which they can raise one degree in temperature by combining with the same quantity of oxygen, we shall find that they rank in the following order—phosphorus 36.072, hydrogen 33.808, iron 33.072, carbon 23.696, sulphur 17.660. So that, among all the oxidizable elements of the system, phosphorus is the one that possesses the highest heat equivalent, and consequently, whose reaction upon a given quantity of oxygen will raise highest the temperature of the combining bodies.

We are thus justified in inferring that of all the proximate principles in the animal system, those which contain the phosphide element must have the greatest affinity for oxygen and the greatest calorific capacity, and that they must influence more powerfully than any other compounds the two primary physical and chemic conditions of animal life, particularly among the warm-blooded animals: intraorganic combustion and the production of heat. If we look further, we shall be immediately struck with this fact: the phosphide element is especially met with in all tissues and organs whose office it is to initiate vital action. It is found in the nervous and muscular substance, which initiates intellectual or animal activity; in the globules of the blood, whose function it is to enable the external atmospheric medium to react, through them as a vehicle, upon the inmost recesses of the organism; in the primary metamorphic substances, albumin, fibrin, etc., which constitute the substratum, the *nidus formativus*, the blastema or protoplasm of all the tissues, and which, by their molecular actions of integration or disintegration, supply the materials of every vital act; lastly, it is met with in spermatic matter and in the egg, which affords the most characteristic manifestation of all vitality—the production of a new being.

If the bacillus of tuberculosis depends for its deadly effectiveness on a decrease in the system of a combustible and calorific element, such as oxidizable phosphorus, it follows that in this disease there must be a decrease of general oxidation, and a lowering of animal temperature. That this is the case has been established. The same fact is proved by the aspect of the blood. It has long been a matter of observation by physicians, that the venous blood of consumptives is redder than in the normal condition. Now, we know that the black color of venous blood depends upon the presence of carbonic acid. Experiments on the glands and muscles have shown that the blackness of venous blood is owing to its having already been employed in molecular metamorphosis; that the blackness is in proportion to the intensity of this molecular action, and that it increases with this intensity. The use of the hypophosphite darkens the color of the venous blood, not only up to, but beyond its natural tint. The fact of diminished oxidation is also shown by the deposit in the urine of consumptive patients showing an excess of uric acid, with a corresponding decrease of uréa. These urinary sediments usually diminish or disappear under the use of the hypophosphite. That this is due to an increase of oxidation will be apparent by comparing the formula of uric acid with that of urea.

The hypothesis agrees equally well with the anatomic as with the physiologic facts of tuberculosis. If the bioplasmic or proteic substances are incompletely oxidized, and insufficiently so to either obtain a higher degree of organization or to be excreted, they will be deposited in the tissues and, so to speak, precipitated, like the decomposed elements of a saline solution, in the form of amorphous or incompletely organized material. The more important share any organ takes in the process of oxidation, the more liable will it be to this deposit of tubercular matter. If, as is now generally admitted, that part of the respiratory process which takes place in the lungs consists in oxidation of at least a portion of the combustible substances in the blood, it is evident that this chemic change will first be undergone by those which have the greatest affinity for oxygen. The proximate principles containing the phosphide elements must thus be the first to undergo this process; and if, owing to their deficiency in their characteristic element, phosphorus, this oxidation is insufficient, it is evident that the deposit resulting from this incomplete process ought to appear first of all in the lung. Out of 1136 cases of tuberculosis examined by Papavoine, the deposit was in the lungs in 1030. Wherever the function of oxidation is more active, that will be the chief place for the deposit of tubercular matter. In ordinary respiration it is the upper portion of the lung—the apex or top—which comes most into play; the lower portion only does so during forced inspiration. The tubercular deposit ought therefore to be more abundant at the top of the lung than in the rest. This is exactly what has been shown to be the case. Louis has shown that out of 123 cases of phthisis, the tubercles were more numerous, larger, and more advanced in their development at the apex than at the base in 121 cases; and Heusinger found that in birds this was the preferential seat of the deposit.

Besides the oxidation which takes place in the lungs and in the tissues, there is a secondary system of circulation, whose office it is to take up the elements which have not completely fulfilled their biologic evolution, to subject them to a new elaboration, and to return them into the general circulation, so that they may a second time co-operate in the general nutrition of the organism. This is the lymphatic system, the essential components of which are two kinds of organs, vessels and glands, the former serving to convey the substances absorbed, the latter to subject them to a new elaboration before they are returned into the circulation. The object of this is probably to complete the oxidation of material which has not already fully undergone that process, either in the lungs or the capillaries. Each lymphatic gland may therefore be looked upon as a small supplementary kind of lung, intended to complete the oxidation of the less oxidizable substances of the system, which require to be placed for a longer time in contact with oxygen to finish their organic evolution. The proof of this is, that the glands consist of a cortical substance composed of a fine network of afferent vessels and arterial capillaries, where the absorbed matters come in contact with oxygenated blood, after which they enter the substance of the gland, and are conveyed toward the general circulatory system; the object of this arrangement must be the oxidation of the bioplasm contained in the gland.

Now this will only take place provided the substances to be oxidized have a certain degree of affinity for oxygen. If we admit the existence of a phosphide principle, not only oxidizable itself, but capable of communicating its combustibility to other substances, it is easy to understand how the deficiency of this principle will produce here, as in the lungs, incomplete oxidation—that is, an arrest of development, the formation of incompletely elaborated material—in a word, tubercular matter. The physiologic function of these organs thus shows, upon the theory of phosphology, why, next to the lungs, the lymphatic glands are the organs most prone to tuberculization. This is especially the case with the glands of the mesentery and of the intestine.

If the phosphologic diathesis be the cause of the production of tubercle, the tubercular matter must vary, to a certain extent, in its composition and appearances, because both of these will depend upon two conditions—the degree of deficiency of the phosphide element, and the nature of the materials from which it has been derived by a process of insufficient oxidation. This affords a satisfactory explanation of the varied forms presented by tubercular and scrofulous deposits. Tubercular matter is bioplasmic albuminoid substance, imperfectly developed on account of its having undergone incomplete oxidation, not because there is a deficiency of oxygen, but because the materials themselves have lost their affinity for it, in consequence of a decrease of the phosphide element.

If this theory be correct, it ought to be confirmed by the elementary chemic analysis of tubercular matter. The chemic analysis of tubercular matter, as well as of the blood, in phthisis, is incompetent to decide whether there really be or not a decrease in the phosphide element; but what it does show is that tubercular matter is a bioplasmic or proteic substance, from which a certain but variable number of atoms of carbon, hydrogen and oxygen have been subtracted. If we take as the composition of protein the formula abopted by Liebig, $C_{48}H_{36}N_6O_{14}$, we shall find that the results given by Scherer's analysis of tubercle in different organs prove that these really are a residue of oxidized proteic or albuminoid materials, and singularly confirm the explanations given above, by showing that the tubercular matter in the lungs contained a less quantity of carbon and hydrogen, that is, had undergone a greater amount of oxidation, than the tubercular matter found in other organs. The formulæ found by Scherer for tubercle were—in the lungs, $C_{43}H_{35}N_6O_{13}$, in the liver, $C_{45}H_{36}N_6O_{13}$, in the peritoneum, $C_{46}H_{36}N_6O_{12}$, in the brain, $C_{46}H_{37}N_6O_{12}$, in the mesentery, $C_{46}H_{88}N_6O_{12}$. We thus see why tubercles in the different organs present, not only a difference in chemic composition, but also varying histologic forms, although retaining, particularly to the naked eye, a common and uniform aspect.

The theory of "phosphology" assumes that some of the proximate phosphorous principles in the system are deficient in the phosphide element which constitutes their essential characteristic. Although chemic analysis has hitherto been unable directly to decide this question, it is a singular fact that all analyses yet made which bear upon the point coincide in confirming the theory. Frick found, on analyzing the blood in four tuberculous cases in the first stage, that there was a notable diminution of its inorganic elements. In these analyses, the phosphide and phosphatic elements were confounded together, and calculated after oxidation as phosphates. He found that in 1000 parts of tubercular blood, the maximum of these phosphates was 0.351, the minimum was 0.197, the mean 0.291, while the mean in the normal condition was 0.874. What reason is there to suppose that this want of oxidizability depends upon a deficiency of the phosphide element, rather than upon any other modification, which may have diminished the affinity for oxygen of the different albuminoid compounds? The reasons are the following: 1, it is a fact that an oxidizable phosphorus-element exists in the albuminoid principles; 2, this element must be the most oxidizable part of them; 3, a preparation of phosphorus, which is both assimilable and oxidizable—the hypophosphite—has a constant action against tuberculosis.

Another class of facts confirm this view. In the herbivora, phthisis is much more common than in flesh-eating animals. The latter finds the phosphide element already formed in their food; the former do not, because the phosphide element does not exist in vegetables, so that as their blood contains a smaller quantity of phosphorus compounds, they must be much more liable to experience the want of them. This is not only true of mammiferous animals, but holds equally good in birds. It has been shown that in birds of prey, which live upon flesh, tubercles are hardly ever met with, either in the lungs or elsewhere, while they are common in other classes of birds. The theory of "phosphology" gives the key to several clinical phenomena which have hitherto been unexplained. A portion at least of the phosphates excreted from the system must proceed from the combustion of the oxidizable phosphorus elements, so that, when there is no change of diet, we may conclude that there will be a relative proportion between the amount of excreted phosphates and the waste of oxidizable phosphorus. If such be the case, we may expect to see phthisis developed whenever there is a permanent increase in the amount of phosphates excreted. Clinical observation shows that such is really the case, and the coincidence between tuberculosis and the increase of the phosphatic urinary excretion has been fully established. The phosphatic excretion is greatly increased during attacks of insanity, and a large proportion of the insane do, in fact, fall victims to phthisis. The proximate principles containing the phosphide element are chiefly met with in the nervous substance, and it has been established by the researches of a number of experimenters that there is a direct connection between the amount of phosphates excreted in the urine and cerebral or nervous wear and tear. The excessive phosphatic secretion prevailing in phthisis has been found to decrease during an improvement in the condition of consumptives.

In the former part of this paper it is stated that: "The administration of an oxidizable and assimilable compound of phosphorus under certain determinate *pathologic* and *therapeutic* conditions, has the constant effect of preventing any fresh deposit of tubercular matter." This statement has been made advisedly; unless these determinate conditions are carefully considered and followed, the hoped-for success in the treatment will not be experienced. There are many conditions, pathologic, therapeutic and pharmaceutic, which must be observed by the practitioner, if he would meet the success which is possible in the treatment of tuberculosis.

The diagnosis of the disease must be very carefully carried out in detail, that the appropriate hypophosphite salt indicated by the condition, may be selected. In the ordinary treatment usually followed, it has only been considered necessary to diagnose the main fact of the character of the disease, without carefully studying its varied manifestations in detail. The treatment is prescribed in a general way, a fixed general routine is advised, and the disease being chronic, it is not considered necessary that the patient should report frequently; and often weeks elapse, during which time he is not under the observation of his medical adviser. But if the hypophosphites are scientifically employed these conditions must be investigated; the patient must be carefully watched by his physicians; the doses of the particularly indicated hypophosphite should be carefully graded to meet the immediate condition of the patient, as hypophosphites in overdoses produce toxic effects on tuberculous patients; these doses should be varied from day to day, according to results produced; contraindicated hypophosphite salts and combinations of different hypophosphites must not be employed; anodynes, narcotics, stimulants, cod-liver oil and other special remedies designed to ameliorate certain prominent symptoms, such as coughs, night-sweats, etc., must be abandoned, as they operate against the object sought to be attained by the hypophosphite treatment; some of them—cod-liver oil and stimulants—prevent oxidation in the tissues: others produce prostration and congestion, and while they may appear to relieve for the time being some of the more prominent symptoms, their after-effects are injurious to the patient, while exerting no action against tuberculosis warranting their use; accidental complications—bronchitis, laryngitis, etc.—when present should be treated alone, by the usual remedies, until the acute stage is passed, the hypophosphite being in the meantime suspended; in the absence of complications, the indicated hypophosphite should be given, with occasional suspension of a few days at a time, in proper discriminative doses, until the diathesis is removed, and thereafter, occasionally as a prophylactic, as often as indications show any signs of a return of the diathesis.

The hypophosphites of soda, lime, and occasionally quinin, are alone to be employed; these should never be administered in combination, as their therapeutic action differs; as the use of either the lime or soda salt depends upon certain conditions of expectoration and other conditions, they should be alternated according to effect desired; the basis of the hypophosphites of potassium, iron, manganese, etc., are contraindicated therapeutically, their use producing various pathogenic symptoms, such as hemorrhage, rapid sloughing of tubercular deposit, and other dangerous effects; the further advanced the case, the more careful should the prescriber be to keep the dose within the sphere of its physiologic action, as advanced cases are very much more susceptible to overdosing than those in the incipient stage.

The neglect of the profession to give proper attention to pharmaceutic requirements, is one of the principal causes of failure. The hypophosphites of soda and lime should each be specially prepared in strict accord with the recommendations of Churchill—be chemically pure, of neutral reaction, and in other respects made to conform with his views, and as soon as so prepared, should be at once protected against atmospheric oxidation by a chemically pure syrup. The syrup is not used to render the preparation palatable, for there is scarcely any taste to these salts when pure, but as an indispensable requirement to preserve the perfected salts in proper condition for medication. These have been in the past, and are now, the only reasons why hypophosphites are not constantly successful in this disease. The consideration of these conditions would make a long article by itself, and can not be exhaustively treated of here.

It is a remarkable fact that so many physicians appear to ignore nearly all the foregoing indispensable conditions as laid down by Churchill; they appear to think that anything called a hypophosphite, no matter how impure; any complex combination of different hypophosphites, no matter how antagonistic their action may be, will meet the constantly varying conditions of the patient; if hemorrhages are produced they are attributed to the inevitable progress of the disease, not to indiscriminate dosing, which is oftenest the real cause; no attention is paid to the special indications of each hypophosphite, to the scientific adaptation of the one suitable remedy to the particular morbid state; these facts are so largely overlooked that it is an exceptional case where they are observed; that this is true is shown by the common practice of prescribing indiscriminate and therapeutically contraindicated combinations of half a dozen hypophosphites, upon all occasions, for every purpose and in enormously excessive doses.

These considerations show why the treatment of phthisis with the hypophosphites meets with constant failure; why they have been so frequently discarded as useless after a futile trial. Unless a physician is willing to make a study of the scientific application of these remedies in this disease and carefully follow them, and insist upon prescribing only suitable preparations of them, he can not expect to meet with success. Under such conditions, the fault is not that the Churchill theory is not sound nor that hypophosphites are not proper remedies for the disease, but simply that the treatment has not been properly carried out.

156 William Street.

Methylene Blue in Acute Articular Rheumatism.—Lemoine asserts that methylene blue is more rapid and effective in acute articular rheumatism than sodium salicylate, especially in gonorrheal rheumatism.—*Bull. de l'Acad. de Med.*, January 31.

VOLUNTARY LATERAL NYSTAGMUS.

REPORT OF A CASE.

Presented to the Chicago Ophthalmological and Otological Society, December, 1896.

BY WILLIAM E. GAMBLE, M.D.
Lecturer on Ophthalmology and Otology, College of Physicians and Surgeons, Chicago, Medical Department, University of Illinois;
Assistant Surgeon Illinois Charitable Eye
and Ear Infirmary.
CHICAGO.

A. D., age 24, German-American, a medical student, has been a student and teacher all his life; has not been sick since childhood; had no severe illness during that period. He did not have scarlet fever nor diphtheria, and has never had diseases of the eyes of any kind.

While attending high school at about the age of 15 years, he first discovered that he could produce at will lateral nystagmus, and afterward often amused his classmates by his optical gymnastics. It was never involuntary. He has never experienced any difficulty in starting the eyes going but can continue the movement less than a minute, as the muscles become exhausted. He can not produce it in one eye alone. Nystagmus is most pronounced when fixing the eyes on an object six to eight feet distant, directly in front, but can continue at less rapidity when the eyes are making the lateral excursion. The movements are more pronounced by daylight than by artificial light. The rapidity of movement is as great as I have ever seen in cases of nystagmus. V. each eye = 20/20.

He does not suffer from headache nor eye-strain by continued study. He is not subject to headache of any kind. He accepts R. E. Cyl. .50 D, axis 180=20/20+2. L. E. Sph. .25 D.=20/20+1. There is no opacity of cornea nor other media. Field of vision is normal, color sense is normal, and fundi are normal in appearance. He has never had writers' palsy nor other manifestation of neurotic disease. He has never worked in mines nor lived in a mountainous country.

The case is unique on account of its great rarity. Dr. Noyes, however, in his "Diseases of the Eye," edition of 1890, says that he has seen but one case of voluntary nystagmus, the patient having acquired this movement after having been confined to his room for some weeks, for eye trouble. This case of Dr. Noyes is the only case I have seen reported. There is scarcely any literature upon the subject, and I have not yet seen any explanation offered accounting for the phenomenon. In this case there is no new movement acquired differing from the normal lateral movements of the eyes, save that there is greater rapidity of motion. Why this man possesses this rare faculty, while millions of his fellows do not, is a problem for speculation.

There is evidently no pathology here. There is no want of cortical innervation of extraocular muscles, rather a temporary increased amount of it. Opacities of the cornea or of other refractive media of eyes, when occurring in early childhood, may produce nystagmus proper, volition being the only cause in this case.

100 State Street.

Artificial Serum in Cholera.—Cox of Shanghai reports that he saved the life of a cholera patient by making an intravenous injection at the rate of 30 c.c. a minute at a pressure of 75 cm., continuing for four hours, until all the symptoms of collapse had entirely disappeared.—*Semaine Méd.*, February 8.

SOCIETY PROCEEDINGS.

Chicago Gynecological Society.

Regular Meeting, Feb. 17, 1899.

Dr. Nicholas Senn, the president of the Society, occupied the chair.

Dr. Franklin H. Martin reported a case of a

UTERUS CONTAINING MULTIPLE FIBROIDS

there being attached to it a tubo-ovarian cyst of the left side and a tubo-ovarian cyst of the right side. The pathology of the appendages was undoubtedly caused by infection extending by way of the mucous membrane of the uterus. There was a history of at least two attacks of localized peritonitis. The appendages were adherent at several points, but were easily enucleated. As pelvic pain and exhaustive uterine hemorrhages constituted the principal symptomatology, an operation which would insure subsidence of hemorrhage was desirable. He therefore removed the uterus at the cervix, as well as the appendages, because the former contained in its walls several fibromyomatous centers, all which he could not remove as safely, if at all, by myomectomy as by a hysterectomy. He presented a sketch illustrating the specimen as it appeared when fresh.

Case 1.—Mrs. M., aged 62 years, was brought to his clinic early in January, 1899. For a year she had been having uterine hemorrhages from time to time, and recently had become exhausted. The patient was found to have a large heart, urine of small specific gravity with hyaline and granular casts, and with about one-third the normal amount of urea. He placed her upon a non-nitrogenous diet, flushed her kidneys by running her urine by means of water and diuretics up to 75 ounces a day, obtained free catharsis and skin action, and then, under ether anesthesia, made a thorough bimanual examination, curetted the uterus for diagnostic as well as curative purposes, and packed the cavity with gauze. The product of the curettement, examined microscopically, showed adenocarcinoma. On bimanual palpation, the uterus was found globular in shape and about three inches in diameter. The cervix was practically obliterated. While no extension of the disease could be traced from the uterus, the organ was fixed at its attachment to the senile, atrophied vagina. On account of the extreme weakness of the patient, the large overworked heart, the interstitial nephritis, and Dr. Martin's inability to reach the case any other way, as the curettement had failed to relieve the hemorrhage, he performed a panhysterectomy by laparotomy, and did it in the shortest possible time consistent with complete work. The patient is convalescing rapidly.

Case 2.—In 1895 he operated upon Mrs. M. for double pyosalpinx and metritis which had resulted in extensive peritoneal adhesions. The operation was double salpingectomy, oöphorectomy and hysterectomy performed through an abdominal incision. The patient recovered promptly, and had been in excellent health until about six months ago, when she began to complain of weight in the right side, and shortly afterward she discovered a tumor to the right of the umbilicus. She was again referred to him by her family physician. On examination he found a tumor of irregular outlines, with elastic walls, giving a sense of fluctuation, about eight inches in length and four inches in the other two diameters. It could be pushed to the umbilicus toward the left, to the crest of the ilium below, and would make a circle the axis of which might be estimated at about eight inches, and the end of which was the right kidney space. The tumor would readily occupy the right kidney space. The left kidney was not palpable. From percussion over the tumor, when placed in the loin, marked tympany was observed. By means of the Harris bladder device, employed for thirty minutes, the left side of the bladder yielded seven drams of urine, and the right side not one minim. Kelly's cystoscope, which was also employed without an anesthetic, showed the mouth of the ureters widely separated, therefore an anomalous condition of the ureters could not account for the showing of the ingenious device. No attempt at catheterization of the ureters was made.

Examination of the urine of the left kidney demonstrated that that organ was doing well the work of both kidneys. Thirty-six ounces of urine a day was secreted, and the amount of urea, 300 grams, on a hospital diet. The urine was increased by drinks and diuretics, and elimination from bowels and skin insured by proper methods. His diagnosis was cyst of the right kidney, probably retention from obstruction of the ureter, possibly adenocystoma.

He decided upon a post-peritoneal exploration, and accordingly, Feb. 2, 1899, he explored and removed the specimen which he exhibited, through a lumbar incision. Upon reaching the kidney and separating it from the surrounding fat for a considerable space, he made a small incision in it from which all the fluid from what seemed a group of small cysts immediately escaped, leaving nothing but their membranous walls remaining. It was readily seen that the normal secreting power of this kidney had been destroyed by long pressure from the retained fluids. He therefore did not attempt to repair the obstructed ureter, as advised by Fenger, Senn, and others, when a small portion of the cortex still remained, with hope of revivifying the functionless organ, but tied off the vessels and ureter and removed the organ. The patient rapidly recuperated from the operation.

Dr. Zeit, in his report of the specimen, states that the cystic kidney is one of hydronephrosis due to occlusion of the ureter in some way. The secreting power of the kidney had been destroyed. The fluid of the cyst contained no trace of urea. The atrophy of the secreting portion of the kidney was so complete that drainage or restoration of its ureter would not have succeeded in producing regeneration of the cortical portion.

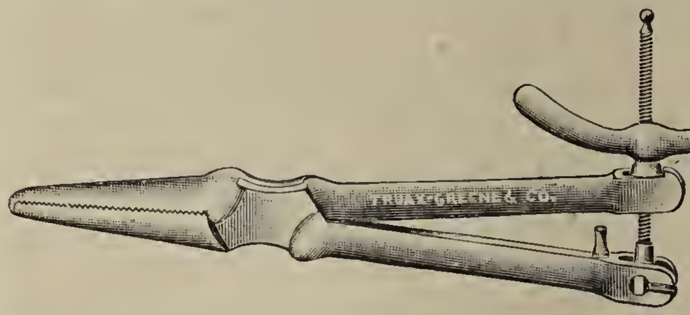
Dr. Martin believes that the right ureter was injured by the disease for which he operated in 1895, or possibly by the operation itself, which demanded extensive enucleation in removing the impacted appendages.

Dr. Henry P. Newman read

A PRELIMINARY REPORT UPON THE USE OF THE DOYEN-THUMIN CRUSHER OR CLAMP; WITH A NEW INSTRUMENT FOR EXTENDING ITS WORK UPON THE BROAD LIGAMENTS AND OTHER SOFT STRUCTURES.

The object of the Doyen method of hysterectomy, for which latter procedure it was primarily used, was to do away with all suture material or sutures, and likewise the retention clamp, the author claiming facility of use, promptness of execution, and perfect security from after-hemorrhage. The clinical experience of Doyen, as well as that of Landau, would seem to verify these claims.

The instrument here presented is a Thumin modification of the original Doyen crusher or clamp. It has a large bite with serrated edges and a central groove. After its application to the parts, the powerful leverage obtained through the handles by the cross-bar and thumb-screw enable one to compress or crush the tissues into an almost ribbon-like thinness. The groove in the center of the bite allows of the formation of a blood-clot or thrombus in the individual vessels compressed, in addition to the natural formed thrombus, as in ligation, behind the constricted or crushed vessels. The crushing on the outside of the groove or on the distal end of the excised vessel may be compared to a second or double ligature.



As the instrument is only applied for two and a half minutes, it is claimed that much of the vitality of the crushed tissue is restored; and the consequent sloughing of the retention-clamp method or ligatures is done away with, likewise the granulalating surface often so prejudicial to pelvic and abdominal work. The verification of the latter proposition Dr. Newman regards as of great importance, and has instituted a series of experiments upon the lower animals with this purpose in view:

1. To observe the immediate condition resulting from clamping or crushing soft tissues within and without closed cavities.
2. The subsequent conditions of the stump or tissue, including the nutritive and reparative processes that take place.

It will be seen by the following cases that he has purposed extending its use to any and all tissues, intraperitoneal and extraperitoneal, wherever its applicability seems to warrant. For this purpose he has devised a new modified instrument with longer blades and narrower jaws, a removable lock for not only its antiseptic advantages, but for the separate introduction of its blades, when necessary. It also has a slight projection upon the end of one blade, preventing the broad ligament, large pedicle, or any tissue from projecting beyond the bite of the blades.

Case 1.—Mrs. E., aged 20 years, American; family history good. She menstruated first at the age of 13, never regularly has backache and pain over right ovarian region, which is increased at menstrual period. She has been married one and a half years. Menses have been more painful and backache and pain in the right ovarian region more severe, since marriage. Examination showed the uterus to be infantile, cervix small, elongated and eroded; ovaries large and prolapsed and this enlargement and prolapse more marked in right ovary.

Operation—Jan. 21, 1899. Curettement; tracheloplasty; celiotomy; right ovary found low in cul-de sac of twice normal size, with cystic degeneration, tube closed, enlarged and thickened; adhesions broken up and ovary and tube removed by means of Doyen-Thumin crusher; left ovary slightly enlarged and cystic; tube closed and many small cysts around the extremity; section of cystic ovary removed; tube opened and ampulla everted and held by fine catgut, cysts tied off with catgut; recovery good; no evidences of hemorrhage from ovarian stump.

Case 2.—Mrs. D., aged 62, German; history of previous illness negative; family history good, except that mother died of tuberculosis. She menstruated first at 15; was regular until the age of 53, when menses ceased abruptly; no history of irregularity, excessive flow or pain. She was married at the age of 20; husband is living; she has nine children, whose ages range from 40 to 20. Seven years ago she began to have pain in the back, at intervals; no other symptoms until one year ago, in January, when she began to have discharge and hemorrhage; hemorrhage irregular, at times a show of blood, then absent, then a flow for a considerable time, two, three, four or five weeks. During the past year patient has become anemic and has lost not a little flesh and strength. Examination revealed tumor (enlarged uterus) in pelvis, extending two and a half inches above pubic bone, hard and nodular. Diagnosis: carcinoma of uterus, and probable long-standing multiple fibroids.

Operation.—Jan. 20, 1899. The vaginal route was chosen, although the vagina was somewhat small, and the uterus thrice its normal size. The outlet was enlarged by bilateral incisions. Incisions were made anterior and posterior to the cervix, into peritoneal cavity; left uterine artery severed and tied; effort made to pull uterus down, but impossible on account of size, friability and adhesions; abdomen opened and uterus freed; Doyen-Thumin crusher placed upon the broad ligament from above downward, compressed and left two and a half minutes. Ligament cut on uterine side of clamp; clamp loosened; no oozing; clamp placed on opposite ligament, and this similarly dealt with; uterus, now free, was lifted out and abdomen closed; gauze drainage through the vagina; recovery; no after-hemorrhage; only slight serosanguineous oozing from the vagina.

Case 3.—Mrs. F., aged 24, English. Patient has always been well, except for a monthly hemorrhage from nose each time, lasting about twenty-four hours. This phenomenon first appeared when patient was 6 years of age, and lasted until she was 12. Her mother died of child-birth. Menses first appeared in the thirteenth year of patient's life, and continued regularly and without pain until first pregnancy. Since the birth of the first child they have been painful. She was married at the age of 15 years; has one child 8 years old; twins were born six and a half years ago, which lived six weeks; her husband died in 1864. History leading to present illness: Patient had laceration of cervix and probable infection, with first child, and has not been well since; symptoms increased after twins; had an operation four years ago—at first trachelorrhaphy, and two weeks later a double salpingo-oöphorectomy. Since then pains in the abdomen have increased rather than diminished. The bowels have been constipated and bladder irritable. Examination showed the uterus to be large and tender, and especially tender at the horns of the uterus in the old stumps, consequently a probable diagnosis of nephritis and intestinal salpingitis of the remaining portions of the tubes.

Operation.—Jan. 26, 1899. Vaginal hysterectomy. The usual incision was made around the cervix, and the uterus freed anteriorly and posteriorly. The fundus was then turned forward and pulled downward, through the anterior incision. The Doyen-Thumin crusher was placed on the broad liagament from above downward and left the usual length of time; then the opposite ligament was treated in the same manner, which completed the operation; recovery. Relief of pain has been very marked. No hemorrhage followed operation. Suppuration was found in both horns of the uterus.

Case 4.—Mrs. S., aged 29, German-American. Patient has been a cloak-fitter for eight years; on her feet many hours each day; she is large and well developed; family history good. She first menstruated at the age of 14 years; and was regular until two years ago; suffered a great deal during first three years of menstrual life, then symptoms became less severe until seven years ago, since which time they have been growing worse. Patient has always had severe pain over lower half of abdomen during menstrual period, but during the last year this pain has been constant. The patient has also complained of severe pain in the chest over the cardiac region, without apparent local cause. Examination revealed stenosis of os uteri, a large uterus, movable mass to the right and above the uterus. The mass on the right of the uterus had undoubtedly been taken for floating kidney, as that diagnosis had been made by Chicago physicians. Operation: Curettement; tracheoplasty; celiotomy; left ovary found to be the size of a large hen's egg, cystic, and capsule much thickened, as seen in specimen. Tube and ovarian ligament were much thickened and elongated, allowing of considerable movement; ovary removed by means of crusher, leaving tube; right ovary was found to be the size of a hen's egg, cystic and degenerated, but to a less degree than the left; cyst of broad ligament the size of turkey's egg, situated above the ovary in such a way that the two gave the characteristic kidney shape; cyst removed and also section of this ovary; recovery; progressing well; no evidence of hemorrhage.

Case 5.—Mrs. H., aged 30, American. Previous history: Well until one year ago last Thanksgiving; family history good. She menstruated first at the age of fifteen; menses regular and painless until one year ago last November. She married at the age of 21; has only one child 8 years old; well after birth of child. Present illness: Friday morning, after Thanksgiving of 1897, she began to have headache and pain in the back. Friday night she began to vomit. Saturday morning she had pain in the right inguinal region. The pain and vomiting ceased in a few days, but patient did not leave her bed until the following March; pain and vomiting have occurred with each menstrual period since November, 1897. Examination revealed laceration of perineum, laceration of cervix, large prolapsed ovary on left side, prolapsed ovary on the right side; hard body the size of a hickory-nut in the region of the appendix. Operation Jan. 26, 1899; curettement, tracheloplasty, perineorrhaphy, celiotomy, appendectomy (the appendix having been doubled upon itself and adherent in such a way as to form the hard body in this region), section of right ovary removed, and on left side salpingo-oöphorectomy done with Doyen-Thumin instrument; recovery; no evidence of hemorrhage; patient very much improved in general appearance and symptoms.

Case 6.—Mrs. J., aged 53, Norwegian; previous history negative; family history good. She menstruated first at the age of 14 years, was always regular until last year of menstrual life; ceased to menstruate at the age of 48 years, five years ago. She married at the age of 21 years; has had seven children. Present illness: Abdomen began to enlarge one year ago; had a feeling of pressure in the left ovarian region; bowels constipated. Four or five months ago the patient began to notice a tumor on the left side. Examination revealed a cystic tumor of the size of a uterus at seven months of pregeancy. Operation Feb. 13, 1899: Removal of the tumor by means of Doyen-Thumin crusher for pedicle; recovery; no evidence of hemorrhage.

Dr. X. O. **Werder** of Pittsburg, Pa., read a paper (by invitation) entitled

A CLINICAL CONTRIBUTION TO THE TREATMENT OF MALIGNANT TUMORS OF THE OVARY.

He emphasizes the importance of this condition, which deserves more attention from abdominal surgeons and the profession at large than is usually accorded it. To substantiate this view he quotes the statistics of the large continental clinics, showing its frequency. The following proportion of malignancy to other ovarian neoplasms removed by them is given by the operators named: Olshausen found 15 per cent.; Cohn's report of cases operated upon in Schroeder's clinic shows 16.4 per cent.; Fritsch had 18 per cent. and Leopold 23 per cent. of cases which were malignant histologically as well as clinically: while Kelly reports 8 per cent. malignancy in 138 cases operated upon by him. The author finds 15.3 per cent. malignancy (clinical evidence being confirmed by microscopic examination) in 130 patients, from whom one or more ovarian tumors were removed. Adding seven exploratory sections for this condition, 20.4 per cent. is reached. This does not represent his full percentage, however, for many other cases seen were manifestly inoperable. He does not concur in the views expressed by Cohn and others who claim that adenopapillomata should be classed with papillary carcinomata, and no such cases are included in the statistics given.

After quoting the views of Pfannenstiel, he says: "From a clinical point of view we must admit many points of resemblance between papillomatous tumors and typic carcinoma; in fact, their outward appearances are often so strikingly similar that for their differentiation the aid of the microscope is required. They are both frequently accompanied by ascites; they are often bilateral, both are liable to become desseminated over extensive peritoneal surfaces in the form of cauliflower excrescences, and both may be accompanied by a degree of malnutrition and emaciation difficult to distinguish from true cachexia. Positive proof of the benign character of the simple adenopapillomata are the cases observed by all experienced surgeons, in which, in spite of numerous metastases found on the intestines and other portions of the peritoneal cavity, the operation was followed by a complete and permanent recovery. Genuine, malignant metastases preserve their destructive tendencies even after the removal of the mother tumor."

Regarding the frequency with which adenocarcinoma is associated with papilloma, there seems to be quite a discrepancy. Pfannenstiel found this relation in twenty out of forty-three cases. This frequency of association is not borne out by Kelly, who only found it in two out of twenty-seven cases.

Having shown the frequency of malignant ovarian tumors, their treatment—a matter of paramount importance—is taken up. He thinks the older men, whose influence created abdominal surgery and whose views dominated it and directed its course for many years, must have met with disastrous results in the operative treatment of these tumors, for they discourage it because "of the high mortality and the almost certain return of the disease; with them the diagnosis of malignancy was regarded as a distinct contradiction to operative treatment. With an improved operative technic and a general decrease of mortality attending abdominal operations, our views in regard to the operability of malignant tumors have also undergone a gradual but decisive change." This is attributed largely to Cohn's report of a hundred cases operated upon by Schroeder, which "demonstrated conclusively that these neoplasms can be removed with not only a comparatively small mortality, but also that the prognosis in point of recurrence is by no means so absolutely hopeless as we had been led to believe." The operative mortality of these one hundred cases was 20 per cent.; 15 per cent. soon succumbed after operation to the disease, but 19.5 per cent. were still living at the end of a year, and in five the cure was maintained for from three to four and a half years. Other operators, especially Fritsch and Leopold, soon followed with reports equally as good as Schroeder's. More recently Kratzenstein gives the results of a hundred cases of malignant tumors treated at the Universitäts-Frauen-Klinik in Berlin, between the years 1879–92, in which the subsequent course is known. The deaths from operation were 28 per cent.; of the seventy-two surviving patients, thirty-four died from recurrences of the disease, but 36 per cent. were cured, to use his own words, "not only for one year, but permanently."

What he understands by permanent cures is not explained; he cites, however, a number of cases in which carcinomatous tumors were removed, who lived at the end of from five to thirteen years. Certainly very encouraging results. If permitted to give his own experience, limited as it is compared with the statistics obtained from such large clinics, it will, nevertheless, in a small measure contribute to the study of this rather neglected subject. The mortality of the nineteen cases subjected to radical operation was 3 or 15.7 per cent., two deaths belonging to the group of carcinoma and one to that of sarcoma of the twelve recoveries; one has not been heard from since her discharge; two have died from the disease within three to four months; three within five or eight months; one died three years and four months, and one three years from recurrence, making a total of seven deaths from recurrence and one in doubt. Of the others, one, five months after operation, suffers from a recurrence; one is well one year and five months after operation; one, two years and nine months, and one, three years and seven months; there are, therefore, three who have survived the operation over three years and one almost three years. The four cases of sarcoma are all living and well at the present time. This again demonstrates the comparatively benign character of the ovarian sarcoma which has been pointed out by a number of observers. The reason of this is probably the absence of metastatic processes and the freedom of adhesions through which the disease is so easily propagated. Cohn says that sarcoma, so very malignant when affecting other organs, gives the best chances of all malignant tumors of the ovary. Olshausen confirms this and observes that it rarely causes metastases. L. Pick regards the prognosis of sarcoma of the ovary when bilateral as very unfavorable, but far better, even favorable, when confined to one side only. Kratzenstein also comments on the good results obtained in sarcoma, and states that fibrosarcoma never occurs; he therefore, doubts its malignancy.

"In the sight of the above statistics, Dr. Werder believes we may draw the conclusion that the results following the operative treatment of carcinoma of the ovary do not seem to justify the extremely pessimistic views, even now so generally entertained by abdominal surgeons. Even though complete cures may be the exception, the few years or even months of comfort and well being added to human life are well worth our best efforts in a disease so hopeless and destructive. Unless a previous examination shows extensive infiltration of the pelvis and distinct metastatic processes in the bladder, intestines and abdominal walls, an exploratory incision seems to me not only justifiable, but indicated, even when the diagnosis of malignant disease is no longer doubtful. In so doing the patient is relieved of a condition which is often more annoying and serious in its immediate effects than the disease itself, namely, the ascites, at the same time gaining information in regard to the nature of the tumor, its attachments, the extent of its metastases, which can not be obtained to the same degree in any other manner. If the tumor prove to be an operable one, that is, one in which a safe removal can be effected, he would not hesitate to do so, although a complete removal of all diseased structures would not seem probable, because thereby abdominal pressure is lessened and the ascites is checked, if not permanently, at least often for a considerable period. The patient rapidly recuperates and regains a fair degree of health, even in the most unfavorable cases. Freund goes even further: he recommends abdominal incision in clearly inoperative cases for the purpose of removing the ascitic fluid by carefully sponging and drying the abdominal cavity, and cites cases in which this apparently simple procedure permanently influenced the ascites and resulted in marked relief of all symptoms and a decided improvement of the general health. There is another reason why the tumor, when removal seems possible within reasonable limits of safety, should be enucleated, and this is the impossibility of knowing with certainty, in some cases at least, that the neoplasm is really malignant. Cases of adenopapilloma not rarely so strongly resemble carcinoma that differentiation from microscopic appearances alone is not always easy."

A very instructive case is cited to illustrate this point. Bilateral malignant ovarian tumors were diagnosed, and an exploratory section was made. The condition found appeared to be typic of carcinoma, the tumors being covered with friable, easily bleeding cauliflower masses, and such masses were found on contiguous structures. There was considerable ascites. The patient was cachectic and very feeble. The abdomen was closed and patient sent home to die. She was tapped thirteen times subsequently and again applied for treatment two years later. This time she was much stronger and in better condition in every respect. A few days later the abdomen was again opened. The cauliflower masses, so numerous before, had almost entirely disappeared. The tumors were extensively adherent, the left separating the layers of the mesocolon. The operation was unusually bloody, but complete enucleation with hysterectomy was effected. She made a good recovery and has since remained well, more than a year having elapsed. "Microscopic examination showed the tumor to be an adenopapilloma, with no evidence of malignant degeneration."

The question of operability of a tumor, even after opening the abdomen, can not always be determined without difficulty, especially when large and occupying the greater portion of the abdominal cavity. Our manipulations necessary to determine its attachments must not only be of the gentlest character, as these neoplasms are often unusually friable and vascular and do not permit any vigorous and rough handling, and many of them have a retroperitoneal or intraligamentous development in which the exact relation can not be determined, until much of the work of enucleation is already accomplished. If we wish to give the patient the benefit of the doubt, therefore, in doubtful cases, we can not avoid meeting with some disasters.

On account of this frequent intraligamentous and retroperitoneal development and the excessive vascularity and friability, so characteristic of these tumors, the operation is often exceedingly bloody and is apt to put the nerve of the operator and his skill in promptly dealing with emergencies to a very severe test. He has found it a good general rule when bleeding endangers the life of the patient to boldly grasp the tumor and deliver it wholly or piecemeal, it matters not, so as to be able to reach the main arteries, ovarian and uterine, which are temporarily clamped; the rest of the operation becomes then practically bloodless and can be completed without any undue haste. When hemorrhage, however, is not troublesome, it should be the aim to enucleate the tumor intact, without tapping or trying to decrease its size, in order to avoid contaminating the peritoneal cavity and introducing cancer elements which might in the course of time produce recurrences of the disease. A tabulated statement gives the author's twenty cases of completed operation in detail.

Philadelphia County Medical Society.

Meeting of Feb. 2, 1899.

Dr. J. Madison Taylor presented a paper to the meeting on

HYPNOTISM.

He thought that a beneficial result had been obtained from its adoption as a therapeutic application. The best subjects were those who had been trained to obedience, as soldiers, and not hysteric people, as some had supposed. Hypnotism is indicated in some cases of the drug habit, in alcohol, and in selected patients subject to functional nervous diseases. In bringing about the hypnotic state he only desires that degree approaching drowsiness, rather than a more profound condition. While there was and still is a certain degree of mystery and confusion regarding hypnotism, the agency might prove of value to the profession, as demonstrated by a report of the following cases:

In an instance in which a young lady was subject to vasomotor disturbances, as manifested by cold hands and feet, Dr. Taylor had succeeded in rendering either hand hot or cold at will. As a test of the application in this case, he reversed the nature of the suggestion each time, only confirming the results first obtained. In another case in which the patient had been subject to multitudinous ailments treated by neurologists, and pronounced incurable by some, he had succeeded in inducing a condition which had made the patient able to live a life of usefulness, she being at the present time librarian of one of the larger hospitals of this city. In another case in which a young man was addicted to alcoholism, at times taking a prolonged debauch, seldom less than ten or twelve days, the Doctor had succeeded in cutting the drunken spell short after it had existed for only three days and while the patient was still in a semi-intoxicated condition. The speaker then presented a case before the Society in which a lady of middle age was made to fall into the hypnotic state simply at the bidding of the word "sleep" accompanied by a few strokes of the hand downward over the eyes and nose.

Dr. Charles K. Mills briefly referred to the general scope of the supposed science as it had developed, its application, and general utility. Hypnotism, he thought, was an agent which, while having possibly some slight value as a remedy in such conditions as functional nervous diseases, was yet a remedy around which hung many dangers. While, in his opinion, certain hysteric diseases might be for a time benefited by the employment of hypnotism, and while certain other functional disorders might be made to temporarily disappear under the influence of suggestion, he doubted whether organic diseases could ever be improved by this mode of treatment. Having a patient with normal mentality and a certain degree of will power, he doubted that any better results could be obtained than by words of wisdom and good counsel spoken while all the faculties were under full and complete control.

Dr. F. X. Dercum referred first to the mechanism of the production of hypnotism, its uses, and limitations. He thought the hypnotic state a condition allied to natural sleep; under the influence of the hypnotic state the neurons which, while having all the essential elements in contact during wakefulness, might become partially separated along certain pathways in the hypnotic state, and only certain pathways being separated, it thus accounted for the fact that all the faculties were not obtunded, and therefore, the person might be able to hear as well as to see. He regarded the subject of great importance to the medical profession from a scientific standpoint, but could not speak of having ever obtained any favorable results from its employment. In fact, he regarded it as a measure calculated to do great harm, especially if it was employed by those who did not fully comprehend every step they were taking. If one should ever hypnotize female patients they should never do so unless there were present as eye-witnesses several others of the same sex. He had found that many persons who had once been under this influence, would in the majority of instances crave for the same state again, frequently originating imaginary troubles and searching for the physician to such an extent as to become almost nuisances. In the treatment of organic diseases, and of the insane, he regarded hypnotism of no importance.

Dr. Charles W. Burr stated that from ancient times the subject of hypnotism has had its ups and downs, the latter being its condition at the present time. A remedy which had these periodic attacks, he thought, should be regarded with great suspicion. He had seen and heard of people who seemingly were devoid of cutaneous sensibility, and those people he thought too often feigned the condition when they were actually the subjects of general anesthesia. In one case of this kind that he had observed, the person was able to prick pins quite deeply into any portion of the body without manifesting any seeming displeasure or pain therefrom. He thought, too, that the predominant idea set before the physician making the application of hypnotism was to make the patient do or feel certain things, so that in many instances it might be a question whether the physician or the patient was the one under the hypnotic influence. In this way the report of many wonderful cures have been originated. He knew of at least one person whose business it was to search for persons who might be easily placed under this influence, or certain freaks, as had been reported in the first portion of his address, for the purpose of traveling with them over the country. He saw no practical use to be made of hypnotism.

Dr. A. A. Eshner thought that, like drugs, hypnotism might be used to good or bad advantage, depending upon the employer.

Prof. William R. Newbold, of the philosophic department of the University of Pennsylvania, stated that at the present time so much confusion existed regarding the subject of hypnotism that but little was definitely known. What we wanted, he thought, was the report of certain definite instances which gave definite results and the development of facts free from bias and not to be controverted. He denied that there was any such condition as the "hypnotic state," preferring to call that condition by more definite terms. If it was thought the term used by Dr. J. Madison Taylor was correct, that it was "impressions upon the inner consciousness," this was better than what is known as the hypnotic state. While there might be some good derived from the study of this subject, he thought at present it was involved in much mystery.

Dr. Orville Horwitz stated a case in which a member of a company of traveling hypnotists had been placed under what is known as the hypnotic state, and from whom he had removed tuberculous lymph-glands of the inguinal region without pain.

Dr. H. A. Hare spoke of some experiments upon animals, which he and Dr. Edward Martin had made, in which the animals had been hypnotized, and he had subsequently dissected out the phrenic nerve and repeatedly handled the carotid sheath without evidence of having caused pain, and the animals, after the operation had been completed, had to be aroused by a series of sharp taps across the chest.

Dr. Judson Daland could see no permanent value to be derived from hypnotism, and thought that it should be condemned and made a crime punishable by law.

Dr. J. Madison Taylor, closing the discussion, stated that while others had derived dissimilar experiences from his own, he was sure that in some cases he had treated, much good had resulted from its employment, and he could only refer to the case reported in which a man was restored to usefulness after various neurologists had failed to give relief. While he had great respect for the opinion as expressed by others regarding this matter, he had not been converted, and he requested of those who had spoken in opposition to hypnotism, that when they had failed to get any substantial results he would take pleasure in having the cases referred to him.

Dr. H. A. Hare read a paper on "Some Differential Points Regarding Typhoid Fever, Pneumonia and Acute Tubercular Infection," which was discussed by Drs. J. P. Crozer Griffith, William E. Hughes and others.

College of Physicians, Philadelphia.

Stated Meeting, February 21.

Dr. G. Oram Ring reported, before the Section on Ophthalmology, "A Successful Iridocystectomy." In this operation the knife had been introduced about 3 mm. above the lower margin of the cornea about the center and passing upward. The iris was drawn down by means of the tear forceps and removed. The knife had been thrust into the vitreous, a portion escaping, and at the same time adhesions were broken. Good results had been obtained.

Dr. Ring also introduced an interesting case in which there was "Rupture of the Choroid with Mental Symptoms." In this patient the predominant symptom was that a black spot persisted in the field of vision, which so obscured the sight as to make life miserable, and to such an extent that monomania had supervened. He desired to know whether other members had noted such cases, as well as the prognosis.

Dr. G. E. de Schweinitz related a case which had some bearing on the one introduced by Dr. Ring. The patient first began to complain of a red light observed in one eye, and finally became of such a character as to react on the general nervous system, leading to monomania and insanity. Regarding the treatment, while some advocated the use of a curtain and removal of the eye, he had seen no permanent good results. He thought, as advocated by at least one foreign writer, that some form of suggestion which might act upon the inner consciousness so as to divert the mind offers some hope of improvement.

Dr. Samuel D. Risley related a similar case to that described by Dr. de Schweinitz. The patient was a lady about middle life, who at first complained of the red light affecting one eye, accompanied by intense pain which he thought was not entirely imaginary, but real. The patient desired that immediate operation be performed, but his advice was to postpone it. The patient finally consulted another ophthalmologist, who removed the eye, although the vision was $^{20}/_{20}$. Regarding the proper treatment of these cases, it was the consensus of opinion that no form of treatment yet devised promised any beneficial results, from the fact that the trouble was of centric origin, for which local treatment did but little good.

Dr. David Riesman exhibited a case of "Day Blindness." Regarding the etymology of the word "nyctalopia" he referred to many authorities who disagreed upon the correct term to be used as it applied to what is meant by day blindness, but adopting that of Green and De Schweinitz, nyctalopia was used.

The patient was a man, about 45 years of age, who denied all specific history. The symptoms of which he complained most were a cloudiness during the day, with a great degree of color-blindness. At night the vision was better and he could recognize persons across the street, which he could not do during the day. During the night he could distinguish colors quite readily at first, but after a few moments the colored lights would fade. A careful examination was made, and it was found that in the field of vision the red light extended considerably beyond that of the blue. The vision was $^{6}/_{18}$ and $^{6}/_{30}$.

On further examination it was found there was atrophy of the optic nerve. There were no symptoms of locomotor ataxia. The exact nature of the condition remained unknown, but it was thought by one speaker that it should be looked upon as belonging to the class of hysteria, as such frequently existed in women who suffered from this latter disease.

Dr. de Schweinitz read a paper on "Cured Sympathetic Iridocyclitis," and "Some Cases of Unusual Retinal and Choroidal Lesions." He spoke of a case in which a gentleman, three months before, had been injured by the hair of a horse's tail accidentally drawn across the eye. On admission to the Jefferson Hospital the eye was examined very carefully by Drs. Howard, Hansell and himself, and the distinct lesion observed. The following day there had been complete reattachment of the retina.

Dr. C. A. Veasey introduced "A Case of Atrophic Retino-Choroiditis with Beginning Angiod Streaks in the Retina."

Dr. C. A. Oliver gave "A Detailed Report of a Series of Cases of Blindness from Fracture at the Orbital Apex."

San Francisco Society of Eye, Ear, Nose and Throat Surgeons.

February Meeting.

Dr. H. Wagner was the first speaker of the evening. He exhibited some

SLIDES OF THE BACILLUS OF WHOOPING COUGH

which he had prepared from the secretion taken from the nose of a patient exhibiting persistent cough for some weeks, not yielding to ordinary treatment. The Doctor urged the advantages of microscopic examination of the secretions from the nose and throat in many of the cases which present themselves to the specialist. By this means he had found it possible to diagnose whooping-cough at a very early period in the course of the disease, and with corresponding gain in the subsequent treatment. In regard to the particular bacillus exhibited, he said that the specific germ had been recognized for some years, but that its particular peculiarities were not yet fully known. He had observed a capsule in some specimens, but in others he could not find this feature. Different investigators were not agreed upon the existence of the capsule which he had noted. He urged the members of the Society to look into the matter and endeavor to ascertain the presence or absence of this capsule.

Dr. Wagner also spoke of a

CASE OF FACIAL ERYSIPELAS

which he had recently been called in to see, owing to the fact that the disease had infected the eye. Erysipelas of the eye, Dr. Wagner said, could be well divided into two general forms: an acute variety of iridochoroiditis, sudden in its onset and ulceratively destructive in its course, probably caused by the germ infection itself: and a second form, subacute and chronic in its nature, resulting in nerve involvement and atrophy, which was in all probability due, not to the direct germ infection, but indirectly to the toxins. The involvement in the second class of cases appears after the facial erysipelas has disappeared; what the cause of the nerve atrophy really is, seems to be a matter of doubt. It may be due to an actual poisoning of the nerve, or it may be the secondary result of an endarteritis, the arterial inflammation being caused by the toxic infection. Some slides of optic nerve atrophy due to endarteritis were shown by Dr. Wagner. He had not had an opportunity of making any slides from an actual case of atrophy from erysipelas. In the case he had been observing, pain was not noticeable between the eye and the nose on the affected side, and an examination of the nose revealed a whitish membrane, with phlyctenular spots irregularly distributed over it. Transillumination showed slight darkening on the affected side. It was probable, in the Doctor's opinion, that the erysipelatous processes were continuing in the mucous membrane of the antrum. The prognosis is always bad; the disease runs a long course with many relapses, and is in every way most discouraging. As for treatment, nothing seemed to be very efficacious. Injections of 0.5 per cent. carbolic acid had been recommended, but as this strength would not interfere with the development of the germs outside the body, it was not at all clear to the Doctor how it could affect the process of the disease. He had employed salol internally, with a 1 per cent. cocain and salicylic acid ointment locally, with apparently good results. Ischamin, or the suprarenal capsule preparation, had a very excellent effect upon the vision, improving it materially.

Dr. Martin presented a case of

ULCER OF THE PHARYNX.

The patient had presented herself to her regular physician for treatment, only incidentally complaining of the throat. The back of the pharynx was very greatly swollen, and slightly to the left of the median line was an ulcer about 4 or 5 cm. long by 3 cm. wide, with sharp edges and of a "punched-out" appearance. Dr. Martin suggested syphilis, but the attending physician was loath to admit the diagnosis, as the woman was a most respectable unmarried woman. He made a very searching examination, however, and elicited the fact that the woman had been betrayed some years before, though there had been no previous evidence of any disease contracted at that time. The patient had not been under observation for more than a few days, so that the result of syphilitic treatment could not be determined.

Dr. Martin also presented a case of

KERATITIS PUNCTATA

in a young woman of perfectly negative history. No history of syphilitic infection could be elicited, nor could any symptom of hereditary syphilis be detected. There was no inflammation of the eye, and the condition was only manifested through the injured vision. The punctate ulcers, which were in the tissue of the cornea, and not upon its surface, were distributed in the more or less regular manner of a cone with the apex up, and a deposit on the posterior surface of the lens could be seen. Considerable discussion was provoked by the case, but nothing was suggested as an innovation in the matter of treatment. The consensus of opinion seemed to be that the disease ran a certain course, and that when it had apparently ceased to increase, massage was about as effectual in stimulating recovery as anything that could be suggested.

SELECTIONS.

Caisson Disease or Compressed-air Illness.—In the *Lancet* for February 11, Oliver reports a case of this disease in a married man, age 45 years, a sinker, who was admitted to the infirmary on September 29, complaining of loss of power in the legs and arms and of pains all over the body. Until two days before, the patient was working at one of the cylinders at the Redheugh Bridge, seventy-seven feet below high-water mark and under an atmospheric pressure of from thirty-one to thirty-five pounds to the square inch. On September 27, as he was returning from work he experienced a peculiar numbness and tingling sensation all at once in his legs, felt sick and vomited, became giddy, and shortly afterward fell to the ground unconscious. His comrades carried him home. Twelve hours later consciousness returned and he complained of being in pain all over his body; his muscles were so sore and stiff that he could not turn over in bed; his limbs felt powerless. There was considerable headache and a burning in his ears. There was rather profuse perspiration. Next morning he got up and dressed, intending to return to his work; his nose began to bleed, but did not prevent him leaving home. He had not gone far, however, when he again lost consciousness, and in this condition was brought to the infirmary. On coming to himself he complained of the same agonizing muscular pain as on the previous day; his breathing was difficult: there was a feeling of sickness and his skin was perspiring freely. With regard to his previous history, the patient had followed the occupation of a sinker for twenty years. Until now he had never suffered from the effects of his employment. He had been a steady man, seldom averaging more than a pint of beer daily. In his family history there was nothing of importance. On admission, the patient was found to be cold, collapsed and perspiring. His pupils were normal; the pulse was slow and full; there was marked muscular rigidity; pain seemed to be felt on making passive movement; and there was dyspnea, but no cyanosis of any movement. On regaining consciousness he complained of loss of power in the extremities, throbbing in the head, pains in his muscles, and a feeling of oppression in the chest. He was rather deaf. Subsequently he had a rigor, not followed by a rise of temperature. That night he had rather broken sleep. Next morning we found that the muscular rigidity had passed off, the knee-jerks were exaggerated, sensation was unimpaired, and the dyspnea was less. There was no bladder implication. The urine was free from albumin and sugar. In the course of the day he vomited and wandered, the delirium assuming rather a noisy character. He was given stimulants and a hypodermic injection of liquor strychniæ. These relieved him. That evening he slept better. On October 1 his pulse, which had never been higher than 60, was 56; it was small and firm. The skin was observed to be covered with discrete coffee-colored spots varying in size from a pin's head to a small bean, not elevated. Pain was felt on firmly compressing the muscles. The apex-beat of the heart was well defined; the first sound was feeble over the mitral area and the second aortic sound was well marked. The lungs presented nothing abnormal; respiration 18; liver dulness normal; splenic dulness perhaps a little more pronounced than usual. In walking it was noticed that the feet were kept widely apart and there was slight staggering from side to side with a tendency to fall forward. The patient had barely gone a few yards before he became extremely pale, and would have fainted had he not been caught and lifted to bed. It was several minutes before he rallied, and it was an hour or two before the feeling of exhaustion passed away. Under the microscope the red-blood corpuscles seemed paler than usal. They did not form rouleaux; the cells seemed to be of unequal size; the white corpuscles were not increased in number. The urine was acid, had a specific gravity of 1020, and was free from albumin and sugar. There were 10.25 grains of urea per ounce of urine. For several days we did not try him walking; he complained of feeling giddy, of buzzing in his ears, and of pains in his limbs. By degrees these symptoms gradually got less, and as he felt better he left the infirmary against my wishes. He returned on November 8, eleven days afterward. He told me that he had been in bed all the time and he certainly looked very feeble and could only crawl. There were still muscular pains in his shoulders and limbs and lower part of the back, with a sense of numbness. His breathing was short. There was a constant feeling of giddiness and occasionally a ringing in his ears. He had had a few days previously a slight hemoptysis. The knee-jerks were not exaggerated.

In commenting on the case, he points out that men working at that particular occupation are exposed to two sets of conditions, both of which are attended by danger: 1. in going into the compressed air of the caisson, and 2, in coming out of it. The above patient said he felt "decompression"—the coming out—the more unpleasant of the two, but this is generally more likely to be attended by symptoms than the going in or "compression." He further cites observations from caisson work in other instances, and says: "Three theories have been brought forward to explain compressed air illness: carbonic-acid poisoning, mechanic congestion of internal organs and increased solution by the blood of the gases met with in the compressed air and the liberation of these gases during decompression. We have no proof that there is carbonic acid poisoning. Although the men in the caisson carry on their work with vigor and apparently with less sense of fatigue than on the surface, there is no evidence of increased metabolism. In none of my cases was the daily discharge of urea increased above the normal. It is impossible to say whether more oxygen is absorbed; if so, the extent to which it is utilized will depend upon the needs of the system. The air which the workman breathes in the caisson is still atmospheric air. It is not modified in its chemic composition and although the individual, so far as respiration is concerned, is placed under abnormal conditions, vital operations are regulated by the same physical laws as if he were on the surface. If compressed-air illness is due to carbonic-acid poisoning it ought to occur when the men are in the caisson and not after they emerge from it. That the illness is the result of mechanic congestion, especially of the brain, is the opinion entertained by Dr. Andrew Smith of New York. In several of the workmen who have died the membranes of the brain have been found deeply congested—a circumstance which may have contributed to the fatal termination. The third theory is that which has met with the greatest acceptance. Dalton's law that the weight of gas dissolved by a liquid is directly proportionate to the pressure applies to the person of the caisson worker. If in such an individual more gas is dissolved in the blood under compression the excess will be given off after his emergence into the open air. It is the presence of air sucked into the blood that is considered a danger when a large vein at the root of the neck is wounded.. There can be little doubt that the escape of bubbles of gas as the blood courses through the capillaries of brain and spinal cord in the decompressed caisson worker is equally dangerous. Paul Bert in his experiments has shown that when animals were exposed to compressed air and were rapidly decompressed several of them died suddenly, and at the postmortem examination free gas was found in the blood and in the right side of the heart. In those animals that were paralyzed bubbles of free gas were observed in the spinal blood-vessels and there was in addition subcutaneous emphysema. As to the nature of the gas found in the blood and tissues I am unable to speak with certainty. We are told that carbonic acid is forty-five times more soluble than oxygen, but we have no positive proof that it is this gas. It might be nitrogen. The theory that the illness is due to blood first dissolving an excess of gas when the workman is in the caisson, and that it liberates it when he leaves the cylinder is a possible explanation of why the symptoms come on during or shortly after the decompression and of the relief that is obtained by recompression. As to treatment, preventive and curative, it is absolutely necessary that a sufficient time should be passed in the lock, both in compression and decompression, so that the individual is not subjected to the influence of sudden increment or decrement of pressure; one minute for every three pounds of pressure is considered an average period. but the length of time might with advantage be increased, for diffusion is slow. The atmosphere in the caisson should be kept as pure as possible, and men should not work in the cylinders longer than from two to four hours at a stretch. Only healthy men should be employed. Men who are intemperate in the use of spirits or who are suffering from cold in the head or are weak-chested should not be allowed to enter the caisson. The curative part of the treatment consists in relieving pains in the muscles when severe, by means of morphia and, when there is collapse, by the application of heat to the extremities, stimulants carefully administered, and a hypodermic injection of strychnin when the breathing is impaired. Ergot is recommended with the view of relieving internal congestion, and where the symptoms develop quickly and are severe, good effects have been obtained by gradually recompressing the patient."

Electro-Hemostasis in Surgery.—Skene (*N. Y. Med. Jour.*, February 18) uses the electric forceps in arresting hemorrhage, by firmly compressing a portion of the bleeding tissues, or the end of a blood-vessel, between the jaws of the instrument, in order to expel as much of the moisture as possible, and then desiccating the compressed tissues by heat generated in the jaws by the electric current. In this way the walls of the arteries become united and hemorrhage is effectually prevented. The temperature required for desiccation is from 180 to 190 degrees F., which is high enough not to char or burn the tissues, but simply to desiccate or to cook them. The current required to heat the smallest instrument is two ampères and eight for the largest, at a pressure of three volts and a half. The forceps are sterilized in the same manner as other instruments. A little sterilized vaselin, or similar preparation, is rubbed over the inner side of the jaws of the forceps, which will prevent the tissues from adhering to the instrument. The rubber-covered end of the electric cable is sterilized in boiling water and afterward wrapped in a sterilized towel, or immersed in an antiseptic solution, such as a 5 per cent. carbolic solution, until needed. Bichlorid of mercury should not be used, as it attacks the metal sleeves at the end of the cable. In applying the forceps all the tissues to be treated should be firmly compressed between the heated jaws of the instrument, for if a portion extends beyond, a second application will be necessary. Before the electric current is turned on a shield is applied, where needed, between the forceps and the adjacent tissues to protect them from injury by contact with the hot instruments. Tissues which do not touch the jaws require no protection. The two connector sleeves at the end of the flexible cable are then slipped over the two terminals on the end of the forceps and pushed firmly into place to make a good electric connection. If the electric current has been previously turned on, the putting of the connector sleeves into place completes the circuit and establishes the current. The current required to properly heat the forceps is noted for each one made; therefore it can be regulated to suit the forceps from the indications of an ampèremeter included in the circuit to measure the strength of the current. If no ampèremeter is convenient, experiments upon a piece of raw tissue will enable the operator to ascertain the temperature by the sense of touch and examination of the tissue. One adjustment of a transformer or of the rheostat of a storage battery will be sufficient, if the same adjustment be made in subsequent operations; but the battery should not be used when its charge is nearly exhausted, if uniform results are desired, unless an ampèremeter is employed. For the same reason the transformer should be fed by an electric-light current, as this has an almost constant pressure, and not by one used exclusively for power, as such a current is subject to considerable change of pressure. An ampèremeter should be used with the ordinary primary battery, for the polarization and the varying strength of the exciting fluid prevent it from being adjusted so as to furnish a current of uniform strength. Before removing the forceps, the tissues projecting beyond its jaws are cut off, which may, in some cases be done while the heat is being applied, in order to save time. There being danger of losing sight of the stump by its dropping back into the abdominal cavity, as may happen in ovariotomy, the shield forceps should be left in place to hold the stump for inspection. The electric forceps are then carefully opened far enough to allow the desiccated stump to slide out from between the jaws in the direction of the teeth. Care in this is important, for, if the tissues should adhere to the instrument, which may happen if vaselin is omitted, they might be torn apart, and a ragged stump left. Before using the forceps for the first time, it is instructive to experiment with them on a piece of raw tissue so as to become familiar with their action, as well as to ascertain whether the source of electricity is suitable and can be properly controlled. Absence of bleeding upon the removal of the forceps shows desiccation has been effective, and the stump can be left without fear of secondary hemorrhage. The occurrence of bleeding immediately upon the removal of the forceps indicates that the desiccation has been insufficient, or that some of the tissues have escaped the grasp of the forceps. In this event one should reapply the forceps to the stump and repeat the heating, giving about 10 per cent. more current, or continuing the heat for a longer time, if the bleeding has been due to insufficient desiccation. The time required for desiccation varies from half a minute to two minutes, according to the thickness of the compressed tissues or size of the arteries; two minutes being required for the ordinary ovarian pedicle and the broad ligament. If the tissues to be treated are very thick, the current can be continued for three or four minutes, or even longer, without danger. When the time of application has expired, the current can be shut off by a switch, or by removing the connector from the forceps. The desiccation can be hastened by starting with more than the usual current and continuing the greater current for about a third of application. For example, if the current necessary to properly heat the forceps is ten ampères, and the time application is two minutes, give twelve ampères for about forty seconds, then decrease to ten ampères for the rest of the time. It is well to begin with the forceps closed on the first notch of the lock, and, after the heat has been applied for about half a minute and the tissues have begun to shrink, to close the instrument fully. In this way the greatest possible compression of tissues is obtained. In the treatment of isolated arteries, the end of the blood-vessel is grasped by a tenaculum and the electric artery forceps applied crosswise; or the artery is seized by the electric forceps in the same manner as with an ordinary artery forceps when a ligature is to be used.

Successful Treatment of Perforated Gastric Ulcer by Excision and Suture.—Hartley (*Medical Record*, February 11, p. 202) has reported the case of a woman 24 years old, who, while removing a jar from a shelf somewhat above the level of her head, was suddenly seized with abdominal pain of such severity that she fell to the floor. Shortly afterward she vomited and continued to do so at intervals for more than two hours. The vomitus consisted of water and mucus. The pain was intense from the beginning, and though at first located in the epigastrium a little to the left of the median line, it gradually extended over the whole abdomen and continued quite severe as well as paroxysmal. The temperature was 102.4 degrees, the pulse 136, small and compressible, the respiration 32 and thoracic. The patient was markedly anemic and her face pinched as from pain and sepsis. The abdomen was tender, but not markedly tympanitic. The epigastrium was strongly retracted and the recti seemed tenser and more strongly contracted in their upper segments than in the rest of their extent and than the other abdominal muscles. The point of exquisite pain seemed to be located over the left rectus muscle in its upper segment. The paient had been suffering for three years from what she designated dyspepsia. For six months her gastric disturbance, which was characterized by the excessive fermentation of food, and pain of a boring character in the stomach, after eating, had gradually increased and had been attended with increasing anemia. For two months mechanic and medicinal treatment had been employed with some apparent result. A diagnosis was made of perforated gastric ulcer and rapidly developing general peritonitis. An incision five inches long was made in the median line, the greater portion being above the umbilicus. A quantity of seropurulent fluid was found over and among all the coils of intestine exposed. The intestines were somewhat distended, deeply injected and covered with fibrinous plaques. In order to obtain a clearer field, the incision was prolonged both above and below, so that, if necessary, the intestines and omentum might easily be displaced from the abdominal cavity. After removal the omentum and intestines were carefully freed, by means of decinormal salt solution and sterile gauze pads, of the fluid exudate as well as the plaques of fibrin. The viscera were carefully covered, kept warm, but not returned. The pelvis was now washed and cleansed with salt solution and packed with dry, sterile gauze, which remained during the rest of the operation and exerted its absorptive effects upon the exudates of the lymphatics of and beneath the peritoneum. The accumulation in the pelvis was purulent in character and large in amount. The parietal peritoneum and the fossæ between and to the outer sides of the ascending, descending and transverse colon were similarly cleansed and packed. The surface between the diaphragm and the liver, the surfaces beneath the liver and over the kidneys, as well as those of the spleen, were found involved and similarly treated with salt solution and sterile gauze packing. The anterior surface and the superior and inferior borders of the stomach presented two apparently healed ulcers, but no perforation. On raising the lower border of the stomach the lesser cavity of the peritoneum was found to be distended with a seropurulent exudate. This sac was opened in a vertical direction, carefully wiped out with gauze pads soaked in salt solution and packed. The stomach was then brought through the slit in the peritoneum and everted, so that its posterior surface was anterior and its lower border uppermost. On the upper half of the posterior wall, nearer the lesser curvature, were seen five scars, varying in size from a pinhead to two centimeters in diameter. In one of these scars a perforation was found, the edges of which were irregular and about one and a half centimeters in its longest diameter. The ulcerated area was excised sufficiently to expose an even and apparently healthy surface. One row of stitches was passed through the serosa, muscularis and submucosa, and over it a second layer of Lembert sutures, including an extent of peritoneum equal to one centimeter beyond the borders and ends of the perforation. The intestines were again washed with salt solution while out of the abdominal cavity. The various cavities where packing had been left were again treated as in the first instance. As soon as the peritoneal surface where the gauze had been left was considered clean, the packing was renewed, the intestines were carefully returned and two small drains of gauze inserted, one into the lesser cavity of the peritoneum, but not touching the suture line over the perforation, and another into the pelvis. The incision in the abdominal wall was then closed with deep catgut and superficial silk sutures, sutures being omitted at two points through which the packing left for drainage was carried. A sterile dressing was then applied. During the operation, owing to the rapidity and diminished volume of the pulse, an intravenous infusion of salt solution was given. The patient ate solid food after a month and was dismissed cured after six weeks.

PRACTICAL NOTES.

Antiseptic Silk for Sutures.—The silk used for sutures at Basle is boiled and kept for several days in a strong solution of sublimate, with the result that stitch-hole abscesses are unknown. —*Semaine Méd.*, February 8.

Dangerous Incompatibles.—The *Lancet* (February 11) reports the death of a young woman from administration of a medicine containing liquor strychniæ in conjunction with liquor arsenicalis, the alkali of the latter precipitating the strychnin as a pure alkaloid, which residue may amount to an excessively toxic dose and be taken in the last dose from the bottle.

Two New Symptoms of Chlorosis.—M. Goulouboff (*La Méd. Mod.*, 1898, No. 39) directs attention to the sharp pains in the left side over the spleen, usually credited to the pressure of the corsets, but really associated with hypertrophy of the organ. The second symptom is made apparent by the pains in the long bones at their ends, particularly in the tibia. These are brought out by percussion or pressure. These pains simulate those found in the infectious diseases.

Immobilization of Thorax for Tuberculosis.—A. M. Bloch recommended, a year or so ago, immobilization of the affected side of the thorax in tuberculosis, as he had found it a very effective treatment (Vide JOURNAL, xxx, 1383). He at first used a plaster cast for the purpose, but he now substitutes a bandage moderately tight over the upper part of the chest, over a layer of cotton, held by bretelles of cloth like the bandage.—*Presse Méd.*, February 1.

Helferich's Deferentectomy.—The operation is performed without anesthesia, the vas deferens being drawn out through a small incision in the skin, the distal end cut and the central end pulled out after carefully pushing back the vessels. The emission of urine was improved in twenty-two out of the last twenty-three cases. Six were cured; seven temporarily improved; three died. The evulsion was always borne well.—*Cbl. f. Chir.*, from Fülle's inaug. diss., Greifswald, 1898.

Paraldehyde in Asthma.—In the *Lancet* for February 11, MacGregor confirms previous investigations tending to show that this substance speedily relieved the spasm and induced sleep. He has used the drug in a fairly large number of cases of idiopathic asthma and other forms of spasmodic dyspnea, and no other drug has given him so satisfactory results, and it is absolutely safe, not only relieving the spasm but inducing tranquil, refreshing sleep without objectionable after-effects. He reports eleven cases.

Anaerobic Microbes and Purulent Pleurisy.—Rendu relates three observations of putrid purulent pleurisy in which anaërobic microbes predominated and were alone found in one case. He suggests that such cases are best treated with a substance that generates oxygen, like potassium permanganate, which produces nascent oxygen. Two of his cases were thus treated with irrigations of a solution of potassium permanganate and recovered much more rapidly and completely than the third, treated with sublimate.—*Gaz. de la. Soc. Med. des Hôp.*, report of session of February 3.

Hernia and the Bicycle.—The bicycle brings the muscles of the abdominal wall into play while suppressing the vertical descending position, and is recommended to persons with hernia as a beneficial exercise progressively followed, avoiding all excesses, especially speeding or riding up hill. The machine should be low, with the seat well back of the axle of the pedals. It is the first exercise allowed after radical operations for hernia, and examples are known in which the bicycle exercise has cured the hernia without an operation.—*Bull. de l'Acad. de Méd.*, January 31.

Ichthyol Suppositories in the Treatment of Prostatitis.—A. Freudenberg has been treating nearly forty cases of prostatitis, some of gonorrheal origin, all chronic or in the later stages of an acute attack, with rectal suppositories made according to the following formula: Ammon. sulpho-ichthyol, .3 to .6 or .7, 5 gm., ol. cocoa 2 to 2.5 gm. Misce exactissime f. suppositorium. N. B. No "hollow" suppositories! One suppository in the morning after defecation, and another on retiring at night. There was retrogression in every case, often surprisingly rapid, and in nearly every case complete cure of the subjective disturbances, pain, pressure, desires to urinate, etc., and of the hypertrophy or induration of the gland.—*Memorabilien*, January 23.

Vesical Hematuria of Neoplastic Origin.—In case of an inoperable tumor of the bladder and pronounced hematuria, P. Nouges injects small quantities of a 5 per cent. solution of gelatin in physiologic salt solution, thoroughly sterilized in a water-bath, after the bladder has been carefully emptied and cleansed with a solution of boric acid. Then the bladder is nearly filled with the gelatin solution without stretching, and the solution is left in it. This measure is not infallibly successful, but it is often of great benefit.—*Cbl. f. Chir.*, February 11.

Salicin in Puerperal Fever.—In *Annals of Gyn. and Ped.*, February, Atherton reports on the use of salicin instead of quinin in puerperal fever, 3 grams being given every three hours, and the temperature falling, in twenty-four hours, to normal in the morning and 99.5 degrees at night, in one case, while in a case of cystic poisoning from necrosed placenta, where, after four weeks' treatment, in spite of intrauterine douches and internal medication, she had been unable to reduce the temperature below 102 degrees each afternoon, she substituted salicin for quinin as above, and in one week the fever had disappeared, with no other change in the treatment.

Ankylosis of Joints.—Dr. Abel M. Phelps (*Railway Surgeon*) after experimentation upon dogs, concludes that a normal joint will not become ankylosed by simply immobilizing it for five months; that motion is not necessary to preserve the normal histologic character of a joint; that when a healthy joint becomes ankylosed or its normal histologic character changed, it is not due to prolonged rest, but to pathologic causes; that immobilizing a joint in such a manner as to produce and continue intra-articular pressure will result in destruction of the head of the bone and the socket against which it presses, and finally that atrophy of the muscles of the limb will follow prolonged immobilization of a joint.

Sottocasa's Fixation of the Kidney.—1. Simon's incision, opening up the kidney, incising the adipose capsule, protrusion of the middle of the convex edge. 2. Incision 2 cm. long, 1 cm. deep in the free edge (upper third), and formation of a muscle flap out of the quadratus lumborum, the same length and 1 cm. in width, opposite the renal incision. 3. Suturing the muscle flap in the kidney with two fine silk sutures, and other sutures embracing the capsule. 4. Closing the wound with buried sutures. Only attempted as yet on dogs. Killed the fortieth day, the kidney was found firmly fixed in the desired position. The muscular tissue of the flap had been transformed into tough, white connective tissue incorporated into the substance of the kidney, from which it could not be detached even by a hard pull.—*Cbl. f. Chir.*, February 11.

Massage of the Tonsils.—Kantorowicz has found that he can reduce hypertrophied tonsils to normal size by massage with the finger for a few minutes. He introduces his forefinger, protected by a rubber cot, as far as possible behind the tonsil and rubs fifteen to twenty times with his finger around it, and then up and down the same number of times. The massage, repeated about fourteen times, reduces even the most inflamed and swollen tonsils to normal. He concludes (*Deutsche Med.. Ztg.*, 1898, No. 63) by calling attention to the frequent coincidence of carious teeth with hypertrophied tonsils; in 75 cases of bilateral hypertrophy he counted 296 teeth affected with caries, and in 24 unilateral cases, 101, suggesting that better care of the teeth might reduce the number of cases of hypertrophied tonsils.—*Revue de Laryng.*, xix, 42.

"Pyopneumothorax of Necessity."—By this term Galliard describes a cold, gaseous, thoraco-parietal abscess complicating a pyopneumothorax, and reports an observation. It followed a traumatism which produced a dorso-axillary empyema on the same side and dry pericarditis. As an emphysematous abscess of the thoracic wall is usually of a pulmonary origin, evidences of a tuberculous cavity, actinomycosis or of gangrene of the lung must be sought in diagnosing. If not found, pyopneumothorax is the next suggestion. The prognosis being very serious, the rupture of the abscess must not be awaited, especially if the pus is fetid. In cases complicating a partial pyoneumothorax, it may be sufficient to incise the pocket, later opening wider the intercostal space in which the fistula is located. But if the pyopneumothorax is total, leave the gaseous abscess alone, and empty the pleura by inferior pleurotomy, which will entail the disappearance of the abscess.—*Semaine Méd.*, February 8.

Cocain Combined with Morphin.—Prof. A. Ceci dispenses with an anesthetic in every possible case and only uses chloroform when absolutely necessary. He considers chloroform and ether dangerous agents and that the clinic statistics give no indication of the damage wrought by the former in the economy. For operations on the fingers, members, neck, penis, scrotum, testes, and in radical operations for hernia, he uses a solution of cocain too weak to produce intoxication (one gm. to 200 c.c. of a 3 per cent. solution of boric acid), combining with it, if necessary, an injection of morphin a few minutes before operating (two to three centigrams for elderly or nervous persons, one centigram for the young, rarely finding it necessary to use morphin for a person of 18 to 20 years). His record to date is 4054 operations, including 1298 with cocain, 1586 with chloroform and 1170 without any anesthetic. Out of 543 radical cures of hernia, 362 were with cocain.—*Semaine Méd.*, February 8.

Surgical Intervention in Basedow's Disease.—P. J. Möbius advocates unilateral resection of the goiter when the heart is in good condition, as medical treatment is so impotent. Chloroform should not be used in operating, but cocain, and incisions should be avoided as much as possible, using the thermocautery when practicable. Abadie reports a very severe case cured completely by resection of one centimeter of both cervical sympathetics below the superior cervical ganlion (April, 1897). Jonnesco states that he has cured six and improved four out of ten cases of Basedow's disease treated by extensive or total resection of the three ganglia of the cervical sympathetic on both sides, some over two years ago. He finds that this operation is especially effective in the primary forms of Basedow's disease, but less satisfactory in the secondary forms, which are the most amenable to medical treatment. He adds that the improvement is frequently very slow, and cases that disappointed at first ultimately result in a complete cure.—*Presse Méd.*, February 1.

Chronic Vaginalitis of the Testes.—Pascale has operated on fifty cases and made comprehensive histologic and experimental studies. He distinguishes a dropsical form with preservation of the epithelium; a hyperplastic form with ultimate degeneration of the epithelium and thickening of the wall of the small arteries, endarteritis and hyperplasia of the connective tissue, elastic fibers and muscle fibers; a vascular form with enlargement of the capillaries, which can be considered a variety of the preceding form, and finally a degenerative form in which the epithelium is early destroyed and the tissues acquire a homogeneous and cartilaginous appearance. There are no true cartilage cells, however, any more than there is bone formation, although there is impregnation with lime salts.—*Gaz. degli Osp. e delle Clin.*, 1898, No. 127.

Operative Treatment for Severe Myopia.—Removing the lens has become quite a frequent operation since Fukala's recommendation, but Prof. E. Fuchs restricts it to myopia with over 15 D. and cases without pronounced alterations at the back of the eye, threatening a central scotoma, for instance. He never operates on a patient over 40 years old, and never if the other eye is useless. He does not consider the operation indispensable for the sight, nor entirely free from danger, As the alterations in the back of the eye, consequent to the myopia, such as atrophic processes, hemorrhages in the retina, etc., persist after the operation, which is no protection against them nor against their further development, the eye can not be worked like a normal eye all day, but must be favored. Operating is to be preferred to the wearing of glasses for waiters, coachmen, firemen, field hands, etc., but out of 18,000 patients that have applied to him during the past year he has only found the operation absolutely indicated in ten.—*Vienna Klin. Woch.*, February 9.

Round Ulcer of Duodenum.—O. Burwinkel publishes five observations to corroborate his statements in regard to the facility with which round ulcer of the duodenum can be differentiated. The special points are the melena following symptoms of severe internal hemorrhage and continuing for several days without any vomiting of blood; the general condition, and results of rectal palpation, excluding cancer and tuberculosis and a rectal source for the hemorrhage; the pain not appearing until two or three hours after meals, much later than with ulcer of the stomach, and localized at the umbilicus, not irradiating around to the back as with gastric ulcer. The tongue is less coated, the breath not fetid and the appetite is retained. Each of the five cases was a man approaching forty; all but one had hereditary tuberculosis antecedents.—*Deutsche Med. Woch.*, Dec. 20, 1898.

Aspiration of Medicinal Powders into the Upper Air-Passages.—Leduc's statement that since he has been using this method of treatment he has found tuberculous laryngitis the easiest cured of all the manifestations of tuberculosis is confirmed by O. Betz, who has found it extremely beneficial in all affections of the upper air-passages, including diphtheria. The only instrument required is a glass tube 6 cm. long, with an extension 1 cm. long at one end, bent down at an angle of 100 degrees, and at the other an extension 4 cm. long, bent down at an angle of 145 degrees. The impalpable powder is spread out on a smooth surface, the tube is inserted in the mouth, the short end fitting down into the throat, the long end reaching down into the powder. As the subject draws a deep inspiration the powder is drawn in with it, and is evenly distributed all over the surface of the larynx. Leduc prefers di-iodoform, combining it with cocain if there is pain: di-iodoform 8 gm., cocaini mur. .08 gm. Two to six aspirations a day. Betz uses two other tubes, one straight, with only the bend at the end to reach the powder to use in treating the throat with natrium sozoiodicicum in diphtheria, etc. The other has an upward bend 2.5 cm. long, to aspirate the powder into the nasopharyngeal cavity, the nostrils closed. Children soon learn to aspirate in this way without difficulty.—*Memorabilien*, January 23.

Synergistic Combinations.—Scheinkman (*N. Y. Med. Jour.*, February 18) finds that the method of combining therapeutically analogous drugs in practically minute doses, so as to constitute in the aggregate a moderate therapeutic dose, is by far superior in effect to a similar dose of any individual one of its constituents administered alone. Especially is this true with the members of the coal-tar products and with most of the alkaloids. It seems as though when in combination, while their respective characteristic therapeutic properties are acting conjointly in perfect harmony, their toxic properties—and such are, as a rule, possessed by nearly all of them, though they are not usually analogous in character—are either individually too insignificant, being in small doses, or they neutralize one another more or less effectively. He gives the following combination as a type, and as an adult dose, giving most gratifying results for antipyretic, analgesic, antiperiodic purposes: Antipyrin, phenacetin, quinin sulphate, powdered ginger, āā, ʒss; caffein citrate, grs. xv. Divide into fifteen capsules and take one every two hours. In the case of children a proportionate dose is given in a mixture, the vehicle being equal parts of syrup of yerba santa and elixir glycyrrhizæ, a composition which diguises effectively the bitter taste.

Abdominal Myomotomy.—Total extirpation or supravaginal amputation is the question discussed by O. Küstner in the *Berliner Klinik*, 1898, No. 125. His latest series comprises fifty supravaginal amputations, with one death, and forty-eight total abdominal extirpations with six deaths. In three of the fatal cases streptococci and staphylococci were found in the abdomen, although two had apparently died from shock or heart failure. He decides the above question according to the menace of ileus or peritoneal sepsis. After scrupulous asepsis he lays most stress on limiting the secretion from the wound. He attains this by careful hemostasis by closing the wound completely, or if this is not possible, by a brief drainage of the abdominal cavity. The advantages of the supravaginal amputation are: its greater simplicity, especally with nulliparæ, the smaller extent of the wounds and the absence of germs in the amputation wound. On the other hand, total extirpation is urgently indicated in case an intramural cervical myoma extends so far that an amputation in the cervix is impossible, or if the myoma has effaced the cervix, and always for a suppurated myoma. With these exceptions he concludes, good results can be attained with either method.—*Cbl. f. Chir.*, February 11.

New Treatment for Prolapse of Uterus.—With the object of setting up adhesions and thus strengthening the broad ligaments, Parsons (*Lancet*, No. 3936, Vol. i, 1899, p. 292) practices injections of solutions of quinin for the correction of prolapse of the uterus. The patient is placed in the lithotomy position, the vagina is thoroughly douched and rendered as aseptic as possible, the perineum is retracted with a Sims or an Auvard speculum, another retractor being used to hold up the anterior wall of the vagina if necessary, and the lateral walls are exposed. The uterus is held, with one hand, as nearly as possible in its normal position by means of a probe passed into its interior. With the other hand the injections are made on each side, through the vaginal wall into both broad ligaments, on a level with the external os and from about three-quarters of an inch to an inch from the junction of the vagina with the cervix. After the syringe and speculum have been withdrawn it is necessary to keep the uterus up with a cup-and-stem pessary held by four tapes tied around the waist and left in position for three or four days. A special syringe, with a long, thin nozzle, is a great convenience, because it does not obstruct the light, and it enables the operator to see that the needle point pierces the vaginal wall at the right place. The needle should not be more than an inch in length or much thicker than a hypodermic needle, in order that the puncture may close quickly.

Pichi.—In the *Phila. Med. Jour.* of February 18, Whitaker discusses this comparatively new drug, it being described as "slightly astringent, bitter, tonic, terebinthinate, diuretic, and hepatic stimulant. As empirically established by the Peruvians and Chilianos, the remedy is readily available for diseases of the mucous surfaces, to all which it is applicable except in structural nephritic lesions, the only condition in which it is contraindicated. Mastication of the bark, branches, etc., produces increased salivary secretion and a sensation of stimulating warmth in the mouth, which, after the saliva has been swallowed, extends along the esophagus and into the stomach. The administration of a full dose of the fluid extract creates a sensation of agreeable warmth in the stomach, which, upon larger dosage, gives way to nausea and vomiting. The continued use of pichi causes the appetite to improve; the gastric secretions evidently being stimulated, digestion is assisted and assimilation increased. A noticeable feature of the effect of the drug is the feeling of personal comfort and well-being. Sensations of buoyancy take the place of lassitude and mental depression—conditions frequently observed in diseases of the liver and kidneys. Under the benign influence of pichi the chronic dyspeptic loses his feeling of oppression and distress after eating. Gaseous fermentations and eructations cease; flatulence is prevented, or, when present, cured. The large, white-coated and flabby tongue changes to one of a clean, pinkish hue. The red, glazed, stretched, fresh-meat looking tongue occasionally seen, assumes a normal color. Ballooning of the small intestines is prevented; borborygmus is relieved; the pale, pasty, chalk-colored, putty-like, or scybalous stools become darker in color, softer in consistency, and are expelled with ease and comparative comfort. Intestinal endosmosis is accelerated and the deficient mucus in the intestinal canal is increased to a normal approximate, and a daily stool, becoming intensely colored, of a pungent odor, usually is voided. Within two hours after the ingestion of the initial dose of pichi, the drug is present in the urine, which rapidly increases in quantity. Pathologic urine, offensive in odor and of high specific gravity, quickly approaches the normal standard. The remedy seems peculiarly happy in its effect when administered during cystitis, and, under its administration, ropy, alkaline and fetid urine soon loses its turbidity and within a few days becomes clear, regaining its normal acid reaction and specific gravity."

Antitoxin in Traumatic Tetanus.—Copley (*British Med. Jour.*, February 11) has, during the past two years, had the opportunity of observing and treating four cases of traumatic tetanus. In all of them the symptoms were well marked, the spasms severe, and in all there was a definite wound in a septic condition. Also in each case there was the probability of infection from soil or horse dung. In two the incubation period was ten days, in one six days, and in the other indefinite, since the infection probably took place through a chronic ulcer which the man had allowed to become foul. The treatment adopted in three of the cases was subcutaneous injections of tetanus antitoxin, combined in two with occasional draughts of chloral and bromids. These three cases recovered. In the fourth case, admittedly the most severe, he was unable to procure the antitoxins in time and the patient died in twenty-four hours after. As to dosage he says: "This is a most important point. Large doses, 30 c.c. at once, and repeated at least every six hours till some improvement is seen, even in a case which promises to be mild, is the only fair way of testing the antitoxins. I began in my first and second cases very cautiously, as the remedy was new to me, but in my second case I observed no improvement until I had injected 50 c.c. within eight hours, that was 30 c.c. at 10 A.M., and another 20 c.c. at 6 P.M. This man nearly died from the severity of the spasms, and I feel sure that if I had begun larger doses earlier he would not have reached such a dangerous condition. In any case which, from the shortness of the incubation period, the large surface infected, and, I believe, the number of the nerves involved, threatened to be a severe one, I should not hesitate, while the patient was under an anesthetic to inject 50 c.c. at once, and repeat the dose in four hours' time. . . The only disagreeable symptom I could ascribe to the antitoxins was an irritable rash, either urticarial or erythematous." He does not believe that any harmful effect would follow 100 c.c. injected at one dose distributed over five injections. In two of his cases which recovered, the infected part was amputated; in the third, the ulcer was scraped and cauterized with fuming nitric acid; in the fatal one, the edges of the wound were excised, together with a metacarpal bone, and the wound cleansed with formalin solution (1 in 80).

Formalin in the Removal of Malignant Growths.—In the *British Med. Jour.* (February 11), Mitchell discusses the use of formalin in the treatment and removal of inoperable malignant growths. In a patient with sarcoma of the cheek, the tumor four inches in diameter and the size of a man's fist, with, in one place, the sarcomatous tissue giving rise to constant and rather severe hemorrhage, which the usual styptic methods failed to stop for more than a few hours, he applied a solution of caoutchouc to protect the surrounding skin, soaked a small pad of absorbent cotton wool with a solution of formalin containing 20 per cent. formic aldehyde, and applied this to the raw surface, then covered it with gutta percha tissue, and held it in place with a bandage. Not only was the hemorrhage entirely stopped, but in twenty-four hours there was produced a hardening and necrosis of the tissues, extending nearly a quarter of an inch from the surface, which made it seem possible to remove the whole growth by first coagulating the tissues with formalin and then cutting away some of the necrosed part, daily, always, however, leaving sufficient of the latter to prevent a recurrence of hemorrhage. With a scalpel and sharp spoon he removed as much of the necrosed part as he dared, and then filled up the cavity with cotton wool saturated with the formalin solution as before. Daily repeating this he was able in a very short time to tunnel right into the center of the tumor, and eventually remove it completely, notwithstanding that it was highly vascular, and during the process there was practically not a drop of blood lost. The formalin seems to exert its influence equally in all directions, and to be capable of penetrating to almost any depth if constantly applied. There was occasionally considerable edema of the lower eyelids and lips, and on one occasion, of the cellular tissues of the neck, which caused suspension of treatment for a few days lest it should cause edema glottidis. There was, however, never any sign of any such a condition. When the application of formalin is suspended for a few days, a line of demarcation forms with exactly the appearances seen in dry senile gangrene of the extremities.

Prevention of Carcinoma Uteri.—Prof. A. Dührssen asserts that more women die of cancer of the uterus every year in Germany than lives were lost during the Franco-Prussian war, reiterating still more forcibly, that women in the climacteric period are exposed to as many chances of dying from cancer of the uterus as a soldier is to be killed during active war. The same proportion exists in other countries, and the fact is well known that it occurs principally among the well-to-do, affecting chiefly well-nourished persons in good health. Very few women who have already been under treatment, or women with cancerphobia die of it, as they apply early to the physician. He advocates as prophylactic measures a solemn warning to every woman to apply to her medical attendant at the slightest discharge or abnormal bleeding during the critical period, especially a discharge stained with blood. Pain is seldom experienced until the later stages. The physician should make a bimanual examination with every assistance from mirror, curette, test excision, etc., and extirpate the uterus at evidence of a neoplasm. He even goes farther and practices as a preventive measure, at the first evidences of a discharge, the removal of the entire membranous lining of the uterus, as Billroth, Thiersch and Waldeyer have established that a cancer only develops from epithelial elements, and the removal of the entire epithelial lining of the uterus will forever protect the organ against cancer. He accomplishes this with vaporization, according to Sneguireff (he has never observed any dangerous consequences), or by incision of the membranous lining through a T-incision into the uterus, drawn out through an incision in the anterior vaginal vault. Still another security is obtained with Schröder's high amputation, which, nowadays, is without danger and still leaves a functionating uterus. As the cancer may spread and invade the surrounding tissues within a week of the first discharge noted (personal observation) and thus become inoperable, not a day should be lost in seeking a physician. He quotes Haggard in conclusion, who claims that women during the climacteric period should be under medical supervision, as a preventive measure second only in importance to vaccination and quarantine.—*Deutsche Med. Woch.*, January 26.

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THE DIAGNOSIS OF RENAL INSUFFICIENCY FROM THE FREEZING-POINT OF THE BLOOD.

Clinicians have learned not to depend too implicitly upon the presence or absence of albumin or tube-casts, or both, in the diagnosis of disease of the kidney, but to be governed in arriving at a conclusion by the *tout ensemble* of the individual case. The diagnosis of nephritis may, therefore, be ventured at times when some of the characteristic urinary phenomena are wanting; but with or without these it is often more important to know how well the kidneys are performing their function. This cannot be more than approximately determined by estimation of the nitrogen elimination, and a simple method of gaining the desired information would serve a most useful purpose. This, KORANYI (*Berliner klin. Woch.*, 1899, No. 5, p. 97) thinks, can be learned from a study of the freezing-point of the blood. As the result of numerous careful experiments and extended clinical observation with relation to the osmotic pressure of the blood he has found that the freezing-point of the blood of healthy individuals is susceptible of a reduction of 0.56 degree C., the variation not exceeding 0.01 degree, while in morbid states the variations are more marked. In cases of anemia of high grade and in cachectic states, the reduction is less than 0.56 degree, and greater when carbon dioxid has accumulated in the blood, returning, however, to the normal when the blood is exposed to the action of oxygen. The reduction is greater than 0.56 degree when the activity of the kidneys is inadequate, and it differs from that due to cyanosis in not being influenced by the action of oxygen. It was found, further, that in the presence of acetonuria also, the freezing-point of the blood was reduced, the reduction, however, disappearing in some cases on exposure to oxygen.

Observations were made to determine if, and to what degree, various conditions apart from renal disease were capable of influencing the osmotic pressure of the blood in persons suffering from such disease. It was found that in healthy rabbits no change was induced by means of various modifications of the food, as well as through hunger; while in cases of renal insufficiency the reduction in the freezing-point of the blood was governed largely by variations in diet. The rabbits were divided into groups, each of which was fed for two days upon the same food—one with oats, one with starch and water, one with somatose, a fourth receiving subcutaneous injections of oil, and a fifth receiving no food at all. At the end of the two days a kidney was extirpated from each animal in order to establish renal insufficiency; no food was given for a further five or six hours; and then the carotid artery was opened and the freezing-point of the blood determined. It was found that the changes in the blood were slight in animals that had received their accustomed food; more pronounced when an exclusively carbohydrate diet was given; still more so in animals that had received somatose; yet still more pronounced in animals deprived of food; and most marked in those that had been upon an exclusive fat-diet. A conclusion as to the degree of renal insufficiency can, therefore, be formed from the degree of reduction in the freezing-point only when the cases to be compared have been kept upon the same diet. It is conceived that this reduction is dependent upon the failure, in whole or part, of the blood to be freed from an excess of the molecules resulting from albuminous metabolism. The reduction is augmented proportionately with the disintegration of albumin and with the impermeability of the kidneys, but that these are not the sole factors is indicated by the fact that it is greatest in those upon a fat-diet. The result is dependent not alone upon the amount of albuminous metabolism, but also upon its kind. The favorable results with carbohydrate feeding, as compared with the unfavorable results with proteid feeding and with hunger, show that the reduction in the freezing-point in the presence of renal insufficiency is dependent, in the first place, upon the amount of carbohydrates available. In the absence of these the reduction is augmented. If it be borne in mind that small amounts of acetone augment the reduction in the freezing-point and that deficiency in carbohydrates favors the formation of acetone from proteids, it is easy to understand that the marked increase in the reduction in the presence of renal insufficiency and carbohydrate hunger is due to acetonemia.

These observations are interesting and suggestive, but their clinical value must yet be determined. The technic is not described, and it remains to be seen if the method of procedure is susceptible of application to the daily work of the physician. The utility of a test depends not a little upon its practicability.

THE PROPAGANDA OF VEGETARIANISM.

There exists in this country and in England, and probably in all other civilized countries, a very numerous and respectable class of people who not only refuse animal food for themselves but carry on a more or less energetic propaganda in favor of vegetarianism. In this country this class includes at least one or two scientific physicians of reputation, and in Great Britain, a medical writer, whose works have done much to mold professional opinion, has, in his latest book, come out as an uncompromising advocate of vegetarian ideas. How far this adherence will affect his general influence is a question, but there is no doubt that his accession will be welcomed as of importance by those to whom he has allied himself. With the laity the question is largely one of sentiment; eating of animal flesh is to some people only a mild form of cannibalism, or at least of necrophagous tendency that is positively repulsive to them, while to others of a zoöphilistic turn the slaughter of wild or domestic animals for food is a sort of legalized murder that they can not conscientiously encourage or profit by. Add to these two classes, not numerically strong, a still larger number of those influenced by them and even more by the medical advisers of vegetarianism, we have quite a respectable contingent of the population that is more or less strongly inclined to adopt the principle of rejecting animal food.

The medical advocates of vegetarianism, excluding fanatical irregulars, are not very numerous, but they also include some highly respectable names. Some of them, like Dr. HAIG, seem to have been inevitably led to the views they hold by over-cultivation of a special line of study or research; a too exclusive view of one pathologic aspect blinding their broader vision of the whole range of physiologic functions. Still a few others probably are so mentally constituted that even a thorough medical culture can not completely eradicate inborn or acquired prejudices, that lead them to taking sides in a controversy without due regard to the well-established scientific facts. Some of this class are not aggressive, but simply govern their own conduct without regard to what others may do or think. Others, however, are ardent advocates of vegetarianism and do not hesitate to use all the sentimental objections in their arguments in its support. The really scientific testimonies to the utility or even the possibility of general abstention from animal food are very few, and the most that can be proven is that in some countries a more extensive meat diet than is absolutely beneficial is used, and that, sometimes, in individual cases, to the damage of the user's health. The argument often employed that human dentition is not that of the carnivora but that of the frugivorous monkeys goes but a very little way; it would be fairer to take into account the whole digestive tract. Monkeys are not absolutely vegetarian in their diet, and rodents, which have a decidedly non-carnivorous dentition, are many of them flesh eaters, as are our domestic carnivora vegetarians. The fact that intestinal putrefaction is favored by a flesh diet may have some weight in special cases, but its cosmetic advantages, as urged by some vegetarians, have a less scientific importance. The statements as to the comparatively greater endurance of vegetable feeders can be more than counterbalanced by directly contradictory ones. No training diet, for example, of men fitting for athletic feats requiring strength and endurance is strictly vegetarian, to say nothing of the general experience of the whole world. It is the omnivorous human being that goes everywhere, conquering all obstacles, and forms the ruling races of the earth.

The economic argument in favor of vegetarianism, which was brought out strongly in a recent editorial utterance of a leading eastern paper, has only a partial application, and therefore is not available in support of the theory as a whole. Undoubtedly, in a country with a crowded population, where agriculture can be carried on in an elaborate and thorough manner, animal food is dear and its excessive use is wasteful, but there are other large sections of the earth's surface where climate and soil are only suitable for the production of this form of sustenance, and still others, like the Arctic and Antarctic regions, that would be absolutely uninhabitable without it. It is in just these regions that Nature seems to provide the greatest abundance of this kind of food, both on land and in the waters, thus rendering them fitted for human habitation. This is, in its way, a very strong argument against any universal endorsement of vegetarian ideas.

There still remain the physiologic arguments for and against animal food, after those from the general experience of mankind and the economic issues involved are exhausted. So far as we are aware, no physiologic authority has ever maintained that man could thrive under a diet deprived of animal proteids. If MUNK and UFFELMANN'S estimate is accepted, at least seven-tenths of the proteids ingested must be of animal origin, and this has been accepted by some at least of the latest writers on the subject, and has not been seriously contested, so far as we are aware, by any really eminent authority. Vegetarians have so far, as a rule, supplied their needs in this respect by including milk and eggs in their diet, apparently ignoring the fact that by eating the latter they are destroying animal life root and branch, and thus acting in direct opposition to one of their most cherished doctrines, that of the sacredness of animal life and the inhumanity of its exploitation for human luxury. There are several questions that might arise in connection with this exception to a purely vegetable diet, but they can be passed over without further comment. The real question is how far such substitutions for meat diet, admitting their efficiency, are generally practicable, and whether the product in the form of a healthy and robust population would be better or worse than that under the existing conditions of human omnivorousness. Certainly none of the dominant races of the earth are vegetarians, and those peoples that are such to any extent are apparently such from necessity and not from choice, and in physical and mental capacity they certainly do not especially excel. Admitting it as practicable, with the use of milk or milk and eggs, there are still some possible inconveniences to vegetarianism, in the bulk of food required and the possible excess of mineral salts inducing atheroma, as has been claimed.

Taking everything into consideration, the really valid claims for an exclusive vegetable diet, if indeed they can be called such, are the sentimental ones; the physiologic arguments are deficient, and those from general experience of mankind have even less strength. In fact, there are very few if any consistent vegetarians in the world, and certainly none in civilized countries who are consistent in the matter of exploitation of our humbler fellow-creatures. We take their lives not only for food, but also for an infinite number of other reasons, and wage a constant war against them for our own convenience, not to say our actual existence as a species, which would otherwise be seriously threatened by the multiplication of more prolific vegetable feeders. It would seem almost a pity if, in deference to sentimental vegetarianism, this necessary slaughter could not be utilized in other respects, and in accordance with natural human cravings based upon structural peculiarities.

THE ANOMALIES OF ENGLISH MEDICAL DEGREES.

A case has just been decided in the English courts which brings into striking light the confusion produced in England by the antiquated, complicated system of medical "qualifications" in vogue. Mr. H. K. HUNTER, a Licentiate of the Society of Apothecaries (L. S. A.), qualified by his diploma to practice medicine, surgery, and midwifery, and duly enrolled upon the medical register as a practitioner, had the audacity to engrave upon his door-plate "physician and surgeon." For this offense against the proprieties of the profession he was first warned and in March last prosecuted by the Penal Committee of the General Medical Council, the great official executive committee of the English profession. To make the farce more solemn, and apparently with a view to making doubly sure that the committee should, in the words of DOGBERRY, "write me down an ass," two suits were brought, one for using the word "physician," and the other for using the word "surgeon" upon the door-plate aforesaid.

The judge of the lower court decided, after hearing the evidence in the first case, that Mr. HUNTER had no legal right to the use of the title "physician," and accordingly fined him $25 and costs, whereupon the Penal Committee, with most unexpected, if rather belated, magnanimity, dropped the second suit.

The Society of Apothecaries promptly took the matter up and appealed the case, and this appeal has just been heard by the Queen's Bench. The justices sustained the finding of the court below as to the actual legal right to use the title, but believing that Mr. HUNTER had acted in good faith and in the full belief that he had a right to so describe himself, they quashed the conviction and fine.

In order to appreciate the possibility of this ludicrously small-minded episode it must be remembered that there are no less than nine, or, counting honorary or advanced ones, eighteen separate degrees or qualifications which entitle a man to practice medicine in Great Britain.

The Government, of course, grants the right, but does so by recognizing the diplomas of four great groups of bodies, by whom all examinations are conducted. These are: 1, the Royal Colleges of Surgeons of London, Edinburgh and Dublin; 2, the Royal Colleges of Physicians of the same cities; 3, the Universities of Oxford, Cambridge, London, Durham, Edinburgh and Dublin; and 4, The Society of Apothecaries. The Colleges of Surgeons confer each two degrees—Member (M.R.C.S.) and Fellow (F.R.C.S.); those of Edinburgh and Dublin adding to the already formidable alphabetic procession the letters "E" and "I" (Ireland) respectively. The Colleges of Physicians, in order to prevent the problem from becoming too simple, grant three grades of degrees: "Licentiate" (L.R.C.P.), "Member" (M.R.C.P.), and "Fellow" (F.R.C.P.), so that a "Member" of the College of Surgeons is only equal to a "Licentiate" of a College of Physicians, and a surgical "Fellow" to medical "Member," while there is no surgical equivalent for the awful dignity of an F.R.C.P. Then come the universities, with the simple and rational degrees of M.B. and M.D., the latter with an extremely stiff examination and very rigid time-requirements, and finally the Society of Apothecaries and its single L.S.A.

There are also two ancient and little-used degrees conferred by the universities: Bachelor and Master of Surgery (B.Ch., M.Ch.), but these alone do not entitle to practice.

While this complexity is bad enough in itself, it would matter practically but little more than the large number of colleges from which the degree of M.D. can be secured, for instance with us, if all these qualifications led to the use of some common vernacular title by common consent, but that is precisely what they do not do. Of all these *eighteen* degrees only *one* confers upon its possessor the legal right to use the prefix "Dr." before his name. This is M.D., and the examinations leading to this are so severe and so academic, and the amount of time required so great and so inconveniently arranged, that scarcely one medical man in forty possesses it. Nor is the right merely a formal one, for although the laity fortunately ignore these distinctions and address nearly every medical man as "Doctor," yet in professional gatherings and discussions the title is rigidly limited to those possessing the degree, and it is even a great practical advantage to a man to be able to engrave the proud letters "M.D." upon his door-plate, so much so that some men go over to Belgium for a year to secure it and American physicians are sometimes consulted as to how long it would take an English practitioner to obtain the degree in the United States, with a view to using it in England.

It is a continual source of embarrassment to foreign medical men visiting England, to know whether to address or refer to the doctors he meets as "Dr." or "Mr." for though he may not say anything, the prominent surgeon resents being called "Dr." almost as much as the physician would being addressed as "Mr." Even Englishmen themselves can not keep matters straight, and we have frequently heard medical men, in referring to others who had preceded them in a discussion, get the titles mixed and, in some cases, be stopped and corrected by the chair or the "victim." By courtesy the title is also extended in professional circles to Fellows of the Royal College of Physicians, but this only makes "confusion worse confounded" for the guileless American visitor.

And now by the recent decision of the courts, the holder of the last of these titles, L. S. A., may not even call himself "physician" or "surgeon," although he is entitled to practice in both capacities by his diploma.

Thus the M. D. and F. R. C. P. degrees are most highly thought of, L. S. A. least so, but between these extremes there are all varieties of grades: the men with university degrees look down upon the mere Licentiates and Members of the Royal Colleges, the physician affects to despise the surgeon and vice versa, the London M. R.C. S. sneers at the M. R.C. S. E., and all unite in looking down upon the apothecary. The origin of these various bodies is, of course, clear enough. They are belated survivals of the three distinct sources of our illustrious profession, the surgeon from the barber, the physician from the monk alchemist, the apothecary from the herbs and roots vender. The Colleges of Surgeons and Physicians and the Society of Apothecaries are simply the ancient trade-guilds of these three crafts, and, like other trade-guilds, they are beginning to show signs of having outlived their usefulness. They do no teaching whatever, but charge heavy fees for merely conducting examinations and admitting to the practice of the profession, of which they have a legal monopoly. Their management is autocratic and their actions arbitrary and unprogressive. They both support fine libraries, and the College of Surgeons a splendid museum, both pathologic and anatomic, the bulk of which, however, was bequeathed to it by John Hunter, and a large part of the remaining specimens have been presented. They both give groups of two, three or five lectures, open to their own Members and Fellows, scattered through the year, but at such irregular intervals, and so little pains are taken to notify the general profession of their dates, that they are usually delivered before a mere handful of auditors, so that in spite of the often large fee attached, it is becoming difficult to get the best men to apply for the honor of delivering them. Nearly all these, however, are supported by special funds left to the Colleges for the purpose by wealthy members of the profession. In fact, beyond their examinations, which are well conducted, they do little or nothing more for the profession in return for their very large State-secured incomes than is done by such purely voluntary professional organizations as the College of Physicians of Philadelphia and the Academy of Medicine of New York. Not only is their multiplicity confusing, but their standards are by no means uniform, although their time-requirements are the same as demanded by law. London men will assure you that the Edinburgh and Dublin examinations are much easier to pass, and there seems to be some truth in the statement, and it is the common practice among students who have failed to pass the Colleges, to try the Apothecaries' examination.

Even the conservative *British Medical Journal*, in an editorial upon the Hunter scandal, significantly hints that the time is at hand when "one degree, if not one portal," will be insisted upon.

The Colleges and Universities should unite in the selection of one joint board of examiners, who should establish a single standard for England, Scotland and Ireland and confer a single uniform degree; preferably M.D., or at least one which should carry with it the right to use the title "Doctor." The profession are thoroughly stirred up over the Hunter episode, and great indignation is expressed against the General Medical Council in general, and the Penal Committee in particular, for disgracing the entire profession in the eyes of the community by such petty prosecutions, especially when impersonators like "Nugent" and quacks of all descriptions succeed in escaping their eagle vision. It is even declared that misrepresentation was resorted to by certain members of the Committee in order to get the consent of the Council to prosecute Mr. Hunter. He was represented to be an unqualified practitioner, using that most flimsy of credentials, an American degree. And as if to bring the petty jealousy of the action into full relief, the poor man was suddenly taken ill and died while the appeal was pending.

Altogether, the episode has been a distressing and humiliating one for both the victim and the profession, and even the newspapers are pointing to it as a sample of the jealousy and spitefulness of doctors toward each other. We can only console ourselves with the hope that some good may come of it both in the promotion of a broader and more tolerant spirit and in the reform of existing absurdities.

CORRESPONDENCE.

The Plea for Alcohol.

Hartford, Conn., Feb. 23, 1899.

To the Editor:—In the Journal of February 11, Dr. D. E. Mattison has in a very courteous way expressed his opinion on the value of alcohol and referred to the decreasing number of persons who suffer keenly when asked to give up theories long held as facts. Some physicians, like theologians, dread the arrival of new facts and new truths, which necessitate change or readjustment. To them it is dangerous to reopen an old subject for new evidence. It is more pleasant to believe that the final truths have been reached and the last word said. Fortunately doubts, denials, and pleas for present theories are neither obstructive nor destructive, but stimulating to new inquiries; at the same time they are literal protests against old theories and welcomes for new truths. Theories of alcohol and its physiologic and medicinal action are as ancient and numerous as its defenders. No other chemic agent has been supposed to have as many and diametrically opposite effects. Recently the modern methods of research have been turned on alcohol and its current theories, and a new field of facts has appeared. The theory of its food value rests on the fact that a small percentage of alcohol is lost or absorbed in the body. The latest researches show that alcohol is almost wholly eliminated as a foreign body, especially in large doses. If a small part is a chemic food or tonic it is by inference and not apparent by any accurate tests. The tonic theory rests on the increased heart's action and appetite following its use in small doses. This is not confirmed by tests of muscular and mental activity. The stimulant theory on the same basis is disproved. Increasing the heart's action is increasing expenditure of force, always followed by reaction. This is measurable by instruments of precision, and can be expressed in units. The irritation manifest by the increased heart's action is not stimulation, because followed by reaction and exhaustion. The action of alcohol on digestion is obstructive above 4 per cent.; below that the inference is that it is helpful. But this can not be sustained by other evidence, and the question is still unsettled. Measurements of the senses both before and after the use of alcohol show a constant depression and lowering of all activities. In doses of one ounce of alcohol, a measurable diminution is apparent. Larger doses increase this effect up to partial and total paralysis. The effects of alcohol on the temperature, reducing it even when given in small doses, are demonstrated facts. Unconscious experiments on a large scale in many ways have shown that alcohol increases muscular fatigue and lessens power of endurance; in the same way experience has proved that no work requiring accuracy and steadiness or brain and nerve force can be done well under the use of alcohol. Psychologic measurements of the activities of the brain and nervous system all show a steady slowing up and lessening of force and power when alcohol is used in small doses. From an increasing variety of evidence the fact becomes more and more apparent that alcohol is an anesthetic and paralyzant. In large doses this is evident. In small doses instruments of precision make this clear. From this point of view its value in disease and in medicine can not be questioned. Clinically a rapidly increasing number of learned physicians who have no sentiment in the question report better results and lessened mortality in the treatment of many diseases without alcohol. The teachings of physiologists, or the opinions of eminent men, can not decide the accuracy of current theories; nor can we put aside the researches of psychologic and chemic laboratories or minimize their conclusions, and say they only explain the effects of large doses of alcohol, which are very different in small amounts. If alcohol is a food, tonic, and stimulant in any dose or form, the evidence of this from modern methods of research should be clear. It is the spirit of the age to question every theory and demand the reasons for its acceptance. At this bar of inquiry alcohol is proven to be an anesthetic and not a tonic or stimulant. Whatever may be ascertained in future investigations, this conclusion is fully supported by a large, increasing mass of evidence beyond all moral considerations. A critic study of cases in the practice of every physician will reveal many facts to support these conclusions, and a little experiment will show how much of the current theories of the action of alcohol are delusions. The evident decline of medical faith in alcohol is not a change of pastime or sentiment in the movement of medicine. It is the slow recognition of new truths supported by a wider range of evidence. The experience of the country physician, who finds that alcohol can be replaced by other remedies with equal and better results, and of the employers of labor, who learn by sad experience to distrust men who use alcohol, are unmistakable signs of a great awakening. To call alcohol a food, tonic, or a stimulant, is to deny the facts of science and to adhere to the theories of the past. To recognize alcohol as an anesthetic and paralyzant of nerve-cells and tissue, is to explain the most puzzling phenomena of its action, and show why its fascination is so intense and widespread. All the facts are not known, and only a few conclusions appear from the present study, but these conclusions show the trend of research and the vast fields of new facts, and wider, more exact explanation of the action of alcohol on the body. T. D. Crothers, M.D.

A Third Cataractous Family.

Wheeling, W. Va., Feb. 25, 1899.

To the Editor:—There is no known reason why cataract should be classed among the hereditary diseases. But cases occasionally occur which cause us to pause and think, though they may really belong to the realm of coincidence and not heredity.

In the *New York Medical Journal* of Feb. 8, 1896, I reported "A Cataractous Family," in which the mother, three daughters, and probably two sons, had double cataract at about the age of 40 years. The only other member of the family, a sister, is about 57 and has no symptom of the family failing.

In the Journal of the American Medical Association, of Oct. 22, 1898, I reported "Another Cataractous Family," in which my patient, aged 67 years, had double cataract; his father had double cataract when he died, at 68; a sister had double cataract and had been operated on when about 50; another sister, about 60, has a mature cataract in the right eye; and two cousins, sons of the father's brother, had double cataract when about 60 years old.

Yesterday I operated on J. C. Secrist, aged 44 years, of Sherrodsville, Ohio. He was blind from double cataract. I removed a hard, fully matured lens from the right eye, in which he had first noticed failing vision about two years ago. Within the last year he had become blind in the left eye, and the lens is evidently ripening rapidly. The patient told me his brother had gone blind from cataract when about 40 and had been successfully operated on, dying at 49 years, of an acute disease. His only other brother is now about 40 and has perfect vision, although in constant fear of cataract. His two sisters, aged 38 and 48, have good vision. His mother died at 70 years, never having had any failure of sight, and his father is living, at 73, with good vision; but his father's sister had double cataract when 70 years old.

JOHN L. DICKEY, A.M., M.D.

Correction in "A Few Clinical Pictures."

ANN ARBOR, MICH., Feb. 27, 1899.

To the Editor:—In my article published in the JOURNAL of Feb. 18, 1899, (p. 360), in the report of Case No. 5 the statement is made that "she has had local medical treatment for two years with no improvement." Since writing this, the physician who treated the patient before I saw her, and who last saw her about a year before she came to me, informs me that when the patient first came under his observation she was the subject of a marked uterine subinvolution, the fundus reaching as high as the umbilicus. I know the physician to be an accurate observer, and therefore feel it just to say that so far as this condition is concerned, "the local medical treatment" had improved the patient, as involution was complete when she came to my notice. Under report of Case No. 6, in the eighth line from the bottom, read "interrupted" instead of "intermitted," and in the sixth line from the bottom, read "hernial" instead of "perineal."

JOHN A. WESSINGER, M.D.

ASSOCIATION NEWS.

American Medical Association.—The AMERICAN MEDICAL ASSOCIATION will hold its next annual meeting in Columbus, Ohio, June 6, 7, 8 and 9, 1899. As customary in connection with these meetings, there will be an exhibit. For this purpose a special building, 190 feet long by 44 feet wide, will be erected adjacent to the State House. It will be well lighted and ventilated, and will be supplied with electric current. The rotunda of the State House will be used for registration, for a post-office, and for endorsing railroad certificates. A wide hallway leads directly from the rotunda into the exhibition hall. The Section meeting-places are all located on the square surrounding the State House. No pains will be spared to make the exhibition hall suit the convenience of those who occupy it. It is the determination of the profession of Ohio to make this meeting surpass all previous meetings of the ASSOCIATION, and all indications point to a very large attendance. The exhibitors will thus come in contact with a large number of physicians who are not delegates or permanent members ef the ASSOCIATION, but who will embrace this opportunity of visiting the ASSOCIATION and of making observations of the various lines of goods represented in the exhibit.

N. R. COLEMAN, chairman, Sub Com. on Exhibits, 264 E. Town St., Columbus, Ohio.

SOCIETY NEWS.

Medical Association of Georgia.—The fiftieth annual meeting of this Association will be held in Macon, Ga., on April 19, 1899. Titles of papers should be sent to Dr. R. B. Barron, Macon, Ga.

Kalamazoo Academy of Medicine.—At the regular meeting of the Academy, February 21, Dr. A. H. Rockwell read a paper on "Brachycardia," and Dr. Rush McNair one on "Cranial Surgery."

Washington Microscopic Society.—At the recent meeting of the Society, Washington, D. C., Dr. H. H. Doubleday read a paper entitled "The Psychic Life of Micro-organisms." An interesting discussion followed.

Conference for Prophylaxis of Venereal Diseases.—An international conference to study and discuss measures to arrest the spread of syphilis and venereal diseases, will be held in Brussels in the first two weeks of next September.—*Semaine Méd.*, February 1.

Luzerne County Medical Society.—At the recent meeting of this Society, Wilkesbarre, Pa., Dr. L. H. Taylor read a paper on "Mastoid Diseases." The discussion was led by Dr. McFadden. The next meeting will be held March 15, when Dr. Barton of Plains will read a paper on "Puerperal Sepsis."

Toledo Medical Association.—At the meeting February 24, an address was delivered by Dr. Henage Gibbes of Detroit, assisted by Dr. E. H. Troy, on "Inflammatory and Tubercular Phthisis," illustrated with lantern slides on pathologic tissue. A banquet at the University Club followed.

National Sanitary Association.—This association, in session in New York City, February 5 and 6, will meet in Atlanta, Ga., in October. The following officers were elected: Charles S. Benedict, New York, president; T. B. Sales, Raleigh, S. C., first vice-president; Andrew Young, Chicago, second vice-president: Eugene Monteith, Atlanta, secretary and treasurer.

American Neurological Association.—At a meeting of the Council of the Association held in Philadelphia recently, it was decided to hold the next annual meeting of the Association at Atlantic City, N. J., on June 14, 15 and 16. The president is Dr. James Hendrie Lloyd, Philadelphia, and the secretary and treasurer, Dr. G. M. Hammond of New York.

New York County Medico-Pharmaceutical League.—This new association was organized February 24, in New York City, its object being "the encouragement of operations at home where practicable, the regulation of lodge-contracting, of dispensaries, hospitals and other medical charities, and the discussion and regulation of other matters of mutual interest to the medical and pharmaceutical professions."

International Congress of Insurance Medical Examiners.—The first international congress of physicians connected with life and accident insurance companies will convene at Brussels, Sept. 25 to 30, 1899. Among the subjects announced for discussion, we note: Insurability in glycosuria, albuminuria, syphilis, neurasthenia, progressive paralysis, traumatic neuroses; the necessity of a uniform formula for examination, professional secrecy and the insurance companies.

Wilson Medical Society.—The annual meeting of this Society, an inside organization of Jefferson Medical College, formed some years ago in honor of, and fostered with tender care by Prof. J. C. Wilson, was held February 21, in Philadelphia, Pa. S. Macy Cowgill, president of the Society, acted as toastmaster, toasts being responded to by Prof. J. C. Wilson, F. X. Dercum, H. A. Hare, H. A. Wilson, W. M. L. Coplin, and E. P. Davis.

Washington Medical Society.—At the recent meeting of this Society, Washington, D. C., Dr. A. F. A. King read a paper on "The Mosquito and the Malarial Parasite." Dr. C. L. Allen reported a case of edema in hemiplegia and a case illustrating early degeneration of the pyramidal tracts, as shown by the Marchi method. Dr. W. Prentiss read a paper on "Bermuda as a Winter Resort." He illustrated his subject by lantern-sides and specimens of natural history.

Lackawanna County Medical Society.—This Society recently held its twentieth annual dinner at Scranton, Pa. C. L. Frey was toastmaster and toasts were responded to as follows: "Mythical Medicine," John C. Bateson; "Medical Education in the United States," L. S. Barnes; "The Doctor at War," Walter M. Reedy; "Medical Education Abroad," L. Wehlau; "Famous Men in Medicine," R. H. Gibbons; "Our Absent Members," D. A. Capwell; "Why Doctors Disagree," F. L. Van Sickle.

Union Medical Association.—The one hundred and tenth quarterly session of the Union Medical Association of Northwestern Ohio was held at Akron recently, and it was decided to hold the next session in Canton, on May 9. The new officers elected were: F. H. Brannan, Canal Dover, president; G. L. Starr, Hudson, first vice-president; C. H. Goodrich, Sandyville, second vice-president; J. H. Seller, Akron, recording secretary; H. H. Jacobs, Akron, treasurer.

Washington Obstetrical and Gynecological Society.—The 294th meeting of the Society was held at the residence of the president, Dr. T. C. Smith. Dr. Fry read the essay of the evening, entitled, "Surgical Treatment of Unrotated Occipito-Posterior Positions. He referred to the high mortality of these cases, and recommended symphysiotomy or Cesarean section in impossible deliveries, and in cases where the child is dead, craniotomy. He referred to a case in his own practice which he had treated successfully by version. A full discussion followed, participated in by Drs. Smith, Winter, Bowen and others.

Wayne County Medical Society.—On the invitation of Dr. E. A. Christian, medical superintendent of the Eastern Michigan Asylum for the Insane, Pontiac, the members of the Society visited that asylum on the afternoon of February 23. There are now 1065 patients under treatment at the institution. Of these nearly all, or about one thousand, are State and county charges. Besides the main building, which is perhaps the largest single building in Michigan, there are several cottages, all of which are crowded to their full capacity, while many applications for admission are on file.

American Academy of Medicine.—At the annual session of the Academy, at Columbus, Ohio, three special topics are announced for discussion before the Academy: "Specialism in Medicine," "Advertising and the Medical Profession," and the "Medical Service of the Army and Navy." An effort will be made to issue a circular containing a brief synopsis of the papers to be presented, long enough before the meeting to enable those who attend to acquaint themselves with the trend of the papers, and to prepare themselves for a more profitable discussion.

American Laryngological Society.—At the recent meeting of the Eastern Section of the American Laryngological, Rhinological and Otological Society, held at Columbian University, with Dr. C. W. Richardson of Washington, D. C., president, in the chair, papers were read by Drs. George L. Richard, Fall River, Mass., John C. Lester, Brooklyn, N. Y., J. A. Stucky, Lexington, Ky., Thomas R. Pooly, T. P. Behrene and Woolsey Hopkins, New York City, George Ruling, Baltimore, Md., and Walter B. Johnson, Patterson, N. J. At the close of the session a dinner was served to the members at the residence of Dr. Richardson.

Chicago Medical Society.—A clinical meeting was held February 22. In the absence of Dr. Bevan, the president of the Society, Dr. Archibald Church presided. Dr. Weller Van Hook reported the following cases: 1, case of rectal prolapse: 2, case of rhinoplasty for lupus; 3, case of operation for deformity due to fracture of the ulna; 4, case illustrating Dr. Nicholas Senn's operation for fecal fistula; 5, case of gunshot wound of the brain, with the presentation of skiagrams; 6, case of strangulated femoral hernia of the vermiform appendix. Dr. Charles E. Manierre reported a case of nephrectomy. Dr. Reade presented, for Dr. Eisendrath, specimens from a case of cerebrospinal meningitis. Dr. Joseph L. Miller exhibited preparations of the influenza bacillus, and Dr. Joseph A. Capps demonstrated two specimens of aneurysm of the coronary artery.

Society of Washington Ophthalmologists and Otologists.— The January meeting of the Society was held at the Hotel Cochran, as the guest of Dr. J. J. Richardson, with the president, Dr. S. M. Burnett, in the chair. Dr. Muncaster presented a case of interstitial keratitis in a child of three years, with history. An interesting discussion followed, participated in by Drs. Richardson, Belt, Burnett, Dye and Newal. Dr. Richardson read a paper on aural reflexes, relating several experiments he had recently made on a number of persons, manifesting the susceptibility to reflexes from irritations in the auditory canal. The subject was extensively discussed, and similar cases cited by Drs. Wells, Belt, Burnett, Dye, Muncaster and Mallone.

Detroit Medical and Library Association.—At a recent session of this Association, Dr. Eugene Smith reported the results of his use of a new drug, mercurol, which is a nucleid of mercury. He described it as a whitish powder, soluble in hot water, and having a faintly alkaline reaction. The Doctor has used the remedy in his eye and ear practice with very satisfactory results. He said there is no immediate discomfort when a drop or two of a 5 per cent. solution is instilled into the conjunctival sac, but in about fifteen minutes a severe burning begins and lasts for an hour or more, with considerable lachrymation. He had used it in many cases of chronic conjunctivitis, blepharitis, phlyctenula, and in one case of ophthalmia neonatorum, also in several cases of small ulcers of the cornea, in all with the best results. In otitis media, both acute and chronic, he had excellent results by intratympanic injection of the solution. It had also proven of great beneficial effect as an external application to burns of the eyelids and in stitch abcess. In all respects as a germicide it has done excellent service.

Pennsylvania State Board of Health.—At the last meeting of the State Board of Health, held in Harrisburg, February 23 and 24, Governor Stone presided and made a talk on constant vigilance being exerted in regard to preventable diseases. There were papers on "Modern Methods in Production of Vaccin Virus," by Dr. Richard Slee, and "Sanitary Legislation," by Dr. Turnbull. Dr. H. H. Whitcomb of Norristown also read a paper on "The Organization and Administration of Boards of Health in Boroughs." The Board indorsed a bill providing that there be made a thorough investigation of the special sources of pollution of public streams, lakes, and waters used for household and dairy purposes, and providing for an appropriation of $50,000. The act providing for the use of funds in times of emergency in suppressing epidemics was also indorsed. In addition to the sum ($500) already expended in suppressing the epidemic of smallpox, the Board asked for an appropriation of $800. A resolution was passed providing for the establishment by the Government of sufficient means to place the city of Havana in a thorough sanitary condition. A copy of this resolution was transmitted to the President and to both the presiding officers of the United States Senate and House of Representatives. The following officers were elected for the ensuing term: President, William A. Stone, Governor of Pennsylvania, ex-officio: first vice-president, Crosby Gray of Pittsburg; second vice-president, M. G. Lippert of Phoenixville; third vice-president, J. B Tweedle of Weatherby; secretary, William B. Atkinson of Philadelphia.

Philadelphia Pathological Society.—At the last stated meeting of this Society, February 23. Dr. Wayne Babcock presented a polypoid sarcoma of the cervix and a large hydrosalpinx. In the first case he cited the authorities in proof of the claim that sarcoma of the cervix was extremely rare, Dr. Howard Kelly having found in it but a very few instances in several thousand tumors occurring in this region. Since the establishment of the Kensington Hospital for Women, Dr. Charles P. Noble was under the impression that this was the first time sarcoma of the cervix had been found. The hydrosalpinx had been removed from a patient 30 years of age, unmarried. The tumor had been found, on palpation, to fill up the entire pelvic region, and on removal was found to be separable into several cystic tumors filled with transparent fluid. In the discussion Dr. Wm. L. Coplin gave as his opinion that the tumor probably arose congenitally, and exhibited card specimens of paraplegia resulting from fatty degeneration of nerves, and also a tumor of the filum terminal. Of the latter, he spoke of its rarity and cited several instances in which the condition had been reported quite accurately by Turner and Gowers. He thought his case the sixteenth so far recorded. Dr. M. P. Ravenel read a paper on fetal tuberculosis occurring in a calf. In this instance the fetus, which was prematurely born, was proved to be tuberculous from the cheesy nodules found and subsequently inoculated into guinea-pigs. Dr. Alfred Stengel exhibited a heart in which the cavities had become exceedingly large, the walls of which were not half the renal thickness. What was of considerable interest was a beginning aneurysm located in the walls of the left ventricle. There was considerable thickening of the walls of the coronary arteries, but there had never been symptoms of angina. Dr. William E. Hughes showed a specimen of cancer of the stomach with perforation on the posterior wall in the lesser curvature. There had been no hemorrhage. A case of cancer of the uterus with metastasis of the glands of the mesentery and intestines was also shown.

PUBLIC HEALTH.

Depopulation of France.—The *Journal de Méd. de Paris* ridicules the various theories advanced to account for the decadent birth-rate in France, which it says is due entirely to the selfish foresight of married couples and the fact that the French are past masters in the art of *coit fruste.*

School for Children with Trachoma.—A public school for children with trachoma has been opened at Milan in connection with the Ophthalmic Institute. When school is dismissed the children go into the Institute for treatment before starting for home. Sixty pupils are enrolled in the school, although it was only arranged for fifty.—*Semaine Méd.*, February 1.

Massage in Hungary.—No one can practice massage who is not a physician, without a physician's orders, supervision and responsibility. Non-medical masseurs are not allowed to massage the eyes, or diseased abdominal or sexual organs. Penalty for infraction of these regulations is not to exceed fifteen days imprisonment, or a hundred florins fine.—*Deutsche Med. Woch.*, February 2.

Health in Chicago.—During the month of January, 1899, the number of deaths was 2498, or 1.51 per 1000, as compared to a rate for January, 1898, of 1.13 per 1000. The causes were: pneumonia 536, diseases of nervous system 251, consumption 237, bronchitis 142, diseases of the heart 141, influenza 113, diphtheria and membranous croup 82, cancer 82, acute intestinal diseases 56, typhoid fever 44, scarlet fever 26. The deaths of persons under 1 year of age numbered 470, and those between 1 and 5 years 261.

Typhoid Fever at Yale University.—A New Haven (Conn.) dispatch of February 4 avers that typhoid fever has broken out at Yale University, and although the cases are few, an investigation has been begun regarding the source. The Yale faculty claim that the disease is due to the presence on the green, just off the campus, of all the snow which has been dumped there from the city streets; they have unavailingly protested to the city Board of Health that the dump in question is a menace to health. As is too frequently the case, the campaign against the elements is without a plan.

Serum Treatment in Diphtheria.—F. Landwehr reports an epidemic of diphtheria, 217 cases, extending through the winter, which emphasizes the value of serum treatment. The type was unusually severe, *fœtor ex ore* in nearly every case. There were four deaths—two moribund when first seen; the other two dying of uremia and pneumonia within a fortnight. The rest all recovered. Preventive injections were given in 291 cases, fifteen of which succumbed later to diphtheria, but in an exceptionally mild form. . . . . .A collective report from Vienna of 2637 cases of diphtheria treated with antitoxin states 1.1 per cent. of the light cases died; 2.3 per cent. of the moderately severe, and 27.9 per cent. of the severe cases—a total mortality of 12.3 per cent., although 36 of the 324 deaths were within twelve hours of first treatment. Of those treated in the first two days of the affection, 6.5 per cent. died; treated the third day, 12 9 per cent. died, and of those treated later, 25.5 per cent. Of 2352 surviving the fifth day, 4.5 per cent. had paralysis.—*Deutsche Med. Woch.*, February 2.

Bacteriology of Influenza.—The question whether there is a possibility of exact methods of diagnosis of influenza by the microscope, and a determination of the Canon-Pfeiffer bacillus is of such interest that the Chicago Department of Health has lately, through its bacteriologic laboratories, carried on a series of investigations to determine the facts. Dr. Wynekoop, first assistant bacteriologist of the Department, has, in the report for January, 1899, published a preliminary statement of the findings thus far made. Early in December, 1898, a very small bacillus was found in the examination for suspected cases of diphtheria, which in its morphologic characters corresponded closely with the influenza bacillus. As influenza became more prevalent, its organisms were found more frequently, and special efforts were made to obtain from physicians samples of sputa and mucus of influenza patients, and cultures were made from the same. In many of these cultures the Pfeiffer bacillus was found almost alone, and pure cultures were made from these. The experience seems to show that a bacteriologic diagnosis of influenza can best be made by means of cultures or direct examinations of the bronchial secretions, but when direct

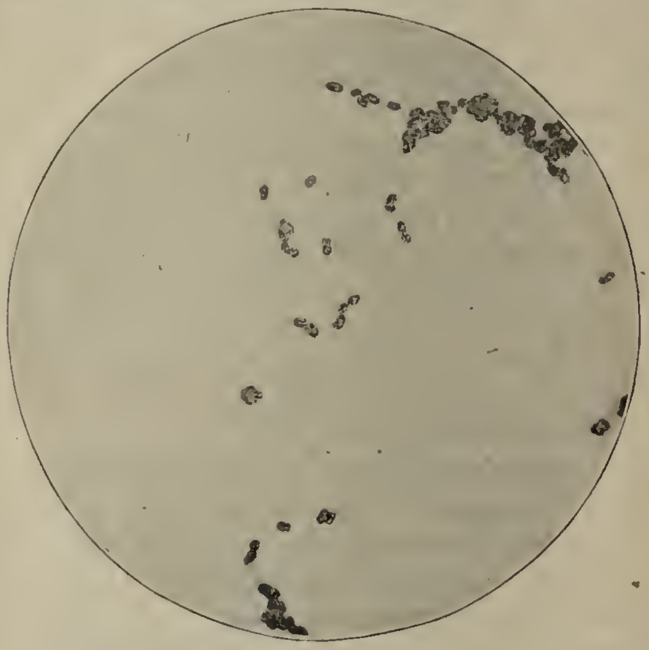

FIG. 1.—Influenza bacilli from a culture of 12 hours' incubation; × 1200.

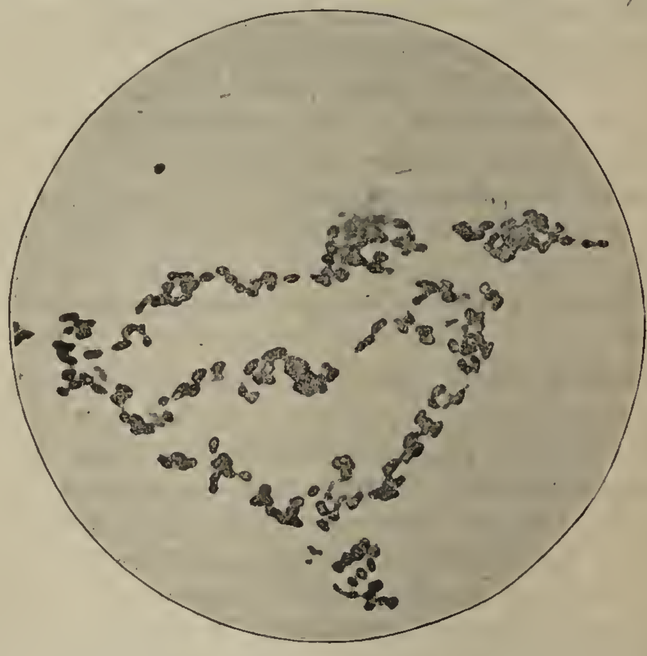

FIG. 2.—Influenza bacilli from a culture of 12 hours' incubation; showing uneven staining; × 1800.

examinations also were made of mucus from the tonsils and pharynx, before the use of antiseptics, the results were very satisfactory, the bacilli being found in the majority of cases. This seems to give us the advantage of an earlier diagnosis. The report is accompanied with a number of plates, showing

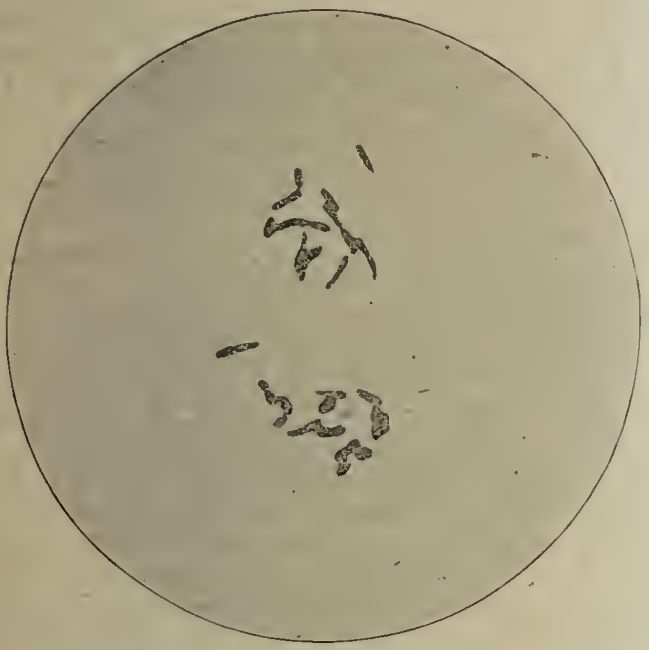

FIG. 3.—Mixed infection, diphtheria and influenza bacilli, from a culture of 18 hours' incubation; × 1800.

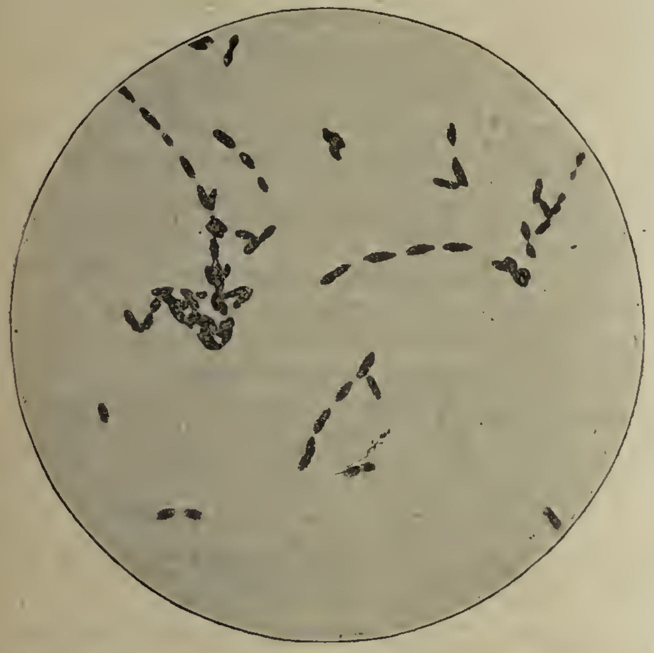

FIG. 4.—Lance-shaped micrococcus (Fraenkel) from a culture of 12 hours' incubation; × 1800.

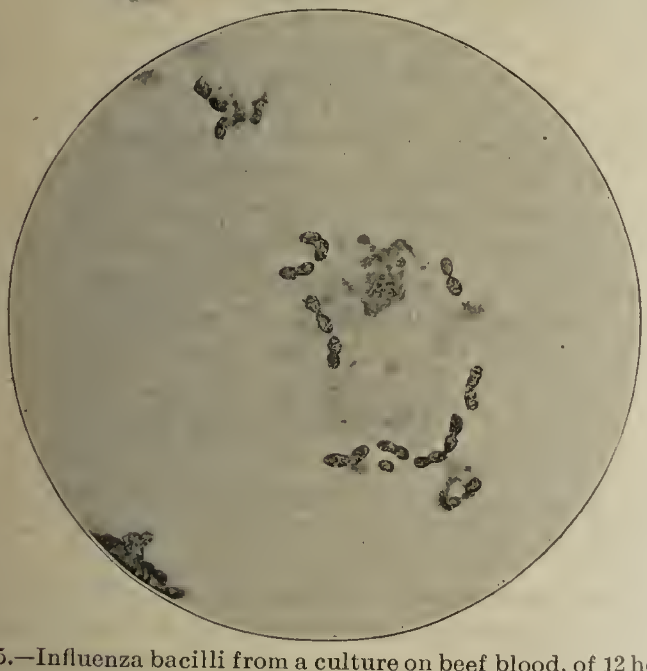

FIG. 5.—Influenza bacilli from a culture on beef blood, of 12 hours' incubation; × 1800.

e bacilli from cultures, which give an idea of its appearance. fter becoming familiar with it, it is said it can be generally cognized easily, though in some cases it may at first be hard find. Carbol fuchsin stains this bacillus very decidedly. some cases a mixed infection was found, the bacillus of diphtheria and other disorders being also present, and this fact is of importance as showing the value of bacteriologic examinations in certain cases where the clinical symptoms are misleading or obscure. In some cases of apparent diphtheria the influenza bacillus was found almost alone, and in some other cases, while the symptoms were apparent, the diagnosis was made entirely by the bacteriologic examination. The report concludes with a note in regard to certain eye symptoms which have been observed with influenza, differing from ordinary acute conjunctivitis. An examination of this showed the presence of the influenza bacillus in large numbers in the cultures made from the discharges. Further experiments are now being carried on in this line. The plates from the report are here reproduced. The document is itself of decided interest to the members of the medical profession.

Plague Report.—According to the *British Med. Jour.*, (February 18), the returns for the week ending February 14, in Bombay, gave 708 deaths, or 120 more than during the previous week, the plague there being considered in epidemic form. In Madagascar, it states, the plague is being stamped out, but the *Semaine Méd.* speaks quite discouragingly of the foothold obtained by the plague at Tamatave, which seems to be slowly spreading, as it has in India. There have been 278 cases with 194 deaths. Its presence in Middleburg, Transvaal, has led the Republican Government to prohibit colored persons from Asia, Mauritius, where several cases have been reported at Port Louis, and Madagascar from entering the country from the eastward, without a permit.

Embalmers' and Undertakers' Examinations.—The fifth of these examinations will be held March 28, in Chicago, under direction of the Illinois State Board of Health. These examinations are optional with funeral directors, embalmers and undertakers of Illinois, and those who do not apply for, or do not receive the certificate of the Board, will in no way be prohibited from conducting their business, but "the transportation of bodies dead from diphtheria (membranous croup), scarlet fever (scarlatina, scarlet rash), glanders, anthrax or leprosy, or any other disease that is dangerously communicable," will not be permitted by the Board unless such bodies have been prepared for shipment by an embalmer who has proved his qualifications to the Board and received a license.

Foreign Physicians in Italy.—Foreign physicians and surgeons are allowed to practice in Italy without obtaining an Italian diploma, if they confine their ministrations to foreigners, but the Italian physicians complain that the large number of physicians who come from abroad to the Riviera and other resorts frequented by strangers, monopolize the patients in a most unjust manner. To impose some restrictions the Government is taking steps to limit the privilege of practicing to physicians from countries that allow the same privileges to Italians. A circular has been sent to the representatives of Italy at foreign seats of government requesting a categoric reply to the questions: 1. Are Italian physicians allowed to practice in your country among the entire population or restricted to a foreign colony, without any further diploma being required? 2. If not, will your government authorize Italian physicians to practice according to either of the conditions mentioned, if the physicians from your country are allowed to continue to practice in Italy within the limits indicated above?

Koch on Malaria in Italy.—The report of Professor Koch's expedition to Italy establishes the unity of malarial infection and that the estivo autumnal fever is an etiologic whole, a genuine tertian, caused by a single well-defined parasite, and is identic with tropic malaria and with the other forms of Italian malarial infection. He was able to study 78 cases—120 in all—and the only difference between Italian estivo-autumnal and tropic malaria seemed to be that the Italian parasites were a trifle larger and more distinctly pigmented, probably due to their being seen in advanced stages of the disease. The differences in the descriptions published by Italians and others are owing to the fact that the former only examine fresh blood, while Koch dries it on a cover-glass and treats it with stains which bring out a number of the finer details impossible without. He also found that improved staining methods (Romanowsky) showed that the crescents and flagella take the chromatin stains and that the flagella proceed directly from the chromatin, are formed of chromatin, and in fact, are not flagella but spermatozoa, as was established by comparative analysis with other parasites, for which purpose he found the study of the proteosoma of birds extremely valuable (vide JOURNAL, pp. 197 and 91). He also confirmed Ross' statements in regard to the proteosoma, finding these parasites on birds and also in the stinging gnat, in which they commence their dual life cycle. He was even able to supply a missing link by the discovery that the proteosoma turns into a worm-like creature after it has propagated, like the halteridium, which it resembles. He also observed the secondary germs of the proteosoma in the poison or salivary glands of the insect, thus completing the chain of evidence. He considers these discoveries of the utmost importance, as, owing to the close resemblance between the proteosoma and the human parasite of malarial infection, it can be accepted as certain that the malarial parasite must have an analogous course of development. He ascribes the fact that inner Rome is entirely free from malaria, while the country around it and up into the suburbs reeks with it, to the lack of vegetation within the city. Wherever the gardens begin, there the gnats and mosquitoes swarm and malaria is rife. He also calls attention to the suddenness of the onset of malarial fevers. There are but few cases in winter or spring, mostly relapses of a disease acquired during the preceding summer. But in May or early June something happens that produces an outbreak of malarial affections. He adds that it would be of the greatest importance for the study of malaria if this unknown factor could be discovered. He reports the success of methylene blue in a number of cases, stating that in given cases it can substitute quinin to advantage. The Italian Government detailed Professor Gosio to assist him in his researches, and promoted them in every way.—*Deutsche Med. Woch.*, February 2.

Prophylaxis by Diphtheria Antitoxin.—Dr. Allan, a London health officer, reports in *Treatment*, January 12, that he has made use of diphtheria antitoxin as an immunizing agency, in an institution for children, containing sixty inmates varying from 2 to 17 years of age. The greater number of them were quartered at night in two large, airy dormitories and the classrooms occupied during the day were also large rooms. Early in February, 1898, one of the children, during a visit to a friend, was exposed to infection from a case of diphtheria, and on returning home on the same day developed the disease herself and communicated it to the girls in the beds on each side of her own. These three cases were removed to a hospital and no further cases appeared until a few days after their return home in the beginning of March. By March 23, five cases had occurred in the same dormitory and a bacteriologic examination of the throats of the three former cases revealed the fact that two of them contained typic diphtheria bacilli. Up to April 29 several other children developed the clinical symptoms of diphtheria and several more had inflamed throats without membrane. On April 29, at Dr. Allan's suggestion, a protective dose of antitoxin was given all round, and from that day, although the organisms persisted in the throats, there were no more cases of diphtheria or of sore throat. Of the 60 children, 9 only never gave evidence of infection, 14 were in hospital, leaving 34 children at home in addition to the first three returned from hospital. As time went on the organisms in these thirty-seven throats became less and less typic in form, and by June 15 all had disappeared. The immunizing dose of antitoxin is from 100 to 300 units, according to age, and the immunity thus produced ordinarily lasts for a period of at least four weeks.

Health Reports.—The following cases of smallpox, yellow fever, cholera and plague have been reported to the Supervising Surgeon-General of the U. S. Marine-Hospital Service for the week ended Feb. 25, 1899:

SMALLPOX—UNITED STATES.

California: Los Angeles, February 17, 31 cases in all since date of outbreak, 7 deaths. Origin believed to be Arizona; 25 cases in hospital. Sacramento, February 1–17, 1 case; San Diego, February 19, 1 case, 1 death; San Francisco, February 1–17, 1 case.

District of Columbia: Washington, February 15–23, 6 new cases, 21 in all.

Kansas: Peabody, February 16, 1 case; there have been 56 cases in 15 families, with 7 deaths.

Missouri: Carroll County, February 13, 33 cases, 5 deaths; St. Louis, February 13, 15 cases, 2 deaths.

North Carolina: Chowan County, February 16, 3 cases; Columbus County, 2 cases from Sumter, S. C.

Ohio: Cincinnati, February 16, 2 cases at Marine Hospital; Columbus, February 1–9, 10 cases of varioloid.

Pennsylvania: Philadelphia, January 23 to February 11, 1 case; Bedford County, January 23 to February 11, 1 case; Liberty Township, January 23 to February 11, 3 cases.

Tennessee: Jackson, Madison County, February 14, 7 cases; Memphis, February 11–16, 6 cases.

Texas: Laredo, February 2–11, 12 cases, 16 deaths.

Virginia: Alexandria, February 8–23, 24 cases; Norfolk, February 13–22, 70 cases; Portsmouth, February 4–18, 15 cases.

SMALLPOX—ON VESSELS.

Japanese S. S. *America Maru*, from Yokohama for San Francisco, via Honolulu, January 25, 2 cases.

United States S. S. *Costa Rica*, from Hongkong for San Francisco, 2 cases at Hongkong; arrived February 9.

Steamer *Hatteras*, Smithfield, Pa., for Norfolk, 1 case.

Steamer *Lucy*, from North Carolina for Norfolk, Va., February 7, 1 case.

Sloop *Mary Pace*, James River for Portsmouth, Va., February 10, 1 suspected case.

SMALLPOX—FOREIGN.

Brazil: Rio de Janeiro, December 31 to January 6, 10 cases, 4 deaths.

Egypt: Cairo, January 19–26, 1 death.

England: South Shields, January 22–28, 1 case.

France: Paris, January 28 to February 4, 1 death.

India: Bombay, January 17–24, 2 deaths; Singapore, December 1–30, 13 deaths.

Mexico: Chihuahua, February 4–18, 2 deaths; Ciudad Porfirio, Diaz, February 11–18, 6 cases; Mexico, February 5–12, 2 cases; Nuevo Laredo, February 11, 40 cases; Vera Cruz, February 2–16, 1 death.

Russia: Odessa, January 28 to February 4, 4 cases, 1 death; Warsaw, January 22–28, 3 cases.

Turkey: Constantinople, January 23–30, 8 deaths; Smyrna, January 15–22, 3 deaths.

YELLOW FEVER—FOREIGN.

Brazil: Rio de Janeiro, December 30 to January 6, 16 cases, 11 deaths.

Mexico: Vera Cruz, February 2–16, 3 deaths.

CHOLERA—FOREIGN.

India: Bombay, January 18–24, 3 deaths; Calcutta, January 1–14, 113 deaths; Madras, January 14–20, 3 deaths.

PLAGUE.

India: Bombay, January 17–24, 456 deaths; Calcutta, January 7–14, 2 deaths.

BOOK NOTICES.

Treatment of Diseases by Physical Methods. By THOMAS STRETCH DOWSE, M.D., F.R.C.P., etc. New York: E. B. Treat & Co. 1899.

This is a revised edition of the author's former work entitled, "Lectures on Massage and Electricity in the Treatment of Disease," altered as to title and brought thoroughly up to date by new additions and revisions. One important chapter on the Schott–Nauheim treatment of cardiac weakness is here included, that will doubtless prove valuable to those who consult it. The author lays special stress on the improved methods of massage that have come into use within the last twelve years, the chief difference being that the movements are more vibrating in character. Pelvic massage, the Thure-Brandt method, is passed over very briefly in a quotation from Graham, but as this is a sort of specialty by itself, the failure of this work to be perfectly up-to-date in this regard is perhaps of less importance. It would have, nevertheless, been well if it had been rounded out with some more facts on this particular subject, from its already extensive literature. As a general work for the medical practitioner the book is to be recommended. The index is rather deficient, but in other respects, fullness, clearness of style, illustrations, etc., it meets most reasonable requirements.

Why I Am a Vegetarian. By J. Howard Moore. Paper. Pp. 44. Chicago: Frances L. Dusenberry. Price, 25 cents.

This booklet is of interest as indicating a point of view and the tendencies of those who adopt it. The author is a zoöphilist vegetarian; he uses no scientific arguments in favor of his thesis, but is, especially as he warms up to his subject, abusive and intolerant to those that may disagree with his dietetic opinions. "Christian cannibals," "ghoulish clowns of science," are samples of some of his utterances. Like Marryat's boatswain, he begins with moderation, but becomes vituperative as his remarks progress. Vegetarianism is apparently just now being taken up with more vigor; its propaganda is more active than for some time past. Such little works as this are evidence of the fact, but they do not convey altogether favorable impressions of the temper and judicial mindedness of their writers.

Transactions of Luzerne County Medical Society. Vol. vi. Paper, pp. 217. Wilkesbarre, Pa.: 1898.

This volume of transactions is for the year ending Dec. 31, 1898, and contains the following papers: President's address, "Uses of Saline Solution," "Pathology of Ovarian Cysts," "Internal Obstructions," "Local Anesthesia," "Insomnia," "Bronchopneumonia in Childhood," "Diphtheria," "Syphilis," "Cholelithiasis," "Bread," "Schleich Mixture for Anesthesia," "Notes on Tumors," "Case of Neurosis of Humerus," "Gunshot Wounds," "Water-Supply," "Dysentery," "Prevention of Diphtheria," "Chloroform in Labor," "Alcoholism," "Prostatic Retention."

Transactions of Medical Society of North Carolina. Cloth, pp. xlix, 173. Winston, N. C.: 1898.

This volume contains the proceedings of the forty-fifth annual meeting, held at Charlotte, N. C., May 3-5, 1898. Besides lists of officers, members, etc., there are papers on the following subjects: "Two Pioneer Heroes in Surgery and Gynecology," "The Under Side of Things in a Doctor's Life," "Tobacco Habit as a Cause of Disease," "Suggestions on Prevention of Tuberculosis," "Meddlesome Gynecology," "Three Interesting Cases of Obstetrics," "Chemistry of the Stomach," "Veratrum Viride," "Country Surgeon and His Work," "Radcal Cure of Hernia," "Shawl-Pin in the Trachea," "Expert Witnesses," "Excision of Gall-Bladder for Impacted Stone," "Treatment of the Umbilic Cord Without Ligature," "A Plea for Conservatism in the Treatment of Abortion," and others.

Diseases of the Eye. By G. E. de Schweinitz, A.M., M.D., professor of ophthalmology in the Jefferson Medical College; professor of diseases of the eye in the Philadelphia Polyclinic, etc. With 265 illustrations and two chromo-lithographic plates. Pp. 696. Philadelphia: W. B. Saunders. 1899. Cloth, $4 net; sheep or half morocco, $5 net.

In this third edition new matter is added and the greater part of the work is thoroughly revised, especially the articles on "Tumors of the Choroid," "Retinitis Carcinomata," "Hereditary Optic Nerve Atrophy," "Orbital Optic Neuritis," and the chapter on operations. The bacteriologic relationship o many of the ocular diseases is emphasized. All through he work there is evidence of the desire of the author to keep he book thoroughly up to date.

The Phonendoscope and Its Practical Application. By Prof. Aurelio Bianchi. American Edition. Cloth, pp. 77. Illustrated. New York: Geo. P. Pilling & Son. Price 50 cents.

Merck's 1899 Manual of the Materia Medica. A ready-reference pocket manual for the physician and surgeon. Leather, pp. 192. New York: Merck & Co., 1899. Price $1.

Thirteenth Annual Report of Births, Marriages and Deaths in Michigan, for 1896. Edited by Cressy L. Wilbur, M.D. Cloth, pp. 188. Lansing: 1898.

Pamphlets Received.

Abdominal Section on Patient with Exophthalmic Goiter; Shall Absorbable Ligatures and Sutures be Employed in Hysterectomy. By Chas. P. Noble, Philadelpia. Reprints.

Albuminuria During Pregnancy, Without Convulsions of the Mother; Diabetes Mellitus and Carcinoma Uteri; Torsion of Pedicle of Ovarian Tumor. By H. T. Kreutzman, San Francisco. Reprints.

Anthrax, a Case of. By T. S. Dabney, New Orleans, La. Reprinted from New Orleans Med. and Surg. Jour.

Antitoxins for Tuberculosis, Preparation and Effects of. By E. L. Trudeau and E. R. Baldwin. Reprinted from Am. Jour. Med. Sci.

Appendicitis a Surgical Disease. Is? By Carl Beck, New York City. Reprinted from N. Y. Med. Jour.

Appendicitis, Early Treatment and Indications for Operation in. By W. M. Harsha, Chicago. Reprinted from Jour. Am. Med. Ass'n.

Association of American Anatomists. Reports. Paper, pp. 58. Reprinted from Proc. of the Ass'n.

Bronchitis, Acute, Treatment of; Home Treatment of Pulmonary Tuberculosis; Modern Methods of Diagnosis; Preventive Treatment of Children Predisposed to Pulmonary Tuberculosis; Renal Insufficiency. By John A. Robison, Chicago. Reprints.

Carcinoma of Gall-Bladder; Elimination of Bacteria by Liver, etc.; How Soon Do Bacteria Entering Portal Vein Become Disseminated. By Gustav Fütterer, Chicago. Reprinted from Medicine.

Caries of Teeth and Diseases of Stomach; Diarrhea and Bacteria; Early Diagnosis of Cancer of Stomach. By C. D. Aaron, Detroit, Mich. Reprints.

Cataract Operations, etc.; Injuries of Eyelids and Eyeballs; Iritis, etc. By L. Webster Fox, Philadelphia. Reprints.

Clinical Memoranda; Diagnosis of Malaria. By A. R. Edwards, Chicago. Reprinted from Jour. Am. Med. Ass'n.

Deficient Excretion from Kidneys; Treatment of Hereditary Syphilis. By L. D. Bulkley, New York City. Reprints.

Ear Diseases as a Specialty. By Emil Amberg, Detroit, Mich. Reprinted from Physician and Surgeon.

Entotic Sound Perceptions. By Lewis S. Somers, Philadelphia. Reprinted from Medicine.

Epidemic of Fever at Key West, Fla. By John W. Ross, U. S. N. Reprinted from Med. Record.

Experimental Researches About Mixed Infection in Chronic Pulmonary Tuberculosis. By C. Fisch, St. Louis. Reprinted from St. Louis Medical Review.

Fractures of Neck of Femur, Mechanical and Surgical Treatment of. By A. J. Gillette, St. Paul, Minn. Reprinted from Northwestern Lancet.

Healing With or Without Drugs. By Anagaraca Caskadananda, Washington, D. C. Paper, pp. 24. Washington: C. W. Smith, 1899.

Heart, Concentric Displacement to Right; Landry's Paralysis, Case of. By C. L. Green and J. F. Rothrock, St. Paul, Minn. Reprints from Phila. Med. Jour.

Heart Disease, Treatment of by Schott Method. By C. L. Greene, St. Paul, Minn. Reprinted from Jour. Am. Med Ass'n.

Infection from Hands in Phthisis. By E. R. Baldwin, Saranac Lake, N. Y. Reprinted from Trans. Am. Climatological Ass'n.

Insane, Diseases of Lungs Among. By H. A. Tomlinson, St. Paul, Minn. Reprinted from Trans. Am. Medico-Psycho. Ass'n.

Lachrymal Obstructions, Sources of Failure in Treating. By Leartus Connor, Detroit, Mich. Reprinted from Jour. Am. Med. Ass'n.

Leprosy of the Bible, Nature of. By Jay F. Schamberg, Philadelphia. Reprinted from Phila. Polyclinic.

Manual of Massotherapy. By W. E. Forrest, New York City. Paper, pp. 88. Illustrated. New York: Health Culture Co., 1898.

Orbital Injury from Contre-Coup; Protargol as a Substitute for Nitrate of Silver in Ophthalmia. By. F. E. Cherry, Boston, Mass. Reprints from Boston Med. and Surg. Jour.

Poisonous Plants of the United States, Thirty. By V. K. Chestnut, U. S. Dept. of Agriculture, Farmers Bulletin, No. 86. Paper, pp. 32. Illustrated. Washington: 1898.

Powers of Municipalities: A Discussion. By A. R. Foote. Paper, pp. 80. Indianapolis: C. E. Hollenbeck.

Prophylaxe der Sepsis bei Laparotomien und bei Eingriffen am Uterus. By B. Credé, Dresden. Reprints from Monats. f. Geburts. u. Gyn.

Quinin in Malarial Hemoglobinuria. By Albert Woldert, Philadelphia. Reprinted from Med. News.

Remedial Measures Proposed for Pennsylvania. By Samuel Wolfe. Philadelphia. Reprinted from Trans. 25th Nat. Conf. Charities and Cor.

Reminiscences of a European Trip. By W. G. A. Bonwill, Philadelphia. Reprinted from Internat. Dental Jour.

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NECROLOGY.

Cornelius A. Logan, M.D., Chicago, died in Los Angeles, Cal., January 30. He was from a prominent family, his father being the celebrated Cornelius Logan who wrote "Solon Shingle" and several other popular comedies. His two sisters were long prominent, and he was also a cousin of General John A. Logan. Dr. Logan was born in Deerfield, Mass., Aug. 24, 1832. By President Grant, he was appointed Minister to Chili, where he remained for several years, and was again appointed to the same mission by President Garfield. In the controversy over the war debt between Chili and Peru, Dr. Logan was selected to settle that dispute, a delicate task, which he performed so satisfactorily as to win the approval of both governments.

Albert Reynolds, M.D., Clinton, Iowa, died February 23 at the age of 62 years. In October, 1861, he enlisted in the Ninety-second New York Volunteers; in July, 1862, was mustered in as steward of the Baltimore Hospital, afterward serving in the hospital in Washington, Georgetown and Baltimore. Later he went to New Orleans and was there during Banks' expedition, and was a clerk in the medical director's office, department of the Gulf, until September, 1863, when he was appointed assistant-surgeon of the Eighty-eighth Colored Regiment, United States Volunteers, serving in this capacity until 1864. From 1872 to 1881 he was superintendent of the Hospital for the Insane, Independence, Iowa. He also, at various times, delivered courses of lectures in the medical department of the State University, on diseases of the brain. He was a member of the Clinton County Medical Society, Iowa State Medical Association and the American Medical Association.

Robert Patterson Harris, M.D., Philadelphia, Pa., died February 20 of apoplexy. He was the son of Dr. Wm Harris, and was born in Chester County in 1822. He was graduated from the University of Pennsylvania in 1843, and for a year studied in the Demilt Dispensary, later completing his studies in Paris. For several years Dr. Harris was physician to the Franklin Reformatory Home. He spent many years in compiling statistics and was considered an authority on Cesarean section and abdominal operations. Probably his greatest work was in editing "Playfair's Midwifery." For many years he acted as vice president of the Pennsylvania Horticultural Society, in addition to his other duties. He was a member of the Philadelphia Gynecological Society.

George H. Stone, M.D., University of Georgetown, Washington, D.C., 1868, of Savannah, Ga., died there February 19. He was regarded as an authority upon yellow fever.

David L. Reeve, M.D., New York University, 1845, died February 25 in Jersey City, N. J., where he began practice in 1858. He was born in New York City in 1822 and is survived by two sons.

Willard Avery Heacock, M.D., College Physicians and Surgeons, New York, 1892, died at his home in New York City, February 24, aged 32 years. He contracted diphtheria from a patient ten days preceding his own death. A wife and two children survive him.

T. J. Allen, M.D., Shreveport, La., February 16, aged 70 years . . John C. Benham, M.D., Castleton Medical College, Vt. (now extinct), 1837, died at his home in Hudson, N. Y., February 19, in his 83d year. . . Thomas Gibson, M.D., Radford, Va., February 1 . . A. J. Kantz, M.D., College Physicians and Surgeons, Keokuk, Iowa, February 12, in Berrysburg, Pa., aged 61 years . . Thomas M. Kyle, M.D., Aurora, Ind., aged 57 years . . William Penn McMillan, M.D., an alumnus of the N. O. School of Medicine (now extinct) of Biloxi, Miss., January 27, aged 68 years. . . Ella M. Patton, M.D., Quincy, Ill., February 16, aged 38 years . . John Rea, M.D., Newcastle, Ind., February 23, aged 80 years . . John B. Sweetland, M.D., Edwardsburg, Mich., aged 65 years . . Norman Teal, M.D., Kendallville, Ind., Rush Medical College, 1866, aged 69 years . . John J. Thompson, M.D., Sullivan, Ind., aged 78 years . . William T. Russell, M.D., University of Pennsylvania, 1850, Spartansburg, S. C., February 23, aged 72 years.

Deaths Abroad.—Sir John Struthers, M.D. LL.D., February 24, vice-president of the Royal College of Surgeons, Edinburgh, and examiner in anatomy. He was 76 years of age. . . Dr. William Rutherford, F.R.S., professor of physiology in the University of Edinburgh since 1874, and author of scientific treatises. . . Thomas Cooke, F.R.C.S., Eng., M.D. and B.Sc., Paris, founder of the London School of Anatomy and Physiology, and a contributor to English and French literature. . . Dr. Joseph Maschka, professor of medicine, University of Prague. . . Dr. G. Vlakovich, professor of anatomy, University of Padua. . . Dr. Pedro Izquierdo, professor in the University of Madrid. . . Dr. August Socin, professor of clinical surgery, University of Basel. . . Dr. Joseph Finger, emeritus professor of clinical medicine at Lemberg. . . Dr. Thomas, professor in the Medical School of Rheims, aged 73 years. . . Dr. Emil Schiff, well known as a popularizer of the researches of Helmholtz and Dubois-Reymond, and for his reports of medical and scientific congresses, aged 50 years. . . G. Wolffhugel, professor of hygiene and bacteriology at Göttingen. . . Prof. K. Schönlein of the Zoölogic Station at Naples.

MISCELLANY.

Dr. T. H. Hirschfield.—Dr. T. H. Hirschfield, Milwaukee, Wis., has returned from a trip through the Southern States and Mexico.

Indiana Medical College.—The medical college building, recently burned out, at Indianapolis, has been rebuilt and reopened for college work.

Rudolph Kobert.—Prof. Rudolph Kobert, superintendent of the phthisis sanatoria at Göbersdorf, Silesia, has been appointed professor of pharmacology at Rostock.

Dr. William F. Jenkins.—Governor Roosevelt has appointed Dr. William F. Jenkins, New York City, as member of the New York State Board of Health.

Detroit Health Commissioner.—Dr. John L. Irwin, Detroit, has been appointed, by Governor Pingree, as Detroit Health Commissioner, to succeed Dr. Longyear.

Dr. T. P. Stanton.—At the recent meeting of the Southwestern Iowa Medical Society, Dr. T. P. Stanton, Chariton, Iowa, was elected president.

New Pathologist at Cambridge.—Dr. German Sims Woodhead has been elected professor of pathology, to succeed the late Dr. Kanthack, in the University of Cambridge, England.

Hygienic Expert.—Dr. M. A. Veeder of Lyons, N. Y., has been appointed by the State Board of Charities to assist in the scientific investigation of hygiene in certain of the State's public institutions.

Reception to Medical Students.—The faculty of the medical and dental departments of the University of Maryland, Baltimore, tendered a reception to nearly five hundred students in the lecture room of the law department, February 22.

Membranous Enteritis.—In the fourth and fifth lines of the editorial on "Membranous Enteritis," page 436 of the JOURNAL for February 25, for "secondary necrosis" read "*secretory neurosis.*"

Foreign Items.—Professor Helferich of Greifswald has been transferred to Kiel. . . Prof. K. Lohmeyer of Göttingen recently celebrated his golden jubilee. . . The Medical Clinic at Leipsig celebrates its centennial in April.

University of Buffalo.—A reunion of the medical alumni of the University of Buffalo was held in the college building, Buffalo, N. Y., February 22. Addresses were made by Drs. Matthew D. Mann, Lusk of Warsaw, Frederick Peterson of New York and W. W. Potter of Buffalo.

Virchow Honored.—The Royal Academy of Sciences at Berlin has bestowed the handsome gold Helmholtz medal on Virchow. The endowment for this medal was completed in 1892 in honor of Helmholtz' seventieth birthday. The recipients have been Helmholtz, Du Bois Reymond, Weierstrass and Lord Kelvin.

Pineal Gland and Abnormal Growth.—A tumor of the pineal gland was noted at the necropsy of a boy 4½ years of age, whose skeleton had grown in one year to that of a boy of 7 or 8 years, while the penis, scrotum and testes were the size usual at puberty.—*Vienna Klin. Woch.*, February 9.

Prolapse of Uterus.—Duncan (*British Med. Jour.*, February 18) reports a case of prolapse of the uterus in a girl 16 years of age, it being in this point unique. The case is likewise of interest from the fact that she was nulliparous, and there was no congenital defect in the pelvic organs. Ventral fixation was resorted to.

Salesroom Burned.—Wm. R. Warner & Co.'s salesroom, offices and storerooms, at 1228 Market Street, Philadelphia, were recently entirely destroyed by fire. Their laboratories will, however, fill all orders, with as little delay as possible, and their Chicago branch is also prepared to supply all demands that may be made on it.

Micro-organisms in Sea Water.—Duflocq asserts that micro-organisms retain all their vitality and virulence in sea water, evidenced by subsequent inoculations in animals (bacillus of typhus, psittacosis, choler vibrio, etc.); also that the microbes continue to secrete their toxins in sea water.—*Semaine Méd.*, February 1.

Leucocytosis from Purgatives.—De Renzi and Boeri have found that calomel, sublimate, magnesia sulph., podophyllin and croton, introduced into the intestines, cause an increase in the number of leucocytes throughout the system, but they were unable to prove any protective action against infective diseases, from this leucocytosis.—*Munich Med. Woch.*, January 17.

Iodin Exanthem on the Stomach.—Neumann reports a case of fatal nephritis in a woman of 30 years, who had taken potassium iodid, producing an exanthem on the skin, face and members. At the necropsy the same exanthematous lesions, ulcerations and efflorescence were discovered on the mucosa of the stomach, in the pyloric region, evidently due to the iodin, the first case of the kind on record.—*Vienna Klin. Woch.*, February 9.

Necropsy Forbidden.—The husband of a woman who had died at the gynecologic clinic at Rostock refused his consent to have a necropsy made. In spite of this refusal, small pieces were removed from the heart and kidneys and the organs replaced. The husband sued the chief of the clinic, who was condemned to pay damages of 150 marks, and an appeal to a higher court merely confirmed the judgment.—*Presse Méd.*, February 8.

Vesical Calculi on Foreign Bodies.—Heresco adds another to the fourteen cases on record in which a calculus formed around a splinter or bone that had worked its way through the vesical wall from a suppurated focus in the pelvic bones. Gouyon also reports a couple of cases in which after protracted suppuration after the extirpation of an annex or operation for inguinal hernia, silk threads had suppurated through into the bladder and resulted in the formation of stones.—*Cbl. f. Chir.*, February 11.

Empyema of Maxillary Sinus.—Saint-Hilaire reports two cases of violent epistaxis treated by tamponning the anterior and posterior nasal cavities. After a few days or weeks fetid pus was found in the maxillary sinus, the compression of the tampons evidently having caused the still flowing blood to find its way into the sinus, where it putrefied and caused an empyema. He urges treating epistaxis, which is usually due to some lesion of the anterior part of the septum, by some other means than tamponning.—*Revue de Laryng.*, xix, No. 32.

Unusual Localization of Diphtheria Bacillus.—A girl of 10 years was received at Mosler's clinic with pronounced diphtheritic ulcerations and membrane formation on the external genitals, with intense pain on urinating, and a mild form of diphtheritic manifestations in the throat appearing later. The local diphtheria was much more severe than the general. Pure cultures of the Loeffler bacillus were also derived from a small abscess on the thumb, refuting the theory that the association of pyogenic cocci is necessary for pus formation by the diphtheria bacillus. The child's cousin and mate was also affected with similar manifestations at the same time.—*Deutsche Med. Woch.*, February 2.

Blood Pressure and Contractility of Bladder.—Guyon has called attention to the frequency of arteriosclerosis with hypertrophied prostate, and the variability of the condition of the pulse. To explain the differences in the behavior of the pulse, the contractility of the bladder was studied in connection, and it was found that the arterial pressure is highest with normal contractility and lowest when the bladder contracts defectively or not at all. It is possible that the contractibility of the vesical muscles and the tonus of the muscular walls of the arteries proceed from a general "hyposystolia" of the unstriated muscular system.—*Cbl. f. Chir.*, February 11.

Mechanic Vibration for Sclerosis of the Ear.—Inspired by the familiar fact that deaf persons sometimes hear better in a jarring train or on a bicycle, Dundas-Grant has been successfully treating certain cases of deafness due to sclerotic processes in the middle ear on a diathesic basis of rheumatism, gout, osteoarthritism or syphilis, with mechanic vibration applied to the spine. "The improvement was frequently sufficient to restore the subjects to general conversation from which they had long been isolated by their infirmity." For a five minutes' séance he uses a small motor connected with the electric light service, with an eccentric on the axle. A curved strip of tin fits along the spine and the apparatus is held with a "teapot" handle.—*Revue de Laryng.*, xix, No. 35.

Medical "Tribunals of Honor" in Prussia. German physicians have long been seeking a means to punish unworthy colleagues without detracting from the dignity of the profession, and the government has acceded to their appeal and established the so-called tribunal of honor in each district, with a supreme court of appeal appointed by the emperor. These tribunals are to pass judgment upon derelictions from professional duty, honor and medical dignity, with penalties ranging from warnings and reprimands to a fine of 3000 marks and suspension or withdrawal of the privileges of the local medical society. The tribunal has no jurisdiction over members of the profession occupying official positions or connected with the army or navy, and no one can be indicted for his scientific, political or religious views. The *Deutsche Med. Woch.* of February 2 contains the full text of the famous ordinance.

Cirrhosis of Liver in a Child.—In the *Glasgow Med. Jour.* for February is reported a case of cirrhosis of the liver in a child of 6 years, admitted to the ward in a moribund condition, and dying two and one-half hours later. There had been the gradual swelling of the abdomen, ascites, diarrhea, temporary jaundice, splenic and liver enlargement, cyanosis and involvement of the respiration. Microscopic examination of the liver showed a pronounced cirrhosis, mostly of the multilobular type, though in places also monolobular. As an infant he had been given whisky in teaspoon doses for bronchitis, and having acquired a taste for it had never afterward been refused his "little drop" when the parents were thus "refreshing themselves (and this seems to have been a not infrequent proceeding)." Medical literature records only about one hundred and thirty cases of this disease in children.

Derivation of Sugar from Albumin.—P. Mayer has succeeded in deriving a sugar (a hexose, $C_6H_{12}O_6$) from the yolk of egg. Its osazone is levorotatory; fuses at 203 degrees; does not dissolve in cold absolute alcohol nor in hot water; crystallizes in needles arranged in the form of sheaves, and in every respect is identic with that of glucazone. Comparing it with other sugars, all are excluded except glucose, mannose and levulose. Blumenthal and Eichholtz have derived a similar sugar from the white of egg, and Mayer considers the fact now fully established that the albumin molecule contains a hexaglucose belonging to the group of carbohydrates. It is even probable that the highly complex albumin molecule contains more than one member of the carbohydrate group, as Weiss recently derived a carbohydrate from the albumin of the white of egg, that has the characteristics of methylpentose.—*Deutsche Med. Woch.*, February 9.

Hospitals.—The Methodists of Chicago expect to replace the present Wesley Hospital with a new building to cost $200,000. Of this sum, $150,000 has already been pledged . . Trustees of Michael Reese Hospital, Chicago, have decided to expend $50,000 in improvements. This hospital is also the recipient of an automobile ambulance, the gift of five of Chicago's business men . . The new surgical ward and bacteriologic laboratory of the Boston City Hospital was opened for public inspection, February 20 . . The Senate of Utah has passed a bill providing for the erection of a hospital for the State School for the Deaf, Dumb and Blind, at Ogden, Utah, and appropriating $3500 therefor . . The Methodist Episcopal (Seney) Hospital, Baltimore, has received $5000 from the late J. J. Vernier to endow a bed in perpetuity.

Testing of Children's Strength.—A scientific investigation of the physical strength of the Chicago school children is to be undertaken by the Board of Education of this city, and the results which they obtain will be used as a standard for the treatment of pupils as to their capacity for mental endurance and physical exercise. It is thought that the results will be very important and serve to revolutionize the methods which are now in vogue. The theory of the test is to determine what is known as the "fatigue period" of a child, or that period of its life at which its energies are at the lowest ebb and, therefore, the time when its school work should not be pressed. The scheme will be put in operation at one of the largest elementary schools, in which at least 1000 children are taught. The pupils will be weighed and measured, and will be examined, for the purpose of determining their physical condition. A test will then be made of the strength and endurance powers of the muscles of the child. This will be done by the special psychologic instrument called the "ergograph," adapted for the purpose.—*Scientific American*, February 18.

Writer's Angina.—Musgrove (*Lancet*, 1899, i, No. 3934, p. 157) designates as writer's angina attacks occurring in individuals compelled to write much, rapidly and under stress, and characterized by precordial pain, with a feeling of highness and oppression about the chest and a sensation as if the heart were going to burst, followed by a number of violent pulsations. The attacks occur under the strain of writing and terminate with its cessation. The symptoms are attributed to the mental concentration, the posture and the cramping of the muscles and the state of the respiration, which, it is conceived, result in distension of the right side of the heart, increased cardiac activity and vasomotor constriction of the coronary arteries, with temporary malnutrition of the heart. The condition may lead to cardiac irritability in those otherwise healthy, and it may aggravate existing dilatation, as well as the symptoms of valvular disease. No other treatment is required than avoidance of the cause.

The Widal Reaction.—While different methods of technic have been devised for the determination of the Widal reaction, it is very generally known that the dried blood specimen is not always free from a certain element of doubt. In fact, it has been demonstrated in not a few instances to have given inaccurate results. The Widal reaction is a method which, if developed, should bring about a reaction regarding the different perplexing fevers throughout the Southern States, and to all practitioners of that section it should become of special importance. In order to be less free from error Dr. Joseph Sailer, pathologist to the St. Joseph's Hospital, recommends that the wet method be used. To get the best results he uses the Thoma-Ziess pipette to save a small amount of blood, which is afterward diluted. On adding the culture of the typhoid bacilli to a drop of this diluted blood, a positive reaction has frequently been obtained in a few seconds. As has been mentioned in a previous issue of the JOURNAL, the method has subsequently proven to give most accurate results with but few failures.

Diagnosis of Movable Kidney.—Stehman (*Am. Gyn. and Obstet. Jour.*, February) gives the following "anatomic and pathologic facts which, if kept in mind, will help one materially" in differentiation: "1. The postperitoneal position of the kidney as compared with the liver, spleen, gall-bladder, various cysts and growths within the abdominal cavity, which can be easily demonstrated by combining percussion with inflation of the bowel. 2. The reniform shape of the kidney in comparison with the characteristic shape and feel of the spleen, liver, gall-bladder, etc. 3. The immobility of the displaced kidney during inspiration and expiration as compared with the descent and ascent of the spleen and liver, and growths connected with them during respiration. 4. The pulsation of the renal artery, which, if felt at all, will always be recognized as part of the pedicle, for it must be remembered that the range of motion of the kidney is determined by the vessels, nerves, and ureter. 5. The ease with which the organ can frequently be moved from place to place, and restored to its normal position in comparison with organs or growths whose positions are fixed. 6. Tenderness on pressure and the sickening sensation which is produced by compressing the organ between the two hands."

Eversion of the Uterus.—In the *British Med. Jour.* (February 18), another case is added to those of this rare condition now on record. The main features of the labor were: 1, it was a dry labor, the rupture of the membranes occurring at the onset of the pains; and 2, the position was occipito-posterior. These two features, together with 3, the large size of the child, amply account for the undue prolongation of the labor, and for the exhausted, flabby condition of the uterus at its close. The immediate cause of the inversion is less easy to discover, as traction on the cord was not made. The adhesion of the membranes doubtless had some share in the causation of the accident. The most remarkable feature of the case was the abence of shock and of collapse more than would necessarily ttend the loss of so much blood. In commenting, the writer alls attention to the fact that only one case occurred in 190,000 t the Rotunda; Denham had 1 case in 100,000; C. Braun had o case in 259,000; Crosse, in 1847, noted that in 28 per cent. f recorded cases of inversion death occurred in a few hours, hat in 42 per cent. death followed later, and that in 7 per ent. the accident led to a fatal result more than a year after ts occurrence.

Vaccination in Great Britain.—According to the *British Med. Jour.* (February 11), resolutions have been drawn up by the ubcommittee of the Parliamentary Bills Commitiee and dopted by the Council of the British Medical Association. A opy of the resolutions has been sent to every member of Pariament. They refer to two closely related questions, a revacination bill and the conscience clause. In the closing debate n last year's Vaccination Bill in the House of Lords Lord ister indicated, and on behalf of the Government Lord Harris romised, that the Government would favorably consider a evaccination bill for the session which has now just begun. his promise is referred to in the resolution, and it is then ointed out that as a result of the operation of the conscience lause an Act for promoting revaccination is now distinctly ore necessary even than before. To all who have any faith n vaccination as a preventive of smallpox, and who have oberved the proceedings which have taken place under Section 2 f the Act of last year, the increased and increasing need for ystematic revaccination can not be obvious.

Infective Theory of Rachitis.—S. Mircoli was the first to call ttention to the presence of staphylococci and streptococci in he bone marrow of children with rhachitis, which has since een confirmed by others, and to assert that the rhachitic proess is an inflammation, the metaplastic ossification not being pecific, as it is noted also in the callus of fractures. He also onsiders the lesions of the nervous system of an inflammatory ature in this disease, and the hydrocephalus a slow inflammaory process. The child may be infected through the skin, mphatics, pharynx or alimentary canal, and the infection nce established it becomes localized at the points where the iologic activity of early childhood is most intense, that is, in he nervous and osseous systems. The intraventricular pressure nlarges the diameters of the head. A genuine cicatricial tissue noted with the microscope along the lines of ossification, hich prevents the lengthening of the bones, while the inflamatory process at the diaphysis softens them and they curve nder the weight of the body. He mentions that Glisson has oted actual epidemics of rhachitis, and that von Starck has escribed a tumefaction of the spleen and of the mesenteric lands during the evolution of this disease.—*Presse Méd.*, anuary 28.

The Initium of Obstetrics as an Art.—The first instruction [in bstetrics] given at a medical school was in the University of dinburg in 1726. A professorship was then founded, Mr. oseph Gibson being appointed to a chair. He confined his nstructions solely to the midwives. The profession of an acoucheur was esteemed very unbecoming a gentleman, and it as only in the extreme cases that his advice or aid was sought. idwifery was not recognized as belonging to the duties of a eneral practitioner. Dr. Smellie, who afterward contributed much to improve and perfect it at the commencement of his reer, united the occupation of cloth merchant and practioner of midwifery at Lanark. It was not till 1756 that instrucon was given by Thomas Young in the University of Edinbugh a class of medical students. The first record of a man-midife in the colonies is in a notice of July 22, 1745, of the death John Dupuy, M.D., a physician in New York. Dr. Atwood the first who had the hardihood to *proclaim* himself a manidwife; it was deemed a scandal to some delicate ears, and Mrs. Granny Brown, with her fees of two or three dollars was still the choice of all who thought women should be modest. . . . Toner, in his "Annals of Medical Progress," notices Dr. John Moultrie of South Carolina, as a popular obstetrician and physician who practiced between 1733 and 1773.—"History of Medicine and Medical Men in New Jersey," Dr. Stephen Wickes, 1879.

Ocular Complications of Cerebrospinal Meningitis.—The meningococcus has not yet been found in the conjunctivitis that may complicate meningitis. The lesions of the motor nerves of the eye are due to the predilection of the meningeal effusion for the base of the brain. Phenomena of excitation and paralysis in the first branch of the trigeminus may lead to neuro-paralytic keratitis, or it may be caused by a febrile herpes of the cornea. Sudden blindness may be of basal or cortical origin, the former more frequent, occasionally subsiding even after months have elapsed, and even when the pupil reaction is at times absent. If the inflammation spreads to the optic nerves it produces a double optic neuritis with total amaurosis, which may terminate in the restoration of function. This optic neuritis may be due to the presence of microbes or their toxins in the sheath. The papillitis is due to the action of toxins diffusing into the eye. Suppuration of the eye occurs from metastasis or by continuity. He has observed three cases due to metastasis: one a microbian capillary embolism in the retina; in the second a suppurative retinitis without infiltration of the sheath of the optic nerve; in the third the last stage of this affection, the amaurotic eye.—*Rev. Gen. de Path. Int.*, January 5.

Arsenic in Glycerin and Animal Fats.—Professor Langmuir read, at a session of the American Chemical Society, a paper of special interest, on the determination of arsenic in glycerin. He considers that at least traces of arsenic are to be found in all glycerin and attributes its constant presence not only to the employment of arsenic in its manufacture, with consequent contamination of the product, but thinks that arsenic is to be found naturally in the fat from which glycerin is obtained. Animals consume a certain amount of arsenic, and this is deposited in the fat of their tissues, to appear later on in products obtained therefrom. Most of the present methods of obtaining glycerin demand the use of arsenic, and Langmuir has succeeded in demonstrating the presence of the poison, even when none has been used by the manufacturers of the glycerin. The paper led to a good deal of discussion, much of which showed a strong tendency to oppose the view that arsenic was deposited in animal fat, and that the contamination of glycerin occurred in that way. Some years ago, when for a time glycerin was lauded as a specific for most constitutional troubles that involved loss of weight, the results obtained from its use in large quantities were contradictory in different parts of the medical world; so the present discussion will be welcome should it help to clear up certain doubts as to the uniformity of its composition as made by different methods. As glycerin still occupies a not unimportant place in the pharmacopeia, the subject is of no little present interest.—*Medical News*, January 14.

Wounds of Peritoneal Portion of Rectum.—Quénu adds eight to the twenty-eight collected by Weller Van Hook. Only nine out of the thirty-six recovered. Several of the wounds were made with stiff sounds introduced for irrigating purposes, Quénu's personal case among them. The nurse, against his express orders, used a stiff sound in a case of rectitis, and a perforation resulted. Pain, hemorrhage and general depression are the usual symptoms, but they may be absent. Careful investigation of the rectum with the speculum, the rectoscope, locates the wound, and after cleansing it, certainty is attained by passing a long probe through it and finding that it can be moved freely about. No time must be lost in the laparotomy that is urgent, not even to remove the patient to a hospital. An inclined plane is necessary, easily improvised. The small intestine is pushed to the umbilicus in a large hot compress, and the rest eviscerated. The perforation was evident in his case from a small subperitoneal ecchymosis. In experiences on the cadaver he much facilitated the operation by inserting an empty rubber bulb in the rectum and having it blown up, thus distending the rectum and raising it. Long and careful lavage with artificial serum at 40 degrees C., extending according to the time elapsed; double and abundant drainage; post-operative treatment; ice to the abdomen, opiates, sips of cold grog and injections of artificial serum. If there is blood in the urine the bladder must be inspected to be certain that the perforation is not double. In one case a rectovesical fistula had been produced, but it healed in a week with a permanent sound.—*Revue de Chir.*, January.

The Pituitary Body.—Collina of Bologna states that the pituitary body has a double origin, the principal part being derived from the entodermic layer, and the rest, the part that atrophies, from the ectoderm. Harmonizing with this double origin are the two kinds of cells that make up the gland: principal and chromophiles. He finds that in some of the lower animals (amphioxus, ammocetes, etc.) a bucconeuric canal exists, lined with cilia, through which the water passes that moistens the nervous system. At the outer end of this canal there is located a group of nerve-cells, which he considers represents the nerve part of the hypophysis in the superior animalism and which be interprets as an organ of sense, touch or taste. At the inner end there is a cluster of epithelial cells which may represent the entodermic portion of the true pituitary body of the superior animals, while the bucconeuric canal represents the ectodermic portion. In regard to the function of the pituitary body, he rejects any identity with the thyroid gland, and considers its function to be the production of a fluid necessary to the normal nutrition of the nervous elements. If this function is defective, rapid exhaustion of the nervous organs ensues and death follows. If it is slowly degenerating, the nerve-cells exhibit an inferior activity, and have a tendency to give way to simpler tissues, such as glia or connective tissue. By this theory he explains the origin of acromegalia. When the hypophysis becomes diseased in a chronic form in a comparatively young person, acromegalia is the result, but if it becomes acutely diseased in an adult, there is cachexia, from insufficiency of the pituitary, as has been demonstrated in cases of tumors of rapid growth.—*Gaz. degli Osp.*, January 8.

Mosquitoes and Malaria.—Ross, of the Indian Medical Service, makes a preliminary report on recent investigations he has been making as to the infection of birds by mosquitoes (*British Med. Jour.*, February 18). In part he says: Out of 28 originally healthy sparrows subjected to the bites of grey mosquitoes previously fed on diseased sparrows, 12, or 79 per cent., became infected, all with a very large number of parasites, in from five to eight days. This excludes a number of birds which died before the end of the incubation period from diarrhea and other disease to which sparrows in captivity in Calcutta are subject. Out of the 6 birds which failed to become infected after these experiments, one was subjected to a second trial, which gave a successful result. Out of 2 crows and 4 weaver birds, some of which contained halteridium though none contained proteosoma, 1 of the crows and all the weaver birds showed a copious proteosoma infection within nine or ten days of being bitten by grey mosquitoes fed previously on sparrows with the latter parasite. Out of 5 sparrows which originally contained a very few proteosoma, 4 showed a new and much more copious infection a week after being subjected to a similar experiment. The attempt to transmit the proteosoma of sparrows to mainas and some other birds failed. In all the birds in which the parasites appeared after the experiment, the invasion presented such constant and unmistakable characters that no possible room for doubt was left as to the infection being due to the mosquitoes. The blood of the birds experimented with was examined both before the experiment and on several occasions afterward. He has not been able to study the reproductive elements of the mosquito stage of human gymnosporidia; but he considers that there is no reason to suppose that they differ much from those of the proteosoma-coccidia, or that the modes of infection of human malaria are unlike those of avian malaria. The pigmented cells found in mosquitoes fed on blood containing crescents were exactly like those derived from proteosoma. (See page 503.)

Pathogenesis of Nervous Shock.—Philippen concludes from numerous experiments with curarized, morphinized and normal animals that the metabolism of the nervous system is not sufficiently important to modify the organic interchanges, and hence that nervous shock can not proceed from arrest of the nutrition of the nervous system. The nutrition of the other parts of the organism, especially of the muscles, is not completely arrested, but merely diminished, in the morbid condition called by Brown-Séquard "the arrest or syncope of interchanges." Nutrition persists, but reduced to its minimum and *perverted*. Philippen continues: "No condition is more liable to favor the evolution of an auto-intoxication than oxidations retarded to an extreme extent. The variety of the poisons thus produced accounts for the variability of the symptoms observed." . . . "The idea that the phenomena of nervous shock proceed from a vitiation of the organic chemic processes, of which the retarded interchanges noted by Roger are merely one of the manifestations, is in perfect harmony with the general trend of modern ideas in regard to the physiology of the nervous system, its pathology and the part it plays in the production of organic poisons." This theory explains also the favorable influence of intravenous injections of salt solution in most infections.—*Presse Méd.*, February 1.

Perversion of Medical Power.—At the meeting of the San Francisco Medical Society, January 10, Dr. Chas. G. Kuhlman read a paper in which he stated, from a statistic point of view, some of the disadvantages of the profession in that State. Medical power, as he understands it, means the earning capacity of the physician. There are, he says, 3000 regular physicians in California, and a fair estimate of their earning capacity would be about $5000 each per annum, but of the 1,400,000 inhabitants of that State, over 400,000 obtain all their medical treatment through non-professional corporations and organizations, to which about 200 of the profession give their services. These 200 physicians, it would appear from computation, receive about $450 per annum on an average, while the loss to the profession through their conduct is about $4,000,000 per annum, thus lowering the unit value of the profession in general from $5000 to $3400 per annum. In addition to this, however, there are all the irregular physicians, several thousand in number, who have the patronage of at least one-third of the total population of the State, thus cutting the profession's earnings in both these ways by about two-thirds, or $10,000,000 per annum, making the average practice of the regular physician amount to about $1700 per annum, and allowing for non-collectable accounts about one half, reducing it still more, or to about $850 per annum. That is to say, the earning power of the regular medical profession in California, which would under perfect normal conditions be $5000 each, has been reduced to $850, or an average of only about one-sixth its legitimate value. He went further, giving in detail the causes of these conditions and the remedies he proposes, and which are, according to his plan, a better organization of the medical profession into a distinct corporation, and which should be, to be perfect in its results, not merely local or State, but national in its character. Such an order has already been started and will be known as the Independent Order of Physicians and Surgeons. Whether this will be successful in doing away with the evils of which he complains is certainly open to question, but every member of the medical profession and legitimate practice will undoubtedly welcome every effort in this direction.

Reciprocity of Medical License.—In the Eighth Annual Report of the State Board of Medical Examiners of New Jersey (1898), the secretary, Dr. E. L. B. Godfrey, speaks as follows of international endorsement of medical licenses: "At the present time, the certificates of medical examination and license issued by the Board of Regents of the University of the State of New York, and by the Medical Councils of Pennsylvania and Delaware, are endorsed by this Board. The endorsement of the medical licenses of other States, or interstate reciprocity of medical license, affects more or less the interests of the entire medical profession, and can not, therefore, be satisfactorily adjusted until the force of intelligent professional opinion and legislative enactments clear the way for it. Interstate reciprocity requires that the standards of academic and medical education shall be substantially the same in all States; that all examinations by State boards shall be conducted on a similar basis, and that all certificates of license shall be issued under similar conditions. Until this uniformity of aim and action shall have been attained in the different States, it is impossible to secure universal reciprocity, because the endorsement by one State board of the license issued by another State board is equivalent to the declaration that their requirements are equal, and this is far from being the case in many instances. The solution of this problem largely devolves upon the National Confederation of State Examining Boards. On account of the long interval between medical examinations in this State, and the subjecting of physicians of long experience to re examination, this Board believes it due to the medical profession that interstate endorsement of medical licenses should be extended as far as the present standards will admit, and that unremitting effort should be made to bring the standards of the various State boards into substantial accord."

Sufficiency of Indictment.—The supreme court of Ohio holds, in Hale vs. State, that an indictment, drawn under the act passed Feb. 27, 1896, "to regulate the practice of medicine in the State of Ohio," which charges that the defendant, without having complied with the provisions of the act, for a fee, prescribed, directed and recommended for the use of a person named a drug, medicine and agency, put up in a paper box, on which he wrote directions, to which he signed his name, and appended thereto the letters "M.D." is not bad for duplicity. It explains that it is not unusual, in prescribing a remedy, whether it is prepared ready for use, by the physician, or is to be filled by a druggist, to accompany the prescription with directions for the use of the remedy; and when such direction is written, and signed with the usual professional designation or abbreviation of a physician appended to the signature, by a person not authorized to practice medicine, it insists, there is committed, by the same transaction, an offense against each of the provisions of the statute, and both may be charged in a single count without rendering the indictment objectionable on the ground of duplicity, because, when an offense against a criminal statute may in the same transaction, be committed in one or more several ways, as therein provided, the indictment may, in a single count, charge its commission in any or all of the ways specified, if they are not repugnant. Under such indictment there may be a conviction upon proof of a violation of either of the provisions; and such conviction or an acquittal will necessarily be a bar to any further prosecution based on that transaction. The supreme court further holds that an averment in such an indictment as that under consideration, that the defendant, at a time more than ninety days after the passage of the statute, practiced medicine in the county of his residence without having left with the probate judge of the county a certificate of the State Board of Medical registration and examination, is sufficient to show a failure to comply with the provisions of the statute, and that it is unnecessary to aver either that the defendant was not a graduate of a medical college, or that he was not a legal practitioner of medicine when the statute was enacted. And it holds that the proviso contained in Section 4403f of the Revised Statutes of 1890, which, after a definition of what shall be regarded as practicing medicine or surgery, excepts service in case of emergency, the domestic administration of family remedies, etc., is not descriptive of the offense made punishable by the first clause of Section 4403f, which provides that any person shall be guilty of a misdemeanor who practices medicine or surgery as defined in Section 4403f without having complied with the requirements of the law, and, hence, that an indictment, otherwise good, is not demurrable for want of an averment negativing the facts to which the proviso relates.

Iowa Creates a State Board of Control.—One of the most important acts of legislation in Iowa for the year 1898 pertains to the creation of a "Board of Control of State institutions." This is to consist of three electors of the State, not more than two of whom shall belong to the same political party; the regular term of office to be six years, and a salary of $3000 per annum to be paid each member, who must give an official bond for $25,000; appointments to be made by the governor and approved by a two-thirds vote of the State senate. This Board is to have full power to manage, control, and govern, subject only to the limitations contained in the act creating it, the soldiers' home, the State hospitals for the insane, the college for the blind, the school for the deaf, the institution for the feeble minded, the soldiers' orphans' home, the industrial home for the blind, the industrial school, in both departments, and the State penitentiaries; the boards of trustees and commissioners heretofore charged with the government of these institutions being abolished. It is made one of the duties of the Board, or a committee thereof, to visit and inspect, at least once in six months, the institutions named, and investigate their financial condition and management, the Board being given power to compel the attendance of witnesses, who must testify regardless of the fact that their testimony may tend to criminate them or expose them to public ignominy, though no person shall be prosecuted or subjected to any penalty for or on account of anything he may testify to. But each hospital for the insane must be visited at least once a month, and it is provided that a woman may be appointed to visit any such hospital at the direction of the Board. Discharge of the hospital employes for cause is, however, left with the superintendent. Superintendents, wardens, or other chief executive officers are appointed by the Board. Among other things, at the stated visits provided for, inspection is to be made of every part of each institution, and all the places, buildings and grounds belonging thereto, or used in connection therewith; an examination made of the general and special dietary, and, as far as circumstances may permit, every inmate of the institutions, and especially those admitted since the preceding visit, is to be seen. The Board is given power to investigate the question of insanity, or propriety of the commitment or detention of any person committed to any of the charitable institutions, to transfer patients, to collect information for, and encourage the scientific investigation by the medical staffs of methods of treatment of patients. The Board is to incorporate in its reports suggestions for legislation; and is also to investigate thoroughly the reports and doings of the regents of the State University, etc.

Echinococcus of the Liver.—Weir (*N. Y. Medical Record*, February 4, p. 149,) reports the case of a man 39 years of age, who earlier in life had been a wine-taster by occupation, and who gave a history of marked alcoholism for several years. For nearly two years he had noticed his belly growing gradually larger. Jaundice developed and lasted for three weeks. Considerable quantities of ascitic fluid were evacuated by frequent paracentesis. Twenty-five pounds had been lost in weight. The urine contained a few faintly granular casts. The areas of hepatic and splenic percussion-dulness were both increased. With the object of preventing a recurrence of the ascitic accumulation an attempt was made to establish a new venous connection between the liver and omentum and the walls of the abdomen. A four-inch vertical incision was made on the right side of the upper third of the rectus muscle, whose sheath was opened and which was itself strongly pulled to the left, the posterior sheath, with the peritoneum being then divided. Several quarts of ascitic fluid escaped, and the abdomen was thoroughly emptied by liberal use of large, sterilized gauze pads used as sponges. The enlarged liver, with its thickened capsule, extended some four inches below the ribs. The spleen was doubled in size and held by adhesions. The omentum, though quite small, was thicker than common and filled with unusually distended veins. The intestines were everywhere of a deep purplish-red hue. The antero-superior surface of the right lobe of the liver, the corresponding diaphragmatic part of the peritoneum, and the parietal peritoneum adjoining the wound were freely scraped with the sharp point of a steel hatpin, and after the resulting oozing of blood was arrested, the omentum was stitched on each side of the wound with six or eight catgut sutures, and the wound was finally closed by buried layer sutures. Before this was done, however, a small opening an inch long was made above the pubis to admit to the space behind the bladder a double perforated glass drainage-tube, which was connected subsequently with a permanent siphon attachment. Compression of the abdominal wall was effected by broad, overlapping strips of sticking plaster passing transversely, and extending from the ensiform cartilage to the site of the drainage-tube, sterile dressings having been first applied to the united wound and to the tube opening. The patient did fairly well for three or four days, but he then sank gradually and died on the fifth day after the operation. The autopsy disclosed an extensive peritonitis, most intense in the pelvis. Fine, firm, fresh adhesions had formed over the scratched surfaces. In their midst, holding the liver fast to the diaphragm, was a small amount of effused blood. The right lobe of the liver was nearly normal in size; the left lobe was much enlarged. The liver capsule was greatly thickened. The fibrin patches over the left lobe contained many micrococci in chains and scolices of the echinococcus. The liver contained a large amount of nodular fibrous tissue, and the remaining parenchyma appeared fatty. In the superior portion of the right lobe, and pushing the diaphragm upward was a cyst about nine centimeters in diameter, containing a colorless fluid in which were numerous flocculi that on examination proved to be echinococcus-scolices.

Insanity in Switzerland.—The following interesting case is given in *Consular Reports* for February, to illustrate what may befall an American citizen who may chance to visit Switzerland: A. B., born in Switzerland in 1864, emigrated to the United States in 1879. In 1898, having saved enough money to gratify his desire of visiting his birthplace, he took passage from New York, but he was robbed of his savings on the steamer and arrived in Switzerland in a destitute condition. The Swiss law proclaims "Once a Swiss citizen, always a Swiss citizen," in spite of the fact of a native's prolonged absence in another country and of his swearing allegiance to and becoming a citizen thereof, thus making a peculiar duality of citizenship. The knowledge of this law of his native country induced the man to apply for admission to a labor colony, a kind of public workhouse, in Berne. The work he was put to was hard, while the food was insufficient. His hope of getting back to the United States and his continuous harping thereon earned for him the name of a homesick melancholic, and he was sent for mental examination to a hospital. A physician, not an authority on insanity, gave a certificate declaring the man to be insane. While in the hospital and awaiting transportation to one of the insane asylums, he escaped to the consulate and asked for protection as an American citizen. At the consul's suggestion, he agreed to return to the hospital for further observation, where he was at liberty to go about as he pleased. In his conversations with the consul, no traces of insanity or hallucinations were discernible—simply a reiteration in a most natural manner of wanting to return to the United States, where he could get work to which he was accustomed. A compromise was reached and the man was sent back to this country, and probably saved from a fate worse than death. The consular report says that the insanity rate of Switzerland is very high. According to enumeration at the close of the year 1897, the inmates of the twenty State insane asylums of the Republic numbered 6164, against 5933 in 1896. The number of females predominated—3262 against 2902 males. The commitments to the asylums during the year 1897 are recorded as follows: Males, 1350; females, 1050; total 2400. Released during the year, 1247 males and 922 females; found not insane after commitment, 15. The expenditure of the State for the keeping of each person is given as about 250 francs ($48.25) per annum. There are no laws for the commitment of insane persons. No judicial proceedings, such as a trial before a competent court or expert commission, are followed; but simply the written assertion of an ordinary physician, who need not be a specialist on insanity, that in his belief the person is insane, is deemed sufficient for the seizure and confinement of such an accused person in an asylum.

Gleanings.—Klein reports a case of pubertas precox in a girl of 2½ years, fully developed breasts and external genitals, with irregular menstruation, psychically not developed beyond her years (*Deutsche Med. Woch.*, January 19) . . . Rinsing the mouth with oxygenated water will remove the discoloration of the teeth caused by mercurial treatment (*Semaine Méd.*, January 18) . . . Aneson warmly recommended by Rubinstein and Mosbacher, in place of cocain, for both Schleich and Oberst local anesthesia (*Cbl. f. Chir.*, January 17) . . Severe chorea with absolute insomnia and delirium complicating pregnancy, cured by artificial abortion. . . . Nigrisoli reported at the Italian Congress of Surgery, that he has operated on 55 hydatid cysts; liver, 26 with 5 deaths; spleen, 7; mesentery, 2; multiple in abdomen, 7; kidney, 4; pleura or lung, 3. He resects the cyst and fastens to the wall; total excision only in case of small cysts. . . . Out of 115 cases of ocular affections consecutive to relapsing fever, 19 were cases of choroiditis and 92 of iridochoroiditis; diagnosis generally favorable. . . . Baturew describes a case of complete amaurosis of both eyes, following the ingestion of four grams of quinin; slight improvement from massage and injections of strychnin. . . . Fournier states that half the children with heredosyphilis have strabismus. . . . Eclamptic amaurosis, expulsion of dead fetus, fifth month. Amaurosis persisted several days after eclampsia had subsided (*Rev. Gen. d'Ophthal.*, December 31). . . . Ingianni asserts that it is possible to make a new urethral canal that will substitute the normal canal in structure and function, composed of mucous membrane and cavernous tissue, without muscles—dogs (*Gaz. degli Osp.*, 1898, No. 127). . . . Case of Basedow's disease appearing with the menopause cured with ovarin (Delaunay, *Presse Méd.*, January 21). . . . Keloid tumor on the ear cured with 20 per cent. creosoted oil (*Ann. de Derm.*, December, 1898). . . . Several other cases noted of fetal heart action persisting half an hour to two hours after cessation of respiration (*Cbl. f. Gyn.*, 1899, 1). . . . The mortality after vaccination is still 1 in 14,000 in England, while is only 1 in 100,000 in Germany. . . . Chrobak has performed the Cesarean operation three times on one woman, a living child each time. . . . Two cases of echinococcus of the orbit (*Vienna Klin. Woch.*, February 9). . . . Two hollow calculi found in kidney of man dying from retention with hypertrophied prostate, one the size of an egg, 43 grams, the other 8 grams. Each contained a fluid resembling urine (*Cbl. f. Chir.*, February 11). . . . Two cases of acute, non-suppurating sinusitis produced by the pneumococcus with the typic effusion, cyclic evolution and pain (*Rev. de Laryng.*, xix, 33). . . . Two cases of atrophy of the optic nerve after injections of quinin. Sight was recovered in a few weeks (*Arch. de la Policlinica*, February).

Cincinnati.

Ohio Quacks.—According to the third annual report of the Ohio State Board of Medical Examination and Registration, 700 quacks are declared to have been driven out of the State. The Board has been in existence three years, and during that time has refused 369 applicants certificates to practice medicine. In addition to all this six so-called medical colleges have been closed. The trend of the Board is to endeavor to supersede as far as possible medical schools generally, in so far as examinations for entering the profession are concerned. The report further recommends that the State Board be empowered to require all applicants desiring to practice in this State, whether they are graduates of recognized medical schools or not, to submit to an examination by the said Board as to their technic and general literary knowledge. During the past year, 790 certificates were allowed graduates of medicine, 14 to legal practitioners, 1 to an examined applicant, and 12 to midwives. In addition there were 30 rejections. Sixty-five "physicians" were prosecuted for violating the medical law; of these 42 were convicted, and 14 cases are now pending.

Examination.—Competitive examination for the position of interne to the Cincinnati hospital will be held in the library of that institution from March 6 to 10 inclusive. Of the number coming up for this examination, eight will be chosen, four to go on duty April 10, four on the 10th of the following October. Any student or graduate of a regular school is eligible, provided he has attended two courses of the hospital lectures.

Detroit.

Health Report.—For the week ending February 25: Deaths 105; under 5 years, 37. Births, male 46, female 31. Contagious diseases: diphtheria, 4 cases last report, 11 new cases, 5 recovered, 3 dead and 7 now sick; scarlet fever, 26 last report, 9 new cases, 6 recovered, none dead and 29 now sick.

Proposed Legislation.—Several bills for the regulation of the practice of medicine in Michigan have been introduced into the Legislature at Lansing during the past month. The different schools have arrived at an amicable settlement of their differences and have at last decided upon one bill, which seems to be the most desirable for enactment. The bill provides for an examining board, appointed by the governor, consisting of five regulars, three homeopaths and two eclectics. No examinations in materia medica will be required of the applicant for a license to practice medicine, but all other medical and surgical subjects are included in the examination. It is confidently hoped and expected that the bill will pass and be signed by the governor.

Board of Health.—The new appointees are: Drs. J. L. Irwin and C. F. Lawson to fill the vacancies made by Dr. C. S. Morley, whose appointment was not confirmed by the Senate, and Dr. H. W. Longyear, whose term of office expires on March 1.

Washington.

Health of the District.—The report of the health officer for the week ended February 11, shows the total number of deaths to have been 126, of which 68 were white and 58 colored. Among the principal causes of death were, apoplexy, bronchitis, consumption, diphtheria, brain, heart and kidney diseases, malignant tumors, pneumonia, typhoid fever and la grippe. At the close of the week there were 98 cases of diphtheria, 122 cases of scarlet fever and 10 cases of smallpox under treatment.

Central Dispensary and Emergency Hospital.—At the meeting of the Board, held on February 10, the appointment of Dr. Frederick H. Mohart as resident physician and Dr. Jesse L. Adams as assistant resident physician, was approved. The donation day, recently held, was reported to have been very satisfactory. A good supply of clothing, dry goods, tableware, staple and fancy groceries, fruits, vegetables, canned meats, liquors, medicines, books, fancy articles and money was donated.

Enforcing the Practice Act.—Prof. A. J. Dexter was fined $50 for practicing medicine in the District of Columbia without license; the defendant claimed he did not practice medicine, that he simply used electricity. The judge, in disposing of the case, cited the law, noting its exceptions, and finding electricity not being among the exceptions, but on the contrary, being used in the common practice of medicine, held the defendant guilty. Notice of appeal to a higher court was given by the defendant, and considerable interest centers in the result.

For Prevention of Smallpox.—Health Officer Woodward and the Commissioners prepared a joint resolution which they submitted to Congress, asking for an appropriation of $50,000. Senator McMillan reported the bill in the Senate, and it was promptly adopted by both houses. It provides that $50,000 be appropriated for the proper care of smallpox patients and to prevent the spread of contagious diseases in the District, including a house-to-house inspection and such compulsory vaccination as may be deemed necessary by the health officer.

St. Elizabeth's Hospital.—Mr. Catchings has introduced a bill into the House providing that $245,000 be appropriated for a tract of ground as an addition to the property for the Government Hospital for the Insane (St. Elizabeth's), to be used for the insane soldiers and sailors of the U. S. Army and Navy. The bill directs the Secretary of the Interior to make the purchase.

Physicians Appointed.—Dr. George R. Sorrell has been appointed by the District Commissioners, resident physician of the Washington Asylum, vice Dr. Edward A. Gorman, resigned. . . . The Commissioners have increased the salary of Dr. John N. Stoutenburg, assistant medical inspector, from $2.50 to $3.00 per day. . . . Acting Asst.-Surgeon L. W. Bishop has been appointed and ordered to the hospital ship *Relief*, to serve in the Philippines.

Philadelphia.

Packard—Dr. John H. Packard, who for a long time has been on the surgical staff of St. Joseph's Hospital, has resigned, and Dr. J. Chalmers DaCosta has been appointed in his place.

Kindleberger.—Dr. Charles P. Kindleberger, assistant-surgeon, U. S. N., who had been assigned to the battleship *Olympia*, and was in the battle of Manila, has been visiting his home in this city during the past week. The Doctor was a graduate from the University of Pennsylvania, class of 1894, with high honors.

University Smoker.—The officers of the alumni of the University of Pennsylvania who officiated at the last semi-annual smoker and entertainment were: W. M. Welch, president; S. W. Latta, R. C. Norris and L. S. Clark, vice-presidents; S. W. Wadsworth and B. F. H. Stahl, secretaries; H. B. Carpenter, treasurer. The other officers are: Drs. Samuel Morton, J. M. Tyson, H. D. Adler and Jay F. Schomberg.

Hospital Celebrates Golden Jubilee.—The St. Joseph Hospital celebrated its fiftieth anniversary on February 22. Owing to the rapid growth of the Pennsylvania Hospital a meeting was held on Nov. 22, 1848, for the purpose of organizing for erecting a building similar in its purpose to this well-known institution. As a result of this meeting, a three-story building was erected on Green Hill near Seventeenth Street, fronting on Girard Avenue, which was properly prepared for the treatment of patients. On June 18, 1859, the Sisters of St. Joseph were installed in the institution and have continued to act as managers. During the past few years the additions that have been made are a laboratory building, operating room, sterilizing and anesthetizing room, together with a filtering plant which supplies water to the entire building. During the past year more than 1000 cases in excess of former years have been treated, a great number (224) of which were soldiers brought from the different army camps.

Will the Board of Health be Abolished?—According to the *Bulletin*, Mr. Osbourn, a member of the State Senate, introduced a bill abolishing the Board of Health of Philadelphia. It is stated that he introduced another bill, providing that the powers and duties now by law vested in the Board of Health of Philadelphia shall be performed by a bureau of the Department of Public Safety, to be known as the Bureau of Health, empowering the mayor to appoint a chief officer of the bureau and authorizing the mayor to organize the bureau and control the subordinate officers thereof. These bills were immediately reported favorably by the committee. It is needless to say that in a condition in which politics is the governing agent in the control of diseases rather than medicine, a queer state of affairs would ensue which would react very unfavorably upon the community at large.

Epileptics May Attend Public Schools.—At the last meeting of the Board of Health, City Solicitor Kinsey stated that it was not within the power of the Board of Health to debar children suffering from epilepsy from attending the public schools of the city, but that the Board of Education was the only body which might take such action. The Board approved a bill presented which provides that a proper penalty shall be imposed upon all who use adulterated or unwholesome milk. The present law is ineffectual. The subject of the cause of the late epidemic of typhoid fever was then introduced. It had been the generally expressed opinion that the epidemic was due to the bursting of an interrupting sewer, but Director Thompson said that after a careful examination had been made no leak was found. So far, no assignable reason has been given for the frightful number of cases of typhoid that have occurred during the past month.

Bequests.—A bequest of $5000 has been made to the Veterinary Department of the University of Pennsylvania by Mrs. Josephine Lippincott. . . By the will of John H. Mullin, the following bequests have been made: To the sisters of St. Joseph, $1000; Sisters of St. Francis, for the support of St. Mary's Hospital, $1000; Sisters of St. Francis, for the support of St. Agnes Hospital, $1000. . . The will of Elizabeth L. Devine was admitted to probate February 25. The first provision is that an annuity of $1000 be given to the Sisters of St. Joseph's Hospital during the lifetime of her adopted daughter and two nephews. The remainder of the estate is given to several church organizations and to charitable institutions as follows: To St. Mary's Hospital, Episcopal Hospital, and the German Hospital, with further provision for the residuary estate to apply to the establishment or endowment or maintenance of a training school and dispensary connected with St. Joseph's Hospital.

Mortality Statistics.—According to the report of the Board of Health, the epidemic of typhoid fever remains unabated. In fact the statistics go to prove that typhoid fever is on the increase. The principal causes of death were: Apoplexy, nephritis, cancer, tuberculosis, diabetes, heart disease, influenza, suicide.

THE PUBLIC SERVICE.

Marine-Hospital Changes.—Official List of Changes of Stations and Duties of Commissioned and Non-Commissioned Officers of the U.S. Marine-Hospital Service, for the fourteen days ended Feb. 23, 1899.

P. A. Surgeon J. J. Kinyoun, to proceed to Albany, Ga., for special temporary duty.

P. A. Surgeon C. P. Wertenbaker, to rejoin station at Wilmington, N. C.

Acting Asst.-Surgeon J. E. Brady, granted seven days' extension of leave of absence from Feb. 9, 1899.

Acting Asst.-Surgeon W. H. Gerrish, granted leave of absence for thirty days on account of sickness.

Acting Asst.-Surgeon W. J. O'Reilly, granted leave of absence for two days from Feb. 28, 1899.

Acting Asst.-Surgeon E. L. Phillips, granted leave of absence for fifteen days.

RESIGNATION.

Acting Asst.-Surgeon E. L. Phillips, resignation accepted as tendered, to take effect upon the appointment and qualification of his successor.

CHANGE OF ADDRESS.

Arthur, H. M., from Glen Dale to Alfordsville, Ind.
Aldrich, J. F., from Lenox to Murray, Iowa.
Coe, W. B., from Tonganoxic, Kas., to Cooper, Iowa.
Donohue, M. J., from Clintonville, to Antigo, Wis.
Earle, F. G., from 270 East North Av. to 91 Lincoln Av., Chicago.
Foerster, O. H., from Anniston, Ala., to 239 29th St., Milwaukee, Wis.
Frahm, M., from 288 Michigan Av. to 1709 89th Pl., Chicago.
Gamble, C. T., from Almy to Diamondville, Wyo.
Gist, V., from Roff, I. T., to Spanish Fort, Texas.
Harrison, A. C., from Talleysville, Va., to 3 W. North Av., Baltimore, Md.
Hulshizer, A. H., from 1419 E. Susquehanna to 1517 N. 15th St., Philadelphia, Pa.
Klein, M. J., from 823 Lincoln to 1002 Wellington, Chicago.
Lambert, F. E., from Alburnett to Cedar Falls, Iowa.
Layton, M. A., from Delray to Woodmere, Mich.
Lamb, D. H., from Fort Myer, Va., to Owosso, Mich.
Maher, H., from 34 W. 25 to 236 W. 44th, New York City.
McArthur, L. L., from 4247 to 4415 Drexel Boul., Chicago.
McNamara, F. W., from 278 State to 70 Madison St., Chicago.
Venn, A. E., from 270 E. North Av. to 88 Lincoln Av., Chicago.
Wooding, B. F., from Fort Monroe to 10 Brown Palace, Denver, Colo.
Williams, E. E., from 628 W. Adams to 230 S. Paulina St., Chicago.
Yoder, J. A., from Millersburg to Lucas, Ohio.
Zederbaum, A., from 1625 Court Pl. to 110 15th St., Denver Colo.

LETTERS RECEIVED.

Allen, W. H., Blodgett, Mo.; Arthur, F. M., Alfordsville, Ind.; Anderson, A. A., New York City; Ambrose, O. A., St. Louis, Mo.; Armstrong, C. G., Webster Grove, Mo.

Bradley, J. S., Madison, Wis.; Brown, M. A., Cincinnati, Ohio; Belfrage, D. M., San Francisco, Cal.; Banning, O. & M. T. Co., Ft. Wayne, Ind.; Brothers, S. (2), New York City; Bonney, D. G., Denver, Colo.; Banta, C. F., Eureka, Ill.; Bromine Iodine Chem. Co., Binghamton, N. Y.; Bassett, H. L., Philadelphia, Pa.; Babcock, T. C., Philadelphia, Pa.; Brink's Express Co., Chicago; Brunson, R., Hot Springs, Ark.; Bonwill, J. S., Philadelphia, Pa.; Barnhill, J. U., Columbus, Ohio.; Bancroft, R. G., Columbus, Ohio.

Cheek, J. M., Highgate, N. C.; Corlett, W. T., Cleveland, Ohio; Chambers, H. P., Plymouth, Mich.; Coe, W. B., Cooper, Iowa; Caton, C. W., Coshocton, Ohio; Clark, A., San Luis Potosi, Mex.; Campbell, D. P., Tomich, Colo.; Campbell, W. S., Rochester Mills, Pa.; Casselberry, W. E., Chicago; Cassady, Geo. W., Chicago; Crain, F. M., Doland, S. D.; Cordell, E. F., Baltimore, Md.

Donohue, M. J., Clintonville, Wis.; Dow Portable Electric Assistant Co., Boston, Mass,; David, E. L., Louisville, Ky.; Durham, C. E., Galveston, Texas.

Edward, A., Reedsburg, Wis.; Elliott, H. G., New York City.

Foster, Eugene (2), Augusta, Ga.; Freeman, L. D., Nashville, Tenn.; Foshay, P. M. (2), Cleveland, Ohio; Finch, R., Salisbury, Eng.

Gardner, S. E., Mt. Pleasant, Mich.; Graham, Mrs. S., Butler, Pa.; Goss, O. W., Lakeport, N. H.; Gorin, J. P., New York City; Gihon, A. L., New York City; Gist, V., Spanish Fort, Texas.

Hermann, A. L., Minneapolis, Minn.; Hamilton, C. S., Columbus, Ohio; Hill., W. H., Gentryville, Mo.; Harrison, A. C., Baltimore, Md.; Henry, A. G., North Baltimore, Ohio; Huizinga, A. G., Chicago; Hardman, S. M., Grafton, W. Va.; Hagan, A. W., Buffalo, N. Y.; Harsha, Wm. M., Chicago.

Jeffers, Geo. D., Louisville, Ky.; Jacobs, C. C., Frostburg, Md.; Juler, E. Cundell, Cincinnati, Ohio; Jastrow, Morris, Jr., Philadelphia, Pa.; Jones, L. C., Sutter Creek, Cal,; Johnson, H. L. E., Washington, D. C.; Jenkins J. F. (2), Tecumseh, Mich.

Keifer, G. F. Lafayette, Ind.; Krausgrill, D., Charleston, Ind.; Kempson, J. F. & Co., New York City; Kelly, A. O. J., Philadelphia, Pa.; King, A. F. A., Washington, D. C.; Kuhlman, C. G., San Francisco, Cal.

Loring, F. M., Artesian, S. D.; Lambert, F. E., Alburnett, Iowa; Laughlin, Jno., Rantoul, Ill.; Lautenbach, L. J. (2), Philadelphia, Pa.; Larkins, E. L. (2), Terre Haute, Ind.; Lewin, & Meyer, Detroit, Mich.; Lamb, D. H., Owosso, Mich.

Maltine Company, Brooklyn, N. Y.; Mayer, Emil, New York City; Mattice, R. I., Omaha, Neb.; Medical and Surgical Reporter, Toledo, Ohio; Mendex, Arturo, San Luis Potosi, Mex.; Miller, C. S., Brockton, Mass.; Mellins Food Co., Boston, Mass.; Morrow, A. M., Salina, Iowa; Medical Advertising Bureau, New York City; Munn, E., Minneapolis, Minn.; McIntire, C., Easton, Pa,; McArthur, L. L., Chicago.

Oppehheimer, Seymour, New York City; Overall, G. W., St. Lous, Mo.

Parker, W. T., Westboro, Mass.; Pipes, J. R., Cleveland, Ohio; Pleasant Valley Wine Co., Rheims, N. Y.; Putnam's Sons, G. P., New York City; Parrott, J. M., Kinston, N. C.; Plummer, H. E., Des Moines, Iowa.; Perry, E. F., Brighton, Mass.

Rawlins, J. A., El Paso, Texas; Raymer, A. J., Neebish, Mich.; Reed, C. A. L., Cincinnati, Ohio; Reed, G. D. (2), Topeka, Kas.; Reid, J., New York City; Reder, F., St. Louis, Mo.; Reifsnider, C. C., St. Louis, Mo.; Roger, A. E., Bloomington, Ill.; Rohr, F. W., Chicago.

Savage, G. C., Nashville, Tenn.; Sherman, J. S., Cassopolis, Mich.; Simplex Lamp Co., Brooklyn, N. Y.; Sherer, J. W., Kansas City, Mo.; Smith, Eugene, Detroit, Mich.; Smith, E. H., Santa Clara Cal.; Sloane, J. B., Detroit, Mich.; Smith-Premier Typewriter Co., Syracuse, N. Y.; Solly, S. E., Colorado Springs, Colo.; Stokes, C. K., Philadelphia, Pa.; Stout, J. C., Oakland, Cal.; Stout, J., Ottawa, Ill.; Stucky, J. A., Lexington, Ky.; Steely, E. A., Anna, Ohio.

Taylor, H. L., St. Paul, Minn.; The Dr. Koonse Co., Lafayette, Ind.; Trawick, J. D. (2), Nashville, Tenn.; Tuttle, H. H., Springfield, Ill.; Treat, E. B. & Co. (2), New York City.; Trout, E. H., Chicago; Tyree, J. S., Washington, D. C.

Upham, J. H. J., Columbus, Ohio.

Wagar, C. P., Toledo, Ohio; Ward, W. K., Washington, D. C.; Warner, W. R. & Co., Chicago; Wells, G. R., Livingston, Mont.; Wheat, J. E., Los Angeles, Cal.; White, F. T. Co., Chicago; White Rock Mineral Spring Co., Waukesha, Wis.; Wick, D. M., Cedar Falls, Iowa; Wilder, W. H., Chicago, Wingate, U. O. B., Milwaukee, Wis.; Woldert, E. A. (2), Philadelphia, Pa.; Woodard, R. C. (2), Augusta, Ga.; Wooding, B. F., Denver, Colo.; Woodruff, E.W., Columbus, Ohio; Worobrief, V., Moscow, Russia; Wright, P. S., Kent, Ohio.

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ORIGINAL ARTICLES.

CONGENITAL DEFORMITIES OF THE HANDS.

Read before the Chicago Academy of Medicine, Jan. 13, 1899.

BY FRANCIS R. SHERWOOD, M.D.
PROFESSOR OF ANATOMY IN THE COLLEGE OF PHYSICIANS AND SURGEONS; PROFESSOR OF SURGERY IN THE CHICAGO CLINICAL SCHOOL.
CHICAGO.

Anomalies of the hand are not an infrequent occurrence. The variety of the deviations from the normal are very great, from that of a double hand, as reported by Geraldes and others, or one with supernumerary digits, or cleft hand, as operated on and reported by C. N. Dowd,[1] or with suppression of digits, and so on down to congenital absence of hand. Perhaps the most frequent congenital deformity of the hand is that of supernumerary digits. The writer attended school with a family in which there were supernumerary digits of the hands and feet in both males and females in two generations. Some of the children were normal. The father of one of the families had a cleft palate without any deformity of the hands. These cases have never been recorded. Those who possess the deformities, as well as the parents, are always more or less sensitive about exposing them; consequently, no doubt, the greater number of them never reach the medical literature. Most of the supernumerary digits are removed during childhood, and many of the most unsightly defects of the hands are corrected at an early period. Many cases of congenital deformities are never known, even by the family physician, unless discovered by accident or a special examination of the part becomes necessary as a result of a diseased condition. The writer was the physician of a family for four years, and on the delivery of the first child discovered a defect of the foot. It was then learned that the same defect was present in the mother, aunt, uncle and grandfather.

A review of our present understanding of the etiology of congenital malformations.—One of the most interesting questions in connection with congenital malformations is that of their causation. In early times witchcraft, demonology and copulation with the devil or lower animals was held responsible for the causation of monstrosities and malformations. Human deformities were supposed to show the displeasure of the gods, and when occurring in animals, they were thought to portend dire calamities. Bichat was the first who recognized the true causes of malformations and placed them on a scientific foundation, when he associated them with embryogenesis. Many physicians, from whom more rational views ought to be expected, and the majority of the laity still look upon maternal impressions as the principal cause of malformations. This view is not only wrong, but it is an injury to the comfort and well-being of many mothers, who live in constant dread and fear during the period of gestation, lest they behold some hideous object which will leave its imprint on their offspring. There is not a single argument which has for its foundation a scientific basis in favor of the fact that maternal impressions or mental emotions cause birthmarks or malformations of any kind. Anomalies occur among the lower animals and in the vegetable kingdom, which have their counterpart in human deformities.

The examples of arrest in development of the organism in the lower forms of animal life are numerous. The examples of increased development are also frequent. Neither are recognized as being controlled by mental impressions. They are all recognized as having one etiology—influences governing nutrition. The more complex the organization, the greater is the tendency to deviation from the usual type. Yet, with all the complexity of the human organism, teratologists find that while some deviations occur in them more frequently than others, some malformations only occur once in many thousands of individuals.

The human hand is a wonderfully complex piece of mechanism. It is one of the most frequent seats of abnormalities. Those organs which are most closely connected with the compatibility of life, as the heart, brain and lungs, do not seem to be as frequently subject to malformations in their essential parts as other organs, which may be explained by the fact that their imperfections naturally result in early death of the organism. As far as science at present is able to understand them, the anatomic formations and physiologic relations of the mother and fetus, from the time of fecundation of the ovum with the spermatozoon and its fixation in the genital tract, are for the purposes of nutrition and its protection from external influences during the period of gestation. There are two factors which are largely responsible for structure. The first is heredity, which acts principally during intrauterine life; the second is environment, which constantly influences its future development. Anything which interferes with the normal development of the anatomic structures of a part of the fetus may produce a malformation of that part, as, for example, an imperfect arterial or nervous development. Many congenital malformations are supposed to be due to mechanic causes. There is good evidence that some cases of microbic infection in the parent may result in malformations or degeneracy in the offspring.

We have come to recognize the laws which govern the growth in one class of animals as applicable to the growth of all classes of animals. We are learning that the same laws which govern the pathology in one class of animals are also applicable to all classes of animals. Why not, therefore, recognize the laws which govern the malformations in one class of animals as applicable to all classes of animals? If we accept maternal impressions and mental emotions as the cause of malformations in the human species, what accounts for them in the lower forms of life?

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[1] Annals of Surgery, 1896.

To my mind, the most incontrovertible argument in favor of the embryogenesis of malformations is found in the following facts mentioned by Fisher: "It has been observed by eminent embryologists that the transient forms of human embryo, in the several stages of its evolution bear a striking resemblance to the persistent types of the lower order of animals; hence the human malformations which result from arrest of development often acquire the appearance of brutes, while those occurring in animals for the most part, have the forms of beings still lower in the scale, but the deviations from the normal type of a species are never so great as to destroy all semblance to it. There is a limit beyond which abnormalities never pass. In no case has a monstrosity been known in which there has been developed a part or organ not belonging to the species of animal which was the subject of the malformation; such as partly human and partly animal, beast and bird, bird and reptile." Hence, while we find deviations in all classes there is a limit to the abnormalities of each class.

Human embryology is practically in its infancy. Even now, however, great light has been thrown on many hitherto inexplicable conditions in the human body, perhaps the most strikingly so in the arrangement of the nervous system and peritoneum.

In 1893, while the demonstrator of anatomy, it was my good fortune to examine in the dissecting room an abdomen in which the fetal type of the alimentary canal was present to a very marked degree. There was no mesentery to the small intestines except the peritoneum which surrounded the trunk of the superior mesenteric artery. The ileum and cecum hung free in the abdominal cavity, covered by the peritoneum, but otherwise unattached to the abdominal wall. It was capable of being carried to any portion of the abdominal cavity. The small intestines were less than half their usual length. The descending colon and sigmoid flexure had its original mesenteric attachment to the median line of the posterior wall of the abdomen down to the rectum. The stomach retained its semi-vertical position in the abdomen. The well-known variations in the formation of the brachial plexus are not only attested by the great variety of descriptions given by different authors, but are constantly being met with in our dissection of the human subject. While they can not be classed as malformations, and while their variations do not in any way interfere with the functionation of the members supplied, they are subject to the same laws of embryologic change in formation as are those of malformations.

To fully understand the causes of deformities of the hand, it will be well to examine the causes of the more striking malformations of the body. The experimental studies of Allen Thompson, Wolff, Von Baer and Reichert on the development of monsters in the chick embryo, have demonstrated that many occur from the fecundation and abnormal development of a single Graafian follicle, and not, as many have supposed, from the fecundation and fusion of a double Graafian follicle. They found that these monsters could be produced by mechanic irritation, at least in a portion of the embryos. Charrin and Gley[2] experimented on rabbits, demonstrating that the reception of virus by the parent, bacillus or ptomains of blue pus, may result in some of the members being poorly developed, or in rudimentary organs, in degeneracy, abortion, early death, etc. The results of these experiments were not uniform. This corresponds perfectly with our knowledge concerning the influence of the virus of syphilis.

Dr. George Jackson Fisher[3] very plainly illustrates the formation of some monstrosities by cuts as follows: His Fig. 1 represents an embryo with a cleft in the cephalic extremity of the primitive trace, which accounts for the development from a single embryo of two heads on one body. Fig. 2 represents a cleft in the caudal extremity of the primitive trace, which accounts for the development of two bodies from a single embryo with one head. Fig. 3 represents two separate and distinct primitive traces on the same embryo from which a double monster may be developed, as in the case of the Siamese twins. It was observed by the above experimenters on the chick embryo that the closer the primitive traces were located to each other, the more intimate was the blending of their bodies. The deeper the dichotomy or the division of the cephalic or caudal extremities of the primitive traces, the more marked was the individual development of the heads or the lower portion of the bodies; the less marked the dichotomy, the greater was the fusion of the parts in the future process of the development.

It has been found from the dissections of monsters that the corresponding parts of the body unite with each other with the same regularity with which we find the two halves of a body uniting. Corresponding muscles, organs or bones, as well as relative portions of the head, chest or abdomen, were found united with each other. This shows that these parts are developed in unison just the same as the two halves of a body.

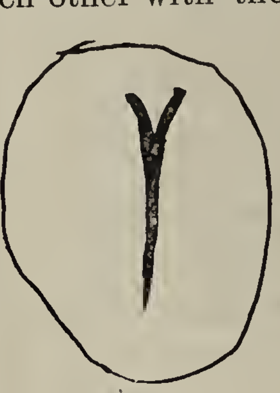
Fig. 1.

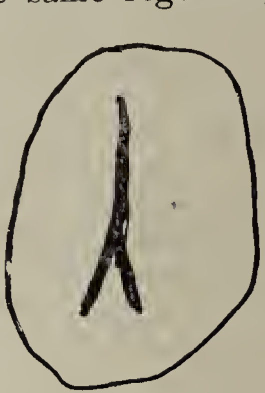
Fig. 2.

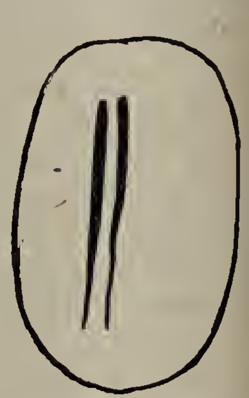
Fig. 3.

"A strong tendency exists in the animal and vegetable kingdom for parts ending in free extremities to bifurcate or dichotomize." (J. Bland Sutton.) The extremities grow from the axial part of the trunk, and if any one of them is affected by dichotomy, a double limb is developed just as in dichotomy of a portion of the body. If dichotomy only affects a portion of the distal extremity of the limb, and it extends as far back as the the carpal bones, a double hand is developed. Should it only affect one of the fingers, we get a development of a supernumerary finger. Instances of congenital deformities are not wanting where it is plain that there has been a suppression of development of some of the parts, even after normal development had progressed for some time; so that we get imperfectly formed parts, or we may have a complete suppression of development of a portion of the body from the beginning, so as to cause an entire absence of parts. "Dichotomy occurs in the limbs of many vertebrata, from the lowest to the highest, and is the chief cause of supernumerary fingers and toes."[4] In place of involving the fingers it may involve the entire hand, producing a rare deformity called cleft hand. C. N. Dowd[5] considers the causes of these deformities conjectural, but thinks them probably due to mechanic effects on the hands, of amniotic adhesions. While this might be a plausible explanation of the cleft, it does not explain the fusion of the fourth and fifth metacarpal bones which exists in Dowd's case, as shown by the X-ray. No doubt the cleft is a developmental aberration as free from mechanic causes as is the fusion of the metacarpal bones.

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[2] Kiernan, Transformation of Heredity, Lancet.

[3] Reference Handbook of the Medical Sciences.

Heredity.—Many congenital malformations are transmitted by heredity; many cases have no immediate hereditary taint. In the cases reported below the possessor of the deformity has two perfect children, and there is no trace of malformation in any of the relatives for one hundred years back; which is as far as can be traced. In Gould's "Anomalies" there is related an instance of a very numerous tribe of twenty-four-fingered people in Arabia. Marriage was confined to the tribe. So strong was their belief in hereditary transmission that an infant born with a normal number of digits was sacrificed as being the offspring of adultery. These deformities may again disappear by intermarriage with normal individuals. When a deformity is once produced by some aberration in development or pathologic influence on the embryo, it has a tendency to follow the law of nature that like produced like under the same influences.

Suppression of digits. Gould has collected a few of the cases reported: Maygrier's case of a woman with one finger on each hand, and two toes on each foot. Her two children had exactly the same deformity. Her mother was perfect, but her father had only one toe. Kohler's case of suppression and deformity. Two professional dime museum cases, one with two, and the other with one digit on each hand. This list, of course, is not complete. The occurrence of suppression is much more rare than that of supernumerary digits.

Report and presentation of a case of congenital deformity of the hands.—Fig. 4 is a reproduction of a photograph of the palmar and dorsal aspect of the right and left hands respectively, showing the appearance of the deformity.

Case.—Male, aged 36 years; resident of Chicago; weight about 130 pounds; height about 5 feet 5 inches. The hands are very useful and enable the man to do any kind of light work. There is a retardation of development of the lower half of the forearms. The styloid processes of the ulnæ are not well developed. (Figs. 5 and 6.)

There are many interesting anomalies of development in this case, but I desire to consider at this time only the deformities of the hands and in a general way the upper extremities. The muscular development of the arms is more than that of an ordinary individual. The deltoid is well developed and stands out very prominently. The humeri are of the same length—twelve inches. The left forearm is one and one-half inches shorter than the right, with incomplete extension at the elbow. The thumb and forefinger on the left hand are webbed almost to their tips, but they make quite a useful member. (Figs. 4 and 6.) The nails are separated from each other.

I reported this case in the *Chicago Clinic*, September, 1898, as a case of suppression of two digits, and development of a supernumerary thumb on each hand. I had to admit that two separate and distinct processes had taken place in the same deformity—suppression and supernumerary formation. The latter is at least of very rare occurrence, while suppression and retardation of development are of comparatively frequent occurrence. After a more careful study of this case, I am convinced that it is one of suppression and retardation of development. I gave reasons for this belief in my first report. I now regard it as being a case of suppression of the little finger on each hand, with suppression of the middle phalanx of each index finger, which resembles in appearance and performs the functions of the thumbs. There is a retardation and deformity in the development of the thumb on each hand. The arguments in favor of this view are principally anatomic.

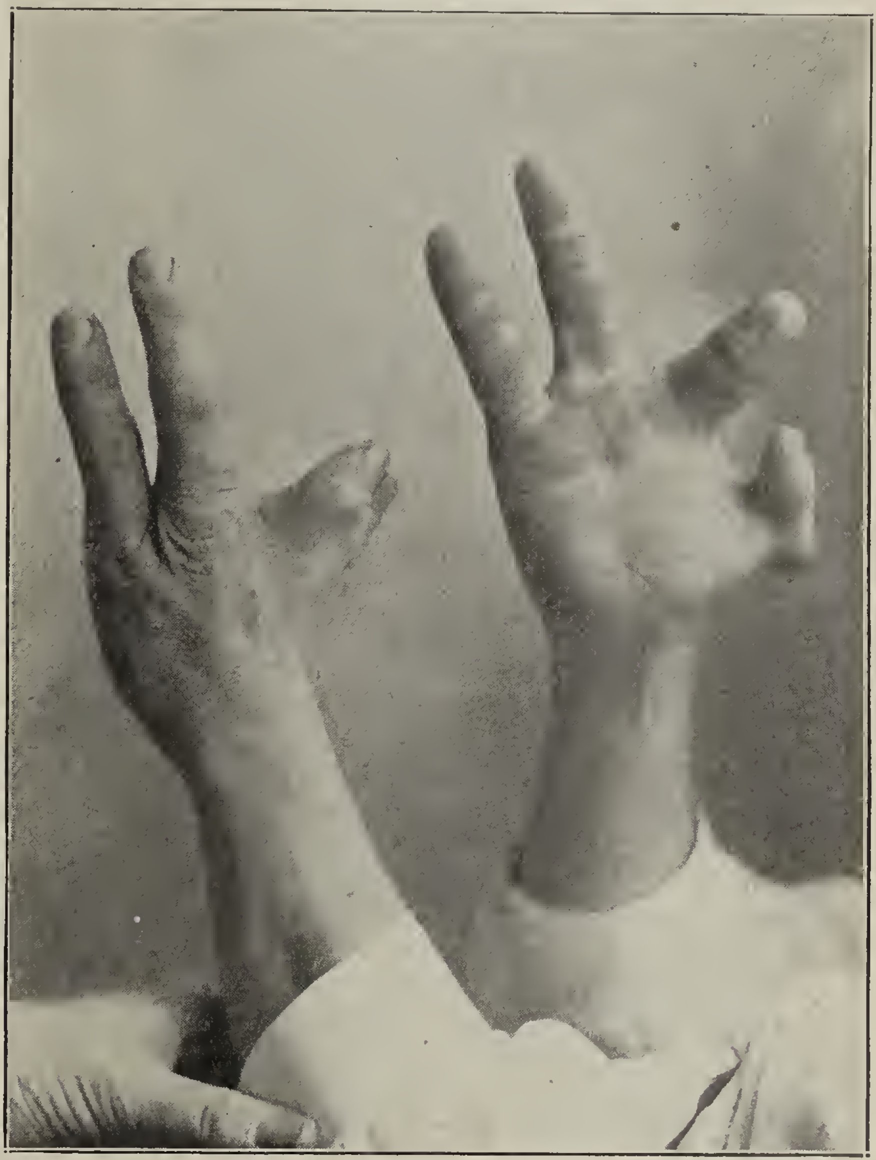

Figure 4.

A comparative study of the relations of the metacarpal and carpal bones of the deformed hands with those of the normal hand shows, by referring to X-ray Fig. 7, of the normal hand, that besides the metacarpal bones articulating with each other, we have the first metacarpal bone articulating with the trapezium. The second metacarpal articulates with three carpal bones, the trapezium, trapezoid and os magnum. The third metacarpal articulates with the os magnum alone. The fourth metacarpal articulates with the os magnum and unciform. The fifth metacarpal articulates with the unciform alone; that is, the metacarpal of the thumb articulates with one carpal, the metacarpal of the forefinger articulates with three carpals, of the middle finger with one carpal, of the ring finger with two carpals, while the metacarpal of the little finger articulates with only one carpal. The order of articulation from the thumb side is 1, 3, 1, 2, 1.

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[4] J. Bland Sutton; Evolution and Disease.

[5] Annals of Surgery, August, 1896.

By referring to X-ray of the deformed right hand (Fig. 5), it can be seen that the metacarpal of the thumb articulates with the trapezium and trapezoid, and its contiguous metacarpal, and pushes under the proximal extremity of the third metacarpal in a vain attempt to get to the os magnum, as does the second metacarpal in the normal hand; the third metacarpal articulates with the os magnum as it does in the normal hand, but in Fig. 6, as a result of the irregular mass of bone which represents the fusion of the first and second metacarpals, having a small articular junction with the fused trapezium and trapezoid, the middle metacarpal articulates with two carpals instead of one, as in the normal hand. In Fig. 5, the fourth metacarpal articulates with two carpals, the os magnum and unciform, as it does in the normal hand, while the fifth metacarpal has been entirely suppressed.

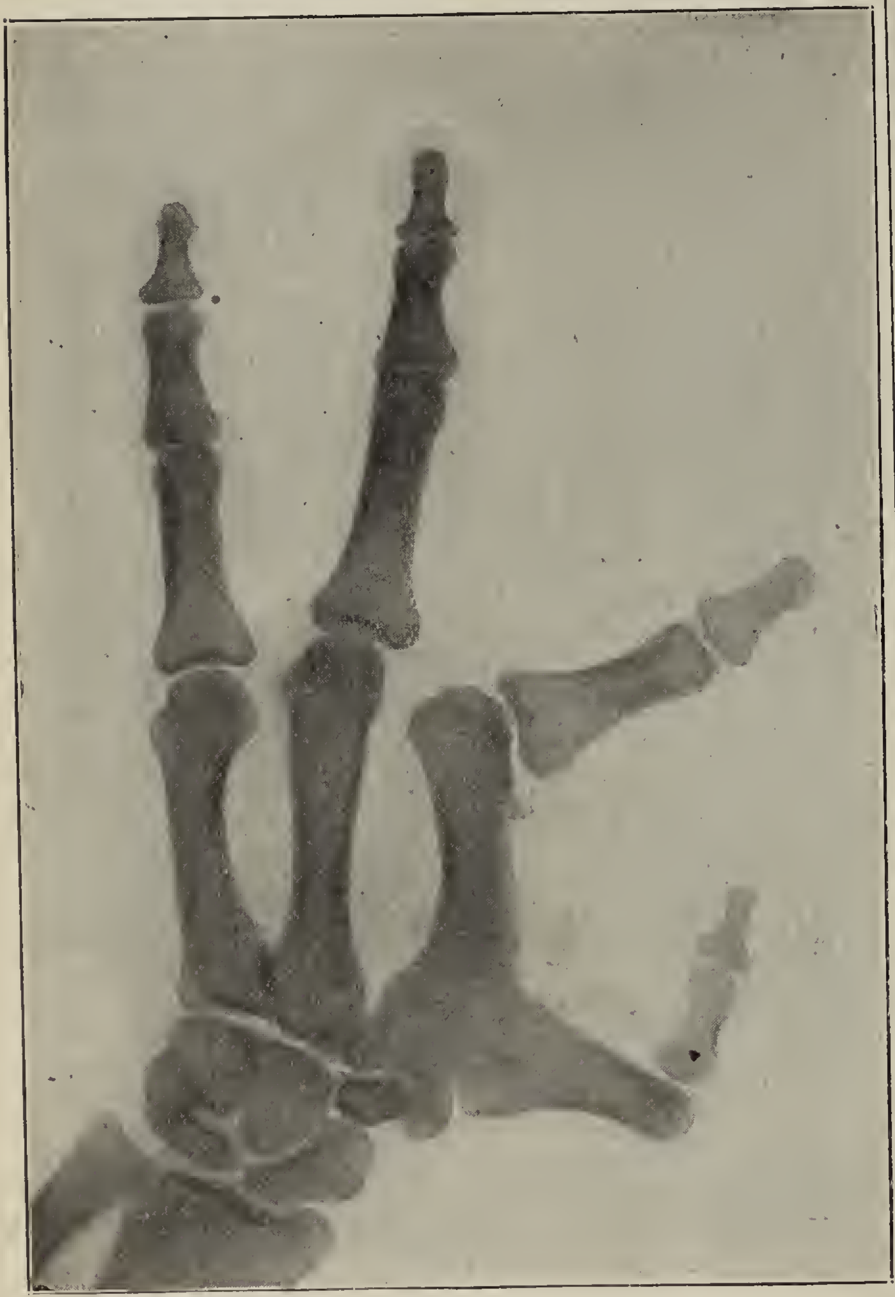

Figure 5.

The metacarpal of the middle finger of the left hand (X-ray, Fig. 6) articulates with the trapezoid and fused os magnum and unciform, while in the normal hand it articulates with the os magnum alone. The fifth finger and metacarpal are, as before stated, absent. Thus it is seen that the points of similarity between the left deformed hand and the normal are not so marked as in the right. The differences are really due to the greater deformity of the bones in the left hand. (See Figs. 5 and 6.) Imagine the development of the first and second metacarpal and the distal row of carpal bones of the left hand equal to that of the right hand, and it can readily be seen that the points of similarity to the normal hand would be as numerous as they now are in the right hand. The metacarpal of the middle finger of the left hand (X-ray, Fig. 5) is normal in size, while the os magnum is much smaller than normal, and is fused with the unciform.

In studying the carpal bones we find seven represented by the X-ray in the right, and four in the left wrist. Four carpal bones are represented in the distal row in the right wrist, and three in the proximal. All are irregular and poorly developed. In the left wrist two separate carpal bones are represented in the distal row, and two in the proximal. They present the appearance (Fig. 6) of a fused trapezium and trapezoid and fused os magnum and unciform. In the proximal row the scaphoid appears single, while the semilunar cuneiform and pisiform appear to have been fused.

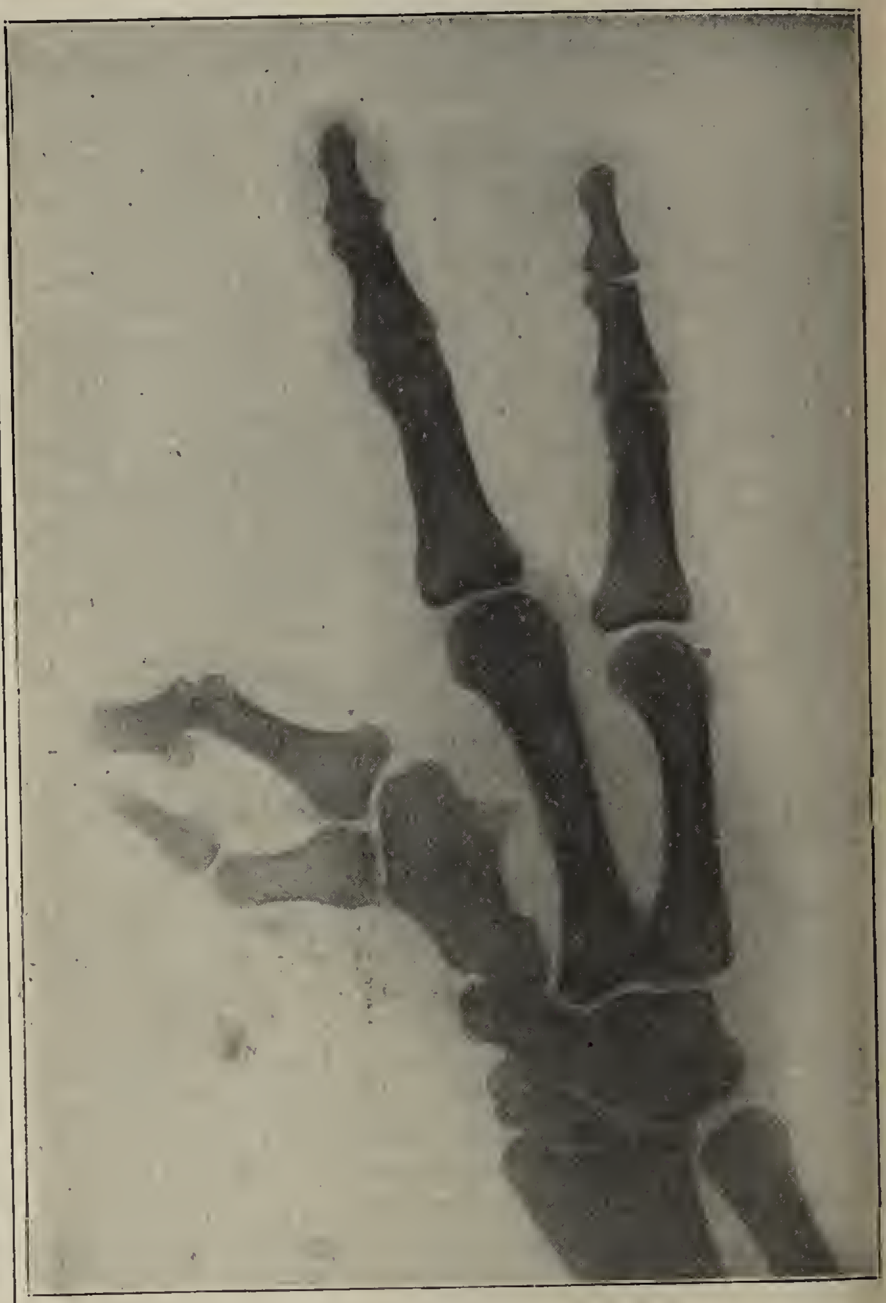

Figure 6.

In studying the comparative lengths of the metacarpal bones and phalanges of the deformed hands with those of the normal hand, the following points are worthy of note: A very prominent feature of the hands is that the third digit on each hand (Figs. 4, 5 and 6) is the longest, which corresponds in length with the third digit on the normal hand. The second metacarpal bone (X-ray, Fig. 5) is much longer than the metacarpal of the thumb should be. It has a parallel relation to the third and fourth metacarpal bones, and it articulates with the trapezium and trapezoid, as does the metacarpal of the index finger of the normal hand. The proximal and distal phalanges in this digit resemble in length and width those of the thumb. They stand almost at right angles to the other digits, due to a dislocation of long standing. In the recent state the proximal phalanx stood parallel to, and in the relative position of, the proximal phalanx of the index finger of the normal hand. Although in size it does resemble the proximal phalanx of the thumb, this might be accounted for by hypertrophy due to use, as it has always been used for a thumb. On the normal hand the distal joint of the thumb is on a line with the metacarpo-phalangeal articulations of the fingers.

There are two reasons for this being so in the normal hand. First, the metacarpal bone of the thumb is the shortest metacarpal of the hand, and its articulation with the carpals is on a proximal plane to the other metacarpo-carpal articulations. Therefore, the metacarpo-phalangeal articulation of the thumb on the normal hand comes about the middle of the shaft of the metacarpal bone of the index finger, while the distal joint of the thumb is on a line with the metacarpo-phalangeal articulations of the fingers.

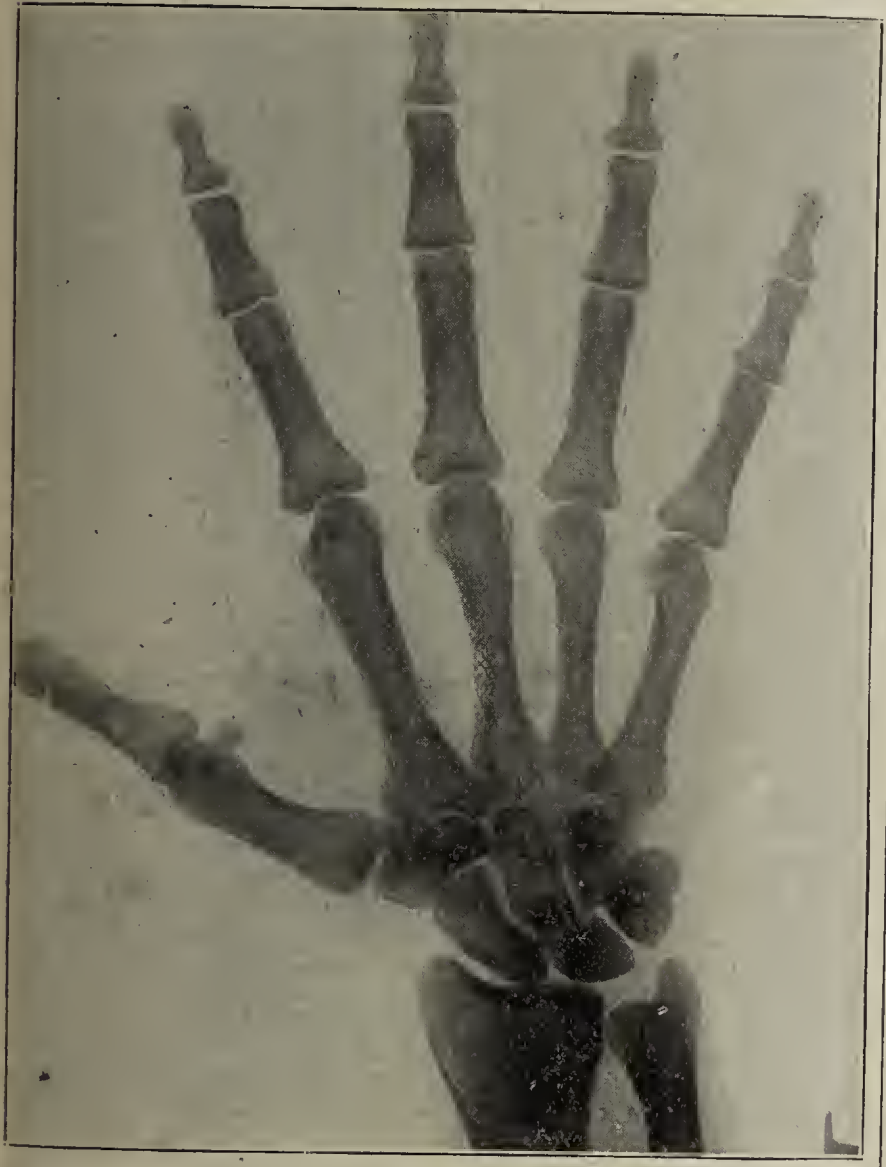

Figure 7.

The distal joint of the second digit of the right hand (Fig. 5) almost reaches the middle articulation of the fingers, as is normal for this joint. One great difficulty in classing this member as a forefinger is the fact that the middle phalanx is absent, but it is a well-known fact that complete suppression of a phalanx or section of the arm does occur by referring to X-ray, Fig. 8 (a case operated upon by Dr. Oswell, and reported in *Chicago Clinic*, 1898). It will be seen that the second phalanx of the index finger is a small irregular mass of bone. One step more in its retardation and it would be absent. There is nothing unusual in the distal phalanx of this digit, unless it be its width.

In considering the right thumb, which appears to be the supernumerary thumb, the following points are of interest: Its metacarpal bone articulates with the trapezium. Ossification has taken place between the first and second metacarpal bones, the first stands at about right angles to the second, while the phalanges stand at right angles to their metacarpals and parallel with the metacarpal bone of the index finger, a result which has been brought about no doubt by contraction of its web. The first metacarpal here of the right thumb is shorter than the second metacarpal, its articulation with the carpal bone is on a plane posterior to the other metacarpo-carpal articulations, which is the condition in the normal hand. If this thumb was straightened around in its normal position, the distal phalangeal articulation would just about reach the level of the metacarpo-phalangeal articulations.

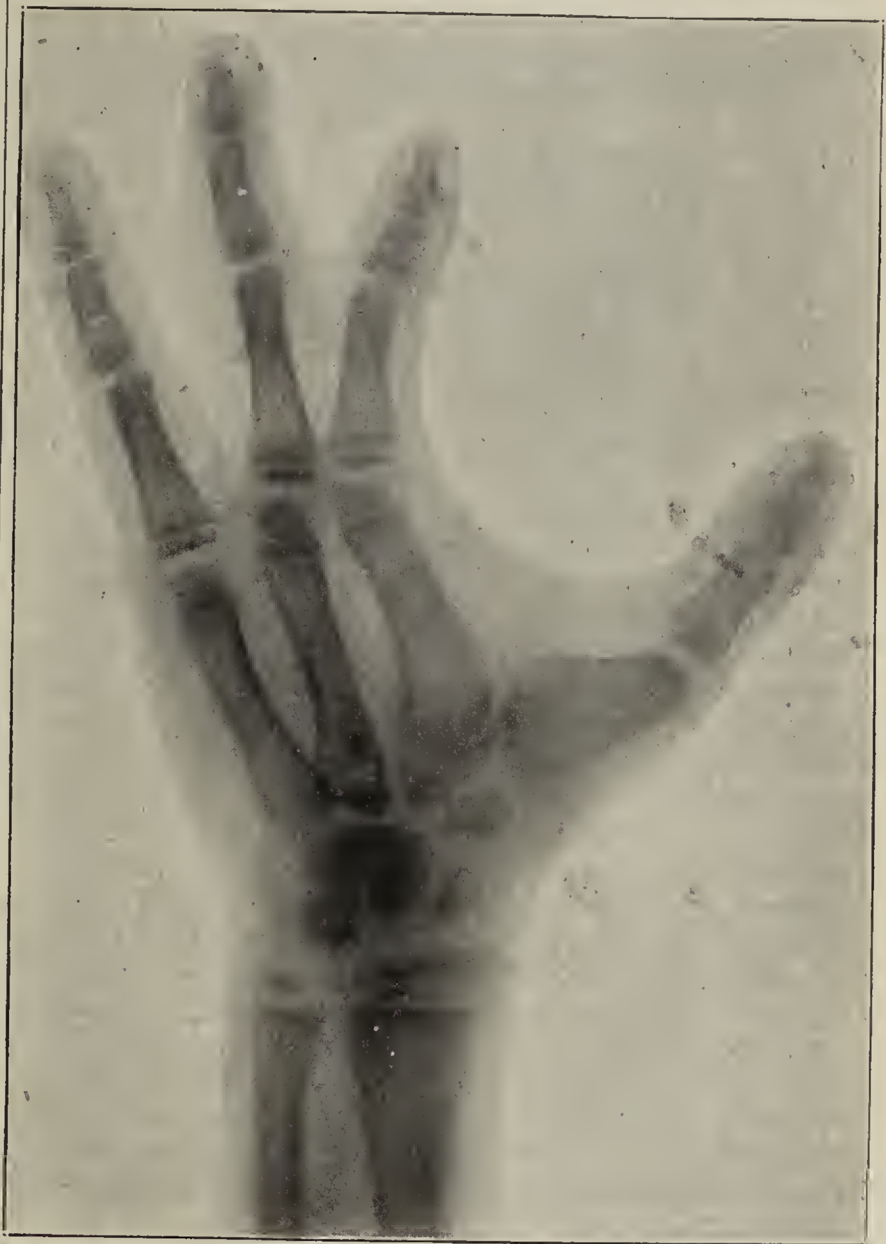

Figure 8.

In considering the left hand, the bone deformity is greater, and points of similarity to the normal hand not so numerous. (X-ray, Fig. 6.) The articular facets on the irregular mass of bone which represents the first and second metacarpals are five in number, two for the phalanges, two for the carpal, and one for the metacarpal. The facet on the radial side of the bone for articulation with the trapezium is located distal to the other metacarpo-carpal articulations, which is contrary to the condition in the normal hand, but the facet which articulates with the trapezoid side of the fused carpals is on a line with the other articulations. The distal articular facets on this mass of bone have the normal relation to each other, the outer or radial one being more proximal than the one for the index finger. The phalanges of the true thumb here are connected by a web with the phalanges of the index finger, one phalanx of which is entirely suppressed and assists in forming a very useful thumb.

To carry out the comparison: if the web were cut between the first and second row of phalanges, on straightening the second digit the distal joint would extend beyond the point which the distal joint of the normal thumb reaches, while the distal joint of the first digit would not quite reach the normal position. In the normal hand the third metacarpal bone is the longest. (Fig. 7.) In Figs. 5 and 6 it will be noted that the third metacarpal on the right hand is the longest, as is its corresponding metacarpal on the left. On the palmar aspect at the distal joint of the right thumb the folds are multiple, as can be seen by referring to Fig. 4. This is the normal condition of the first interphalangeal joints of all the fingers, while at the distal joints of the fingers, as well as at both joints of the thumb, the folds are single.

DISCUSSION.

Dr. L. Loeb—In the last eight or nine years there has been quite an extensive literature regarding the production of malformations in different classes of animals. A number of experiments have been conducted, and the main result of them is that each part of the egg is much more liable to form other organs and parts of the body than those under normal conditions, as was heretofore believed. Thus the formerly widely accepted view of His, that in the egg each part of the body must have its corresponding preformed place in the egg, holds good no longer. Experiments have shown that by separating part of the egg in different stages of development parts of the body can be formed that would not have formed under normal conditions. A part of the protoplasm of one egg or one blastomere can form whole embryos. Oscar Schultze succeeded in producing in eggs of frogs a typic dicephalus by using the influence of gravitation. The last experiment of this kind was reported by Barfurth at the last meeting of the Anatomic Society. He succeeded in duplicating the tail of the embryo of the frog by cutting it off and using a hot needle at the point of insertion. But we must distinguish these cases of duplication from those where one part of the body is wanting, or where both kinds of malformation are combined, as in Dr. Sherwood's case.

Thus far these investigations throw less light upon these malformations, although in ctenophores by taking away a part of the protoplasm or a blastomere the later stages of development of the embryo show a defect in the number of the so-called ribs. A diminution of the parts of the body might also be brought about by the coalescence of neighboring parts. In this regard I might mention the interesting results of Zur Krassen, who showed that in ascaris even two or more eggs may coalesce and one embryo may result. Another important point brought out by these researches is that external influences, such as light, gravitation, etc., can be determining causes in cases of changes in the arrangement of the body. This has been especially proven in the regeneration of lower animals.

Dr. Eugene Talbot—While Dr. Sherwood has described this case most interestingly from an anatomic standpoint, it is to be regretted that the etiologic factors have received so little attention. In dealing with these cases these last are of more interest from every standpoint. In the present case, which is an illustration of the law pointed out by Aristotle, of economy of growth, whereby certain structures profit in the struggle for existence in the body at the expense of other structures, the maternal condition would be of a special interest. While the maternal impressions have been much overestimated as to their influence on the offspring, still there is no doubt that continued nervous shocks to the mother, or even single nervous shocks, may check at certain periods the development of the embryo. This is particularly the case before the ninth week. The human hand and arm develop, as Rosenberg has pointed out, practically from a flipper condition resembling the seal, or more properly, the conditions found in animals like the ichthyosaurus. If at this period a sufficient moral shock occur, checked development in certain particulars, with its natural result, under the law of economy of growth—excessive development in other particulars—will result. Not only may moral shocks produce these conditions, but toxins and bacteria may have the same results. Charrin and Gley for five years conducted experiments exemplifying these results. In rare instances the offspring survived; more rarely still are they healthy. Certain rabbits (born of these undeveloped animals) were provided with enormous epiphyses, the diaphyses being shortened. Two rabbits were born of a couple of which the male alone received inoculations of sterilized culture. Five rabbits were born of these, two of which were normal and a third, whose ears were rudimentary, died in a few days. In the remaining two the ears comprised only fragments with jagged edges. The tails were but two centimeters long. The external orifice of the vagina (one rabbit was a male and the other a female) was oblique. One of the limbs (the hind in the male and the fore in the female) was much shorter than its fellows, the difference being four centimeters. The shortened limb ended in a kind of stump, there being no foot or toes.

Besides the hand malformations there are other interesting features in this case. From a dental standpoint it is in my experience unique. The man has three central incisors. Three or four lateral incisors are frequently found, but not three central incisors. He has arrest of development of the face. That is probably a progression. The face is growing smaller in the human race, and whenever we have this marked neurotic condition of the child, there is early arrest of development, which this patient shows now. These conditions are frequently due to a want of nutrition; the mother in carrying her child is not fed properly; she worries a great deal oftentimes, and that accounts to a great extent for so many cases of arrest of development and of tissue which is noticed.

Take a family of twelve children, as I happen to have in mind now, living in New England, leading a quiet life upon a farm, the surroundings of which are the same today as they were thirty or more years ago. Eleven of these children were normally formed; the twelfth child is markedly deformed. In this case I knew the mother was completely tired out; her nervous system was unstable; and as a result of it there was marked arrest of development in the fetus. These conditions, in this case, were produced before the sixth week of fetal life. Since there is an extra tooth in the mouth of this patient before us it shows a neurotic condition of the mother at that time. The germ commences to form at the sixth week. There was an extra one laid down. There is no question but that the other deformities date back as early as that time because the hands are not perfectly formed.

Dr. Ferguson—Have you made any experiments, Dr. Sherwood, with regard to the innervation of the digits?

Dr. Sherwood, closing the discussion—The hour is getting late, and I shall not take up a great deal of your time. With reference to the remarks made by Dr. Talbot, I agree with scarcely anything he has said, and it would consume too much time for me to give my reasons. His remarks remind me of what my old aunt once said, when talking about evolution and Darwinism. She said: "You can talk about Darwinism all you like, but you can't make me believe that I came from a hog." While Darwin was a great man and has said a great many good and true things, I am not fully in accord with his beliefs. I am not ready to accept all the doctrines of evolution. Personally I do not believe that maternal impressions ever cause deformities except as a result of nutritional disturbances, thereby arresting development of the whole or certain parts of the fetus. In the same way imperfect function of organs may result. In regard to the innervation of the digits in this case, I did not refer to it except in speaking of the causation of deformities. I mention the fact that there was imperfect nervous and vascular development in a great many cases. This may be an important factor in the cause of the deformity

THE HISTOPATHOLOGY OF HYPERTROPHIC RHINITIS IN CHILDREN.

Presented to the Section on Larnygology and Otology at the Forty-ninth Annual Meeting of the American Medical Association, held at Denver, Colo., June 7-10, 1898.

BY J. L. GOODALE, A.M., M.D.
BOSTON, MASS.

The chronic inflammations of the intranasal structures in children possess especial interest from the fact that a knowledge of their nature may be expected to furnish the key to several obscure pathologic conditions of later life. Nevertheless, our information regarding the early stages of these affections is extremely meager, and a fruitful field is still here open for investigation.

Without discussing the relation to each other of the various forms of inflammation within the nose, I present the histologic descriptions of three cases of hypertrophic rhinitis in children. As will be seen, they exhibit an essential similarity to each other in both clinical and pathologic characteristics.

Case 1.—The patient, a girl 10 years of age, was brought to the clinic for nasal obstruction of one year's duration. Examination showed a pale, poorly nourished child. The tonsils were slightly larger than normal and there was a small amount of non-obstructive adenoid tissue in the nasopharynx. Glandular enlargement was absent and there was no evidence of rachitis. The lower turbinates on both sides were enlarged and in contact with the septum. The enlargement was shown by the probe to be seated in the tissue covering the bone, the latter being unchanged in size. The consistence was about that which would be found in a normal turbinate. The surface anteriorly was smooth and rounded; posteriorly it was mammillated, particularly on the right. The color of the mucous membrane was much paler than normal. Under cocain a slight shrinking in size was noted. The middle turbinates could be seen with difficulty, but exhibited, so far as could be determined, a similar pale enlargement. There was a moderate amount of thin mucus in the nasal passages.

Histology.—A portion of the lower turbinate on the right was removed with the snare and hardened in Zenker's fluid. Under the microscope, sections show a furrowing of the mucous membrane, which varies in thickness from three or four cell layers on its exposed surface to fifteen or twenty cell layers along the side and bottom of the furrows. The cells are columnar in type and show nothing abnormal in their cytoplasm or nucleus. The epithelium lining the furrows is ciliated, while that on the exposed free surface shows no cilia. In the intercellular spaces are a few scattered polymorphonuclear neutrophiles.

Below the mucous membrane is a loose connective tissue extending to the periosteum. The transverse diameter of this connective tissue is from three to four times greater than normal. It appears as an irregular wide-meshed, exceedingly delicate fibrous network, in which are contained scattering clusters of glands, a few thin-walled, more or less tortuous, blood-vessels, here and there a large sinus, together with numbers of free lying cells. The relative proportion of these constituents, varies, as it does normally, in different parts of the sections, the free lying cells being most numerous near the mucous membrane, while the glands are more deeply situated. Furthermore, at the extreme anterior end of the turbinate the reticulum is loosest and the blood-vessels, sinuses, round cells and glands are fewest in number, while a short distance posteriorly the fibrous reticulum is more compact, and these structures are proportionately more numerous.

The free lying cells are most numerous just below the mucous membrane, but are nowhere abundant or gathered to form groups. Those nearest the endothelium of the blood-vessels have the character of the small mononuclear leucocytes of the blood. In the immediate neighborhood plasma cells are found in small numbers, together with cells intermediate in form and staining properties between small mononuclear leucocytes and plasma cells. These two types of cells with the intermediate forms are also found in fair numbers in the immediate neighborhood of the glands and are as well sparingly scattered throughout the whole of the connective tissue. Small numbers of polymorphonuclear neutrophiles occur irregularly distributed, together with a few eosinophilic polynuclear leucocytes. A relatively large number of *mastzellen* are found, most numerous near the mucous membrane. These *mastzellen* are comparatively small, with a few small granules.

The sinuses are sparingly found, chiefly in the central portions of the connective tissue. They are elongated, oval in shape, are lined with endothelium, and contain a varying amount of amorphous granular material, together with, in some cases, red and white blood-corpuscles.

The blood-vessels are few in number, tràverse the connective tissue in all directions, and possess a wall of one or two layers of endothelial cells.

The glands are of the ordinary racemose type found in this region and present no noteworthy alteration.

Case 2.—A boy, 10 years of age, pale, poorly nourished, somewhat rachitic. The adenoid and faucial tonsils are slightly enlarged; cervical glands normal. According to the parents' statement, nasal respiration had for some years been frequently interrupted. For the past six months the nose had been completely stopped. Examination showed both lower turbinates greatly enlarged, the left completely filling the nasal passage, the right nearly in contact with the septum. The appearance of the enlargement was similar to that in the preceding case, being pale, smooth, of normal consistence, and shrinking but slightly under cocain. The middle turbinates were seen with difficulty; both were moderately enlarged, and pink, the color contrasting markedly with that of the pale lower turbinates.

Histologic examination.—The mucous membrane is smooth and even, without furrows, and is composed of three to five layers of columnar cells, in which mitotic figures are numerous. The cilia are, in most places intact. A considerable number of polymorphonuclear leucocytes are seen in the intercellular spaces of the mucous membrane. Below the mucous membrane is a loose connective tissue reticulum similar to that in the preceding case. The structure is in general somewhat more compact, the glands are about as numerous, the blood-vessels are much more abundant, as are also the sinuses, while the round cells are conspicuously fewer and are scarcely, if at all, aggregated into groups.

The round cells are chiefly small mononuclear leucocytes, which are found most numerous in the immediate neighborhood of the blood-vessels, many lying in contact with the endothelium of the capillaries. Next in order of frequency are plasma cells scattered irregularly through the connective tissues. Cells intermediate between the small mononuclear leucocytes and the typic plasma cell are found in numbers. *Mastzellen* are conspicuous everywhere and are relatively more numerous than in the preceding case. The sinuses and glands present nothing especially worthy of note. The round-celled infiltration in the neighborhood of the latter is less than in the preceding case. The infiltrating cells are small mononuclear leucocytes, plasma cells, and cells intermediate between them in about equal proportion. Eosinophiles are not found.

Case 3.—A boy, 8 years of age, moderately pale, fairly well nourished, apparently not rachitic. There is moderate enlargement of pharyngeal and faucial tonsils; cervical glands normal; nasal respiration nearly absent on right side, much diminished on left; duration of condition not possible to ascertain with accuracy. Examination showed the right lower turbinate much enlarged and in contact with the septum, pale, smooth, of about normal consistence, shrinking moderately under cocain. The left lower turbinate was also enlarged and pale, though to a less marked degree. The middle turbinates were moderately enlarged, slightly paler than normal. As in the preceding cases, they were decidedly pink by contrast with pale lower turbinates.

Histologic examination.—The mucous membrane covering the lower turbinate presents in general an even outline, dipping down in but one or two places to form a shallow furrow. It is of the columnar type, varying in thickness from three to six cell-layers. Here and there a few cilia are seen in regions where the mucous membrane is thickest, but in most places cilia are absent. Numbers of mitotic figures are observable in the epithelial cells. Many polynuclear neutrophilic leucocytes lie in the intercellular spaces of the epithelium.

Below the epithelium and extending to the periosteum is a loose connective tissue, appearing as an irregular wide-meshed, exceedingly delicate fibrous network, in which are contained scattering clusters of glands, a few thin-walled or less tortuous blood-vessels, here and there a large sinus and many free round cells, largely aggregated into loose groups. The relative proportion of these constituents varies in different parts of the section. In the region corresponding to the extreme anterior end of the lower turbinate the reticulum is loosest and the blood-vessels, sinuses, round cells and glands are fewest, while posteriorly the reticulum is more compact, and the blood vessels, sinuses, round cells and glands are more abundant. The round cells are chiefly found immediately below the mucous membrane, aggregated largely into loose groups around the blood-vessels. The cells nearest the endothelium of the blood-vessels have the character of the small mononuclear leucocytes of the blood. In the neighborhood are great numbers of plasma cells, and cells intermediate in form between the leucocytes and plasma cells. There are also found irregularly scattered a considerable number of polynuclear neutrophiles and eosinophiles. A few *mastzellen* are seen here and there throughout the connective tissue.

The sinuses are elongated, oval in shape, lined with endothelium and are empty except for a varying amount of an amorphous, fine, granular substance. The blood-vessels are irrregular in course, traversing the connective tissue in all directions, and containing in addition to the red blood-corpuscles, many lymphocytes and polynuclear neutrophiles. The glands are of the ordinary racemose type found in this region and present no noteworthy change. These are surrounded by a varying number of infiltrating cells, chiefly small mononuclear leucocytes, plasma cells and cells intermediate between these forms.

THE PATHOLOGY OF EPIDEMIC CEREBROSPINAL MENINGITIS.

Read before the Chicago Pathological Society, Feb. 13, 1899.

BY DANIEL N. EISENDRATH, A.B., M.D.
ATTENDING PATHOLOGIST ST. LUKE'S AND MICHAEL REESE HOSPITALS.
CHICAGO.

In 1887 Professor Weichselbaum[1] found a peculiar diplococcus which he called diplococcus intracellularis, in six cases of cerebrospinal meningitis, whose clinical histories corresponded exactly to that of the epidemic type of this disease, and not at all to that caused by the pneumococcus. He described these cocci as being particularly found within the cells of the exudate, always occurring in the form of a diplococcus with the opposite sides flattened. It grew best at body temperature, not well on blood or potato.

Considerable confusion existed until 1895, when Jäger[2] published his observations in the cases of ten soldiers dying of the epidemic form of the disease. During this period, up to the time of Jäger's article, a number of articles appeared claiming that either all forms of meningitis were caused by the pneumococcus, and that this was but a localization of the general infection with this germ, or that it was caused by a variety of the pneumococcus. Jäger completely corroborated the work of Weichselbaum, namely, that in the epidemic form the meningococcus, as it is called, is constantly found, and that it has nothing in common with the pneumococcus. In addition to its structural characteristics described by Weichselbaum, Jäger found that it has a fairly visible capsule, grew best on glycerin agar, can be more easily cultivated than the pneumococcus, and unlike the latter, has no effect when injected subcutaneously into animals. When injected into peritoneal or pleural cavities, death occurred in forty-eight hours.

Heubner[3] describes ten cases in which he found the meningococcus during life, confirmed its presence in five by autopsy, and obtained pure cultures of the organisms. He experimented upon animals, using the reversed lumbar puncture method, i. e., injecting pure cultures or fluid from cases into the spinal canal of two goats—which he had found to be the most susceptible animal. In one goat death occurred in one and a half days. The autopsy showed a hemorrhagic spinal meningitis. The exudate contained many meningococci confirmed by cultures. The organism was also found in the kidney and liver. A second goat was injected twice with cultures from a mild case, without result, but when some fluid, which had been taken by lumbar puncture from a severe case of the disease, was used, the animal died in twenty-four hours. The autopsy showed a turbidity of the spinal meninges and an acute hydrocephalus. The presence of meningococci was proven by stained specimens and cultures. This resistance of most animals to the meningococcus compared to the ease with which they are killed by the pneumococcus corresponds to the clinical observations of the greater mortality of sporadic or pneumococci meningitis—89 per cent. as compared to 50 to 39 per cent. in the case of meningococcus meningitis.

Peterson,[4] during an epidemic in Berlin, found the meningococcus in twenty-three out of twenty-six cases by lumbar puncture.

Kister[5] found it in pure cultures in the fluid obtained by puncture in two cases of cerebrospinal meningitis, and studied it bacteriologically. The chie differences which he found were that with Nicolle' modification of Gram's method it retained the stai if the re-agent was allowed to act a short time, bu became decolorized if permitted to act for some time He could not obtain a growth on glycerin-agar.

Urban[6] succeeded in obtaining the meningococcu in pure culture in five cases of the epidemic form o the disease. He obtained an abundant growth in gel atin and on potato.

Councilman, Mallory and Wright,[7] in an exhausti research during an epidemic of meningitis in Bosto collected 111 cases. In thirty-five of the cases i which postmortems were held, the meningococci wer found either in cultures or on microscopic examina tion of the exudate or of the tissues in all but fou cases. Of these latter, in one it had been found b lumbar puncture; in a second, there was a mixed i fection with tuberculosis; two others were chron cases. As a rule, the organisms were obtained in cu tures more easily when made in the acute than in th chronic cases. Blood serum was found the be medium; very feeble growths on agar were obtaine The organism was always found in the bodies of t polynuclear leucocytes, but never within the nucle It was never found outside of the meninges or brai Mixed infections were not uncommon. The pneum coccus was found seven times, and once Friedlande bacillus. Typic meningitis in a goat was produc by inoculating directly into the spinal canal. T animal died within twelve hours, and at autopsy slight fibrinopurulent exudate was found in the me inges of both brain and cord. The average durati of the acute cases in human beings was six and a h days, while twenty-eight and a half days can be co sidered an average of the chronic cases. They fou the most marked lesions at the base of the bra They were purulent infiltration of the pia arachno especially around the blood-vessels. There was ne as much fibrin as in pneumococcus meningitis. the brain itself there was an increase of the neurog cells of the cortex, and infiltration along the seco sixth and eighth cranial nerves. A similar chan existed in the spinal nerves and ganglia. The maj ity of the lung complications were due to the pn mococci, although in one case a thrombus compo of leucocytes filled with meningococci was found.

Hektoen[8] found the diplococcus intracellularis pure culture in a case of Dr. J. B. Herrick's dur an epidemic of the disease. The organism grew on glycerin-agar and blood serum in the typic man

Kamen[9] studied the organism in a typic c both in the fluid obtained by lumbar puncture rom the exudate obtained at autopsy. A study of he growth of the organism on different media and ipon animals coincides with that of Jäger, especially hat at times the organism occurs in the form of a treptococcus. It grows in anaërobic media slowly. The following table well shows the results of various uthors in the study of the organism:

	Weichselbaum.	Jäger.	Kister.	Urban.
Ior- hology	Biscuit form like gonococci . . .	Biscuit form like gonococci. . . .	Biscuit form like gonococci. . . .	Coffee bean form like gonococci.
roup-ing in c'lt'res	Diplococci, at times tetrads. . .	Diplococci, tetrads, at times a streptococcus arrangement....	Same as Jäger . .	Same as Jäger,
elati'n to cell.	Intracellul'r	Same..	Same..	Same .
taini'g	Easy.	Same..	Same..	Same.
elati'n to Gram.	Decolorizes..	In fresh preparations or from pure cultures remains stained — in section decolorizes..	If Nicolle's modified Gram used remains stained.	Stained.
rowth on, a, elatin.	None	Only at 23° C. . .	None	Slowly.
, Bouillon. .	None	Moderately	Good..	With formation of acid.
, Potato	None	. . . .	None	Grows well at incubat'r temperat're
, Blood serum.	Sparingly.. .	. . . .	Good..	Sparingly.
, Agar.	Abundant. .	Abundant.	. . . .	Abundant.
, Glyc. agar .	Abundant. .	Abundant.	None	Abundant.
, Milk .	. . . .	. . . .	None	With slight formati'n of acid with'ut coagulation
, Blood serum agar..	None	. . . .	. . . .	. . . .
ction on animals...				
, S'bcuaneous	None	None	None	None.
, Intrapleural	Fibrino purulent pleuritis and peritonitis..	Same..	Same..	Same.
, Intraperitoneal				
, Subdural.	Fibrino purulent meningitis. . .	. . . .	. . . .	None.

The case which I have studied and from which the pecimens shown this evening were obtained, occurred n the service of Dr. A. R. Edwards, at St. Luke's Iospital. It was a woman, 67 years of age, with typic ymptoms of cerebrospinal meningitis, who died a ew days after admission. At the autopsy, upon exmination of the brain, the longitudinal sinus was ound filled with a firm thrombus detached with diffiulty from the wall. The pia arachnoid of the conexity of the cerebrum, especially over the frontal nd parietal lobes, was filled with a thick gelatinous ellowish exudate, especially marked along the bloodessels and filling the sulci. Many of the pial vessels vere thrombosed. Over the superior surface of the erebellum this exudate was again well marked. The pinal pia arachnoid showed a similar infiltration long its posterior surface, mostly in the lumbar reion and cauda equina. The ventricles were empty. he examination of the other organs showed that here was no pulmonary infiltration. The heart, orta and kidneys showed changes. The exudate was xamined, and the characteristic organism found in rge numbers in the interior of the polynuclear leuocytes, arranged as diplococci, resembling to perfecon the gonococcus, in being biscuit-shaped, i.e , with pposite sides flattened. There were no tetrads. hese were best seen when the specimen was stained ith Loeffler's methylene blue. Inoculations upon rdinary and glycerin-agar, gelatin, human blood rum, milk, potatoes, glucose-agar and bouillon were made. A typic growth was obtained upon all of these media. On potatoes the growth was well-marked at the end of forty-eight hours in the form of a greyish-white growth. It grew best on glycerin-agar, and upon some human blood serum which had been obtained by venesection. Cover-slips made from all these cultures showed the typic diplococci, which did not stain by Gram, but stained by all of the ordinary stains, especially by carbol-fuchsin and thionin. Tetrads were frequently observed, and at times the strepococcic arrangement observed by Jäger and Kamen but denied by Councilman. It has been easy to reinoculate the organism, especially in glycerin-agar and blood serum, thus showing a marked difference from the pneumococcus. Stained sections of the brain and spinal cord show a marked infiltration of the pia arachnoid, with polynuclear leucocytes, in many of which the meningococcus is seen filling the cells. Many of the smaller vessels are thrombosed, and the exudate is especially marked around them. In the cerebral cortex one sees no increase of neuroglia cells or degeneration of ganglion cells, as observed by Councilman. The spinal meninges show the same changes as the cerebral. Animal experiments on white mice, when the cultures were injected intraperitoneally (for this portion of the work I am indebted to Dr. J. L. Miller), resulted in producing a fibrinopurulent peritonitis in which the meningococci were found in pure culture.

Cultures were made at the autopsy from the heart's blood, liver, spleen, and kidney. In the three first-named the cultures remained sterile; those from the kidney showed a pure growth of the meningococcus. In reviewing the bacteriology in general of all forms of meningitis, a table of 174 cases collected by Wolf is of great interest. He found in the 174 cases, diplococcus pneumoniæ, 44.25 per cent.; diplococcus intracellularis, 34.48 per cent.; staphylococcus pyogenes, 3.45 per cent.; streptococcus pyogenes, 8.05 per cent.; bacillus pneumoniæ Friedlander, 1.15 per cent.; bacillus typhi, 2.87 per cent.; other bacteria, coli, mallei, 2.87 per cent.

This shows that the meningococcus is almost as great a factor in the production of meningitis as the pneumococcus, which up to a few years was believed to be the chief organism. The fact that the meningococcus is found in the fluid from a lumbar puncture stamps the case at once as one of the epidemic type of the disease, and renders the prognosis as shown above far more favorable than infection with pneumococci. It greatly resembles the gonococcus in its form and its action on animals, affecting serous membranes only when they are inoculated with it. It can easily be distinguished from the gonococcus by culture-test.

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103 State Street.

Division of Motor Nerves in Laparotomies.—P. Assmy calls attention to the neurotic atrophy of the muscles caused by division of the motor nerves during extramedian laparotomies, which, he asserts, is the cause of hernia later.—*Munich Med. Woch.*, January 31.

ETIOLOGY OF ALOPECIA PREMATURA.

Presented to the Section on Cutaneous Medicine and Surgery at the Forty-ninth Annual Meeting of the American Medical Association, held at Denver, Colo., June 7-10, 1898.

BY J. M. BLAINE, M.D.

Professor of Dermatology and Venereal Diseases, Gross Medical College; Dermatologist to St. Anthony's Hospital.

DENVER, COLO.

In a paper on alopecia prematura, read before the Colorado State Medical Society three years ago, I referred incidentally to what I believed to be the true cause of hair falling in young men. I desire in this paper to confine myself to the causes alone, and will attempt to show that in most cases the long-accepted theories as to causation are incorrect, and that, in the vast majority of instances, the only hypothesis that will bear the searchlight of investigation is the one that I shall here set forth.

In symptomatic alopecia prematura the causes are various, but easily found. If falling of hair be associated with any visible disease of the scalp or hair, it may safely be regarded as a sequence of the graver disease, and not per se, the disease itself. The variety of alopecia prematura about which we have heretofore known nothing as to its etiology, except conjecture, is the idiopathic, or where the hair falls without any visible cause.

In searching the literature of the subject I find most authors give heredity as the cause, and in fact, many are content to mention this alone and do not recognize the many other causes spoken of by various writers. To my mind heredity is charged with many offenses of which it is not guilty. I can easily understand how one may contract a specific disease and then transmit it in its various manifestations to countless generations, but where is the microscopic germ or taint that exerts itself on the male members of the family and allows the females to retain their "crowning glory"?

I am met here by the statement that acquired habits may be transmitted. Dr. Brown-Sequard asserts that in guinea-pigs the effects of operations are inherited, and it is well known that we have succeeded in breeding a race of tailless dogs, but the cases are hardly parallel, inasmuch as the young man does not inherit his father's bald head, but instead a good supply of healthy hair, which he loses after a few years through carelessness. Trace the genealogy of a bald head back through a few centuries and it will be found that the progenitors of our race had hair in abundance.

Darwin, in his chapter on sexual selections, says: "Many characters which there is every reason to believe were primarily gained through sexual selections, by one sex alone, have been transferred to both sexes." He also says, in speaking of the hairy family of Siam, that the king had to bribe a man to marry the first hairy woman of the family, and that she transmitted this character to her young offspring of both sexes. If then, alopecia prematura is due to heredity why does it not exercise its influence on females as well as males? I regard heredity, therefore, as the continued practice of bad hygiene rather than the transmission of any peculiar taint.

The fact that baldness is more common among men than women is accounted for by some on the ground that women have more fat, and pay more attention to dressing the hair. This theory would not explain baldness in fat men or in fastidious men who devote all their energies to the care of the falling hair.

Stiff hats are charged by many as a potential cause of alopecia prematura. Here is another fallacy, for a stiff hat on a regulation head causes no pressure on the point which marks the line of the external carotid artery in its passage to supply the scalp.

The frequent cutting of the hair is another cause often mentioned. This is contradicted by Rohé, who says: "Soldiers, who cut their hair close and often, are not more subject to baldness than others," and also says that "a close-fitting cap should be a protection rather than an injury to the hair."

Kaposi says: "In idiopathic prematura alopecia the baldness occurs without demonstrable disease of the hair, the follicle or the cutis." Were he to assign a cause, he would doubtless locate it some distance from the effect.

Many authors mention violent grief, mental labor and anxiety as producing baldness, and Jamieson explains this by saying that "the nerves of the scalp are in direct connection with those supplying the dura mater and pia mater, and that cerebral congestion will reflexly interfere with hair growth." Here is a theory that deserves some consideration and no doubt is responsible for some cases of baldness, but would only apply to brain workers or persons suffering from mental distress.

In this paper I wish, if possible, to establish the intimate relation existing between the hair on the scalp and the beard on the face, a point which seems to have been overlooked by the men who have furnished us with the excellent text-books on dermatology.

Hardaway, in speaking of prematura alopecia, says: "the hairs of the beard generally retain their pristine vigor," while Jackson, in his work on "Hair and Scalp," says, "the beard in all forms of baldness is rarely affected, a luxuriant beard being very often associated with a more or less bald head."

Whether man is the result of a long series of evolutions from a lower type of animal life, or whether he began his career on the banks of the Euphrates as a finished product matters not at this time. The point that can not be disputed is that Nature gave man a covering for his head, and so long as man remained in touch with Nature, so long has he retained the natural covering thus supplied him. The bald head can only be found among enlightened nations, and it must therefore be caused by following the arts and customs of civilization. As opposed t this condition, we find among all uncivilized nation and tribes that there is no such thing as idiopathi alopecia prematura. It is also a fact that some o these nations are beardless, others have but scan beards, while a few are noted for their wealth o beards; but it is also to be noted that the last-name allow their beards to grow unmolested. We ar brought then, to the conclusion, that, in most case idiopathic alopecia prematura is caused by the to frequent use of the razor on the face.

It is a fact so well known as scarcely to need repet tion here, that the frequent use of the razor stimulat the growth of the beard to its utmost limit, wherea if it is allowed to grow unmolested, the growt becomes less and less each week, until at the end six months or a year the growth is practically impe ceptible. The constant drain necessary to supp this rapid growth must necessarily cause a weakne in some other part, and the region which most natu ally suffers is the scalp. Again, the act of shavi acts as a counterirritant, causing hyperemia of the face, which detracts from the nourishment of the scalp, just the same as a blister over a nerve-trunk will relieve an eczema or a zoster affecting the terminal filaments of that nerve.

The facial artery branches off from the external carotid, opposite the angle of the lower jaw, while the main artery finally bifurcates into the anterior and posterior temporal, which supply the entire scalp as far back as the occiput, or in other words the part which usually becomes bald. The nerve-supply of the occipito-frontalis muscle is obtained from the facial nerve, hence nothing in the human economy could be brought into more intimate sympathy than the blood and nerve supply of the face and scalp.

If the theory of Jamieson as to the congestion of the dura and pia mater being a cause of baldness were correct, why would not one expect to find brain workers suffering from alopecia of the face as well as of the scalp?

The period of life at which idiopathic alopecia prematura occurs is usually between the ages of 25 and 35 years. In order, then, to maintain the natural equipoise between the hair and beard, every man should allow his beard to grow during that period. I am tempted to assert that if all men allowed their beards to grow during this period there would be no baldness prior to the senile period, except an occasional case of alopecia areata. Lest my assertion might sound too strong, I will modify it and say there would be no idiopathic alopecia prematura, and yet having made the concession, I am still constrained to believe that in symptomatic premature alopecia, the disease which produces the baldness is very frequently brought about by deficient nourishment of the scalp and, therefore, might be also traced to the use of the razor.

Having thus attempted to establish my argument on theoretic grounds, I will cite a few clinical facts which I think can not be disputed.

I have never seen nor heard of an authentic case of idiopathic alopecia prematura occurring on the head of a woman. They may clip or friz their hair, wear stiff hats, do brain work, and have any amount of mental worry, but when a case of alopecia does occur, it is either of the senile or symptomatic variety. Having no beard, they do not need to shave, hence their hair receives its natural nourishment.

The Indians of North America are probably as good a type of a beardless race as we can find. I have personally seen and examined at least twenty different tribes or families of Indians, and have never seen among them either a beard or a bald head. Dr. Holder, who was for many years physician to the Crow Indians in Montana, says: "Bald heads are unknown, even though syphilis with its attendant alopecia prevails. Peculiarities of the hair are to be noted, its absence on the bodies, its scarcity on the genitals, its scant growth on men's faces, its luxuriant growth on the heads."

Many of the tribes inhabiting the islands of the Pacific Ocean are beardless, and the same conditions obtain here as with the Indians—no beards, no bald heads.

The Chinese represent a type known as semi-beardless, and since a religious significance has been attached to the queue, no orthodox Chinaman has ever applied for admission to the pearly gates minus his necessary passport.

The original inhabitants of the island of Formosa were, on the other extreme, noted for their luxuriant beards, but as these were never cut or shaved, but grew naturally, their hair also grew luxuriantly.

I do not wish to be understood as saying that shaving will produce baldness in every individual. The hair of some men will survive any abuse, but what I do say is that were there no shaving, there would be little or no baldness. Any one wishing to prove this theory will find on inquiry that, with possibly a few exceptions, every man who has suffered from idiopathic alopecia prematura, has used the razor during the hair-falling period. Lastly, as a crucial test to this theory, I have not observed a single case where I have succeeded in persuading the patient to stop shaving, but what resulted in arresting the retrograde process. It must be understood, however, that this will not reproduce hair after the damage is done, but should be resorted to while the disease is still in the acute stage.

CARDIAC RHEUMATISM.

A Continuation of the Discussion of Acute Articular Rheumatism before the Chicago Society of Internal Medicine, Feb. 23, 1899.

BY JOSEPH M. PATTON, M.D.
CHICAGO.

The cardiac manifestations of acute rheumatism which may be grouped under the term "rheumatic carditis" are the most frequent and dangerous of rheumatic manifestations. While this is true of all periods of life, it especially applies to children and early life, particularly that period preceding the fifteenth year. I do not propose to enter into a discussion of all the phases of cardiac rheumatism, but rather to direct attention to a few points of special interest in connection with rheumatic lesions of the pericardium, myocardium and endocardium.

Endocarditis.—Considering these structures with reference to the frequency of their involvement in acute rheumatism, we find that endocarditis is much more frequently associated with acute rheumatism than is any other cardiac lesion. We think, however, that a close study of the clinical history and morbid anatomy of this subject will show that endocarditis has been credited, in this connection, with much that does not belong to it. It is very difficult to determine the value of statistics in reference to the frequency of the association of endocarditis with acute rheumatism. We have one set of cases in which the endocarditis can be directly connected with a specific attack of rheumatism, and in which the effect on the heart soon becomes apparent. In the other class of cases, and perhaps they are the most numerous, the immediate occurrence of the endocarditis is not appreciated, and it passes diagnosis until its effects, separated, perhaps, from its inception by the remoteness of years, lead to a diagnosis of endocarditis, styled rheumatic, in the absence of other apparent etiologic relations. This class constitutes the majority of patients affected with cardiac rheumatism which are observed in the out-department of our clinics, and a careful inquiry often fails to elicit anything further than a history of "growing pains," tonsillitis, or chorea indicative of previous rheumatic conditions.

In this connection the possibility of the occurrence of functional systolic murmurs in connection with the anemia incident to acute rheumatic attacks must be taken into consideration. That they do occur can not be denied, though they have been considered as organic by many. Senator considered functional murmurs as frequent in acute rheumatism, while Leube thinks they are rare. Trousseau thought their occurrence possible. Their diagnosis is not always easy, and it is sometimes only by the subsequent course or by the effect of treatment that we arrive at a positive opinion. Perhaps their mesosystolic character, as described by Sansom, may be the chief distinguishing feature. Certainly not many of us can apply to our satisfaction the elaborate and ingenious theories of Potain in connection with the differential diagnosis of organic, anorganic and functional murmurs.

According to Bamberger, 20 per cent. of the cases of acute rheumatism are complicated by endocarditis. The Bellevue Hospital Reports give 33 per cent. Sibson's analysis of 325 cases gives about 33 per cent. in which there was endocarditis alone, and in about 25 per cent. combined endocarditis and pericarditis. Wunderlich gives 9 per cent. The mean percentage, as given by various observers, is from 20 to 30 per cent. In children the incidence of endocarditis in connection with rheumatism has been estimated at from 50 to 80 per cent. Endocarditis most often occurs during the primary attack of rheumatism. In 115 fatal cases given by Poynton the attack was primary in nearly one-third. Sibson's belief that there is a direct relation between the severity of the attack of rheumatism and the frequency of complicated endocarditis is not supported by other observers. In children, certainly, the relation is not constant. Verrucose endocarditis is the rule, ulcerative forms being comparatively rare.

The physical signs of endocarditis usually appear within the first ten days of the beginning of the rheumatism. This is certainly true of the severe cases, and in the milder types we can not be sure that endocardial inflammation has not existed for some time before the signs become apparent. In adults the appearance of signs of endocarditis more frequently coincides with the onset of joint symptoms than in children, though even in the latter the evidences of endocarditis may antedate the appearance of arthritis. Acute polyarticular rheumatism is the form most frequently associated with endocarditis, though the latter may be associated with rheumatism of single joints, or even with chronic forms of rheumatism. The almost exclusive left-sided location of this form of endocarditis, as well as the great frequency of its mitral localization, is well known. In 150 cases analyzed by Poynton, the mitral valves were affected in all but one; marked stenosis was present in 9 cases, and marked regurgitation in 11 cases. In this series of cases the aortic valve was affected in 34 per cent., but in all of these it was comparatively slight except in 9 cases.

Statistics thus substantiate what is so often observed in practice, that the immediate effect on the heart of many of these cases of endocarditis is more severe than the extent of the valvular lesion, as judged by the character of the murmur, or by the postmortem appearances of the affected part, would seem to explain. In this connection, I may refer to the views already presented to this society relative to the etiology of rheumatism, with the view of emphasizing the point that the endocarditis is not really a sequel or complication of the rheumatic affection, but is a component part, and, perhaps, the principal manifestation of the rheumatic disease in a particular case, and is due to the effect on the endocardium of a microbic process, or of the toxins resulting from infection and circulating in the blood. This standpoint places the valvular lesion and its mechanic results where in the great majority of instances it belongs—a matter for the future—and emphasizes what is of vastly greater importance in the acute stages of these cases, i. e., the condition of the heart muscle. An abstract of a recent case of acute rheumatic endocarditis may serve to illustrate these points:

A boy, 11 years old, previous health good, was taken sick during the third week of November, 1898, with fever, disturbed cardiac action, slight swelling and pain in the ankle-joints. It was thought by his physician that he had, at first, an irregular form of typhoid fever. I saw him on Jan. 5, 1898. At this time there was no pain or swelling in any of the joints. There was some distress in the cardiac region, and the heart's action was irregular in force. The temperature was 100.5 F. The area of cardiac impulse was enlarged, the apex impulse diffuse and forcible, the apex-beat was in the sixth interspace just outside the mamillary line. The left border of dulness, at the level of the fourth rib, was just outside the mamillary line; the right border of dulness, at the same level, was midway between the right sternal border and the right parasternal line. There was a short systolic murmur at the base, and a well-marked mitral regurgitant murmur with an extension area of transmission toward the back. Postmortem three weeks later showed a greatly enlarged heart. All the cavities were enlarged. There was hypertrophic dilatation of both ventricles, the left much more than the right. The aortic and mitral valves showed a moderate degree of thickening, and it was evident that the mitral regurgitation was due to the stretching of the orifice more than to the valvulitis. The heart muscle was soft and friable. There was a small amount of exudation on the pericardial surface at the base of the heart.

In this case it appeared that neither the endocarditis nor the pericarditis was severe enough to cause sufficient myocarditis to result in such extensive dilatation, nor were the valvular conditions of sufficient importance to mechanically produce such a condition in so short a time. We must, therefore, refer it to a toxemia of the heart muscle.

Of the more remote effects of rheumatic valvular endocarditis, as exhibited in the various phases of chronic valvular diseases and their effects, it is not necessary to speak. They are, unfortunately, matters of daily observation to every physician. It may be remarked, however, that in many cases of mitral regurgitation there exists a considerable enlargement of the left ventricle which is usually attributed to the effect on the left ventricle of the heightened pressure in the left auricle, but which, in greater or less part, may be due to the effect on the heart muscle of rheumatic infection.

Pericarditis.—Rheumatism is the most frequent cause of pericarditis. According to Bamberger's statistics, 30 per cent. of the cases are due to rheumatism. In one hundred cases in the Boston City Hospital, analyzed by Sears, rheumatism was an etiologic factor in fifty-one cases. As a cardiac manifestation of rheumatism, pericarditis is much less frequent than is endocarditis, the latter being three times as frequent, according to Sibson. In many of the cases of pericarditis, endocarditis will also be present. This is particularly true in children, and the statement of Sturges that "the rheumatic heart inflammation of children when pericardial is always endocardial as well, and when endocardial is extremely likely, with the recurrence of rheumatism, to involve the pericardium also," may be taken as fairly expressing the relation.

Rheumatic pericarditis is more common in children than was formerly supposed. In over 50 per cent. of Poynton's cases there was severe pericarditis. In one hundred fatal cases of heart disease in children noted by Sturges, 54 were rheumatic, 46 due to other causes, and evidences of pericarditis were present in all but 6 cases. Men are much more frequently affected with rheumatic pericarditis than women. Sibson concludes that the relation of cause and effect is the same in both sexes, and that young persons subjected to laborious indoor employment are much more likely to suffer from pericarditis, when attacked by rheumatism, than are persons of mature life under the same circumstances.

There appears to be no constant relation between first attacks of rheumatism, the severity of the attack, or the number of joints affected and the liability to pericardial inflammation. Pericarditis may antedate the occurrence of joint manifestations, appear coincidently with them, or may be deferred for two or three weeks. According to Balfour, most cases occur within the first week of the rheumatism. In recurring attacks of rheumatism, pericarditis may appear with the second or third attack. In all the cases of pericarditis without endocarditis which I have seen associated with rheumatism in children, the pericardial inflammation has appeared during the first ten days of the primary attack of rheumatism. In three cases of combined endocarditis and pericarditis associated with rheumatism in children, the pericardial involvement has occurred subsequent to the primary attack of rheumatism. This conforms with the statement of Sturges already mentioned. In several cases of rheumatic pericarditis in adults there was in each a previous history of rheumatism.

It is claimed by some observers that excessive heart's action due to rheumatic conditions may be responsible for the induction of pericarditis. This is not in accord with clinical experience, nor with the present views as to the etiology of rheumatic pericarditis, though it is not unlikely that pericardial inflammation may be intensified by such heart action.

The prognostic importance of pericarditis may be inferred from Poynton's statistics, in which pericardial adhesion was present in 75 of 150 fatal cases of heart disease. In looking for the cause of the fatality of acute rheumatic pericarditis it does not appear to be constantly related to the extent of the pericardial exudation. Many fatal cases show but a moderate amount of exudate, and frequently adhesions are not fully organized, though Osler considers the first factor of prognostic importance to be extensive adhesions between the epicardium, pericardium, and external tissues of the pleura and mediastinum. Undoubtedly this is true when such conditions exist, but frequently they do not in cases which run a rapidly fatal course. As far as effusion is concerned, extensive effusion is comparatively rare in rheumatic pericarditis. To admit the truth of Sibson's statement that it is in rheumatic pericarditis that large and rapidly accumulating effusions occur, does not necessarily imply dissent from the opinion of Broadbent that a considerable amount of effusion in rheumatic pericarditis is the exception rather than the rule. In Poynton's cases, already quoted, though 75 per cent. showed more or less pericarditis, in but 25 per cent. was there any effusion, and in but six cases was the amount more than three ounces. Roberts says that "pericardial effusion, however abundant, has no direct influence upon the structure of the muscular tissue of the heart."

Myocardial changes.—That marked changes occur in the cardiac muscle in many cases of rheumatic carditis is generally admitted. The pathology of these changes is somewhat hazy, and like myocardial degenerations and inflammations in general, is involved in pathologic difference of opinion. Infiltration of the muscular tissue of the heart with softening and granular degeneration of the fibers is generally described as resulting from the extension of both pericardial and endocardial inflammation to the muscular structure of the heart, pericarditis giving rise to these changes more frequently than does endocarditis. A more diffuse form of myocarditis, with changes characteristic of cloudy swelling, is described as occurring in some cases of rheumatism, and usually associated with endocarditis or pericarditis.

Osler says that parenchymatous myocardial degeneration is met with in connection with pericarditis, endocarditis, infections and intoxications generally. Histologically there is degeneration of the muscle fibers, which are infiltrated with granules. It is probably the effect of a toxic agent. Under the head of acute interstitial myocarditis, he says that in acute infectious diseases and in acute pericarditis the intermuscular tissue may be swollen and infiltrated with small round cells and leucocytes, and the muscular fibers undergo fatty, hyaline, and granular degeneration. Dreshfeld says that in severe cases of endocarditis the myocardium shows indurative changes which may be looked upon as due to an extension of the inflammatory process; the fibrous septa and the lymphatic spaces being chiefly involved; even the muscular fibers may show changes partly due to compression, and partly to myocarditis. Roberts says that inflammation beginning in the pericardium may extend to the muscular tissues of the heart, and, possibly, through to the endocardium. The tissue undergoes acute degeneration, generally proportionate to the extent and duration of the pericarditis. The changes are attributed to the extension of inflammation, high temperature, and toxins. Douglass Powell says that parenchymatous myocarditis is secondary to infections, fevers, febrile diseases, rheumatism, etc. Leyden regards the lesion as an acute myocarditis. These opinions are sufficient to indicate the general recognition of the occurrence in rheumatic carditis of acute muscular changes of an inflammatory or degenerative nature which can not be altogether explained on the ground of extension of the inflammation from the endocardium or pericardium, nor by the mechanic effect of pericardial exudation or effusion. They are probably due to an acute poisoning of the heart muscle. There is much need of the study of the pathology of these conditions in connection with the clinical history of the cases in which they occur, in order to clear up the obscurity which surrounds them. Many rapidly fatal cases show no greater degree of pericarditis than occurs in some which become chronic, resulting in a more or less adherent pericardium. The following case may be cited as an example:

A boy aged 9 years, with marked family history of rheumatism, in April, 1888, had acute rheumatism of the joints. At the end of the first week he developed pericarditis with a well-marked friction sound. No endocardial murmurs were heard. The heart dilated very rapidly, and the boy died rather suddenly six days after the pericardial friction was first observed. Autopsy showed the heart to be generally dilated. Exudation covered the entire surface of the heart, and on separation of the layers of the pericardial sac a typic *cor hirsutum* was observed. No effusion was present, though the dulness of percussion had extended into the fifth, right intercartilaginous space. The heart muscle was soft and flabby and would settle down over the hand when held apex up by grasping the root of the great vessels. There was slight endocarditis at the mitral valves.

In this case the pericarditis, though general, was not sufficiently advanced to mechanically result in dilatation of the heart, nor was it, apparently, severe enough to cause so rapidly fatal a result.

Cardiac dilatation.—The chief clinical manifestation of these muscular changes is cardiac dilatation. That this dilatation does not always depend on the muscular weakness incident to pericardial or endocardial inflammation is apparent from the fact that it occurs in cases where these conditions are very slight or even absent. It becomes, then, a question of interest in rheumatic conditions as to what extent the heart muscle may suffer from toxemic weakness, without exhibiting evidences of endocardial or pericardial inflammation, in connection with acute rheumatism. How far may toxic conditions of the muscle be responsible for the dilatation present in many cases? The answer waits upon a more definite knowledge of the pathology of the heart muscle in connection with rheumatic infections. Admitting that we may have such a degree of rheumatic toxemia of the heart muscle as to cause dilatation of the heart without association with clinically discoverable pericardial or endocardial inflammation, the diagnosis of cardiac dilatation and its differentiation from pericardial effusion becomes doubly important.

Ordinarily, the differential diagnosis of cardiac dilatation does not present remarkable difficulties. The clinical history of the case, together with diffused impulse; the lateral extension of dulness to or beyond the left mamillary line, and to the right as well; the equal displacement to the left of cardiac dulness and cardiac impulse; the loss of tone of the first heart sound and the rise in pitch of the second sound, together with its shorter, sharper character; and the weakened pulse, will usually suffice for diagnosis. In acute rheumatic carditis, however, when dilatation has been preceded by signs of pericarditis, it may be difficult to determine between considerable dilatation and moderate pericardial effusion. Most of us have seen cases in which this difficulty has given rise to mistakes in diagnosis, and in which exploratory puncture has proved negative.

The most important physical signs in this connection are the area and character of cardiac impulse, the extent and outlines of dulness, the character of the heart sounds and pulse, and the presence or absence of certain signs which are regarded by observers as specially indicative of effusion within the pericardial sac.

In dilatation the area of impulse is diffused and displaced to the left. The apex impulse, in the absence of hypertrophy, remains practically on its former level. In children there may be prominence of the precordial area, and some lifting motion, but the sense of contact is more appreciable than it is in effusion. The apex impulse extends practically to the extreme lower left angle of dulness. In effusion the impulse is diffused and undulatory in character, and contact is not appreciable if effusion is considerable. The lowest point of apex impulse is raised and is above and inside the lowest and left lateral angle of dulness. This raised impulse is generally attributed, in most cases, to the contact of a portion of the heart near the base of the ventricles with the chest wall, the apex being pushed back by the effusion. This is not the actual apex-beat, as was supposed by Sibson. The motion is diffused from the fourth to the second interspaces in the vicinity of the left mamillary line. It is usually confined to the third or fourth spaces. In those cases where the impulse is lower than usual it may be due to cardiac enlargement, weight of considerable fluid effusion, or, according to Ewart, to a median and vertical position of the heart, with straightening of the aortic arch. West and Albutt have observed an elastic semi-fluctuating depression in the epigastrium, which they regarded as indicative of pericardial effusion.

The area of dulness is most important in this connection. Increase in the area of dulness with alteration in its outlines is common to both dilatation and pericardial effusion. In the former the outlines conform to those of the heart as modified by the partial or general nature of the dilatation. In pericardial effusion the area of dulness is generally stated as being of a pyriform shape, conforming somewhat to the shape of the pericardial sac. Shattuck disputes the existence of a pyramidal area of dulness, and while the bulk of opinion is against him, it is certainly true that in many cases the recognition of such an area of dulness depends more on inference based on anatomic facts than it does on actual demonstration.

The outline of a large effusion is described by Ewart as "that of a bag of fluid spreading out at its base." In the differential diagnosis from dilatation he emphasizes the importance of the angular nature of the outline of dulness at the right base, and, also, at the left base. To the right, pericardial fluid gives an acute angle outward, while a dilated auricle gives a curved outline ending at the xiphoid notch. This he regards as more definite than the mere presence of dulness in the right, fifth intercartilaginous space (Rotch's sign). On the left the angular nature of the outline and the extension of dulness beyond the position of the apex-beat, which may be altered little or not at all, are important.

According to Schule, dulness over the manubrium is not sufficient for the diagnosis of effusion, as edema of the mediastinal tissues may give rise to the same sign, but when this is associated with extension of dulness beyond the apex-beat and with feeble cardiac impulse, effusion may be inferred. He states that the characteristic triangular outlines of dulness—with sides extending from the jugulum to the right mamillary line, and to the left axillary line—are produced in the cadaver by the injection of 250 c.c. of fluid, while with the injection of from 700 to 800 c.c. there is very little extension toward the right, and that, in extreme degrees of distension, the dulness extends but a finger's breadth beyond the right sternal margin, the dulness having the shape of a right-angled triangle, the hypotenuse extending from the jugulum to the anterior axillary line, and the inner side corresponding to a line drawn vertically from the right sterno-clavicular articulation.

The limits of dulness may vary greatly. This variation has no interest in this connection, as extensive effusions are not so likely to be confounded with dilatation as are moderate ones. Sansom says that marked dulness extending above the third rib strongly indicates pericardial effusion. Rotch's sign of pericardial effusion (dulness in the fifth right intercartilaginous space) is supported by Ebstein, Osler, and others. Broadbent, Lees, and others say that it is of doubtful value. Gibson and Roberts think it can not be depended on. I have noted this sign in a case of general dilatation of the heart in which there was no effusion. Dilatation of the right heart will give dulness in the fifth interspace in some cases. It is doubtful if much importance should be attached to this sign independently of others, if we are unable to satisfactorily outline the dulness as described by Ewart. Ewart's "first rib sign" (raising of the left clavicle so that the upper border of the rib may be felt as far its sternal attachment) is of importance only in considerable effusions. It may also be found in some cases of great cardiac enlargement. The "posterior lower dull patch," which Ewart considers as a reliable sign, in the adult, of fluid in the pericardial sac, is a dull patch at the base of the left lung, extending from the spine outward to the line of the angle of the scapula, with an abrupt, vertical outer boundary. The dulness may extend as high as the level of the ninth or tenth rib, ending with an abrupt boundary. This sign has been corroborated by other observers. Shattuck says that he has been unable to determine any percussion changes in the back which could be connected with distension of the pericardial sac. I have been unable to outline this dull patch with any satisfaction, and it appears to be difficult to clearly connect it with pericardial effusion, unless, perhaps, in very large effusions.

The posterior patch of tubular breathing and egophony in the region of the point of the left scapula can only be confirmatory, as tubular breathing, bronchophony, or egophony are frequently obtained in this region in pleural effusion or any condition causing pressure on the lower lobe of the left lung anteriorly or laterally. Tubular breathing (mainly expiratory) in the right mamillary line, below the right mamma and just above the hepatic line, is inconstant, only exhibited in large effusions, and therefore of little value in differentiating effusion from dilatation. Change in the limits of percussion dulness with a change in the position of the patient is regarded as a valuable sign of pericardial effusion by several observers.

In conclusion, I would say that the character of the impulse, the indefinite nature of the heart sounds, the position of the palpable apex-beat above and inside the limits of dulness, and the alteration of the area of dulness with a change in the position of the patient appear to me to be the most valuable signs in differentiating between effusion and cardiac dilatation. While presenting for your consideration certain features of this subject which have appeared to me to be of special interest, I must yet plead the limitations of a paper already too long for the omission of other features which, to some of you, perhaps, are of paramount interest to those which have been considered.

Local Overexertion a Factor in Paralysis Agitans.—Krafft-Ebing confirms his assertions in regard to the importance of local overexertion as a factor, with an arteriosclerotic or neuropathic disposition, in the production of paralysis agitans (vide JOURNAL, p. 387), with two personal and several quoted observations. One of the former, a painter, was affected first in the left hand, n which he held his palette, and the other, a turner, in the eft foot, on which he stood while he worked the pedal of his athe with his right. Paralysis agitans should therefore rank with professional paresis and neuroses as an affection that may be caused by local overexertion.—*Vienna Klin. Woch.*, February 2.

RELATION OF CHOREA TO RHEUMATISM.

A Continuation of the Discussion on Acute Articular Rheumatism before the Chicago Society of Internal Medicine, Feb. 23, 1899.

BY ROBERT B. PREBLE, A.B., M.D.
CHICAGO.

The subject of the relation existing between chorea and rheumatism has been frequently discussed during the greater part of the last hundred years; but as yet no definite conclusion has been reached, and none can be reached so long as we remain in ignorance of the exact etiology and pathology of the two diseases. What the relation is we can not know as yet, but I believe that today almost all will agree that there is a relation. We must, however, carefully avoid the error of Billiet and Barthez, Joffroy, Graves and Sturges, who believe that all cases of chorea are of rheumatic origin. Starting then, with the confession that we have no facts to prove the nature of the relation, let us see what evidence there is to prove that there is a relation.

In the first place, how common is rheumatism in children? I have not been able to find much definite information upon this point. Coutts, at the East London Hospital for Children, found that 16 per cent. of 168 consecutive cases had had rheumatism. Donkin states that 18 per cent. of hospital cases taken at random are rheumatic. These statements are surprising, even when due allowance is made for the greater frequency of rheumatism in England, and are the more remarkable when we recall the statement of Senator, in "Ziemssen's System," that the morbidity of acute articular rheumatism is 11.5 per cent. for London. If we accept the astonishing figure of 11.5 per cent., a figure certainly far beyond the average for the world, we must remember that this is for all ages, and, according to the statistics of the Committee of the British Medical Society for the investigation of acute rheumatism, only 6 per cent. of rheumatics are under 10 years of age; in other words, something less than 1 per cent. of children in general suffer from rheumatism. I fully realize that this method of calculation is crude and liable to many errors, but I believe the result is not far from average experience. Sée states that in 11,500 cases admitted to the Children's Hospital in Paris, 48 had simple rheumatism, and 61 rheumatism combined with chorea, i. e.; less than 1 per cent. were rheumatic, and more than half of the rheumatics had chorea.

Next, what proportion of cases of chorea have had rheumatism? The statistics vary widely, ranging from those of Hughes and Brown, who found only 15 of 104 cases of chorea without a distinct rheumatic history, to those of Steiner, who found only 4 cases of rheumatism in 252 cases of chorea. Sturges admits that 42, i. e., 20 per cent., of his 219 cases of chorea had had rheumatism; Donkin that 28, i. e., 27 per cent., of 104 cases were rheumatic. Both these authors place the frequency of rheumatism in children at from 15 to 18 per cent.

I have added the statistics of Hughes, Brown, Sée, West, Ziemssen, Steiner, Ogle, Koch, Mackenzie, Sturges and Donkin, making in all 1838 cases of chorea, with 381 cases of rheumatism, i. e., 20.16 per cent. Other authors, Henoch, for example, state that one-third of the cases of chorea are related to rheumatism. If our first conclusion, that 1 per cent. of children in general suffer from rheumatism, is correct, we must assume that chorea and rheumatism have some relation, when we find that 20 per cent. of choreic children have had rheumatism.

It would be interesting to know what percentage of rheumatics subsequently develop chorea, but there are not, so far as I know, any statistics bearing upon this point. Meyer, Rufz, Sée and Osnann state that about 0.66 per cent. of the cases treated by them have chorea. We may add to this the definite statement of Sée that he found 43 cases of simple rheumatism to 61 cases of rheumatism combined with chorea.

In 1893 Lewis presented a careful report upon the seasonal relation of chorea and rheumatism, based upon 1383 separate attacks of chorea and 675 separate attacks of rheumatism. His paper is illustrated with charts in which the curves for rheumatism and chorea run almost parallel, with the lowest point in November and the highest in March. This corresponds closely to the statement of Koch, who found 29 per cent. of cases in the first quarter of the year, 21 in the second, 13 in the third, and 37 in the fourth, while Wunderlich found 30 per cent. of the rheumatism in the first quarter, 23 in the second, 18 in the third, and 28 in the fourth.

Before leaving the statistics, let us consider the percentage of rheumatic and non-rheumatic choreics which present endocarditis, starting with the statement that Whipman, in 655 cases of acute articular rheumatism, found 205 cases of endocarditis, i. e., 31 per cent. In the report of the British Committee upon chorea, it is stated that 141, i. e., 32 per cent. of the 439 cases included in the report had organic heart lesions. Of these 141 cases, 71 were associated with rheumatism. Of the 116 cases of chorea which were rheumatic, 59, i. e., nearly 50 per cent., had heart disease. Different authors make widely varying statements. Pye Smith reports 11 fatal cases of chorea, all with endocarditis; Rogers 71 cases, with 47 cases of simple endocarditis, 5 of pericarditis, and 19 endopericarditis; Kaulich 62 cases, with 12 of heart disease; Koch 153 cases of chorea, with 21 valvular defects. These statistics are unsatisfactory, as they do not enable us to separate the rheumatic from the non-rheumatic cases. Donkin makes a report attending to this point. He reports 33 cases of chorea without history of rheumatism, who presented heart murmurs during the course of the chorea. In 28 of these he has notes on the condition of the heart at the time of discharge, and finds that 13, i. e., nearly 50 per cent., showed murmurs. Unfortunately, his data are not sufficient to allow us to decide how many of these murmurs were organic and how many were functional, but allowing even half of them to be functional, we have left 25 per cent. of non-rheumatic choreics to contrast with 31 per cent. of rheumatics who develop endocarditis. That is, we have two diseases which present the same complication in about the same percentage.

Let us briefly review other complications and symptoms common to rheumatism and chorea. Both diseases show a great disposition to return, one attack creating a disposition rather than an immunity. Both show erythematous and urticarial eruptions. Both occur as complications or sequelæ of a large variety of diseases, especially those characterized by inflammations of the pharynx. Both are at times complicated by local suppurative processes.

Those who deny any relation between the two diseases base their opinions mainly upon the following points: They deny that the statistics show any greater frequency of rheumatism among choriec than among other children. They draw attention to the fact that chorea occurs mostly among children, while rheumatism is far more common among the adults, who rarely have the Sydenham chorea, and that chorea is about three times as common in females as in males, while rheumatism is somewhat more common in males. Others, as Billiet and Barthez, note that in certain places, as Genf, rheumatism is very common and chorea is rare. Leube and other authors draw attention to the fact that the salicylates promptly affect rheumatism, but have no effect upon chorea, and that therefore, there can be no relation between the two. With this review of the evidence pro and con, let us see what suggestions we can find as to the nature of the relation between the two diseases.

A discussion of the relationship between rheumatism and chorea is so intimately connected with the etiology of chorea that one can not be considered independently of the other. There have been a variety of theories proposed to account for the symptoms of chorea, but we must not forget that all are theories. A historic and geographic study of these theories, if I may so express it, is interesting. Thus the embolic theory is an old one, and comes from the days of grosser pathology. The theory that chorea is a neurosis, a mysterious something based upon a degeneration or an inherited disposition, is urged by the French, who among the moderns are most fond of the mysterious. Lastly come the various modifications of the theory of infection or intoxication, which corresponds to the modern tendency to refer diseases to the direct or indirect action of micro-organisms. The embolic theory, which is urged by Ziemssen in his article on chorea, as practically the only theory, is declared by Gowers to have merely a historic interest. There can be no doubt of the fact that we see choreiform movements as symptoms of organic lesions of the brain, but it is questionable whether these cases should be classed with the Sydenham or vulgar chorea. The embolic theory for the chorea demands the presence of an endocarditis to serve as a source of emboli, but clinically many cases of chorea are not accompanied by endocarditis, and the autopsies of a certain number of fatal cases of chorea show no endocarditis. Moreover, the examination of the brain in fatal cases of chorea shows no changes which can be referred to embolism. Endocarditis is far more frequent, even in adult than in child life, yet chorea in the adult is rare. This difference in frequency can be quite satisfactorily explained in another way, but any difference between an adult and a child which predisposes the latter to cerebral embolism, must be a mechanic difference—and we know of no such difference—between the circulatory systems of adults and children. The same argument applies to the difference in the frequency of chorea in male and female children. Lastly, we may mention the pathologic facts that emboli when they occur are not often small and numerous, but are usually few and large, that they affect the kidney and spleen more often than they do the brain, that clinically chorea is not accompanied by symptoms pointing to embolism of other organs, and lastly, that the so-called malignant endocarditis, which so frequently gives rise to embolism, is rarely accompanied by chorea. I believe we may safely dismiss this theory from our minds.

The neurotic, the infectious and the intoxication theories of the origin of chorea are so interwoven that it is difficult, if not impossible, to discuss one without at the same time discussing the others. Thus we find that there are no demonstrable structural changes in the brains of patients dying with chorea; the chorea presents, then, one of the most important characteristics of the functional neuroses. Like hysteria, chorea may appear suddenly after a physical or psychic trauma in an individual previously apparently normal. Most of the cases of chorea are in the female—the sex most liable to suffer from the neuroses. There is also some evidence that children of neurotic parentage are more frequently subject to chorea. However, Koch, who attended to this point especially, found that in 80 per cent. of his cases there was no neurotic taint.

Joffroy calls chorea a cerebrospinal neurosis of development, *néurose cérébro-spinal d'évolution*, an abnormal development of the motor apparatus occupying the same relation to the nervous system which chlorosis does to the circulatory system. He considers the choreic a degenerate, in whom the malformation of the motor apparatus remains latent until some precipitating cause makes it manifest. Such precipitating cause may be an infectious disease, such as rheumatism, pneumonia or typhoid. He regards the joint changes seen in chorea as arthropathies similar to those seen with myelitis, and of undoubted spinal origin. Charcot regarded the frequent association of joint changes and chorea in the same individual or in individuals of the same family as another manifestation of the relationship between diseases of the nervous system and of the joints, to which he more than any other drew attention. I do not at all believe that Joffroy is correct in calling the joint manifestations of chorea arthropathies of spinal origin, but we must assume that there is some difference in the nervous apparatus of young girls especially, which renders them liable to chorea whenever any of the immediate exciting causes come into play.

The features common to the neurotic, infectious and intoxication theories of chorea is that the function of the nerve-cells is altered without there being any structural changes demonstrable by any known method of study; the "moving equilibrium" of the cells is disturbed, but not destroyed. We can imagine that such disturbance of the equilibrium may be excited by a wide variety of causes. For example, such disturbance may be due to physical or psychic trauma, and there can be no doubt of the clinical fact that chorea does develop so immediately after trauma that we must believe the trauma the cause. Koch found a psychic trauma stated as the immediate cause of chorea in 35 of 66 cases. Mackenzie found that in 44 of 98 cases referred to fright the chorea developed within one week.

I believe that in the majority of the cases, however, the disturbing factor is more tangible than a psychic trauma. An individual predisposed by age, sex, or other unknown causes acquires some infective process. Various toxic bodies resulting from the bacterial activity are absorbed, and, acting probably upon the cells of the motor area, excite a chorea. Here also, the changes in the cells are not structural, but are nutritional or functional. Dana, Duckworth, Marfan, Koch and others express the opinion that chorea is due to the action of toxins resulting, not from a specific infection, but from a wide variety of bacteria. It is a well-established clinical fact that chorea occurs either as a complication or sequel of a wide variety of infectious diseases—rheumatism, whooping-cough, scarlet fever, measles, smallpox, typhoid, influenza, gonorrhea and others. It is not so generally known that chorea may bear the same relation to more localized infective processes, such as otitis media, furunculosis, dental periostitis and impetigo. Marfan found in 46 cases of chorea not postrheumatic, 28 cases almost immediately following some local or general infective process. In 19 cases he could get no history of any antecedent infection or hereditary taint, but states that these cases were mostly hospital cases with incomplete histories. Marfan claims that almost 50 per cent. of cases of chorea have had rheumatism. All these diseases are of undoubted bacterial origin, some due to well-known bacteria, such as the various pus cocci, the gonococci, the typhoid and influenza bacilli, others due to unknown bacteria. It is not likely that the chorea is due to direct action of these widely varying bacteria upon the nerve-cells; for usually the effects of direct microbic action are gross enough for detection, and moreover, if the bacteria acted directly they could be easily found in the nervous tissues. I believe we are justified in assuming that widely varying bacteria produce chorea indirectly by means of toxic bodies resulting from bacterial life. The action of toxins is less specific than that of bacteria themselves, and there are numerous well-known examples of the same effect due to toxins from widely varying and perfectly specific organisms. Furthermore, these toxins are often curiously selective in their action. Multiple neuritis is the best known instance of a like effect following a wide variety of toxins. There is no acute or chronic infectious disease which does not at times give rise to multiple neuritis, and there can be no reasonable doubt that this neuritis is the result of the action of toxins formed by the bacteria causing the disease. We know also that an exactly similar affection of the nerves frequently results from the action of toxic bodies which are much more tangible than the bacterial toxins—such bodies as alcohol, lead, mercury, arsenic.

Multiple neuritis will serve also as a common example of the selective action of toxins. What can be more definite than the distribution of the action of lead. We may, therefore, assume that chorea is another example of a like effect from widely different toxic bodies, both bacterial and chemic. I may mention incidentally that chorea occurs sometimes as the effect of chronic mercurial poisoning. Why these bodies affect the nerve-cells of the motor area in certain individuals and do not do so in others is unknown to us, just as it is unknown why a typhoid fever in one case is followed by chorea and in another by neuritis. The special application of all this is that rheumatism is an example of an infectious disease due to some yet unknown bacterium, which, more than any other organism, manufactures toxins which produce chorea by action upon the cells of the motor area. There seems to me to be no necessity, as there is no evidence, for the theory that chorea is a specific infectious disease due to a definite, though yet unknown organism. We may draw the following conclusions:

1. There certainly is some relation between chorea and rheumatism.
2. Rheumatism is much more frequent in children suffering from chorea than in children in general.
3. Rheumatism excites chorea by the selective action of toxins upon the motor cells of the cortex, causing functional but not structural changes.
4. Rheumatism shares this relation to chorea with a great number of other infectious diseases.

EXCISION OF TONSILS.

Read before the Indiana State Medical Association, May, 1898.

BY W. H. PETERS, B.S., M.D.
LAFAYETTE, IND.

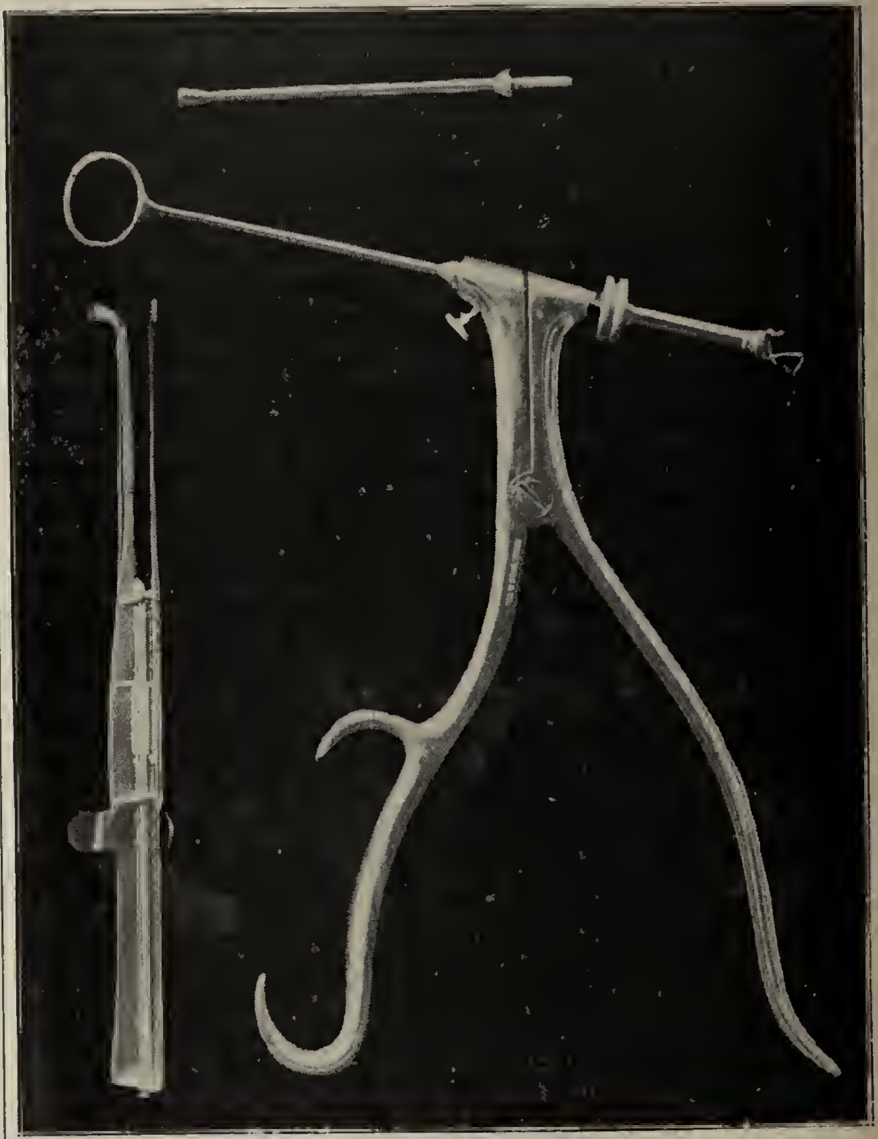
As to the anatomy and pathology of the tonsils, I will only say that the normal throat has nothing of the kind in it. And as to treatment, nothing but removal of the diseased glandular mass gives the desired relief.

Many plans are in use to accomplish this. The guillotine will slice off the tonsil, and in children, if the claws which complicate it are removed and suitable forceps used in their place, the guillotine is fairly satisfactory, but hemorrhage is free. Though not dangerous in children, this hemorrhage is troublesome, because it interferes with the simultaneous removal of the pharyngeal tonsil, which is almost invariably present. In the adult, however, this hemorrhage is a serious matter, and has been fatal in many cases. To avoid this Burnett and other authors recommend that a snare be used—the growth being cut through gradually—several hours being consumed in the operation. The method is worthy of the Inquisition. The galvanocautery loop I must condemn by using Burnett's own words: "We may resort to the cautery *in suitable cases, which are certainly exceptional,* with a feeling of security and with the expectation of getting a thorough and satisfactory result." My personal experience with the cautery loop has been confined to a single case, in which acute otitis media in both ears resulted on the fourth day. Other authors have devised an array of scissors, cutting forceps and knives which do the work well, but the operation is a bloody one, requiring general anesthesia and an hour's time to complete it. Ignipuncture is too tedious, months being required and a bad cicatricial stump remaining.

The guillotine, then, with its danger of hemorrhage and lack of thoroughness; the cautery, with its limited usefulness; the ordinary snares, with the prolonged torture and shock, certainly indicate a demand for something different. Here let me say that the tonsil must be completely removed; that tonsils which absolutely demand removal are often deeply imbedded or diffused over a surface of an inch and a half by two inches in size. In tonsils of the kind named, the guillotine and cautery snare are useless.

In 1888 I devised a tonsil snare which was perfected in 1890, and has been in almost daily use ever since, with such satisfactory results that I beg to present it to you. The instruments I show you belong together. In small children, chloroform is used. In children over 10 years of age and in adults it is unnecessary. In children, the fenestrated tip recommended by Dr. Vedder of Pittsburg is always used. The operation is performed as follows:

In infants—the child under chloroform—the patient lies upon a couch, with his head toward an artificial light four feet away; my assistant kneels at the patient's head and I stoop over the patient at his right side. The instrument has been prepared as you see—two extra fenestrated tips being held in reserve. Here let me say that the screw adjustment in this instrument is never under any circumstances used, except to regulate the size of the loop before operating. The patient's tongue is held down by myself or my assistant, as the case may require. If the tonsil is prominent, no forceps are used, and I hold the tongue-depressor myself. If not prominent, my assistant holds the tongue, the forceps are passed through the loop, the tonsil seized, traction made, and with a single stroke the tonsil severed. The other tonsil is removed at the same time. The operation up to this time is bloodless, and now the finger explores the nasopharynx for adenoid trouble. If present, and it usually is, the mass is removed by Gottstein's curette. This operation is attended by free hemorrhage, and rouses the child. The whole operation has taken less than a minute, and the child is rolled to the edge of the couch, with his face over the opening of a fountain cuspidor. (This latter is of my own design. It takes care of any vomited matters, etc., though vomiting is very rare.) In adults a 25 per cent. solution of cocain is applied around the tonsil and in its crypts, and the tonsil is seized, drawn through the loop and severed by a single stroke.



In some tonsils, one in six, perhaps, some dissecting is necessary, and this requires only two or three rapid strokes of the knife. When no chloroform is used the patient himself, even among children, holds the tongue down with a tongue-depressor while the operation is being performed. In many cases of diffused tonsils a second or third application of the snare, without the patient leaving the chair, is necessary.

As a rule, the hemorrhage does not exceed a few drops. Only in one case has it been sharp—that of Miss Hattie K, 14 years old, living at Rensselaer, Ind., Dr. Berkley being present. In that case the tonsils were enormous, and there was a sharp gush of blood, about two ounces in all, but it stopped kindly, and in no way alarmed the child or rendered me uneasy. She returned a week later and had the second one removed—the same phenomenon recurring.

I have never seen a drop of secondary hemorrhage from any tonsil.

The snare handle is of machinery or soft steel—and is of the full size shown. A worthless imitation of this snare is on the market in Chicago. It is too light to be of value. I shall be only too glad to give to any of you drawings and specifications showing proper construction, etc. The forceps have a revolving joint similar to that of the well-known Wecker iris scissors. The forceps are easily aseptible. No. 5 piano steel wire is too small; I use No. 10. Bosworth's special tonsil snare is a beautiful instrument, but too weak, as it sometimes requires the screw adjustment to complete the operation. The snare I show you will remove any tonsil instantly and easily. The instantaneous écrasement of tonsils by the snare is, I think, original with me, and the instruments certainly are original. I use these instruments in the removal of the lingual tonsils.

Never use a wire the second time. Use a new one. Always twist the ends of the wires securely.

After-treatment.—In children there is little or no pain following and no treatment necessary. In adults, no matter how the tonsils are removed, there will be pain following the operation, except in such individuals as are by nature insensitive. The pain is less in ordinary enlargements where the gland can be wholly removed at a single stroke; but in every case there is a raw surface which will be irritated by swallowing. The patient is ordered to gargle the throat with hot water, to avoid sour and salted foods, and to eat chiefly crackers and milk and medium boiled eggs, for twenty-four hours.

THE TREATMENT OF DISEASES OF PIGMENTATION.

Read before the Section on Cutaneous Medicine and Surgery at the Forty-ninth Annual Meeting of the American Medical Association, held at Denver, Colo., June 7-10, 1898.

BY JOHN V. SHOEMAKER, M.D., LL.D.
PHILADELPHIA.

A clear complexion is one of the elements of personal comeliness. A very large proportion of people who seek the dermatologist do so on account of some more or less pronounced defect in the normal and healthy coloring of the skin, especially of the exposed parts. It is needless to say that most of these patients are women. Women are naturally more annoyed and mortified by such blemishes than men. Pigmentary diseases of the skin range from the most trivial to the most serious ailment. Some involve but a slight departure from the normal, others cause extremely dark and unsightly lesions. In most cases the pigmentation is increased or modified in hue, but in a certain number it is diminished. Most diseases in which the pigment of the skin is affected depend upon some more or less grave constitutional cause. A few are merely local disorders.

Lentigo.—This is one of the most common and most insignificant of cutaneous affections. It is purely a local disorder, due to exposure to the heat of the sun and winds of spring and autumn. It is, however, a source of annoyance out of all proportion to its triviality, since it particularly attacks fair and beautiful skins. Freckles consist simply of accumulated masses of normal pigment in the mucous layer of the epiderm. Therefore, it is only necessary to remove this layer in order to cure the disease. The affected parts of the pigment layer may be destroyed by the application of any slightly caustic agent. Among those often used for this purpose are salicylic acid and corrosive sublimate. Touching each spot with strong carbolic acid is a good plan, although a better remedy is copper oleate in the strength of five to sixty grains to the ounce of excipient. The most efficient method of treating these spots is by electricity, used either in the form of electrolysis, inserting the needle superficially over the freckle, or by the frequent application of galvanism.

Chloasma.—Chloasma may be defined as a freckle on a large scale, but, unlike lentigo, it often depends upon the presence of some constitutional disorder. Chloasma uterinum is mentioned in all the textbooks, and the chloasma of pregnancy sometimes discolors almost the entire body. As regards its external causes, any agency which keeps up a habitual congestion of the skin may give rise to chloasma.

As the discoloration of chloasma resides in the same layer as that of freckles, its local management is exactly the same as in that disease. It is necessary to avoid agents like mustard and cantharides, which themselves are capable of determining pigmentation. The frequent application of the galvanic current is the most efficient means at our disposal for removal of the pigment. External treatment alone will not suffice if the cause is internal. We must address our medication to the constitutional disorder which has produced the chloasma. In many cases we must resort to gynecologic measures. In the chloasma of pregnancy we can make use only of local treatment and those tonic, laxative or diuretic remedies which may be indicated by the general condition of the patient.

Tinea versicolor.—Tinea versicolor or chromophytosis is the disease which in gross appearance most nearly resembles chloasma. Unlike the latter, it generally spares the face, although it may appear upon the neck and breast. The characteristic lesion of tinea is of a fawn color, very slightly raised above the surrounding surface, and covered with branny scales. The discoloration may be brown or nearly black. The patches of chloasma are not raised and do not scale. Chloasma is not uncommon upon the face. The parasite of tinea may be found by microscopic examination of the scales. The parasite inhabits the horny layer of the epiderm.

The treatment consists in exterminating the microsporon furfur. This object can not be readily accomplished as long as water is freely used upon the parts, as that fluid contributes to the nourishment of the parasite. Parasiticidal agents used in this disease are the mercurial preparations, chrysarobin, sulphurous acid, iodin, turpentin, resorcin, carbolic acid, etc. My favorite remedy in this affection is a 10 to 20 per cent. copper oleate ointment, which insinuates itself between the epidermic cells and destroys the parasite. It is not necessary to use a large quantity. Barely enough should be employed to penetrate the surface, any more than this being a superfluity.

Jaundice.—The discoloration due to absorption of bile pigment varies from light yellow to brown. Its nature should be easily recognized from the stain of the conjunctivæ, the discoloration of the urine and its reaction to the bile test, as well as by the accompanying general symptoms. In infants it occurs in consequence of the alterations in the circulation taking place at birth. In some instances it is pyemic, and is caused by umbilic phlebitis. As jaundice depends upon so many pathologic conditions which belong to general medicine or surgery, the attempt to discuss its treatment would stretch this paper to an inordinate length.

Chlorosis.—In this disease the skin assumes a peculiar greenish-yellow hue, owing to the loss of hemoglobin. The red corpuscles themselves are slightly, if at all, diminished in number, but the loss of hemoglobin is out of all proportion. This fact of pathology furnishes the key to the treatment. It is imperative that the blood be supplied with iron. In recent years a number of organic combinations of iron have been added to our armamentarium and have the advantage of being more thoroughly absorbed and better tolerated by the stomach. The diet must be nutritious, perhaps concentrated or predigested, the patient must have fresh air, sunshine, and, if possible, light exercise in the open air.

Morphea.—In the early stages of morphea the affected surface is of a pink or violet hue. At a later period the color fades and the surface has the aspect of ivory, wax, alabaster or marble, or, as it has otherwise been expressed, the part looks as if a piece of lard or bacon had been imbedded in the skin. The disease is apt to appear in prominent situations, as upon the face, neck or arms. Fortunately, it is rare. We are in ignorance of the cause of morphea, although it often seems to be dependent upon disturbances of the nervous system. Treatment must be conducted upon general principles. Hygienic measures and constitutional tonics are of service. The best local methods are massage and galvanism. Morphea is essentially chronic and obstinate. If the lesions undergo atrophy, no treatment is of avail.

Scleroderma.—Scleroderma, another rare affection, may occur on any part of the body, but is more frequent upon the upper extremities. The skin becomes hard, pale and cold in lines or patches, and has been compared to that of a frozen corpse. It becomes firmly bound down to the subcutaneous tissue. When the face is attacked the features are motionless and expressionless. This aspect has been termed the "sclerodermic mask." In extreme cases the skin atrophies, the patient has a hidebound feeling and motion is difficult. Pigmentation may accompany the atrophy. Scleroderma resembles morphea in many respects, but the diseases are distinct. Both are oftenest seen in women. In both the etiology is obscure.

The treatment of scleroderma is not very satisfactory. Hygienic care, tonics and alteratives are of service by promoting the general health. Free diaphoresis, by the use of pilocarpin, is likely to accomplish some good by its action upon the sweat-glands. It is customary to make use of stimulating ointments, especially those containing mercury or iodin, upon the parts. The most promising treatment, however, is by means of baths, massage and electricity. The baths should be warm, frequent and prolonged. Galvanism, static electricity, and electrolysis have been employed with benefit by different authors.

Malaria.—Chronic malaria communicates a pale yellowish tinge to the skin. In hot climates the toxemia may so profoundly impress the liver as to produce actual jaundice. Diffuse patches of discoloration may also be caused by malaria. These may resemble or, indeed, may be identic with the patches of chloasma. Pigmentation due to malaria can only be removed by curing its cause. Among drugs, quinin, arsenic, and iron are of the most value. The most radical treatment is change of climate; if possible, removal to a district free from malaria.

Amyloid degeneration.—This disease gives a peculiar waxy appearance to the surface. As it is the result of serious organic processes which require their own appropriate management, and as it is an ultimate degenerative process, I need not enter upon the consideration of such a vast subject, chiefly of pathologic interest.

Exophthalmic goiter.—Exophthalmic goiter is generally attended by the pallor of anemia but in some instances brownish or almost black patches develop upon the body. In other cases spots of vitiligo have made their appearance during the course of this disease. Disordered pigmentation is the least important manifestation of Graves' disease. The general objects of treatment must be to tranquillize the action of the heart, allay the morbid excitement of the nervous system, and correct, as far as possible, the existing anemia. Vascular and nervous sedatives with ferruginous tonics will best accomplish these objects. Hygienic regulation is of the utmost importance.

Addison's disease.—The bronzing of Addison's disease is characteristic, and is very common upon the face and neck. The discoloration varies from amber to dark brown. Exceptionally, spots of vitiligo coexist with the general bronzing of the integument. The pathology of the malady is not yet entirely clear. The suprarenal capsules seem, in most cases, to be at fault, though it would appear that they are secondarily and not primarily affected. As the lesions are often of a tuberculous or carcinomatous character, it is obvious that the treatment can not, at the present time, be of much promise. Certain cases have notably improved under the use of extract of the suprarenal glands. In some of these cases constitutional amendment occurred without any reduction of the pigmentation. I should certainly, however, advise that this new method be given a fair trial in any case of Addison's disease. Of the more usual means of treatment, electricity has yielded better results than have followed the exhibition of drugs.

Leprosy.—Increase or decrease of pigmentation is one of the features of leprosy and possesses diagnostic importance. When fully developed, the disease should be promptly recognized. In its beginning stage, and particularly in a country where it is not often seen, it may for a time escape recognition. An early diagnosis is extremely desirable in order that an individual may not become a possible source of danger to the community in which he dwells. Of the treatment of leprosy I can, unfortunately, say little. The reports concerning Carasquilla's serum treatment do not seem to lend us much encouragement, but I am not without hope that some analogous procedure will eventually be discovered capable of affecting the progress of this terrible malady.

Syphilis.—With the copper-colored eruptions of syphilis we all are familiar, but what has been called the "pigmentary syphilide" is not so universally known. The discoloration varies from gray to brown, and is sometimes so faint that it is only perceived by reflected light. These exceptional pigmented spots of syphilis are prone to appear upon the face and neck. Sometimes the contrast of white and discolored skin produces a dappled or reticulated aspect. I do not propose to occupy your time with any discussion as regards the treatment of syphilis. Suffice it to say that I believe in the wisdom of beginning treatment the moment that the nature of the disease is recognized—whether in the primary or secondary stage. I believe in a protracted and systematic course of mercury with certain stated intervals during which the remedy is suspended. I am of the opinion, furthermore, that there are times when it is advantageous to substitute iron and other tonics for the mercurial, or, at least, to employ them in combination.

Carcinoma.—The peculiar sallow and cadaverous color which is often present in cancer is so well known that we are in the habit of attributing to it a degree of diagnostic significance.

Melanosis.—In both carcinoma and sarcoma a very malignant form is recognized under the title of melanosis, marked by the deposit of dark-brown or blackish pigment, or melanin. Melanotic carcinoma and melanotic sarcoma occur by preference in the eye and upon the skin. Unfortunately, little of encouragement can be given concerning the treatment of melanosis.

Nevus pigmentosus.—Nevus pigmentosus is very apt to appear upon the face and neck. It is, particularly when large and hairy, a sad disfigurement to a beautiful face. I recall the case of a lovely and handsome brunette upon whose chin quite a large hairy mole had been allowed to remain, and which certainly detracted from her otherwise remarkably attractive face. Nevus pigmentosus should be removed, either by excision, ligature, caustic or galvanocautery.

Xanthoma.—Xanthoma, known also as xanthelasma and vitiligoidea, appears as a slightly elevated spot of a yellow color which has been compared to that of chamois leather. Its commonest location is upon the upper eyelid, though it occurs upon other parts of the face. It is often associated with jaundice and sometimes with diabetes and gout. It is generally necessary to remove the growths by caustics, curette or knife. Care must be taken to prevent ectropion. Electrolysis is an effective method of removal. Accompanying diseases will demand their own treatment.

Xeroderma pigmentosum.—The spots of this disease at first appear as freckles, and are apt to occur upon the face and neck. They are yellowish, brownish, or blackish in color. After having been in existence for about a year they undergo atrophy, and the skin becomes as thin as parchment. Old cases cause much disfigurement. The disease generally begins in early childhood. It is peculiar in exhibiting a tendency to malignant change from the tenth to the twentieth year of life. Xeroderma pigmentosum is a very rare affection. The treatment consists in removal of the growths.

Morbus ceruleus.—From some malformation of the heart or great vessels, the blood may be habitually overladen with carbonic acid and deficient in oxygen. In correspondence with the gravity, all that we can do is to study the comfort of the patient and make use of stimulants during paroxysms of dyspnea.

Argyria. — The grayish or bluish discoloration caused by a deposit of silver in the skin is well known, although much less common than before the introduction of the bromids, when the silver salts were the main reliance in the treatment of epilepsy. Potassium iodid is generally recommended for the purpose of removing the stain, but the attempt is not attended with much success.

Arsenic pigmentation. — The long-continued ingestion of arsenic will sometimes give rise to localized or diffuse pigmentation.

Albinismus.—In some individuals there is a partial or total lack of normal pigment. Curiously enough, this abnormality is most common in those belonging to the negro race, in whom pigment is most abundant.

Vitiligo is acquired albinism or leucoderma. Like albinism, it is most common among negroes and dark-complected whites. Patches of vitiligo are usually outlined by a dark border. This border may be removed by the use of galvanism, and the patch will then be somewhat less noticeable. Irritants, such as croton-oil, oil of turpentin, tincture of cantharides, tincture of capsicum, etc., have been applied to the whitened surface with the hope of exciting a fresh deposit of pigment.

Leukemia and pseudoleukemia.—In leukemia the skin has a peculiar and characteristic light yellow color. In pseudoleukemia or Hodgkin's disease there is habitual pallor, and when the abdominal glands are largely hypertrophied, there is also sometimes bronzing of the surface. These affections depend upon such deep-seated causes, and have such a fatal course, that treatment is essentially futile.

Striæ atrophicæ.—Atrophic lines or spots are usually the result of continued distension of the skin, as, e.g., from pregnancy. Sometimes they are of neurotic origin. They are practically incurable.

There are three agencies which are to be placed above the action of drugs or of surgical procedures in the treatment of pigmentary diseases of the skin. These are baths, massage and electricity.

Vapor baths are of value in removing pigmentary deposits, as in chloasma or in those conditions which are the results of long-continued local irritation. Various medicinal substances are used to enhance the efficacy of the liquid or the vapor, as mercury, balsam of Peru, sulphur, iodin, bromin, etc. Mercury and iodin are particularly valuable when syphilis has any influence in the production of the local condition. Both water and vapor baths are useful in removing pigmentation, when impregnated with bromin or iodin in proper proportions. The influence of immersion or contact with moist vapor is to tranquillize the peripheral nerve-fibers and the capillary circulation and to stimulate the absorbent vessels.

Massage.—In the affections named, massage is very beneficial and particularly when practiced directly after the patient has taken a bath. Massage has an excellent influence upon the skin. It increases the volume and rapidity of the cutaneous circulation, and stimulates the secretory and respiratory functions of the integument. Its favorable action upon the periphery is transmitted to the central nervous system, and therefore, all the conditions of nutrition, local and general, are improved.

Coincident with these effects the absorbent system is stimulated, and thus abnormal pigmentation is often removed. Massage is also serviceable in the reverse condition, viz., a deficiency of coloring matter, as in vitiligo, where the enhanced nutrition of the mucous layer of the integument results in a more healthy deposit and distribution of the pigment. The combination of baths and massage has produced good results in scleroderma, both as regards the rigidity of the skin and its abnormal coloration.

Electricity.—Of all the means at our disposal the use of electricity is the most powerful in restoring normal nutritive conditions to the skin. This object is accomplished by its action upon the capillary circulation and the terminal fibers of the trophic and vasomotor nerves, its quickening influence upon the lymphatic vessels, and its effects upon the cutaneous glands. In severe cases of pigmentation it is my custom to combine the three beneficial agencies which I have mentioned. I employ at different times and in different conditions static electricity, galvanism and faradism. It is often of most service to alternate the galvanic and faradic currents, thus obtaining the most potent effects of the electric force.

In freckles and chloasma the application of the electric current in the manner indicated is followed by marked improvement. In chloasma it is equally necessary to give attention at the same time to any visceral disorders which may exist. The electricity acts both as a local and systemic tonic. In connection with, or in consequense of, its tonic effect, the electric current has an excellent alterative action, and this extends to the pigmentary as well as to the other functions of the skin.

There is a large class of persons who object strongly to every operative procedure involving the use of the knife. To these the application of the galvanocautery is far less alarming, and many will consent to its use in cases of nevus pigmentosus who will not permit excision. The method is certainly effective.

In conclusion, I can express my gratification at the results which for many years past I have been able to obtain by the systematic employment of electricity in all cases of pigmentary disturbances not dependent upon lesions so grave and deeply seated that they are, from their nature, not amenable to any form or method of treatment.

MOLLUSCUM CONTAGIOSUM.

Presented to the Section on Cutaneous Medicine and Surgery, at the Forty-ninth Annual Meeting of the American Medical Association, held at Denver, Colo., June 7-10, 1898.

BY WM. FRICK, A.M., M.D.

Lecturer on Dermatology in the Kansas City Medical College and the Kansas City Training School for Nurses; Dermatologist to Kansas City, Fort Scott, & Memphis R. R.

KANSAS CITY, MO.

The titles "molluscum contagiosum," "molluscum verrucosum," "molluscum epitheliale," "epithelioma contagiosum" and "acne varioliform," have all been used to designate the same disease. Bateman, in his description of it, in 1817, used the first of these titles, and after long years of discussion and application of other titles, we seem to be coming back to a general use of the same. Especially do I think this is the better name to use since the work of Dr. Henry W. Stelwagon in proof of the contagiousness of the disease. In a paper read at the eighteenth annual meeting of the American Dermatological Association,[1] he cites about 375 cases reported by thirty-nine different authors showing contagiousness.

These cases reported by so many observers were scattered through seventy-seven years of time—from Bateman's cases in 1817 to Brocq's accidental inoculation of himself in 1894. While, from this weight of evidence, we must concede the contagious character of the disease, the evidence by the same observers would prove that the contagion is of a very feeble character. The inoculation experiments were not often successful. The special soil necessary to the propagation of the contagion is evidently not easily obtained under ordinary conditions of life. The larger number of cases were reported in schools, asylums, or hospitals for children, where conditions of soil, together with intimate association of children with each other evidently produce a favorable condition for development of the disease. Other cases where children of the same family contracted the disease from each other or where the mother, while nursing a baby with molluscum tumors on its face, developed some of the same tumors on her breast, show what intimate association may do, in spreading the disease. We are not surprised to find a case of this disease passing through its entire course without any one else contracting the disease, and would not conclude that this lessens the evidence of contagiousness already cited.

Very much the larger number of cases reported have been in children. The number of lesions in any case is commonly spoken of as "a few," ten to twenty being generally about the number. The location of the lesions seems to be principally about the face, neck and hands, sometimes in other parts of the body.

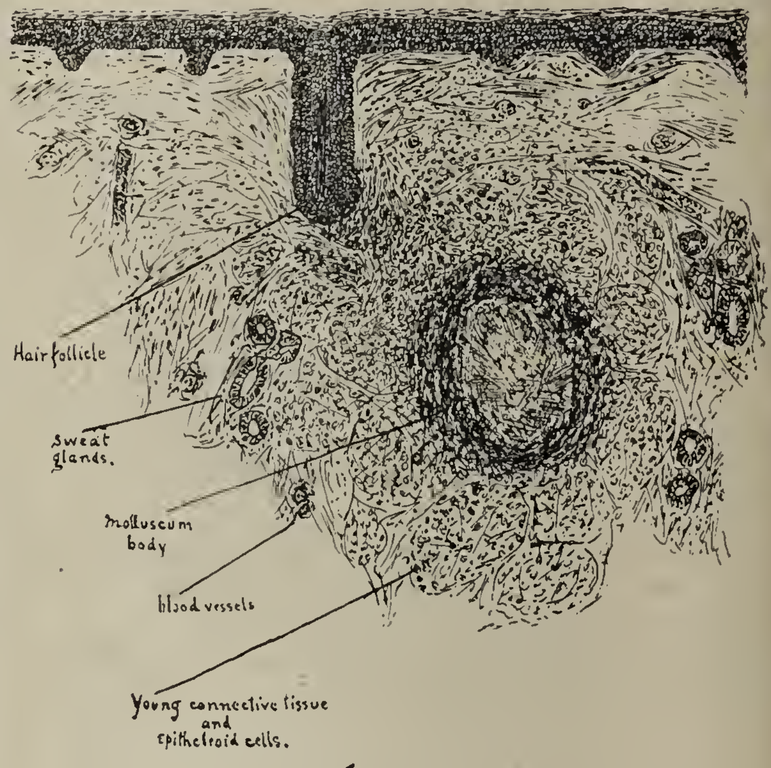


Fig. 1.

In the case I wish to report, it seems to me three things are noteworthy: 1, the patient is an adult male; 2, the lesions were very numerous—exceeding 400; 3, no source of contagion could be ascertained, nor did any one contract the disease from him so far as could be known. The number of cases in adult males is small. I thought at first that in the number of lesions this case broke the record, but find, after looking up the literature on the subject, that this is not the case. Kaposi reports[2] that he has removed from children 80 to 100 and over; and also that he had removed 135 of these lesions from the penis, scrotum and inner part of the thigh of a man. Ebert reports[3] a case in a 14-year-old girl, of 108 in the face. Prince A. Morrow reports[4] a case where over 300 of these growths were removed from the body of a patient. R. W. Taylor, in a lecture delivered to the New York Post Graduate Medical School,[5] says he has the photograph of a child on whom were between two and three thousand of these little growths. Madrezejewski[6] reports a case of more than three thousand of the little tumors, varying in size from a pea to a child's head.

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[1] Journal of Cutaneous and Genito-Urinary Diseases, February, 1895.

[2] Vierteljahrschrift für Dermatologie and Syphilis, 1877, p. 334.

[3] Archives für Dermatologie and Syphilis, 1879, p. 86.

[4] Journal of Cutaneous and Genito-Urinary Diseases, 1895, p. 75.

[5] Medical News, March 15, 1890.

Case 1.—The patient is a man 38 years of age, married, but has no children, an American, and by occupation a locomotive fireman, on the Kansas City, Fort Scott & Memphis R.R.

His mother died of pneumonia at the age of 52 years, having been previously healthy; one brother died at the age of 6 years; his father, one brother and three sisters are living and all in good health. no history of any hereditary disease is known to him. No skin disease of any kind exists in the patient's family as far as known.

The patient is fairly well nourished in appearance, is six feet in height and weighs 150 pounds. He has never had any severe illness, has considered himself perfectly healthy all his life, except for a psoriasis on his legs below the knees; this he has had since 12 years of age and several times there has been an extension over his whole body, but in a light form, and it never gave him any trouble. In the early part of November, 1896, he had concluded that he needed some "blood medicine" and took some patent sarsaparilla preparation. In a few days a number of papules appeared around the mouth, on the lips and chin. This eruption, he thought, was caused by the medicine, so he ceased taking it. The eruption continued to increase in the number of lesions, gradually extending over the face, up over the forehead into the hair of the head, on the ears, eyelids, eyebrows, down on the neck, and later on, two or three appeared on the hand.

I first saw the case late in December, 1896. At that time the lesions covered all these parts mentioned, except those on the hand, which appeared during the course of treatment. At that time they ranged in size from a pinhead to a good sized pea. Later a few grew to be much larger, and one grew to be three-fourths of an inch in diameter. They were thickly distributed over the surface, but generally discrete; at a few points they were so close together as to form apparently one tumor with the contents of three or four. None of them were pedunculated, some were very slightly elevated, most of them were rather whiter than the normal skin, and many were slightly umbilicated, giving somewhat the appearance in contour of an urticaria lesion. Some lesions were reddened from inflammation. These were generally more elevated than the others and contained some pus in addition to the molluscum material. The contents of a few lesions could be squeezed out with the thumbnails, but they were situated deep in the skin, and generally required a slight incision before they could be extruded. The contents of a tumor came out as an ovoid, semi-transparent, slightly yellowish body with a sharp point at one end. The consistence was that of a thick jelly, and upon exposure to the atmosphere for a few hours, they almost completely dried away. The molluscum material generally held well together in a body, and if pus existed along with it, the two materials could be well distinguished and the pus could be washed away, leaving the other intact. In some few of the older tumors the contents was broken up; it was not like sebaceous material, for that is opaque and white.

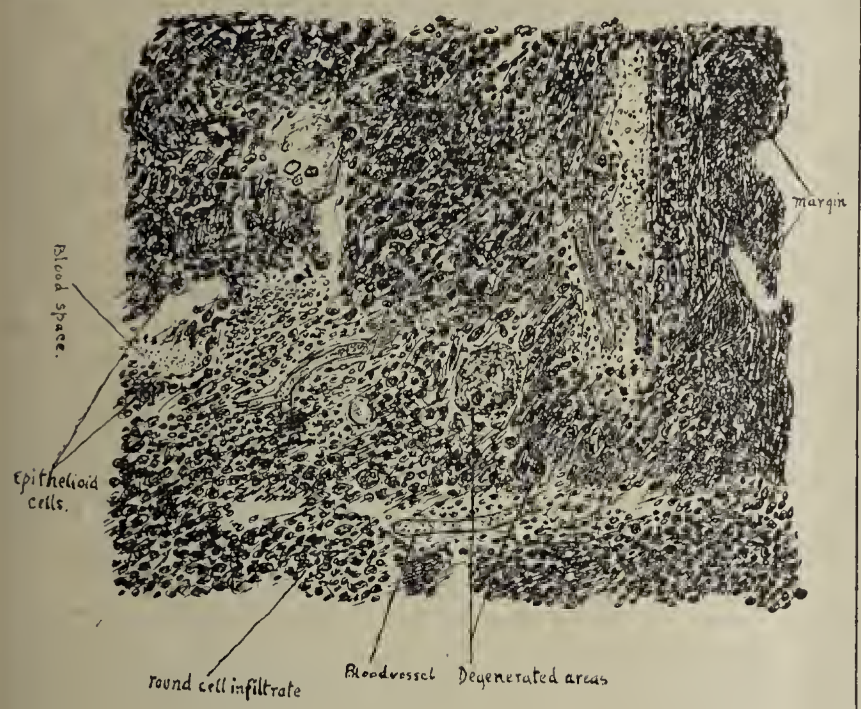

Fig. 2.

After pressing out the contents of a tumor a very distinct cavity could be felt with a probe. Bleeding was quite free, lasting several hours after expression of tumors. In treating the case at first, we simply removed the contents of the tumors and used local antiseptics to the surface of the skin, but the tumors soon formed again. Then after removing contents we applied pure carbolic acid to the cavities. After this they slowly disappeared, leaving superficial scars for a time. More than 400 of these tumors have been destroyed in this way; a large number of scars are still on the face, but are gradually fading.

There is still an occasional molluscum tumor to be found and destroyed, but very few. On the chin were six or eight tumors, more like ordinary warts, from which no contents could be removed without cutting out the entire tumor. These disappeared during the course of treatment, and I have thought they were nothing but warts and had only an accidental connection with the tumors.

Dr. James J. Clausen has been kind enough to microscopically examine the expressed contents of some of the tumors and also a dissected tumor, with the idea of ascertaining the anatomic position of the tumors and the pathology of its contents. His report follows:

Pathologic anatomy.—Microscopic sections were made from several lesions removed, representing two widely different stages of the disease:

1. An early lesion of very small size, subcutaneous; the skin overlying, apparently intact and smooth, was excised. Unfortunately, in cutting this little specimen the molluscum body with its surroundings tore loose from the overlying skin; but judging from comparison of numerous sections cut at different levels, the accompanying drawing (Fig. 1) gives the most constant relation of the small molluscum body to the skin and its appendages. The molluscum body itself is degenerated to the extent that no cells or nuclei can be outlined. The outer part takes a deeper stain than the center. Immediately surrounding the body and merging into it are many oval or circular areas of partially degenerated young connective tissue. Some of the connective tissue cells are larger, resembling very much the so-called epithelioid cells found in tuberculous inflammation. The molluscum body is nowhere found directly continuous with the epithelium, neither of hair follicle, skin nor sweat-glands.

2. Microscopic sections were also made from older and larger lesions which were loosened by a suppurating process around them so they could be expressed. Fig. 2 represents a small portion of such a molluscum body. It is characterized by a general round-cell infiltration; vascularization has partially taken place in the interior thereof, being traversed with new capillaries and apparently also irregular blood-spaces. At the margins are found homogeneous, almost structureless areas, while a few degenerated masses, the size of giant cells, containing very few or no nuclei, are seen scattered through the lesion. Interspersed here and there between the round cells are a few larger cells with plain nuclei, but partially degenerated cell bodies, also resembling epithelioid cells. In general it is the picture of chronic inflammation in connective tissue, the degenerated masses being constantly found farthest removed from the circulation.

As the clinical behavior of this case has been that of a perfectly typic molluscum contagiosum, I much regret that I have not had the opportunity to make a bacteriologic investigation. I should likewise like to examine repeatedly excised complete lesions with their true relation carefully preserved, in the various intermediate stages of the disease. The microscopic findings so far have made me at least suspect that the above disease may not be an epithelial new growth; but a chronic inflammation due to infection, entering the body through the appendages of the skin.

I am very sorry we did not have the opportunity to begin microscopic investigation earlier, as then better results might have obtained. The specimens examined were typic ones, however, and only needed a larger number to be more conclusive.

The patient's general health remained good. His psoriasis continued as usual, not being modified at all by the disease or its treatment. Internal treatment was confined to simple forms of tonics. Patient could not recall coming in contact with any one who was similarly afflicted, and up to date no other person has contracted the disease from him. He is a man of good habits and cleanly about his person. This probably accounts for no further spread of the disease.

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[6] Medical News, Sept. 22, 1885, p. 314.

One thing observed about this patient was the apparently coarse texture of the skin. I mean by that the openness of the pores, which possibly may have given a favorable opportunity for the entrance of the contagion.

From the study of this case and the reports of others I would draw these conclusions:

1. The disease is contagious, but very feebly so.
2. The anatomic character of the tumor is not satisfactorily known, being generally considered an epithelial growth, the origin of which is in dispute; while some regard it as an inflammatory connective tissue proliferation in which early degenerative changes take place.
3. To remove the disease effectually it is necessary to destroy the contents of the tumors completely.

Room 301, Rialto Building.

CONVENIENT FIRST DRESSINGS IN LEG FRACTURES.

Read before the Fifth Annual Meeting of the American Academy of Railway Surgeons, held at Chicago, Oct. 5, 6 and 7, 1898.

BY EDWARD H. TRICKLE, M.D.
SURGEON T. & O. C. EXT. R. R. CO.
CUTLER, OHIO.

While my surgical experience only dates back thirty years, my observation of the management of leg fractures extends over half a century. When but a boy of 10 years of age, my brother had his leg broken below the knee while wrestling. The village doctor was called. He inspected the leg and sent me to bring him seven yards of calico. He tore off one strip for a bandage, split a shingle in two or three pieces, laid them around the leg, rolled his calico bandage around the sticks and directed the family to keep it wet with cold water. With every movement of the body my brother would howl with pain. After a long time he got around with crutches and finally walked, but his leg was badly crooked. Fortunately, a few years later he sustained another fracture of the same leg, and the surgeon in attendance kept it upon a patent posterior wooden splint and straightened it out. Since that time I have never taken kindly to splints, bandages or fracture-boxes.

It may be supposed that at this late day the old custom of splitting shingles or yanking palings off the fence to use as splints for fractures is obsolete, but less than ten years ago I was called in consultation to see a fracture case, and found the leg held in line by broken sticks, the splintered ends of which projected beyond the bandage at the foot and knee. It was hot weather, and the leg thus dressed had for three weeks been kept in soak, so that the stench was intolerable, while maggots were disporting themselves in the old bits of quilt or comfort packed around the leg in the box. There was no union. I cleaned up the leg, put a firm plaster case around it and told the man to get up and walk on it. He did so, and in time thus brought about consolidation. There can be no possible excuse for such poverty of resource or such criminal neglect of the simplest rules of hygiene.

We now find upon the market a great variety of fracture appliances: coaptation splints that fit the normal contour of the leg—posterior, anterior or lateral, as we may wish. All of them are useful in their way; some of them quite ornamental. We appreciate them, but it is our right and duty to improve on them if not entirely satisfactory. My objection to any splint is that it requires a bandage to hold it coapted to the leg. A fractured leg, if dressed immediately, will always swell more or less, and this subjects us to another call for the purpose of removing and reapplying the bandage. If this occurs and we fail in attention, the patient suffers, and irreparable damage may result. Splints and bandages are for this reason unsatisfactory, and I have discarded them, and have gone—not back to the old fracture-box—but forward to the newer conception of one that fits the leg like a stocking, and floats suspended a few inches above the bed instead of resting upon it.

How is this fracture-box made and of what material? It can be made over the leg at the time of the first dressing, as follows: After the leg is properly cleansed and rendered aseptic, it is enveloped in surgeon's cotton and suspended in cheese-cloth, which adapts itself to the lower and lateral contour of the leg. Two strips of half-inch poplar board, shaped to fit the anterior contour, are clamped in against the sides of the muslin until they meet, thus closing the cloth around the leg like a stocking. The clamps resting on the instep, along the shin and in over the knee, are fastened together by bolts. Extension is made and maintained while plaster of Paris is applied sufficient to make a firm case. This may be done by passing the plaster bandage in roller form back and forth along the leg, or by strips of muslin saturated with the plaster cream laid on and smoothed down with the hand until the requisite thickness is obtained. It sets in ten or fifteen minutes, during which time extension must be maintained. The clamps are then removed, the muslin trimmed at the top and about two inches of it turned outward and downward over the sides of the case. The leg thus cased is again suspended in cheese-cloth and clamped in at the top to maintain its coaptation to the leg until it is convenient to lace it with rubber cord, as you see in the sample before you.

The dressing thus applied is perfectly conformed to the leg, is open at the top, can be drawn apart for inspection, and when suspended moves when the body moves, causing no disturbance at the seat of fracture; yields sufficiently to accommodate swelling, and its alignment is maintained by the clamp, even though the case be light and fragile. I can not claim for this manner of "first dressing" any advantage over the ordinary apparatus in the way of convenience, but we avoid the later *in*convenience of having to go back and readjust the bandages on account of swelling.

I now invite your attention to a "Normal Contour Fracture-Box" made of different material. It can not be made over the broken leg, but is molded over a plaster cast of the human leg. It is composed of screen-wire, cheese-cloth and a combination of adhesives which fill the meshes of the cloth and wire, and when dried make a hard, firm case, which retains the form into which it is molded, but is so pliant as to permit of being drawn apart for the reception or removal of the leg at our pleasure. A set or two of these prepared cases—rights and lefts—are, like Mrs. Toodle's coffin, "handy things to have about the house," and when we are called to a case of fracture, all we have to do is to police the leg, lay it in the case, lace it up and suspend it: we can then take our leave feeling that our patient will rest in comfort and safety. As you will observe, these prepared cases are light, sufficiently firm, exactly fit every part of the leg, preserve the normal alignment of the bones, and by their gentle embrace invite repose of all soft parts that may incline to distortion by spasmodic muscular contraction. The malleoli and condyles are embraced; the calf and heel rest in depressions exactly fitting their normal contour and thus maintain extension on the principle of the double inclined plane, the heel, calf and lower third of the thigh lying in depressions. When tired of lying on his back the patient can, after the first nine days, lower the suspension apparatus and turn on his side, letting the leg rest on the bed, and I doubt if there would be disturbance of the fragments even should he throw the other leg over it. Should the fracture be compound, an opening can be made in the case for observation and dressing, but as the case spreads apart so easily, I prefer lifting it out by its cheese-cloth envelope for more thorough inspection and cleansing.

The anterior splint, composed of the same material as the case and exactly fitting all the normal curves of the leg, is two inches wide and fills the gap in front. The lacing passes back and forth over this, and, however tightly drawn, makes no impression on the circulation beneath. You will observe that the case is open clear down to the heel. This is to enable the leg to be lowered into its bed without letting up on extension until the calf and heel are imbedded and the case coapted to the leg. The foot-rest, of like material, is also molded to the normal curves of the foot, and can be fastened on or removed at pleasure.

In conclusion, let me say that the comfort and welfare of a patient with a broken leg should always receive our kindest consideration. Our thought, like an X-ray, should penetrate and unmask all abnormal conditions, and our effort should be to promptly adopt such remedial measures as the case may require. The dressing I have presented here is not perfect; but if it should be regarded as an improvement on existing methods, it shall be my endeavor to still further advance the lines toward my conception of a perfect "Normal Contour Fracture-Box."

Of the suspension apparatus, it is needless to speak. Each surgeon contrives his own. The necessity for suspension everyone must realize when we consider that a lateral motion of the hips can not be made without strain at the seat of fracture, and immobility of the malleoli and condyles which project does not insure against mobility of the fragments, enveloped as they are by the soft parts. Fixation at the knee and ankle by a fracture-box lying on the bed implies at least lateral fixation of the hips; otherwise there will be pain and mischief. Suspension, allowing, as it does, the leg to float freely with any movement of the body, is a safeguard against pain and injury from this cause. The old-time method of boxing and soaking the leg forcibly suggests Hamlet's idea of death: "To lie in cold obstruction and to rot." Then amputation in compound fractures was the rule rather than the exception. Now, with our antiseptic methods and abundant supply of scientific appliances, we approach such cases with a consciousness of mastery.

Let us have a Department of Public Health!

MALARIAL HEMATURIA.

BY F. G. DU BOSE, M.D.

SELMA, ALA.

The hemorrhagic type of malarial fever, while fortunately infrequent, is nevertheless a most serious disease. The overwhelming production of, and intoxication by, the malarial organism, causes extreme hyperemia of the viscera, and partial disintegration of the blood. Hemorrhage most frequently comes from the kidneys alone, although it may appear from the several mucous membranes simultaneously. These are occasioned by blood, nutritional and pressure changes in the congested area. I doubt if anyone has lived long in a malarial district and countenances Dr. Koch's theory that quinin is the causative agent. I have seen four cases where no quinin was taken prior to the hemorrhage; one of these, a child, died the following day from suppression of urine.

The previous history of these cases presents the mild remittent or intermittent fever in most instances. We have no premonition of the occurrence of hematuria. Its appearance on urination after a chill, is the first index to the real condition. Jaundice rapidly develops, varying from a yellow tinge to a bronze color. Temperature ranges from 101 to 105 F; pulse rapid, 100 to 120 per minute, small, with a thrill and often dicrotic; tongue thick, heavily coated, with imprint of teeth on margins. Vomiting and nausea are constantly present. Black vomit occasionally occurs. Bowels are constipated as a rule. Headache, pain in the back, and aching in the bones and extremities constitute the usual subjective symptoms. The mind is clear until uremic intoxication begins. The advent of delirium or coma is most unfavorable.

On account of the diversity of medical opinion regarding the treatment of this disease, I shall give in detail the method employed by me in ten successive cases without a death. The fatal case mentioned above was the first one in my practice, and received only the hypodermics of quinin and symptomatic treatment. As soon as the diagnosis is made, a hypodermic of morphia and atropia is given, followed immediately by a ten-grain dose of calomel, swept down with a glass of water. Five grains are repeated every two hours, till four or five more doses are given, or until the urine begins to be secreted in larger quantities. It has been my observation that calomel in such enormous doses, fortified by the hypodermic injection of morphin and atropia, is a rapid and most powerful diuretic. When so administered, I have never seen it act as a drastic purgative, nor have I witnessed evidence of mercurial poisoning. I remember after having given one patient thirty-five grains in divided doses, to have administered a goblet of Rubinat water eight hours after to secure the evacuation of the bowels. Besides being one of the best diuretics, it is also an efficient intestinal antiseptic, and perhaps a cholagogue. In cases where the patient can be seen two or three times a day, quinin should be given hypodermically, combined with morphin and atropia.

The following is the formula used by me:

Quinin bisulph.	5 gr.		32
Morphin sulph.	1/8 gr.		008
Atropin sulph.	1/200 gr.		00033
Aqua.	30 m.	1	95

Misce. Sig. For one injection. To be repeated every eight hours.

The skin over the calf of the leg, where the needle is to be introduced, should be scrubbed with a little alcohol, and the medicine injected deeply into the muscles. I have never had an abscess to follow. I think these result either from lack of surgical cleanliness or from using a supersaturated solution of quinin injected at a higher temperature than that of the body. On cooling, recrystallization occurs; these crystals, acting as foreign bodies, are the beginning of abscesses. If patient can not be seen frequently, I give the following:

Quinin sulph.	5 gr.	32
Camphor monobromate. . . .	2 gr.	13
Morphin sulph.	1/12 to ⅛ gr.	005 to .008
Atropin sulph. .	1/200 to 1/600 gr.	00033 to .00011
Capsicum, pulv	½ gr.	03

Misce. For one capsule.
Sig. One every four or five hours.

If the temperature is above 102.5 F., I give the following:

Phenacetin	3 to 5 gr.	20 to .32
Caffein.	½ to 1 gr.	03 to .065
Sodium bicarb.	1 gr.	065

Misce. For one powder. To be repeated every two hours until temperature is reduced.

Copious draughts of skimmed sweet milk and water are insisted on. One to two large saline enemata are given daily to increase diuresis. These are introduced high in the bowels and retained as long as possible. Sinapisms are applied across the back, over the kidneys, and to the epigastrium; hot-water bottles are placed upon the patient, especially during the time the paroxysm is likely to occur.

I have seen cases recover where death seemed almost inevitable. I have such implicit faith in the above treatment, that I no longer dread having charge of such cases.

Since writing the above, I have had occasion to treat a case of this disease, and herewith append the history:

Thomas J., white, age 40 years, a farmer, slept two miles from Blue Girth Swamp all the summer. He had chills every seven, fourteen, or twenty-one days from July, 1898. After each paroxysm, he would take three to five grains of quinin three times a day, and sometimes a small dose of calomel. He had taken no quinin for three weeks prior to this attack, which was initiated at 4 P. M., January 23, by a chill. Severe vomiting and purging followed, and at 8:30 P. M., temperature had risen to 104, pulse 80.

January 24, 9 A. M., temperature was 98, pulse 72. I gave fifteen grains of quinin. I was sent for in great haste at 5 P. M. and found patient had passed a few ounces of bloody urine. At this time temperature was 97.5, pulse 90. I immediately gave ten grains of calomel and a hypodermic of morphin, ¼ grain and atropia 1/150 grain. At 9 P. M., his temperature was 104, pulse 120, he was constantly nauseated and vomited everything taken into the stomach, and complained of pains in the head, back, and extremities. I gave hypodermically, quinin bisulphate 5 grains, morphin sulphate ⅛ grain, atropia sulphate 1/100 grain, and prescribed phenacetin, camphor and caffein to reduce high temperature. The bowels acted twice during the night.

January 25, at 8 A. M., he received another ten-grain dose of calomel and hypodermic of the quinin mixture. He had passed about 16 ounces of urine during the night, which was as black as ink. During this day his temperature and pulse remained the same as the night before. At 3 P. M., and again at 9 P. M., he received another hypodermic of quinin mixture. His bowels had not moved, although he was given a saline enema. His temperature was 104.5, and pulse 120; mind wandering, very restless, vomiting milk in large curds; gave another ten-grain dose of calomel and a saline enema at 9 P. M. The conjunctiva became yellow, and the skin slightly tinged during this day.

On the morning of January 26, he was very much jaundiced, his temperature was normal, pulse 110, urine passed in large quantities and much clearer. At 4 P. M., temperature was 101, pulse 115; he received two hypodermics daily of the quinin mixture, till January 29. The urine cleared up, temperature became normal, and the patient made complete recovery.

THE ETIOLOGY OF SEASICKNESS.

BY WM. EDGAR DARNALL, A.B., M.D.
Physician to the Atlantic City Hospital; Fellow of the American Academy of Medicine; Member of the Medical Society of New Jersey, and Vice-president of the Academy of Medicine of Atlantic City.
ATLANTIC CITY, N. J.

Seasickness is a thing that in these days of so much water travel is quite common, and to which it seems the medical profession has given but scant attention. There is little literature on the subject. It is one of those unsettled questions about which each man may pursue his own theory as to etiology unmolested, provided only that he hit upon some method for the relief of its symptoms. There is no pathologic evidence connected with it, so far as I know, and the clinical manifestations of the malady are all we have to guide us in seeking a rational cause for them. The assertion may safely be ventured, I think, that the seat of the trouble does not lie in the stomach itself primarily, but that the vomiting is a reflex phenomenon. It is not a disease, but the symptom of a condition.

Seasickness is no respecter of persons. It attacks rich and poor alike. Neither youth nor age permit escape. Robust health and constitution are no guarantee against it, and the fearful nausea and depression it produces come alike to all.

Without entering into a description of the familiar and vivid symptoms, which are indelibly stamped on the mind of everyone who has suffered from this malady, we may at once pass to the consideration of a cause which seems rational, and therefore worthy of study. This cause is the disturbance of the sense of equilibration, the organ of which is situated in the petrous portion of the temporal bone. In order to make the subject clear it will be necessary to review the anatomy and physiology of the internal ear.

The internal ear is composed of the cochlea, a vestibule, the semi-circular canals and the membranous labyrinth.

The vestibule is the common central cavity of communication between the parts of the internal ear. It is situated on the inner side of the tympanum, behind the cochlea, and in front of the semicircular canals. It is somewhat ovoidal in shape from before backward, flattened from within outward, and measures about one-fifth of an inch from before backward.[1] It is not necessary here to describe all the features seen on the walls of the vestibule, but on its inner wall should be mentioned a depression—the fovea hemispherica—perforated by several minute holes for the entrance of the auditory nerve. This is known as the "macula cribrosa." On the upper wall or the roof is a depression—the fovea semi-elliptica—and to this is attached the utricle. Behind the vestibule are the three bony semicircular canals opening into it by five openings. They are about one-twentieth of an inch in diameter. Each presents at one end a dilation about twice the diameter of the canal, called the "ampulla." The canals are superior, posterior and horizontal, and are arranged so that each is at right angles to the other two, thus forming three distinct planes for the body. The superior and posterior canals unite and form a common opening at the back of the vestibule.

The membranous labyrinth of the canal consists of a membranous tube loosely filling each canal, but dilated at the ampulla to correspond with the bone, and closely adherent to the bone at the ampulla. At each end these membranous canals are joined to a membranous sac called the "utricle," which lies in the posterior upper end of the vestibule. This utricle is joined by a Y-shaped tube to the smaller membranous sac in the vestibule called the "saccule," the stem of the Y-shaped tube passing through the aqueductus vestibuli. A small tube—the canalis reuniens—now unites the saccule with the scala media of the cochlea. The membranous labyrinth is held in position by small fibrous bands stretching from the bony walls to the membrane. This space around the tubes is filled with a liquid, the perilymph, while inside, the whole labyrinth is filled with the endolymph, a limpid and very mobile fluid.

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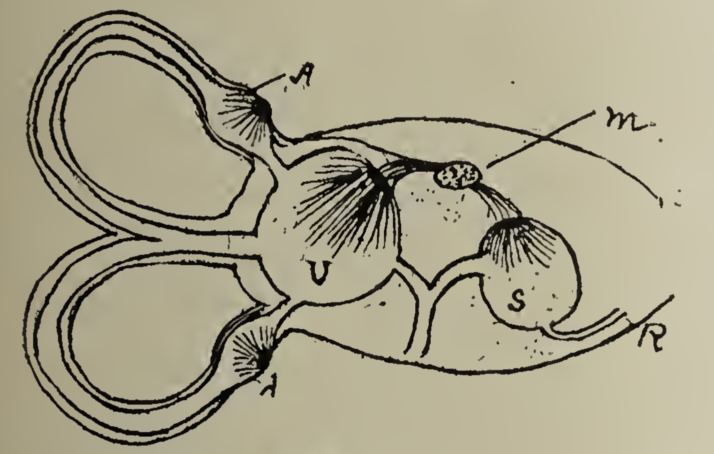
[1] Gray's Anatomy.

The old classification of the cranial nerves by Willis into nine pairs, because there were nine foramina of exit at the base of the skull, was soon found to be unscientific. That of Soemmering into twelve pairs, which is taught in most of our text-books, is inadequate. The chorda tympani is described as a branch of the seventh, but Barringer classifies it as a separate and distinct nerve, and calls it the thirteenth. Again, the eleventh arises from two sources, and is perhaps two distinct nerves. So the eighth arises from two nuclei, the median and the lateral, situated on the floor of the fourth ventricle of the brain. It is not surprising, therefore, to find it controlling two distinct senses. It soon separates into two branches, the dorsal and ventral. These are in reality two separate nerves with separate functions. The fibers of the dorsal branch originating in the median muscles supply the cochlea, those of the ventral originating in the lateral muscles supply the vestibule and semicircular canals. This branch is in intimate connection with the cerebellum. It is known as the vestibular nerve, and is the nerve of the sense of equilibration. The vestibular nerve enters the inner wall of the vestibule through the macula cribrosa, and divides into three branches, which supply the ampulla of the canals, the utricle and the saccule.



U. Utricle. S. Saccule. M. Macula cribrosa. Canalis reuniens. A. Ampulla. Horizontal canal not shown.

The special sense of equilibration is a most delicate beautifully constructed organ. In each ampulla there projects from one side of the membranous canal an elevation from which a series of fine hair-like rays extend into the cavity of the ampulla, these being the specialized terminal fibers of the vestibular nerve. In the utricle and saccule there is an equally elaborate arrangement. It is less elevated than the other, and has entangled in its hair-like processes, like pebbles in the grass, small particles of calcium carbonate, to which the name otoliths has been given. The function of these beautiful terminals seems to be as follows: The endolymph, by reason of its mobility, is free to move in the canals, so that when any movement of the head is made in the plane of any canal the endolymph of that canal by reason of its inertia seems to flow against the movement. This causes a streaming of the endolymph through the hair cells, which cells, of course, move with the head, and a stimulus is thereby imparted to the nerve endings in these hair-like processes. By the movement of this fluid and its influence on the vestibular nerve terminals, we are enabled to judge of our relative position and plane of movement in any act.[2] If there were no other senses to guide us we would by this sense alone be able to judge whether we were in one position or another, whether we were standing on our heads or our feet. It is the derangement of this function of equilibrium which produces the staggering, giddiness and vertigo associated with the interesting condition known as Menière's disease.

Most of our disagreeable sensations are the result of overstimulation of some one or more of the special senses. Too much light hurts the eye; a sound often hurts the ear; too much touch in rough handling or injury causes pain; the temperature sense becomes painful when affected by excessive cold, as well as when overexcited by too much heat. Even a taste or an odor may be said to be painfully disagreeable. It is to be noted also that in many cases of this kind vomiting is associated. A strong light often affects the sensitive eye to the point of a sick headache. The vomiting reflex is in such intimate connection with the whole organism that it may be stimulated by impulses from almost every part of the body, sight, hearing, taste and smell being no exception. To this should be added equilibrium, for it is as much a distinct sense as any other, and may in the same way excite vomiting by reflex action.

Children in play whirl around till they "get drunk." Here they have continued the motion in the horizontal plane until the motion becomes transmitted to the endolymph of that plane. This motion still going on after their bodies have come to a stand-still, gives them a sort of vertigo so that they are unable to steady themselves, and indeed often become sick and vomit. Others can not swing in a swing. Some can not ride backward in vehicles or cars without the sick feeling. Many will complain that they feel the motion of the cars for hours after they have left the train, and who, after a day's sport in the small fishing smack, even if he was not seasick, has not felt the undulating rise and fall of the boat hours after he has returned from the expedition?

The small breakers hardly affect the large boat at sea, but the regularity of the heaving swells, over which the majestic steamer deliberately rides, settling itself again for the next one, is what upsets the passenger. When this motion has continued for a while it becomes so disagreeable that the passenger is no sooner safely over one swell till he begins to wait in dread for the onset of the next. After a while the motion of this wave with its regular rhythmic intervals becomes transmitted to the endolymph of the semicircular canals. This continual flowing in a given plane overirritates the fine hair-like terminals of the vestibular nerve in the labyrinth, and reflex impulses are sent therefore to the vomiting center, which, with the nuclei of the eighth nerve, also lies in the fourth ventricle. There follows obstinate vomiting associated often with great prostration, from which there is very frequently no relief until the sufferer has landed.

All sorts of diet have been ordered, all kinds of medicine given, but little success has been attained through efforts directed to the stomach, for as long as the patient is on board and the ocean swells, the wave motion is transmitted to the endolymph, and those susceptible to the reflex irritation suffer. Attention should therefore be given to the nervous condition of excitability rather than to the stomach.

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[2] Barringer's Lectures on Physiology, University of Virginia.

121 South Illinois Ave.

CONSERVATISM IN RAILROAD SURGERY.

Read before the Fifth Annual Meeting of the American Academy of Railway Surgeons, held at Chicago, Oct. 5-7, 1898.

BY H. HATCH, M.D.
QUINCY, ILL.

The paper I present here contains two merits: 1, its shortness, and 2, a subject that can not be too often brought before surgical bodies, and that is, the saving of injured parts, a subject of great and deep interest to patients suffering from surgical injuries, and also of great importance to every conscientious surgeon. Not a few of us are often confronted with injuries of the upper and lower extremities, where, in order to be sure of the wound healing by first intention, we must remove so much of the injured member that when it is entirely healed it becomes perfectly useless. Injuries such as these we often find as the result of railroad injuries, and we meet them also in planing-mills. Very often by the pulley action upon the distal ends of muscles they are loosened at their insertion, and thereby, if left, in the process of healing they set up a phlegmonous infiltration, or inflammation, in spite of all our precautions.

It should always be the object and aim of the surgeon to leave the injured member in such a condition that when it is healed it will be of some use to the patient in future life. Often the surgeon will find, if he does this, that by taking the chances to save parts that are badly bruised and torn for the sake of their ultimate usefulness, sloughing takes place, and he will be very much blamed; and especially so when some meddlesome neighbor or "kindly physician" in the neighborhood tells the patient's friends and relatives that if the wound had been properly treated no sloughing would occur; but sloughing will occur if dead tissue is left. If there are such kind friends there frequently is no end to the troubles of the surgeon.

The first consideration of a surgeon, when called to a case, should be: How can I operate so that this patient can remain a useful member to his family and society? And especially should his thoughts revert to the family, because most injuries of this kind occur to mechanics and men who depend upon their labor for their daily bread. It is never necessary to think, in making an operation, whether it shall be a McKinzie, a Henry, or a Symes operation, and I never do think of that. I always think: How much can I save of the part to make it useful to the owner? To illustrate the point I have in view in the above remarks, I will give a case that I had not a great while ago, as an illustration:

William F., a carpenter by trade, while working with a machine called a planer, had his left hand cut. This machine has a cylinder upon which are a number of knives that revolve with great velocity. His hand was caught, palmar surface upward, crushing all the phalanges, also one-half of the distal ends of the second, third and fourth metacarpal bones. The end of the first metacarpal bone was also laid bare, and the extensor tendons had all been severely pulled upon. In this case my associate thought it was useless to try to save any portion of the hand. I think most surgeons would have amputated on a line just at the base of the thumb. I did otherwise. I took a flap from the posterior part of the hand and brought it over the bare end of the first metacarpal bone, after first having sawed off the roughened and lacerated ends, directing it in such a way as to have a pointed stump; and in that way have made a very useful hand for him, so that he is able to do almost anything that comes to him in the line of his trade. In order to save the portion of the hand that I saved for him—the end of the first metacarpal bone—I took a great risk with my badly bruised, and very much disorganized flap. As will be readily seen, there is left a bad scar. This was the seat of extensive sloughing on the palmar surface of the hand, but there still remains a fair amount of grasping surface between the thumb and the end of the first metacarpal bone. Without the projecting end of the first metacarpal bone this man's hand would be useless; but had I amputated it higher up I would have saved myself an immense amount of trouble, and have gotten more praise for having my wound heal quickly, and by first intention, but now the patient is glad I took the risk that he might have a useful hand.

More recently I had a case which was simply remarkable in its results—a case of a mechanic, where the first, second and third fingers were crushed to such a condition that I removed a number of small pieces of bone, washed the parts thoroughly with alcohol, bound them up loosely with gauze, and upon each finger put a splint, thinking that, if necessary, amputation could be made; later the fingers all healed and the hand is useful today.

Another case, remarkable as an illustration of conservatism in railroad surgery, is one which I reported in the *International Journal of Surgery* last year—the case of a fireman, where there was a compound comminuted fracture of the femur of the right leg with rupture of the quadriceps extensor muscle, foot of the same leg crushed, and fracture of the left leg above the ankle. It would seem as though it would have been impossible to save this man's right leg, but he is well today and firing his engine as usual. In the Army and Navy Surgical Medical Museum at Washington, on the second floor of one of the departments of the museum, there are a number of specimens in plaster, illustrating cases very similar to the ones I have just referred to.

To illustrate the latter still further, I give another case, a gentleman, where I took a great deal of chance in saving the index finger. It was an instance where the man, in operating what is called a band saw, had the entire outer aspect of his hand caught, the saw passing through the fifth, fourth, and third metacarpal bones near their distal extremities, then passing a little forward and entering the base of the first phalange of the index finger. It looked a hopeless task to save this finger; but by great care in stitching the wound together, after first amputating enough of the distal extremities of the metacarpal bones of the outer portion of the hand, I was able to save this finger, and also to make it a useful member. I might multiply these two cases by a number of others that have recently come to my mind, where it became necessary to take risks in order to make useful parts.

And now, one word as to dressings. In these bad cases, where the tissues are badly lacerated and torn, I find nothing better to my mind than to moisten dressings with an antiseptic solution; and the choice of that antiseptic can be left to the well-informed surgeon, but I want to say that for the first washing after an amputation and before the wound is closed, there is nothing better than pure alcohol. Since I have been using alcohol freely in washing out wounds I have had much better results than formerly.

SOCIETY PROCEEDINGS.

Chicago Medical Society.

Regular Meeting, March 1, 1899.

Dr. A. D. Bevan, the president of the society, occupied the chair. He announced the subject for discussion as

SYPHILIS.

Dr. Maximilian Herzog read a paper entitled

REMARKS ON THE HISTOPATHOLOGY OF SYPHILIS.

From the histologic picture of syphilitic lesions he is inclined to draw the following conclusions:

1. What has been long known from clinical observation, viz., that syphilis primarily infects the lymphatic system and spreads by the lymphatics is true.
2. The infection of the blood-vessels occurs from the perivascular lymph-spaces. The veins are less resistant, and consequently, show the most marked changes, while the arteries, certainly in the earlier lesions, are not so prominently affected as the veins.
3. The specific living syphilitic poison is originally and probably permanently located in the lymphatic system, wherefrom it invades the blood-vessels and leads to the appearance of general manifestation. After such a general outbreak there is established, either in consequence of, or independent from, an antiluetic treatment, a hematogenous immunity. This latter, however, lasts only a limited period of time, when a new invasion of blood-vessels from lymphatic foci may take place. Whether a final complete hematogenous and histogenous immunity may be established with the proper treatment or without it, is a question which will undoubtedly be touched upon by these clinicians who are to follow in the discussion of the subject.

Dr. David Lieberthal followed with a contribution on

PRIMARY AND SECONDARY SYPHILIS.

He discussed the primary lesion with reference to its absence, its multiplicity and its recurrence. Can physicians under any circumstances admit or claim the absence of change at the portal of invasion of the syphilitic virus? He thinks they can, but only in cases of hereditary or of congenital syphilis. In all other cases it must be seriously doubted, since the primary lesion may be so minute as to escape detection by the naked eye, or it may lie in such an inaccessible or unsuspected place that it may escape observation.

As regards the multiplicity of primary lesions, by the time one lesion has developed, the whole system has become inundated by the virus, so that the contact of this lesion with vulnerable parts of the same person is without effect, therefore the one primary lesion remains single. But multiplicity of primary lesions may occur if there are more accessible portals than one, and if these come in contact with the virus simultaneously. No immunity of the body has yet been established, and simultaneous infection of different points is possible. Reinduration of the seat of primary lesion must be looked upon as a local or part of a general relapse.

Syphilis without surface eruption at the usual time is not such an uncommon occurrence. Fournier, one of the most reliable observers, states that the eruptions are absent in 40 per cent. of female patients. In these the primary lesions are in evidence, and the general lymphadenitis is present. It is known that such cases should not always be classed as mild, since serious symptoms may occur at a later period. That secondary cutaneous eruptions may be entirely absent is quite possible, although they may be so slight as to be overlooked.

Dr. Lieberthal then referred to grave cases of secondary syphilis of the non galloping variety, in which the cutaneous changes consist of ulcer spread either over limited areas or over the entire surface. Of the former, the lower extremities are the regions most frequently affected. These ulcers develop from syphilitic papules. They are accompanied by slight febrile reaction, slight mucous affection, and somtimes periostitis or iritis, but in any case by no more alarming symptoms than the usual cases of secondary syphilis. They readily yield to treatment, and the term "grave" is only applicable to the skin changes. Considering, therefore, that the primary lesion may be apparently absent and the early secondary eruption so slight as to pass unnoticed, a slight soreness of the throat being the most prominent symptom, the story of the patient, with reference to his never having been the subject of syphilis, must be accepted with the greatest reserve. In many cases there will be an obscure etiology, with affections ranging from the scalp to the toes, not to mention the invasion of the nervous system, syphilis being the remote cause. It is wise to bear this in mind and to proceed accordingly, and if not in all, yet in many of these cases the institution of specific treatment will be attended with definite results.

Dr. Henry G. Anthony read a paper on

GUMMATA AND CHANCRE REDUX

He said that there are no cutaneous manifestations of syphilis which are more frequently wrongly diagnosed than are the tertiary cases, in which there is no history of primary or secondary disease. Fournier gave the name of "ignored syphilis" to this class of cases. They are very common, and can only be diagnosed by a study of the appearance of the lesion regardless of the history. Any of the late syphilides may be present in these cases; those which ulcerate, however, are more frequently misinterpreted than are those which do not ulcerate. Dr. Anthony then restricted himself to a consideration of but one of these lesions—the gumma.

Whenever any part of the body of a syphilitic is injured, the disease often develops at the seat of injury. This is especially true of gummata, and when this occurs, and there is no history of previous syphilitic disease, such lesions are very frequently not diagnosed, even when absolutely typic in appearance; or to express this idea more concisely, syphilis is a disease which frequently develops in the *locus minoris resistentiæ*.

The author briefly outlined a few cases selected from a large number, to illustrate this subject, one of which we cite:

A man presented himself at his clinic with an ulcer on the middle portion of the anterior aspect of the leg. This ulcer was four inches long and two inches wide. It was surrounded by an extensive exudate, which elevated the tissues and gave the ulcer a depth of one inch. The outline was regular. It was funnel shaped; the sides were smooth; the base was formed by denuded bone the size of a silver dollar. Diagnosis from appearance, probable ulcerating gumma. On further examination no scars could be found anywhere on the integument or mucous membrane of the mouth. However, on the first phalanx of one finger a typic syphilitic dactylitis was discovered, which made the diagnosis certain. The following history of the case was obtained: The patient was 40 years of age; had been married a number of years; his wife had five children, no miscarriages; neither his wife, children, nor he himself had ever had symptoms in any way resembling syphilis. He had never had a venereal disease. Three months before, while wheeling a baggage truck, he slipped; the iron leg of the truck struck him on the shin: a swelling resulted, which his attending physician diagnosed as an abscess. A free incision was made, and the wound antiseptically dressed for three months. Finally, bone could be seen in the bottom of the wound. This, his doctor stated, should be removed. The patient visited Dr. Anthony's clinic to ascertain if the wound could not be healed without operation. Under mixed treatment both the gumma and the dactylitis, which had existed much longer than the gumma, healed quickly. Similar cases were cited.

The essayist then dwelt at length upon chancre redux, saying that the reinfection of syphilis has long been a subject of discussion among syphilographers. At the present time Hutchinson and his followers believe that it is not extremely uncommon, and that there are at least fifty-two cases on record; while, on the other hand, the French school—Taylor and others—believe that there are but five authentic cases on record, and to explain the remaining cases they state that most of them are cases of reinduration of old chancres, which is called chancre redux, pseudo syphilitic chancre, and relapsing chancre, and was first described by Fournier in 1868.

The first really important paper questioning the correctness of Fournier's view was from Leloir, in 1885, who stated that in his opinion the chancre redux was identic with trivial affections, such as herpes or balanitis, which take on induration in old syphilitics, and that in both these lesions the induration precedes the ulceration, while in the chancre the ulcer precedes the induration; that these lesions were gummata and should be called *chancriform syphilomes*. This view was not adopted by his associates of the French school, and at the time it did not attract the attention of others because it was published as a thesis to which few had access. Brocq also has written some very able papers on this subject, maintaining a similar view.

Dr. Anthony believes that all cases of reinfection of syphilis and of chancre redux which may be reported hereafter should be accompanied by a microscopic examination of the chancre. Of all authorities with whose writings he is familiar there is no one who seems to him to have had as clear an idea of this subject during all these years as has Kaposi. In his text-book he does not mention the chancre redux, but in considering the eruptions of the genital organs, he says: "Papular eruptions and gummata occurring on the genital organs may present great difficulties in diagnosis, inasmuch as they may readily be mistaken for chancres, or they may produce the symptom complex of reinfection, and this is especially true of gummatous infiltrations of the corpus cavernosum penis." To the above statement, Dr. Anthony added, "and these remarks apply equally well to relapsing chancres."

Dr. **L. Blake Baldwin** spoke on the subject of

EXTRAGENITAL CHANCRE.

A number of such cases have come under his observation, occurring in all walks of life, being located on almost every part of the body, and in some cases the initial lesion either passed unnoticed or was incorrectly diagnosed. Physicians hardly realize the danger of infection when examining patients, or are cognizant of the number of practitioners that suffer from syphilis contracted in this way. Among 47 cases of extragenital chancres reported by Fournier, 30 were physicians and midwives. The essayist could cite many cases in Chicago among physicians who have contracted syphilis in making examinations, in doing minor and major operations in obstetric practice, in holding postmortem examinations, making dissections, etc. A case in point: A physician in examining a woman for an ulcerative condition of the labia decided that an operation was advisable, and dissected out the abscess. He found a stitch would be necessary to close the wound, and after tying, cut the stitch with the bistoury he had used; the bistoury slipped and cut his finger. He immediately washed it with 1-500 bichlorid, and put on a collodion dressing. Three weeks after the operation he noticed an ulceration at this point which proved to be a chancre. Glandular involvement and secondary symptoms followed. He was unable to attend to his practice for several months. To emphasize still further the danger physicians are exposed to, he mentioned another case that presented many points of interest.

There is no portion of the skin or mucous membrane which is exempt from local syphilitic infection when there is a solution of continuity of surface. The favorite seat of extragenital chancre is upon some portion of the skin or mucous membrane of the head. Thus Fournier reports that of 481 cases of extragenital chancres, 365, or 75.8 per cent., occurred in this region. In adults it is chiefly due to the practice of kissing, the indiscriminate use of drinking utensils, pipes, etc.; in infants to infected wet-nurses, the latter being a cause which should receive the serious attention of every practitioner.

Gaston R. Aulnay reports 370 cases of chancres of the breast. Dr. Baldwin has seen several such cases, one of which he reported as follows: A baby, 4 months old, was brought to his clinic by its sister. On examination, he found a secondary eruption, enlarged lingual gland, and a true chancre on the left side of the lower lip. He sent for the mother. In examining her he found a fast disappearing ulceration under the left nipple. The history she gave was that the flow of milk was very slow, and her husband had used his mouth on her breast to "hurry up the milk," and the sore appeared a month afterward. Here is an instance of a father infecting the mother's breast, and the breast in turn infecting the baby. During one of the examinations the sister leaned over and kissed the child to quiet it. He explained to her the danger of infection, but four months afterward she presented a chancre on her upper lip.

The chief interest in the subject of extragenital chancre lies not in the report of individual cases, but rather in the deductions to be drawn from them as an explanation of the mode and site of infection in the multitude of cases of late syphilitic manifestations in which no history of infection can be obtained.

Dr. **Hugh T. Patrick** followed with a contribution entitled

SEVEN ONE-MINUTE POINTS ON SYPHILIS OF THE NERVOUS SYSTEM.

1. Syphilis of the nervous system very rarely means syphilis of the nervous tissue. With but few exceptions it means syphilis of the vessels or of the membranes, or of both—categorically, syphilitic arteritis, syphilitic meningitis or gumma, the first being incomparably the most frequent, the last (gumma) the rarest, and the second being practically a combination of the other two. In most instances the symptoms are due only indirectly to these specific lesions.

2. The custom of speaking of nervous syphilis as tertiary is condemnable, as it tends to promote clinical cloudiness in the mind of the practitioner by conveying the impression that these lesions must occur at a remote period after infection. The nervous system may be attacked before the disappearance of the primary sore, the appearance of lesions of the system within a few months after infection is frequent, and more cases occur within the first year after chancre than in any other; 50 per cent. come in the first three years, over 60 per cent. in the first five years, and after ten years of quiescence syphilis of the nervous system is exceptional.

3. In the case of a woman, a negative history of specific infection is valueless, and in men it is worth but little more. On the other hand, a positive history is of the greatest possible importance, and it is well to bear in mind that syphilis is no respecter of persons, and that the disease may be contracted by any individual regardless of guilt, knowledge or previous condition of purity.

4. In the present state of our knowledge we are not justified in regarding locomotor ataxia, general paralysis of the insane, and ordinary arteriosclerosis as syphilis of the nervous system, although the paramount importance of syphilis in the causation of the first two affections, and possibly of the third, can not be gainsaid.

5. There is current in the profession a rather illy defined, but unmistakable impression that syphilis of the nervous system is nearly always a curable malady. The best of treatment will not always remove an incipient syphilitic arteritis, meningitis or gumma; it can never perfectly cure any one of these lesions when far advanced.

6. To treat syphilis of the nervous system with ten grains of iodid of potassium and one-thirtieth grain of biniodid of mercury, three times a day, is to show a lamentable ignorance of therapeutics, and might be compared to attacking a holocaust with a garden syringe. For the treatment of nerve syphilis there is just one special rule: give mercury and give iodid, and give enough of each.

7. What is "enough" of mercury and iodid? At first, mercury to touch the gums while the mouth is kept immaculate, and continuance of a dose just short of this, usually 120 grains of potassium iodid t. i. d. Sometimes 60 grains suffice; sometimes 120 are not enough. The question will at once arise: How may patients tolerate this dose? Give it always diluted in at least eight ounces of water, and after meals. Occasionally it will be necessary to give it in a pint of water, one-half to be taken immediately after eating, and the remainder an hour later. Given in this way, Dr. Patrick has only had one patient in more than four years who could not take as much iodid as he wished to give, and in syphilis or suspected syphilis of the nervous system he has never given less than three drams a day, generally six, sometimes more. He has never seen the utility of beginning with five grains and wasting three or four weeks of valuable time in working up to a full dose. To begin at once with 30 or 40 grains is just as easy and much more rational.

Dr. **Ralph E. Campbell** discussed

THE TREATMENT OF SYPHILIS.

The time to institute antisyphilitic treatment is a very important and yet a mooted question, but he does not believe that under ordinary circumstances any beneficial results have ever been obtained from the administration of mercury in the initial stage. As it is impossible to abort the disease, such procedure only delays the many subsequent symptoms upon which physicians are utterly dependent for a positive and intelligent diagnosis, and this period is reached when the secondary eruption appears. The period of incubation is not to be lost sight of, but to be devoted to placing the patient in such condition physically that he will receive the full benefit of antisyphilitic treatment.

Many years of experience have shown that mercury has the most marked and salutary effect in the treatment and cure of syphilis, and, if properly handled, it may also be termed a specific for that disease. In no department of medicine have more advances been made and more enlightened conservatism been engrafted than in the treatment of syphilis by mercury. The treatment of syphilis must be based upon a full and accurate knowledge of the disease. In the early secondary stages the author uses protoiodid of mercury sometimes, combined with citrate of iron and quinin, or taka-diastase, the dose ranging from 1 to 4 grains a day, or mercury tannate from 1½ to 3 grains a day, or mercury and chalk in gradually increasing doses. In case the results from giving mercury by the mouth are not satisfactory, the physician should resort to hypodermic injections, fumigations, or inunctions.

Late secondary and tertiary lesions of the skin and mucous membrane, affections of the bones, joints and periosteum, late appearing affections of the eye, ear, cerebrospinal system and the viscera, the testes and the penis require a combination of mercury and postassium iodid or the mixed treatment.

The most common manner of giving mercury is by stomach injections, but the physician must be watchful lest enteritis, either mild or severe, supervene. This may pass away in a few days, as the patient becomes accustomed to the action of the drug or may grow more severe and lasting. In order to avoid this condition strict attention must be paid to the diet. In using inunctions the patient should be instructed to first take a bath at 100 F., and then sponge himself with a 2 per cent. solution of carbolic acid to render the skin aseptic. The inunction method was dwelt upon at length. The author has not obtained satisfactory results with the plaster mull treatment of Unna, or the friction soap treatment of Schuster. Fumigation treatment is useful in many cases and conditions, but is not to be followed as a routine plan. Thyroid treatment and blood serum therapy are, in the opinion of the essayist, useless. Hypodermic injections have their advantages, such as cleanliness, exact dosage, certainty of application, secret treatment in families, forced medication of prostitutes, sure action, better absorption and consequently more rapid effect. The disadvantages are stomatitis, gastro-intestinal disturbances, nervous phenomena, infiltration, fistulæ, abscess at the site of injection, pain and embolism.

The site of injection is, for insoluble salts, intramuscular or subaponeurotic in the deltoid, interscapular or subscapular regions, or buttocks. The latter is the spot most commonly used. The soluble salts are used by intravenous, subcutaneous, intramuscular, or subconjunctival injections. Injections of soluble salts may be made every day or every other day up to forty or fifty; insoluble salts, eight to ten injections, at intervals of from one to three weeks. In the treatment of syphilis it must be remembered that the most minute syphilitic lesions are to be feared, for the morbid cells herein contained are capable of infinite multiplication, and so-called syphilitic relapses are due to the continual recurrence of these cell proliferations.

Denver and Arapahoe Medical Society.

Regular Meeting, Feb. 28, 1899.

Dr. H. G. Wetherill presented a paper to the society on

THE RELATIONS OF CERTAIN NEUROSES TO THE PELVIC AND GENITAL DISEASES OF WOMEN.

He said: Those who have observed the evolution of modern gynecology are not unmindful of the constant tendency to more rational and sound gynecologic teaching and practice, and no single occurrence of the past decade indicates the trend of thought more clearly than the symposium upon the relation of pelvic to nervous diseases at the Denver meeting of the American Medical Association.

The main points upon which practically all could agree were: 1. A patient may have at one and the same time both pelvic and nervous diseases, absolutely independent of each other, so far as the production of one by the other is concerned. 2. Pelvic diseases and lacerations of the soft parts may exist for years without marked symptoms, till some other physical conditions arise to bring them into notice and develop them as factors of the case. Though this be true, the existence and perpetuity of these pathologic pelvic conditions, when once they have become prominent symptomatically, is a bar to the cure of nervous symptoms and the restoration of the patient to good health. 4. Pelvic and other operations upon the genitals of women must in every instance be done for existing disease of these organs and never for reflex symptoms. 5. When disease of the genitals exists, or laceration of the soft parts in which more or less complete cicatrization has occurred, there may be present profound reflex disturbances which can only be regarded as a phase or expression of the genital malady. 6. The cure of these complicated cases presenting both nervous and genital diseases of the concurrent and interdependent type will ordinarily demand that all possible causes of reflex disturbance be eliminated primarily and previous to the institution of systematic treatment for the nervous condition. 7. To this end in such cases the neurologist and gynecologist must co-operate, combining their efforts to master what sometimes proves to be a most intractable group of symptoms, comprising those of the tangible genital lesions and the intangible, elusive and almost incomprehensible manifestations of neurasthenia, hysteria and even some forms of insanity. The third, fifth and sixth of the conclusions were not concurred in by all those taking part in the discussion, and one or two of the neurologists took decidedly opposite grounds, still the greater number of those participating in the symposium were disposed to endorse them.

May our patients present various reflex nervous disturbances more or less general in character which are associated with and dependent upon, in the relation of cause and effect, pathologic pelvic or genital conditions? May such pathologic conditions, when once they have become prominent symptomatically, be a bar to the cure of the reflected or referred nervous symptoms or disease? In the treatment of such cases should the pelvic lesions be eliminated as a factor before the systematic treatment of the nervous disease is undertaken? The solution of these questions can not be reached by the acceptance of the mere *ipse dixit*, but must be evolved from the knowledge, experience, experiments and research, and it would appear that we have given too much consideration and weight to the empiric evidence offered, and too little thought and consideration to the known facts as they are given us by the anatomist, physiologist and pathologist. The exhaustive and laborious papers of Henry Head, "On Disturbances of Sensation, with Especial Reference to Visceral Disease" (*Brain*, Vol. xvi, 1893; and Vol. xvii, 1894), and James Mackenzie, "Some Points Bearing on the Association of Sensory Disorders and Visceral Disease" (*Brain*, Vol. xvi, 1893), bear with particular force upon this matter. An outline of these papers with some allusion to the argument can help us to a better understanding of the problems now before us for consideration.

Head and Mackenzie are agreed that "The pain of visceral diseases is not always localized by the patient over the organ affected." Ross first explained this fact by an ingenious hypothesis that the pain of visceral disease was referred along the distribution of the somatic roots which come off from the same level of the cord as the sympathetic fibers of the organ affected. They agree that: 1. The pain of which the person complains always lies within the areas of tenderness, if these be present. Should they be present at one time and absent at another, but the pain remain, tenderness is always found to make its appearance in the area which is said to be painful. 2. The tenderness is not deep-seated, but is always cutaneous or subcutaneous. 3. These areas of tenderness bear a definite relation to the different organs affected, but in many cases lie at a considerable distance from the organ affected. The pain produced by stimulation is not produced by any action on the organ itself, which may lie at a considerable distance from the tender spot. Again, the tenderness may be on the right side, though the organ affected lies on the left side of the body. 4. The superficial reflexes are usually exaggerated over the tender areas produced by visceral disease." (Head: *Brain*, Vol. xvi, 1893, pp. 55 and 56, and James Mackenzie: *Brain*, Vol. vi, 1893, p. 331.)

Illustrative examples are given of this referred pain of visceral diseases, such as the well-known arm pain of angina pectoris, the right shoulder pain of certain diseases of the liver and diaphragm, the referred pain and retracted testicle of renal and ureteral calculus, the back pain of prostatic and rectal diseases, the retention of urine after painful rectal operations, and last, but by no means least for the purposes of this paper, the well-known pains in groins and back and hips and thighs, under the breasts and on the head; from ovarian, tubal and uterine diseases.

In regard to the generalization of pain, tenderness and other nervous phenomena originating from visceral disease, it is made apparent that this may take place through one or all of three ways: 1. An organ receiving most of its nerve-fibers from one side of the cord, nevertheless has some from the other side, so that visceral disease may be the cause of pain or tenderness at the same spinal level on the side of the body opposite that upon which the viscus is situated. 2. Through diffusion from a center, as in the neuralgias set up from an aching tooth but spread into the areas adjacent. "If I am anemic, or if the pain remains untreated until my bodily health is affected, I no longer have a localized area of tenderness, but the pain, and with it the tenderness, spreads until the whole of one half of the head and even the neck may be intensely tender. Thus, at last, the pain of an aching tooth has produced tenderness over areas which bear no relation to the affected organ. 3. Certain viscera, such as the uterus and breast, are naturally closely related to one another. Thus, suppose pain and tenderness to exist in consequence of the disease of one of these organs, the next area that will be affected when this pain and tenderness spreads, is that belonging to the associated organ.

. . . This is the phenomenon which I have been accustomed to call 'generalization of visceral pain and tenderness,' and is of such common occurrence as to form a very important factor in the clinical picture of many diseases. A patient may be anemic and yet suffer from no pain or tenderness. But as soon as some cause for referred pain is present generalization at once begins. Thus if an anemic female menstruates she not only has pain over the tenth dorsal areas corresponding to the ovary, but she has pain and tenderness over the areas of the sixth dorsal (heart), seventh dorsal (stomach), occipital and midorbital (eyes, etc.). If an anemic man or woman have a toothache or suffer from hypermetropia they may have the most widespread tenderness and pain. And yet if the cause is removed this pain does not cease, at any rate immediately, for the resistance of the center being once broken down is with difficulty recovered."

"Where widespread tenderness of the head and neck are present, and headache is a marked feature, some error of refraction is often present. In some cases the starting-point of the pain is in the cough of some lung or bronchial affection. A very large number start originally in the pain of chronic dyspepsia, and an even larger number in the pain caused by some irregularity in the viscera. Thus it is not sufficient simply to treat the anemia or to treat the original cause and point of primary manifestation of pain, *but both must be corrected.*"

This logic view of the phenomena under consideration, confirmed by the observation and experiments of Head, Mackenzie and Ross, would seem to be indisputable, and the failure of surgery to cure under certain conditions is fully explained. It is evident that the part played by the reduced resistance in the nerve centers from long existing visceral disease, and the rational treatment of this condition subsequent to operation, have not sufficiently attracted our attention. We have expected too much from the elimination of the peripheral irritation which has determined the generalized symptoms, and have failed to appreciate the necessity for patient and persevering, and sometimes long-continued after-treatment of a character likely to restore the tone and resisting power of the general nervous system.

The evolution of the present views as to the efficacy of the surgical treatment of traumatic epilepsy may be cited as an illustration, for it is now conceded that late trephining and elevation of an old depressed fracture of the skull is quite likely to fail of itself to cure the resultant epilepsy after the epileptic habit has been established, although an early operation might have prevented the epilepsy. The results of modern surgery have been so wonderful, and its application so varied, that too much is often expected as the direct and sole result of the surgical operation; the swing of the pendulum is bringing opinions and practice to a much more rational and sound basis.

In the discussion to which allusion has been made a well-known neurologist of Philadelphia took the most radical position against the interdependence of pelvic and nervous diseases, as well as that against the performance of surgical operations in the treatment of such nervous diseases as neurasthenia and hysteria. He said, for instance: "We remember that in neurasthenia there is added to nervous weakness, nervous irritability; that there is an increased reaction to local impressions, and I maintain that it is just as proper and just as clearly indicated to correct local pelvic disease in neurasthenic patients as it is to give such patients glasses to relieve their ocular symptoms." On the other hand, he concludes, among other things, that "There is no relation between pelvic disease and hysteria (and neurasthenia) even when the two affections co-exist in the same case" and "that the pain areas of hysteria bear no relation to disease of the deeper structures."

It is evident that agreement is near when the most conservative neurologists "believe that in neurasthenia, operations for actual pelvic lesions are indicated" and gynecologists proclaim that "pelvic and other operations upon the genitals of women must in every instance be done for the existing disease or distortion of these organs, and never for reflex symptoms which may be supposed to originate from healthy and normal organs."

Every gynecologist of wide experience knows, and most of them will admit, that surgical operations for the cure of reflex pains believed to be of genital origin, very often fail of their purpose. Occasionally this is true even when gross disease of the pelvic viscera has been demonstrated and eradicated.

It is evident that at times surgery does not go far enough, that it is not complete and finished in detail; or that the post-operative treatment has been inadequate. It is not enough in seeking the source of a neurosis of pelvic origin to exclude disease of the ovary underlying the point of referred pain, nor is the most necessary surgery, however rationally and deftly done, all that is required to effect a cure. The conclusions of MacKenzie and Head are clear upon this point, and in the light of their findings it must be borne in mind that pain upon one side may have its origin in the ovary of the other side or in any viscus receiving its sympathetic nerve-supply from the same segment of the cord, or one intimately associated with it. In the search for the causes of such pain all the pelvic viscera must be examined and disease of all removed or excluded, and the operation must be so completed as to leave no pathologic conditions as a result of the work; i. e., no dead ligatures or extensive adhesions. More important than all, the after-treatment must be so conducted as to eliminate the acquired pain habit, just as the epileptic habit should be treated after trephining.

It is apparent that we must answer in the affirmative two of the three questions asked in the first part of this paper, as the affirmative answer is practically conceded by all parties. There yet remains for consideration the query whether, in the treatment of such cases, the pelvic lesion should always be eliminated as a factor before the systematic treatment of the nervous disease is undertaken. It would seem at a first glance that the affirmative answers to the other phases of the problem carried with them the affirmative answer to this one, were it not so well known that the clinical histories of multitudes of just such cases not only fail to support such an answer but, on the other hand, point to the very opposite one. No possible ground exists for the view that the pelvic operation should always be done as a preliminary to other treatment, for such generalization is particularly unwarrantable here, each case being a law unto itself and demanding a most careful investigation of all its phases. Some cases will demand immediate operation, some a more or less prolonged course of preparatory treatment before operation, some postponement of all operative procedures till practical cure of the nervous symptoms is secured and others must not be operated upon at all, even for evident pelvic lesions, unless the operation is imperatively demanded as a means of preventing impending death from some acute, virulent or malignant disease.

Broadly speaking an experience of twenty years leads me to think that those cases in which we most certainly hope for and expect great improvement in nervous symptoms associated with female genital lesions are such as have neurasthenia, together with lacerations of the soft parts, accompanied by retrodisplaced or prolapsed pelvic organs. Wise and properly done surgery, followed by judicious after-treatment almost invariably gives the most satisfactory results in such instances, and this experience is confirmatory of another; i.e., that women who have borne children are much more certain of a surgical cure of reflex nervous symptoms than are those who have not, be they married or single.

The cases most unfavorable for the surgical cure of reflex nervous symptoms, even when actual pelvic lesions exist and are believed to have been a factor in their production, are those hysteric unmarried women who have no reserve of nervous energy; who seem to be greatly improved immediately after operations, which they bear particularly well and even appear to enjoy, but who soon relapse and are again as ill or worse than ever before, regardless of what may have been done for them, or of how well it may have been done. Sexual perverts, masturbators and conception-preventers are the very worst of this class, and when the pain habit or the hysteric state in such individuals has become thoroughly established, it may be looked upon as well nigh incurable, at least by surgical means alone. Every neurologist and every gynecologist of experience can recall many such cases. They have had repeated pelvic, plastic, and kidney fixing operations, operations for ventral hernias, dead ligatures, peritoneal adhesions, etc., until more or less complete evisceration precludes the possibility of further surgery; when they are left to drag out a wretched existence, having gone steadily on from bad to worse with each new procedure.

All gynecologists, neurologists, and physicians, all medical students, and a few patients, should read at least once a year that classic introduction to "The Clinical Gynecology" of Keating and Coe, by Dr. William Goodell. The closing paragraph of this remarkable paper should be ever before us. He says:

"In conclusion, the riper my experience the more firmly am I convinced that in the treatment of women's diseases the possibility of a nerve origin or of a nerve complication should be the *fore*-thought and not the *hind*-thought of the physician. I therefore have arrived at a very short gynecologic creed: I believe that the physician who recognizes the complexity of woman's nervous organization and appreciates its tyranny will touch her well-being at more points, and with a keener perception of its wants, than the one who holds the opinion that woman is woman because she has a womb."

In bringing this paper to a close allow me to recapitulate the inferences I have made:

1. Nervous symptoms or actual disease of the nervous system may be produced in a reflex way from the pelvic or genital diseases of man or woman.
2. Reflected or referred pain, usually neuralgic in type, may also be so produced.
3. The referred pains are not always produced by a disease of the organ which they overlie, but they may be due to disease of some organ having its sympathetic nerve-supply from the same segment of the spinal cord, or even due to a disease of some allied organ elsewhere in the body. Thus the so-called ovarian pain may be produced from a disease of the opposite ovary or other pelvic viscera; it may be caused by other pelvic conditions induced through sexual perversion, though they may be accompanied by no gross lesions, and I believe the last-mentioned cause is a common one in the etiology of ovarian pain, inframammary tenderness and the neurasthenia and hysteria with which they are so often accompanied. Pelvic and general hyperemia and hyperesthesia are usually found in conjunction with the other phases of this malady, and the flushing face and other evidences of vasomotor disturbances at least suggest a genital origin.
4. Pelvic and genital diseases—organic and functional—must, whenever possible, be cured as a part of the scheme of rational treatment of those patients presenting the nervous manifestations of such lesions.
5. Timely and judicious surgical work will, in selected cases, do much to cure the nervous symptoms arising from actual pelvic disease or dyscrasia. A late operation may fail, as in epilepsy, and it is only those cases that have been selected with great care that should be operated on at all.
6. Chronic hysteric patients with an established pain habit are the least likely to be permanently benefited by surgical operations, and operations must be done upon such individuals only after a careful consideration and consultation with the neurologist, and only for evident and palpable local disease, the cure or relief of which is believed to be positively essential to the health and well-being of the patient.
7. The surgical treatment of pelvic inflammation or infection, subinvolution, uterine displacements, or prolapse of the pelvic viscera, and the old lacerations accompanying them in child-bearing women is most promising and satisfactory when a cure of their nervous sequels is sought. Such cases yield the best results attainable, both local and general, immediate and remote.
8. The elimination of the peripheral cause is but one step in treatment; the effect remains to be treated and must be intelligently and persistently treated until cured, if indeed cure is yet possible. Surgery may remove the cause, but surgery alone is in many instances inadequate for the cure of the effect.
9. The local and original cause can only be cured by treatment prescribed for and directed to the local disease. This treatment must often be surgical.
10. Rest, massage, electricity, hypernutrition, moral suasion and suggestion are inadequate for the cure of the local cause, as in surgery, for the cure of the effect. It is quite as reasonable to expect, then, to cure an abscess or tumor of the brain and their symptoms, as to expect to cure the lesions and symptoms of like pathologic processes of the pelvis.

Dr. Eskridge said that neurasthenia and hysteria lie too deep to be reached by the scalpel. He pointed out that a lesion in a healthy subject will never give rise to such an array of symptoms as one is liable to meet in hysteric and neurasthenic subjects. He spoke of the importance of and benefit to all concerned of the co-operation of the gynecologist and neurologist. He refuses to treat cases in which the symptoms point to some derangement of genito-urinary apparatus before the gynecologist has given his opinion. In nine cases out of ten the local trouble should be treated first, or both should be treated at the same time. The specialist should try to serve as a consultant only; the treatment should remain in the hands of the practitioner.

Dr. Pershing spoke of the many factors which are contributing to the etiology of neurasthenia and hysteria, and which must not be overlooked—overwork, worry, uric acid diathesis, peripheral irritation, etc. The abnormal suggestibility and lack of self-control of such patients should be overcome. His studies during the last year have convinced him of the error of the stand he took some time ago that pelvic disease does not cause headache. He still adheres, however, to his opinion that diseases of the uterus do not cause headache.

Dr. Perkins expressed his assent to all the deductions made by Dr. Wetherill, and cited a few illustrative cases.

Dr. Sewall objected to Head's conclusions. Cutaneous pains in certain parts do not necessarily signify visceral lesions, and vice versa. Ductless glands have internal secretions. In morbid states of such glands lack of secretion may cause headache without any nervous connection.

Dr. Wetherill, in his concluding remarks, related cases of epilepsy in an English asylum, 50 per cent. of which had phimosis. The speaker was on the Board of the New Jersey State Insane Asylum, and found 36 per cent. with phimosis. Circumcision gave several good results. He cited the splendid work done in the Ontario Asylum for the Insane, where 110 women have undergone operative treatment. The operations embraced 83 curettages, 38 trachelorrhaphies and amputations of the cervix, 26 operations for suspension of the uterus, 12 ovariotomies, 17 hysterectomies, 2 laparotomies for tubercular peritonitis, 1 celiotomy, and 17 perineorrhaphies. The results were as follows: 40 (36 per cent.) were restored mentally, 32 (29 per cent.) showed an improved mental status, while in 35 (29 per cent.) the mental condition remained stationary, and 3, or less than 3 per cent., died.

The whole question depends upon whether we believe that nervous diseases may originate from a pelvic and genital source, and all medical history, experience, experiment, theory and reasoning indicate that they may, and, as a matter of fact, very commonly do so originate, not only in women but in men. To dispute this is to ignore the cyclic nervous phenomena of menstruation, the reflexes of pregnancy, the altered nutrition and nervous disturbances of puberty and the menopause, and the profound effects of sexual perversions and excesses as we commonly see them expressed in and through the nervous system.

Dr. Hall exhibited a spleen from a case of leukemia, weighing 18 pounds.

Chicago Academy of Medicine.

Regular Meeting, Feb. 10, 1899.

Dr. Charles S. Bacon acted as chairman. He announced the subject for discussion as

NEPHRITIS.

The subject was considered from various specialistic standpoints.

Dr. R. B. Preble was called upon to open the discussion. He said: I feel that an apology is needed to appear before you and discuss, at the request of the secretary, so broad a subject as the pathology of nephritis, without having an opportunity to prepare myself, or even to outline what I wish to say.

The pathology of nephritis is a subject with which pathologists and physicians are still struggling. There have been a number of pathologic and clinical classifications advanced, yet there is today no harmony between them, the clinical classification in no degree corresponding with the pathologic. The reason this confusion exists is because both pathologists and clinicians draw too sharp lines, forgetting that the kidney is not an organ in which the parenchyma and the interstitial tissue are sharply separated from each other. Nephritis is usually divided into the parenchymatous and interstitial. As a matter of fact, kidneys examined microscopically rarely, if ever, show either form pure. Frequently the interstitial or parenchymatous changes are found widely in excess, but on the other hand, there are many cases in which we find both elements markedly and evenly distributed, when, strictly speaking, we have neither the parenchymatous nor interstitial form. It would be well for us to follow the example of French physicians in regard to their classification of cirrhosis of the liver; they do not draw such sharp lines between the vascular cirrhosis and biliary cirrhosis, but recognize the fact that in a large number of cases it is neither one form nor the other, but that the cases are mixed. Were we to adopt such a classification for nephritis, considering most of the cases mixed, while recognizing the possible existence of parenchymatous or interstitial nephritis, I believe clinical experience would fit the pathologic conditions. It is rare, clinically, that we find what is described in text-books as parenchymatous nephritis. It is not quite so rare, however, to find what is classified as interstitial nephritis. Most of the cases we see clinically present manifestations characteristic of both forms. We should adopt as our classification parenchymatous nephritis, interstitial nephritis, and consider the bulk of the cases mixed. The examples of interstitial nephritis or of contracted kidney which we see, might be subdivided into primary contracted kidney and secondary contracted kidney. A distinction is to be made by the clinical history, secondary contracted kidney being those cases in which earlier in life there have been symptoms of parenchymatous nephritis.

Turning now from this very brief and general discussion of the pathology of nephritis, let us briefly consider some of the more prominent constitutional disturbances. I have jotted down only two: 1, the cardiovascular changes; 2, the symptoms of uremia.

Many years ago, when Bright first described nephritis and recognized the relation between ascites, edema, and kidney disease, he noted that in many cases there were present cardiovascular changes for which he could not account. Over one-half of the cases presented evidences of cardiac hypertrophy. In a certain number of these he found valvular changes or changes in the aorta; but in one-fourth of the cases he could find no changes whatsoever which would account for such cardiac hypertrophy. He was, therefore, inclined to believe that the cardiac changes should be referred to the changes in the kidney. Many years ago he expressed an opinion, which holds good today, as to the probable pathology. So far as facts are concerned, we do know today more about the actual causal relation of nephritis and cardiac hypertrophy than did Bright. His explanation was that changes in the quality of the blood cause cardiac hypertrophy, due either to direct irritation of the heart muscle, or to irritation in the blood-vessels. That idea is held today in somewhat modified form.

There have been, however, a large number of theories proposed to account for this cardiac hypertrophy. One of the most prominent theories is that advocated by Traube. He believed that cardiac hypertrophy was due to the combined action of an increase in the quantity of the blood together with a decrease in the vascular bed. This idea is held today by a large number of prominent authorities upon diseases of the kidney. It does not seem to me satisfactory. In the first place, the cases of nephritis in which we notice the most marked cardiac hypertrophy are those in which there is little opportunity for the development of hydremia because they are accompanied by a large secretion of urine. On the other hand, nephritis which is accompanied by a decreased excretion of the urine, parenchymatous nephritis, is rarely, although sometimes, accompanied by cardiac hypertrophy.

A second causal factor which Traube advances is the narrowing of the vascular bed, due to destruction of the vessel of the kidneys. This theory seems to me of no value whatsoever, because we know experimentally that an entire kidney may be removed even, or larger vascular areas destroyed with cardiac hypertrophy resulting.

Another theory is that advanced by Gull, that nephritis is not a primary, but a secondary process, the result of diffuse changes in the blood-vessels everywhere throughout the body, a diffuse arterio-capillary fibrosis. This diffuse arterial change, by increasing the obstruction to the circulation, causes the heart muscle to hypertrophy, and in this way meet the additional demands put upon it. Unfortunately, while in many cases we find changes in the blood-vessels, we can not be sure that they are primary, and in a large number of cases of nephritis we find no such changes. This is especially true of acute nephritis. I believe today the best theory we could adopt, but one which is rather speculative, is that on account of the altered function of the kidney certain bodies are retained in the system which should be excreted, irritating either directly or indirectly the blood-vessels and causing obstruction to the circulation, so that the heart muscle must increase its power in order to perform the added work.

The physical signs of such cardiac hypertrophy do not differ from those of hypertrophy in any other case. The most important of all the physical signs is the increased cardiac dulness, due principally to an increase of the left ventricle, and therefore, mainly downward. There is some increase in the transverse measurements, but the apex is displaced much more downward than outward. Upon auscultation we find that the second aortic tone is accentuated. Frequently in these cases we find that not only is this tone accentuated, but it has a peculiar ringing character, not the result of increased blood pressure particularly, but of changes in the aorta. The third important sign is the change in the radial pulse, shown both by palpation and sphygmographic tracings. The apex of the curve is flattened, the elasticity waves exaggerated and the back-stroke wave lessened. With the aid of sphygmographic tracings we oftentimes get a strong suggestion as to the nature of the process. This cardiac hypertrophy is not found in all cases. The more purely the interstitial form of the disease is present, the more certainly will you find cardiac hypertrophy, and in cases of interstitial nephritis without cardiac hypertrophy we have always to look for some other explanations of the obscure cardiac hypertrophy. A certain number of cases, the indirect result of parenchymatous nephritis, will show cardiac hypertrophy. In the acute forms of nephritis we sometimes see developing within a few weeks considerable cardiac hypertrophy with all its consequent signs. Traube was the first to draw attention to the value of the cardiovascular changes in the early diagnosis of nephritis. It frequently happens that we get cardiovascular changes without there being any marked changes in the urine. The value of these changes to the life of the individual is very great, so great that many cases of nephritis are essentially heart cases rather than kidney cases. So long as the heart contracts strongly the patient gets along very well, but as soon as the heart fails to do this, the end is near. In a word, then, the cardiovascular changes may be regarded as uremic manifestations or as manifestations of retention in the system of bodies which ought to be excreted, and that is practically what we mean by uremia.

Two groups of theories have been advanced in regard to uremia—the mechanic and the chemic. Practically, most all modern observers have given up the mechanic theory of uremia, although there are some who cling to it, and among them Rosenstein, one of the great German authorities. He is still strongly inclined to believe that uremia is largely mechanic. Traube was one of the first to advance the theory and ably defended it, that uremia was largely due to circulatory disturbances in the brain; that the edema was due greatly to hydremia, and particularly to cardiac hypertrophy, as the result of edema, the blood-vessels are compressed, causing a cerebral anemia with consequent uremic manifestations. The symptoms of the anemia vary according to the portion of the brain affected. In those cases where we have coma the process is localized on the cerebral hemisphere; while in those cases where we have convulsions the mid-brain is affected more markedly. A number of other mechanic theories have been advanced, but no one of them is now regarded, with the exception of the one of edema and anemia of the brain.

Chemic theories have been numerous. Soon after the discovery of urea the theory was advanced that this body was the cause of uremia and it was found upon the examination of the blood of uremic patients that the percentage of urea was greatly increased; that oftentimes in uremic individuals there was ten times the normal amount of urea in the blood. But this theory was not held very long. Experiments were made in which large quantities of urea were injected into the animal organism, and yet uremia was not induced.

The next theory advanced was that of Friedreichs, who believed that uremia was due to intoxication with carbonate of ammonia. This theory had a still shorter life, because experiments showed that the symptoms of poisoning with carbonate of ammonia were different from those of uremia. The bodies were not present in quantities sufficient to bring about intoxication. Various other theories of bodies were advanced to explain uremia. Experiments were made with creatin, creatinin, hippuric acid, etc., with a view to bringing about uremia, but animals injected with those substances did not have uremia. After the discovery of the ptomains and leucomains, they also were regarded as bodies that would induce uremia; but this theory was soon abandoned. Furthermore, potash salts were blamed for inducing uremia.

Finally, we have the theory of Bouchard, that uremia is not due to any one body, but to a large number of bodies; that some of them are introduced into the system from without with our food; for example, those foods which contain potash salts. It is believed that other bodies, like organic foods, are subjected to changes in the intestines which render them toxic, and that those bodies in part account for uremia. Various assimilative processes in the body bring about changes and produce bodies which are toxic; certain of our own secretions, as the saliva, still more than bile, are toxic, and these being absorbed cause the symptoms of uremia. Bouchard separated these different kinds of bodies with some degree of satisfaction. He discovered one body which had the power of producing coma, one or two bodies which would produce convulsions, another which altered the temperature. He believes there are bodies, as yet undiscovered, which play a part in uremia, and that according as one body or another is in excess, so the symptoms vary. This brings us to the discussion of uremic symptoms.

Scarcely two cases present exactly the same complexus of symptoms; for example, one patient has headache, sometimes for many weeks and months, which is unexplainable until it is discovered that the kidneys are diseased. The headache may be diffused or it may be in the nature of a hemicrania. Another individual may suffer for a long time from gastro-intestinal disease, nausea, diarrhea, or something of that sort, and after considerable time it is discovered that the trouble is due to uremia.

The symptoms may be divided into four groups: a cerebral group, a respiratory group, a gastro-intestinal group and an arthritic group.

The cerebral form may be divided into several sub-groups, according as one symptom or another is most manifest—a comatose form, a convulsive form, a delirious form, and paralytic form. The comatose form is common and needs no comment. The convulsive form varies in its manifestations and simulates the convulsions of a wide variety of diseases; for example, it may simulate the Jacksonian epilepsy, an ordinary epilepsy, a tetany, a tetanus and others. The delirious form is not common, and may present itself either in the form of an acute delirium or of a chronic delirium. The intensity of the delirium, like its character, may vary. It may be like that of an acute mania, like an alcoholic delirium, or it may be a low muttering delirium, similar to that seen in typhoid conditions. Chronic deliriums may simulate any of the forms of insanity. The paralytic form is another form rarely seen, and may show itself either as a monoplegia, hemiplegia, or paraplegia. The pathology of these paralyses is not well understood. They may be of short duration or may continue till death, and at the autopsy the postmortem findings may be negative.

The respiratory group also may present itself in a wide variety of ways. The commonest form, and therefore the most important form, is that of asthma. This is an extremely common uremic manifestation, and should always be present in one's mind when consulted for an asthma developing late in life. The duration and number and severity of the attacks vary greatly, and the diagnosis can be made only upon examination of the urine. The other forms of the respiratory manifestations are less common, and may therefore be omitted. The articular form, recently described by Jaccoud, resembles either the gout or the rheumatism, and can be recognized only when an examination of the urine reveals the presence of nephritis.

It is scarcely necessary for me to say that this division of the symptoms and forms can not be carried out accurately in the clinic, and the division is made mainly for convenience and memory in teaching. Each case will clinically present symptoms of a number of these groups, but usually some one symptom is so much more prominent than any other that it enables us to place the case in some one of the groups mentioned.

(*To be continued.*)

Chicago Ophthalmological and Otological Society.

Regular Meeting held Feb. 14, 1899.

Dr. WARE occupied the chair, and presided over the meeting. Dr. GAMBLE exhibited a case of

UNUSUAL FUNDUS CHANGES IN A CASE OF INHERITED LUES.

He said: This boy is 11 years of age. He came under my observation at the infirmary a few months ago, complaining that he could not see well. I found his vision $^{20}/_{200}$ in each eye at that time. With reference to personal history, he has never had a severe illness, nor has he had any disease of the eyes previously. His antecedent family history is not so good. His mother gave birth to a still-born child about one and one half years before the birth of the patient. The next but one younger than the patient died at the age of six weeks. Personal inspection of the boy shows very characteristic inherited syphilitic facies. The enamel of the central incisors is defective. We find the lymphatic glands involved, especially in the cervical and epitrochlear glands; flattened nose; linear cicatrices at angle of mouth, and other well-marked evidences of this inheritance. On examining the boy's eyes I found that he had an error of refraction $+4 =$ cyl. $+1$ ax. 180 in each eye. Both corneæ are normal in appearance. The lens in the right eye has a punctate opacity on the anterior surface, irregular in form, about 5 by 6 mm. There is some pigment also attached to the lens at this point, which is the remains of a posterior synechia resulting from iridocyclitis during intrauterine life. There is chorioretinal degeneration in the right eye, also atrophy of the disc. This atrophy is secondary. The arteries are reduced in size in the retina; the lamina cribrosa does not show, but there is a blue effect from the disc. The left eye is one that is of special interest to me. As I look into it, I find nothing abnormal except the refraction until I come to the fundus. The disc is bluish-white, very pale, vessels constricted, and on each side of the arteries is seen a streak of connective tissue, the result of periarteritis. I have never seen a case so pronounced in inherited syphilis. Another point that interested me was the marked chorioretinal degeneration. In cases of inherited lues we often see a patch in the periphery of the retina, but to see the whole retina involved, as in this case, is somewhat rare. Observation heretofore is that in cases of inherited lues it is rare to find the results of periarteritis. I have not investigated the literature very much on the subject, but what I have bears out my statement. However, we know that syphilis has a predilection for the arteries, and we speak of it as primarily a disease of the blood-vessels. The reason that we do not see these evidences of vascular trouble in these cases is probably due to the fact that the mild cases live, the severe ones die in utero, or soon after birth.

Regarding the treatment of this case, I have principally used placebos, as I think the process is practically stationary.

Dr. WARE—In syphilitic cases mercury can be used quite freely, both in children and adult cases, and I believe we have more success with mercury administered alone than with mercury and potash. In administering mercury to a child there is nothing like the inunction method, although in order to get its rapid effects it is also beneficial to give it internally. If mercury is pushed both by inunctions and internally there ought to be some benefit from it.

Dr. GAMBLE, closing the discussion—There is one point of which I wish to speak in connection with this case, and that is in regard to its treatment. My experience in the systemic treatment of these fundus cases with mercury and the iodids has been limited. I must confess I have but little faith in their efficacy, especially in a patient 11 years old. There could be but little question raised against their use during the first few years of life, for the tertiary stage may still have not spent all its force.

I have seen but little good come from specific systemic treatment in cases of interstitial keratitis. It seems to me, interstitial keratitis is a postsyphilitic disease of the uvea with a resulting involvement of the cornea. If any pathologic changes are occurring in choroid or retina at present in this case, I would consider them also postsyphilitic. If this is true, mercury would be of little avail. However, in deference to the opinions of those whose experience is greater than mine, I will give the boy the mercury inunction treatment as suggested by Dr. Gradle and Dr. Pinckard, and watch carefully for results. Owing to the atrophy of the discs and retinæ the acuity of vision can not be raised to any considerable extent.

OBSCURE TUMOR OF THE SCLERA.

Dr. C. P. PINCKARD—This interesting case was first seen by me Dec. 29, 1898. The following history was told: Some two weeks previously the child had a feeling of foreign body in the left eye. The mother examined the eye and noticed a small growth. It was very small and not injected. As it continued to grow, she brought the child to me.

The family history is good, except for a suspicion of specific trouble on the father's side, which could not be verified, as the father could not be seen. Evidences of inherited lues are present in the child in the shape of enlarged glands, notched teeth, etc., but these are not well marked.

On the left sclera, about 2 mm. below the corneal border, a yellow mass 4 mm. in diameter, almost hemispheric, was seen, to which and over which there were a considerable number of small blood-vessels. The conjunctiva was freely movable over the tumor. There was no pain or tenderness; the cornea and iris were normal, and vision normal. It was impossible to see any change in the ciliary body with widely dilated pupil.

The question of treatment depended entirely on the diagnosis. The suspicion of hereditary lues determined a trial of iodid and mercury. Daily inunctions and beginning doses of 10 grains potassium iodid four times per day, rapidly increased to 50 grains four times per day, were started, and have been taken since that time.

The effect on the tumor has not been brilliant. For three weeks it continued to grow until it attained the size you see it now (about 6 mm. in diameter). Since that time, that is, for two weeks, it has not grown, but remained stationary. The effect of treatment on the congestion has been rather marked. For the past two weeks it has steadily diminished.

The child, in spite of the large doses, has not yet become saturated with iodid and mercury. The diagnosis seems to lie between gumma, tubercle and sarcoma. I can not see how it is possible to decide for the present. The indefinite, but suspicious family history, the physical signs, though not marked, the apparent cessation of growth of the tumor under iodid and mercury, and the ability to take such large doses without saturation, would seem to indicate that the tumor is a gumma. About January 15 it was noticed that the center of the tumor looked soft and gelatinous, and the sarcoma side of the diagnosis became more prominent. I shall be more than glad for any suggestion as to diagnosis or treatment, as the case seems to me to be very obscure and very interesting. I feel that as the tumor is not spreading, nor threatening to extend into the orbit or brain, a conservative course is the proper one. I have had a number of cases of specific troubles where no effect from medication was observed for some time, yet when improvement did start, it was very rapid. My idea is, to still increase the doses until this boy becomes saturated, and to keep him so until a fair chance is given the tumor to respond. As far as is known, the tumor began two weeks before December 29, that is, about nine weeks ago. How long it existed before that we can not tell. It has never given the child any trouble, nor has it affected the vision or fundus, which are still normal.

Dr. Ware—Naturally we would compare this case with the other one that has been exhibited, and I should say from the appearance, without going into the case very minutely, that it would suggest hereditary trouble. I should suppose that Dr. Pinckard can do no better than to continue the antisyphilitic treatment.

Dr. Pinckard—There is no irritation in the eye whatever, and the trouble seems to be entirely confined to the sclera. Dr. Gradle's suggestion that in case antisyphilitic treatment fails, tuberculin be tried, will certainly be followed.

Orleans Parish Medical Society.

Meeting at New Orleans, La., Feb. 25, 1899.

Dr. Rudolph Matas exhibited the lithotrite of Dr. Chismore of San Francisco, and called attention to the

GENERAL APPLICABILITY OF LITHOLAPAXY

in the treatment of stone in the urinary bladder. The majority of cases are suitable, those being excluded in which great prostatic hypertrophy or severe cystitis exists, the former condition interfering mechanically while the latter requires the free drainage given by an incision. Brief reference was made to the cutting operations for stone, the suprapubic, lateral perineal and median perineal. The last was recommended as the preferable operation, the first being objected to as keeping the patient in bed several weeks, soaked with urine. Apropos of the relative simplicity of litholapaxy, a case in point was related; it was that of a paraplegic who had been in bed a long time and in whom a calculus had developed as the result of cystitis. The condition was such that bloody operative intervention of any severity would have been the last straw. Within an hour the stone, weighing nearly a dram, and consisting of an uric acid nucleus with phosphatic accretions, had been crushed and delivered with the Chismore apparatus, this under the influence of solutions of cocain varying from 2 to 4 per cent. Attention was called to the freedom from toxic symptoms attending the use of cocain solutions as strong as 4 per cent., in the bladder; this is in marked contrast with the results of cocain used in the urethra, where it has caused death on more than one occasion. The Chismore lithotrite is a modification of the old Thompson instrument rather than of the Bigelow pattern, having smaller blades than the latter. A feature of the male blade is its tubular form, permitting: 1, the evacuation of débris without removal of the lithotrite and substitution of the evacuating tube; 2, the escape of the cocain solution or the addition of more if needed, and 3, the introduction of a stylet for the dislodgment of fragments caught in the serrations of the blade. The blades are approximated or separated by means of a rack and pinion, while a knob is provided for making direct hand pressure on any object in the bite of the instrument. A distinctly novel device is the detachable percussor, provided with a trigger arrangement by means of which sharp blows are given the male blade. The taps of this percussor—the idea of which was suggested to Dr. Chismore by an automatic dental plugger—break the stone along the lines of crystallization. The aspirator consists of a rubber bulb of convenient shape, easily grasped with the hand, and provided with a glass receiver which is screwed on; there is here a valvular arrangement to prevent débris once drawn in from passing out again. This aspirating bulb may be attached to the male blade and the débris evacuated directly, though the Bigelow evacuing tubes permit the more easy removal of the stone dust.

Dr. Matas also related a case in which Coley's treatment by the

INJECTION OF THE MIXED TOXINS

of erysipelas and the bacillus prodigiosus had caused the disappearance of a tumor that gave strong clinical evidence of being a sarcoma. The patient, a white man of 30 years, had been an inmate of the Charity Hospital two years previously, when an abscess of the right lumbar region was successfully treated by incision and drainage. Six months ago he was brought to the hospital from Mississippi, by his medical attendant. The appearance presented was that of one suffering with the cachexia of advanced malignant disease; the patient was yellow, marasmic, almost cadaveric. In the right lumbar region was a dense, hard, ligneous mass, extending to the hypogastrium above, the ilium below, toward the middle line neutrally. No signs of inflammation were present, nor had any been observed; the temperature was normal; the exploring needle brought out blood only. Sarcoma of rapid development was diagnosticated; the patient refused to permit an exploratory operation. After about ten days the toxin treatment was begun. The dose injected into the mass was increased from ½ minim to 10 minims in the course of fourteen injections before any decided reaction was observed. By that time the tumor had dwindled considerably. Dwindling continued under the use of the injections until at the present time there is no tumor; the man has gained forty pounds and is strong and well.

Dr. C. J. Miller related a case of

FATAL PYEMIA

occurring in a negro infant of seven weeks. There was no lesion through which the infection could have taken place; the cord had fallen at the end of the sixth day and left a normal umbilicus. The initial symptom was swelling of the scrotum, in which pus was at no time detected; metastatic abscesses developed in the left lower extremity, right upper extremity, left upper extremity, and occipital and left parietal regions of the scalp. Death took place from exhaustion at the end of ten days; tympanitis existed at that time: no postmortem was held. In answer to questions, Dr. Miller stated that the appearance of the affected regions was not erysipelatous; the febrile movement had been slight; no gases developed in the tissues; the mother had neither mastitis nor fissured nipples.

Dr. M. J. Magruder related

AN OBSTETRIC CASE

in which violent vomiting had come on several hours after the inception of labor, when the pains were very severe. Examination showed the first stage completed, the bag protruding from the cervix; the presenting part gave a doughy sensation on palpation, somewhat like that of placenta previa, though this condition was excluded. Rupture of the membranes was followed by the escape of large clots which appeared to come from the interior of the amniotic sac. The infant was stillborn, though life had been felt but a half hour previously. Possibly the placenta had been separated by the violent vomiting. At any rate the presence of the blood in the sac was an unsolved mystery. Dr. Miller suggested that the escape of the amniotic fluid had permitted the coming down of the blood which had accumulated between the sac and the uterine wall, from partial separation of the placenta.

Philadelphia Obstetrical Society.

Meeting held March 2, 1898.

Dr. Charles P. Noble officiated as chairman of the meeting. He announced the principal subject for discussion to be

RETRODISPLACEMENTS OF THE UTERUS.

Dr. Wilmer Krusen spoke on causation of retrodisplacements; Dr. J. M. Fisher on the diagnosis; Dr. F. Hurst Maier, on the non-operative treatment; Dr. Richard C. Norris on suspensio-uteri and intraperitoneal shortening of the round ligaments; Dr. E. E. Montgomery on vagino-fixation, and Dr. Charles P. Noble on Alexander's operation.

Dr. Krusen, in speaking of causation of retrodisplacements of the uterus, divided the subject into those occurring in marraied and non-parous women. Of the causes which produced the condition in virgins he mentioned such as tight lacing, constipation, traumatism, congenital defects, masturbation, etc., the latter of which he thought counted as an etiologic factor in more cases than generally recognized. In married women he enumerated such cases as lacerations of the pelvic floor, metritis, salpingitis, endometritis, prolapse of the ovary, constipation and, especially during the puerperium, faulty and prolonged use of the binder.

Dr. J. M. Fisher, in speaking of the diagnosis of uterine displacements, detailed at considerable length the diagnosis of the most common displacements of the uterus, viz., retroversion and retroflexion, outlining the mode of arriving at a proper diagnosis. The symptomatology, such as given by the patient, he considers often misleading. A bimanual examination is the best, and he would condemn the use of the sound in the strongest terms, believing that a person who resorted to the sound as a diagnostic measure in retrodisplacements proved that he knew but very little of gynecology and might do great damage to the organ, especially if it was thin and bound down by adhesions.

Dr. F. Hurst Maier spoke of the non-operative treatment, which he had pursued in certain cases of retrodisplacements. He considers pessaries useful, and in some cases, in order to get one to fit the parts accurately, he has resorted to a copper wire bent at a certain angle and covered with rubber, this conforming to the contour of the region, after which a hard rubber pessary could be moulded to the proper shape. The pessaries now used were the modification of the Hodge, mentioning that of Smith and Munde. He wished to draw particular attention to the subject of massage in these cases and outlined the plan taught him in Vienna. This consisted in the masseur being seated on the left side of the woman, when, pressing over the fundus, it could frequently be gently elevated, at the same time making firm but not too strong pressure of the organ and its appendages. This movement he had at times carried on for an hour at a time, but as a rule only a few moments were necessary to restore healthy circulation in the parts.

Dr. Richard C. Norris said that he had done within the past three years probably over fifty ventrofixations. Out of that number difficulty was encountered six times, two of which had been due to pregnancy. However, he relied on this measure as having distinct advantage, from the fact, as is well known, that it gave the operator opportunity of inspecting the uterus and appendages, when many conservative minor operations could be done, such as incising cystic ovaries, breaking up slight adhesions and resecting diseased portions of the ovaries. He preferred the spear-pointed needle instead of one with short edges. He had done Alexander's operation many times and thought it a conservative one, as well as giving good results.

Dr. E. E. Montgomery being unavoidably absent, his paper was read by Dr. Hammond. The paper reviewed the history of vagino-fixation, and stated that in several instances he had resorted to one or the other modification, but was of the opinion that the procedure had a limited application.

Dr. Charles P. Noble stated that he had resorted to Alexander's operation in sixty-two cases, and had only encountered trouble in three instances—twice the ligaments had become detached from the uterus near its junction with that organ, and once there had been a stitch abscess. He thought the operation a very conservative one, having many advantages over other methods. In those cases in which the ligament had become detached he had resorted to ventrofixation. He took the position that there was no such condition as uterine displacement, from the fact that the uterus was a movable organ, and therefore, subject to different positions in the pelvis, according to the position occupied by the patient. On this account he defied anyone to tell the absolutely normal position of this organ. From this fact he was under the impression that little good could be derived from a discussion of the subject according to the program, because it placed those in positions such as he occupied at a disadvantage by thus admitting that there was such a thing as a displaced uterus.

Dr. Anna Fullerton stated that she thought one of the best periods to correct what had been denominated displaced uteri was in the first two weeks of the puerperium. In using the tampon, the knee-chest posture was the best.

Dr. Boyd spoke of the different operations resorted to, and showed a specimen in which after a fixation had been done, such firm adhesions had been formed that much difficulty had been encountered at a subsequent labor. Labor had been induced at the eighth month, but the child was lost.

Philadelphia College of Physicians.

Section on Surgery, March 1, 1899.

Dr. Muehleck of the St. Agnes Hospital spoke of the condition of the blood which occurred in the case of 144 soldier patients treated for typhoid fever in that institution. During the first week of the disease the erythrocytes presented no special changes in color or contour and the hemoglobin was only moderately reduced. A week or two later, however, the hemoglobin was reduced considerably, falling below 60 per cent. in some cases, but during the last week or beginning of convalescence it had risen to over 70 per cent. Late in the disease, in a few instances, the red cells had been reduced to less than 2,000,000 per cubic millimeter. In the majority of cases there was no increase of white corpuscles, but in a few instances there was a moderate leucocytosis, the count rising to over 20,000 per cubic millimeter, the polymorphonuclear variety constituting 23 per cent. of the proportionate number. Regarding the parasitology, Dr. Muehleck reported that out of the 144 cases of typhoid fever the malarial parasite was found seven times. Intracellular and extracellular bodies were found. They were usually non-pigmented and non-motile.

Dr. James Tyson spoke of a few instances in which the malarial parasite had been found in the blood of typhoid patients, and also of the difficulty of recognizing the plasmodium in its earlier stages of development.

Dr. A. O. J. Kelly made a few remarks regarding the coexistence of malaria and typhoid fever occurring in patients brought in from the different army camps. Without knowing the previous diagnosis of these cases, he had in several instances been able to demonstrate the plasmodium in the blood.

Dr. Charles L. Leonard read a paper on "The Roentgen Ray as a Means of Diagnosis in Renal Calculus," and presented two skiagraphs in which two stones in one case and one stone in another instance were found imbedded in the kidney. He thought that in some instances the reason failures had been encountered in detecting stones in the kidney by means of the X-ray was because the condition required currents of accurate strength, and a strong current might in this way entirely penetrate the opaque body without giving an imprint on the plate beneath. In time, it was the opinion of the speaker, this method would be of great importance as a diagnostic measure, not only in cases of renal calculi, but also in many other conditions of difficult character.

Dr. John K. Mitchell related an instance of a patient being presented to him with somewhat vague symptoms of calculi, but so indefinite that an absolute diagnosis could not be made from the clinical symptoms alone. Dr. Leonard had, however, made a skiagraph showing the calculus, which had been removed by a subsequent operation, and while pus had been present in the urine and considerable damage had been done to the affected kidney, the patient was now well on the road to recovery. In another case, in which Dr. Leonard had made a skiagraph, two stones had been demonstrated in the kidney, one overlapping the other.

Dr. James Tyson spoke of the importance this subject had on the diagnosis of renal calculi and the accuracy with which the work could be done. In one case in which Dr. Leonard had made a skiagraph for him and demonstrated a calculus in the kidney, for which an operation had been done, he stated that the operator might have discontinued the search for the stone had not Dr. Leonard insisted that it was present. In another case, in which there had been symptoms of renal calculus, the X-ray was made use of, but no stone was found, although he could not say whether or not the stone had not already dropped into the bladder at the time the skiagraph was taken.

Dr. Leonard, in reply to Dr. Morton, who had referred to a case of fracture in which the photographs had been used to the disadvantage of a surgeon in the courtroom, stated that in these cases an expert in this matter should always be present to explain to the jury the exact condition which might be present. In one instance a verdict of $3500 had been rendered, probably in a great measure from the fact that this precaution was not carried out in the legal proceedings.

Dr. W. W. Keen desired to know whether or not a stone could be demonstrated after its impaction in the ureters, but Dr. Leonard could not say positively. He stated that at the present time an imprint of an opaque substance, as the hand, might be left on the sensitized sheet if held over a sheet of lead.

PRACTICAL NOTES.

Incubation Period of Typhoid Fever.—Apert reports cases of typhus abdominalis in which the incubation period extended forty-five to forty-eight days.—*Bulletin Méd.*, 1898, No. 88.

Varicocele and Sexual Power.—In the *Clinical Journal* (February 15), Williams discusses the influence of varicocele on sexual power. His experience is that after an excision of varicosed veins patients have been more virile and enabled to fulfil their marital duties in a manner that was formerly impossible. In the case of a large varicocele with sexual debility, in which palliative means had failed to relieve other than the symptoms of weight and pain, he operated in the hope that excision might, while curing the former, also benefit the generative state as he had noticed in other instances. The result was that the patient was sexually rehabilitated. His preference is for the operation known as "Bennett's modification," which he describes in detail in the paper.

Benefits of Pleuritis Serofibrinosa. Le Damany agrees with Bier and Murphy that immobilization of the lung or part affected with tuberculosis, results in healing the tuberculous process. He therefore considers pleuritis serofibrinosa, which is almost invariably of tuberculous origin, a defensive process on the part of the pleura against tuberculous germs invading from the lung. The immobilization of the lung resulting from the effusion results in healing the primary focus. Puncture and withdrawal of the fluid is prejudicial and should not be done except in case of dyspnea or congestion of the lung from very extensive effusions. He recommends rest in bed and opiates for the pains, but does not consider other remedies effective.—*Presse Méd.*, 1898, No. 90.

Typhus "Renalis."—As a contribution to the study of typhoid fever in which the renal mask the abdominal symptoms, Rostoski publishes two observations in detail (von Leube's clinic), in the *Munich Med. Woch.* of February 14. The symptoms suggested severe nephritis, although there were no uremic symptoms or edema, and nothing indicated an infection except the high temperature and enlarged spleen. The Widal test resulted positively; weak at first, but very decided later, and colonies of the bac. typhi developed from the urine on agar. In one case roseola was noted on the abdomen after a month, but transient. There were no intestinal symptoms until the fiftieth day, when suddenly all the classic symptoms of peritonitis appeared, following an enema to relieve the constant constipation, continuing more or less severe for two weeks, when the patient entered upon convalescence. Curschmann has noted six out of seventy-three cases of "perforation peritonitis" in typhus, occurring after the fortieth day and one after the hundredth.

Treatment of Syphilis by Cyanid of Mercury.—Arthur Chopping (*Lancet*, February 13) reports a series of eighty-four cases of syphilis in various stages of the primary and secondary phases of the disease, which were treated with intravenous injections of cyanid of mercury. The amount used was about 20 minims of a 1 per cent. solution, the injection being made every day. The length of the treatment lasted from four or five days up to nearly two months; the average stay in a hospital was 23.2 days. The results appeared to be very generally good. The author claims the following advantages for this treatment: 1. As the injection is made daily the patient is under constant observation. 2. The exact quantity of mercury introduced into the system is known, which is not the case when pills or inunctions are used. 3. As the drug is administered by intravenous injection the patient is much more rapidly brought under its influence than when administered by the mouth or skin—a marked advantage in cases where it is necessary to produce the full effect of the drug as speedily as possible, such as iritis, otorrhea, bad ulcerated laryngitis, etc. 4. The rapidity with which serious lesions and visible evidences of the disease clear up. 5. The treatment by intravenous injection is especially useful in cases which have not responded to the ordinary methods of treatment, such as pills, inunctions, etc. The cases are given in detail in tabulated form.

Metastases of Malignant Tumors of the Testes.—A study of six cases that have succumbed to metastases, although the primary tumor had been extirpated at a period when no dissemination was apparent, showed that the retroperitoneal lymph glands were the first and principal ones affected. The tumors were mostly of a sarcomatous nature and distinguished by a peculiar malignity (Most, in *Virchow's Archiv.*, cliv, No. 138). He adds, as the result of further research on cadavers, that the testes are abundantly supplied with lymph-vessels. They leave the gland with the funiculus spermaticus and pass through the inguinal canal in four to six large stems, behind the peritoneum to the level of the lower pole of the kidney, then turn toward the median line and debouch in the first glands. They do not branch at any place. The first glands, two to four in number, are located near the aorta on the left; on the right they all lie without exception directly over the vena cava. Back of the larger abdominal organs a network of vessels with glands extends from their bifurcating point upward to the neighborhood of the cysterna chyli. These glands can be injected from the testes. The lymph flows from these regions through branches which pass upward behind the large abdominal and renal vessels and debouch in the cysterna chyli. The metastases of tumors of the testes correspond to this course of the lymph vessels. The ductus thoracicus plays an important part in the process. The prognosis is bad with retroperitoneal tumors, but still worse with metastatic glandular tumors. Surgical intervention in these cases is not advisable.—*Cbl. f. Chir.*, February 11.

Treatment of Fractures.—Goliakovsky has been comparing the different methods of treating fractures—with ninety-seven personal observations—and concludes that immobilization is the least advantageous, as it favors the production of ankylosis, atrophy of the muscles, etc. Massage remedies these inconveniences and shortens the time of treatment by one and a half times. It is, however, far from the ideal method, as it favors a vicious position for the fractured ends and sometimes causes an undue development of callus that interferes with the functions of the limb. Fatty embolism and lymphangitis have also been observed, directly traceable to the massage, which in non-medical hands exposes to still greater dangers. The treatment which to date seems to be the best, is early mobilization, "introduced by the Russian surgeons in 1880." Owing to the erect position, walking and the venous hyperemia, the callus forms more rapidly, favored by the friction between the fragments. If the apparatus is well made there is no fear of displacement. As this method is so simple and rapid it can be applied on the battlefield and to dispensary patients, and is especially indicated in cases of alcoholism, debility, and for elderly persons. He adds figures showing the average length of treatment: with immobilization a fractured femur heals in 86 days; with massage, in 61 days; with early mobilization, in 50.7. Metatarsus: with immob. in 32.5 days; mass. in 21; early mob., 24.5. Fibula: with immob., in 39 days; mass., 34.5; early mob., 24 days, etc.—*Presse Méd.*, January 28.

Endometritis Dolorosa.—Certain women suffer from continuous pain in the region of the uterus, increased by effort, ascribed by some gynecologists to pelvic neuralgia connected with some slight lesion of the uterus, by others to general neuropathy, but resisting all treatment based on these premises. Prof. V. T. Sneguireff has been studying nine cases (from 22 to 46 years of age; all had borne children), and finds that the pain is localized at five points on one or both sides, the emergency of the two branches of the N. iliohypogastricum, or the N. cutaneous femoris ant. ext., of the N. spermaticus ext. and of the N. ilioinguinalis. There may be radiations to the hypogastric, renal and solar plexus, to the intercostal spaces, to the precordial region, and in cases complicated with lesions of the annexes, to the sacroiliac symphysis, along the sciatic and to the lumbar and dorsal regions, but the five points mentioned and especially the first and last, differentiate endometritis dolorosa. There is little, if any, leucorrhea. The menstrual flow is normal in amount but is accompanied by a more or less intense dysmenorrhea. The cervix, although congested and livid, is but slightly modified as to shape or consistency. Exploring the uterus with a sound is sometimes so painful as to cause syncope or convulsions. He considers the affection an inflammatory lesion of the uterine mucosa, localized especially in the fundus, at the internal orifice and openings of the tubes, producing phenomena of painful spasm similar to those produced by fissure of the anus where there is neuropathic predisposition. The treatment is indicated by this analogy, and he has found his views confirmed by the invariable success attained by dilating the matrix and tamponing with iodoform gauze, repeated at intervals until the entire disappearance of the symptoms, which soon follows in non-complicated cases. The dilation is accomplished with Hegar bougies, and should be pushed as far as possible, and the gauze left as long as possible, with anterior sphincterian hysterectomy in case of stricture.—*Semaine Méd.*, February 8.

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SATURDAY, MARCH 11, 1899.

THE PROPOSED EXTINCTION OF TUBERCULOSIS

The confident hopes now entertained that tuberculosis can be exterminated as a disease, and the present active interest in the subject of its prevention, are facts of the times worthy of serious consideration. It may be well to study also certain other facts that may be encouraging in some of their aspects, and yet not altogether so in others. The bacillus of tuberculosis is, perhaps, of all pathogenic microbes the most widely disseminated—no one in our civilization is absolutely free from the possibility of its infection. It is said that the results of postmortems show that from two-fifths to over one-half of all persons dying from whatever cause, that come to the autopsy table, give evidence of tuberculous infection in the lungs—the region where the germ exerts its most deadly action—and this result has been confirmed in the living by the X-ray (Kelsch). This goes to prove that while the tuberculous germ is everywhere, and that while it finds a favorable soil for its development in the lungs of a very large proportion, if not a majority, of mankind, in only a minority is it able to so far overcome the vital resistance of the organism as to develop its most damaging or fatal effects. The majority of mankind appears to have acquired a partial or total immunity to this pathogenic species.

It appears to be also a fact that tuberculosis has within the past few decades been diminishing in importance as a factor in human mortality. This has, doubtless, especially of late years, been due in part to our better knowledge of the nature of this special disease and the best means of avoiding and counteracting it; and in this line we may hope for still greater results in the way of both prevention and cure. In part also a better knowledge of general hygienic requirements and improved modes of living have had their share. There still remains, however, another possible factor, an acquired immunity derived from a racial familiarity with the disorder. That such an immunity exists, to a certain extent at least there is every reason to believe. First, we have in play the natural selective action of the disease itself culling out the defectives and leaving a more vigorous stock more resistant to its own attacks; second, the analogy with other diseases from the more or less completely self-protective ones, like measles or smallpox, to those more remotely such, as typhoid and diphtheria. Then we have the well-known fact of artificial immunization, which is probably paralleled by natural processes, which we see, to some extent, actually at work. Asiatic cholera runs like wild fire through Europe, while in India, where it is endemic, it is hardly a dreaded disorder. Measles, a trivial disorder here, has depopulated the Pacific islands. The transplantation of diseases to new fields is characterized by their aggravations; microbes, like other members of the vegetable kingdom, grow best in virgin soil.

If this immunity exists, it remains a serious question whether, if we are successful to any extent in our efforts to exterminate tuberculosis, we may not be preparing the way for a greater virulence of the disorder when it does occur. That it can be totally destroyed among us is practically outside of all probabilities; its range in the animal kingdom, both domestic and feral, is too great to make this even a possibility. Could tuberculosis be made extinct in one part, with modern communications it could not long remain so, and its severity when once introduced would be possibly enhanced. The house, swept and garnished, might be only made ready for a sevenfold more virulent invasion.

It may be well, therefore, to moderate our expectations, while not abating any reasonable efforts for the restriction of the disorder. Improved hygiene, fuller disinfection of houses where tuberculosis has existed, restriction of public expectoration, especially in crowded apartments and conveyances, better instruction of the public as to the questions of infection, heredity, etc., and, perhaps, also notification and registration of cases, are measures that may all be legitimately resorted to. On the other hand, any too rigorous or inhuman restrictions on the unfortunate victims, absolute isolation, muzzling (as has been actually proposed, to prevent infection by the breath), and a host of other inconvenient methods and appliances that zealous reformers have proposed, can only overdo the work and bring it into disrepute. We should remember that under existing conditions nearly or quite one-half of us are or have been tuberculous, and that, fatal as it yet is, consumption is speedily becoming less formidable to the human race, even without the elaborate measures now being devised to combat it.

THE ANTITOXIN TREATMENT OF DIPHTHERIA.

There is little diversity of opinion as to the utility of the antitoxin treatment of diphtheria among those who have had the largest experience, and are thus entitled to a hearing. There is, however, not an inconsiderable body of the profession who, for one reason or another, think the subject still surrounded by doubt, and thus refrain from using a therapeutic agent whose claim to confidence has been incontestably established by the results of extensive clinical experience. To those who have not yet been convinced we commend for earnest consideration a masterly contribution to the literature of the antitoxin treatment of diphtheria by GOODALL in the *British Medical Journal* for Jan. 28 and Feb. 4, 1899, in which is presented a judicial analysis of the subject in all its varied aspects.

A study of the figures shows that the case-mortality from diphtheria in London has fallen from 24.7 per cent. in 1894 to 17.4 per cent. in 1897. The reduction has, however, been much greater among the cases admitted to the hospitals of the Asylums Board than in the city at large, i. e., from 25 per cent. to 14.9 per cent., as against a reduction from 24.5 per cent. to 20.1 per cent. among cases not admitted. This difference becomes the more emphatic when it is borne in mind that the fatality of the hospital-treated cases has usually been higher than that of cases not so treated. Not all of the cases of diphtheria received into the hospitals, however, were treated with antitoxin, but in 1897 this number reached 80.2 per cent. Many cases were admitted so late that no treatment could avail, and the hospital mortality is thus larger than it otherwise would be. The figures given are based upon the annual reports of the Statistical Committee of the Metropolitan Asylums Board. Corrected for errors in diagnosis they show a reduction in case-mortality from 30.4 per cent. in 1893 to 17.67 per cent. in 1897. In children under 5 years of age the reduction was proportionately even greater—from 53.3 per cent. to 24.9 per cent.

Among 3275 cases of laryngeal diphtheria seen at the Hôpital Sainte Eugénie from 1854 to 1875 and at the hospitals of the Metropolitan Asylums Board, recovery occurred in 1008—33.8 per cent.; while among 745 cases from several sources not operated on recovery ensued in 335—44.9 per cent.; and among 8927 cases from numerous sources in which tracheotomy was performed, recovery took place in 2543—28.4 per cent. Since the introduction of the antitoxin treatment there were among 3486 cases of laryngeal diphtheria from various sources, 2522 recoveries—72.3 per cent.; among 1831 cases not operated on, 1471 recoveries—80.3 per cent., and among 2574 cases in which tracheotomy was performed, 1506 recoveries—63.4 per cent. All of these cases were treated with the antitoxin.

That laryngeal involvement is less common in cases treated with the antitoxin is shown by the fact that during 1894 among 3042 consecutive cases of diphtheria not treated with the antitoxin in the hospitals of the Asylums Board, laryngeal symptoms developed in 116—3.8 per cent.; while in 1895 (when 61.8 per cent. of the cases were treated with the antitoxin), laryngeal symptoms developed in 18 among 2695 cases—0.67 per cent.; and in 1896 (when 66.6 per cent. of the cases were treated with the antitoxin), laryngeal symptoms developed in 16 among 3300 cases—0.4 per cent. Further, among 412 cases in which diphtheria occurred as a complication of scarlet fever during the year 1896, and laryngeal symptoms were not present when the serum was injected, the larynx was invaded in 5—1.2 per cent.; while among 236 similar cases not treated with the serum, at any rate until after the development of croup, the larynx was invaded in 36—16.6 per cent. Besides, there have been almost no cases for three years in which laryngeal obstruction arose after admission to the Eastern Hospital, where the antitoxin is injected immediately after entrance.

Among 131 fatal cases not treated with the antitoxin in 1894, death resulted from extension of the membrane along the respiratory tract in 22—16.7 per cent., and from bronchopneumonia in 21—16 per cent.; while among 103 fatal cases treated with the antitoxin in 1896, and among 171 treated similarly in 1897, the number of deaths resulting from extension of the membrane was 3—2.9 per cent., and 5—2.9 per cent. respectively, and from bronchopneumonia 4—3.8 per cent., and 9—5.2 per cent., respectively.

Of 1580 cases of diphtheria treated with the antitoxin in 1895, 1896 and 1897, 293 developed paralysis—18.2 per cent. In cases in which the serum was employed on the first day, this complication appeared among only 5.7 per cent.; in those in which the serum was used on the second day the paralysis appeared in 10.1 per cent. Only one case of severe paralysis occurred among the patients treated with the antitoxin on the first two days, and among these there was no death due to the complication. There were only 9 such cases with 3 deaths, among those treated within the first three days. On the other hand, there were 51 severe cases with 15 deaths among those not brought under treatment until the fourth day or later. Among 483 cases of post-scarlatinal diphtheria treated during 1896 in the hospitals of the Asylums Board, with the antitoxin, 34 became paralyzed—7 per cent.—as compared with 21.3 per cent. among similar cases admitted directly from the outside, but 413 of the cases—85.5 per cent.—were treated on the first two days. Only one of the 34 cases of paralysis terminated fatally. Among 452 cases treated in the Eastern Hospital during 1894, immediately before the introduction of the antitoxin, there were 49 cases of paralysis—10.8

per cent.; 5 of these were severe and four terminated fatally. A comparison of the cases treated in 1892, 1893 and 1894 (without the antitoxin), with those treated in 1895, 1896 and 1897 (with the antitoxin), shows that those treated early with the antitoxin were less likely to develop paralysis than those treated early without the antitoxin, and that although paralysis was more frequent in cases treated with the antitoxin, the proportion fatal from this case was not essentially different in the two sets of cases.

The influence of early treatment is shown also in the fatality, as well as in the incidence of paralysis. Thus, in 1894, when the antitoxin was not used, among 133 cases admitted on the first day of the disease, 30 died—22.5 per cent. And among 539 admitted on the second day 146 died—27 per cent.; while among 143 treated with the antitoxin on the first day 7 died—4.5 per cent.—and among 809 treated on the second day 130 died—14.9 per cent. In 1897, among 66 cases treated on the first day, 1 died—1.5 per cent.—and among 317 treated on the second day 16 died—5 per cent.

In the cases of post-scarlatinal diphtheria the mortality between 1871 and 1894 varied in the different hospitals from 42.8 per cent. to 61.9 per cent.; while since the introduction of the antitoxin the mortality has varied from 5 per cent. to 25 per cent. in 1895, and from 4 to 5 per cent. in 1896 and 1897. Even if all of the mild cases are excluded and all of the fatal cases are included, the mortality for 1896 would be only 20.1 per cent., and for 1897 only 15 per cent.

Finally, among the clinical evidences of the utility of the antitoxin are the inhibition of extension of existing membrane, and of the formation of fresh, while that which is present clears off more quickly than usual; the foul discharge that attends involvement of the nares soon ceases, and breathing and swallowing are rendered easier; the enlargement of the cervical glands and the inflammation of the tissues of the neck subside; the pulse-rate and the temperature fall; appetite returns; and the patient is soon convalescent; while even in the fatal cases the last moments of life are made more tolerable.

In conclusion, Goodall expresses the sentiment that "few of even the most useful" of the agents of the pharmacopeia "have been subjected to the same fierce criticism as has the antitoxin of diphtheria, and still fewer have borne the ordeal as triumphantly, and from this there can be no dissent."

The results of this analysis show, as all the statistics tend to show, that as a direct outcome of the use of the antitoxin in the treatment of diphtheria, the mortality from the disease has been greatly reduced, both in the community at large and in the hospitals; that laryngeal and bronchopneumonic complications are less common and less fatal; that paralysis is more commonly observed (perhaps because more severe cases survive), though not more fatal; that the results are the better in all respects the earlier the treatment is instituted; that the clinical course of individual cases is rendered milder and more favorable; and that the antitoxin possesses distinct immunizing power.

A further illustration of the prophylactic value of the antitoxin is afforded by the experience of Allan, who relates, in *Treatment* for January 12, how in an institution accommodating sixty children a threatened epidemic was averted by timely immunizing injections. It appears that one of the children, while visiting a friend, was exposed to infection with diphtheria, and in returning home developed the disease and transmitted it to the girls in the beds on each side of her own. These three children were removed to a hospital, and no further cases appeared until after their return several weeks later, when five children in the same dormitory were attacked. On bacteriologic examination diphtheria bacilli were found in the throats of two of the earlier patients. During the following month several other children developed the clinical symptoms of diphtheria, and several more had inflamed throats without membrane. At this time a protective dose of antitoxin was given to all of the children, and from now on, although diphtheria bacilli persisted in the throats, there were no more cases of diphtheria or of sore throat.

GONORRHEAL SEPTICEMIA AND ULCERATIVE ENDOCARDITIS.

The cardiac complications of gonorrhea are treated quite extensively in a recent contribution by Thayer and Lazear.[1] The gonococcus has been shown to be capable of causing grave local as well as general septic complications. Cystitis, periurethral abscess, salpingitis and peritonitis, etc., have been quite clearly demonstrated to be caused by the gonococcus in a number of instances. The presence of the gonococcus in joints the seat of gonorrheal synovitis, has been demonstrated by many observers; it has also been obtained in pure culture from subcutaneous and other abscesses, from pleural effusions, and from the circulating blood (Thayer and Blumer, Thayer and Lazear). It would, therefore, not be remarkable that the gonococcus should be found as the cause of endocarditis and other inflammatory changes in connection with the heart.

Endocarditis is by far the most common of the cardiac complications of gonorrhea. Gurvich[2] collected 110 clinical instances, in 77 of which the facts were stated clearly enough to allow of quite definite conclusions. Pericarditis seems to be much less frequent than endocarditis, Thayer and Lazear being able to find reliable records of 17 cases. They were also able to collect 32 instances of gonorrhea with fatal cardiac complications, 31 of which were instances of ulcerative endocarditis, with or without pericardial or myocardial changes, one case, that of Councilman, being an instance of peri- and myocarditis alone.

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[1] Journal of Exp. Med., 1899, Vol. iv., p. 81.

[2] Quoted by Thayer and Lazear, loc. cit.

From a pathologic standpoint these cases of gonorrheal endocarditis may be considered in five classes: 1. Those instances in which the history shows the association of the process with gonorrhea, but in which there is no record of any bacteriologic examinations. 2. The cases of mixed or secondary infections, organisms other than the gonococci being obtained in pure culture, although in some cases organisms morphologically similar to gonococci were found. 3. Cases in which organisms possessing the morphologic and staining characteristics of gonococci were demonstrated to be present in the lesions, but in which cultures were not made. 4. A group of cases in which cultures made upon ordinary media remained sterile, while the microscopic examination of the lesions showed organisms having the characteristics of gonococci. 5. The cases in which the purely gonococcal nature of the endocarditis may be considered as definitely proven by obtaining the gonococci in pure cultures, either during life or after death, and by demonstrating their presence in the lesions after death. There are only five cases recorded that may be placed in this group, in which the chain of evidence is complete. In one of these cases, viz., that of Lenharz,[3] pure cultures of gonococci were obtained from the thrombi on the aortic valves, and the introduction of a piece of the softened thrombus into the human urethra gave rise to a characteristic gonorrhea, with gonococci in the discharge.

The anatomic lesions in those cases in which the purely gonococcal nature of the infection is probable or proven, corresponds to that of ulcerative endocarditis in general, with extensive polypoid fibrinous deposits, and more or less actual destruction of the valves, often associated with the formation of valvular aneurysms and perforations.

There appears to be no particular relation between the time of the onset of the endocardial infection and the duration of the urethral involvement, some cases developing almost at once after the onset of the urethritis, others weeks or months later. Some cases occurred in the first attack of gonorrhea, others in persons who had suffered once or twice before. Arthritis preceded the cardiac complication in most of the cases, but in not a few the endocardial affection occurred without or before the articular symptoms.

The general symptoms of gonorrheal endocarditis differ in no essential from those of endocarditis of other origin. There is generally an irregularly intermittent or remittent fever, associated with severe chills, profuse sweating, marked anemia, and albuminuria. The duration of the attack, in the cases in which the purely gonococcal nature of the infection seems probable, varied from ten days to six months. In Thayer and Lazear's case the septicemic symptoms persisted for six months.

It appears, then, that it is definitely established that an acute gonorrhea may be the starting-point of a grave septicemia, with all its possible complications, the infections being either mixed or secondary, or purely gonococcal. During the course of this septicemia endocarditis may develop, and it may in some cases assume a rapidly fatal course, the symptoms being those of acute ulcerative endocarditis. The endocarditis of gonorrhea is not rarely due to the gonococcus alone, but may also be the result of a secondary or mixed infection.

PROGRESS OF THE ANTIVACCINATION MOVEMENT.

The English politicians probably did not realize how far-reaching would be the influence of their action when they passed a vaccination bill with a conscience clause. No doubt, emboldened by this compromise measure, antivaccinists elsewhere are assuming the offensive and we may look for a widespread agitation attacking the utility and the efficacy of vaccination as a protective measure in the prevention of smallpox. Already a bill has been introduced into the Pennsylvania Legislature directed toward the repeal of the present vaccination law, which requires every applicant for instruction in the public schools to present a certificate issued by a physician that the child has been successfully vaccinated before it can be received as a pupil. It is admitted by those who are best informed that no single measure has been more potent in preventing disease than has vaccination in the prevention of smallpox; and it would be no less than criminal to repeal an act that has accomplished so much good as the law now attacked in Pennsylvania. Through the agency of vaccination a virulent epidemic scourge has been transformed into a comparatively innocuous and sporadic disease, with which many physicians are personally unacquainted. In Germany, smallpox has by this means been eradicated from the army and its prevalence in the community has been reduced to a minimum.

We grant that the State may have no right to interfere with those who are willing, from whatever motive or even without any motive, to expose themselves to the risk of infection with smallpox (though in some places penalties are prescribed for unsuccessful attempts at suicide), but we must insist upon the right, yea upon the necessity, of protecting others, and especially those not able to stand up for themselves, from the unavoidable results of such action. If the danger were confined alone to those who think they must constitute themselves martyrs, we could view their action with some degree of complacence, but each person attacked with smallpox becomes a menace and a focus of infection for innumerable others, and it is for these that we make our plea for the retention on the statute books of laws that ensure the vaccination of all pupils in the public schools. It is well known that the school is a most common medium for the transmission of infectious disease, and the children may carry smallpox to adults.

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[3] Thayer and Lazear, loc. cit.

It seems scarcely possible that any attempt to change or abolish existing salutary legislation concerning vaccination shall succeed, but we must not rely too implicitly upon such self-assurance. Those who believe in the utility and the efficacy of vaccination and in the wisdom of laws making such protection obligatory, must now assume the aggressive and unite in their efforts to counteract the influence of ignorance and fanaticism, as those who are opposed to its practice have united and have precipitated this contest. A hearing before the Committee on Education of the Pennsylvania Legislature, at Harrisburg, will be granted on March 14 at 8 P.M., to those in favor and those opposed to the bill of repeal, and it is hoped that individuals and societies will devote their energies personally and collectively to convincing members of the Legislature of the great utility of the present law, which has proved so important and so serviceable a hygienic measure. The College of Physicians of Philadelphia, at a meeting held March 1, adopted resolutions in opposition to the proposed repeal, and appointed a committee to represent that body at the public hearing. It is long since Pennsylvania has suffered from a visitation of smallpox, and it would seem almost necessary that some serious sacrifice of life should be made in order to convince of the utility of vaccination those that have eyes and see not. What we have said of Pennsylvania will apply with not less force to other States. If the efforts of the antivaccinists should prove successful in that commonwealth in breaking down the force of the vaccination laws it will not be long before they shall have invaded other States. The time to destroy the pernicious movement is now, while it is still in its incipiency, unless we wish to be transported to the condition of affairs that existed in England prior to the discovery of vaccination, when the deaths from smallpox exceeded those from all other causes combined.

CORRESPONDENCE.

Oysters and Bacteria.

London, Eng., Feb. 25, 1899.

To the Editor:—The committee upon the relation between oysters and disease which was appointed three years ago, has just made its final report to the Royal Society through two of its members, Professors Herdman and Boyce, and while their preliminary conclusions and partial reports have already been discussed in our columns (vide Journal, p. 1484, 1898), complete findings seem of such interest as to merit further comment.

The chief interest centers in the bacteriologic part of the report, in view of the bad name which has been given to oysters of late years as carriers of typhoid fever. Although Drs. Herdman and Boyce found no typhoid bacilli in any of the oysters they examined, due partly at least to the fact that they did not succeed in obtaining any from beds known to be contaminated by sewage or suspected of typhoid, yet there was an abundance of other bacilli. Of these the various species of the colon group were most frequent and another intestinal denizen—the anaerobic bacillus enteritidis sporogenes of Klein—was often detected, while "non-human" bacteria swarmed.

The first group probably indicated sewage contamination, but the abundance of all species raises an interesting biologic question: What is the relation between the oyster and the numerous bacilli which it contains? Are the bacteria attacking the mollusc or is it collecting them for food purposes? Their presence may be due to mere accidental contamination, as with any other matters suspended in the sea water, but the frequency with which the colon group and the bacillus enteritidis were found would rather suggest some elective influence upon the part of either the oyster or the germs.

If the bacilli are the active party, they display but poor judgment, for the report shows that they undergo no increase in the tissue of the oyster and disappear completely in from one to ten days' time. On the other hand, we know that the oyster's favorite diet consists of just such minute organisms, both vegetable and animal, diatoms, confervæ, infusoria, etc., and that the whirling ciliæ upon the gills are for the sole purpose of keeping a constant current of water laden with these pouring into its mantle cavity. It is the pursuit of these miro-organisms which leads to the planting of the oyster in localities where there is danger of sewage pollution as the truth of the oysterman's adage, "the muddier the water the fatter the oyster," depends upon the greater abundance of vegetation "upon muddy bottoms with sluggish currents. The spat must be started in clear water, but at each transplanting the growing bivalve is brought closer in to shore, or even up into the brackish water of rivers and harbors, to reach the richer crop of bacteria, the only limit being the degree of muddiness which will clog the gills or bury the oyster in silt, and as Herdman and Boyce found that typhoid bacilli, experimentally introduced, were destroyed in the intestine of the oyster, and that when the latter was placed under favorable conditions for vigor, in a current of pure sea water, the bacilli disappeared in some cases within twenty-four hours and invariably within six or seven days, it seems highly probable that oysters can fatten on a diet of the pathogenic bacilli, as well as on other bacteria. So that we apparently have in the oyster itself a safeguard against the transmission of disease, although it would not be justifiable to trust to it in practice. Still, it is consoling to know, as seems clearly proven by the report, that valuable beds accidentally contaminated by sewage have the power of purifying themselves in a comparatively short time under favorable conditions.

Whether this mild bactericidal power is capable of development by careful selection to such a pitch as to render the precious bivalves practically useful in the purification of sewage and thus combine sanitation with luxury and profit, is a question for Utopia. This would indeed be "A sea-change, into something rich and strange." The experimental inoculation of oysters with typhoid bacilli was extensively carried out under various conditions, with the invariable results indicated above. In fact, when we consider that the regular food of the oyster consists of bacteria and other vegetable micro-organisms no way structurally different from the bacillus *typhosus*, and that his tissues are very far from affording the proper temperature conditions for the multiplication and attack, we could hardly expect it to be otherwise. Our danger would appear to come from eating the oyster before he has had time to digest the bacteria which he has collected for his meal. This view of the case magnifies the risk of pollution in one way, in that if germs are present in the water at all, the oyster is nearly sure to get some of them inside his mantle cavity. As they may survive in his tissues for as much as ten days, it would, perhaps, be safer for us if he had no appetite at all for them. And yet it is highly improbable that in such an unfavorable culture-medium, which prevents them from multiplying, they could retain their virulence for a third of that time.

In addition, we have the safeguard that, as Herdman's experiments clearly showed, sea water itself is inimical to the bacilli. A few survived immersion in it for twenty-one days, but there appeared to be no multiplication of them in this medium from the moment they were placed in it; and this again we would have expected upon biologic grounds, inasmuch as no fresh-water organism, whether vegetable or animal, will survive abrupt transference into sea water, with the exception of a few fishes like the salmon, and while the natural habitat of the bacillus of Eberth, our own body-fluids, has a moderate degree of salinity, yet this is so far below that of sea water that the organism may be practically reckoned a fresh-water one, which classification is practically justified by its ability to live and multiply freely in wells, reservoirs and sluggish streams. The conclusion, then, seems clearly established that there is very great danger of pathogenic bacilli finding their way into oysters whose beds may be contaminated by sewage, even though but slightly, and that in consequence, as our authors recommend, the extent to which beds may be brought up rivers and harbors should be strictly controlled by law and all beds carefully patrolled by sanitary inspectors. All oysters brought in from suspected or uninspected beds, whether home or foreign, should be kept in quarantine in a current of pure sea water for at least a week or ten days, during which time they would probably purify themselves. On the other hand, we are entitled to count upon the side of safety, first, the inimical effect of sea water upon bacteria, and second, the destructive effect of the digestive fluids of the oyster itself. So that beds even near the mouths of polluted rivers, where the water was abundantly salt, would be comparatively safe; and all oysters kept alive under favorable conditions for a week or more, would be practically so.

So much for that part of the report dealing with the oyster as a passive medium in the transmission of disease. Are there any diseases of its own which may render its tissues unfit for food? Not the least interesting feature of the report is that dealing with one of these, the well-known "greening" of oysters. There are a number of conditions under which a more or less pronounced greenish tinge occurs in these bivalves. The soft, rounded "body" of many perfectly fresh healthy specimens will show such a tinge on account of the showing through of the large hepato-pancreas, which with the genital gland forms the bulk of this mass, and varies in color from a light sage to a deep grass green. Then there is the more vivid hue which marks the first stages of decomposition, next to the odor our most valuable danger-signal; and indeed, since Mrs. Grundy's absurd taboo upon "sniffing at table" has robbed our stomachs of their most faithful guardian, this hue of decomposition is our only protection. Then there is the more striking coloration chiefly affecting the palps and gills, known as "greening" proper, and of this our authors find that there are at least two distinct kinds. One of these is found in the oysters of certain parts of the French coast and of a few river-mouths in Essex, on the east coast of England. Curiously enough this particular greening, which is very vivid, instead of repelling the epicure, attracts him, and the "green oysters of Marennes" are esteemed a special delicacy and command a high price. They can only be grown in a few choice, carefully-protected beds near the district whose name they bear, and the greatest pains have been taken by the oyster growers to discover the secret of this color-feeding in order to transfer it to other beds. Some two or three years ago Ray Lankester investigated the matter and found the coloring to be due to the presence upon the surface of the oyster of enormous quantities of a tiny vegetable micro-organism containing chlorophyl, while the tissues of the mollusc were saturated with the pigment derived from eating these. To this pigment he gave the name *marennin*. In short, the oysters are simply green fat. These results Herdman and Boyce confirm in most respects and further report that this form of greenness is not accompanied by the presence of any excessive amount of either iron or copper, as proved by an elaborate series of most delicate tests. Consequently they pronounce the "*huitres de Marennes*" perfectly healthy, which is lucky for the epicures.

The other variety is, however, less innocent. This is a paler, duller tint which is found in some oysters from Falmouth, on the south coast of England, and in certain American oysters transplanted to English beds. In these a most interesting condition was present. First, quantitative tests showed a marked excess of copper in the tissues as a whole, and more in those parts which were greenest than in the colorless portions; also a slighter but still distinct excess of iron. Then this excess of both iron and copper was found chiefly upon the surface tissues of the body and in the leucocytes of the blood, which latter were markedly increased in number. In fact, the report describes the condition as a green leucocytosis. This sounds curiously familiar as it stands, and when we remember that copper and its salts play the rôle in the blood of invertebrates that iron and its salts do in that of vertebrates, we have at once a strikingly parallel condition to chlorosis and pernicious anemia in our own species: a loss of hemoglobin from the blood, an excessive deposit of iron in certain tissues, an increase of the white blood-cells. To make the resemblance more striking, the application of potassium ferrocyanid and other similar solutions brings out a striking blue or green reaction in the most affected portions of the tissues, just as in our own bone marrow, spleen and liver in pernicious anemia by the similar ferrocyanid test now in vogue. This copper saturation is not due to any mere excess of copper in the sea water, as our authors were entirely unable to produce any similar effects by prolonged cultivation of oysters in weak solutions of both copper and iron.

To find that "greening" of oysters is a near relation of our own "green-sickness," as chlorosis used to be termed in earlier days, is, to say the least, surprising. But the more carefully we trace the pedigree of any of our great metabolic degenerative changes, the longer it becomes. Gout can be clearly traced back to the bird-reptile, and the changes which underlie it, to the mollusc. The pearl is formed in the tissues of the oyster by precisely the same method that a stone is formed in the human or equine bladder. Oxaluria is a survival of the normal excretory processes of plants, and some species, such as begonias and sumacs, may even deposit it in sufficient quantities in their tissues to give rise to a diseased condition. Diabetes mellitus is a most complex and advanced condition, but certain plants, e. g., violets, suffer severely from a form of decay due to the presence of an excess of sugar in their sap. We are not half so original as we imagine, even in our diseases.

W. H.

ASSOCIATION NEWS.

Columbus Meeting.—We are informed that, including the Legislative halls, thirteen halls or places of meeting for the Sections have been provided, and are well adapted in size and location to the purpose. The Grand Opera House, which will seat 1700 people, has been leased for the general meetings, so that altogether we have fourteen places of meeting. No hall except the Opera House has as yet been assigned for a particular purpose, it being considered desirable to know something more concerning the members who will compose the Sections before assignment is made. The Section dinners have all been arranged, and general and private entertainments are well under way. There has been adopted a local button which it is hoped may commend itself to the members of the ASSOCIATION, who can take it or purchase the regulation official button from those in charge, as they please. The hotel people are lending cheerful assistance, and have assured us that they can accommodate 2300 to 2400 guests, and that many more can be accommodated in flats, apartment houses, etc.

SOCIETY NEWS.

International Association of Railway Surgeons.—At the meeting of the executive board of this association, held in St. Louis, March 3, Richmond, Va., was selected as the next place of meeting of the association, and May 31 to June 2, the dates.

American Surgical Association.—The annual meeting of the American Surgical Association will be held in Chicago, May 31, June 1 and 2, 1899. Dr. W. W. Keen, Philadelphia, is president, Dr. H. L. Burrell, Boston, secretary.

Cuyahoga County Medical Society.—A meeting of this society was held in Cleveland, Ohio, March 2. The program included a paper by Dr. W. T. Corbett, on "Practical Notes on Diagnosis and Management of Smallpox," and one by Dr. P. H. Sawyer, on "Vaccination."

Eastern Hampden Medical Association.—At the recent annual meeting of this Association, the following officers were elected: President, Dr. W. A. Smith of Springfield; vice-president, Dr. George L. Woods of Springfield; secretary, Dr. Harry Merchant of Monson.

James Tyson Medical Society.—By special request, Dr. Matthew Woods of Philadelphia read his paper on "Some of the Minor Immoralities of the Tobacco Habit," before this society, at Huston Hall, University of Pennsylvania, at the last regular meeting.

International Antivaccination Congress.—This congress, to be held at Berlin in June, is characterized by a Berlin writer as "the greatest reactionary occurrence in the domain of science of the closing century." "Let us hope," he adds, "that the tuberculosis congress to precede it may pave the way, so that the coming century will witness the vanishing of tuberculosis from the world, as this century has witnessed the disappearance of smallpox!"

Cincinnati Academy of Medicine.—At the regular meeting of the academy, March 6, the annual election of officers resulted as follows: President, E. W. Mitchell; first vice president, Elizabeth Campbell; second vice-president, Charles E. Caldwell; recording secretary, Robert Ingram; corresponding secretary, F. E. Cougler; financial secretary, Magnus Tate; treasurer, E. Allen; librarian, A. I. Carson; trustees, N. P. Dandridge, E. Gustave Zinke, John A. Murphy.

Columbus Academy of Medicine.—At the meeting of February 24, Columbus, Ohio, smallpox was the subject discussed. Dr. Probst, secretary of the State Board of Health, said the city ought to have the machinery ready at all times to stamp out any contagious disease and that systematic vaccination has never failed to eradicate the disease. He urged that free vaccination be given if necessary. The committee appointed to investigate the disease in this city reported that the cases were uniformly of a very mild type and that no deaths have occurred. The academy recommended effective measures by the city in the way of vaccination and quarantine to stamp out the disease.

Detroit Academy of Medicine.—At the meeting held February 28, Dr. P. N. Hickey read a paper on "Thoracic Tumors." Three cases of tumor of the chest cavity were reported. The diagnosis was in each case verified by autopsy, and microscopic slides of the tumors were shown by the projection apparatus, and microphotographs by the lantern. The cases were a secondary carcinoma of the pleura and lung following a cancer of the breast removed five years previously; a case of marked pleuritic effusion, in which 180 ounces of fluid were withdrawn in the course of a few days, and in which the effusion was found to have come from a pleural sarcoma, diffused through the left parietal pleura. The third case gave history of syphilis thirty years before. Physical examination showed a probable tumor of the mediastinum due to a gumma. Improvement occurred under iodid of potassium, but he succumbed to an intercurrent pneumonia. The microscope showed a degenerating gumma, with no cellular structure left.

Washington Medical Society.—At the recent meeting of the society, Dr. Chas. Richardson read an essay entitled "A Year's Work in Intubation." He reported some very interesting cases and showed that of thirty-two cases intubated, 35 per cent. recovered. Dr. de Schweinitz made a report of the bacteriologic examinations of the milk from the Pasteur laboratory since January, 1898. His report was favorable, and pointed out the possibility of pure milk where the methods were accurately carried out. Dr. Lamb presented pathologic specimens of, multiple hemorrhages from ulcers of ileum, one perforating one and one-half feet from the ileocolic valve; the patient, a domestic 17 years old, worked until four days of her death and was supposed to have had peritonitis; postmortem showed ulcers of two weeks' duration. It was a case of ambulant typhoid. He also presented a subject, 28 years old, showing red hepatization, splenic leukemia, infarctions of brain and atrophy of temporal lobes; and in a subject 80 years old, gray hepatization with abscesses, after an illness of four weeks' duration.

Orleans Parish Medical Society.—During 1898, two articles appeared in the *Phila. Med. Jour.*, (Vol. i, p. 22; Vol. ii, p. 1056), on fever following a typhoid attack, inexplicable except on the ground that the heat-controlling centers have not, in such cases, regained full control of the distribution of the energy resulting from tissue-oxidation. Apropos of these, Gesner presented the following cases before this society, New Orleans, La., Feb. 25, 1899. Henry M., a sturdy boy of 15 years, of French parentage, was taken suddenly ill with fever on November 12; history of malaise for a period of eight or ten days previous was elicited, and the case soon proved to be a marked one of typhoid fever, the temperature reaching 105.4 degrees F.; the Widal test gave a positive reaction. Finally, on the fifteenth day of his confinement to bed, probably the twenty-fifth of his disease, the temperature reached normal. Although the condition of the boy was in every way excellent, the temperature again rose, reaching a maximum of 102.1 degrees on the sixth day after the drop to normal. A slight cough was present, without discernible physical signs; while constipation existed at first, its relief was not followed by the subsidence of the temperature; no tenderness could be detected about the abdomen or thorax or other portion of the body. Quinin sulphate was resorted to, 40 grains being given daily. After four days of this treatment the temperature still oscillated about the 100-degree mark. The patient was made to sit up, and his diet, which had been liquid up to this time, was increased by allowing soft-boiled eggs and crackers. The temperature quickly dropped, reaching normal on the fifth day. Convalescence was uninterrupted. In this case all possible local sources of febrile temperature had been excluded. It is probable that the explanation of the facts observed is the functional failure of the heat-centers; these are perhaps stimulated to a better performance of their duties by a greater activity on the part of the patient and a more generous diet.

New York County Medical Association.—At the meeting on February 20, Dr. Frederick Holme Wiggin, in his inaugural address as president of the association, discussed "The Physicians' Code of Ethics," and took occasion to enlighten both physicians and the laity more fully regarding certain portions of the National Code of Medical Ethics—that body of rules which is popularly supposed to bind together the whole medical profession in an ironclad agreement. He disavowed any intention of stirring up old strifes, and claimed that he had selected this particular topic solely because, in his intercourse, not only with his professional brethren, but with various men of affairs, he had been impressed with the fact that certain very important parts of this subject were very generally misunderstood. For instance, only a few months ago a high official in the Homeopathic State Medical Society had told him that when the American Medical Association and its affiliated societies were ready to open their doors to those who held different views from the majority as to the action and dosage of drugs, he, for one, would be willing to leave his organization, discard his sectarian title and apply for membership. This gentleman, like many others, was not aware that years ago the American Medical Association had taken this very position. In spite of all that had been said since regarding the Code, the members of the medical profession in this country had lived under it in reasonable harmony from the organization of the American Medical Association in 1848 until 1882. In the latter year the first note of discord had been struck by the New York State Medical Society, which, at its annual meeting in Albany, had adopted a different code. As this was in direct violation of one of the by-laws of the National organization, the judicial council of the latter Association, by a unanimous vote, excluded the delegates of New York. As a result, the members of the profession residing in this State, who still desired representation in the National body, were constrained to organize the New York State, and the New York County Medical, associations. This division of the profession, with its resulting dissensions, was especially unfortunate, because it arose from a misunderstanding, and was, therefore, wholly unnecessary. The American Medical Association had endeavored to clear up any doubt upon the main question at issue—that of consultations with homeopathic practitioners—by adopting, in May, 1884, a series of resolutions, making clear the fact that the National code contained no provision in any wise inconsistent with the broadest dictates of humanity and the exercise of the most perfect liberty of individual opinion and practice, and that the true ground for declining professional fellowship with any class of practitioners was not a belief in any particular dogma, but the adoption of sectarian names as trademarks, and the formation of organizations antagonistic to the great mass of the medical profession. This action of the National body, Dr. Wiggin said, had certainly opened the door years ago for the return to the parent organization of the members of the New York State and County societies, and that the members of the county society now appreciated this fact, and occupied identically the same position, was evident from the inaugural address, in 1897, of its president, Dr. Arthur M. Jacobus, who, in speaking of certain sectarian practitioners, said: "If they will but drop the sectarian title for that of physician, pure and simple, and let the old and new school questions die out, I am sure we will welcome them with open arms." In closing, Dr. Wiggin said that although the local profession might be compelled to wander a few years longer in the desert of disorganization, it was fair to predict that early in the twentieth century a Moses would be found who would lead the profession into the promised land of union and strength. When that gladsome time should arrive when all educated physicians in this State would join hands, he hoped the larger and reorganized society would adopt, as its motto, a paraphrase of that of the famous Musketeers of Dumas—"The profession for the individual practitioner, and the individual practitioner for the profession."

BOOK NOTICES.

Degeneracy. Its Causes, Signs and Results. By Eugene S. Talbot, M.D., DD.S. With 120 Illustrations. London: Walter Scott, Ltd. 1898. New York: Charles Scribner's Sons.

This issue of the Contemporary Science Series, edited by Havelock Ellis, is by an American author, a Chicago practitioner of dentistry, whose previous writings in a less popular form have given him a cosmopolitan reputation as an investigator in the special field of human degenerative defects. In the present work he gives the general results of over twenty years of study, and follows up the history and the facts of degeneration as it is understood in the more limited and scientific sense. His book is not, like that of Nordau, a tirade against social, musical and literary fads and their originators, but is a judicial and readable *exposé* of the real and alleged causes of degeneracy, including under this head such agencies as atavism, intermarriage, race mixture, toxic agencies, and diseases, climate, soil, food, overstrain in school, and of the chief stigmata in the cranium, and the body generally, and ends with a discussion of mental and moral degeneracy and, like Nordau's book, with a chapter of "conclusions" that are rather encouraging than otherwise. Dr. Talbot evidently does not think that his subject is a national or racial danger. The fact that degeneracy is its own cure by the lack of reproductive capacity of its victims is one safeguard, and the further fact that its evil tendencies can be averted by proper training of the young is another.

A noteworthy feature of the work is that, while showing the widest range of reading in foreign authorities, it is especially complete in its references to American authorities, who, whatever their merits, are often overlooked in works of this class, by European authors. In this respect the work is a notable exception to the general rule. In all respects it is to be welcomed as a valuable contribution to a subject of wide general interest, in regard to which popular ideas are in a more or less hazy condition. As a semi-popular statement of some of the present aspects of the subject it is therefore likely to be of service.

A Practical Treatise on Fractures and Dislocations. By Lewis A. Stimson, B. A., M.D. New York & Philadelphia: Lea Brothers & Co. 1899.

The present volume, although a second edition, has been so thoroughly rewritten in the light of a more mature experience as to form, practically, a new work. The author's wide experience enables him to speak with authority, and much of the matter is provided from his own personal records. A marked conservatism pervades the work which, on the whole, is commendable. Concerning the value of the X-rays, he says: "While the X-rays have been of interest and value in showing details of certain fractures, especially at the wrist, elbow and ankle, yet it can not fairly be said that they have yielded much information of practical value which could not have been obtained by palpation. Probably their usefulness will be increased by improvements in methods and apparatus, but at present the information which they give needs to be sifted with great care from among many misleading appearances." This should be remembered particularly in medicolegal cases. The plates, which are quite numerous, are very good, and the illustrations well chosen. The work is timely, and a desirable one for the practitioner to have.

Lectures on Appendicitis and Notes on Other Subjects. By Robert T. Morris, A.M., M.D., New York City. Third edition, revised and enlarged. With Illustrations by Henry MacDonald, M.D. Cloth, pp. 185. New York: G. P. Putnam's Sons. 1899.

This volume is well printed, on excellent paper, and contains much of interest to the surgeon. Chapter I treats of preparation for operation, and materials; Chapter II, the "Appendix

Vermiformis Ceci;" Chapter III, "Appendicitis;" Chapter IV, surgical treatment of and subsequent notes on appendicitis, the attitude of ten physicians on appendicitis, impressions from ten patients, summaries of the etiology and pathology of appendicitis, the death-rate factors, symptoms, and operative methods. In the last chapter, he considers: "Action of Various Solvents on Gallstones;" "Influence of Remains of Embryonic Vitelline Duct in Production of Moist Navels, and of Eczematoid Inflammation about the Navel;" "Malignant Islands at the Navel with Malignant Disease of Abdominal or Pelvic Organs;" "A Last Resort Hernia Operation;" "Experimental Production of Ileal Intussusception with Carbonate of Sodium," etc.

Manual of Physiology. By G. N. Stewart, M.A., M.D. Edin., D.Ph. Camb. 3d. edition. Philadelphia: W. B. Saunders. 1898.

This work is essentially a text-book for school use, which fact determines its general plan, Its usefulness is by no means, however, so limited, and its presentation of well-digested modern results is very attractive, particularly in respect to its condensation. The conclusions are in the main judicial, which implies very much reservation. The trend of opinion, however, is well enough indicated to serve as a guide for all intelligent readers. The mechanism of vascular and respiratory action has, as usual, been alluring and not unduly enlightening. The discussion of "internal secretion" is brief, much to the point, and very important. Conclusions as to the kidney seem to us not quite sustained, but they are afterall tentative. The short allusion to "urine in disease" is conservative, and fails to meet the mental process of clinical men half way. The chapter on metabolism, nutrition, and dietetics" is very instructive.

It is very unfortunate that the presentation of the "neuron,' in the discussion of the nervous system should be so at variance with the definitions of the neurologists, inasmuch as this conception is not only fundamental, but very clarifying.

The liberal use of experimental text; the adaptation to laboratory work, co ordinated with didactic; the extremely good type and form, make the work of great value, and one that every man would find, among his many, a favorite. While sharing the growing opinion that there are too many books on medicine published, we are disposed to welcome all such thoughtful contributions upon the most fundamental and important of medical topics.

Medical Work of Massachusetts Volunteer Aid Association During the Spanish War. Boards, pp. 51. Illustrated. Boston: 1898.

This volume appears to be a collection of reprints of articles from a weekly medical journal, having to do with the work of the Massachusetts Volunteer Aid Association during the recent war with Spain. It, however, lacks title-page, index and table of contents, and does not even bear the publisher's name. The several papers are by: Dr. Herbert S. Burrell; J. T. Byford; Drs. E. H. Bradford and J. T. Bottomley; W. H. Seabury; Miss C. W. Cayford; Drs. E. G. Brackett, W. H. Prescott, J. Booth-Clarkson, T. B. Shea, Myles Standish, J. B. Blake and F. G. Balch.

Practical Lessons in Fever-Nursing. Designed for the use of professional and other nurses, and especially as a text-book for nurses in training. By J. C. Wilson, A.M., M.D. Third edition, revised and enlarged. Philadelphia: J. B. Lippincott Company.

The popularity of this little work attests the fulfillment of the author's hope for its usefulness. It is written in an entertaining style, and from a practical standpoint, and the professional relation of the nurse to the physician is kept constantly in view. The present edition is brought up to date by special attention to etiology and prophylaxis, disinfection, the Brand method of bathing, serum therapy, the care of soldiers in camp and during transportation, and by a short article on the bubonic plague. This work is probably the best of the smaller text-books on nursing.

Archives of the Roentgen Ray. Edited by Thomas Moore, F.R.C.S., and Ernest Payne, M.A., (Cantab). Vol. iii, No. 2, November, 1898. Paper. Illustrated. Pp. 63. London: Rebman Pub. Co., Ltd. Philadelphia: W. B. Saunders, 1898. Price, $1.00.

This number of the *Archives* contains the following plates: A needle in the spine, congenital absence of clavicles, central sarcoma of tibia, tubercular disease of ankle, rheumatic arthritis of hand, an American frog, fractures of patella.

PUBLIC HEALTH.

Scarlet Fever.—According to Chicago Health Department officials, scarlet fever has been epidemic in Chicago for two years and at the present time is widespread. Last year it was of a very mild form and the death-rate low, but the mortality this year has been above the average.

Smallpox.—The smallpox panic still exists in this country, and numerous sporadic cases are reported. As a rule, however, the public is getting over its disturbed condition in regard to the disease, and it seems generally to be of a mild type and easily controlled. In no part of the country is there anything like a serious condition.

Health in Michigan.—Reports for February give influenza, bronchitis, rheumatism, neuralgia and tonsillitis as the five most prevailing diseases. Compared with the preceding month, erysipelas and scarlet fever increased in area of prevalence and, compared with the average for February for thirteen years, scarlet fever and influenza were more prevalent and diphtheria, typhoid fever, intermittent fever, whooping-cough, remittent fever, measles, diarrhea and erysipelas less prevalent.

Health in Cincinnati.—The health report for the year 1898 shows the following causes of death: consumption, 642; pneumonia, 519; heart disease, 371; accident, 229; typhoid fever, 105; diphtheria, 51; croup, 22; dysentery, 80; influenza, 27; cerebrospinal fever, 17; measles, 12; scarlet fever, 8; whooping-cough, 68; cholera infantum, 73; cholera morbus 8; diarrhea, 30; enteritis, 75; bronchitis, 289; homicide, 20; suicide, 62. In all there were 5585 deaths, making the death-rate per thousand, 14.79.

Cerebrospinal Meningitis.—An epidemic of cerebrospinal meningitis is reported from certain sections of Texas, Kentucky, Missouri and Southern Indiana. In Evansville, Ind., there have been forty-eight cases since January, nearly half of them fatal. In Fort Worth, Texas, the situation is reported as alarming, thirty deaths occurring in one week (newspaper statement), while in Henderson, Ky., thirty-nine deaths occurred between February 1 and 25. So far the country districts have chiefly suffered, but some alarm has been excited in St. Louis and other large cities, more it seems from an apprehended than an actual epidemic.

Yellow Fever.—The *New Orleans Med. and Surg. Jour.*, in its March issue, editorially congratulates the people of Louisiana on the prospect of there being no recrudescence of yellow fever in that particular portion of the South this coming year. The reason for this is the extremely low temperature which that part of the country has undergone. The thermometer, it is stated, has ranged as low as 25 degrees below freezing-point, and the water-pipes, even when covered with asbestos packing, were burst by the extreme cold. From this exceptional climatic condition it apparently is just to infer that there will be no home-bred repetition of the yellow fever there the coming year.

Problem of Typhoid Fever.—In an address before the New York State Medical Society, recently, Osler traced the work of the American physician relative to typhoid fever, and laid special stress on the work done in certain States. For the solution of the problem he considers the one essential as the practical conviction of the people until they shall do what Elisha asked of Naaman the Syrian—that they shall wash and be clean—that they shall scour the soil on which they live, and cleanse the water which they drink. The problem will be solved when: 1, every city in the Union has a supply of pure water (including ice), and is properly drained; 2, when suburban and rural hygiene is systematically organized. In many ways a city's danger is from the country. Infected milk, infected ice, infected oysters, and dirty health resorts account for a considerable percentage of the cases treated in the towns. Many of the State boards of health need a more efficient organization; all need larger annual appropriations. A bureau of public health should form an integral department of each State government, with which civic, county, township, town and village boards should be in close organic affiliation. The salaries of the health officers should be changed from the beggarly pittance, almost the rule, to sums which would warrant a demand on the part of the public that such officials should have modern training in sanitary science. Special courses should be offered in the medical schools, as is done in England, and even diplomas given. All this will come when the health of the people is made a question of public not of party policy. . . . The responsibility for the wide spread prevalence of the disease rests upon the wanton carelessness of the people. God's own country, with man's own back yards, and the devil's own cesspools, expresses the existing conditions. A three-fold duty devolves upon the members of our profession; 1, to preach cleanliness! cleanliness!! cleanliness!!!; 2, to give a loyal and willing support to the State health officials; and 3, to guard every case of typhoid fever as a center and possible source of further infection."

Health Reports.—The following cases of smallpox, yellow fever, cholera and plague have been reported to the Supervising Surgeon-General of the U. S. Marine-Hospital Service for the week ended March 4, 1899:

SMALLPOX—UNITED STATES.

Alabama: Antauga Co., February 24, smallpox present; Mobile, February 24, 4 cases; Montgomery Co., February 24, smallpox present.

Colorado: Denver, February 4–11, 2 cases, 1 death.

District of Columbia: Washington, February 23–28, 11 cases.

Florida: Jacksonville, February 11–18, 1 case; Key West, February 25, 3 cases; Pensacola, February 27, 3 cases.

Georgia: Savannah, 1 case, a soldier from Porto Rico, on steamer *Chester*.

Illinois: Cairo, February 23, 9 cases; Monmouth, February 23, 3 cases.

Indiana: Evansville, February 25, 1 case; Jackson City, February 24, 3 cases.

Kansas: Peabody, February 16, 56 cases, 7 deaths.

Kentucky: Louisville, February 16–23, 29 cases

Maryland; Baltimore, February 3–27, 2 cases.

Maine: Auburn, February 20, 4 cases; Lewiston, February 22, 1 case.

Nebraska: Omaha, February 4–18, 2 cases.

Rhode Island: Providence, February 17–24, 1 case.

Tennessee: Jackson, February 11–18, 9 cases; Memphis, February 11–18, 6 cases.

Texas: Alice, forty miles west of Corpus Christi, February 20, 20 cases.

Virginia: Alexandria, February 23–March 2, 20 cases, 1 death; Norfolk, February 21–24, 35 cases; Portsmouth, February 18–25, 36 cases.

SMALLPOX—FOREIGN.

Brazil: Bahia, January 21–February 4, 12 cases; Rio de Janeiro, January 6–13, 18 cases, 7 deaths.

China: Hongkong, January 15–21, 1 case.

Egypt: Cairo, January 22–February 4, 3 deaths.

Gibraltar: January 30–February 12, 2 cases.

India: Bombay, January 24–31, 3 deaths.

Mexico: Ciudad Porfirio Diaz, February 18–25, 4 cases; Mexico, February 10–17, 10 cases, 2 deaths.

Russia: Moscow, January 28 to February 4, 6 cases, 4 deaths; Odessa, February 4–11, 2 cases, 1 death; St. Petersburg, January 21–February 4, 4 cases, 2 deaths.

Turkey: Constantinople, December 31–February 15, 32 deaths; Smyrna, January 25–February 5, 1 death.

YELLOW FEVER—FOREIGN.

Brazil: Rio de Janeiro, January 6–31, 28 cases, 20 deaths.

CHOLERA—FOREIGN.

India: Bombay, January 24–,31 3 deaths; Calcutta, January 14–21, 30 deaths; Madras, January 21–27, 2 deaths.

Medical Practice in Illinois.—The following sections are from a bill drawn up by the secretary and attorney of the Illinois State Board of Health, and with the advice and consent of the chairman and members of the Legislative Committee of the State Medical Society. The bill was substituted at the meeting of the Judiciary Committee of the Senate last week, for the bill introduced by Senator Gardner, editorially referred to in the Journal of Feb. 11. This action was rendered advisable and necessary by the fact that intense opposition had been manifested to the passage of the original bill, opposition emanating not only from those who invariably oppose legislation of all kinds, but from the licensed physicians of the State, who objected strenuously to the clause requiring a renewal of their licenses each year. It could be seen also that the possibility of the bill receiving favorable consideration was jeopardized by the section requiring all applicants to possess diplomas, and both in the Senate and House the creation of "new boards" was looked upon with disfavor. Furthermore, those who had approached the members of both houses on this subject had little difficulty in determining that no new medical legislation would receive consideration unless "those who did not give medicines" were allowed an opportunity to prove their qualifications to the Board. The amended bill was a surprise to the committee and an unpleasant shock to the "antis," who had assembled in large numbers, loaded with arguments against the original measure. The substituted bill, free from the principal objections to be brought forth, left little or no ground for argument, except from those who believed in no legislation.

Section 2.—No person shall *hereafter* begin the practice of medicine or any of the branches thereof, or midwifery, in this State, without first applying for and obtaining a license from the State Board of Health to do so. Applications shall be in writing, and shall be accompanied by the examination fees hereinafter specified, and with proof that the applicant is of good moral character. Applications from candidates who desire to practice medicine and surgery in all their branches, shall be accompanied by proof that the applicant is a graduate of a medical college or institution in good standing as may be determined by the Board, or that he has attended at least two full courses of lectures in such medical college or institution, of at least twenty-six weeks each, no two courses being in the same year, and has passed all examinations in the studies, and performed all laboratory work and dissections embraced in the curriculum of the courses attended. When the application aforesaid has been inspected by the board and found to comply with the foregoing provisions, the board shall notify the applicant to appear before it for examination, at the time and place mentioned in such notice. . . . The examination of those who desire to practice medicine and surgery in all their branches shall embrace those general subjects and topics, a knowledge of which is commonly and generally required of candidates for the degree of doctor of medicine by reputable medical colleges in the United States. The examination of those who desire to practice midwifery shall be of such a character as to determine the qualification of the applicant to practice midwifery. The examination of those who desire to practice any other system or science of treating human ailments, who do not use medicines internally or externally, and who do not practice operative surgery or obstetrics (the science of midwifery), shall be in the following branches only, viz.: anatomy, physiology, physiologic chemistry, pathology, histology and gynecology, provided that those who practice ophthalmology exclusively shall be examined in the branches embraced in the curriculum of reputable colleges of ophthalmology. . . .

Sec. 4.—Every person holding a certificate from the State Board of Health shall have it recorded in the office of the clerk of the county in which he resides within three months from its date, and the date of recording shall be endorsed thereon. Until such certificate is recorded as herein provided, the holder thereof shall not exercise any of the rights or privileges conferred therein. Any person removing to another county to practice, shall record the certificate in like manner in the county to which he removes, and the holder of the certificate shall pay to the county clerk the usual fee for making the record. The county clerk shall keep, in a book provided for the purpose, a complete list of the certificates recorded by him, with the date of issue of the certificate. The register of the county clerk shall be open to public inspection during business hours.

Sec 5.—The fees for examinations shall be as follow: $10 for examination in medicine and surgery, and $5 for a certificate if issued; $5 for an examination in midwifery and $3 for a certificate if issued; for all other practitioners $10 for an examination and $5 for a certificate if issued.

Sec. 6.—The State Board of Health may refuse to issue the certificates provided for in this act to individuals who have been guilty of the practice of criminal abortion, who have been convicted of a crime involving moral turpitude or who have by false or fraudulent representations or advertisement, obtained or sought to obtain practice in their profession or by the false or fraudulent representation of or advertisement of their profession have obtained or sought to obtain money or any other thing of value, or who advertise under names other than their own, or for any other unprofessional or dishonorable conduct.

Sec. 7.—Any person shall be regarded as practicing medicine within the meaning of this act, who shall treat, operate on or prescribe for any physical ailment or any physical injury to or deformity of another. Provided, that nothing in this section shall be construed to apply to the administration of domestic or family remedies in cases of emergency, or to the practice of dentistry or of pharmacy. And this act shall not apply to surgeons of the United States Army, Navy or Marine-Hospital Service in the discharge of their official duties.

Sec. 8.—That any itinerant vendor of any drug, nostrum, ointment or appliance of any kind intended for the treatment of disease or injury, who shall vend or sell such drug, nostrum or appliance, or who shall by writing or printing, or any other method, profess to the public to cure or treat disease or deformity by any drug, nostrum or application, shall pay a license of $25 per month into the treasury of the board, to be collected by the board in the name of the People of the State of Illinois for the use of said board. And it shall be lawful for the State Board of Health to issue such license on application made to said board, said license to be signed by the president of the board and attested by the secretary with the seal of the board; but said board may, for sufficient cause, refuse said license. Any such itinerant vender who shall vend or sell any such drug, ointment, nostrum or appliance, or who shall, by writing or printing, or any other method, profess to cure or treat disease or deformity by any drug, nostrum or appliance, without a license so to do, shall be deemed guilty of a violation of this section, and upon conviction shall be subject to the penalties hereinafter provided. . . .

Sec. 9.—Any person practicing medicine or surgery or treating human ailments in the State without the certificate issued by this board, in compliance with the provisions of this act, or any itinerant vender violating the provisions of Section 8 of this act, shall for each and every instance of such practice or violation forfeit and pay to the people of the State of Illinois, for the use of the said State Board of Health, the sum of $100 for the first offense, and $200 for each subsequent offense, the same to be recovered in an action of debt before any court of competent jurisdiction, and any person filing or attempting to file as his own the diploma or certificate of another. or a forged affidavit of identification, shall be guilty of a felony, and upon conviction, shall be subject to such fine and imprisonment as are made and provided by the statutes of the State for the crime of forgery. Provided, that all persons who have been practicing medicine continuously for ten years within the State prior to the taking effect of the act to which this is a second amendment, and who have not under said original act, obtained a certificate from the said Board of Health to practice medicine in this State, shall upon proper application to said Board of Health receive such certificate, unless it shall be ascertained and determined by said Board of Health that the person so applying for a certificate is of immoral character, or guilty of unprofessional or dishonorable conduct, in which case the said board of health may reject such application. And, provided, that such application for a certificate shall be made within six months after the taking effect of the act to which this is an amendment, and all persons holding a certificate on account of ten years' practice, shall be subject to all the requirements and discipline of this act, and the act to which this is an amendment, in regard to their future conduct in the practice of medicine the same as all other persons holding certificates, and all persons not having applied for or received such certificate within six months after the taking effect of the act to which this is an amendment. and all persons whose applications have for the causes herein named been rejected or certificates revoked, shall, if they shall practice medicine, be deemed guilty of practicing in violation of law and shall suffer the penalties herein provided.

NECROLOGY.

Edward P. Hurd, M.D., Newburyport, Mass., died February 24, aged 60 years. Dr. Hurd was educated at St. Francis' College, Richmond, and the McGill Medical School at Montreal. He began the practice of medicine at Danville, P. Q. In 1870 he settled in Newburyport. For two years he served as a member of the school committee, and for seven years was a director of the public library. From 1871 to 1881 Dr. Hurd was one of the city physicians, and when subsequently the law providing for the appointment through the mayor went into effect, Dr. Hurd was appointed by Mayor Hale, and served as city physician till 1885. In 1893 he was appointed medical examiner for the 3d Essex district, and the same year he became pension examining surgeon for Newburyport and surrounding towns. He was also for two years president of the Essex Medical Society. Dr. Hurd had been professor of pathology and dermatology of the College of Physicians and Surgeons, Boston, for several years, and was also a registrar of the college.

John Edmund Ward, M.D., Royal College of Surgeons, Eng., 1868, son of the late Dr. Joseph Ward, Epsom, Eng., died at his home, Coney Island, N. Y., February 25.

Daniel F. Harkins, M.D., died at Allentown, Pa., February 27, as the result of a sand-bagging in New York City, several weeks before, while a physician at Blackwell's Island.

Clifton S. Gray, M.D., St. Louis Medical College, 1872, Little Rock, Ark., died February 14, aged about 49 years. He was a native of Missouri, a member of the Arkansas State Medical and the American Medical Association, and was well known throughout his section of country, chiefly as an authority on diseases of the eye and ear.

Hayden Nichols, M.D., Long Island College Hospital, 1893, died at his home in Brooklyn, N. Y., March 4. He was born in Connecticut but had practiced most of his profession in Brooklyn, ill health compelling his retirement about two years ago.

Edwin D. Powers, M.D., died at his home in LaFayette, Ind., on February 15. He was born in 1827, and at the conclusion of his academic studies, at the age of 19 years, began qualifying himself as a physician in the office of an uncle, the late Dr. N. C. Powers of Syracuse, N. Y. His professional college training was obtained in Geneva Medical College, and he did his first work as a practitioner of medicine in Oswego, N. Y. He came to LaFayette for residence and practice in 1859.

Philo L. Holland, M.D., Chicago, died March 2, of pneumonia. Dr. Holland was a graduate of the Northwestern University Medical School, and for a time was associated with St. Luke's Hospital medical staff.

Franklin Whiting Brigham, M.D., Harvard, 1865, Shrewsbury, Mass., died of pneumonia, February 28. . . . E. A. Bunton, M.D., Greensfork, Ind., February 27, aged 52 years. . . . Horace C. Deane, M.D., Univ. Med. College, N. Y. City, 1886, N. Y., February 28, aged 35 years. . . . O. J. Howard, M.D., Elgin, Ill., February 25, aged 83 years. . . . Lee Kahn, M.D., Leadville, Colo., Rush Medical College, 1889, February 26, aged 32 years. . . . Stephen D. O'Brien, M.D., Kalamazoo, Mich., March 2, aged 38 years. . . . John E. Prichard, M.D., Baltimore, Md., March 1, aged 64 years.

MISCELLANY.

Successor Appointed.—Professor Garre has been appointed chief of the surgical clinic at Basle, to succeed the late Professor Socin.

Dr. H. T. Clough.—The new head of the department of diseases of the eye and ear at the Bangor (Me.) General Hospital, is Dr. H. T. Clough of Portland, Me.

Dr. Benson Ill.—We learn that Dr. John A. Benson, professor of physiology at the College of Physicians and Surgeons, Chicago, is critically ill.

Dartmouth Medical College.—The 101st annual commencement of this school was held recently, a class numbering twenty-five being graduated in medicine.

Christian Science.—On March 7, both houses of the Legislature of Oklahoma passed a bill prohibiting practice of Christian Science, but the same was vetoed next day by the Governor, as infringing on personal liberty.

Recurring Purpura and Anal Hemorrhage.—The *Bulletin Méd.* of January 4, relates the case of a man of 46 years who has a hemorrhage from the anus recurring regularly every month, simulating the menses, accompanied by patches of purpura.

Assistant at Longview Hospital.—Dr. J. W. Mann of Newtonville, Ohio, has been appointed successor to Dr. Frank Anderson as assistant physician at Longview Hospital, Cincinnati. The latter will locate at Decatur, Ill.

Central Medical College.—The commencement exercises of this St. Joseph, Mo., school were held March 1, and the degree of M.D. conferred on thirteen. The faculty address was given by Dr. S. F. Carpenter.

Hospital Name Changed.—The Assembly, in session at Albany, N. Y., has passed a bill changing the name of the New York Cancer Hospital to the General Memorial Hospital for the Treatment of Cancer and Allied Diseases.

Welcome for Dr. Fowler.—Dr. George B. Fowler, New York City, who was surgeon-in-chief of the army corps commanded by Gen. Fitzhugh Lee, was the guest of honor at a dinner recently given by a number of his professional friends. He has resigned his place with the corps, which is now in Havana, and has returned to his private practice.

Dr. L. P. Barbour.—Dr. L. P. Barbour, who for several years has been professor of obstetrics and of physical diagnosis in the University of the South, and lecturer on tubercular diseases, University of Tennessee, has resigned these positions and removed to Boulder, Colo.

St. Luke's Hospital.—The thirtieth anniversary of Dr. S. J. Jones' connection with this Chicago institution, as oculist and aurist, occurred March 4. Dr. J. E. Owens has been with the hospital thirty-two years, and Dr. I. N. Danforth, now an honorary member, twenty-five years.

Legislation in Kansas.—The House, in session at Topeka, by a vote of 43 to 23, has defeated the bill relating to the practice of medicine in that State, but has passed the Senate Insane Asylum Bill, providing for the erection of a new asylum at a place to be selected by a commission, appropriating $100,000 to begin it.

Pittsburg Physicians Visit Chicago.—A party of Pittsburg, Pa., physicians visited Chicago recently for the purpose of inspecting certain of the office structures of Chicago, and recommending any alterations in the plans of the architects commissioned with the reconstruction of the edifice tenanted by them in Pittsburg. Drs. W. F. Robeson, E. W. Day, J. R. Vincent, T. C. Christie, T. M. McKennan and J. S. Mabon were of the number.

Mumps with Enlarged Spleen.—Before the Harveian Society of London, Ewart (*Med. Press. and Cir.*, February 15) has reported a case of mumps in a boy of 13 years, otherwise healthy. The boy was admitted into the hospital on the third day of the attack, with the characteristic swelling of the left parotid. The affection remained limited to the left side and ran a mild course without pyrexia, the only complication being an enlargement of the spleen, which persisted for several days, gradually subsiding as the parotid became of normal size.

Serum Cure for Pneumonia.—A special cable dispatch to the *Chicago Tribune*, March 2, states that Professor Wasserman, one of Koch's ablest pupils, announces his belief that he has obtained a serum curative for pneumonia. Inoculation experiments with pneumonia germs in rabbits, produced a serum that cured the disorder in mice. Investigations further revealed the fact that the antitoxin is produced in the red marrow of the bones, and that serum derived from this substance from a human subject is also effective in mice.

Hospitals.—St. Anthony's Hospital, Columbus, Ohio, reports, for 1898, 1076 patients treated, 705 medical and 209 surgical cases. During the year 860 patients were discharged, 48 died, 168 remained at the close of the year. . . The Presbyterian Hospital, Chicago, has received $5000, from Mrs. S. P. McDivitt, for the endowment of a bed to be known as the Mary Day McDivitt bed. . . St. Joseph's Hospital, Joliet, Ill., has received $200, bequeathed by the late Mrs. J. Braun. . . The heirs of the late Thomas Newbury have sent $5000 to the Morton Hospital, Taunton, Mass.

A Doctor's Strange Fees.—A correspondent has sent us an extract from a letter received from his brother, a medical missionary in Sechuan, one of the inland provinces of China. "I had," he writes, "a very distinguished patient this afternoon. She is the wife of Sai-Tai of Tien-Tsin, in Chih-Li Province, a man who governs an area probably equal to half a dozen English counties. She brought her fee with her; a fowl, a duck, sixty eggs, two pounds of cakes and a leg of mutton! Last time she came she brought not quite so much, but since then she has sent over eight stocks of beautiful chrysanthemums."—*British Medical Journal.*

Bromoform Intoxication.—A child between 4 and 5 years of age, drank five grams of bromoform prescribed for his whooping-cough. Half an hour later he had coffee, bread and jelly for his supper, when suddenly he became unconscious, pulse 70, no reaction to stimulations, lower extremities ice cold. An injection of camphorated oil, with frictions, improved the pulse, but the stomach-pump was not obtained for over an hour, when the attempts to introduce the sound produced a coughing spell with vomiting, and the little fellow commenced to improve and was quite restored by the close of the next day. —*Munich Med. Woch.*, January 31.

Northwestern University Women's Medical School.—Dr. Marie J. Mergler, Chicago, has been made dean of this institution, to succeed Dr. I. N. Danforth, who has been given the honorary title of dean emeritus, in recognition of his long and eminent services to the school. The yearly course at this school has been changed from one of two semesters to one of four semesters of twelve weeks each, commencing the first of July, October, January and April. Three semesters will be required; the other semester will be optional. The number of regular students will be limited to 125 in each class. They will be admitted to competitive examination for place in class only after having complied with the requirements of the State Board of Health.

Chronic Abscess of Soft Palate with Calculi.—A. Raoult of Nancy recently operated on an abscess that had evidently developed from retention of the secretions of the tonsils in one of the cavities above the tonsils, which had become nearly closed by inflammatory adherences. The suppuration had extended into the body of the soft palate and produced a supplementary cavity in which several calculi were discovered, containing 61 per cent. mineral matters to 39 organic (33 of fatty substances). Leptothrix were also found in them. Nine cases of similar chronic abscesses are on record, but none with calculi formation. Patients complain of sensitiveness and fetid breath, but the pain is not excessive unless the abscess is very large.—*Rev. Hebd. de Laryng.*, February 4.

Pneumococcemia in Fibrinous Pneumonia.—Bianchi has examined the blood of twenty-seven children affected with pneumonia, and had positive results in 47 per cent. of the cases of pneumonia and in 30 per cent. of the cases of bronchopneumonia. Anterior infections diminishing the resistance, do not seem to be necessary. The presence of the microbe in the blood does not imply a more serious prognostic as long as there are no grave complications in other organs. These complications do not seem to be closely connected with the septicemia; nephritis, for instance, may occur with or without infection in the blood. The virulence of the microbe has no prognostic significance. In bronchopneumonia the passage of the microbes into the blood is noted even in cases that terminate in recovery. —*Rev. Gén. de Path. Int.*, February 5.

Shock.—In the *Med. News*, February 25, Dawbarn considers five points to be especially observed of the treatment of shock by "the free use of intravenous, hot, saline infusion": 1. The place of entrance, which in most cases is the median basilic vein, occasionally a vein in the operating-wound, while, where speed is not a factor, the rectal route is an excellent one. 2. As to the solution, it should be the so-called normal, really decinormal, salt solution, which is six parts of common table salt per thousand, boiled and filtered; roughly, a heaped teaspoonful to the quart. 3. The solution should be as hot as can be borne by the hand, about 120 degrees F. 4. In the adult, the amount should never be less than a liter, often two, and occasionally three, always injecting slowly. 5. The time occupied introducing the fluid into a vein should never be less than ten minutes to the liter.

Bone Marrow the Seat of the Immunizing Substance.—M. Wassermann has established, by experiments on rabbits, that the seat of the immunizing substance is the marrow of the bones, in infection withthe pneumococcus. It is found later, after four or five days, in the blood serum. The fact was confirmed by the discovery of marked immunizing power in the marrow from the femur of a patient dying with pneumonia. He has been unable yet to determine any relations between the strength of the immunizing power and the number of polynuclear leucocytes, according to Ehrlich's statements in regard to the leucocytosis that occurs in pneumonia.—*Munich Med. Woch.*, February 14.

Disinfection of War Relics.—The Illinois State Board of Health, it is said, is preparing what may be a timely circular in regard to the possible introduction of disease through war relics from the late Spanish-American possessions. The release of some thousands of ex-soldiers from service in those regions where smallpox, as well as yellow fever and other diseases, is endemic, each one of whom is likely or almost certain to bring with him some undisinfected relic of the late war, constitutes an actual danger that it is well to have guarded against. The circular, it is stated, will embody the regulations laid down by the board in regard to such articles, and will call upon local health officials to see that they are enforced. It will be well if its contents can be made as public as possible, and also if the same plan could be carried out in other States besides Illinois.

The Influenza Bacillus.—Since the publication of the article on the "Bacteriology of Influenza" (vide Journal, p. 502) the Department of Health, Chicago, advises that the Canon-Pfeiffer bacillus has been identified in the bronchial mucus of a number of patients presenting the characteristic symptoms, especially as to glandular swelling, pain and stiffness of the sternocleido and temperature. These symptoms have, however, not usually lasted more than three or four days, when the swelling and soreness subside and the temperature falls to normal. Coincidentally with this subsidence of the paretic symptoms there has, in some cases, occurred a sharp intestinal disturbance with, in two instances, peritonitis and dysentery. All the cases reported have been among adults, and none have thus far resulted fatally.

Illegitimate Criticism (?)—One of our esteemed contemporaries, in a notice of Dr. Talbot's recent work on "Degeneracy," uses the following language: "Reasons drawn from analogy rather than homology are frequently used to prop up an argument, and the say-so of many men, some of whose statements would not be believed under oath, is frequently used to point a moral or adorn a tale." It is unfortunate for the numerous scientific authorities whom Dr. Talbot has so frequently quoted in his work that this sort of indefinite libel has been allowed to appear in a book notice in so respectable a journal as the one to which we refer. Who are the "many" whose statements would not be believed under oath? The matter is of some interest, and we might ask whether it is considered in the order of legitimate scientific criticism to make such statements.

Transmission of Typhoid Agglutinating Power.—At a recent meeting of the Société médicale des Hôpitaux, Mosse and Frenkel (*Lancet*, February 4, p. 341) presented a communication in which it was maintained that the power of the blood to cause agglutination of typhoid bacilli can be transmitted from the mother to the fetus through the placenta. This power has been found in a full-term child born of a mother who has passed through an attack of typhoid fever during pregnancy. This power is feebler in the infant than in the parent and grows progressively more so. The transmission depends in part upon the activity of the agglutinating power of the mother's blood and the length of time during which the fetus has been exposed to its influence. The secretion of the mammary also possesses agglutinating power, but in a much less active degree than in the blood. It also is influenced by the agglutinating activity of the mother's blood and the duration of the condition.

Spasm of Tensors of Vocal Chords.—Rhodes (*N. Y. Med. Jour.*, February 25) presents five cases from which he concludes that the disease is of neuropathic origin, probably located in the motor areas of the medulla. The essential points in diagnosis are the spasmodic action of the laryngeal muscles on attempt at phonation, with production of the characteristic voice, but more or less perfect condition of the parts on laryngoscopic examination. The prognosis is unfavorable, few being cured or much relieved. Prolonged rest for the voice and a general tonic course of treatment for the nervous system are indicated. Such nervine and general tonics as strychnin, arsenic, valerian, potassium bromid, quinin, iron, etc., are suggested. Electric treatment has seemed to give relief in some cases. Astringent and sedative local applications have been used with some benefit, and the results in Oltuzewski's cases would indicate that any abnormal conditions in the nose and upper air tract should be relieved.

Thyroid Gland in Pregnancy.—M. Lange has been studying this subject for five years, examining over three hundred pregnant women. Hyperplasia of the thyroid gland is a physiologic phenomenon of the pregnant condition, and administration of thyroid extract reduces the size of the gland, indicating that it is not mere hyperemia, but an actual increase in the size of the gland. He never found the hyperplasia in cases of "pregnancy nephritis," but it accompanied two cases of chronic nephritis. Iodothyrin has an unmistakable effect on pregnant women, increasing the diuresis and diminishing the amount of albumin in the urine. He also established the fact that extirpation of four-fifths of the thyroid gland in cats with young resulted in tetanus, which subsided with the administration of iodothyrin. Extirpation of a portion which would not affect a non-gravid cat caused a renal affection with convulsions in some cases, not yielding to iodothyrin.—*Ztft. f. Geb. u. Gyn.*, xl. 1.

Neoplasm in Trachea.—P. v. Bruns reviews 147 published observations, noting that 102 were benign, including 23 fibrous polyps and 33 papillomata. Sarcoma occurred in 14 cases—some very slow in developing, extending over twenty years—few very malignant. Primary carcinoma was more frequent: flat and infiltrated in some cases; knobby and circumscribed in others, and again papillary. In a few cases—one personally observed—there was carcinomatous degeneration of intratracheal goiter. The posterior wall is usually the location. Infection of the lymph-glands and metastases are rare. The period from the first disturbance in breathing to the end varied from a month to two years. In the trachea, 30 per cent. of the neoplasms are malignant; in the larynx, only 12.6 per cent. In a few favorable cases the neoplasm can be removed from above, but generally the only procedure is extensive tracheofissure, introduction of a tampon-canula, extirpation and cauterization of the wound. Bruns resected the trachea in one case; the patient lived six years afterward.—*Cbl. f. Chir.*

Functional Capability of Fattily Degenerated Heart.—As the result of a clinical and experimental study, Hasenfeld and Fennyvessy (*Berlin. klin. Woch.*, 1899, Nos. 6, 7) express the opinion that even considerable degrees of acute fatty degeneration of the myocardium may escape diagnosis during life because the degeneration does not appreciably interfere with the functions of the heart and gives rise to no noteworthy cardiac symptoms. The functional capability of the acute fattily degenerated myocardium—and not alone with slight but also with considerable degrees—does not suffer in marked manner. The acute fattily degenerated myocardium is, like the normal myocardium, capable of meeting not only the ordinary demands upon it, but also extraordinary demands. Only shortly before death were signs of compensatory failure observed in animals in which fatty degeneration of the heart was induced by phosphorus poisoning. Even under these circumstances the profoundly degenerated heart was still susceptible of stimulation with adrenal extract. The myocardium in animals poisoned with phosphorus is much more sensitive than the normal to want of oxygen. The failure of circulation in such animals is largely attributable to vasomotor weakness. Pregnant animals bear phosphorus poisoning badly; the parenchymatous organs of the fetus in utero also undergo fatty degeneration.

Tuberculosis of the Aorta.—Apart from such invasion as may take place by invasion from adjacent disease, tuberculosis of the blood-vessels is an exceedingly uncommon condition. In any event it is always secondary infection taking place either through the vasa vasorum or by implantation. Arteries or veins may be attacked, and smaller vessels with rather less rarity than large ones. Blumer (*Am. Jour. Med. Sci.*, January, 1899, p. 19) reports two cases in which tuberculous nodules were present in the aorta. One occurred in a colored man, 45 years old, in whom, in addition to chronic tuberculosis, peritonitis and widespread acute miliary tuberculosis, three pinhead-sized nodules were found in the descending aorta above the diaphragm, which exhibited typic histologic appearances and evidence of tubercles. The second case was in a woman, 50 years old, who presented tuberculosis of various organs together with a pinhead excrescence in the descending aorta, which on examination proved to be a tubercle. In both cases the aortic infection was presumed to have taken place by implantation, as the media of the vessel was uninvolved.

Venous Thrombosis Complicating Pulmonary Tuberculosis.—In a study of the records of the medical clinic of Professor Gerhardt at Berlin, Ruge and Hierokles (*Berlin Klin. Woch.*, 1899, No. 4, p. 73) found among 1778 cases of pulmonary tuberculosis 19 instances of venous thrombosis. The patients varied widely in age. There were 6 between 20 and 30 years old, 7 between 31 and 40, 5 between 41 and 50; one patient was 60. Twelve were women and 7 men. All were grave cases, death occurring within one or several months. The thrombosis occurred on an average two or three weeks before death. The following vessels were affected: The left crural vein in 3, the right crural vein in 1, the left iliac and crural veins in 2 (in 1 including also branches of the internal mammary vein), the right iliac and crural veins in 1, the left crural and the right saphena in 1, the right saphena in 1, the right and left basilic in 1, the left renal in 1, the prostatic plexus in 1, the superior longitudinal sinus in 1, the right ventricle of the heart in 4, the right pulmonary artery in 2.

Semeiologic Significance of the Fat of Stools.—As the result of a clinical investigation, Katz (*Wiener Med. Woch.*, 1899, Nos. 4, 5, 6,) reaches the conclusion that a diminution in the fatty acids and fatty soaps contained in the fat of the stools below 70 per cent. of the total amount of fat is indicative of diminished or abolished activity of the pancreatic juice. The diminution in fatty metabolism appears to be more pronounced in connection with acute than with slowly developing changes in the gland. The applicability of this symptom appears to be wanting only in nursing children and in the presence of profuse diarrhea, a weakened pancreatic juice being secreted in the first condition and not sufficient time for the activity of the juice to manifest itself being permitted in the second condition. Diminished fatty metabolism in cases of diabetes and of icterus is indicative of participation of the pancreas in the disease process.

Teratologic Specimens Desired.—The pathologic department of Rush Medical College solicits contributions of teratologic specimens for the museum. The teratologic series of the museum is now the best in the northwest, and it is desired to still further improve it. Specimens of monstrosities and gross malformations, both human and animal, will be carefully dissected and marked with the donor's name, a copy of the photograph and of the dissection notes will be sent him and due credit will be given him in any publications which utilize the specimen. It is desired that the fresh specimens be sent, if possible, or that they may be preserved in a 5 per cent. solution of formalin, or in a 50 per cent. solution of alcohol. Transportation charges will be paid by the college. The recording of any clinical facts in connection with the birth of the monster, will add to the value of the contribution. Communications may be addressed to Dr. L. Hektoen, Rush Medical College, Chicago, or to Dr. H. F. Lewis, 4426 Lake Ave., Chicago.

Alkaline Glass in Test-tubes, Etc.—The following item has some interest to medical practitioners who utilize the methods of clinical diagnosis. A German chemist, according to the *Scientific American* (February 18), calls attention to the product of certain German glass manufacturers engaged in making chemic apparatus. Test-tubes, etc., are sent out by these parties made of glass so strongly alkaline as to cause at once the reaction to the ordinary tests. It is evident that such apparatus might be the cause of many serious errors in clinic manipulations and diagnosis, and it would be advisable for physicians to test the reaction of their test-tubes, beakers, etc., before utilizing them. The glasses are of good quality and well made, but this defect seriously impairs or annuls their value. In nothing is perfect accuracy and reliability more essential than in chemic or diagnostic apparatus.

The Occupation Diseases of Commercial Travelers.—A writer quoted by the *N. Y. Med. Jour.* (February 25) from the *Archives de Neurologie*, "thinks that the exciting life of a commercial traveler is very likely to lead to neurasthenia, not only from irregularities incident to such a life, but also from the fact that the traveler has constantly to deal with great numbers of strangers." There is no doubt much truth in this, but all of the causes are not fully stated in the brief abstract given. Commercial travelers are, as a rule, more or less irregular in their habits. The habit of traveling by night and working by day, which may not be a practice of European drummers, but is general in this country, is especially adapted to bring on nervous exhaustion. Still more, however, could be said as to the irregular lives of many of these travelers and the dangers to which they make themselves subject. It has been noted in asylums that a very large proportion of the paretic dements were of this class, and of the female paretics many were the wives of this class of commercial travelers. The constant jarring of the cars has also been attributed, many years back, as the cause of tabes, and it is possible that this may be a very favoring condition for the bringing on of that other serious affection. The pathology of commercial traveling is really an important matter and should be studied more fully.

Longevity of Lunatics.—The *Lancet* of February 18 calls attention to the case of a patient who recently died at the Broadmoor Criminal Asylum, at the age of 84, after fifty-five years in confinement. It also quotes from Blandford (Twentieth Century Practice) in regard to similar instances of longevity with prolonged duration of asylum life, and remarks that the economic and financial data of asylums as regards lunatic longevity ought, if available, to prove highly interesting. There is nothing very remarkable in the fact that some patients endure the conditions of modern asylum life to an advanced age; the regular, undisturbed mode of living, the absence of care, the careful medical and hygienic oversight, all favor longevity, and it has also to be remembered that these cases are the outcome of a process of natural selection from an infinitely larger number. Asylum populations rapidly change as a whole, but there are always a few who survive what one might call many generations of their fellows. The economic problems are, therefore, not likely to be as serious as the *Lancet's* editor seems to think; the few striking instances of longevity are but a fractional percentage of the whole number of lunatics in public asylums. In private institutions, such as that referred to by Blandford, they are likely to be more numerous, but the financial questions there involved hardly interest the general public.

Germicidal Properties of Blood Serum.—In the *Boston Med. and Surg. Jour.*, February 23, White presents the results of experiments in the Massachusetts General Hospital, and draws the following conclusions: 1. Human blood serum differs greatly in its germicidal action upon various kinds of bacteria. 2. The experiments indicate that normal human blood serum is not actively germicidal for the staphylococcus pyogenes aureus or the streptococcus pyogenes. 3. It does not lose its germicidal power for typhoid and colon bacilli, even in the late stages of chronic wasting disease. 4. In fatal disease it occasionally loses part of its germicidal power for the colon bacillus, shortly before death, though it more frequently retains its germicidal power for this bacillus until several hours after death. 5. A weakening of the germicidal power of the blood serum shortly before death favors an agonal invasion of the body by the colon bacillus.

Inefficiency in Military Sanitation Abroad.—On the principle that misery loves company, or better perhaps because of the satisfaction it gives to find that we are not the only country in the world suffering from war department deficiencies, it is somewhat refreshing to read criticisms in the English papers on the medical management of the British army in Egypt and elsewhere. Thus we learn that through some war office inefficiency the provisions for treating the sick invalided from the front at Alexandria were totally inadequate, and that the medical arrangements made for the British Salisbury Plain maneuvers were "medieval in type." The *Lancet* explains that, while these are facts, the blame must not be attached to the army medical department, but to the higher officials, by whom it is hampered. We change our skies, but the customs, good and bad, are found the same. The chief difference between Great Britain and ourselves is, perhaps, that there are not the political and other inducements over there to stir up a hysteric public sentiment in regard to real or imaginary wrongs.

Cause of Death in the Epileptic Status.—In the course of an anatomic study of fatal cases of epileptic status during a period of four years, Weber (*Wiener Med. Woch.*, 1899, No. 4, p. 168) found that in most instances in which death followed severe epileptic attacks there existed in the central cortex and medulla oblongata a recent vascular disease and extravasations, with partial destruction of adjacent nervous elements. These changes when present in the medulla oblongata, are in many cases the direct cause of death; in other cases they cause, in accordance with their situation as related to the nervous elements, circulatory disturbances and hemorrhages in the large organs of the body, injury to the respiratory apparatus, transitory paresis of the extremities and psychic disturbances. Weber points out that similar changes are not rarely observed in cases of acute poisoning and of severe infectious diseases, and he expresses concurrence in the view that the acute manifestations of some forms of epilepsy are attributable to the activity of a chemic poison, at times generated within the body and inflicting injury upon the central nervous system, with changes in the vessels, irritation, hyperemia, inflammatory exudation and infiltration of their walls and the surrounding nervous tissue, and finally hemorrhagic extravasation. The vasomotor center is affected partly by reflex influence and partly by direct injury of its ganglion cells.

Arteriosclerosis.—Concerning the prophylaxis and treatment, Whittaker (*Penn. Med. Jour.*, February, 1899) says: The prophylaxis depends upon the ability to adjust the work to the changes which have already taken place, and to live a life of perfect hygiene. The man of 50 years must learn that he can not do the work of a man of 30, that is, as Emerson says, he must "take in sail." Syphilis need not be contracted. Abstention from alcohol is a *sine qua non*. In avoiding worry the patient may learn to content himself with less wants, remembering the statement of Socrates that he who has the least wants is nearest to the gods. In all things temperance, and this remark applies especially to diet. Arteriosclerotic changes are less frequent in the herbivora. The individual should, therefore, take less animal food, and indeed less food of all kinds. He should especially distrust the heavy evening meal. The best food is milk. An exclusive milk diet, from two to four quarts per day, will put a stop to the changes of arteriosclerosis in the kidney. The strain of hard work must be lessened. On the other hand, the individual should not lead a too sedentary life for fear of increasing abdominal plethora. Coffee produces abdominal plethora. The quantity of it should be lessened at least. The weight of the whole body must be kept down.

Control of Experimental Inoculation.—Apropos to the agitation by the zoöphilists for the control and restriction of physiologic experimental research in the District of Columbia, the following item, taken from the editorial page of the Chicago *Tribune*, February 28, is of interest: "During a mad dog scare on Long Island, a young girl was bitten by a dog supposed to be suffering from rabies. The dog died. The girl has worried herself into a nervous wreck. Dr. Cabot, the bacteriologist of the health department, asked the Society for the Prevention of Cruelty to Animals to give him a part of the dead dog's spinal cord so that he might make an inoculation test and possibly save the girl's reason. The society ascertained that the doctor intended to inoculate a guinea-pig and refused his request on the ground that it would be cruelty to animals. It may be that the dog did not have the rabies, but the society stands by the guinea-pig. Such extremes are liable to bring a worthy cause into disrepute." In this connection, we may also note the fact that in a Senate document, relating to the act now before Congress, a vicious attack was made on Dr. Sternberg, the surgeon-general of the army, on account of certain published researches a number of years ago, and this has called out a vigorous reply on his part, in which he shows the actual important, practical results of these same experiments. There is need of a Dickens or a Hawthorne to show up in a vivid, popular way in fiction the tendencies of these self-centered zoöphilists—they can not be called philanthropists—who value human life or reason at less than the risk of possible infection of a guinea-pig.

Urinary Tuberculosis.—Fenwick (*British Med. Jour.*, February 18), in enumerating the urinary diseases which can be suspected or recognized by rectal examination, says of urinary tuberculosis: "No surgical disease of the urinary tract will so mislead you by its vagaries, or so baffle you in your well-meant efforts to relieve its active phases, or so fiercely resent your instrumental interference, as urinary tuberculosis. The reasons for all this obscurity rest in the insidiousness of the onset of the disease, in its marked susceptibility to septicity, and in the power which it possesses of imitating every other disease of the urinary tract. With the exception of the enlarged prostate of old age, I know of no disease of the urinary tract, from urethritis to renal carcinoma, which this arch mimic does not simulate, and that very closely. But a clue can be obtained by rectal and testicular examination in a large percentage of the cases in the very earliest onset of the symptoms. In 157 male patients with urinary tuberculosis, who have been under my care, a typic deposit was found on their first visit in the epididymis in 33 cases (21 per cent.); in the epididymis and prostate coincidently in 38 cases (24 per cent.); in the prostate and seminal vesicles in 5 cases (3 per cent.); in the prostate alone in 6 cases (3 per cent.); in the prostate and bladder (the latter cystoscopically) in 10 cases (6 per cent.). If we add these together, it will be seen that a deposit could be detected by the finger in 58 per cent. of the cases on their first visit. During the course of the disease the chance of its detection by the finger is still further increased, for 80 per cent. finally present tangible evidence of tubercle in the lower genito-urinary organs, and in only very few instances does the patient pass through all the stages of the disease and die, without the epididymis or the prostate becoming affected. A careful examination of these organs is obviously, therefore, of the utmost importance."

Committee Report on House Bill for Medical Expenses.—The House Committee on military affairs has made a favorable report on House bill 11175, relating to reimbursements for medical expenses of those who served in the army and navy. The report says: The purpose of this measure is so self-evident and just that the bare mention of the proposition would seem to be all that is necessary to justify favorable consideration of the same. The facts are that many officers, non-commissioned officers and enlisted men who served in the army and navy during the recent war with Spain, upon sufficiently recovering from their illness to endure the journey, were sent to their homes on leave or furlough by proper authority, in order that their restoration to health might be more rapid and complete than if they remained in the field or in army hospitals. In many instances they required medical care and attention while they were at home on leave or furlough, and were obliged to become inmates of private hospitals. During this time they were no expense to the Government and the indebtedness incurred by them for physicians' service and medicines, nursing and hospital bills amounted, in many cases, to more than their pay as officers, soldiers or seamen. As the bill restricts its application to those whose sickness or disabilities were incurred by them through their military or naval service in the war, it seems very proper that they should be reimbursed for such expenses, but under existing law there is no authority for doing so. The bill was submitted to the Surgeon-General of the army, who under date of Jan. 25, 1869, earnestly recommended its passage, stating also that there were then on file in his office many claims for the sick and wounded soldiers while on furlough, which he considered just and proper, but which could not be paid under existing laws and regulations. The Secretary of War, under date of Jan. 26, 1899, respectfully returned the bill to the chairman of the Committee on Military Affairs of the House, inviting attention to the report of the Surgeon-General and concurring in the views therein expressed. As the passage of the bill is recommended by the Surgeon-General, who is most familiar with the circumstances relating to the cases which will be affected by the measure, and his recommendations are concurred in by the Secretary of War, and as the proposition seems just and righteous in itself, your committee recommend that the bill do pass.

Operative Treatment of Pelvic Suppuration.—Le Dentu (*Bull. et Mem. de la Soc. de Chir.*, No. 26), in a discussion on treatment of pelvic suppurations in the female, expressed at some length his views on the indications and contraindications of incision of vaginal culs-de-sac. Such treatment, he states in a concluding summary, is indicated in: 1, a case of suppurative hematocele in which there is a single sac; 2, a case of suppurative hematocele made up of numerous deposits included within septa, provided in cases there be a probability of a solid boundary of adhesions between the tumor and the peritoneal cavity; 3, a case of unilateral salpingitis or suppurating ovaritis, on condition that the sac be adherent to the mucous membrane of the vagina, or at least that it be not much raised above the cul-de-sac; 4, a case of double suppurating salpingitis, provided that the two sacs have run together so as to form a single sac and do not project to any great extent into the pelvic cavity. In such cases as these, however, a long history of pelvic mischief and a chronic cause of the disease would indicate some other treatment. Single incision of either the anterior or the posterior vaginal cul-de-sac is decidedly contraindicated in cases: 1, of multilocular suppurating hematocele when the superior limits of the disease are ill-defined, and when there is reason to fear the rupture of adhesions and penetration into the peritoneal cavity during the operation; 2, when there are grounds for suspecting the existence of a salpingitis or ovaritis, either single or double, which is complicated with encysted peritonitis; 3, when the swelling, even though small, is situated far above either cul-de-sac; 4, when the omentum just above the disease is thickened and indurated, and forms a considerable portion of the swelling. In cases in which incision of either cul-de-sac or of both is contraindicated, the surgeon should have resource either to vaginal hysterectomy or to laparotomy.—*British Medical Journal.*

Cincinnati.

Measles.—Measles is again epidemic in Cincinnati. The disease began in mild form about the first of the year, but has spread rapidly and at the same time seems to have gathered malignancy, so that now every part of the city is involved and numerous deaths have been reported. According to the records of the health department, 756 cases of measles were reported in 1898; during the first two months of this year 741 cases have been reported—a most significant fact that speaks for itself. So far this month an average of from fifteen to twenty-five cases are being reported daily. Ten deaths have occurred, while during the whole of last year but twelve deaths were reported from measles.

Smallpox.—The health department reports the following: Since December, when smallpox first appeared in Cincinnati, there have been in all 240 cases, all of which have been sent to the Branch Hospital. Of these, 215 belong to the negro race, and but 26 are whites. There are now under treatment at the Branch, 122 cases; 117 have been discharged as cured. There have been four deaths, showing the mildness of the epidemic. General vaccination has been performed throughout the city. In the public, private and parochial schools, the regulation requiring vaccination has been enforced, or the pupils have not been allowed to attend. Letter-carriers, inmates of the workhouse and all public institutions have been vaccinated. Special attention has been paid to the Ohio River traffic, and no one has been allowed to go or come off a boat without being vaccinated. With these precautions the situation has vastly improved of late.

Detroit.

Health Placards.—As a result of the recent discussion among the members of the medical profession, and the action taken by the different medical societies of the city, the health board has had placards put up at down-town street-corners asking pedestrians to refrain from spitting on the sidewalks; placards have also been put up in every street-car in the city, prohibiting passengers from spitting on the floor of the car.

Bill for Reporting a Birth.—Dr. G. Gordon recently surprised the health board by presenting a bill for one dollar, for reporting a birth. The bill was something of the nature of an experiment to determine whether the board could be compelled to pay physicians for reporting cases of childbirth, and incidentally to discover whether the reporting of such cases is compulsory. Dr. Gordon says he has looked up the law on the question and finds that there is no State enactment compelling such reports, there being only a city ordinance. The question was thoroughly discussed at the last regular meeting of the Wayne County Medical Society. Many of those present took the same view of the subject as Dr. Gordon, but no definite action was taken by the society, although there were a number present who determined to refuse to report cases of birth in the future unless they received some compensation for the work.

Health Report.—For the week ending March 4: Deaths 102, under 5 years 39; births, male 50, female 37; contagious diseases, diphtheria, 7 cases at last report, 4 new cases, 3 recoveries, 1 dead and 7 sick; scarlet fever 29 cases last month, 8 new cases, 5 recoveries, 1 dead and 31 now sick.

Washington.

Health of the District.—The report of the health officer for the week ended February 25 shows the total number of deaths to have been 111, of which 69 were white and 42 colored. There were 6 fatal cases of diphtheria, 2 of measles, 6 of la grippe and 1 of typhoid fever. At the close of the week there were 61 cases of diphtheria, 87 of scarlet fever and 24 cases of smallpox under treatment. There has been no death from smallpox since the present outbreak and all the patients are suffering from mild form. Of the 31 patients taken to the hospital, but 1 of them, a woman aged 50 years, had been successfully vaccinated previous to the development of the disease. She claims to have been vaccinated in early childhood. The police are on the lookout for the men who recently escaped from the smallpox quarantine and when found, they will be dealt with severely, according to the law. The judge of the police court has entered a vigorous protest against bringing any of these cases before him for trial, until every assurance can be given that smallpox will not be thereby communicated to the honorable judge of the court. The health officer has mailed to all physicians of the District, copies of the law governing the report and isolation of smallpox, together with Vol. xiv, No. 1, of the Public Health Report of the Marine-Hospital Service of January 6. The report, as a public document, can be sent, on application to the Marine-Hospital Service, to any physician in the United States. The report is a very valuable one, going into the definition, etiology, symptoms, regular and irregular eruptions, complications, diagnosis, including differentiation from all other eruptions, isolation, disinfection, and house-to-house inspection, and closes with a monograph on vaccination.

Inconsistent Antivivisectionists.—During the recent blizzard, the Humane Society secured the arrest and fine of several poor, but hard-working drivers, who failed to throw blankets over their horses, but entirely overlooked the fact that a lieutenant of police refused admission to two hundred poorly fed and clothed men who desired to warm themselves in the basement of the municipal building. The men had congregated in the early morning to secure work at snow cleaning under the District government, but were driven out in the cold, where they suffered for several hours. The Humane Society might, with profit, take poor men under their protecting wing.

District Appropriations.—The Conference Committee has agreed to the following items in the District appropriation bill: $150,000 for intercepting sewer; $145,000 for sprinkling and cleaning streets; $1000 for the removal of snow; $5000 for public pumps; $5000 for investigation of the feasibility of filtering the water-supply; $1000 for an additional clerk in the health office; $3000 for a disinfecting service; $2000 for the transportation of paupers, and $3000 for isolation wards at Garfield and Providence Hospitals.

Dr. John B. Hamilton Buried at Arlington.—The remains of Dr. John B. Hamilton, late editor of the Journal of the American Medical Association, formerly Asst.-Surgeon U. S. A., and late Surgeon-General of the Marine-Hospital Service, were brought from Elgin, Ill., where he died, and interred in the Arlington National Cemetery on February 25. The remains were accompanied by a military escort, who, by special order of General Miles, fired a salute over the grave and sounded taps. The funeral was attended by his widow, mother, son and brother, the Secretary of the Treasury, Stephen B. White, Representatives Joseph Cannon, Hepburn, Henderson, and Senator Mason.

Philadelphia.

Typhoid Fever Cases.—During the week just passed, 443 cases of typhoid fever have been reported to the board of health, with 49 deaths. Only one ward in the city remains free from the scourge, the Eighteenth. The Thirty-third is the banner ward for the week, with 39 cases.

Dr. Charles A. Oliver has presented to the University of Pennsylvania library several new volumes relating to the eye.

Dr. Edwin Van Gazzam, a graduate of the university, has been elected secretary of the New York Sons of the American Revolution.

Faculty Club.—The regular monthly meeting of the University Faculty Club was held March 4. Sixty guests were invited, including a number of prominent men from near-by universities.

Bequests.—Through the will of Hannah Price Brookfield, who died in this city on February 8, a bequest of $10,000 has been made to the Jefferson Medical College to establish free beds in that institution in memory of Dr. J. M. Brookfield and his wife . . The will of Dr. Robert P. Harris, who died in this city a short time since, provides that his medical books be given to the College of Physicians and Surgeons of Philadelphia.

Rush Hospital for Consumptives.—This hospital announces through its treasurer, Nathaniel E. Janney, that owing to the new addition the institution is in need of funds to carry on the work now being done there for those suffering with tuberculosis. The hospital has been of great benefit, especially to those who are in the early stages of the disease.

Medico-Chirurgical College.—The petition of the Medico-Chirurgical College, which was made before the court of common pleas several months ago, asking that its charter be amended so as to provide for the granting of diplomas and degrees in dental surgery and pharmacy, has been passed upon by the supreme court of Pennsylvania, which gives the permission asked for. The petition was being strongly contested by the Philadelphia Dental College on the ground of lack of authority.

Probable Cerebrospinal Meningitis.—According to report seven cases of supposed cerebrospinal fever have developed in a section of the city called Frankford. During the recent cold spell a policeman became affected with the disease and after a few days' illness he died. Shortly afterward his son, 13 years of age, also became afflicted with the same disease, and it was thought that the latter case became infected from carrying the bed out of the room in which his father had died. While some have doubted the genuineness of the epidemic form of the disease, all necessary precautions have been taken by the board of health.

Antivaccination.—A bill has been introduced in the State legislature concerning vaccination in Pennsylvania. To arouse the people in this matter, the College of Physicians of this city has taken the initial step, and at a meeting recently held, addresses were made by Drs. James Tyson, Taylor and John K. Mitchell. Dr. Mitchell drew up the following resolution, which was unanimously adopted:

> *Resolved*, That the College of Physicians of Philadelphia hereby record their earnest conviction that any action by the legislature which should in any way interfere with or lessen the stringency of the present law requiring vaccination as a preliminary requisite to school attendance is unwise, dangerous and a step backward in sanitary matters, and will expose the community to great and yearly increasing danger of an epidemic of smallpox and to consequent incalculable injury of health and immense loss to the commerce of any community in which an epidemic may occur.

The executive committee of the Public Education Association has also adopted a similar resolution in regard to the proposed repeal of the vaccination law. It is stated that the instigation of this movement is through an "antivaccination league," the headquarters of which is being kept secret. Hon. A. L. Allen has introduced the measure in the State legislature.

Report of Hospital.—The report of the Hospital of the Protestant Episcopal Church for the year just closed shows that during the summer and fall the hospital received 151 soldiers, of which number, 144 were discharged cured and 3 died. The board appeals for funds for the establishment of a clinical laboratory as well as for funds to complete the nurses' home. During the year 2764 patients have been admitted, which, with 271 remaining in the hospital at the time of the last report, makes a total for the year of 3035. Of this number, 2746 have been discharged, 1977 cured, 415 improved and 83 unimproved, while 271 have died. In the dispensaries 37,820 new patients have been treated. Of this number, 20,793 were medical, 12,579 surgical, 2727 eye cases and 1721 in the nose and throat department. The daily average of dispensary patients has been 367, of patients in hospital 287.

HOW SHOULD STUDENTS BE GOVERNED?—In one of the dental colleges, a professor who had been lecturing there for the past twenty-eight years, recently became offended at what has been called a misunderstood disturbance previous to the time of his entrance, before the students gathered to hear the lecture. The professor had been angered because a week previous a class fight had been indulged in by members of the senior and junior classes. At any rate, the professor offended the students by denouncing them in vigorous language, and it is reported stated that if they did not apologize to the faculty he would not lecture to them. This it seems the students refused to do, and at a meeting held they decided to attend no more of the lectures conducted by the professor. The latest account states that the professor has resigned and his successor has been chosen.

BOARD OF HEALTH.—The senate, on March 2, passed the bill providing that the powers and duties now by law vested in the Board of Health of Philadelphia shall be performed by a bureau of health, which bureau shall be organized and controlled by the mayor. The companion measure, abolishing the board of health, also went through on final passage. There was no opposition to either bill. From the fact that the bill which has been substituted for the one now in force provides that a single officer, to be appointed by the mayor, will be responsible to the Department of Public Safety instead of being composed of a board of five members as now constituted, and from the fact that a single person may hereafter look after the regulations governing health matters it may be a question whether the people will be any better off in the long run. It may also be pointed out that abolishing a body composed of five persons and substituting one who shall do the mayor's bidding may be rather detrimental, from the fact that the best interests of the people may be sacrificed for political ambition. Whether this new departure will prove beneficial remains to be seen.

THE PUBLIC SERVICE.

Board Convened.—A board of officers will be couvened at San Francisco, Cal., Tuesday, May 2, 1899, for the purpose of examining candidates for admission to the grade of assistant-surgeon in the U.S. Marine-Hospital Service.

Detail for the Board: Surgeon J. M. Gassaway, chairman; Surgeon S. D. Brooks; P. A. Surgeon C. H. Gardner, recorder.

Applications for this examination must be received on or before April 22.

Candidates must be between 21 and 30 years of age, graduates of a respectable medical college, and must furnish testimonials from responsible persons as to character.

The following is the usual order of the examination: 1, Physical. 2, Written 3, Oral. 4, Clinical.

In addition to the physical examination, candidates are required to certify that they believe themselves free from any ailment which would disqualify for service in any climate.

The examinations are chiefly in writing, and begin with a short autobiography by the candidate. The remainder of the written exercise consists in examination on the various branches of medicine, surgery and hygiene.

The oral examination includes subjects of preliminary education, history, literature and natural sciences.

The clinical examination is conducted at a hospital, and when practicable candidates are required to perform surgical operations on the cadaver.

Successful candidates will be numbered according to their attainments on examination, and will be commissioned in the same order as vacancies occur.

Upon appointment, the young officers are as a rule first assigned to duty at one of the large marine-hospitals, as at Boston, New York, New Orleans, Chicago or San Francisco.

After five years' service assistant-surgeons are entitled to examinations for promotions to the grade of passed assistant-surgeon.

Promotion to the grade of surgeon is made according to seniority, and after due examination as vacancies occur in that grade. Assistant-surgeons receive $1600, passed assistant-surgeons $2000, and surgeons $2500 per year. When quarters are not provided, commutation at the rate of $30, $40 or $50 a month, according to grade, is allowed.

All grades above that of assistant-surgeon receive longevity pay, ten per centum in addition to the regular salary for every five years' service, up to forty per centum after twenty years' service.

The tenure of office is permanent. Officers traveling under orders are allowed actual expenses. For further information or for invitation to appear before the board of examiners, address Supervising Surgeon-General, U.S. Marine-Hospital Service, Washington, D. C.

Movements of Navy Medical Officers.—Changes in the medical corps of the U.S. Navy for the week ending March 4, 1899.

P. A Surgeon W. F. Arnold, when discharged from further treatment at hospital, Norfolk, Va., ordered home and granted sick leave for three months.

P. A. Surgeon E. M. Shipp, detached from the "Lancaster" and ordered to the naval hospital, Norfolk, Va.

P. A. Surgeon J. A. Guthrie, detached from the naval hospital, Norfolk, Va., and ordered to the "Franklin" immediately.

Asst.-Surgeon G. L. Angeny, detached from the naval hospital, Chelsea, Mass., and ordered to the "Lancaster."

Asst.-Surgeon J. H. Payne, Jr., detached from the "Franklin" and ordered to the naval hospital, Chelsea, Mass.

Surgeon John W. Ross, U.S.N., retired, is assigned to military hospital No. 1, Havana, Cuba, and will report to the commanding officer of that hospital for duty.

Marine-Hospital Changes.—Official List of Changes of Stations and Duties of Commissioned and Non-Commissioned Officers of the U.S. Marine-Hospital Service, for the seven days ended March 2, 1899.

Surgeon J. H. White, to proceed to Elizabeth. N. J., for special temporary duty. To report at Washington, D. C., for special temporary duty.

Surgeon P. M. Carrington, to proceed to Baltimore, Md., as inspector of unserviceable property.

P. A. Surgeon W. J. Pettus, to proceed to Cape Charles City, for special temporary duty, Feb. 25, 1899. To proceed to Burlington, N. C., for special temporary duty, Feb. 28, 1899.

P. A. Surgeon J. O. Cobb, to report at Washington, D. C., for special temporary duty.

P. A. Surgeon G. M. Guiteras, to proceed to Matanzas, Cuba, for duty as quarantine officer.

Asst.-Surgeon W. R. McAdam, to proceed to Key West, Fla., and assume temporary charge of Service.

Hospital Steward F. L. Brown, to proceed to Norfolk, Va., and report to commanding officer for duty.

Hospital Steward B. E. Holsendorf, granted leave of absence for two days. Upon being relieved by Hospital Steward F. L. Brown, to proceed to San Juan, Porto Rico, and report to Surgeon A. H. Glennan for duty.

CHANGE OF ADDRESS.

Baer, A. W., Clark and Adams Sts. to Security Bldg., Chicago.
Dawes, T. J., Livermore to Fonda, Iowa.
Hudson, J. R., Macon, Ga., to Pinar del Rio, Cuba.
Healey, S. R., Hanover, N. H., to Newburyport, Mass.
Johnson, G. W., Dunning to 733 Grace St., Chicago.
Little, M. J., Independence, Mo., to Madison, Neb.
Straw, E. E., Rural Retreat, Va., to Vinita. I. T.
Stookey, W. M,, St. Louis, Mo., to Grawsville, Utah.
Schmall, O. B., 1430 John to 109 14th St., Cincinnati, Ohio.
Weber, B. A., 641 26th to 927 2d St., Milwaukee, Wis.

LETTERS RECEIVED.

Atkinson, W. B., Philadelphia, Pa.; Alden, C. H., Washington, D. C.; American Therapeutic Co., New York City; Artis, H. G., Owensboro, Ky.; Ammerman, U. S., Reynolds, Neb.; Anderson, R. A., Albany, Ga.

Babcock, L. C., Philadelphia, Pa.; Brothers, S., New York City, (2); Brown, Mark A., Cincinnati, Ohio; Barbour, L. P., Boulder, Colo.; Boogher, J. L., St. Louis, Mo.; Baker, C. W., Trempeleau, Wis.; Bromine-Iodine Chemical Co., Binghamton, N. Y.; Barnhill, J. U., Columbus, Ohio.

Caldwell, J. J., Baltimore, Md.; Coffman, J. J., Scotland, Pa.; Corlett, W. T., Cleveland, Ohio; Clements, J., Kansas City, Mo.; Clements, G. E., Chicago.

Dewey, C. R., Coloma, Mich.; Dempsey, J. G., New Orleans, La.; Driver, W. E., Norfolk, Va.; Dower, T. J., Fonda, Iowa.

Eshner, A. A., Philadelphia, Pa.; Elliott, A. R., New York City.

Fox, L. Webster, Philadelphia, Pa.; Floyd, D. S., Joyce, Ky.

Gessner, H. B., New Orleans, La.; George, W. W., New York City; Giles, A. E., London, England; Gihon, A. L.. New York City.

Hare, H. A., Philadelphia. Pa.; Harrington, T. F., Lowell, Mass.; Hektoen, L., Chicago; Hogue, G. I., Chicago; Hutchinson, Woods, London, England; Hoffa, J. P., Washingtonville, Pa.; Herzog, M., Chicago.

Irwin, J. L., Detroit, Mich.

Jenkins, N. B., Knoxville, Tenn.; Jicinsky, J. Rudis, Cedar Rapids, Iowa; James, N. G., Hayneville, Ala.; Johnson, H. L, E., Washington, D. C.; Johnson, G. W., Chicago; Juler, Cundell, Cincinnati, Ohio.

Katerbau, P., Hoboken, N. J.; Kiernan, J. G., Chicago; Kelly, J. S., Syracuse, N. Y.

Lautenbach, L. J., Philadelphia, Pa.; L'Administration Genéral, Paris, France; Leuty, Amos, Larchwood, Iowa.

Mayer, Emil, New York City, (2); Medical Advertising Bureau, New York City; Merrick, M. B., Passaic, N. J., (2); McIntire, C., Easton, Pa.; Montgomery, E. E., Philadelphia, Pa.; Miller, E. J., Detroit, Mich.: Miller, A. C., Findlay, Ohio; Mayo, H. M., De Lamar, Nev.; Mueller, V. F., Milwaukee, Wis.; Moore, J. E., Minneapolis, Minn.; Mogk, W. A., Ann Arbor, Mich.; Makuen, G. H., Philadelphia, Pa.; Monell, S. H., Brooklyn, N. Y.; Matas, R., New Orleans, La.

Newman, H. P., Chicago; Nichols, J. O., Warne, N. C.

Porter, Wm., St. Louis, Mo.; Powers, C. A., Denver, Colo.; Packard, F. R., Philadelphia, Pa., (2); Picard, Alphonse et Fils, Paris, France; Priestley, J. T., Des Moines, Iowa; Patton, J. M., Chicago.

Ridlon, John, Chicago; Rosenthal, Edwin, Philadelphia, Pa., (2).

Senn, N., Chicago; Spivak, C. D., Denver, Colo.; Savage, G. C., Nashville, Tenn.; Swcat, J. A., Great Falls, Mont.; Shrady, J., New York City; Saunders, W. B., Philadelphia, Pa.; Schirman, A., St. Petersburg, Russia; Smart, W. N., Muskegon, Mich.; Smith, J. W., Bloomington, Ill.

Trawick, J. D.. Nashville, Tenn.; Thoms, Sharon J., Bushrah, Arabia.

Washburn, W. H. Milwaukee, Wis.; Wessinger, J. A., Ann Arbor, Mich.; Wiggin, F. H., New York City; Woldert, E. A., Philadelphia, Pa., (3); Woods, M., Philadelphia, Pa.; Woodruff, E. W., Columbus, Ohio; Wollman, H., Kansas City, Mo., (2); Woodbury, F., Philadelphia, Pa.; Whitford, Wm., Chicago.

Yates, J. A., Weser, Texas.

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Address.

"PHYSICIANS—EXPERT WITNESSES". SOME REFORMS.

Address delivered before the Kansas City Academy of Medicine, Kansas City, Feb. 25, 1899.

BY HENRY WOLLMAN, Esq.

Of the Kansas City Bar.

KANSAS CITY, MO.

Human testimony is extraordinarily fallible, and judges and experienced lawyers do not permit it, when segregated from the probabilities, from letters, papers, documents and the physical facts, to determine them in their decision as to what is right and what is wrong. But the public—more confiding, more trusting, less observant, far less experienced—does have a very high opinion of the correctness and truthfulness of testimony given in court, but never when it comes to the testimony of experts. That is the subject of everybody's sneer, and the object of everybody's derision. It has become a newspaper jest. The public has no confidence in expert testimony.

In discussing expert testimony, I shall, however, confine myself to the expert testimony of physicians—although what I shall say will apply to a great extent to all expert witnesses--handwriting experts, chemistry experts, and those swiftest of all experts—real estate agents, testifying to value. What I shall say is not intended to apply to the testimony of all physicians. A great many, by the straightforwardness of their testimony, by their truthfulness, candor and impartiality, challenge the respect and admiration of every one. The good things a man does in life, though extending through decades, do not fix his reputation as much as the bad things, though extending only through minutes. Fifty years of right-doing are often forgotten by the public, when it learns of one moment of wrong-doing. So it is with your profession and mine—seldom given full credit for the good the many do, but blamed and held responsible for the wrong-doing of the few. Therefore, it is to your interest, more than that of any one else, to have whatever is reprehensible and discreditable in connection with expert testimony remedied and corrected, and adequate reforms instituted.

In expressing my views here about some of the members of your profession, although they may be your views, I may find myself in the position of a Missourian who went into Kansas many years ago, during the time when James H. Lane was the United States Senator from Kansas, and when, as you all know, it was fashionable for nearly everybody over here to abuse him. This Missourian walked into a group of excited street-corner politicians and heard great big fellow abusing Lane most vigorously and iciously. This Kansan expressed the Missourian's entiments to a letter, but the Missourian felt that he ought not to stand by in idleness, so he went at it himself, and he took a few very vigorous shots at Lane's reputation. The Kansan immediately turned around and thrashed him within an inch of his life, and when the Missourian came to, he asked the Kansan: "Why did you lick me; I didn't say anything worse about Lane than you did?" The Kansan replied, "I know that—it's all right for me to talk that way about the United States Senator from my State if I wish to, but I don't propose to let any Missourian come over here and talk that way about our Senator."

There is much in the manner of physicians testifying that weakens their testimony. The most important thing for a witness is to impress the judge and jury with his absolute sobriety of thought, his earnestness of purpose, and his unquestioned sincerity. The average physician permits himself, on the witness-stand, to be drawn quickly into a fencing match with shrewd counsel, and while it is true that the doctor often gets away with the lawyer, because he knows better what he is talking about than the lawyer, and is often able to crack an exceedingly biting, bitter and galling joke at the lawyer's expense, still every time he does it he has weakened himself with the jury. They regard him as a sharp man, and as a rule, people do not readily trust sharp men.

Within the past two weeks, one of the leaders of our bar, who is as homely of face as he is strong of intellect, and who deservedly commands the respect of every one, was very vigorously cross-examining a plaintiff, and said to him: "If I came into your place and offered to sell you certain paper, and you could buy it very cheap, you would do so without asking any questions, wouldn't you?" The plaintiff (witness) quickly, gloatingly replied, "No, I wouldn't buy it of you, at all. I wouldn't buy anything of a man with such a face as yours. I would be afraid to deal with you." Every member of the jury knew the lawyer, and knew how cruel, unkind and undeserved such a remark was. The plaintiff had stabbed the lawyer, but he lost his case.

When the temptation is on you to crack a joke on the witness-stand, remember that as a rule we laugh at jokers when that becomes their predominant characteristic, but we do not have any great amount of faith in them. Take the clown in the circus, take the comedian on the vaudeville stage—they make you forget your troubles, your trials, and your tribulations; they make your very sides split with laughter, but you don't care to associate with them; you rather pity them. Every lawyer will tell you that every time a witness on his side cracks a joke, instead of laughing, he feels like fighting. I can illustrate this very well by a story that is somewhat apropos: I had a case in our circuit court, in which I sent to the Indian Territory to get a witness who had formerly been a merchant in this city. He was to be the star witne of my side. When he got on the witness-stand asked him what his business was, and he commenced laughing and said, "Killing Indians." What he meant to imply was that he was selling liquor at wholesale, and that that was his method of killing the Indians. The moment he gave that answer the courtroom became convulsed with laughter; everybody laughed; he laughed himself—that sort of fools always laugh at their own jokes—even the judge laughed; but after that, no one paid any serious attention to his testimony. They did not regard him seriously; they did not believe what he said. He had indirectly told a lie in cracking his joke, and the jury simply thought that he was a light-hearted, joking sort of fellow, who would sacrifice anything and everything for the purpose of getting off a joke.

Naturally and necessarily lawyers understand human nature thoroughly. Next to their knowledge of law, their knowledge of human nature is their most important stock in trade, and they know that, if they can provoke a doctor into saying sarcastic, sharp, savage things, or cracking jokes, they have robbed his testimony of its most important qualities, and have destroyed its influence with the jury. Suppose you were sitting on a jury, and two men were testifying, one a quick, sharp, bright, flippant, joking, sarcastic man, and the other an old-fashioned, slow-thinking, slow-talking farmer, and they two were the only witnesses—some way or other, you do not know just how—you would believe that old farmer every time. The witness testifying as an expert must be cautious, careful, serious—old-fashioned, you might say—about what he says, and he will carry conviction. Let the jury think you are a little slow, if they only think you are honest and sincere, and know what you are talking about.

The next objection that I would urge to a great deal of testimony is the unfortunately vain desire of many of the younger professional men to show off. They allow their desire for ostentation to get away with them. They answer questions by delivering essays when a short "yes" or "no" would do just as well. They use big words; they endeavor in any way and every way to impress upon the jury that they are the real thing, and that they know it all. Now, twelve sensible men, whether highly educated or not, will get a man's measure pretty quickly. They will know, after they hear him talk ten or fifteen minutes, whether he is a man of knowledge, and whether he really knows what he is talking about, or whether he is using a lot of fancy words to mystify them. The truth of it is you do not fool them, and testimony couched in the plainest, simplest language possible is what will impress itself upon the jury.

Do not volunteer information. If the side that calls you has not sufficient ability to ask you the proper questions, that is neither your fault nor your business. When the question is asked, then answer it concisely and simply, using language that will carry the information to the jury, who are drawn not alone from the universities and colleges, but from the anvil and the plow. Talk as you would if you were teaching a kindergarten. In every instance, let the size of your words be measured not by a vain desire to display your learning, but by the capacity of your audience to grasp their meaning. A man is much safer talking in a lower intellectual scale than his audience really demands than talking above their heads.

If there is anything I abhor in a lawyer's argument or in a doctor's testimony, it is a lot of Latin words. What are you on the witness-stand for? To state to the jury, in language which they may understand, just what you are trying to get at, and what the side that called you is endeavoring to prove. But what do we find? A physician is put upon the stand, and he is asked to describe something to the jury; he uses all sorts of high-sounding terms and expressions and Latin phrases, that nobody, except some other physician, would understand. His testimony carries little or no weight with it. How can it? You might as well be talking French to a lot of Fiji Islanders, or native Irish to a lot of Filipinos, as to talk Latin to the average juror. The following account of an actual happening in an English court, is related in a little book called "Hints on Advocacy," published first in England:

> "I discovered considerable ecchymosis under the left orbit, caused by extravasation of blood beneath the cuticle," said a young house surgeon in a case of assault at the assizes.
>
> Baron Bramwell: "I suppose you mean the man had a black eye."
>
> Scientific Witness: "Precisely, my lord."
>
> Baron Bramwell: "Perhaps if you said so in plain English those gentlemen would better understand you."
>
> "Precisely, my lord," answered the learned surgeon, evidently delighted that the judge understood his meaning.

I was in court once when a very eminent member of your profession, and an honored member of your society, was called to testify as to whether a certain injury that happened to a boy was a dislocation of his elbow-joint. One of the physicians said he knew it was a dislocation, because when he set it there was a cracking. The old member of your profession, who knows as much Latin as anybody, testified in English for nearly an hour without using a single fancy expression. When he wanted to speak of an arm he called it an arm; a finger, he called it a finger. He ridiculed the idea that this cracking proved that it was a dislocation. He held up his own big hands in front of the jury, and said, "See me crack my fingers; now they are not dislocated." He could have talked all the Latin there is in the books for one week to that jury and he could never have made it as clear to them just what he meant, as he did by holding up his hands and giving them ocular proof of what he was saying, by explaining the thing to them in a homely way which they readily understood. Is it not as easy to say knee, or elbow, or foot, or head, as to use the Latin words meaning the same thing? To most of us it would be much easier. Your object certainly must be to win the jury to your way of thinking; you must, therefore, get down and speak to them in language that they understand, and that is plain, good, old-fashioned English. As I understand it, there is scarcely a part of the human body that has not a perfectly proper and adequate English name, and if that be true, I think that the only safe way to do is to always use those English names and drop the Latin, on the witness-stand. My idea is that doctors feel, about using Latin to juries, like a little story that they tell about Henry Clay. They say that he was delivering an address down in Kentucky (I do not vouch for the truthfulness of this story), and just as he was about to close, one of his friends stepped up to him and said, "Give them a little Latin; they are used to having all their speeches closed with a little Latin." Clay, in the excitement of the moment, could not think of any Latin, so he wound up by saying, "My friends, I can close this address in no fitter way than by quoting to you the expression of the great Latin scholar, Cicero, whom you all remember: 'Mozambique, Mozambique, Mozambique.'" And they say that they did not get through cheering that "Latin" quotation for nearly twenty minutes. But, my friends, that is not the effect that Latin quotations have upon the witness-stand. Jurors may mentally cheer them, but they go with the side they understand.

The next great objection I would urge to all expert testimony is its intense partisanship. There is scarcely a moment when everybody around the court-does not feel that the expert witness is simply the hired advocate of one side or the other. His position is really a judicial one; he is expected to consider the matter in dispute, absolutely judicially, and give a fair and non-partisan decision as to what is right, and what is wrong. If the jury could believe that, his testimony would carry great weight, but let him get upon the witness-stand and at once, if he is called by the plaintiff, begin to magnify the injuries, or, if he is called by the defendant, to swear as hard as possible that there is nothing at all permanent about the injury, that it is a thing that will quickly wear away, a mere passing shadow, and if there is a possibility of his favoring the side that calls him, go to the very limit of partisanship—and the average witness is not capable of concealing his partisanship and his bias—the result is no one believes a word he says. When once the jury believe that the testimony is not fair, but is colored by some motive, it loses its force and its weight.

But the thing that really destroys the entire weight of expert testimony is that everybody knows that, in the great majority of cases, it is simply a question as to which party gets to the expert first. They tell a story on a learned member of our bar, who was being opposed in Ray County by the Nestor of that bar, in a case that went from this county to Ray County on change of venue, and when the old Ray County Nestor sat down, after having made a splendid speech, the Kansas City lawyer got up and said, "Gentleman, that was a great and magnificent speech, and we would have had it on our side if our telegram had reached our old friend, Judge Smith, a few minutes before the other one did." Now that is exactly the way the public feels about the testimony of experts. It feels that the testimony is for sale to the first comer. The public believes that expert testimony is a hired, a purchased commodity, and that the number of experts on each side is measured by the size of the purse of the respective sides; that it is just as easy to obtain the same expert on one side as on the other, if you only "have the price;" that the expert has no conscientious scruples about the side he is on; that he does not think about the side, only the money.

But you may properly say to me: How is it that you, who belong to a profession that is ready to be retained by either side, without always going into the question of the merits or demerits of that side, criticize any other profession for holding itself open to serve whoever may first employ its members, even as expert witnesses? The difference is this: we lawyers do not assume to act judicially; that is, we do not assume to say that we have examined both sides of the case, and that we testify under our oath, impartially, that the side which we represent is the right side. We assume that everybody understands our partiality; we are there to advocate our side, and to make it look the best we can. We do not pretend to give our opinion based upon the entire transaction, but in the best way we can, to fight for our side. Our position is thoroughly understood and defined. We are not attempting a confidence game by claiming to be impartial, and then not being impartial. It is told that Mr. Evarts once said that no better scheme had ever been devised for the doing of justice, than to permit each side to hire an advocate who would proclaim the virtues of his side and the vices of the other, in the loudest tones possible, claiming everything he could, and then permitting the other side to do the same, and having an impartial judge and jury guess between the two.

A lawyer may be compared to the paid advertising column of a newspaper, where anybody can make any and every claim for his enterprise—the public understanding that it is leased to the advertiser. The doctor may be compared to the editorial columns, because they are supposed to express the impartial, unbought opinion of the editor, which should be priceless, and should never be sold. The expert witness does not admit that he is an advocate. He assumes that before he became a witness he exercised the fairness of the judge. He says: "I went to this place to see this man, without any preconceived notions, ideas or prejudices, and I found that he had a permanent injury." He assumes all the time that he is unbiased, and that the fee he received does not color his testimony. It is for that reason that when the jury finds that he is not judicial and fair, they lose their respect for him and his testimony. The moment we would find that our judges were not impartial, the judiciary, which is the very foundation of our government, would go to pieces.

In a recent article in a leading legal periodical, *Case and Comment*, this matter is discussed under the heading of "The Scandal of Partisan Experts." In the course of the article the following statements are made: "But there is quite as strong a tendency to subornation of perjury in the employment of experts to sustain one side of a case. . . . 'Hired Liars,' they have been called, and some of them earn the description. A remedy for the evil and disgrace of hiring perjured experts has been much discussed by bench and bar, but without much result."

Many schemes, propositions and projects have been put forth for the remedying of all this. Nobody could realize more clearly than your own profession the injury it is doing. Recently, through the kindness and courtesy of your censor, I was handed a medical journal in which there is an article in which it is stated that "expert testimony, and especially medical testimony, has fallen into disrepute, and justly so, in many instances, on account of the way it has sometimes been procured and used in the courts; and yet it has been the desire of all right-minded and competent men to free testimony from bias and all other difficulties as much as possible," and then later on in the same article, it states that "as a result of a discussion of these matters before the International Medico-Legal Congress in New York," the following draft of a proposed law was prepared by an eminent New York lawyer, in conjunction with a Maine judge:

An Act in Relation to Expert Testimony:

SECTION 1. When in any civil or criminal proceeding it appears that the testimony of skilled experts may aid in determining any issues of fact, any justice of the court in which proceeding is pending may, upon application of either party, and after reasonable notice and hearing, appoint one or more skilled experts and make such reasonable examinations and tests in relation to the personal thing or subject matter involved as either party may request.

Sec. 2. Such expert may be examined as a witness at the trial by either party or by the court, and shall receive for his services and for his attendance at court a reasonable sum, to be fixed by the court, and paid by the party making the application and be taxed in his costs if he recovers.

A law requiring a person to submit to a physical examination by a physician has been held to be unconstitutional by the United States Supreme Court, in the case of the Union Pacific Railroad vs. Botsford, 141 U. S., 250, in which case Mr. Justice Gray, delivering the opinion of the court, said:

> The inviolability of the person is as much invaded by a compulsory stripping and exposure, as by a blow. To compel any one, and especially a woman, to lay bare the body, or to submit it to the touch of a stranger, without lawful authority, is an indignity, an assault and a trespass; and no order or process commanding such an exposure or submission, was ever known to the common law in the administration of justice between individuals, except in a very small number of cases, based upon special reasons, and upon ancient practice, coming down from ruder ages, now mostly obsolete in England, and never, so far as we are aware, introduced in this country.

The same procedure, however, has been held constitutional by the highest courts of many States, and it is a question on which the decision of the Federal supreme court is not controlling. In Missouri our supreme court has sustained the right to such examinations, so that we can and do have compulsory physical examinations by experts appointed by the court, and it is a perfect farce. Our practice is exactly that proposed by those two learned gentlemen, and I say it is a farce. It does not amount to anything. We go into the circuit court and we ask for the examination of the adverse party. As a rule, the court appoints the physician whom we suggest, to do the examining. We know in advance just what sort of examinations this physician is going to make, and just what sort of testimony his will be. The lawyer asking his appointment knows the strength of his vision when necessary, and knows that at the other times he verifies the adage that "there are none so blind as those who won't see." This "impartial expert," appointed by the court, is no more the court's examiner and the court's expert than the "man in the moon." He is simply the partisan expert of one side, whom counsel are endeavoring to give a little standing and credit, by having his appointment confirmed by the court.

I have in mind one corporation in this city, which constantly gets the court to appoint exactly the same "impartial, disinterested" examiner to go out and examine the plaintiff. Well, do you think that he is fooling anybody? Do you not think that very soon the jury are in possession of the fact that this man is always testifying on the same side, and that he constantly gets his appointment through the same influences and for the same reason? Even if this law did really supply one or two or more impartial experts, it would not correct the evil, for it would leave them to be overwhelmed by the experts which either side could procure just as freely as ever. I question whether any legislative enactment could prevent a party from putting in such expert testimony as he can pay for—as long as he is able to get it. Our experience here has shown that the law above suggested would correct no evil and work no improvement.

I recognize, as must every man who is abreast of the times, that such societies as this are most powerful agencies for the keeping of members of your profession within correct lines and forcing them to live up to a high code of ethics. Boards of trade, stock exchanges, live stock exchanges, are able to force their members to live up to the most rigid code, and to observe the highest standard. They are able to make the meanest man's word as good as the best man's bond. No shirking of obligations, no equivocation, no squirming are permitted. No resort to law is necessary. They are so powerful within and of themselves that the Golden Rule is recognized by even their worst member as an absolute necessity if he wishes to stay in. You can not be as powerful as they are, because a man can practice medicine without being a member of a recognized medical society, but you can do much more than you now believe. If a man were driven outside the membership of societies like this for his experts, he would make a very sorry showing in court, for juries understand who are the eminent physicians of a city. A well-known name is worth more dollars than an unknown name is worth dimes. Therefore, if your medical societies like this would get together, you could very readily bring about a reform that no law passed by a legislature could accomplish. Whatever legal measures are passed by legislatures will be evaded as easily as our present method of having the court appoint an examiner. The remedies must come from within societies like yours. Let me suggest that each of your medical societies appoint five or six members who shall act as experts, say for a term of six months, and none of whom shall ever see anybody with a view to becoming an expert, except when he is acting as a member of your committee, and then say that three members of the committee shall go together to make the examination. Require the party who wishes the expert testimony to deposit a reasonable sum with your treasurer, and let that money be the sole compensation of the committee for making the examination, except what the law allows them as ordinary witness fees, and then let every other member of your societies refuse positively and unequivocally to do anything with a view to becoming an expert witness. The parties will then be driven, if they want eminent experts whose worth will be recognized, to get them through your societies. The party who applies to you for the services of your experts must be exceedingly sure of his case, for your committee, absolutely fair and impartial, will not have any reason or motive for favoring him, and will not do so. The man pays just as much for an unfavorable as for a favorable decision. The committee will have nothing to gain by going on the stand. Their pride and honor can be relied upon not to turn a man down just to get out of going on the witness-stand. A man will always be sure he can get the best quality of expert testimony in a straight case. In a crooked case he will be unable to buy it from physicians of recognized standing.

The courts, undoubtedly, when application is made to them to appoint medical experts to make a physical examination of a witness, under our present practice, would recognize your committee. The courts fully recognize bar associations, although seldom incorporated, and when a man applies for admission to the bar, the court appoints the examining committee of the bar association to conduct the examination. I have never known of a case where the court has admitted a man whom the bar association committee reported unfavorably, or refused to admit one whom this committee reported favorably. So I think that there will be no trouble in getting all the courts to say that they will never appoint any physician to conduct these examinations, unless he is a member of the regular committee of a recognized medical society, and as this matter as to who shall be appointed lies in the discretion of the court, the courts could legally make and enforce such a rule. Even if the courts did not recognize your committees, as I am quite sure they will, still they could not force any member outside of your committee to look at a case with a view to becoming a witness.

As a business proposition, it has always seemed to me that a busy physician really loses money by becoming an expert witness; that is, that the length of time that he puts in in visiting the case, consulting the lawyers, waiting around the courtroom, and testifying, does not make it at all profitable for him, so that I think there will be no loss of money to you by your failure to become expert witnesses, and it seems to me that the proposition I have just advanced, if your societies would be rigid, and your members would recognize its authority, as they undoubtedly will, would be a great cure for the evil that is certainly disgracing your profession.

What I have said about physicians testifying does not apply to the physician who actually sees the case during the illness, that is, to the attending physician. I think, as a rule, when he talks English to a jury, and handles himself right, the jury understands that he is on the witness-stand, not because he wants to be or because he was hired to come there, but because, in answering a professional call and in responding to a professional duty, he saw and heard things which he could not help seeing and hearing, and that he is there simply to tell what he knows, the same as any other witness. There is not, and ought not to be, any check put on the attending physician fully and fairly testifying to all he saw and heard, except, of course, that he must not violate professional confidences by testifying without the consent of his patient.

The constant cry is that in this commercial and business age all the professions are becoming commercialized—lawyers, doctors and preachers can no longer be distinguished from others by their dress, or by their manners. It is no longer considered a "cute" thing for a lawyer or doctor not to pay his bills—in fact it is rather disgraceful. Doctors are measured to a great extent, whether rightfully or wrongfully, by the amount of their professional income. A doctor must make his visits short but effective. He must really be a combination of a business man and a physician. Never, however, has the standard of professional knowledge been as high as it is now. Physicians know more now than they ever did. The physician must be a polished, educated gentleman. The business man himself has become much better educated. Business men used to look with contempt upon a college education, and yet today college-bred business men are becoming the most important leaders in all public affairs, and a man who uses bad grammar and club-footed English, and shows a lack of breeding and education, while he may be a king in his own counting-room, is looked upon with contempt elsewhere.

The spirit of commercialization does one thing: It raises the standard of honor. Business men know that they can't succeed where their credit is gone and their word is not taken, therefore, however keen they may be for dollars, however much cupidity they may have, however much avarice they may possess, still once they give their word, it must stand. Contracts involving fortunes are made verbally, but the man who pleads that they were not in writing, is put under a ban. The market may go up, or it may go down, but business men of high position live up to their contracts regardless of loss or gain. In my own profession, lawyers are trusted with enormous fortunes and great sums, without a bond, or without any assurance of any kind, except that their professional pride and their professional honor will always stand as a barrier between them and unfaithfulness to the trust reposed in them.

Now, shall it be said that a learned profession like yours, composed of cultured, educated, refined gentlemen, in this age of commercialization, has become commercialized to the extent that it itself has become the object of barter and its members the subjects of purchase and of sale? No. Let it be the constant aim of every member of the profession to stop this thing, and to make it impossible for any one to get any physician to go upon the witness-stand, not as the impartial judicial narrator of what, because of his learning and skill he is able to see where the eyes of the less experienced and more unlearned can discern nothing, but as the paid, partial and biased advocate of one who thus puts a price upon his honor.

When duty calls, a true physician knows naught else. Beneath the coldest sky, under the hottest sun, wherever there is suffering, there he is. The darkness of the darkest night, the fierceness of the fiercest storm do not deter him. Amidst the terrors of the direst epidemics and the horrors of the most dreadful plagues, he forgets his own safety, and his own life becomes as nothing compared to that of his patient. On every battle-field, under every flag, midst shot and shell, he answers humanity's cry, whether from the lips of friend or foe. In poverty's darkest hovel he ministers to the sick and gives cheer to the afflicted, without fee or price or hope of reward on this earth. He is the repository of the most sacred of family secrets; he never betrays them. Membership in such a profession, so noble in its aspirations and practices, so self-sacrificing—ever and always recognizing duty as its watchword and guiding star—should make one too proud to ever let it be said that his testimony on the witness-stand comes not from the lips of the conscientious and impartial witness, but from a man who, forgetting duty, is for the time being proving to his golden master that the laborer is worthy of his hire.

Pyrogallol for Tuberculous Processes.—Veiel publishes a number of observations of extensive tuberculous processes cured with pyrogallol, which he considers beyond question the best of all chemic methods of treating lupus. He uses a 10 per cent. pyrogallol vaselin for three to five days, and then a .5 to 2 per cent., which is strong enough to destroy the lupus tissue without interfering with the formation of healthy granulations. As the discharge diminishes the salve must be concentrated. The best results were attained in tuberculosis of the tendon sheaths. Abscesses and long fistulæ in glands with indurative inflammation or calcification, were not affected, but superficial, recent, soft, suppurating glands were very favorably influenced. "Superficial affections of the spongy bones and of the epiphyseal portions of the long bones, heal beautifully under this treatment." When the bones are so invaded that surgical intervention is imperative, pyrogallol helps to ensure a solid, fibrous cicatrix. This treatment requires more time than surgical, but it has its special indications, for instance, the multiple caries of children of tuberculous parents. Constant supervision of the urine is necessary, although there is much less danger of albuminuria or hematuria with pyrogallol in vaselin than with aqueous or alcoholic solutions.—*Arch. f. Derm. u. Syph.*, xliv, p. 353.

Original Articles.

LEUCOPLAKIA—PSORIASIS—LUPUS VULGARIS.

Presented to the Section on Cutaneous Medicine and Surgery, at the Forty-ninth Annual Meeting of the American Medical Association, held at Denver, Colo., June 7-10, 1898.

BY JOHN V. SHOEMAKER, M.D., LL.D.
PROFESSOR OF SKIN AND VENEREAL DISEASES IN THE MEDICO-CHIRURGICAL COLLEGE AND HOSPITAL.
PHILADELPHIA.

Our friends of the local committee have done me the honor of requesting a few words upon several patients whom they have brought before this Section.

LEUCOPLAKIA.

The first is an example of a rather rare affection. This man, 41 years of age, has white patches upon each lateral half of the tongue. The lesions occupy the larger part of the anterior half of the organ and occur in no other situation. They have been present for years. They occasion no suffering in general, but smart when hot, sour or highly seasoned food is eaten. The man declares his health to be good, but he has a heavily coated tongue, his bowels are habitually constipated, his appetite is capricious, he is troubled by flatulence and often experiences torpor after a meal. He is a victim, in other words, of chronic gastro-intestinal catarrh. There is no disorder of heart, lungs or kidneys. He does not use tobacco in any form.

The commonest white lesion within the mouth is the mucous patch. Although there is here in the color a certain superficial resemblance to the mucous patch, there are points of distinction which enable me to exclude syphilis. The mucous patch is but little, if at all, raised above the adjacent surface. The mucous patch is prone to ulceration, but it is readily relieved by antisyphilitic remedies. In this patient I find that the affected regions are elevated, and that the papillæ of the mucous membrane are very prominent, and evidently in a state of hyperplasia. There are also thickening of the epithelium and exfoliation or desquamation. Little shreds of membrane are cast off from time to time. There are some fissures upon these white patches but no general ulceration. The scleroses of late syphilis may exhibit a dull grayish hue, but are very different in appearance from the distinct white of these patches. Syphilitic scleroses, moreover, are indurated.

Another affection of the mouth which bears a resemblance to that before us is the opaline patch to which glass-blowers are subject. These, however, afflict only one class of workmen and can, therefore, be promptly eliminated by the simple statement of an individual's occupation. The glassblower's patches disappear when the man has been for some time out of work. I scarcely need refer to carcinoma or tuberculosis. The aspect and the chronicity of this case are totally dissimilar to the course of either of those fatal maladies.

There remains but one disease with which we can identify that before us, viz., leucoplakia or leucokeratosis. This begins as red hyperemic spots upon the tongue or inner surface of the lips or cheek. After an indeterminate duration the redness gives way to a whitish color, and the overlying epithelium becomes thickened. As the disease goes on the excessive proliferation of epithelium gives rise to flaky desquamation. The patches may be round, oval or oblong in outline. Most cases begin upon the tongue. In course of time the epithelium becomes horny and rough. Fissures are apt to form, and ulcers may occur. In some cases we may witness different stages of the affection simultaneously present in the same case. The morbid condition at length stimulates the papillæ of the corium to hyperplastic growth, and the final outcome is often an epitheliomatous degeneration. Herein lies the chief gravity of the disease. In the patient now present the process is entirely local. Nevertheless, we must always be on our guard against the possible termination.

The course of leucoplakia is exceedingly indefinite. It may be in progress for half a lifetime. In a case recently under my observation, it had been in existence for nearly forty years. Its march, however, is by no means uniform. During long periods it may remain entirely stationary, and there may even be intervals of improvement. Local irritation is the chief cause of leucoplakia, and in men the most frequent irritant is tobacco. It is generally dependent upon the habit of smoking, and consequently, is much more common in men than in women. Notwithstanding this fact, it may occur in those who do not smoke, as the present case, among others, demonstrates. Leucoplakia has been likewise observed upon the vulva. Other local causes of the disease are broken teeth, ill-fitting dentures, the excessive use of condiments and alcohol. In a minority of cases leucoplakia may be due to constitutional conditions. In the case now in your presence I should attribute its occurrence to the gastro-intestinal catarrh. I should accordingly make use of systemic, as well as local treatment.

The first step in the management of leucoplakia is to forbid tobacco, hot and spiced food. Any cause of irritation in the teeth or plates should be removed. Antiseptic and alkaline mouth washes fulfil a useful purpose. A solution of papain in ten parts each of distilled water and glycerin is one of the best local applications. Balsam of Peru, lactic acid in 10 per cent. solution, chromic acid in 1 per cent. solution, and a 10 to 30 per cent. solution of salicylic acid are other topic agents which have been employed. The use of strong caustics is to be deprecated on account of the tendency of leucoplakia to eventuate in epithelioma. In the present case I would suggest the adoption of treatment directed against the gastro-intestinal catarrh in conjunction with one of the local measures which I have mentioned, of which papain is probably the most efficient. One of the best remedies to act upon the condition of this patient's mucous membrane is one of the salts of silver, especially the nitrate, in the dose of one-eighth grain in a dram of the syrup of acacia before meals. The silver salts will give tone to the mucous membrane, will restore the glands to their normal state, and will assist in governing the gastro-intestinal catarrh. Diluted hydrochloric or nitro-hydrochloric acid in five to ten drop doses, well diluted, after meals may replace the silver salt at the end of every two weeks.

PSORIASIS.

Our second patient is a man, 32 years of age, upon whose face and scalp is situated a dry, scaly eruption. The disease began upon the scalp; it is absent from other parts of the body; it gives rise to moderate itching. The hair is dry and lusterless. The characteristics of the affection can be better seen upon the face, where it is not hidden by the hair. The lesions consist of patches, each of which is about the size of a ten-cent piece, absolutely dry, slightly raised above the surface, with infiltrated base and surmounted by firm, thick, coherent scales of a whitish or mother-of-pearl color. There has never been any acute inflammation or any exudation of moisture. The initial manifestation of the disease is the outbreak of small solitary papules covered with a fine scale. Individual papules are separated by tracts of healthy skin. Such papules are definitely circumscribed and never exhibit that gradual shading off from diseased to normal integument which we witness in eczema. Adjacent papules coalesce into patches, and the larger are as sharply defined as the smaller lesions. Moreover, the scales of this case are quite different in character from those of eczema, which are thin, flaky, and can often be detached in large sheets or laminæ. Infiltration is often exhibited in chronic eczema, but the patch is not elevated in that disease. In the present case the color where the scales have been removed is of a duller, deeper hue than in eczema. Subjectively, eczema is almost invariably attended by intense itching, but this patient makes no complaint of that distressing feature. Eczema beginning upon the scalp rapidly extends to the forehead and other parts of the face, whereas in this case the spread has been much more gradual. The color, the history, and the progress of this case forbid me to regard it as one of syphilis. The scales of dry seborrhea consist of inspissated sebum, but upon this man's scalp, equally as upon his forehead, they are composed of epithelial cells. The scales of seborrhea are crumbling and greasy. There are scales in lupus erythematosus, and that disease attacks the face by preference, but the scales of that affection are thin, scanty, greasy, whitish or brownish in color, and beneath them are seen patulous ducts plugged with comedones. Nothing of the kind is to be found in the case which we now observe.

This is, in fact, an excellent example of psoriasis. It illustrates one of the sites of predilection of psoriasis, viz., the scalp. In many cases we obtain the history that it commenced in that situation. Other favorite localities are below the knees and behind the elbows. In other words, psoriasis selects regions in which the integument is thick, prevailing, for instance, upon extensor surfaces, while eczema prefers the flexor aspect of the limbs. I have named the essential points of psoriasis. They are clearly exemplified in the case before us, although the extent of surface involved is comparatively restricted. Many descriptive titles have been applied to psoriasis in accordance with the arrangement of the lesions in particular cases, but upon these I need not insist before the present audience. I will only state that in quite a proportion of instances I meet with circular, semicircular or serpentine outlines, due to the coalescence of the borders of adjacent patches and the falling of scales, together with the fading of color in the center of the larger lesions. Psoriasis of the palms and soles is rare, but remarkably obstinate. In some instances the disease attacks the nails, rendering them discolored, pitted and brittle.

The chief causes of psoriasis are disorders of the blood or nervous system. I find the affection very frequently associated with the rheumatic or gouty dyscrasia. In other instances insufficiency of the liver, gastro-intestinal catarrh and auto-intoxication produce the disease of the skin. External causes are provocative of psoriasis, in my opinion, only when they act in conjunction with a predisposition dependent upon internal conditions. These facts give the clue to treatment. This is far from being as satisfactory as could be wished, but much may be accomplished by patient assiduity, provided we receive the faithful co-operation of the patient. Local measures are of inferior value to systemic treatment. It is true that we may remove scales by adventitious methods, but it is equally true, unfortunately, that the morbid process will soon reproduce these evidences of disease. If they are present in great abundance upon the scalp; if they cause disfigurement of the face, as in this case; if they annoy the fastidious by accumulating within the clothing, get rid of them by all means, but do not expect to cure the disease by external remedies. As for the harsher methods, such as scraping the surface with sand, etc., they are tedious, painful, and utterly without permanent value. Baths, poultices, and the application of oils will accomplish the same purpose without the same disturbances. Many rely upon chrysarobin, but it stains and is liable to cause intoxication. The same objections apply to pyrogallol. After the surface has been cleared, the use of a mildly stimulant ointment will secure all the objects of topic treatment. I regard local remedies as of less importance than constitutional care.

If I detect evidence of rheumatic influence in a given case, I place the patient upon one or more of those agents which have a beneficial effect upon the systemic condition, such as salicylic acid and its combinations, salol, salicin, potassium iodid, etc. By this method I have in numerous instances obtained very satisfactory results. The scales disappeared, the infiltration was removed, and the affected regions assumed a perfectly normal aspect. If recurrence took place, or when recurrence took place, the same treatment was resumed. In this manner, by submitting to treatment for a certain portion of the time and by regulating the diet, the patient may be kept practically free from his infirmity, even if the disease be not thoroughly cured. In a fair number of cases the intervals of freedom will be protracted, and, indeed, I recall some which might be considered cured. When there is notable gastro-intestinal disturbance I am in the habit of administering an occasional mercurial purgative, followed by vegetable cathartics in sufficient doses and sufficiently often to secure free action of the bowels. If auto-intoxication exists, intestinal antiseptics are of service.

When psoriasis is dependent upon disorder of the nervous system, remedies such as silver nitrate, zinc oxid, phosphorus, etc., are of value. The galvanic current is of special efficacy, both on account of its local and constitutional effects. Arsenic frequently produces good results in psoriasis. In obstinate cases arsenious acid or sodium arseniate may be used hypodermically with decided effect. The prolonged use of small doses of antimony is likewise beneficial in stubborn cases. Sulphur is an efficient remedy, particularly in those cases associated with hepatic torpor. It has a favorable action upon the liver and promotes the nutrition of the skin. For this purpose it is best given continuously in five-grain doses, thrice daily, combined with one or two grains of sodium bicarbonate.

LUPUS VULGARIS.

Here is a lady, aged 32 years, whose cheek is seriously disfigured by a large spot of red, encrusted, partially ulcerated and partially cicatrized eruption. Its inveterate character is attested by the fact that it has been in more or less active existence for several years, and that, although it at times abates and cicatrizes, yet it always breaks out afresh. Such is the history and such is the evidence of the lesions. We witness here, in fact, a composite picture, the various parts of which can be plainly distinguished. Near the borders of the main lesions there are a number of papules and tubercles of various sizes, and these represent the earliest stage of the disease. They are situated in the substance of the corium, are of moderate consistence and communicate a yellowish-brown color to the surface. If they attain their full development they gradually approach the surface, enlarge, and may then coalesce with adjacent nodules, ulcerate or recede, The ulceration may heal in one part to spread in another, as is exemplified in this case. In this single individual, therefore, I am able to trace the course of a serious cutaneous malady through all its phases.

The tubercles of syphilis bear some resemblance to those of the present case, but they differ in being of much more rapid development and more widely disseminated. The tubercular syphilide has also the peculiar and distinctive coppery hue. Ulcerated syphilitic tubercles are covered with a copious secretion and their crusts are thick and of a greenish color.

The case is evidently not syphilitic, nor does it display the features of epithelioma. We do not behold in epithelioma that association of tubercle, ulcer, crusts and scars which exists upon the cheek of this woman. She is too young for epithelioma to be a probable diagnosis, and in the absence of active surgical intervention, of which I hear nothing, a malignant affection would ere now have run its course, and the patient would have been in her grave.

The course of this disease and the gross aspect of its lesions point to lupus vulgaris. That is the only malady which corresponds exactly to the description of the case now in our presence. It illustrates the favorite seat of lupus, which seldom attacks any part of the body except the face. The disease sometimes begins upon a mucous membrane, and in exceptional instances it causes ulceration almost as deep as that of carcinoma.

It is usually said that lupus vulgaris originates during childhood, but I have encountered numerous cases which have begun after the age of 25 or even 30 years. I shall not make any attempt here to discuss the question of the relation to general tuberculosis. Suffice it to say that few bacilli tuberculosis are found in its lesions, that the clinical picture of lupus shows slight analogy with the undoubted forms of cutaneous tuberculosis, and that, although some patients belong to tuberculous familes or develop pulmonary consumption, yet such cases are rather exceptional. Most of the lupus patients whom I meet enjoy fairly good health through a long period of years. As regards the local management of lupus, I am no champion of rude manipulations, such as curettage, linear scarifications and other mechanic measures. These are likely to be attended by dissemination of the disease. The treatment which I favor and which is followed by the best possible results, consists, in the first place, of the application of pure carbolic acid to the lesions. This is destructive of lupus tissue, while it has at the same time an anesthetic and parasiticidal effect. This operation is performed two or three times a week, and in the intervals I have the sore dressed with an antiseptic ointment of medium strength. By this means I have often had the gratification of observing very decided amelioration of the disease. The ulcers would become cicatrized and the affection remain in total abeyance for long periods. There is always, however, a marked tendency to recurrence. The constitutional treatment of lupus is to be conductued on general principles. If anemia, scrofulosis or tuberculosis coexist they are to be combated with the classic remedies. Arsenic has not infrequently a favorable influence upon the course of lupus.

CHRISTIAN SCIENCE.

THE NEW THEOLOGICO-PHILOSOPHIC THERAPEUTICS.

BY EDMUND ANDREWS, A.M., M.D., LL.D.
Senior Surgeon Mercy Hospital; Professor of Clinical Surgery Northwestern University Medical School; Consulting Surgeon Michael Reese Hospital.
CHICAGO.

By common impulse the discussion of theologic opinions in a medical journal is felt to be abhorrent to good taste. Christian Science, however, intrudes itself upon us both as a religion and healing art inextricably mixed together. Moreover, it uses its peculiar theology as a weapon to attack the science of medicine, and with it all the other physical sciences. It is right, therefore, to outline its theology with its appended therapeutic methods, but I shall not dispute about the truth or error of those of its ideas which are merely theologic.

The scheme has come to the front at a favorable time. Eclecticism and homeopathy have lost their sharp separateness and are seeking to merge themselves into general medicine. This leaves a vacancy, and Christian Science promptly steps in to fill it. Most physicians, know something of it, but few have any full and clear information of its character, so I shall try to give a condensed view of the subject.

This complex system was evolved some twenty years ago by a woman in eastern Massachusetts, named Mrs. Mary Baker G. Eddy. She speaks of the system as both a "discovery" and a divine revelation. She wrote it out in a work of about 650 octavo pages, called "Science and Health, with Key to the Scriptures." This book has reached its 137th edition of 1000 each. It is copyrighted, and is sold at $3 a copy. My quotations from it in this article are made from the 107th edition.

Mrs. Eddy was born of New England parents, at or near Lynn, Mass. She early united with a Congregational (Trinitarian) church there, and continued in it long after she adopted her new tenets; in fact, until she founded her first Christian Science church. In childhood she claims to have heard a divine voice calling her by name. Having developed her system of Christian Science healing, she opened what she called a "College," in Lynn, Mass., to teach the art to others. A full course lasted three weeks, and she charged the pupils $300 each for the course. If they took subsequent courses they paid $200 each. She claims to have educated about 4000 pupils in the college. At a later period she opened a church in Boston, which now claims a very large membership.

HER POSITION IN THE DENOMINATION.

Mrs. Eddy is the recognized head of the sect, and must be implicitly obeyed. So complete is this subjection that the "Church of Christ, Scientist," in

Chicago places this command in its pamphlet of "Rules and By-Laws:"

> Any member of this Church who may be practicing, teaching or preaching contrary to the teaching of "Science and Health, with Key to the Scriptures," by Mary Baker G. Eddy, or who may be guilty of any immoral conduct or who may violate the Tenets or By-Laws of this Church, or any part thereof, may be expelled from the Church.[1]

Mrs. Eddy's book is considered of inspired authority. In its theologic portions it contains much that is accepted by all religious people, and also much which is rejected by all denominations except her own. The work is unskilfully arranged, and sometimes confusedly expressed, but the emotional portions are written in strong, warm and eloquent language. In such passages, she puts forth appeals full of religious fever, accompanied with bold and confident promises of restored health, rescue from sin, and assurances of immortal life hereafter. In these passages her eloquence takes a strong hold on many good souls who are not well anchored in other principles, and are weary of the doubts and struggles of humanity. Her literary style has grave faults, but she is not ignorant. She had considerable school training, and in addition took some home lessons in Latin, Greek and Hebrew.

One singular trait runs through the whole work, and also through the phraseology used by her followers. There is a steady habit of self-contradiction. This is so distinct that it can not be accidental, nor can they be unconscious of it themselves. In treating the sick they constantly assure them that there is nothing the matter with them, yet in reporting their results to outsiders they stoutly assert that they have cured awful cases of consumption, cancer, typhoid fever, etc.

Mrs. Eddy is not naturally of a disputatious temperament. She seems to shrink from collision with old friends of opposing religious opinions, and this is to her honor, but it causes her to modify her theologic statements to a remarkable degree. Apparently, on this account, she uses the same contradictions in stating doctrines that she does in reporting cases. She has always lived in the storm-center of New England controversy, where the "orthodox" and the "liberalists" contended for their faiths, and she had many dear friends in both parties, whose feelings she disliked to wound. To avoid doing so, she frequently modifies her first expressions by subsequent ones which are nearly contradictory. For instance, the "liberals" are generally opposed to all "creeds," i.e., to all formal statements of religious belief. In answer to the question, "Have Christian Scientists any creed? she replies, "They have not, if we accept the term as doctrinal beliefs." Then immediately, as if to soothe her friends of the other party, she proceeds to give a short actual creed under the name of "Tenets," shaping its expressions so as to make them as smooth as possible on the side toward the "orthodox." Here it is:

> The following is a brief exposition of the important points or religious tenets of Christian Science:
>
> 1. As adherents of Truth we take the Scriptures as our guide to eternal life.
>
> 2. We acknowledge and adore one Supreme God. We acknowledge His Son and the Holy Ghost, and man as the divine image and likeness.
>
> 3. We acknowledge God's forgiveness of sin in the destruction of sin, and that sin and suffering are not eternal.
>
> 4. We acknowledge the atonement as the efficacy and evidence of divine love, of man's unity with God, and the great merits of the Way-Shower (Christ).
>
> 5. We acknowledge the way of salvation demonstrated by Jesus to be the power of truth over all error, sin, sickness and death, and the resurrection of human faith and understanding to seize the great possibilities and living energies of divine life.
>
> 6. We solemnly promise to strive, watch and pray for that Mind to be in us which was also in Christ Jesus, to love one another and to be meek, merciful, just and *pure*.

After writing this she seems almost to have thought she had gone a little too far toward the orthodox party, for in various places she takes pains to modify the meaning of these tenets so that they will not offend the "liberalists." Tenet No. 2 seems almost to accept the "orthodox" Trinity. She guards against this by saying, on page 152: "The theory of three persons in one God (that is a personal Trinity or Triunity) suggests heathen gods rather than the one ever-present 'I Am.'"

Putting all things together, and allowing for these partial contradictions, the general framework of her theology and philosophy is this:

1. There is but one being in the universe, and that is God. He is everything that exists. "He is All in All." Nothing exists besides Him. This, of course, is a sort of pantheism, but Mrs. Eddy, smarting from the blasts of the theologic storm-center, rejects the name pantheism, probably on account of the public feeling against it, and also because her view differs partly from that of the German pantheists.

2. Human beings in their higher qualities are not separate persons from God, but of one substance with Him, being in some sense mere "concepts" or thoughts of God; a kind of emanation or "reflection" of Him. Hence they are immortal, and above the possibility of all disease, sin or suffering. They never die, but only change their course of thought. She calls them collectively "Immortal Mind."

3. There is, however, a false, delusive, sinful state of mind, which she calls "Mortal Mind," which does all the mischief in the world. Mortal mind falsely believes in the existence of sickness, pain, sin and death. Mrs. Eddy is never tired of denouncing its abominable works.[2] This is her whole pathology, and yet in other passages she denies that this "mortal mind" has any real existence.

4. Matter has absolutely no existence in any form. All is mind or nothing. Even human bodies do not exist. "Matter exists in belief only."[3] "To spirit there is no matter."[4] "Science destroys matter."[5] She asserts elsewhere that though God is omniscient, He is ignorant of matter and of many other things. God only knows what *is*, but He is ignorant of matter, disease, sin, death, and of everything else which does not exist.

Mrs. Eddy adds a glossary to explain her strange contradictions, but the explanations make the confusion worse. Here is her definition of Matter:

"*Matter.*[6] — Mythology; mortality; another name for 'mortal mind'; illusion; intelligence, substance and life in non-intelligence and mortality; sensation in the sensationless, mind originating in matter; the opposite of truth; the opposite of spirit; the opposite of God; that of which immortal mind takes no cognizance; that which mortal mind sees, feels, hears, tastes and smells only in belief."

As a corollary of the non-existence of matter, Christian Science asserts the non-existence of the body. Mrs. Eddy says[7] the body exists in human belief only.

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[1] Rules and By-Laws of First Church of Christ, Scientist, of Chicago, pages 9 and 10.

[2] Sci. and Health, p. 493.

[3] Ibid, p. 107.

[4] Ibid., p. 174.

[5] Ibid., p. 174.

[6] Ibid, p. 582.

[7] Ibid., p. 107.

There is no head, no heart, no limbs, no brain, no viscera; so that it is of no use for a "healer" to examine organs which do not exist to discover disease or injury which is not there, nor anywhere else. Yet they constantly assert that they cure local diseases and injuries which they had assured the patient did not exist.

Both Mrs. Eddy and her followers habitually use these phrases, which seem to have double-barreled meanings, asserting at one time that something exists, and at another that it does not. When attention is called to these contradictory statements, they reply that the disease does not exist to God, but that it is a very "solid and real" evil in the false belief of the mortal mind of the patient. As they deem that nothing at all exists in the universe except mental states, they seem to deem themselves quite justified in stating a thing either way just as they find convenient. Moreover, Mrs. Eddy intimates that the imperfection of the old language and the mental dulness of outsiders is such that "in expressing the new tongue we must sometimes recur to the old and imperfect, and the new wine of the spirit must be poured into the old bottles of the letter."[8]

THERAPEUTICS.

The "healers" are not allowed to give any medicines, under penalty of expulsion from the church.[9] Their theory is that the patient has no disease whatever. He is suffering only mentally, from a false opinion in his "mortal mind" that he is diseased. What the healer has to do is to exert his own "immortal mind" to convince the patient that he is actually well, and then he actually *is* well. In fact, they suppose he was well before, only he did not know it.

This exertion of the healer's mind on that of the patient is supposed to operate in at least two ways:

1. By direct verbal assertion and persuasion, as well as by influence through action, manner, etc., to convince the sufferer that he is well.
2. By silent influence to the same end, by the healer bringing his mind to bear upon it. The silent influence may be exerted at any distance, however great, and is then termed "absent treatment."

The healers use tact and gentleness to win the confidence of the patient, and try to encourage him in every way, much as physicians do, and so far as the promotion of calmness and cheerfulnes can benefit him they do some good, but they fail in modifying physical or organic pathologic conditions. Deaths occur, of course, but these are asserted not to be real deaths, but delusions of "mortal mind."

It is said that the majority of the "healing" is done by women, and that the usual fee is one dollar a "treatment" or interview. This low price, and the total absence of all expense for medicine is an important item in drawing patronage. A public "dispensary," if that is a correct term for a place where nothing material is dispensed, is daily open on Dearborn Street, corner of Madison Street, Chicago.

Mrs. Eddy seems to have been originally something of a homeopathist, at least she made some use of the system, and her adopted son graduated at a homeopathic college in Philadelphia. She affirms that she derived valuable hints from that system; for instance, she says that she "made a very high homeopathic attenuation of *natrium muriaticum* or common table salt, and with one drop of that attenuation in a goblet of water, and a teaspoonful of the water administered at intervals of three hours she has cured a patient sinking in the last stages of typhoid fever. The highest attenuation of homeopathy, and the most potent, steps out of matter into mind.[10] She brings in the everlasting contradictions, of course. The non-existent matter, common salt, made into a high homeopathic attenuation which does not exist, in a goblet of water which did not exist, and administered every three hours in a non-existent teaspoon, "steps out of matter into mind," and cures a patient of a typhoid fever which he never had.

In surgery Christian Scientists claim to have done some striking exploits. They say they have set dislocated bones without touching them, so that the bones have returned with an audible snap to their sockets. Mrs. Eddy says, "Bones have only the substantiality of the thought which formed them." It must be very interesting to see a non-existent bone, having only the substantiality of thought, which had been dislocated from a socket which never existed, going back without being touched into that imaginary socket with a thump audible to all the bystanders. Still, these healers realize that bone surgery is not very easy, and Mrs. Eddy herself says, "until the advancing age admits the efficacy and supremacy of mind, it is better to leave the adjustment of broken bones and dislocations to the fingers of a surgeon, while you confine yourself to mental reconstruction and the prevention of inflammation."[11]

There is a famous case of cancer said to have been cured by Mrs. Eddy, which Christian Scientists relate with great pride. The *Literary Digest*, Dec. 31, 1898, quotes her statement of it as follows: "I have healed at one visit a cancer that had so eaten the flesh of the neck as to expose the jugular vein, so that it stood out like a cord."

Why do these people say at one time that the disease never existed, and then describe its horrible character and boast to us how they cured it?

Mrs. Eddy and all the healers constantly repeat the old statements so familiar to all practitioners, about the cases "given up" and voluntarily abandoned to die by discouraged physicians, when the fact was that almost invariably if the physician left he was dismissed by the patient, and did not voluntarily give him up. The law of medicine and the honor of a physician require him to stand faithfully by his patient, and relieve his suffering, even if he can not finally save his life. Most practitioners have heard these false rumors so often about themselves and others that they pay little attention to them, knowing their falsity in almost every case. An inspired discoverer and healer ought not to be so easily imposed on by gossiping neighbors.

Mrs. Eddy was called to a desperate case of labor said to be about to die. She tells the old story about several physicians pronouncing the case hopeless, and then going off and abandoning the woman, without assistance—an obvious error on the face of it, but derived doubtless from the excited attendants and neighbors, and not from Mrs. Eddy herself. Mrs. E. says: "After entering the room, I had stood by her (the patient's) side about fifteen minutes when the sick woman arose from her bed and was well. . . . "It is sufficient to add her babe was safely born, and weighed about twelve pounds."[12]

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[8] Ibid., p. 8.

[9] Rules and By-laws First Church of Christ, Scientist, Chicago, p. 10.

[10] Science and Health, p. 46.

[11] Ibid, p 400.

[12] Retrospection and Introspection, p. 49.

Considering there was no body to this bouncing offspring, and not an ounce of matter in it, but only a round, plump convolution of spirit or some other metaphysic manifestation or "reflection" of "immortal mind," twelve pounds on the scales was a very satisfactory result, and Mrs. Eddy ought to be proud of it. Evidently her kindly mother instinct got the start of her philosophy when she contemplated that splendid baby. We will honor her womanly heart, even if we have to allow something off from her philosophic acumen.

For one engaged in controversy in a great theologic and medical storm-center this writer seems remarkably free from the spite and animosity common among persons thus situated. Apparently, she is genial, and seriously modifies her statements to avoid giving pain to old friends. She is weak in philosophy and logic, and her writings lack orderly arrangement, and although she calls her system "Christian Science," there is almost no science in it, according to the meaning of that word in the usage of English-speaking people. She has, however, a genius for strong and eloquent appeal to those religious feelings which are common to all mankind, and this talent is very powerful in winning favor for her medical errors.

The following is one specimen among many, of her eloquence: "For victory over one sin we give thanks, and magnify the Lord of Hosts. Then what shall we say of the mighty conquest over all sin? A louder song, sweeter than has ever before reached high Heaven, now rises clearer and nearer to the great heart of Christ; for the accuser is not there, and Love sends forth her primal and everlasting strain."[13]

CONCLUSIONS.

As a religion, Christian Science is attractive to a considerable number of persons who are dissatisfied with all other churches, whether "liberalist" or otherwise. As a philosophy, it is obscurely expressed in paradoxes and contradictions, but ornamented with many shining symbols and metaphors. It is really a species of pantheism, teaching that "God is All in All," and nothing else exists; but the authoress, moved probably by the fear of prejudice against the term "pantheism," rejects it, and shows that the German idea differs considerably from hers.

As a science, the claim for it is inadmissible, there being scarcely a trace of science in her system, in the modern sense of the word. As a therapeutic art, it helps some patients by simply encouraging them, just as all other cheering influences do, and nothing more. There are, however, great boastings about results, but no more alleged accomplishment than we always hear of in all new medical delusions. Every physician knows how each new and temporary "pathy" and "system" parades a great array of astounding cures, extending from Perkins' Tractors of last century onward to osteopathy.

Christian Science statistics do not exist in any valuable and detailed form, because the healers do not examine and diagnose diseases, but simply deny their existence. By denying the existence of matter they absolutely cut themselves off from all help from modern physical sciences. They will get over this after a while. Medical heresies mostly run one course. Starting at first with the idea of being as separate as possible, they reject all they can of the existing ideas. After a time their isolated position ceases to attract attention, their exclusiveness becomes mellowed, and they find they can not get on without the help of the old rejected ideas. They all come at last to this mellowing period, and finally merge back into general medicine.

I presume Christian Science healers will at last find or make some plan by which they can avail themselves of the splendid resources of the physical sciences which at present are forbidden them.

3912 Lake Avenue, Chicago.

ACUTE TUBERCULAR INFECTION.

ITS DIAGNOSIS FROM PNEUMONIA AND TYPHOID FEVER.

BY H. A. HARE, M.D.

PROFESSOR OF THERAPEUTICS IN THE JEFFERSON MEDICAL COLLEGE, PHILADELPHIA.

Among the laity the word "pneumonia" is supposed to represent one definite disease, whereas among physicians a qualifying adjective, such as "croupous" or "catarrhal" is necessarily attached to it with the object of expressing a clear conception of the condition present. As a matter of fact, the word "pneumonia" in its broadest sense is simply a term which indicates consolidation of the lung which usually produces physical signs in all cases closely alike, although widely different in cause and in the consequences to the patient. It is not the intention of this paper to call attention to pneumonia in general, but to two forms of it in particular, and to deal with them not from the standpoint of treatment but from that of diagnosis and prognosis.

So much depends in each case upon the correct diagnosis for the patient's welfare and the reputation of the physician that the question is of importance.

The first form of pneumonia, so-called, to which attention may be paid is that which results from typhoid infection. By this I do not refer to the complicating pulmonary lesions met with in advanced stages of the disease, but rather that condition which ushers in the attack. As Osler has well said, typhoid fever is a multiple infection in which the chief lesion of the disease may be found in other organs than the bowels, and in a larger number of cases than is thought does pneumonia begin with the attack of illness and only later does the character of the infection make itself manifest. The following case illustrates this fact very well and is one of a number which have been met with by the author:

Z., A girl, aged 10 years, was taken ill with rigor and fever, on November 10, having been well enough to be up and out of doors at dancing school the day before. The fever speedily rose to points ranging from 103 to 105 degrees, and remained about these points for the first few days, when it gradually became a little less marked. It failed to respond readily to the use of cold spongings and the cold sheet as a rule, although at times this treatment reduced it considerably. There was but little cough, and at times none of it for two or three days, but the child was somewhat dyspneic, particularly at night, and cyanosis was marked. The pulse was usually as high as 120 to 130, and restlessness was constant. At times, particularly at night, there was delirium. An examination of her chest revealed at the right middle lobe the physical signs of consolidation, that is, bronchial breathing, dulness on percussion and absence of vesicular sounds, with exaggerated breathing elsewhere. At the left apex similar signs were present, and it was evident that the child had pneumonia. The facial expression, the somewhat dry lips and tongue, and the color of the patient's skin, combined with the fact that pneumonia often is due to infection by the bacillus of Eberth, made the physician who called me in consultation and myself cautious as to the diagnosis of the case and the prognosis and, equally important, careful as to our treatment. The parents were told of the condition of the lung and of our suspicion that something other than a pure pneumonia infection was present, and we waited for the day of ordinary crisis with anxiety. On November 12, the temperature fell somewhat and seemed to give promise of relief, but on the next it maintained its course; the tongue was found to be more enteric in appearance and the rose rash of typhoid fever appeared on the chest and belly. Further careful palpation at this time showed a slightly enlarged spleen and liver—an alteration in those organs not previously found—and diarrhea or rather looseness of the bowels supplanted a tendency to constipation.

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[13] Science and Health, p. 560.

Under our older ideas of those diseases it would have been thought that a primary croupous pneumonia had merged into a typhoid fever by a gradual process of developing asthenia, or again, that a double infection with the micrococcus lanceolatus and the bacillus of Eberth had taken place, whereas, at the present time we know that, while such a double infection is possible, a single typhoid fever infection may result in primary pulmonary symptoms. The second condition is not far removed from that just named; indeed, it may resemble both pneumonia and typhoid fever in one case, pursuing a course similar to that just named very closely.

I refer to acute pulmonary infection by the bacillus tuberculosis. Without the error of diagnosis of typhoid fever, typhoid pneumonia or congestive chill with malarial infection is often made, when in reality tuberculosis is the cause. This is the more apt to be the case because its onset is often as sudden as is that of true croupous pneumonia, and it may arise in a patient apparently in the best of health. Thus, a man of about 30 years of age entered my wards at St. Agnes Hospital with a history of having been exposed all the previous day to a cold rain while acting as a huckster. During the night he had an exceedingly severe rigor followed by a high fever and this in turn by a drenching sweat. There was no history of illness previously, although his friends asserted that he had not looked well for some time. The entire left lobe, at the time of admission, was consolidated, and there were signs of diffuse general bronchitis all over the chest. The man died in active delirium at the end of fifteen days and the autopsy revealed widespread miliary tuberculosis.

Other cases which have not been so clearly defined might be cited in which the patient, seemingly suffering from an attack of acute pneumonia, has failed to convalesce as expected, has failed to reach a crisis, and the signs of so-called resolution of the consolidation have been really those of rapid pulmonary breakdown. In such cases, if the pulmonary signs are not frank and open, the profound asthenia into which the patient speedily passes, the diarrhea, tympanites and meteorism may lead the physician into a diagnosis of typhoid fever following pneumonia or due to the same infection as already stated.

This subject is also associated with medicolegal questions of great importance. Thus, I was recently called in a case in which a man well advanced in years was thrown from the platform of a moving street-car and struck on his side. Within a few days he developed symptoms of pulmonary consolidation, became actively delirious and almost uncontrollable. He died a few days after; the postmortem showed that he had died of a pneumonia due to tubercular infection arising from low-grade chronic tubercular disease, due to the fact that he had knife-grinder's disease, from his trade. In this instance the injury broke down the protection afforded by nature to protect his lung from general infection, and the bacillus at once became an active element in the production of his death. His family sued the railroad company, whose defense was that as the disease was tuberculosis and not ordinary pneumonia, the accident was not responsible for the pulmonary change which caused his death. It was testified, however, that he might have lived for years without illness if the accident had not converted a chronic affection into an acute one, and a verdict was given for the plaintiff.

Finally, let me say a word about a possible error often committed, namely, the mistaking of tuberculosis for typhoid fever. Some time since I saw a case in consultation in which the physician stated that it was a prolonged case of enteric fever, having lasted four weeks with no sign of an approach to convalescence. A careful examination of the patient revealed the fact that instead of being the disease named it was one of general tuberculosis, the fever, diarrhea, wasting, meteorism and general asthenia being due to this cause.

It is true that the best text-books tell us of these things, but it is also true that only by frequent repetition can their importance be grasped and recalled at times when their recollection is vital to all concerned.

GUNSHOT WOUND OF THE ABDOMEN.

A REPORT OF FIVE CASES.

BY RICHARD DOUGLAS, M.D.
NASHVILLE, TENN.

In the Journal of the American Medical Association of Nov. 19, 1898, Dr. Senn reports four laparotomies for gunshot wound of the abdomen performed in the First Division Hospital, the only ones to his knowledge during the Cuban campaign. All the patients died. The same author says: "I have seen numbers of cases of penetrating wounds of the abdomen in the First and Third Division Hospitals that were on a fair way to recovery *without operation* before they were sent home on the transport ships." It is to be regretted that he was not specific as to numbers and the ultimate issue; the matter is too important to be casually disposed of. One is not surprised that he should seek and be pleased in finding confirmation of his previously expressed views, "that not infrequently cases of penetrating wounds of the abdomen will recover without active surgical interference." All Dr. Senn's contributions—and they have been marvelously numerous—based upon his observations in the late Cuban war have been a source of much pleasure and information to his readers. It is to be feared his conclusions will prove a serious obstacle to surgical practice, and unfortunately tend to dislodge the well-established opinion that penetrating gunshot wounds of the abdomen require immediate laparotomy. This dictum was expressed in formal resolution by the Southern Surgical and Gynecological Association at its meeting in Nashville in 1897.

Dr. W. E. Parker, a volunteer surgeon in the late war, who has had unusually successful experience with gunshot wounds of the abdomen in private and hospital practice, while admitting that 50 per cent. of penetrating gunshot wounds of the abdomen received during the last war recovered without operation, still believes in laparotomy in every case in civil life. His plea for inactivity is based upon the small bullet, the high velocity, the want of facilities for the execution of a technically perfect operation and the empty condition of the alimentary canal. The last argument may be used in defense of the commissary department, but certainly is not available as prophylaxis. Every abdominal surgeon knows the advantage of having the alimentary canal empty and the intestines like ribbons, but this is a condition not to be expected in accidental conditions. Entirely too much stress is laid upon the size of the bullet. One of the most destructive wounds of abdominal viscera that has come under my care was inflicted by a missive from a 22-caliber Flobert rifle, producing seven perforations of the intestines, one a linear cut in the mesenteric border 1½ inches long. Any perforation that will permit an eversion of the mucous coat, by which means these small perforations are said to be temporarily closed, will also permit extravasation of the fluid intestinal contents. The size of the bullet, then, should not enter into the question for or against operation.

It must be admitted that, in military practice, facilities are not at hand, and this is the only justification of an inactive course. In private practice oftentimes these gunshot wounds fall primarily under the care of men in remote country districts. Unquestionably a patient's chances are better for recovery under starvation and opium than they would be if subjected to an operation by an inexperienced, unskilled practitioner. The amount of injury produced by a missile penetrating the abdomen is essentially problematic, and the reparative surgery necessary may test the skill of the most accomplished; celiotomy should be undertaken in full recognition of these grave responsibilities. "Fools rush in where angels fear to tread."

I can not deny the good-natured aspersion of the editor of the *Medical News* when he says, "our Southern brethren, whose opportunities for seeing gunshot wounds of the abdomen are comparatively greater than those of the Northern surgeons," as I have to submit a report of five cases of gunshot wound of the abdomen, all occurring within a few weeks. I have previously reported other cases that have come under my care.

Case 1.—George Johnson, male, colored, aged 21 years, a laborer of robust physique, was admitted to hospital Sept. 21, 1898, at 6 p.m. In a street encounter he had received four gunshot wounds: one of the hand, one of the left ankle-joint, a third in the left lumbar region midway between crest of ilium and twelfth rib, one inch from external border of erector spinæ, and the fourth wound in the left inguinal region one inch above center of Poupart's ligament. Notwithstanding the number of wounds, the patient was in good condition when placed on the table at 9 p.m., three hours after receiving the wounds. It was impossible to ascertain exactly how many shots were fired, but from the nature and relation of the wound in the lumbar region to the wound in the inguinal region it appeared possible that they might have been made by the same bullet—one, the wound of entrance, the other of exit. There was nothing in the appearance of the inguinal wound diagnostic of entrance. Conceiving that it might be possible that the bullet had traversed this region without entering the peritoneum, the wound in the lumbar region was enlarged for exploration. It was soon determined that the peritoneum was penetrated. Packing this wound, the abdomen was now opened by free incision in the left semilunaris, extending from the wound, just above Poupart's ligament five inches. We immediately encountered four perforations of the small intestine, and a wound on the posterior wall of the abdomen one inch to the left of the spinal column. There was slight hemorrhage and but little extravasation of intestinal contents. The perforations were all carefully sutured. Wiping clean the peritoneum after having made search for other perforations, I was about to close the abdomen without knowing the destination of one of the bullets, when I accidentally discovered it just beneath the skin in the inguinal region of the left side. This, unquestionably, was the bullet that entered the lumbar region and had passed straight in its course from behind across the abdomen to its point of lodgment. The bullet that entered the left inguinal region had traversed the cavity and lodged in the muscles of the back. The operation consumed about one hour, and the patient was put to bed in good condition.

The subsequent history shows a variable temperature, from 100 to 102 degrees; some disturbance of bowels, and an occasional involuntary action. September 30 temperature was normal and general condition much improved. I did not see the patient again until October 4; he was then *inarticulo mortis.* A large abscess had formed at the lower angle of the incision; leakage into the peritoneal cavity had unquestionably occurred, and death followed in twelve hours from peritonitis, the fourteenth day after operation. Had this mural suppuration been recognized sufficiently early this life might have been saved. His death is not an argument against celiotomy for penetrating gunshot wound, but should be ascribed to faulty technic and septic surroundings.

Case 2.—Will Claybrook, male, colored, aged 17 years, was admitted to hospital Dec. 11, 1898, at 10 p.m. He was shot in a personal difficulty one hour before, the ball entering obliquely on left side of abdomen just at the tip of the tenth rib. There was no nausea or vomiting; pulse full and strong; no evidence of shock or mental excitement. Notwithstanding this fact, it was deemed wise to enlarge the wound of entrance to determine if the bullet had penetrated the cavity. It was easy to follow the track of the wound obliquely through the muscles for two inches, to its entrance to the peritoneal cavity. This incision was now closed and the abdomen opened in the middle line, from ensiform to umbilicus. Pushing aside the omentum, which was perforated, a wound was found on the upper border of the transverse colon, through which there escaped a mass of fecal matter one inch long and as large as a lead pencil. Five inches to the right of this, on the lower border of the colon, was found a second perforation, the wound of exit from the colon. Closing these perforations, most diligent search was made for other wounds and the destination of the bullet, but I was unable to trace it further. As this patient was very much constipated, I put into the lumen of the small intestine, through an aspirating needle, three ounces of saturated solution of sulphate of magnesia. The operation was completed in the usual manner and the patient put to bed, having been on the operating table about thirty-five minutes. His bowels moved in eight hours, and his recovery was uneventful. He was discharged cured, Jan. 16, 1899.

Conservative surgeons who have for so long antagonized abdominal section in these cases, finding themselves routed from their position, are now consoling themselves that "half a loaf is better than no bread," and contend that if the wound is below the level of the umbilicus it is probable that the intestines are perforated, but if above, an operation should not be done in the absence of positive symptoms. My experience in many cases convinces me of the necessity of operation in all penetrating wounds of the abdominal cavity, and of the much greater difficulties encountered in wounds of the stomach, colon or gall-bladder region. An unfortunate experience in a wound of the portal vein of one of our most prominent citizens, only a few days after President Carnot received his fatal thrust, convinced me of the danger and surgical difficulties in these wounds of the upper zone of the abdomen. The case above reported presents the simplest form of wounds in this region, yet I can not believe that recovery would have occurred without operation. Through the large perforations intestinal contents had already escaped, and infection would certainly have followed.

Case 3.—Philip Gartner, male, white, aged 20, was admitted to hospital Dec. 25, 1898. While in an intoxicated condition, he became involved in a difficulty, and was shot by his antagonist; the muzzle of a 38-caliber pistol was placed against him and fired. When I saw him, two hours later, he was in extreme shock; pulse was barely perceptible, and there was great thirst, restlessness and delirium. Surface temperature was cold; thermometer registered 97.5 per rectum. A wound was found in the right inguinal region, on a level with the anterior superior spinous process of the ilium, and just external to the border of right rectus. His abdomen was distended, and presence of free fluid was easily detected. Notwithstanding his extreme condition of shock, he was hastily prepared for operation, was given a hypodermatic of morphia and strychnia, and the abdomen was opened in center line from umbilicus to pubis. The cavity was full of blood, and when the peritoneum was incised it gushed forth, and handfuls of clots were removed before an examination of the intestines could be made. Four perforations into the intestines were discovered, all bleeding freely. These were clasped with forceps to mark and close them while hasty search was made for the source of so great hemorrhage, and this was found to be from a wound at the brim of the pelvis, near its center, on the right side, from which there flowed freely venous blood. Fearing that I had a wound of the external iliac vein, I prepared to ligate it, my assistant in the meantime controlling the hemorrhage by pressure. Picking up the peritoneum on forceps and slightly incising it, I saw that the bleeding came from a point too far out to be the iliac veins. A ligature on a curved needle was passed around and the bleeding vessel secured. The hemorrhage being controlled, assistants, who had previously prepared a saline solution, now commenced infusion. This was continued throughout the operation, two quarts altogether being given. I now directed my attention to closing the intestinal perforations, which was done with ordinary Lembert sutures. Two of the perforations were very close together, and in closing them, the lumen of the intestine was dangerously narrowed, and I feared I had made a mistake in not doing a resection, but as the mesenteric border was not injured, I decided to risk it. Filling the cavity with normal saline solution and washing out such clots as were easily removed, a glass drainage-tube was introduced to the bottom of the pelvis—an altogether unnecessary and harmful procedure. After the infusion of the saline solution was commenced his pulse perceptibly increased in volume. The patient was put to bed in very much better condition than he was placed on the table; time of operation fifty minutes. The drainage-tube was removed in twelve hours. Two small stitch-hole abscesses formed. At about the tenth day a large abscess formed in the left gluteal region at the site of the saline injection. This was opened and thoroughly packed. He continued to have slight temperature and some diarrhea, but finally made a complete and satisfactory recovery.

Without presuming to settle the much-discussed question of whether shock is a contraindication for laparotomy, I merely wish to state clearly my position in the premises. If the patient is not actually dying and the shock is due to intraperitoneal hemorrhage, whether it be from ruptured ectopic gestation or traumatism, immediate operation should be done. When the bleeding vessel is caught, and not until then, an intravenous or intracellular infusion of decinormal saline solution will immediately restore the patient from his extreme condition. Delay in such cases usually means death from hemorrhage. A syncope and the formation of a clot do not suffice to control the hemorrhage. These natural hemostatics, so potent in surface wounds, are not to be relied upon in intraperitoneal hemorrhage. Fortunately, this operation was undertaken just three hours after receiving the injury; a delay of an hour or less and he would have been hopelessly exsanguinated.

In a recent article in the *British Medical Journal*, upon penetrating gunshot wounds of the abdomen, by John Ward Coussins, F.R.C.S., this whole subject is considered in its diagnostic and prognostic features, and with special reference to operation, and while he urges, and so heads his article, "Immediate Laparotomy in Gunshot Wounds of the Abdomen," the force of his otherwise excellent article is lost by this qualifying statement: "As soon as a diagnosis of visceral injury has been made, *provided the patient has sufficiently recovered from the shock*, operation ought not to be delayed."

The last suture was scarcely taken in this case when an orderly announced that a patient had just been admitted, shot in the abdomen, and I submit the following report of his case:

Case 4.—John Whitsey, male, colored, aged 29, was shot at 2 A.M., and was brought immediately to the hospital. He was screaming in agony, with griping, twisting pains in his bowels, vomiting copiously, pulse very fast and feeble, temperature 98, muscles of the abdomen retracted and rigid, exquisitely sensitive all over surface of abdomen. A small bullet-wound was seen just at the tip of the tenth rib on left side. Patient was given one half grain of morphia hypodermatically, and was placed on the operating table at 4 A.M., two hours after receiving injury. Ether anesthesia. The wound was enlarged sufficiently to show a penetration into the peritoneum. This diagnostic incision was then closed by suture and the abdomen opened from ensiform appendix to one inch below umbilicus. There was considerable blood in the cavity, though no alarming amount of hemorrhage. A small bolus of fecal matter the size of a pea was first discovered, proving conclusively that the intestines were perforated somewhere. Inasmuch as the hemorrhage was not profuse, as soon as the perforation was discovered it was closed by suture. Six different perforations of small intestines were found and treated in this way. A wound of the mesentery near its attachment to spinal column was the source of hemorrhage. There was a suggillation of blood between the mesenteric folds, which was turned out, and an unsuccessful effort made to find the ball. This wound was closed, and sutures were passed so as to control hemorrhage. Every inch of the intestinal tract was carefully gone over. Finding no more perforations, the cavity was washed out with saline solution, and inasmuch as his intestines were distended, notwithstanding the number of perforations, the patient's colon was full of fecal matter, I injected into the bowel three ounces of saturated solution of sulphate of magnesia. The operation was completed in the usual way, the patient having been on the table less than one hour. Two pints of normal saline solution were given by Dr. Young while the operation was in progress.

The subsequent history of this case is uneventful. For the first twelve hours there was slight nausea and vomiting, after that the bowels had acted well and the patient was well and out of bed January 23.

This is another of those supraumbilic wounds which are so frequently spoken of as enjoying a remarkably good chance of recovery. The hemorrhage and number of perforations found more than justify the immediate action taken.

Case 5.—Mary Black, female, colored, aged 15, was admitted to hospital Dec. 26, 1898. A toy cannon, charged with powder, rags and paper wadding was placed on a table ready to fire. She passed immediately in front of it, about four feet distant from the mouth of the cannon, when it was discharged. The charge struck her in the right inguinal region. The accident occurred at 5:15 P.M., and I saw her at 7:30 P.M. Her general condition was fairly good; some shock, but no nausea or vomiting. Examination of the abdomen showed a lacerated wound three inches wide and four inches long, of the abdominal parietes, through which protruded several coils of intestines. These were burned, charred and lacerated; particles of clothing, paper and unburned powder were found imbedded in the tissues. Operation commenced at 8 P.M., under ether anesthesia. The peritoneal opening was about the size of a dollar, and it was enlarged to the full extent of the wound. The injured intestines were now drawn out and examined. They were so lacerated and stripped of their mesenteric attachment that it was useless to think of anything else but resection. Drawing out the injured gut and wiping thoroughly, I removed from the cavity a quantity of clothing, paper and unburned granules of powder and blood; thus the field of operation was made comparatively clean. Five and a half inches of intestines were burned and lacerated; this was drawn out and enveloped in gauze for protection from leakage until healthy bowel on each side was reached, and resection was quickly made, the Murphy button being employed in the anastomosis. A few precautionary Lembert sutures were taken, and a glass drainage-tube was introduced into the pelvis, all charred and lacerated tissue was cut away and the edges of wound approximated surprisingly well, leaving ample space for drainage. Patient was put to bed in good condition; drainage-tube was removed in twelve hours. Bowels moved on third day; there was never any distension of abdomen, nausea, vomiting or untoward symptom. There was slight temperature, due to suppuration in parietes from injured tissue. The button passed on fourteenth day; abdominal wound is now perfectly healed, and patient is ready to be discharged perfectly well.

This case is only notable for the fact that, notwithstanding the destructive nature of the wound and the extensive injury to the intestines, the patient showed but little or no shock.

The salient point to be observed in these cases is that all the patients were subjected to operation in less than four hours from time of injury. Three of the patients evinced great shock, one, Phil Gartner, was *in extremis*.

The technic observed in all these operations was based upon the general principles governing abdominal surgery. Ether was preferred as the anesthetic in all cases. It was not necessary to wash the stomach out as a preliminary measure in any of them, as some hours had elapsed since taking food. In three of the cases the wound of entrance was enlarged to definitely determine its penetrating character. In one of these this exploratory incision served, when sufficiently enlarged, for the intra-abdominal work. In all the other cases, however, an incision was made in the median line. Guy-rope retractors were used. On opening the abdomen the first step in each case was to control hemorrhage, but in the search for the bleeding point, if a perforation was discovered it was caught with forceps, thus marking and temporarily closing it. After the arrest of hemorrhage a saline infusion was given. It does not appear to me to be rational to rely upon this great restorative until the bleeding point is caught. The great increase of the volume of fluid in circulation and its greater fluidity would certainly favor increased bleeding. In seeking for intestinal perforations a tape was passed around the bowel, through the mesentery, and with this as a guide, every inch of the small intestine was carefully gone over on each side, the greatest care being taken in every instance to avoid evisceration. I can not conceive of any instance where this is necessary and it certainly intensifies shock and involves an amount of exposure and manipulation prejudicial to resumption of normal peristalsis. In Case 3, Phil Gartner, there were two perforations very close together, and when sutured, the lumen of the intestine was greatly narrowed. It is true that this patient has recovered, but I believe under similar circumstances it would be wiser to do an anastomosis. Owing to the amount of extravasation of intestinal contents and hemorrhage, the general cavity was thoroughly irrigated with normal saline solution in two of the cases. In the others I merely relied upon dry sponging. Drainage was used in the case of Phil Gartner, and I am convinced that this was unnecessary; the peritoneum was competent to take care of any small clots that may have been left after irrigation. In the last case, Mary Black, drainage was demanded from the nature of the wound.

Believing that the greatest danger in intestinal wounds is from arrested peristalsis and distension of the intestine with gas, in two of the cases I employed an injection of epsom salts with the hope of obtaining early evacuations of the bowels. In one instance the bowels moved in three hours, in the other in twelve. This is an exceedingly satisfactory procedure, and I have repeatedly used it since its suggestion by McCosh. Leakage is more likely to take place through a wound if the gut is distended with gas than it is by any amount of vigorous peristalsis excited by purgation. All the patients received one dose of morphia—¼ of a grain hypodermically—immediately after operation. It was not necessary or advisable to repeat it. The diet was broths, fruit juices and a little milk for ten days; after that time they were allowed to eat liberally.

All these cases were done at the Nashville City Hospital, with the assistance of Drs. Fox and Ward, and in the presence of Drs. R. E. Fort and N. G. Tucker, superintendents.

Note.—Since writing the above report, I have learned that Case 3 has developed some post-operative complication, but I do not know its nature.

PHONATION.

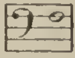
Presented to the Section on Laryngology and Otology, at the Forty-ninth Annual Meeting of the American Medical Association, held at Denver, Colo., June 7-10, 1898.

BY EPHRAIM CUTTER, LL.D., M.D. (Harv., 1856, and Univ. Pa., 1857.)
NEW YORK CITY.

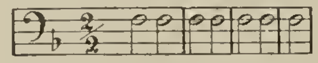
For thirty years there has seemed to me no difference between phonation (speech) and cantation (song), save in the length of the basic vowel sounds. The action of the nares, antra, pharyngeal dome, frontal sinuses, lips, teeth, tongue, soft and hard palates, epiglottis, breath-bands (false vocal cords), arytenoid cartilages, interarytenoid band, trachea, lungs, diaphragm, ribs, abdominal muscles and air are the same in both—or to shorten this text, the "oripulations" (*os*=mouth, *plenum*=full) are alike in both. Indeed, as the writer showed in a paper published in 1873, "speech may be termed staccato song." A year later this view was published as original in London by an English observer. And now the serrations on the cylinders of the phonograph or gramophone have demonstrated the truth of this position, so that the kinship of phonation and song is proved. These things being so, the writer has thought for many years to ask the question: *Why not phonational harmony as well as musical harmony?*

It seems fit to make this query in this Section, as without laryngology and otology it is impossible to understand this subject, and because the writer's knowledge has mostly come from autolaryngoscopy and autorhinoscopy. It makes no difference if medical doctors as a whole are among the poorest speakers. Phonation is a physiologic function belonging to the wide domain of medicine. Our country would be much better off if there were less lawyers in legislative bodies and more physicians there who could rise to the true dignity of their oratoric birthrights. Having looked in vain to the professors of music, law, theology, oratory, physics and physic, the writer presents these ideas in the hope that some of the legion of distinguished younger throat specialists may perfect them, to the good of man.

Starting out with these views and also with the sentiments that phonation means the gift or communication of something of more or less importance by the medium of speech to other minds, and that a diminution of this full gift means loss and disappointment—if you pay $1 to hear a speech, and the speaker or auditorium is so faulty that you hear only 75 per cent., it follows that you have been defrauded of 25 cents—the writer suggests that *speech should be in the chords of the keynote of the auditorium*, because Helmholtz, a double doctor of physics and physic, averred that every room has its keynote and because music, whose keynote is the same as that of the auditorium where it is produced, is the most effective and at its best.

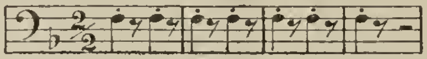
For example, the church auditorium of my boyhood had as a keynote F.  Music in F sung or played in that church went with a rhythm and vim that roused enthusiasm and made the walls ring joyously. In 1850 Mr. Simmons, the organ-builder, while setting up a new instrument in this auditorium, was voicing the 16-foot open diapason pedals. He had much trouble with the F pipe. A Yale student home on vacation watched him for hours. Do what he could, Mr. S. was unable to give an even temperament to the scale. He would play C, D, E, F, G, A, B, C, over and over again and adjust the voicing. It was smooth and even throughout, except the F or Fa pipe, which would stick out like double great primer type among pica. Forty years afterward the student found that the trouble was because F was the keynote of the auditorium, as it is of the majority of auditoriums, according to the writer's experience.

Having found the musical keynote of the auditorium it is easy to find the phonational keynote. For example, take the above auditorium, sing the bass as follows: 0=60 metronome.



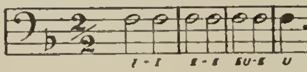
While with ceaseless course the sun.

Then sing the same staccato—

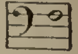


While with ceaseless course the sun.

and quicken the time in repeat if you do not catch the idea. You will then have phonation with rests between each syllable. Leave out the rests and you will have ordinary speech in the key of F. Perhaps the definition of phonation should be "staccato song without rests," if such a thing is possible in nomenclature. If the accomplished members of this Section will study this phase on their own vocal bands, I think it will be understood, with this reservation—it is impossible to sing words with the living vocal cords exposed to view in the laryngoscope, because the vowel sounds only can be sung. For example, the above phrase would be:



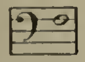
so that you can only use the larynx under sight or view as you play an organ or violin. Laryngoscopic song is simply playing as on an instrument. Hence we iterate, speech should be in the keynote of the auditorium, not necessarily on the keynote all the time; but that speech should have a keynote the same as in song, and melodiously depart from it, returning to the keynote or its chord at the end.

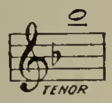
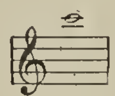
Take "Maxwellton Braes are Bonnie." It begins with the third chord of the key of C, runs down to C, then jumps an octave and ends the first line on A in the key of F. But in the next line the song immediately comes down to G, the fifth chord from C, and so this melody runs in a most natural, easy and graceful style and ends on the keynote C. Now, when speech has the beautiful musical progression of this most exquisite but beautiful gem of Scottish song—which my son, Prof. Benjamin Cutter, of the New England Conservatory of Music, pronounces to be one of the most admirable of all secular songs—then phonation will produce the delightful effects of musical speech sometimes heard and long remembered. Thus phonation will be intelligible, easy to utter, easy to listen to, and not tiresome to hearer nor speaker. This opinion is based on facts like the following: In 1888 the writer had a paper to read before the American Medical Association, Section of Medicine, whose auditorium was a music hall with a holding capacity of 6000 people at least. About one hundred and fifty to two hundred men were present. Fortunately the keynote F  was struck and held, as confectioners use a string for rock candy crystals that cluster in a chain of prisms. A critic present said that the address was heard perfectly and easily. The speaker got rested from his lantern demonstrations, which had taken most of the day up to 5 p.m. and tired him so that when he began to phonate, his knees almost collapsed under him. This severe test is worthy of evidence here.

At the meeting of the British Medical Association, held in Leeds in 1889, the writer was a delegate from the American Medical Association. A banquet was held in Albert Memorial Town Hall—700 plates. In this auditorium, as usual, the architects had catered for the eye, with magnificent walls and pillars of polished variegated marbles, and had given besides, a general visibility of the platform to the whole audience. But so sadly had the architects neglected the ear as to make it almost impossible to hear what was said by the phonators. The fault did not all lie with the construction of the hall as, to repeat, it is notorious that physicians are usually sorry public speakers. The writer was unexpectedly called on to respond to the toast for foreign guests. Now, thought he, is the chance to test this rule of phonation. Hence, the main effort was to hit the keynote of the auditorium, making the words secondary. This effort took away all stage fear and made the speaker feel very much at home before the brilliant audience. He said: "The delegate from the largest medical society of the new world brings greetings to the largest medical society of the old. Peace and good will; our hearts are with you. Long may you prosper"—and then the speaker was interrupted by a sudden bursting of a storm and din of applause, which certainly proved that this principle of phonation was correct. It is needless to repeat the rest of the address, but it may be said that it was the last speech of the evening, when all were tired out, and that several gentlemen came to the speaker afterward, shook hands most cordially and thanked him for his speech, all saying, "because we could hear what you said!"

At the Tenth International Medical Congress, held in Berlin in 1890, the writer read five papers and made one address in the Section rooms, which were the salons of a picture gallery, constructed for the eye and not for the ear. Consequently it was very difficult to hear, and there was a habit of the uninterested, because not understanding, listeners of leaving during the exercises. The rule laid down about phonation was applied here, and if interested and continued attention of the audience is any criterion, speech in the chords of the keynote of the auditorium was a success. In some respects this was the severest test, because of its varied application and its uniform satisfactoriness.

Another rule which I venture to lay down is that *architects build auditoriums for the ears primarily and for the eyes secondarily.*

What does "auditorium" mean? A place for hearing! How oft it is the place for not hearing! One such is at Saratoga, of bad repute for hearing. But even in this auditorium when empty—which is deemed worse than when full of people—I found that phonation in  was easily audible. There are two ways in which architects can get at this:

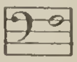
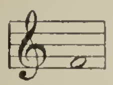
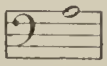
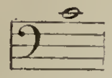
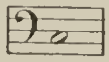
1. The concrete. Taking auditoriums which are known to be easy to sing and speak in. Such a one is the auditorium of the first Congregational Church, Woburn, Mass. The late John Stevens of Boston, its architect, told me that he had put the best work of his life into it and wanted it to be his monument. He certainly favored the ear and eye both. There is not a seat of the fifteen hundred but commands a perfect hearing and view of the preacher or speaker at the pulpit. Prof. Alonzo L. Butterfield, Ph.D., of Boston, elocutionist, enthusiastically wedded to his profession, after specially testing during a visit made for this purpose, pronounced it to be the best auditorium for phonation he ever met with. Clergymen have testified to the same; singers also. For several years the writer was a tenor in the choir and soloist. It was easy to reach  while at the dedication of this church the soprano soloist easily ran up to  Thus, incidentally, is shown the advantage of an aurally correct auditorium for musical and phonational performances. Major Ambrose Bancroft of Woburn, Mass., master carpenter, has given me the following dimensions of the auditorium: Height of ceiling from floor, 34 feet 10 inches; width, 80 feet; length, 150 feet; width of side galleries, 11 feet; width of rear galleries, 14 feet.

The chapel of the New York City Church of the Comforter is easy for the ear. The auditorium is 25 by 50 feet, open to the roof; height of ridge pole, 18 feet.

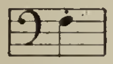
2. Ideal. Study the nodes of the key of F, for example, and have the walls and height correspond to them. In an auditorium already complete with organ, let the organist play the pedal notes singly till the keynote is found, then walking in the direction of the long diameter of the auditorium, note when the tone is loudest and weakest. In the Woburn church, I found the node of the keynote to be about fifteen feet. Such physicists as Prof. J. Solis Cohen, M.D., Prof. S. F. Barker, M.D., University of Pennsylvania, and others, would, I think, gladly aid architects in this humane work.

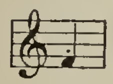
While I would have orators trained for speaking in the chords of the keynote of auditoriums, I would also insist on architects following the example of the late John Stevens, aforesaid, and give us auditoriums that will be things of aural and optical joy, beauty and delight as long as they endure. But when architects build solely for the eye, come out and say so, eschewing all use of the ear, and when nine out of ten of their buildings will be an abomination to all who go to hear what is said or sung, it is high time to call a halt and compel them to take counsel of the experts named, and furnish better construction.

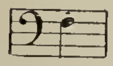
The following is a study in phonational harmony to illustrate the recommendations given: Matthew ix, 27–38, inclusive. *Speech parts:* 1, text; 2, blind men; 3, Jesus Christ; 4, the multitudes; 5, Pharisees.

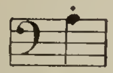
It is natural that these parts should be in different tones. Voices differ as much as speakers. Taking the New England (Boston) Conservatory of Music scale, where A in the treble clef has 432 vibrations per second, it is evident that 1 could use 423 vibrations to the second; 2 could use 433; 3 could use 434; 4 could use 435; 5 could use 436 vibrations to the second of time, if they chose to; even fractions of these numbers they could use. But for our purpose of illustration let us use the chords of F, i. e., 5 below—1:3:5:8. Or using male voices, let the text, 1, be  F; 2, blind men be  F; 3, Jesus  A; 4, multitudes  C; 5, Pharisees  C.

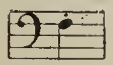
Dispensing with verses, the phonational harmony might be as follows:

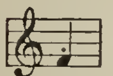
1.  And when Jesus departed thence two blind men (2) followed him crying and saying:

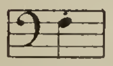
2.  Thou, Son of David, have mercy on us.

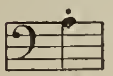
1.  And, when he was come into the house, the blind men came to him, and Jesus (3) saith unto them:

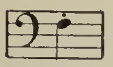
3.  Believe ye that I am able to do this?

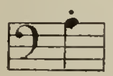
1.  They said unto him,

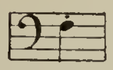
2.  Yea, Lord.

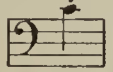
1.  Then touched he their eyes, saying:

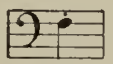
3.  According to your faith be it unto you.

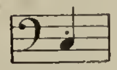
1.  And their eyes were opened and Jesus straitly charged them saying:

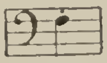
3.  See that no man know it.

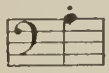
1.  But they, when they were departed, spread abroad His fame in all that country. As they went out behold, they brought to Him a dumb man possessed with a devil. And when the devil was cast out, the dumb spake and the multitudes marvelled, saying:

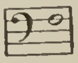
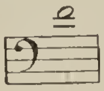
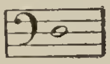
4.  It was never so seen in Israel.

1.  But the Pharisees said:

5.  He casteth out devils through the Prince of devils.

1.  And Jesus went about all the cities and villages, teaching in their synagogues and preaching the gospel of the kingdom, and healing every sickness and every disease among the people. But when He saw the multitudes He was moved with compassion on them, because they fainted, and were scattered abroad as sheep having no shepherd. Then saith He to His disciples:

3.  The harvest, truly, is plenteous; but the laborers are few. Pray ye, therefore, the Lord of the harvest that he will send forth laborers into His harvest.

This may be chanted or intoned, the reader following the musical pitch; then sung staccato; next, staccato without rests. While speech may vary like song, from the keynote, still, speech should close on the keynote or its chords like song. Often have I heard male speakers close on the minor third octave below. Thus, taking  for keynote, the last few words were spoken in  and the final word in  a thing, I think, not allowed in song harmony, and which leaves a very bad impression on the audience, unless it is a funeral service, and even then I doubt its propriety.

Finally, the rule for phonation in the chords of the keynote of the auditorium is not exactly new. My classmate at Yale, U. S. Senator W. M. Stewart of Nevada, told me that whenever he spoke in a new place he had a man stand at the remotest part of the auditorium who would raise his hand above his breast when the pitch was too high, and below his breast when the pitch was too low; but when it was right and the audition was perfect, the man would hold his hand at his breast, still. The senator would then adhere to that pitch as his central thread of utterance. I think it was he who said that Cicero did the same thing. But the Senator said that he did not know before that the pitch was the keynote of the auditorium that they were after in phonation.

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Injections into Subarachnoid Space.—Infinitesimal amounts of toxins produce extremely rapid and intense reactions if injected into the subarachnoid space, as Reale and Boari have found in experiments on various animals. Acetone is so slightly toxic that it has been denied any participation in the production of diabetic coma, but one gram to the kilogram kills dogs of over three kilos in three hours, injected into the subarachnoid space. The symptoms noted after the injection of a substance vary in intensity with the amount, but are essentially identic for that substance; tetanic with indican, for instance; convulsions and depression with sodium lactate; depression and increased reflexes with oxalic acid, etc. The needle is inserted horizontally under the dura, not touching the brain. The injected substance blends with the cerebrospinal fluid, and the brain matter is uniformly and almost instantaneously impregnated with it, affording a superior method of research for intoxications in general and for the auto-intoxications of the human organism in particular.—*Riforma Méd.*, 1898, No. 32.

WHY SYCOSIS?

A PLEA FOR THE ABOLITION OF THE TERM.

Presented to the Section on Cutaneous Medicine and Surgery, at the Forty-ninth Annual Meeting of the American Medical Association, held at Denver, Colo., June 7-10, 1898.

BY ALFRED E. REGENSBURGER, M.D.
Chairman of the Executive Committee, Section Cutaneous Medicine and Surgery; Professor of Dermatology in the College of Physicians and Surgeons.
SAN FRANCISCO, CAL.

What is sycosis? I do not know. "An open confession is good for the soul," we are told, and if that ever were true anywhere it certainly is so in this instance. No one can know, unless he has had it previously defined by, or is familiar with the views of, the person using that term, what pathologic process or what clinical entity is understood by it. The want or lack of perfect nomenclature in dermatology is an opprobrium which has attached itself not only to this branch of medical science but also to others as well, since they have been studied as such, and will no doubt cling to them for an indefinite period to come, if not forever—for how long no one can foretell. If we can not arrange a dermatologic nomenclature to our satisfaction, let us, at least, understand what idea we wish to convey when we use a certain term, and if that be impracticable or impossible with the designation which we are wont to employ, then let us eliminate it completely from our vocabulary, and substitute something else in its stead and place. Every one familiar with the subject comprehends the difficulties in the way of having an unchangeable and stable nomenclature in any science which is in a developmental stage, which can never be perfect and complete, for the innate reason that it is, has been, and will be progressive. In consequence, changes and transitions will always take place and will require modifications, eliminations and innovations.

By sycosis, an acne, or more properly speaking, a folliculitis, an eczema or a tricophytosis barbæ may be and frequently is meant, which one in a given case, we do not know, unless the user of the word has informed us. Formerly—and it is not very long ago, being within the memory of most, if not of all of my audience—it was customary among writers upon the subject to make two varieties of this so-called affection, viz: 1, a parasitic form corresponding to a tricophytosis of the beard; and 2, a non-parasitic form, which latter might be an acne or an eczema, a catarrhal dermatitis or a combination of one or more of the pathologic lesions and clinical phenomena which go to make up these diseases when they happen to affect the hairy parts of the body, having coarse hairs, save the scalp, although usually having reference to the bearded face—at times, a veritable pathologico-clinical hydraheaded monster, *informe ingens*. Having made that division, they considered their duty accomplished and left the rest to their unfortunate reader.

What is an acute inflammation of the hair follicles and the neighboring tissues, a folliculitis and a perifolliculitis, usually applied when the bearded face was the region affected, was generally supposed to describe the non-parasitic variety. A differentiation between this condition and an eczema is not always an easy affair, and, we claim, many times an impossibility. One of the main points upon which most stress was laid in the differential diagnosis was that sycosis was primarily a folliculitis and perifolliculitis, and that when pus was visible on the integumentary surface, the hair was altered, loosened and very easily removable from its follicle, whereas the converse was true if it were a case of eczema. While these quasi-pathognomonic symptoms helped us in the beginning of the trouble to distinguish the so-called sycosis, yet after it had existed for some time, the same held good for an eczema, for the whole thickness of the skin was said to have become involved during that period, the pus had worked all around the hair, loosened and altered it, presenting an identic and similar appearance. Other differential signs also failed us, and some diagnosticians found refuge in the fact of an eczema spreading to the non-hairy adjacent parts while a sycosis did not. How would they explain the folliculitis? Would that be part of an ordinary eczema? Unquestionably, an acne is not an eczema and an eczema is not an acne. That is precisely what such a nomenclature might lead us to believe. In a number of instances we encounter such a degree of catarrhal dermatitis or eczematous inflammation in conjunction with a folliculitis and a perifolliculitis that it is an impossibility to state whether we should call the disease an eczema or a so-called sycosis. We can affirm with no greater degree of certainty whether the catarrhal inflammation — the eczema —was the primary pathologic process and the folliculitis—the acne — a subsequent superadded phenomenon, or whether the reverse order of sequence was the true one. At all events it is impossible to always make a differential diagnosis. If an affection have not pathologic lesions and clinical symptoms which belong to it and enable us to separate it from other affections at all times, by what right can we make a separate disease of it?

The terms "parasitic" and "non-parasitic" sycosis are totally unjustifiable at the present day. With the advances made in bacteriology in recent times we can no longer accept these two divisions, if they were ever permissible. We now know that the entrance of pus organisms into the hair follicles may produce a folliculitis and a perifolliculitis. Modern study and experience have proven to us that while the so-called non-parasitic variety differs from the parasitic in that it is practically non-contagious, still it is due to microbic infection, being a folliculitis caused by the entrance into the skin and hair follicles of the staphylococcus pyogenes aureus, albus and citreus, its organism belonging to the schizomycetes and not, as in the case of the parasitic, to the hyphomycetes. As a result of that genealogy a schizomycetic and a hyphomycetic sycosis have been described. Unna, Tommasoli and other recent writers make a coccogenic, hyphogenic and bacillogenic variety. By making these varieties little has been gained. One thing it has done: it has given us some more big, difficult words. If that be an advantage, then our illustrious colleagues have accomplished something. If we want to be in fashion we may designate the non-parasitic form "coccogenic sycosis." The whilom parasitic form needs only a few words. It is acknowledged to be a folliculitis caused by the tricophyton, and nearly every contemporary writer and dermatologist of note is contented to call it, as it should be called, "tricophytosis barbæ," admitting the name sycosis so applied to be a misnomer. It is, however, the coccogenic, the non-parasitic variety which is the CASUS BELLI. Why should we stick to a meaningless term? What definite idea does the word "sycosis" convey? It does not tell us whether we have to deal with an eczema, with an acne, or with a combination of both diseases, or with some definite, complex clinical or pathologic condition or state *sui generis*. It gives us no clue to its pathology, it sheds no light upon its etiology, it does not declare its symptomatology, nor does it give us any therapeutic indication. What does it do? What right has it to exist? Its advocates claim that it is a conventionalism, a sort of clinical convenience. A clinical convenience, or better, inconvenience, and an absurd conventionalism which means nothing! What is gained by the retention of such a term, which is absolutely meaningless, a remnant of bygone days? A dermatologic, barbarous monstrosity! Eliminate the word; it surely is of no use. Such incumbrances only act as fetters and retard the advance of dermatology. If we must have a word for an artificial condition, one created for descriptive purposes—a clinical convenience, a conventionalism—let us have a term which is more philosophic, which expresses something, which is in accord with modern views and recent advances of our great specialty—dermatology. But we need no new coined word, we have already too many. Why not say that it is a dermatitis barbæ, qualified as need be, follicular or catarrhal, as one or the other condition be more prominent or pronounced? That would be, indubitably, preferable to sycosis.

No. 330 Sutter Street.

RECENT RESEARCHES IN RINGWORM.

Presented to the Section on Cutaneous Medicine and Surgery, at the Forty-ninth Annual Meeting of the American Medical Association, held at Denver, Colo., June 7-10, 1898.

BY WILLIAM THOMAS CORLETT, M.D.
L.R.C.P. (LOND.)
Professor of Dermatology, Syphilology and Genito-Urinary Diseases in the Medical School of Western Reserve University; Physician-in-chief for Skin and Venereal Diseases, Lakeside Hospital; Dermatologist to Charity Hospital, and Consulting Physician for Skin and Venereal Diseases to the City Hospital.
CLEVELAND, OHIO.

The ringworm family includes *tinea tonsurans*, *tinea sycosis*, *tinea circinata* and an affection of the nails known as *onychomycosis*. These names are of ancient origin, and, from a scientific standpoint, are not free from objection. Medical writers from the time of Celsus to the present have endeavored to improve the nomenclature of the mycotic group, hence the confusion experienced in attempting their study. In 1842–4 Gruby contributed a series of observations on ringworm of the scalp to the Academy of Sciences of Paris, in which he described a fungus found in the hairs and scales of the affected region. Unfortunately for science, he employed the term "*porrigo decalvans*," which Willan and, subsequently, Bateman used synonymously with alopecia areata, although Gruby's description clearly refers to ringworm.[1] Strange as it now seems, from this confusion of names he was accredited with having discovered a parasite in alopecia areata, which other observers were unable to verify. Hence, for half a century Gruby's discovery has been misunderstood and its importance ill-appreciated. He described two varieties of fungi: one characterized by large spores, which he called *Rhizophyton alopecia*, the other having small spores, to which the name *Microsporon Audouini*[*] was applied. These observations were confirmed by Bazin.[2]

Working at the same time, and unaware of Gruby's discovery, Malmsten of Stockholm described a fungus found in ringworm[3] which he called *Tricophyton tonsurans.* It is evident the time was not ready for Gruby's fine distinction of the ringworm fungi, and Malmsten's *trichophyton* gradually became the recognized fungus of the ringworm family, or trichophytosis, as it is still called. Although this simplified the study of ringworm, there became apparent serious morphologic discrepancies and clinical variations which were explained in different ways; by variations in soil or structure of the parts attacked, as on the scalp of children, the bearded skin of men, the hairless surfaces, etc. Balzer, after commenting on the variations of the ringworm fungus,[4] concludes by saying: "These anomalies may be explained on two hypotheses. Either there exists a special variety of large spores, or vegetation in the one tricophyton accidentally takes on an extraordinary development by virtue of the position which it occupies. The latter appears to be the true explanation." Again, extraneous conditions known to modify plant life have been invoked to account for many clinical variations in the disease. In personal observations while in Cuba, the lowlands of Mexico and in Northern Africa, ringworm certainly presented an activity which I have not encountered in the temperate zone. This may be due to the undisturbed condition which cutaneous plant life enjoys, among many of the inhabitants of these localities, although other reasons are now known to influence the appearance, course, and termination, as well as the immunity sometimes observed in persons exposed to ringworm.

In 1891 the plurality of the ringworm fungi was again advocated by Furthmann and Neebe of Germany,[5] who described four varieties. Following this came the results of Sabouraud's labor at the Hôpital St. Louis in Paris, which has overthrown our hitherto settled ideas as to the pathology of ringworm. So general is the interest taken in these investigations that at the last International Congress of Dermatology, held in London in 1896, a whole afternoon was set aside for their consideration. Some of the claims set forth in Sabouraud's admirable treatise[6] have passed beyond the realm of theory, and to these we will direct our attention.

It has been definitely shown that there are two principal groups of ringworm fungi found in man, characterized mainly by size and arrangement of spores.

THE SMALL-SPORED GROUP.

The first group is characterized by *small-spored fungi* (botanically belonging to the *Mucedineæ*), but further not yet placed by mycologists, which Sabouraud rechristens *Microsporon Audouini.* It is found only in early childhood, from 2 to 15 years, being most common between 5 and 7 years of age. It is almost entirely limited to the scalp.[†]

According to Sabouraud the fungus first attacks the hair; later it extends to the epidermis of the scalp, giving rise to a half-dime sized, slightly reddened furfuraceous plaque, with margins ill-defined, although in rare instances it is encircled by an erythematous ring. The hairs become involved near the mouth of the follicle by the formation of a network of mycelia extending upward and downward in the long axis of the shaft. As the plant develops the hairs become gradually enveloped in a whitish sheath composed of small spores, densely packed, resembling a mosaic and called the *spore-sheath.* In untreated cases this dust-like covering is visible to the naked eye. Soon the hairs lose their luster, become brittle and easily broken either at the mouth of the follicle or more commonly within a short distance (6 to 7 micromillimeters) from the scalp, leaving characteristic brush-like stumps intermingled with flat or twisted masses of hairs of a dusty, faded color. At the margin of the plaque the hairs are fine, grayish and without elasticity. When the case is first seen it is usual to find the disease farther advanced, when one or more daughter lesions may be seen scattered over the scalp, smaller in size than the original patch, but presenting the same grayish appearance. It is rare to find any marked inflammatory changes in cases that have not been treated. The mouth of the hair-follicle is sometimes slightly elevated, giving a "goose skin" appearance to the patch. When the hairless or glabrous surfaces are invaded, the lesions present a pinkish, slightly scaly, macular appearance, and rarely do they assume a distinct circinate form.

This variety is extremely rebellious to treatment—except on the hairless surfaces, where it is short-lived—is highly contagious, and is the form usually encountered in ringworm epidemics, and in cases of long standing.

The microsporon gives rise to about 58 per cent. of all scalp ringworms found in Paris. In London, Colcott Fox, in an examination of 432 cases, found between 80 and 90 per cent. belonged to the small-spored variety, while Adamson,[7] in 178 cases, encountered the small-spored variety in 173, or over 90 per cent. Unna[8] has recognized the small-spored fungus in Hamburg, and Fergnani in Barcelona.[9] In this country, Dr. C. J. White has found 95 per cent. of the ringworms in Boston to be of the small-spored variety.[10] Dr. G. W. Wende of Buffalo, in an examination of 90 cases, found the small-celled variety in 89.[11] In Cleveland during the past two years, I have found 65 per cent. of all ringworms to be caused by the microsporon fungus, while in ringworm of the scalp, the microsporon was found in over 90 per cent. On the contrary, it seems wholly unknown in Italy[12] and in Budapest.

MICROSCOPIC FEATURES.

The method of preparing specimens for examination is simple. The hairs or scales from a diseased area are first washed with ether to remove the fat, when they are immersed in liquor potassæ for a few minutes, to dissolve the keratin, when the fungus may be seen. For a more careful examination, a weaker solution is to be preferred. Thus a 10 per cent. solution of caustic potash, in which the hairs are allowed to soak a few hours to a few days, according to the size and color of the hair, answers admirably. Sabouraud recommends that the hairs be placed in a 40 per cent. solution of caustic potash, then carefully warmed; while Colcott Fox and Blaxall found the following to give the most satisfactory results: The hairs were collected in small vials of ether, which was poured off and the vials refilled with a 7 per cent.

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[*] In honor of Audouin, the discoverer of the parasite *Botrytis bassiana*, which attacks living silkworms, giving rise to the disease muscardine.

[†] Both Adamson and Colcott Fox report adults who have contracted the disease from children, the lesions appearing on the arms, although in one case the scalp was affected. Brit. Jour. Dermatol., July and August, 1895, and July to October, 1896. I have likewise encountered the small-spored fungi in adults, both on the bearded part of the face and on the scalp.

liquor potassæ (B.P.). The specimens were allowed to soak in this from a few hours to several days, according to size of the hairs. The power used may vary from three to six hundred diameters. My experience with staining has not given very satisfactory results, although the mycelia are often beautifully shown by staining with an alcoholic solution of eosin.

The microsporon fungus is made up of spores and mycelia. The former are by far the most conspicuous feature and are always closely packed, very numerous round or oval bodies, having a double contour and measuring from two to three micromillimeters in diameter.

The mycelium consists of transparent, branched or tortuous threads, about the same width as the spores, varying in length, and sometimes divided into segments.

The fungus elements are found outside the hair and intimately attached to the cuticle of the shaft, which they soon displace, giving to the contour of the hair the appearance of a nail eaten by rust. According to Sabouraud, mycelia are found only in a very early stage of the disease. Both Adamson and Colcott Fox, however, have found mycelia in small numbers during the whole course of the disease, and especially at the lower border of the spore-sheath, at the junction of the root-stem with the root-bulb, which Fox calls the "mycelia root fringe." They have likewise found them in the interior of the hair, Broken threads of tortuous mycelia are sometimes seen extending in the long axis or aerial hair-shaft. In some cases the variation in the size of the spores is a marked feature, ranging from three to four micromillimeters, or about half the size of a red blood-corpuscle. Waelsch of Prague has observed a like diversity in size.[13] Both Adamson and Colcott Fox have described large "ghost-like" bodies on the shaft of the hair preceding the development of the mosaic sheath, the nature of which is still not fully determined. The aerial extremity of the spore-sheath terminates a short distance (about three micromillimeters) above the mouth of the hair follicle, and below, as previously stated, a short distance above the bulb. According to Sabouraud, the fungus grows in the direction of the hair.

THE LARGE-SPORED GROUP.

The second or *trichophyton* fungi are placed by Sabouraud among the *Mucedineæ*, genus *Botrytis*, because of their grape-like fructification. These large-spored fungi give rise to the trichophytosis of various parts of the body. This group Sabouraud considers distinct from the microsporon, both botanically, morphologically and clinically, as well as in the results obtained from cultures. This view is not wholly accepted by Colcott Fox and Blaxall, who, after studying numerous cultures, are inclined to regard them as belonging to the same family of fungus, although differing in many important features. It is, however, becoming more generally conceded that the large-spored trichophytons give rise to a distinct clinical variety of ringworm. It varies in frequency in different localities, as do other dermatoses, notably favus; thus in Paris, London, Boston and Cleveland, it forms a decided minority of the ringworms encountered; while in Italy and, according to Nékana, in Budapest, it is exceedingly common and gives rise to the only ringworm met with. It may be well to add that both Mibelli of Parma[14] and Marianelli of Florence[15] confirm Sabouraud's observations, in specimens of fungi which they obtained from Paris.

The *large-spored fungus* is further divided into *trichophyton megalosporon endothrix*, which always attacks the interior of the hair, and the *trichophyton megalosporon ectothrix*, which is always found outside the hair, most frequently between the wall of the follicle and the hair-shaft, and supposed always to be of animal origin. I shall not weary you with further subdivisions, for as yet they are of more interest to the mycologist than to the clinician, but will pass to a few practical considerations of the two varieties mentioned.

TRICHOPHYTON MEGALOSPORON ENDOTHRIX.

This form gives rise to nearly all cases of tinea circinata of the body, to eczema marginatum, to ringworm of the beard or sycosis, without folliculitis, and to ringworm of the nails. It is encountered in all ages, although more commonly in children. It comprises 35 per cent, of the ringworms of Paris, and the great majority of cases observed in Italy. In other countries the result of observations thus far obtained shows a very small percentage of this form.

The disease is much less contagious and yields far more readily to treatment than the small-spored ringworm. It also appears in isolated cases rather than in epidemics. When the scalp is attacked, the epidermis is first involved, giving rise to an erythematous patch, which, when fully developed is usually larger than in the microsporon patch, and more irregular in shape. The hairs within the affected area soon become involved and break off *close to the follicle.* Sometimes only a few are attacked, giving rise to a perceptible thinning of hair, as will be later demonstrated; and more frequently there is complete baldness of the patch, which appears at first sight like alopecia areata. There are, however, small black dots seen upon closer inspection, which correspond to the broken hairs in the mouth of the follicles, which give it more accurately the appearance of a shaved area. In one instance in my own experience, a father, aged 40, contracted ringworm of the scalp and bearded face from his child, in which the microscope showed spores of fairly uniform size, measuring about three micromillimeters in diameter, and situated outside the hair, forming a closely packed and glistening sheath. The disease in the child did not conform in clinical appearance to the description of the microspora previously given, but presented bald, quarter-dollar-sized areas, covered with minute black specks, which corresponded to short hair stumps. In other cases the stumps are longer and present dark club-shaped projections above the level of the skin. Not infrequently the hairs at the margin overlap the depilated area, which, if small, may be almost wholly concealed. The hair-root is extracted with difficulty, as the shaft breaks off on traction, at the follicular opening. The hairs in *Megalosporon endothrix* appear larger than normal, contrasting with the atrophied appearance of the microsporon hairs, and there is no circumpilar dust-like sheath of spores. Generally there are smaller plaques scattered over the scalp, as in the small-spored ringworm. On the smooth parts it gives rise to the well-known features of tinea circinata, with its reddish well-defined border, often studded with minute vesicles, and spreading at the periphery. In the center it presents a furfuraceous, scaly or eczematous area which gradually heals, leaving a ringed margin.

The beard is also liable to invasion, when it presents a mild form of sycosis without suppuration. As on the scalp, the hairs become larger than normal and break off close, one-half micromillimeter from the skin. There is sometimes an erythematous "collarette" about the patch. This form has been regarded as an early stage of the more severe affection accompanied by suppuration of the hair-follicles. In my own experience a benign form of barber's itch is very common. It is usually contracted in a barber shop as the result of a slight cut or abrasion. Within a few days there appears a scaly split-pea sized patch, having at times a serous discharge, and rapidly extending at the periphery. As the disease progresses resolution takes place in the center, which becomes dry, and less scaly, giving rise to distinct ring-shaped lesions. Numerous daughter lesions spring up which are always limited to the bearded part of the face. At other times there appears a roundish patch having an easily detached scaly covering, which extends by the formation of new spots on the neighboring skin. These readily dry up and disappear with the use of any mild parasiticide. This variety of sycosis answers to the description of the large-spored endothrix mentioned by Bodin.[16] The clinical picture between this variety and the suppurating form next to be considered is very striking.

Microscopic Features.—The hairs present a swollen stump-like appearance, which are packed with chains and large, tortuous threads of mycelia, together with a few large, quadrangular, oval or round spores, which vary from 5 to 7 micromillimeters in diameter. The mycelia divide dichotomously and grow toward the bulb, which is invaded at an early stage of the disease. Chains of square-jointed mycelia are also seen, branching frequently and forming a dense network. From the bulb to a variable distance along the free or aerial shaft the fungus is found in abundance.

It always occupies the *interior of the hair*, offering a marked distinction from the microsporon. The parasite gains entrance through the hair cuticle and at an early stage large bundles of jointed rods of mycelia with a few groups of spores may be seen winding around the intrafollicular shaft, or penetrating the cuticle of the hair. These external fungus elements soon disappear and when the disease is fully developed the fungus is found only within the hair. In some cases the spores greatly predominate, completely filling the interior of the hair, which condition has been very aptly likened to a "bag of nuts." The hair cuticle remains unaffected for a long time. The scales in tinea circinata present similar characters, except the spores are less numerous.

TRICHOPHYTON MEGALOSPORON ECTOTHRIX.

This group, which ranks next to the microsporon in clinical importance, is supposed to be of animal origin, and gives rise to the pyogenic forms of ringworm found in man. In childhood it appears in the form of kerion, and in men as a sycosis accompanied with deep suppurative folliculitis. The glabrous skin may also be attacked, when it forms inflammatory deeply infiltrated circular patches, with crusts and small pustules, which are especially prominent at the margin. This variety causes 10 per cent. of the various forms of ringworm met with in France, and about 50 per cent of those due to large-spored fungi. It is derived mainly from the horse, although cats, dogs, pigs, calves and fowls furnish ringworm fungi which, Sabouraud claims, produce in man certain clinical distinctions. Thus the equine fungus, when inoculated on the scalp of children, gives rise to a well-defined inflammation, of a live-red color, swollen, and often accompanied by burning and pain. The skin soon becomes boggy and dotted with numerous suppurating openings which correspond to the sites of the hair-follicles. At other times the patch becomes encrusted, due to the drying of the seropurulent discharge; from which one can readily recognize the honeycomb eruption or kerion of Celsus, which Tilbury Fox, in 1868, first identified as a phase of ringworm.[17]

On the bearded skin of the face this fungus gives rise to a very similar pathologic condition, although on account of the loose underlying structures the appearance differs somewhat from kerion. The disease usually appears about the chin, where its presence becomes known by the formation of pea-sized or large nodular swellings about the roots of the hair. Soon a purulent discharge announces the advent of a deep-seated perifollicular inflammation. The hairs retain their normal condition for a long time. Finally they become swollen, and may be removed by slight traction, or they may be at times thrown off with the discharge. The disease extends backward over the rami of the jaw, but seldom invades the upper lip or extends to the smooth parts. It has been called, for distinction, true sycosis, from its resemblance to the pulp of a fig, hence the Greek cognomen *Sycosis*.

The fungus derived from the cat gives rise to an active inflammation of the glabrous skin, which is well defined at the margin. It is often semicircular, but not pyogenic as in the preceding. It resembles a burn of the second degree. It is not known to attack the beard, and very seldom affects the scalp.

In two observations from the dog, Sabouraud found the lesions more deeply seated, leaving the epidermis intact. On the scalp the hairs broke off within the follicle, giving the appearance of alopecia areata. These observations have not as yet been confirmed by other investigators. In conclusion we may say that the plurality of the ringworm fungi seem no longer a matter of doubt. This has been demonstrated by numerous cultural tests. That they produce well-marked clinical varieties is conceded also by many competent observers, who have most to do with ringworm.

In making culture tests of the ringworm fungi, much difficulty has been experienced in obtaining uniform media. The following has been used by Sabouraud and Blaxall:

Peptone		5
Maltose	3	8
Water	100	
Agar-agar	1	3

Inoculations are made by extracting a diseased hair, cutting off the unaffected part with a sterilized knife, and placing it on a glass slide previously cleaned and passed through the flame of a Bunsen burner. Scales may be treated in the same way. The hair is cut into small pieces, and by means of a sterilized platinum wire is placed on the sloping surface of the culture-medium in an Erlenmeyer flask, the cotton replaced and put into the thermostat at a temperature of 30 degrees C.‡ With these simple procedures one can usually obtain pure cultures from the microsporon, but the trichophytons are not infrequently completely overgrown by saprophytic moulds. This latter is especially the case when scales are inoculated or when the specimen is obtained from animals. To obviate this, Fox and Blaxall recommend that the specimen be teased in sterilized water and the diseased hairs selected by means of a lens and again washed in sterilized water. Growth begins on the third day with specimens obtained from the animal, and is always the *ectothrix* variety. The *endothrix* comes a day or so later, and finally about the seventh day the *microsporon* shows signs of growth.

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‡ White, loc cit., prefers a temperature of 37 degrees C.

Even at an early stage the fungi may be differentiated, the ectothrix and endothrix appearing as stellate colonies, while the microsporon presents a more compact circular tuft.

It has been asked: Of what use are these investigations, and to what practicable end do they serve? We have endeavored in this paper to confine ourselves to problems confronted in everyday practice—hence I trust this query has already been answered. But, as the subject we have in view is the more successful management of ringworm, it may be well to conclude with a short summary of the treatment found to best meet the new developments of the disease.

TREATMENT.

This conforms to the three main varieties of the disease already outlined.

Microsporon.—Here our first duty is to limit the spread of the affection, by keeping it within the areas involved and from disseminating among other children. For this, segregating the child or enveloping the scalp is imperative. Segregation is not always practicable, but an impermeable dressing, to be mentioned later, which is held in position by a skull-cap or hood lined with a piece of cotton cloth or fine paper is easily made and not especially difficult to apply. The lining should be changed every day or two, care being taken that the soiled lining be either burned or thrust immediately into boiling water. In addition to this, either olive-oil or castor-oil containing carbolic or salicyclic acid (grs. 20 to 30 of the former or 10 to 15 of the latter to the ounce), should be applied daily over the whole scalp. Care must also be taken not to spread the disease by combing or brushing over the affected parts. As Colcott Fox and Blaxall's culture experiment have shown that the fungus may retain its vitality for at least two years, it is necessary to burn all caps, mufflers and jackets worn by children having microsporon ringworm. Unaffected children who are brought in contact with the disease should likewise be subjected to surveillance. They should on no account be allowed to exchange hats or caps, nor to sleep with those affected.

To facilitate treatment the hair should be closely clipped over the whole scalp, and the diseased area either shaved or epilated. The latter is tedious but the more efficient; it may best be done by the use of Duckworth's broad epilating forceps. In young children it will be necessary to deaden the pain by applying a 5 to 10 per cent. ointment of cocain, or one part of carbolic acid to forty parts of glycerin. When several patches are present it is more practicable to shave the entire scalp, which should be repeated weekly.

Some difference of opinion exists in regard to the use of water in cleansing the scalp, some few maintaining that by it we furnish the necessary environment, heat and moisture, for the growth of the fungus. I believe this to be more theoretic than practical, besides it will be found necessary to cleanse the diseased areas frequently from the débris of scales. broken hairs and the medicament employed. For this purpose some strong potash soap should be selected, such as the German green soap, the tincture of green soap, or, in the country, the domestic soft soap as commonly made, answers very well. After washing, the scalp should be dried by the application of alcohol or ether.

I have found benzin of especial advantage at this time, because it clears the way for all subsequent applications. It not only removes all encrusted and adherent sebaceous accumulations but opens up the follicles of the skin in a way that I have not seen accomplished by shampooing or any other application. The next step is the employment of one of the so-called parasiticides. Success in treatment depends more on thoroughness of application than upon the selection of the medicament; for in the small-spored ringworm the royal touch is not alone sufficient, there must also be a wise persistence in the use of the drug selected. The action of the parasiticide may depend upon its direct effect on the fungus itself, or on the change of soil upon which the fungus thrives.

Since chrysarobin was introduced by Balmanno Squire as chrysophanic acid, it has been used quite extensively for obstinate ringworm of the scalp. The action of the drug seems somewhat variable, but in many cases it is the most efficient remedy we possess. It should not be used in very young children, nor about the eyes, lest it set up a conjunctivitis or cause a too severe dermatitis in delicate skins. It may be used in a strength varying from ten grains to a drachm to the ounce of lanolin or traumaticin. The latter forms an impermeable covering and prevents the drug from extending to parts unaffected.

To be effectual the parasiticide must penetrate deeply into the hair follicle; to facilitate this Reynolds advised the cataphoric action of the electric current, and Abraham of London exhibited an instrument at the International Medical Congress at Rome, to force substances into the skin by air-pressure. In my experience the former has failed to produce any marked effect, and the latter I have never used. The best results, I believe, are obtained by first cleaning the skin and opening up the follicles with benzin and using the following vehicle for ointments:

℞. Ol. amygdalæ dulcis. . . . . ʒij 7|80
Lanolini, q.s . . . . ℥j 31|10

On account of their osmotic power, the oleates are highly esteemed in the treatment of ringworm. In my own experience, oleate of copper, ʒiij of the pure oleate to ℥j of vaselin is highly serviceable, the only objection being its unsightly color. The oleate of mercury ʒj of the 20 per cent. to℥j of vaselin is also often followed by marked improvement. Some caution must be exercised when large surfaces are involved, especially in very young children, lest the constitutional effects of the drug appear. Alder Smith speaks highly of the pure oleate of mercury prepared with paralin instead of dissolving it in the oleic acid. Of this 10 parts of the oleate of mercury to 90 parts of heavy petroleum oil are used. It is claimed for this that less irritation is produced, and that it may be used on very young children or on delicate skinned persons. From my limited experience with formalin I believe it will prove a valuable drug in the treatment of the various forms of ringworm. It may be used either in solution or in the form of an ointment, in a strength varying from 5 to 15 per cent. In using it care must be taken that all scales be removed and the surface thoroughly cleansed either by the use of ether or benzin, to facilitate its penetration.

Megalosporon endothrix.—Milder methods will here suffice. It is in this variety that most drugs establish their reputation for the cure of ringworm, for the disease readily yields to treatment; in fact, it seems in some cases to be self-limited. Situated superficially, as it is, the parasite is readily reached; thus various watery solutions, such as corrosive sublimate, 1 to 1000, resorcin (gr. xxx to ʒi), carbolic acid, etc., are often found to be sufficient. More satisfactory results are usually obtained, however, from sulphur, ichthyol (ammonio-sulphate) or mercury, used in ointment form. In this variety the hair returns on bald areas, and the rigid prophylactic measures so necessary in the microsporon are here not a *sine qua non* to successful eradication.

Ectothrix ringworms.—On account of their pyogenic property these are the most formidable in appearance of all, and their treatment is sometimes a matter of considerable moment. Fortunately, the suppuration which the animal-derived fungus incites is inimical to its life, the disease in consequence runs an acute course.

Kerion.—This calls for epilation, which on account of the destructive process in the follicles, is as a rule, not painful. Cleanliness must be enjoined, and in young children soothing applications are called for, such as carbolic acid, grs. xx to ʒi, a saturated solution of boric acid or hyposulphate of soda. Pus cavities may be flushed by inserting a fine nozzled syringe into the fistulous openings. An incision is seldom necessary, for free exit of pus is usually afforded by the suppurating follicles. Should this not occur, and fluctuation be present, the tumors should be freely opened. A pledget of cotton saturated with the lotion selected should then be applied and changed frequently. When suppuration is less active the tincture of iodin is to be preferred.

Sycosis parasitica.—It is usually necessary at first to remove the crusts by soaking with oil and afterward washing in hot water and potash soap. Epilation and shaving on separate days is the next important step. As the suppuration is usually deeper than in kerion and much induration exists around the follicles, the more penetrating applications should be used. Good results may be expected from an ointment composed of sulphur and oleate of mercury, 20 per cent., of each half a dram to an ounce of the lanolin vehicle previously referred to. The oleate of copper and ichthyol are likewise valuable drugs; the latter may be used in the strength of 15 to 30 grains to the ounce. If much pain exists, free scarification followed by boric acid compression will generally give relief. Poultices should not be used, as moist heat favors the growth of the fungus.

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RICKETS.

IMPROPER FOOD AS THE CHIEF ETIOLOGIC FACTOR IN ITS PRODUCTION.

BY CHARLES O'DONOVAN, A.M., M.D.
PROFESSOR OF DISEASES OF CHILDREN, WOMAN'S MEDICAL COLLEGE.
BALTIMORE, MD.

Nearly all the children that are brought for treatment to the dispensary of the Woman's Medical College of Baltimore come from the "Black District" bordering on Druid Hill Avenue and the intersecting streets and alleys. We have children showing all proportions of negro blood, from the wooly-headed pure negro type to the palest yellow of the mulatto, and in the mothers, or friends, who accompany them, we find the widest possible range of intelligence. As most of the women have to work to help to support themselves, and often to take care of children of whom the father is unknown, it follows that the care of the children is frequently entrusted to older members of the family, as a maternal grandmother or aunt, who probably has already children of her own. We have found also that baby-farming is quite an industry in the neighborhood, and always attended by a very high percentage of infant mortality.

After considerable experience with these children, during which time nearly all cases have been investigated as far as the intelligence of the responsible party permitted us to go, we have come to the conclusion that the negroes and mulattoes of Baltimore have but the most rudimentary ideas of the importance of care in feeding infants and young children, and that the universal prevalence of rachitis among them is due almost entirely to this ignorance. Even the children who are fortunate enough to be suckled by their mothers escape the impending disaster only so long as they remain unable to appreciate what it is to be able to eat. As soon as general food can be given them the mother sees in this a means of escaping an irksome duty, and allows the child to stuff itself with all sorts of indigestible food without restraint. Is it any wonder that infant mortality is high among such people? They seem to have no conception whatever of the fact that the diet of children should differ from that of adults, and think the reason that more carefully fed children are refused general food is rather economic than dietetic. They appear to take pride in the ability of their babies to sit up to the table and eat everything put before them, and will boast that nothing ever disagrees with the child. No matter how ill it may be with bowel trouble, food is never thought of as the cause of the ailment. They consider that it is effeminate to allow a child to continue to live on milk exclusively, and it is often brought out in the history that the mother rather discourages the use of milk as tending to retard the growth of the child. Again and again, in reply to questions asked of women showing more than the average intelligence, I have been told that although they knew that white children are usually carefully restricted to milk for the first six or nine months of life, that sort of diet would not suit a "colored" baby, who must have stronger food to enable it to grow big and prepare for a life of labor.

Hundreds of these children die every summer in

Baltimore of gastro-intestinal complaint, yet many survive miraculously. and are referred to as being strong and well, although fed upon everything. They can not see that it is because of their strength that such children are able to live, when so many die and are forgotten. This comes out often in the questions asked in the dispensary. One would think that the loss of two or three children in exactly the same way, from manifestly faulty diet, would teach women even of a low grade of intelligence, but it does not; the child brought to us will have been fed in the same manner, and will show the same intestinal symptoms that preceded the death of the others. Inasmuch as this method of general feeding begins in many instances as early as the fourth or fifth month, at a time when the child is totally unable to digest the character of food that it is allowed to take, it begins to sicken at the time that the first teeth are expected, and any consequent illness is ascribed to teething and treated by means of all sorts of household and advertised remedies, the food being continued.

If the baby grows worse and dies, it is accepted with stoic indifference as one of the usual results of the "teething" process—the great bug-bear of that class, the "scapegoat" on which many grievous sins of diagnosis are annually sent into the desert. I recall a child who was brought to me in October last, who was fourteen months old and weighed but nine pounds. The family history, as far as could be made out, was good; the grandmother, who brought it, was reasonably intelligent, but the usual faulty diet had been allowed. The child was rachitic, extremely feeble, undeveloped, without teeth or any appearance of teeth. Yet that child had been born healthy and had grown and thriven as a healthy child as long as the mother nursed it, and not until it was given all sorts of food did the trouble develop. At about five months it began to eat potatoes and cabbage and any other vegetable or meat that happened to be on the table, and very soon, much to the surprise of the family, it showed signs of distress. "Teething" was accused of the trouble, and it had been "teething" ever since, but without the appearance of a tooth. When the woman was asked if she never gave it milk, she said that milk always disagreed with the child and that it was refused. This was not true, for the child was taken into the hospital and put upon a milk diet, which it took readily, and improvement began forthwith. Even those cases that live through the combined evil influence of bad food and summer heat in most unhygienic surroundings do not escape entirely. Very few of the negro or mulatto children of Baltimore escape rachitis. This might be expected in those who are crowded into confined quarters in the narrow alleys of the poorest districts, but we find it almost as prevalent among those who are able to live in better quarters. It begins very early in life, especially in those cases who give a history of too-advanced feeding, with consequent gastric and intestinal troubles.

With increasing acquaintance with this disease I am more and more inclined to lay the chief blame for rickets rather upon the faulty assimilation of improper food than upon an unsanitary condition of the household. This conclusion has been reached entirely from a clinical standpoint and after collating the evidence offered by a large dispensary clinic of excellent material. The improvement that does undoubtedly come later, even in extremely severe cases with most remarkable distortions, is coincident with the ability of the child to run about and so keep itself in the open air, but is not, in our opinion, due directly to this fact; but in some measure indirectly, as it enables the child to digest and assimilate its food, which it has at last grown up to, and which is the same as it had received from its fifth or sixth month. The limbs do straighten out, and the bony enlargements do, in large measure, disappear, except in extreme cases, under the stimulus of healthy play in the open air, but I am convinced that this is because under the same stimulus the stomach and intestines functionate more correctly, and proper aliment is supplied to the growing bones. We have frequently had, succeeding each other, babies of the poorest class, who lived in the worst condition imaginable, as far as concerned hygiene, and who being suckled by the mother without additional food, showed no sign of rickets, and in contrast, others much better situated in their home surroundings, who were distinctly rachitic and whose history showed improper alimentation. I am aware that the result of these investigations coincides with the general teaching on the subject, and offer this only as additional testimony bearing upon the etiology of a very obscure disease.

10 E. Read Street.

SOME NEW POINTS ON INFANT FEEDING.

Presented to the Section on Diseases of Children, at the Forty-ninth Annual Meeting of the American Medical Association, held at Denver, Colo., June 7-10, 1898.

BY W. G. A. BONWILL, D.D.S.
PHILADELPHIA, PA.

The present article is not intended as exhaustive of this subject, which is a very vital one and calls for future investigation, since thousands of lives of infants are ignorantly slaughtered from there having been so little interest taken by the medical profession in the matter, it having been left to manufacturers of nipples as to what is best. While there has been great advance in bacteriologic research, and milk has been Pasteurized and many lives saved, yet there has been no true advance in the improvement of artificial nipples from a humanitarian standpoint. Although more than a thousand different shapes and so-called improvements have been made up to the present; yet, with all that has been brought forth, I found when necessity compelled me to attempt to save the life of one of my grandchildren, no nipple fully met the needs of this case.

By an unfortunate mistake in diagnosis one of the mother's breasts had been totally removed before her marriage, and I then predicted to the surgeon and my daughter that should she ever have a child she would never have milk in the remaining breast; that while I had never read of a precedent, yet I felt sure milk would never come into the remaining breast, since the function was a dual one; and, as no function had ever as yet come to the virgin's breast, now with one gone, I asserted that no milk would ever come to sustain the child in the remaining one. With all the effort made by the accoucheur to force milk into the remaining breast from persistence in trying the child at the nipple, there was no evidence of any secretion, and the effort was only abandoned when the child was gaining none and gave every evidence of starvation. In my absence in Europe to attend the International Medical Congress at Moscow, Mellin's Food and various preparations were tried, but there was no perceptible gain until a wet-nurse was had, when all went well at once.

Before I reached home, after quite four months, the nurse was gone and I had to look into the host of artificial nipples and feeding; nothing seemed to nourish the babe, it having been starved so long at the start that the function of the stomach seemed quite lost or never gained. When raising my own children I had no occasion to use these substitutes, the mother having an abundance of milk.

I bought the most improved nipple on the market and a nursing-bottle, and I commenced operating upon myself in an attempt to study the philosophy of natural nursing and get at the mechanic action of the jaws and how the milk was obtained, and how much in a given number of minutes should be drawn from the bottle. I soon saw the importance of the natural method of sucking, which had never entered my observation before, and when I had completed my experimenting, the result was what I today present before you, that at once, when the babe commenced its use, a gain of flesh was perceptible and new life entered into it.

In watching the baby take the common nipple, I found it did no sucking, but would get the long rubber nipple under his tongue and would simply squeeze the milk out without effort. I saw at once that when the milk did pass into the mouth it was in too great quantity and the four ounces were drawn too soon. The hole grew to a still larger caliber from the baby pulling it for collapse. Another difficulty in the way was to get a nipple that would not collapse and could be made thoroughly aseptic.

It was then I turned myself into a baby again and soon saw that the nipple had three defects: 1, it was too long, allowing it to get under the tongue; 2, it was certain to collapse and no milk run through, without constant watching; 3, the hole in the nipple was of too large a caliber, and when the milk did get into the mouth it was profuse, and altogether it was very worrying and perplexing to the child. It was very evident to me after six weeks of experimenting, that above all else the saliva had never been looked upon as a factor in artificial feeding.

I then made choice of a plain, small, pure rubber nipple, such as I could select, but quite all of them would permit the milk to pass too rapidly and without any effort on my part, but after long search I found a few without this defect. In fact, it was not necessary to use suction at all in most, as the milk would run out and down by a simple pressure of the tongue on the rubber, and which had to be done; this would make it collapse. This was all unnatural and wrong, and I at once made a secondary nipple to be placed inside and toward the milk in the bottle, resting on a flange on the rim at the mouth of the bottle. Over this secondary nipple was drawn the rubber one, with the secondary nipple on its open end going well up into the outer nipple. To insure a given amount of milk to flow, I drilled with a steel instrument a hole of a given size that insured the amount desired, whether the hole in the outer one was small or large. This inner hole controlled the flow.

The next step was to shorten the outer nipple until it was the length of the mother's, so that it could not be gotten under the tongue. The result was, I had to exert my buccinator muscles on either side to produce a suction of air from the mouth, which perceptibly caused an influx of saliva into the mouth, which never came from the old style and arrangement in any perceptible quantity. With this short nipple and the internal secondary one, which prevented the possibility of any collapse under the most violent suction, the milk could not pass without a hard suction of the muscles, being controlled by the exact size of the hole in the secondary nipple and the short one on the outside. By this combination of two nipples, and the size being about the same as the mother's, I was enabled to control the flow of milk passing into the mouth and forcing the babe to muscular activity of its jaws to draw in from this muscular action the saliva in such quantity that it was mixed proportionately with the milk. Twenty minutes was the time that was taken to suck four ounces of milk. By this it will be seen that a babe has from birth more power in the muscles of the jaws employed in nursing than possessed in any other part of the body, and that this is the case from the very first effort to suck. It is not hereditary, but a specially born power in any child. You will further understand that nature will not permit any animal that has to suck for its sustenance to live unless it makes an effort forcibly to gain the the milk. This provision of nature is wonderful and beneficent, and the saliva could not be gained unless the jaws, with the broad buccinator muscles, could be used to press, by the sucking principle, the saliva from the parotid glands.

I think on close examination and inspection, it will be found that the submaxillary and sublingual glands take no part in the digestion of the milk, but are merely for lubricating the tongue and adjacent jaws and superior vault, and that their chemic constituents play no rôle in health. The parotids on both sides in the infant act simultaneously; but it is not true in adult life, as mastication can take place but on one side at a time; without the bolus of food in the adult coming between the cheek and teeth the parotid glands would not act from the muscles alone. On the other hand, in the baby both the buccinator muscles are drawn in forcibly against the gum of the infant and the same effect is produced as in the adult when sucking an orange or sweetness from a lump of candy applied to the lips.

The question has been raised by several medical men, whether babies at birth or when they are placed at the breast have any saliva? I have referred such, not to books as authority, but to the bibs and nurses of the infants. It is well not to theorize too much upon some questions. For me, I do not care in the case before me whether there is little or much or none. I am aware of the natural process of a babe's nursing and when I have imitated it as perfectly as I have, the results show what an artificial nipple will do when properly and scientifically arranged, and this I have seen in so many cases. (Nature demands force in order to live, even from an infant just born.)

I have here an exact daily record of seven months kept by the mother, showing the gain and loss under the use of this nipple. At first, I would not allow the milk to be too rich until the stomach could digest it, nor would I allow too much at any one time. Finally, fifteen ounces were gained in a week and never more than sixteen a week. When teething, scarcely four ounces were gained, as the nervous reflex action was a hindrance, and as soon as I had cut the gums and relieved the tension on the sac holding down the tooth, all went well. To merely cut the gum is not enough. Then, whether saliva or none at this early age be supplied, I know that by giving that child something to do, something for its jaws to act on, something that compelled it to labor for its hourly food, I but carried out that injunction that in "the sweat of thy brow thou shalt earn thy bread," and it was manifest on its brow in the perspiration from the labor in drawing the milk from the bottle. In this special case and in many others lives have been saved, for all hope had been abandoned until these nipples were used.

While on the case, I must speak of modified milk as its only food for nine months, which was changed from time to time to suit the babe, which acted all the time most charmingly, and with pure spring water as a drink from a similar nipple, nothing of artificial foods has entered its stomach since it came into my charge. It will be asked if it would not be well to chemically test the saliva? I say no! since my experience in operations in the mouth for forty-three years in adults would not let me do so to infants, as their saliva is about as pure as could be secreted. But of the adult's saliva I shall have much to say in a future article; how it is most powerfully affected both chemically and physically, and its diagnostic value as a factor in determining much that is wrong in the system. It is wonderful to note the many changes of saliva and how medicaments affect its odor and consistency. I pay much heed to the saliva in every case and the power it has over the hardest enamel of teeth, whether alkaline or acid, or laden with a profuse quantity of mucus, making it possible to spin it out like a thread of a foot in length.

As soon as time will permit I will report upon this subject of infant as well as adult salivary secretion, for no one could have been more impressed with its importance for health and, in connection with certain articles of diet and the proper use of the teeth in masticating food. I shall also speak of the injurious use of water and drinks of various kinds when food is being masticated in the mouth, and the necessity that the saliva should be kept carefully healthy when it is the only fluid used in masticating food.

The matter is of the greatest importance to health at all periods of life, and no secretion of the body can compare in value to the products of the parotid glands. With this skirmish over a most interesting subject I leave the matter, knowing that general investigation and observation will result in invaluable aid to infants who have, heretofore, had to go down to their death, and who now can without any doubt have the proper care and sustenance.

While the apparatus I have contrived is very simple, it is well worth the careful scrutiny of every lover of *the innocent babe.*

Gelatin Casts.—O. Vulpius of Heidelberg has a much admired collection of gelatin casts, which keep perfectly well in a dry place without shriveling, melting or growing musty. A plaster negative is taken of the part of surface desired, all grease removed, thoroughly dried and filled with the following mixture dissolved in the water-bath and partially cooled: colorless gelatin 250 gm., water 240 gm., glycerin 500 gm. To obtain a flesh tint rub up fresh together one part cinnabar, five parts zinc oxid and ten parts glycerin, and add six or eight grams to the gelatin. If the cast is to be very large it can be made with a thin layer of gelatin, and strengthened at the back with plaster when cold. The casts cool in twenty-four hours.—*Cbl. f. Chir.*, February 5.

GOUT OR RHEUMATISM,

A REVIEW OF TREATMENT IN RELATION TO THE NORMAL, THE SENILE, THE ATROPHIC, AND THE NEURASTHENIC HEART.

BY J. J. CALDWELL, M.D., F.S.Sc., (London, Eng.)
BALTIMORE, MD.

Gout[1] is the name given to all those modifications of our metabolism caused by the gouty diathesis, as well as to all the symptoms to which those modifications give rise. Naturally, after middle life, gout affects every organ of the body both in its structure and its function. In a state of civilization we are all, after puberty, more or less gouty, and we are gouty in a gradually increasing ratio. All the various symptoms connected with the senile heart may be looked upon as indicating cardiac failure with sequential complications, and the treatment must therefore be tonic, with certain modifications. The drugs useful as cardiac tonics are but few in number, but of great value.

Digitalis is the foremost of all cardiac tonics; it gives its name to a whole group of remedies with similar actions, only one of which comes within a measurable distance of itself in the possession of valuable and reliable properties. An indigenous drug of the highest value, and known for more than a hundred years as a reliable remedy in dropsies, its action was so little understood, even so recently as twenty years ago, that it was called the opium of the heart, and was looked upon as a most powerful and dangerous sedative, and even yet the profession are more or less hampered in its use by an idea that digitalis is dangerously cumulative. Digitalis, like "Fitz-James' blade," is both sword and shield, and he who understands its use will never be disappointed by it, the very so-called cumulative action being the necessary result of one of its most valuable properties when overdone.

Given in full doses at short intervals, digitalis, like many other drugs, is not wholly eliminated during the interval, but each succeeding dose reinforces those that have preceded till a dangerous degree of cardiac contraction does not seem to be dangerous if wittingly produced and carefully watched. It takes a good deal of digitalis to bring a human heart to a standstill in systole. Half-ounce doses of the tincture of digitalis used to be given safely and repeatedly in the treatment of delirium tremens. I have often given dram doses of the tincture every hour for four or five hours, in the precritical collapse of pneumonia, and many years ago, in treating the dilated heart of a young chlorotic girl, I kept her pulse for days at 40, and her heart-sounds beating with the empty tic-tac of an infant's heart (embryocardia). In this case all my endeavors failed to contract and cure this dilated heart, which always relaxed the moment the dose of digitalis was reduced, apparently from sheer want of tone in the muscles. Persistent treatment failed to contract the heart, yet sufficed to feed it. It has kept well fed all these years, and, though a loud systolic murmur still indicates the continuance of dilatation, the patient has long been a happy wife and is the mother of several healthy children, with no appearance of any ailment about her.

What we were perforce reduced to in this case is all we should ever attempt in the case of senile hearts. We need never attempt to contract and cure a senile dilated heart; it can not be done, so there is no use trying. But we always can improve the nutrition of the dilated myocardium, and in doing so we gain two ends—we fit the muscle for the more perfect discharge of its functions, and we enable it to better withstand injurious influences, reflex or other. With this object in view, we employ only moderate doses of digitalis, doses which never seem to have any cumulative action, or so rarely and slightly that we may safely continue them for a week or two without observation and without risk. These doses are from the British pharmacopeia preparations: The infusion—half a measured fluidounce; the tincture—ten minims. Each of these doses is equivalent to a little more than one grain of the powdered leaves, so that this may be taken as the medium dose that may be safely administered every twelve hours without risk of cumulative action. This means that within that space of time the quantity of the drug ingested has been completely balanced by that excreted, only the tonic influence remaining, that is, the improved nutrition of the myocardium, due to the action of the drug while being slowly excreted. I have known such doses to be continued for many months, sometimes years. The dose of digitalis is not, however, an absolute one, but is relative to the bulk (weight) of the individual, and especially to the amount of his blood, a weakly anemic individual tolerating a very much smaller dose than one more plethoric. Now and then we come across an idiosyncrasy which either tolerates freely a larger dose or resents any but the smallest; such cases are, however, rare. Still, in view of their occasional occurrence, it is well that a patient under treatment for the first time should be seen now and then for the first week or two; afterward when the measure of toleration, as we may term it, has been ascertained, this may be less necessary.

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[1] Balfour's Senile Heart.

The object we have in view when using digitalis in case of senile heart is not to remove dropsy, to slow the rate of pulsation, or to contract the cardiac cavities, but by the gradual accumulation of trifling advantages, to tone up and strengthen the cardiac muscle by improving its nutrition. Gradually the heart acts with more vigor, the circulation improves in steadiness and force, the edema occupying the tissue spaces is removed, and thus the blood-pressure is lowered and a considerable strain taken from the heart. For this purpose only moderate doses are required, doses which can be continued for many months without any risk of dangerous accumulation, and yet which have a decided effect in strengthening the heart, improving the tone and elasticity of its muscle, and accumulating energy in its ganglia. Naturally this process is a slow one, and the benefit is not, for a time, very obvious to the recipient. Some years ago a friend called on me and said: "Doctor, your medicine is doing me no good." "Of that," I said, "you must allow me to be the best judge." "But I feel no change in my symptoms, nor any action whatever from what you have given me." "I had expected nothing else; you are too impatient," I replied, "and were I to give you medicine in such a dose as to produce a sensible action in a few days, before long its action would be so unpleasant that you would either stop it yourself, or your ordinary medical attendant would order you to give it up. In a short time the seeming benefit would vanish, and you would abuse me for having given you medicine which did not agree with you, and which gave you no permanent relief. Now, what I have given you will not speedily relieve you, but give it time, and it will make you well and prolong your days in comfort. Two or three months after this you will say to your wife some morning, 'Do you know my heart is not so troublesome as it was; I begin to think I am improving;' and six or eight months after this you will come to me and say, 'Doctor, I was preaching last Sunday, and feel none the worse for it.'" And so it fell; my friend and his senile heart are nowadays, after the lapse of five years, still very good company to each other, which for many days they were not.

The senile heart owes its peculiar symptoms and progress to the difficulty which a weakened myocardium finds in maintaining the circulation in the face of the permanent obstacle presented by rigidity of the arterial walls. To seek to excite a heart to more powerful action, in the face of such an obstacle, seems fraught with danger, and we know that even moderate digitalis stimulation in such circumstances is apt to be followed by an increase of the symptoms, sometimes by an increase of the cardiac dilatation, and always of its erethism. Some also object to the use of digitalis when the arteries are atheromatous, from a dread of rupturing their brittle coats. This last-named danger must be a very infinitesimal one, as such an accident is quite unknown to me, notwithstanding a continual and free use of digitalis. But, indeed, the same means of necessity taken to prevent the increase of cardiac erethism would also prevent this more serious danger. To this end it is needful in all such cases to combine the digitalis with some drug capable of unlocking the arterioles, such as iodid of potassium, the nitrates of which—nitrous ether, nitrite of sodium and nitroglycerin—are those most commonly used.

Digitalis should never be prescribed in a case of senile heart without the addition of one or more of these vascular stimulants; iodid of potassium is the most useful, acting well and persistently in a moderate dose, and being free from any objectionable effect. If, at the commencement of the treatment, the heart has been much neglected, the dilatation considerable, and the irregularity great, it is very desirable to begin with larger doses of digitalis than those just recommended so as to gain control over the rate and rhythm of the heart as rapidly as possible; but these large doses are not likely to be required for any length of time, and ought to be intermitted for at least a couple of days before the patient is put upon the smaller doses for a continuance. Where there is edema of the lower limbs, a perfectly dry diet with tonic doses of digitalis are quite often sufficient to remove the fluid, and that in a very short time; but if the dropsy is at all considerable, it must be treated as an ordinary case of cardiac dropsy, and in such cases it is a great saving of time to drain the limbs. In all senile hearts, whatever their character or special symptoms may be, we must always remember that digitalis uncombined with one or the other of the vascular stimulants is never so beneficial as when it is so combined; otherwise it is certain to produce discomfort and likely to do serious damage. The only other member of the digitalis group which has any pretensions to rival digitalis itself is strophanthus and its active principle—strophanthin. Strophanthus is, however, so much more uncertain in its action, especially as to its feeding or tonic properties, than the leading member of its group, that I have never felt inclined to displace our own pre-eminent and indigenous drug in its favor.

Strophanthin, however, possesses two advantages over digitalis—it is readily soluble in water, and it seems to act with great rapidity. There are, therefore, conditions in which strophanthin is to be preferred, but these are unusual and exceptional at all times, and are rarely found in connection with the senile heart. Nux vomica is an excellent tonic for the senile heart and its concomitants, but, as its usefulness depends upon its active principle, it is more advantageous, and contributes to greater accuracy of dosage to employ liquor strychnin—hydrochlorate, or preferably nitrate—rather than any of the other crude preparations. The maximum benefit is only to be had from any other drug by using the maximum dose for a sufficient length of time, and to do this safely with any remedy, but, especially with so powerful a drug as strychnin, it is needful to be both accurate in the doses and regular in the times of administration. Strychnin is cumulative in its action, but by strict adherence to the rules laid down, it may be used continuously and safely for many years. I have known five minims of liquor strychnin—1/26 grain of strychnin—to be taken twice a day for over ten years, with the best results. At the end of that time symptoms of saturation began to appear, and the strychnin had to be discontinued, as it was no longer required, the puny, delicate, middle-aged woman being now both strong and healthy. It is only rarely that a larger dose than five minims of liquor strychnin can be given daily with benefit. Three such doses, fifteen minims, instead of ten, in the day are generally followed by symptoms of poisoning in no long time.

Idiosyncrasy occasionally turns up, and for the larger number of mankind may be for any length of time. In anemic patients there is often intolerance of strychnin, and if employed at all it has to be given in almost infinitesimal doses. Strychnin acts in two ways—it is an admirable tonic for the stomach, especially in those catarrhal conditions accompanied with venous congestion so commonly present when the circulation is feeble. In this way the digestion is improved and the blood enriched, so that the body generally, and the heart in particular, gets better nourishment. Strychnin has also a specially stimulating effect on the nervous system generally; consequently it is stimulating and renders more excitable the vasomotor center and the cardiac ganglia, probably energizing the primordial powers of spontaneous movement possessed by the cardiac muscular fiber, *vis in situ*, the once diffuse nervous force. In virtue of this action on the heart and nerve-centers, strychnin increases the cardiac force, revises the intra-arterial blood-pressure, and is, next to digitalis, the most elegant tonic we possess for all feeble and dilated hearts. In the less serious class of cases it is sufficient of itself to give tone both to the heart and the system generally, while in the most serious cases it is the most useful adjunct to digitalis.

Arsenic or arsenious acid (1/50 grain) is another of our most valuable tonics. It is advantageously employed in many forms of disease, and it is quite indispensable in the treatment of the senile heart. It is useful in the congestive conditions of the stomach which accompany cardiac failure, and its effect in angina is sometimes almost magical, the suffering disappearing like a dream, quite apart from any influence exerted on the cardiac failure, upon which that suffering seemed to depend. Masselot and Trousseau have both remarked upon the increased capacity for exercise that follows the administration of arsenic, and this doubtless depends upon the same general tonic influence affecting the lungs, heart and blood, that makes breathlessness a thing unknown to the Styrian mountaineer, and restores the bloom in the aged, and freshness of youth to old and seemingly worn-out horses. The Styrians are accustomed to take large doses—as much sometimes as five grains—of pure arsenious acid in the day, but such dangerous doses are by no means necessary to obtain the tonic benefits of the drug. Most excellent results occasionally follow the prolonged uses of almost infinitesimal doses (1/50 grain). I well remember one old gentleman, exceedingly sensitive to the action of drugs, to whom 1/50 grain of arsenious acid was quite poisonous, but who could tolerate 1/100 grain without difficulty. After taking this minute dose daily for two or three weeks, and nothing else, for a dilated and hypertrophied heart beginning to fail, he said to me: "I don't know what benefit you expect from the treatment, but I know what I have received; I can go upstairs much easier than I used to do." Arsenic may be given alone, and in anemic and very sensitive patients, who can only tolerate a very minute dose, this is often the best way of employing it. To these, one granule of arsenious acid containing 1/50 or 1/100 grain (or a tablet triturate) may be given after food once or twice a day and for many months, with increasing benefit. More usually, it is better to combine the arsenic with digitalis or strychnin, or with both. We learn from the histories of the Styrian arsenic-eaters, that arsenic is a poison to which the system may be gradually habituated so that even large doses may be taken for many years, not only with impunity, but with positive benefit. When given, therefore, in the moderate medical dose of two or three minims of Fowler's solution, we may safely continue them twice a day for as long as we think needful without any misgiving periods, nor need we have any dread of danger in leaving off the drug after a long continuance, as was at one time alleged. A little caution may be required in commending its use, as idiosyncracy plays a marked part in relation to arsenic, but it is only rarely that we fall in with those who are extra-sensitive to its action.

When the blood is deficient in hemoglobin, iron is a necessity. It is best given along with food, and should never be combined with digitalis, as such a combination is very apt to sicken. The proto-salts[2] of iron are to be preferred to the per-salts, as they are more easily taken up by the acids of the gastric juice, and are thus readily assimilated. As a rule, large doses are not required in cases of feeble or dilated heart. Intra-arterial blood-pressure depends upon the distension of the arterial system by the blood contained within it. This vascular turgescence in its turn depends upon the relation between the amount of blood pumped into the arteries by the heart and the outflow through arterioles. After middle life the outflow through the arterioles is hindered by obsolescence of the capillaries and by loss of arterial elasticity, and the blood-pressure is raised by the obstacles, even with the heart beating at its normal rate and force. A healthy heart has sufficient reserve force to enable it to cope successfully with the demands for extra exertion thus made upon its powers, and it thrives upon its exertions; but when the heart is from any cause feeble and ill-fed, it fails to respond, and it suffers. Its sufferings give rise to those varied symptoms comprised under the term "senile heart."

As these sufferings are caused and maintained by the high blood-pressure, whatever lowers this always gives relief; hence these sufferings are capable of being relieved by various modes of treatment, not all of them being truly remedial. To permanently remove these sufferings, we must not content ourselves with merely reducing the blood-pressure, but we must also strengthen the heart so as to enable it to cope with a blood-pressure always above the normal of adolescence, and which is liable to be suddenly abnormally raised by many causes. Cardiac tonics are therefore required, but all cardiac tonics, except, perhaps, arsenic, are also cardiac stimulants, as they increase the elasticity and contractility of the heart, and in certain conditions they improve the heart's metabolism by enabling it to feed itself with a larger blood-wave at a higher pressure. When the heart is feeble, however, this is just what can not be done. The whole trouble has arisen because the blood-pressure is already too great for the powers of the heart; and if we goad this feeble organ to further exertions, for which it is unfit, we either increase the dilatation that may be present, or induce erethistic tachycardia or irregularity. Cardiac tonics do not agree, but we can make them agree by combining a vascular stimulant with a cardiac stimulant, thereby making things work smoothly. The heart, no longer opposed by an obstacle it can not overcome, or only imperfectly, feeds itself better, and all its sufferings vanish.

Vascular stimulants are agents which dilate the peripheral vessels (arterioles), and so promote the flow of blood from the arteries into the veins and lower the intra-arterial blood-pressure.

Iodid of potassium is not perhaps generally regarded as a vascular stimulant, but in so far as it promotes the flow through the arterioles and lowers the blood-pressure it is an eminent member of that group, as has been established experimentally and duly recognized in relation to the treatment of aneurysm. It is not rapid in its action, but it is persistent, two or three grains every twelve hours being quite sufficient to enable digitalis to be given freely without any cardiac disturbance.

All the nitrites are vascular stimulants; spirits of nitrous ether or nitrite of sodium may be so employed, but their action does not last so long as that of the iodid of potassium, while in rapidity they are far inferior to either the nitrite of amyl or nitroglycerin. Besides being a vascular stimulant with all the actions belonging to such remedies, nitrite of amyl is also an analgesic. A former patient, who suffered from intense pain accompanied by a large aortic aneurysm, from which he died, always found the analgesic action absent unless the drug was freshly prepared. When not quite fresh, his face flushed, and all the usual symptoms due to amyl were produced, but the pain was not relieved. Since then the amyl has been retailed in hermetically sealed glass capsules, apparently with the effect of retaining the analgesic properties. The flush of the face and the fulness of the head and rapid action of the heart produced by the amyl are disagreeable to some patients, but as they do not seem to be in any way injurious, I have known amyl to be used with great freedom in angina. One medical friend, who suffered much from angina, connected with aortic regurgitation, not content with inhaling it frequently during the day, used to soak his pocket handkerchief in the amyl, and go to sleep with it lying on his face, without any ill results. The action of the amyl is very evanescent, the smell is disagreeable, and the quantity in a single capsule is rather small, but that is a matter easily remedied. Nitroglycerin, or trinitrin, is said to be a nitrite of glyceril, but its action is that of a nitrite in ordinary medical doses of 1/50 to 1/100 grain.

The importance and advantage of paying attention to the diet and feeding of bronchitic and asthmatic patients[3] has been impressed upon me from more than one point of view, and in these few remarks I wish to offer some suggestions that may prove useful. I have often noticed that when a patient, who has been long ill with chronic bronchitis and emphysema of the lungs, dies suddenly, it has almost always been soon after partaking of a full meal. I have met with instances among hospital out-patients where a man, after a heavy day's work in cold, foggy weather, has come home to a hearty tea or supper, and afterward has been taken with breathlessness, quickly followed by cardiac failure and death by his own fireside. On the other hand, I have come across elderly patients, greatly afflicted with asthma and chronic bronchitis, who, either in obedience to the doctor's orders, or from some instinct of their own, have modified and cut down their diet, with such relief to their breathing powers as has been most remarkable.

That stimulants are invaluable in cases of acute heart failure few will deny, but the regular administration of alcohol night after night, often in potency, is pretty sure to cause congestion of the liver and overfulness of the right auricle, conditions powerfully conducive to heart palpitation and breathlessness. Many farinaceous foods, wholesome enough in themselves, are often taken in such large quantity and in such injudicious combination that they set up flatulent fermentation in the stomach and cause distressing acidity and heartburn. This is especially the case with elderly people who have slow digestion. The distended stomach rises up against the heart, impeding, and sometimes permanently stopping, the action of this organ. The patient will declare that all he takes is most wholesome. Breakfast perhaps consists of a great soup-plate full of porridge, followed by eggs and mutton chops. The last meal of the day is made up of some bulky farinaceous food with roasted apples and sometimes lemonade, sometimes a glass or two of claret as a drink.

In the treatment of such a case the doctor has his opportunity. He will look at his patient's tongue and will find it large, swollen, and indented by the teeth; it is more or less furred and the breath is sour. The urine is often copious, clear, and frequently passed. There probably is never any gastric pain or tenderness, the stomach being in a dull and torpid condition, yet constantly craving for food. Good may here be done by banishing the plate of porridge from the breakfast table, and allowing one egg with a thin slice or two of bacon, and rusks or dry toast in place of bread. As a change, fish, fresh or salted, suits well, and salt herrings are reckoned good for the throat. At the midday meal roast meat is proper, with such vegetables as are found to agree. Light puddings, in

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[2] Solution of Iron-Manganese (Gude).

[3] Thorowgood, London Hospital for Diseases of the Chest; Medical Press and Circular, Dec. 16, 1896.

moderate quantity, are allowable, and often a glass or two of sherry appears to aid the digestion.

The most important part of this dietetic treatment consists in the arrangement of the evening meal. This should be taken not later than 8 P.M., and must be light, digestible and nutritious. Soups as a rule do not agree, especially when the heart is feeble. Chicken or game seems to suit most people. Ham and tongue in thin slices also agree well. Beef, and even mutton, late in the day, are often too much for some stomachs.

Dr. W. H. Thomson believes that the treatment must be determined chiefly by the consideration whether the affection be primary or secondary in its causation. In the treatment of primary affections the first indication is the prophylaxis of rheumatism. Particular attention should be paid to the tonsils, and prompt use of the salicylates internally should be made at the first signs of tonsillitis, together with local applications of tincture of iodin. The habitual employment of hot-water douches, with oil of peppermint, to the throat is an excellent measure. Rheumatic patients should always protect the skin with flannel, both by day and by night. Rest in bed is of great importance in the primary affections. When the symptoms are rather aggravated by digitalis, strychnin, and similar drugs, aconite will often lessen the dyspnea, relieve the anginose attacks, and make the pulse fuller and steadier. In dyspnea, the result of pericarditis, firm strapping of the right side of the chest is of undoubted service. For the dyspnea of mitral stenosis, especially when it occurs in paroxysms, belladonna in combination with compound spirits of ether is much the best remedy. In mitral stenotic cases, digitalis is often inferior to strophanthus, spartein, or caffein. Anemia should always be considered, but the administration of iron is mischievous in rheumatism. In this disease the best remedies are cod-liver oil with small doses of arsenic; or calcium sulphid in from one-half to one-grain doses four times daily apparently hastens the convalescence from acute rheumatism. In secondary disease of the heart one should consider the whole extent of the circulation. The remedial agents may be divided into the constitutional and symptomatic. Of the first class, and the most important and continuous in its operation, is fresh air. Iron is the most effective among drugs, because it is our respiratory food, and has no other function in the body but as the carrier of oxygen. Next to continuous breathing in the open air is properly applied massage, especially that form in which the patient exerts a carefully regulated resistance to the flexion and extension of his muscles by the operator.

Acute alcoholic dilatation of the heart is a most definite, important, and striking affection. Two very instructive non-fatal cases were described by Dr. Maguire in "The Transactions of the Clinical Society," London, Vol. xxii, 1887.

The following fatal case,[4] which came under my notice a few weeks ago, illustrates the disease in a very striking manner:

A man, aged 30 years, by occupation a fitter, was admitted into the General Hospital, Nottingham, Oct. 26, 1896. He had slight general edema, great swelling of the legs, a distended abdomen, and such a pale, pasty face as to strongly suggest chronic nephritis, which had been the provisional diagnosis made in the out-patient room by the house physician before any urine could be obtained for examination. On admission he was drowsy, and evidently very ill; but his statement was clear that he had never had rheumatic fever, or any previous serious illness, and had been quite well until he had got out of work eight weeks before. The urine was tested when I saw him—an hour or two after admission—and was found to be scanty, sp. gr. 1022, and perfectly free from albumin. He complained of failing sight; and on ophthalmoscopic examination the discs were a little hazy, and the fundus very pale—possibly there was very slight edema of the retina. It was afterward ascertained from his mother that he had been drinking spirits very excessively for a month, and taking scarcely any food. The pulse was rapid, 100 to 120 per minute, of very low tension, and exceedingly feeble. The area of cardiac dulness was increased, but no cardiac impulse could be defined. There was no murmur, and the sounds were very weak. Although in some forms of chronic Bright's disease the urine may be found free from albumin, sometimes for long periods, the above complex of physical signs was incompatible with nephritis, acute or chronic. The diagnosis was cardiac dilatation and feebleness. The patient somewhat suddenly became cyanosed at 6 A.M. the following morning, and died at 10 A.M.

Necropsy, seven hours postmortem: Tissues edematous; a little fluid in the peritoneum and pleura; three ounces in the pericardium. The right auricle was considerably dilated and the walls thickened; the right ventricle was much dilated and the walls considerably thickened; they were soft in texture, and there appeared to de some fatty degeneration of the muscular substance. The left auricle was rather less dilated than the right, and the left ventricle more dilated than the right.

All the cavities were distended with soft, recent, black clot; and all the valves were healthy. The coronary arteries appeared normal; the aorta was small, and just spotted with commencing atheroma. The weight of the heart, opened and well washed, was 14¾ ounces; the man was very slightly built, height about 5 feet 2 inches. The kidneys were quite healthy to the naked eye; the capsules stripped easily, the cortex was in normal proportion; they weighed together seven ounces. The liver was rather pale and fatty.

The only marked pathologic condition, therefore, was a decided dilatation and enlargement of the heart.

The above may be recapitulated *ad libitum*, for their names are legion in the practice of every busy physician.

In conclusion, I will say that I have many cases of heart trouble illustrating the benefit and variety of the above-named treatments, which will appear in my second paper of clinical reports on "The Treatment and Therapeutics of Gout or Rheumatism and Inebriety in Relation to the Heart."

METALLIC MERCURY.

ITS USE IN THE FORM OF UNGUENTUM HYDRARGYRI OR BLUE OINTMENT ADMINISTERED BY THE MOUTH.

Read before the Mississippi Valley Medical Association, at Nashville, Tenn., Oct. 11-14, 1898.

BY ALBERT BERNHEIM, A.M., M.D.
PHILADELPHIA, PA.

The purpose of this paper is not to speak on the value of blue ointment for itself, in the treatment of syphilis; there is no doubt about its great and quick efficacy, quite especially where an immediate result is desired. In general, blue ointment was always used by the method of inunction, but very often this method of administration is disliked by the patient, on account of its nastiness and inconvenience. If we can substitute another method of using it, with the same good results, I think it would be of no small advantage.

It was Dr. Anuschat, a German physician, who, in 1896, recommended the internal administration of blue ointment. He started from the view that, as is well recognized at the present time, the efficacy of the inunction of blue ointment depends upon the evaporation of the metallic mercury. I am very well aware that not all the investigators agree in regard to the manner of action of blue ointment. On the one side, the authors say that the globules of the metallic mercury are acted upon by the secretion of the glands of the skin, and are converted into a soluble preparation that is taken up by the lymph and blood, and at the same time they will not admit that mercury acts by evaporation, while others admit the evaporation, but do not think it is of decided value. On the other side, many believe in the action of metallic mercury by evaporation. It is very difficult to come to an absolute certainty in this respect.

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[4] Medical Press and Circular, London, England, March 24, 1897.

We have reports of cases in which people who lived in the same room with patients who used blue ointment by the method of inunction, were affected by salivation; thus, this would show that the mercury evaporated from the skin of the patients. Very often we found that the inunction of blue ointment had not much effect upon syphilitic patients. When we analyzed these cases more exactly, we found that these patients, from too great a sentiment of cleanliness, washed the ointment off as soon as it was rubbed in; doing so, they did away with every chance of evaporation, and the cure did not exhibit the good effects which other patients showed who did not wash it off Many doctors, therefore, make it a point not to allow syphilitic patients to take a bath more than once a week. If you make an experiment, by covering the anointed parts of the body by means of an impermeable cloth, you will also not have the good effects of mercury. That mercury, by evaporation, might do much harm you all know, from the experiences of the workingmen in looking-glass factories, and also that this harm is only prevented by keeping the mouth and teeth clean.

Dr. Anuschat shows that mercury, if completely extinguished by means of a fat and administered by the mouth, will be divided so minutely through the power of emulsion of the bile that, being reabsorbed by the gut, and after having reached the circulating blood, it manifests its efficacy in the shape of vapor. He shows furthermore that the chief essential is that a sufficient quantity of fat is introduced into the bowels to secure an efficient emulsion. The German Pharmacopeia, in the manufacturing of blue ointment, no longer uses lard, but lanolin, and I think it is a very great improvement. Lanolin is certainly one of the best constituents for any ointment. Dr. Anuschat[1] gives, in general, a pill mass of pure metallic mercury, 75 grains; lanolin, 150 grains; and to have it triturated as perfectly and exactly as possible, adds some Althææ radix and makes one hundred pills. Each pill contains three-quarters of a grain of mercury, which corresponds to a cutaneous inunction of about 45 grains of blue ointment. He gives one pill twice a day; in severe cases he increased the dose to two pills two or three times a day. He makes it a point to give simultaneously much fat and alcohol, particularly the former.

Another German physician, Dr. L. Silberstein,[2] followed this advice, by prescribing the mass in the following formula:

Unguenti lanolini; hydrargyri cinerei	67.5 grains.
Licorice powder	75 grains.
Glycerin	5 drops.

Mucilage enough to make a mass for 60 pills.
S. Two pills twice a day.

Each pill of this contains three-eighths of a grain of mercury, two pills being equal to three-quarters of a grain, equal to that of Dr. Anuschat. Dr. Silberstein reports fifty cases treated by this method, and is very much pleased with it.

The unpleasant effects that might be occasioned by any mercury treatment are surely not greater and more common; on the contrary, they are rather smaller and rarer by this method. As a matter of course, the mouth and teeth have to be cleaned thoroughly, especially has the patient to use the tooth-brush after each meal. Dr. Silberstein has seen such good results that he had hardly any occasion to give a gargling water. Colics or dysentery that may follow mercury are prevented by taking care that the patient has a regular action of the bowels every day. If necessary, give a tablespoonful of castor-oil, which usually removes any trouble of this kind, possibly by improving the emulsion. It may not be time to proclaim this method of treatment as *the* treatment, and I can only add three cases in which I used the administration of blue ointment by the mouth. But even these three cases would induce me, if occasion allows, to treat syphilis in this manner again.

Case 1.—A man, 32 years of age, was infected several years ago; had ulcers on his tongue and tonsils, exanthema on forehead, psoriasis plantæ manus. Ordered one pill twice a day. All symptoms have disappeared after a lapse of five weeks.[1]

Case 2.—A woman had an indurated ulcer on the left labium majus; ulcers in the groins; plaques on tongue, palate and tonsils; corona veneraria; infection three months ago. Ordered two pills twice a day. Improvement was shown within three weeks; then there was an interval in the treatment; again two pills twice a day. Symptoms have completely disappeared seven weeks after the beginning of the treatment.

A third case is just now under my treatment and is improving.

NOTE.—In the time between the reading and printing of this paper I have treated two other cases, one, a woman having ulcers of the skin on different parts of the body, especially on knee and tibia. The other case was in a child afflicted by congenital lues. The two cases yielded readily. All the symptoms have disappeared.

The blue ointment I used was the U. S. P. ointment, but of 33.3 per cent. strength. I had the pills prepared by adding licorice powder, and gave them in capsules. I found the best time for taking the capsules was an hour or more after meals. I did this, thinking that the capsules are passed very soon to the duodenum, so that they come in contact with the bile in the second or third hour after the meal, when the secretion of the duodenal juice and of the bile is at its best. In the meantime I induced Parke, Davis & Co. to make a pill according to a prescription which I thought of great advantage. This pill, samples of which I take occasion to exhibit before you, contain three-eighths of a grain of metallic mercury, three-fourths of a grain of lanolin and one grain of purified oxgall; this pill has the regular enteric coating, and is but dissolved in the duodenum in contact with an alkaline fluid and bile. As a matter of course, the more exact and minute the division of the mercury, the better is the ointment. Parke, Davis & Co. wrote me: "We observed your instructions to triturate the mercury with the lanolin until all evidence of globules of metallic mercury disappeared," and, indeed, if you bring their pills under the microscope and compare them with the common blue ointment, prepared from lard, the difference between the two will strike you at once; you will find relatively large globules of metallic mercury in the lard ointment, while you hardly, and with difficulty, will meet with any evidence of the mercury in the well-triturated lanolin ointment. I know very well that the human body is no chemic laboratory, nor the gut a test-tube, but some rough experiments I made may give a conception of the advisability of having the pills dissolved elsewhere than in the stomach. Many drugs, among them mercury, have better effect if not dissolved in the stomach, but after having passed it, and that especially if given in fatty substances; and in particular in this enteric pill it "does not knock the stomach out," according to the wording of one of my patients, as he found that the red iodid of mercury does. I made some experiments upon the solution and emulsion of this mecurial pill:

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[1] This patient said to me three months later that he never had a quicker working and more pleasant medicine to take than this pill.

1. In a liquid similar to the gastric juice—water with hydrochloric acid and pepsin. The pill is not dissolved, and even without the coating, blue ointment is not changed by it.
2. In a liquid similar to the alkaline juice of the duodenum—water with pancreatin. It readily dissolves the coating and changes the pill.
3. In another liquid containing oxgall alone. The pill is dissolved.
4. In another liquid containing oxgall and pancreatin. The pill is also dissolved.
5. I made an experiment introducing a fatty acid into the liquid and that in the shape of a chocolate—the Hauswaldt Vigor Chocolate.
6. I also made an experiment with cod-liver oil.

These last two experiments show the best and most thorough emulsions.

As Dr. Anuschat already made it a point to give simultaneously fatty substances, I believe it would be a good thing to give cod-liver oil; but we all know how little the patients like it; a much better and much more pleasant substitute is to be found in the Hauswaldt Vigor chocolate.[3] Two members of this Mississippi Valley Medical Association, Dr. Thomas Hunt Stucky[4] of Louisville, and Dr. I. N. Love[5] of St. Louis, recommended the chocolate. I have prescribed Vigor chocolate in many cases of adults as well as children. If you eat some of the common chocolate you get tired of it very soon, and so does your alimentary tract. This is not by any means the case with this special preparation of Vigor chocolate. It is prepared by the addition of fatty acid to the cocoa. I have had patients who ate this chocolate for weeks and weeks, and that in a dose quite impossible with other preparations. Even children are enabled to eat as much as half a pound of it daily.

In cases of syphilis, where we intend to give blue ointment by the mouth, this chocolate might serve a double purpose: 1, it helps the emulsion of the blue ointment better than anything else, and thus the mercury will have a greater effect.

The time has passed when physicians thought and taught that the best method of killing the syphilitic infection is the starving of the unfortunate patient. At the present time the physicians make it their duty to keep up the strength of the patients in any case, and not the least in the individual afflicted by lues. In no country of the world, I believe, do people wish to get not only a good medicine, but what they regard even as higher—a pretty and pleasant medicine—more than in this country. If we can furnish it without interfering with the good effects of the remedy, why should we not do it? These pills—some of them I took myself for the experiment's sake—do not disturb the stomach or the bowels, and the chocolate is as good as, and I really believe even better than, any other kind of candy. The price of the pills as well as of the chocolate is certainly not higher than that of other remedies for that disease.

Aside from my subject proper, I would heartily advise the substitution of another fat instead of lard for the blue ointment. Lanolin is excellent for this purpose, though it might be a little more expensive. But in this country especially, we have a preparation that is exceedingly fitted for the manufacturing of blue ointment, namely, the purest American vaselin. Some years ago I used a blue ointment prepared with vasogen,[6] that is, purest vaselin impregnated with oxygen. It is very easily absorbable, can be rubbed into the skin in half the common dose and in half the time necessary for the same dose of common blue ointment. I have had no occasion to administer this vasogen preparation by the mouth, but I would do it if I could secure it.

The purpose of my paper was to induce you to try this method of treating lues, and I hope you, as well as the patient, will be pleased with it, for this method is that which we demand of a treatment: such as ought to cure *jucunde, cito et tute*—pleasantly, quickly and safely.

LITERATURE.

[1] Deutsche Med. Zeitung, 1896, Nos. 74 and 75.
[2] Therapeutische Monatshefte, 1898, p. 378.
[3] Ibid, 1896, p. 345.
[4] Extract from Clinical Lecture on Anemia, delivered at the Louisville City Hospital.
[5] Stenographic notes from the meeting of the Mississippi Valley Med. Associtaion, Detroit, Sept. 3–6, 1895.
[6] Therapeutische Monatshefte, 1896, p. 79.

1940 North Sixth Street.

Society Proceedings.

California Academy of Medicine.

Meeting of Feb. 28, 1899.

Dr. D. W. MONTGOMERY discussed and exhibited to the meeting

A CASE OF SYPHILIS

of a child about a year old, presented at his clinic some months ago, for a rash that had appeared on the buttocks. The rash was somewhat suspicious in its general aspect, but no history of syphilis could be elicited. He did not again see the child until about two weeks ago, when she presented a lesion of the tongue, a collection of condylomata, the patches being about one-quarter of an inch across, raised and of a whitish color, with sunken centers. They do not have the same typic appearance now that they did two weeks ago, but they are still very evident. The groups are about in the center of the dorsum of the tongue. At the corner of the mouth is a squamous, red, circinate lesion. The nose is somewhat sunken, and the child has had "snuffles," more or less badly for some time past. Aside from these lesions and symptoms, there is nothing to be noted; the nutrition is good and the child is well nourished. There are no disturbances of the bones, ears or eyes. The picture seems a typic one of inherited syphilis, yet but little history can be obtained. The mother is and has been perfectly well. She has been married for two years, this being her first child. The husband is perfectly well, as is also her mother, who lives with her and has handled the infant a great deal. The woman states that when she was 15 years old she took care of a woman who had some blood disease which she had been warned against, by a third woman who attended the sick one. She thinks she contracted the disease from this patient, for at that time she had bad sore throat and some sores, one of which has left a scar on the forehead. The Doctor did not make the diagnosis of syphilis until the condylomata appeared.

Drs. WM WATT KERR and HERBERT MOFFITT presented a case of

TYPHOID MENINGITIS.

The patient, a waiter, 28 years old, entered the City and County Hospital on Sept. 29, 1898. He was in a very stupid condition at that time, and his statements were somewhat contradictory. The history elicited, as well as possible under the circumstances, is as follows: The father died of some lung trouble; patient had always been well, except slight pertussis; he indulged moderately in tobacco and alcoholics. His present illness dated back about three or four weeks. At that time he was taken sick rather suddenly, with general weakness, fever, anorexia, headache and pain in the right iliac region; no cough or nosebleed; does not remember whether there had been diarrhea or vomiting. He entered the hospital on account of the pain in the right iliac region, general weakness and headache. On examination he was found to be very pale, much emaciated and had a dull, heavy look. Somewhat demented, he answered slowly and articulated poorly; there was no real aphasia. The pupils were equal and reacted normally; the eye muscles were normal; the tongue when protruded was deflected slightly to the right and was tremulous; there was no facial paralysis; the ears were not tender, and there was no discharge from them; no herpes; lungs were negative save for a few dry and moist râles. The only thing about the heart was a slight systolic murmur; otherwise negative. The abdomen was distended, tympanitic and with marked gurgling in the cecal region; there were no spots and no tenderness. The spleen seemed by percussion to be a little large. There were four or five typic pea-soup stools daily. Shortly after entrance the urine gave diazo reaction. A little albumin was present in the urine. The knee-jerks were present and equal. The pulse was markedly dicrotic. The Widal reacton was not obtained on entrance. The disease progressed in a rather unusual manner. The dulness and difficult articulation increased but there was no delirium. No pain seemed to be experienced, and there was no tenderness of the head or neck on pressure. The fever ran a most erratic course, resembling tubercular meningitis more closely than typhoid fever. The pulse was comparatively slow, ranging from 70 to 90; dicrotic. No spots appeared; the spleen remained unchanged as did also the knee-jerks; no eye symptoms made their appearance and there was no hyperesthesia. Diarrhea was persistent, and stools of the pea-soup variety. The patient emaciated very rapidly. The abdomen was not much distended but there was persistent gurgling. The Widal reaction, 1 to 40, was obtained one week before death, which occurred on October 23.

Autopsy showed a few healed ulcers in the lower ileum, with the shaven-beard appearance. They were certainly six to eight weeks old. The spleen was very slightly enlarged and very soft; the other organs were negative. The brain was everywhere covered with a thick, purulent exudate, yellow-red in color. Microscopically examined, diplococci and rod shaped round-end bacilli were found. Cultures were made, which showed mobile bacilli giving negative glucose test and clumping with typhoid serum. It was thought for a time that the case was one of tubercular meningitis. The lungs were repeatedly examined, with but negative result. The sputum was carefully examined, but no germs were found. One point of interest in this case is that the meningitis was not secondary to any middle ear trouble, as is generally the case with typhoid meningitis. Here the meningitis was a direct infection of the typhoid bacillus, and of a most unusual nature.

Dr. Moffitt—I have been able to find but eighteen or nineteen cases of typhoid meningitis recorded. Most of these are reported by Keen in his "Surgical Complications of Typhoid Fever," and by Ohlmacher, in an article in the Journal of the American Medical Association (Aug. 28, 1897). Osler and others mention the complication and cite some cases. Of those I have found reported, 16 presented the typhoid bacillus on microscopic examination, and in 12 of these it was a pure typhoid infection. Wolf has gathered the data of 174 cases of typhoid meningitis, and finds that 2.87 per cent. were caused by typhoid infection alone. Thus far all the cases recognized have been fatal. Seven of the 16 cases began in the third or fourth week. The exudate may be either serous, sero-purulent, or purulent. It is usually very thick and viscid. In this case the diplococcus was also found.

Dr. E. E. Kelly—I recently saw a case of meningitis, not, however, due to typhoid infection, but which was rather peculiar and puzzling. I was called late one evening to see a young man who had had the grip for some little time, but had not been very sick. At 7 o'clock in the evening of the night in which I was called, the landlady had suggested that he send for a doctor, as he seemed to be quite ill. He refused, however, and when she again saw him, some hours later, he was delirious. I was then sent for and found him in violent convulsions, the right eye fixed, the pupils normal, but the eyes somewhat glazed. There was no ear trouble, nor had there been. He died that night, and autopsy showed a septic meningitis of the right frontal lobe. Tracing down the disease, I found infection following the path of the right ophthalmic vein. The meningitis was not diffuse, but was confined entirely to the right frontal lobe.

Dr. J. Henry Barbat—I have seen several cases of meningitis following grip, some of which recovered, but most of which were fatal. I remember three or four occurring in children, one case in particular, which illustrated the direct transmission of the disease. It first appeared in a perfectly healthy mother of a six-weeks-old child; the child had been previously healthy. Three days after the grip appeared in the mother, the child presented every symptom of the disease. It was sore all over, and evidently suffered when touched or moved. In a day or two it developed evidences of meningitis, which it survived, subsequently dying of the resultant hydrocephalus.

Dr. Harold Brunn—I have seen two cases of meningitis in typhoid fever. In one of them the symptoms were most pronounced, but on autopsy no brain lesion was observable. In the other case there was some trifling doubt as to the exact diagnosis, though most of the symptoms of typhoid meningitis were present. The occurrence of this complication in typhoid fever is, fortunately, most rare, as the termination seems always to be a fatal one.

Dr. Kerr—I have seen a number of cases of meningitis following the grip, in many of which the question of infection was not clear, owing to the possibility of cerebrospinal meningitis infection. Some cases develop meningitis very suddenly and without a previous history of grip, yet the appearance and symptoms are very like those cases in which the meningitis is preceded by an attack of grip. I had intended to speak of two or three other cases of meningitis in this connection. The first case was diagnosed as "locomotor ataxia," at the city hall, for the reason that the man staggered and reeled in his attempts to walk. When he reached the hospital he was found to have a bronchopneumonia. There was a double otorrhea. The man was in a condition of partial stupor, and died in a few days. Autopsy revealed purulent meningitis of the brain and spinal cord. In this case the real infection is doubtful; it might have been a case following grip, or the infection may have been the pneumococcus. The particular germ was not discovered.

The second case was much the same, save that in this one there was a history of strong alcoholism, an enlarged liver and every symptom of meningitis—pain and stiffness of the neck, soreness of the neck and head, etc. Autopsy showed about the same condition as the previous case. In both there was a history of grip.

The third case gave no history of grip, but is interesting for other reasons. It occurred in a woman of 23 or 24 years of age. She had been much about the camps recently abandoned by the troops centered here. As we all know, there was much cerebrospinal meningitis in these camps, and I had been watching to see if cases did not develop in persons much about the camps or the camp-grounds. This woman presented a classic case of the disease, though the outcome I do not know. I suppose she died, for she was very low when I saw her in consultation.

The fourth case developed in a young woman who had had grip two or three weeks before the onset of the disease. The meningitis may have followed the grip, or it may have been a cerebrospinal meningitis; the influenza bacillus was not isolated. The hospital record gives the following statement of her condition when examined:

Feb. 5, 1899: Eyes normal—no dilatation of the pupils; pupils respond normally to light; tongue moist, coated and white; tremor in the jaw on opening and closing the mouth; no pain when at rest, but pain present on turning or rotating the head or moving any part of the body. When the legs are moved the patient complains of pain in the neighborhood of the sacrum. There is no disturbance of speech; the abdomen is retracted. There is rigidity of both arms and legs, on passive movement, especially so in extension; particularly marked at elbow and knee-joints. There is no tenderness on pressure except over the course of the posterior tibial nerve.

A peculiar feature is the spinal pain; over the cervical and lumbar regions there is tenderness; in the dorsal region, however, this is not noted. Some loss of motor power in both arms is noted. There is no cutaneous hyperesthesia; the tendon reflexes are exaggerated on both sides, especially the right plantar. The patient entered the hospital at 4 p.m., February 5. The pulse was then 104, respiration 20, and the temperature 38.5 C. She complained of severe headache; the pulse was irregular. Urine and fecal matter, very loose in consistency, were voided involuntarily. She was given peptonized milk, 4 oz. every two hours, strontium bromid, gr. 20 every six hours, and tincture digitalis, 10 gtt. every five hours. February 6, the temperature at 9 a.m. was 37 C. It gradually rose until midnight, when it reached its highest point, 38 C. The respirations were 18 and the pulse 100, with very little variation from these figures. The pulse became regular at 9 p.m. and remained so; urinated once, voluntarily, 16 ounces. The patient, it is noted, lies for the greater part of the time in a stupor, not speaking until forced to do so.

February 7: The temperature followed the same course as on the previous day, save that the highest point was reached at 9 P.M., and is recorded as 38.1 C.; urinated involuntarily all day long; suffered greatly from pain in the head and back.

February 8: Temperature, pulse and respirations became normal and so remained throughout the course of the disease. The patient asked for a vessel in which to urinate; complained but little of pain in the head when moved; takes milk, 6 ounces, every two hours.

February 9: Milk increased to 8 ounces every two hours; bowel movements daily; stools controlled, though sphincter somewhat relaxed.

February 10: The tenderness in the legs is much less, but there is still some pain on moving the head.

February 13: Pain gone from the legs; no pain on moving the head; no soreness of back; patient seems to be much interested in her surroundings.

February 16: All medicines discontinued. From this time on the patient has had no pain; has talked readily, and has gradually increased in strength. This case is but one of a number which I have seen or heard of, where the infection was apparently derived from the old army camps. In this case the picture was almost a perfect one of cerebrospinal meningitis, with a pretty clear indication of the place where the infection was derived.

Dr. Moffitt—I recall two or three cases of this sort that were rather interesting. One at the hospital, presented a very large herpes of the nose, cheek and lip. On autopsy the brain and spinal cord were found to be very much involved. Diplococci were found, but no influenza or pneumococcus bacilli. When the meningitis follows grip, we may or may not find the influenza germ, for the reason that some other bacillus may have displaced it by the time we come to make our cultures. In this way a pneumococcus may displace the influenza germ, or it may be displaced by a diplococcus. I saw a boy last week whom I had examined two months ago, at which time there was nothing wrong with him save a slight double mitral murmur, probably of long standing. Last Friday he was well and went to the theater in the evening. While there he was suddenly taken sick; by the time he reached home, where he was at once removed, he was wildly delirious; twelve hours later coma supervened, which lasted for about twelve hours and was then replaced by delirium. He was absolutely deaf, and presented a picture of cerebrospinal meningitis that could not be mistaken. The calves were hyperesthetic; the neck was stiff and painful; the head was sore and tender and there was herpes. No autopsy was permitted nor was lumbar puncture allowed. Leucocytosis, 20,000. There had been no history of grip, but there had been slight bronchitis. On the day of the funeral, while at the cemetery, a younger brother became suddenly, and without any premonitory symptoms, absolutely deaf. In a few hours he became wildly delirious, showing headache, stiff neck, pain, tenderness, etc. There was nothing in the urine nor in the secretions from the nose or throat, or expectorated material; some bronchitis was present. The knees were red and tender, and in this case also a count showed 20,000 leucocytes. He had a slight nose-cold for two or three days previously, but nothing that amounted to much. This is now nearly the sixth day of the disease, and he is somewhat better. I hope to be able to make lumbar puncture on this case, or, if he dies, perform an autopsy. The question of etiology in these cases is a most interesting and also a most puzzling one. Is this meningeal trouble due to an infection by the influenza bacillus, or is it a true infection by the cerebrospinal meningitis germ? These two boys were in the habit of going to the old campgrounds to play ball, about two or three times a week, which fact may have something to do with the causation. One fact would seem to indicate that the infection was not either due to influenza or bronchopneumonia, for in neither of these diseases do we find leucocytosis, so far as I am aware.

Dr. S. J. Hunkin—I have seen a great many cases of tubercular meningitis, some of which strongly resembled meningitis from other infection. I recall one in particular, occurring in a little chap who had tubercular hip-joint trouble and had been under my observation for several years. He spent a good deal of his time, nearly all of it in fact, at the camps. One day he suddenly developed headache, stiff neck, herpes, etc. I gave him a good calomel purge, and the next day he was much better. The following day he was in convulsions; headache, stiff neck, etc., very marked, and the most exaggerated opisthotonos I have ever seen. He died on the third day, or a week from the first onset of the disease. There was no autopsy and the death certificate gave "tubercular meningitis" as the cause of death, though I have my grave doubts as to that being the case. It looked much more, to me, like a case of cerebrospinal meningitis. I have seen several cases in the Richmond district, of cerebrospinal meningitis occurring in persons who had been at or near the camps a good deal. In regard to lumbar puncture for tubercular meningitis, we have used the method quite a little at the Children's Hospital, but have seen no particular good results follow its use. It is very easy and is not at all painful; quite a lot of fluid may be at times removed. We made some measurements to determine the pressure within the canal; we found that it would support a column of fluid from 60 to 70 cm. in height. We have not yet found any tubercle bacilli in the withdrawn fluid, though we have found numbers of diplococci.

Dr. Huntington—I have heard of a number of cases of cerebrospinal meningitis which have recently occurred in the vicinity of Sacramento, but the source of the infection is, to the best of my belief, quite unknown.

Dr. Kerr—I remember seeing one case that in the suddenness of the onset very much resembled the cases reported by Dr. Moffitt. The boy went across the bay, was perfectly well when he left home, and was taken sick without any warning when he reached Oakland. He was brought home immediately and, I think, died. The onset was sudden and without any premonitory symptoms of any sort.

Dr. Moffitt—It is stated that the organisms are sometimes found in the herpes, though I have not found any there. In Dr. Hunkin's case the presence of herpes, together with the other symptoms of the case, would seem to quite contraindicate the possibility of the disease having been tuberculous meningitis.

HABITUAL ABORTION.

Dr. Kreutzmann presented a specimen, it being a placenta recently discharged, together with its accompanying membranes, from a woman with the following history: She is 33 years old; menstruation always been right; general health good; married in 1892. Five months later she became pregnant, and in the fifth month of pregnancy, having been perfectly well up to that time, her feet and legs swelled and she had some trouble with her eyes. There was no nausea or vomiting, and but little feeling of life of the fetus, which was prematurely delivered in October, 1893. There was no fever afterward; no data could be obtained as to the nature of the placenta. Soon after the miscarriage the eyes recovered and the swelling of the feet disappeared. In August, 1894, she again conceived, but was prematurely delivered in March, 1895, the fetus coming away six weeks before full term. For two weeks before this premature delivery there had been some swelling of the feet. This premature delivery was brought about by a physician, though for what reason could not be ascertained. The fetus was alive at the time the delivery was brought about, but it died during the manipulations for delivery. She conceived again in January, 1895, aborting in July of the same year. At this time also, there was some swelling of the feet, though no eye symptoms. I first saw the patient in January, 1897. She had then some relaxation of the pelvic organs, but the general health was good. I curetted the uterus and sewed up a small tear, since which time she has been well. Three weeks ago she came to engage me to attend her in her confinement, she being then four months pregnant. She stated that she felt perfectly well and was anxious to have a child. The urine, which I have examined every few days since that time, I find contains albumin in small amount, together with casts both granular and hyaline. She was quite well for two weeks after seeing me, but had a showing of blood and sent for me at the end of that time. There was considerable pain, and in spite of all efforts the abortion continued and the ovum came away entire. The fetus was very small for the time of gestation. The placenta presents some points of interest. It exhibits a number of white infarcts and is very small. The cause commonly found to be the secret of abortion is syphilis; this woman has no syphilis nor has her husband. The next most common cause of habitual abortion is renal disease, in which affection we frequently find the white infarcts in the placenta. There can be no doubt of the connection between the renal disease, the white infarcts and the habitual abortion, though what the exact connection may be we do not know. It is not my intention to say that in all cases of renal disease we find these infarcts in the placenta and habitual abortion, for you all know that many cases of renal disease exist and do not interfere with the course of gestation. But when we find renal disease and habitual abortion, we may be confident that the renal disease is the cause of the abortions. Opinions vary as to the anatomy of these infarcts. It is believed by some that it is interstitial inflammation with ensuing cirrhosis. There are two general forms of renal affection which seem to have this action upon the process of gestation: 1. The "kidney of pregnancy," as it has been called. Here we have to do with a large, white, edematous kidney, with fatty degeneration of the epithelium, observed generally in primiparas. It frequently is the cause of eclampsia. At the end of gestation the kidney returns to its normal condition and the patient is again quite well. Usually in these cases the renal disease does not recur with subsequent pregnancies, but in some cases it does so recur. This case is one of those in which it recurs. These are favorable cases for the mother, for after the pregnancy, the woman returns to her normal condition and all is well. 2. We have the true nephritis, the pregnancy being simply added to that condition of disease. Here the disease is aggravated by the pregnancy, and though it quiets down after the end of the gestation, the disease remains and becomes constantly worse. These are bad cases for the mother, for the disease is progressive and does not disappear with the end of pregnancy.

SKIAGRAPHIC ERRORS.

Dr. Dudley Tait exhibited some skiagraphs illustrating errors which the surgeon might be permitted to fall into through the mistaken translation of the picture furnished by the X-rays. The first skiagraph was one of tubercular lesions involving the tarsal bones and ankle-joint. Here the diagnosis of tuberculosis of the bones of the foot was plain on inspection of the picture plate, but the condition of the joint and bones of the leg could not be made out. The blur noticeable in this region was attributed to the existing edema of the soft parts. Nevertheless, an amputation was performed at the middle of the leg. Examination of the specimen showed that the disease had involved not only the tarsal bones but the ankle-joint, which was filled with pus, and also both bones of the leg. The second case was one of tumor of the chest, in a boy of 14 years, seen at the French Hospital. There was a bulging mass in the right subclavicular region, though beyond this fact nothing positive could be ascertained by the ordinary methods of diagnosis. There was diminished fremitus over the greater portion of the right side anteriorly. Respiration could be heard, posteriorly, over the entire right side, and down to the third rib anteriorly, in the mammary line. The skiagraph showed a mass which appeared to be confined to the chest wall. A large flap was accordingly made, and an extensive resection of ribs begun. The removal of portions of the third and fourth ribs made it possible to explore the mass, which, to the astonishment of all present, was found to fill the greater part of the right side of the chest, bulging toward the mediastinum and upward in the direction of the axilla. The connections of the tumor (an angiosarcoma) with the chest wall and sternum and its enormous dimensions precluded all surgical intervention. In the third case, Dr. Tait had made a diagnosis of hysteric spine. A skiagraph was made, and both the gentleman who made the skiagraph and Dr. Tait agreed, from the appearance of the plate, that there was undoubtedly some lesion of the tenth vertebra. A skiagraph, made two weeks later failed to show any vertebral lesion whatsoever; the column appeared perfectly normal. In order to become a precise means of diagnosis, much thought must be given to the question of X-rays. The tube, the time of exposure, the relation of patient to tube, etc., must all be carefully considered; and, above all, the proper interpretation of the skiagraph is of paramount importance. X ray work, and especially the interpretation of such work, should be done by a medical man, and should, under no circumstances, be placed in the hands of a tyro. The results of an improper examination, or an erroneous interpretation of the skiagraph may be not alone ridiculous but disastrous for the patient.

Dr. Philip Mills Jones—The taking of a proper skiagraph is by no means an easy or trifling thing. All the conditions under which the exposure is made have to be taken into consideration, and the proper interpretation of the resultant picture is the most difficult part of the examination. I am inclined to think, in the case of the tuberculous foot presented by Dr. Tait, that a careful inspection of the picture by one who had much experience in such work would have revealed the true condition. The shadow of the diseased bone in the tibia is quite plain to my eyes, though it might not be to one who has seen fewer skiagraphs than have come within my ken. The interpretation of the pictures obtained must depend to a large extent upon the knowledge obtained at the operating table. For until one knows exactly what the real condition which gives rise to a certain set of shadows is, he is unable to say what the real cause of those shadows may be when he sees them in a skiagraph, As we learn what the conditions are, either from operation or through autopsies, then we may interpret the skiagraphs wherein we find similar shadows, more satisfactorily.

Chicago Academy of Medicine.

Regular Meeting, Feb. 10, 1899.

(Continued from page 549).

RELATION OF ACUTE INFECTIOUS DISEASES TO NEPHRITIS.

Dr. Frank X. Walls—The relation of the acute infectious diseases to nephritis may be taken up in two ways, either as causative or being caused by nephritis. In three ways the acute infectious disease might cause nephritis directly or indirectly, and in an indirect way may be either proximate or remote. In a direct way Bright's disease might be produced by the action of the specific micro-organism of the infectious diseases acting directly upon the renal tissue. There is considerable evidence at hand to show that the pathogenic bacteria may bring about such nephritis, as evidenced by the finding in the urine of patients with infectious diseases, and in the kidney, pathogenic micro-organisms. The micro-organisms of pneumonia, of tetanus, of glanders and of typhoid have been found either in the urine or in the kidneys. In this direct way any acute infectious disease might cause a nephritis, though we must admit that this manner of exciting nephritis is rare. In the greater number of cases of nephritis we believe the acute infectious diseases are related in a more indirect way. The infectious diseases may indirectly produce a nephritis in two ways—either by the action of bacterial toxic products upon the renal tissues, or by producing certain changes in the organism that in turn are responsible for the nephritis.

The first of these ways we may speak of as proximately indirect; the latter as remotely indirect. In a remote and indirect way we might instance the occurrence of nephritis from thermal conditions, as at the beginning of many acute infectious diseases we have a considerable rise of temperature. Whether this alone would bring about a nephritis is a question. It is questionable, too, whether or not the action of the specific infectious disease on the central nervous system, by causing an eclamptic attack, could bring about such a congestive disorder as would lead to nephritis; whether the action upon the skin, as in scarlatina, where we have a profound disturbance of the skin evidenced by the exanthema and marked desquamation, and whether this change in the skin, because of the intimate vicarious relation between the skin and kidney, might have something to do with causing a nephritis; and whether anemic conditions, blood stasis or debility that might succeed an acute infectious disease could bring about nephritis. In these ways nephritis might be caused indirectly. In a greater number of cases the nephritis is produced in a more proximate but yet indirect manner, that is, by the action of the peculiar toxic bodies elaborated during the growth of the micro-organisms within the human economy. The best known of these bodies are those that have been isolated from diphtheria and tetanus. Numerous other bodies have been described in connection with the other acute infectious diseases, such as typhoid, cholera, glanders, etc.

In the other infectious diseases where the micro-organisms have either not been described, or have not been cultivated, it is believed that such bodies are doubtless produced because of the increased toxicity of the blood and the urine, and the similarity of the pathologic conditions found post-mortem, and those known to be caused by the toxalbumins. As to the nature of the bodies called toxalbumins, there is at present very little known. Some question whether or not they are albumins; whether or not they simply consist of non-poisonous, albuminous bases to which the toxic material is added. Others look upon the toxins as toxic enzymes, ferments which have a specific, selective, destructive, affinity for certain tissue molecules. Ehrlich recently, in discussing the toxic bodies, considered that we have two products of bacterial growth, one toxic and the other non toxic, or toxoid body. He believes both bodies have a selective affinity for certain cells; that the toxic and toxoid bodies may circulate in the blood for a variable period of time before they unite with the tissue-cells and form there a more or less durable connection. He offers a hypothetic explanation that the late complications of the infectious diseases, the sequelæ, may be due to the union of these non-toxoid bodies with the cells for which they have a selective affinity. There is much that is inexplicable in connection with this question of the production of nephritis by the toxic bodies produced during the infectious diseases. We might expect that if the toxic bodies produced during the acute infectious diseases are the sole excitors of nephritis, where the infection was profound, the amount of toxin would be greater, and that we would have a proportionate disturbance of renal structure: that is, a disturbance of the kidney structure proportionate to the severity of the disease. In other words, we would have in severe cases of acute infectious disease severe complications on the part of the different organs, such as the kidney.

We find, however, that such is not the fact clinically. The variability in the proportion and severity of cases of nephritis that follow some of the acute infectious diseases is remarkable. During some epidemics of scarlet fever the occurrence of nephritis is as low as 5 per cent.; in other epidemics as high as 90 per cent. of the cases will be followed by renal disease. This is not to be explained on the ground of the severity of the infection nor the mildness of the infection, as severe cases are not followed any oftener by nephritis than mild ones. In an individual case of infectious disease we are not permitted from the intensity of the infection, to presage whether or not we are going to have, or will be more liable to have, a nephritis following. There seems to be no rule in that regard. Nephritis may occur during the course of an acute infectious disease either at the onset, at the acme, during the decline of the disease, or as a sequel. One can only speculate as to how nephritis is brought about at these different times; whether in a given infectious disease it is the same toxic body that produces the nephritis at these different periods, or is a combination of different bodies, or whether it is the same toxic substance that is modified as to its concentration, as to its amount, or as to the duration of its action is a question. In general, it is true that the duration of the action of the toxin has a greater effect in producing an injurious action upon the cells than the strength of the toxin alone. These are among the points that occur to me in con sidering the subject of the relation of infectious diseases to nephritis.

RELATIONS OF GONORRHEA TO NEPHRITIS.

Dr. **William L. Baum**—There are two ways in which gonorrhea may act as an etiologic factor in nephritis: 1, in the direct extension of the gonorrheal process; 2, in pathologic changes due to gonorrheal processes in the urethra. It is often difficult to establish the first, yet there are cases in which during a gonorrheal cystitis the infection extends upward through the ureters to the pelvis of the kidneys. It is not sufficient that there should be fever, pain in the back and albumin in the urine, but there must also be found casts and epithelium of the straight urinary tubules. I have found these symptoms present in two cases. Similar cases have been reported by Vidal, Rosenstein, Zeissl, Finger and Fuerbringer. Murchison reported an autopsy on a case of suppurative pyelonephritis of gonorrheal origin.

In many cases where the gonorrheal process has long since disappeared there are remaining tissue changes, or rather strictures, in the urethra as a result of the periurethritis. These strictures may not infringe to a great extent upon the lumen of the canal. A few drops of urine remaining behind the site of these constrictions keep up a constant irritation, followed in most cases by some congestive enlargement of the prostate. With these local conditions present it requires more effort upon the part of the muscular fibers of the bladder to expel the urine. The constant exercise of these muscular fibers leads to the hypertrophy of the muscular coats of the bladder, and produces a condition known as concentric hypertrophy of the bladder. In all such cases there is considerable backward pressure, producing dilatation of the ureters, a condition with which all pathologists are familiar. This backward pressure, slightly relieved at times by the evacuation of the bladder, must lead to chronic congestion of the kidneys, and inevitably, in the course of time, to tissue changes in the kidney substance itself, for overdilatation of vessels means not only a perverted elimination, but changes in the vessel walls themselves, sometimes an endoarteritis with ultimate occlusion of the vessel. It is at this stage that the evidences of tissue changes in the kidneys are found in the urine, and that clinical symptoms of nephritis are present.

ACUTE SYPHILITIC NEPHRITIS.

Dr. **William Allen Pusey**—With the time that is at my disposal in this discussion, it seems best to confine myself to acute syphilitic nephritis; since even the most cursory consideration of the entire subject of renal syphilis would require more time than I may occupy.

Our knowledge of syphilis as a cause of nephritis has been greatly increased in the last few years. A brief review of the literature of the subject will, therefore, I believe, be of interest. For the first suggestion of the possibility of syphilis setting up renal disease, we can go back as far as Valsalva and Morgagni, but their references to the subject are so meager and indefinite that they possess only historic interest. Little more can be said of the comments of Blackall, Gregory and Wells. Indeed the observers of the eighteenth century, even the shrewd careful students of syphilis of the first third of this century, failed to assign to syphilis any part in the production of renal disease. Such renal complications as occurred in the course of syphilis were attributed to the treatment, particularly to mercury. As to how nearly right they were in this, we shall consider further on.

The first actual fact in the study of renal syphilis was brought forward when Rayer, in 1840, described amyloid degeneration of the kidneys of syphilitic origin. The next contributor to the subject was Ricord in 1851. Subsequent contributors to our knowledge, who should be mentioned, are Virchow, Lancereaux, Perroud 1867, Jaccoud 1867, Descouts 1878, Drysdale 1879, Nagel 1882, Cornil and Brault 1883, Mauriac 1890, Lecorche and Talmon 1891, Peterson 1891, Geraud 1892, Darier, Barthelemy and Jaccoud 1893, and Neuman 1896. The stream of literature upon the subject, small and sluggish at the start and for a long time, has attained now a respectable size, though bearing no proportion to the torrent upon most other questions concerning syphilis.

As to the renal diseases in syphilis, statistics and experience are most conflicting. Furbringer (1882), in 100 untreated cases of syphilis with previously healthy kidneys, found eight cases (8 per cent.) which developed albuminuria. The most extensive investigations on the question of the frequency of syphilitic albuminuria are those of Peterson of St. Petersburg. In an investigation into visceral syphilis, he found in 88 necropsies on syphilis, 34 cases with renal lesions, and in 36 cases in which death had been caused by syphilis itself, he found that 7 of the patients had succumbed mainly to chronic nephritis. This led him to examine carefully the urine of 200 consecutive cases of syphilis. In this investigation he found that: 6.8 per cent. showed at some time transitory albuminuria, and 4.2 per cent. showed at some time genuine syphilitic albuminuria. In all cases the determination of albumin was by boiling and the nitric acid test after Esbach's rules, so that the findings are not open to the criticism of having been arrived at by too sensitive tests.

I believe these statistics as to the frequency of albuminuria in syphilis are a revelation to most American syphilographers, and at marked variance with their experience. It is my experience, and I believe the experience of many syphilographers, that syphilitic albuminuria does not occur in anything like 6 per cent. of the cases; 1 per cent. would, in my opinion, be a liberal estimate of the proportion of cases of syphilis showing albuminuria in America. As to the true nephritis, it is my experience that it is excessively rare in syphilis. To enumerate all the cases of syphilitic nephritis ever recorded would not be a difficult task, and that fact in itself testifies to the extreme rarity of the affection. However, there can be no question as to the reliability of Peterson as an observer, and we must conclude either that albuminuria is far more common among syphilitics in Russia than in this country, or that the very large proportion of cases of transitory syphilitic albuminuria are overlooked in this country.

The symptomatology of acute syphilitic nephritis differs practically not at all from the same affection due to other causes. The disease begins insidiously with lassitude, but not greater lassitude than could be attributed to the syphilis itself, and with perhaps lumbar pains. The existence of the nephritis may be overlooked unless the urine is examined, or edema develops. The nervous symptoms are not usually well marked, and they are most frequently entirely absent. Headache and digestive disturbances are the most frequent forms in which the general toxemia manifests itself, though fatal cases of uremic convulsions have been reported by Levi and others.

In degree of severity, these cases may be divided into three classes: 1, transitory albuminuria; 2, cases of well-developed typic acute nephritis; and 3, severe cases that may go on to fatal issue.

Objection may be made to the first class of cases, on the claim that they are not nephritis at all, but only cases of renal hyperemia or transitory albuminuria, whatever that may be; but bearing in mind that these cases show, along with albuminuria, epithelial and granular casts; that cases of all degrees of severity are seen, from slight transitory albuminuria, to typic cases of nephritis; that the causal factors are the same; and that under all circumstances the line between hyperemia and inflammation is an arbitrary one, there is, in my judgment, no good reason for separating these cases of transitory albuminuria from cases of genuine acute nephritis. The cases of transitory albuminuria are the most frequent manifestations of renal syphilis. In Peterson's statistics, they occur in 6.2 per cent. of all cases. I have indicated that this is far in excess of their occurrence in my experience. The most frequent time for the development of syphilitic albuminuria is two to three months after the appearance of secondaries.

Cases have been recorded by Cornil, Neumac, Fordyce, and others, where the appearance of nephritis has developed before the disappearance of the chancre, and a number of cases before the appearance of the secondaries. On the other hand, acute nephritis is a possible complication of syphilis during any period of its active course. Unless it has occurred during the active period of syphilis, acute nephritis is not likely to develop after two years from the date of the chancre.

The prognosis in syphilitic nephritis is usually good. The cases of transitory albuminuria disappear in a few weeks under mercurial treatment. The cases of acute nephritis average in length about five weeks. (Leufleur.) After the cases reach their acme, the albumin and inflammatory products in the urine gradually diminish. The albumin may last for several months before entirely disappearing, but this is unusual, unless the lesions fail to undergo resolution and the disease passes into a chronic interstitial or parenchymatous nephritis, which does happen, but with extreme rarity.

Cases of fatal acute syphilitic nephritis have been recorded by Prendergast, Fordyce, Darier, Hudelo, Levi, and Jaccoud. In Darier's case, death occurred in twenty-four days; in Prendergast's, in two weeks. A case with repeated attacks of acute nephritis that resulted fatally had been reported by Fordyce; this case died in two and a half years. The fatal cases that have been examined show the lesions of glomerulonephritis as it occurs in infectious diseases generally, and their pathologic anatomy, therefore, calls for no extensive comment.

As to the essential etiologic factors in the causation of syphilitic nephritis, there is, in the present state of our knowledge of nephritis, room for interesting speculation. The nephritis is variously ascribed to the irritation produced by the excretion of the toxic substances of syphilis, to bacteria, and to mercury. Assuming that syphilis is due to some bacterium, the most plausible opinion is that the nephritis is the result of the irritation produced by the excretion through the kidneys of the soluble products of the specific bacteria. It is not likely that it is due to the excretion of the bacteria themselves. In the first place, the urine of syphilitics is not contagious, unless it comes in contact with an open lesion somewhere in the genito urinary tract; and if the urine is not contagious, the conclusion seems reasonable that the bacteria do not pass through the kidneys. Again, the production of nephritis by the excretion of actual bacteria is rare, as the experiments of Herter, Welch and Flexner show; so that the finding of presumably pathogenic bacteria in the kidneys would not be conclusive. It must be said that the presence of bacteria has been claimed by Nagel in one of his cases, and the question has been studied from this standpoint by Bouchard, Lecorche and Talmon, and Mannaberg. The bacteriologic findings have not, however, been by any means uniform. Fordyce, for example, in his very careful study of a fatal case, found no bacteria in the kidneys.

The possibility of nephritis being due to mercury has been frequently suggested, and it must be admitted, I believe, that at times a nephritis possibly may be set up by mercury. The most extensive statistics upon this subject are those presented by Heller to the Berlin Medical Society in 1895. He examined 280 syphilitic cases, all whom, except one, had been treated for syphilis by subcutaneous injection or by inunction, within two years. These patients were all subjected to treatment, at the time of his examination, with mercury, either by injection or inunction, and he gives the astonishing report that 25 per cent. of those treated by inunction showed albumin, and 4 per cent. of those treated by injection. The albuminuria does not appear, according to his observations, until about twelve days after the beginning of treatment. In spite of his statistics, he makes the statement that "mercurial albuminuria is comparatively rare," and in his opinion it is not yet solved whether this mercurial albuminuria does any permanent harm. In the discussion of this paper, Prof. Lewin stated that he always used hypodermic injections of mercuric chlorid, and had never seen nephritis follow its use. He believes nephritis only supervenes with insoluble preparations where it is impossible to prevent the absorption of the mercury en masse. Furbringer stated in this same discussion that in his opinion there must be an individual predisposition in those cases. There is, in short, much uncertainty as to the extent of mercurial albuminuria.

However, I believe the statistics of Heller, Weylander and Furbringer force us to admit that mercurial albuminuria does at times occur. That it is a factor of very rare importance is in my opinion shown by several considerations. In the first place, it is a well-established fact, upon which practically all observers agree, that acute syphilitic nephritis yields promptly to mercurial treatment, and that it does not yield to the ordinary treatment of nephritis without the use of mercury. In the second place, syphilitic albuminuria has been frequently observed before the patient had taken any mercury. For example, Fordyce mentions several cases of this sort, and in one of Lafleur's fatal cases of parenchymatous nephritis, the patient had never had any treatment of any sort. Theoretic considerations also render it highly improbable that mercury, as ordinarily given, can set up nephritis in healthy kidneys. As shown by Herter, the kidneys are able to do an enormous amount of work in the excretion of metallic salts, without showing any ill effect. Herter's repeated efforts to produce glomerulo- or insterstitial nephritis in rabbits and dogs, with metallic poisons, failed, and his conclusions, from apparently very careful experiments, are that it is unlikely that chronic nephritis can be produced by throwing extra work on normal kidneys. On the other hand, the experiments of Welch and Flexner establish that it is easy to produce acute nephritis by the injection of soluble toxins, as of diphtheria. Morse has shown also that injection of the filtrate from staphylococcus pyogenes aureus can set up interstitial nephritis. In the face of such experiments as these, showing the impossibility of producing nephritis experimentally by non-poisonous doses of metals, and the ease with which nephritis is produced by the injection of soluble products of pathogenic bacteria, there seems to be little reason to dread the effect of irritation caused by the excretion of mercury, as compared with the irritation produced by the toxins of an infectious disease like syphilis. In corroboration of these experimental considerations, we have the overwhelming clinical fact of the prompt beneficial effect of mercury upon acute syphilitic nephritis.

RELATION OF NEPHRITIS TO PREGNANCY.

Dr. Charles E. Paddock—The etiology of nephritis in pregnancy has given the obstetrician no end of worry, and is probably at the present far from solution. That there is a nephritis which develops in pregnancy, is produced because of the puerperal state and usually disappears immediately following labor, there can be no doubt. Numerous theories have been advanced regarding the etiology, but the more recent one, that the nephritis is secondary and not primary, will no doubt be the means of solving the perplexing question. The symptoms are those of acute nephritis in the non-pregnant. There may or may not be albuminuria. The condition may manifest itself early in pregnancy, but usually comes on in the latter months, or following labor. To arrive at the cause of this nephritis, it is necessary to study the lesions which are found from eclampsia.

Schmorl (*Virchow's Arch.*, *St. Louis Med. and Surg. Jour.*, May, 1896) reports histologic findings in 23 cases dead from eclampsia. "In the vessels were found large multinucleated cells, which were considered to be cells derived from the placenta, and also multiple capillary thromboses. In the liver he found the chief changes to be necrotic in character. He found thrombi in the smaller veins and capillary vessels of the periportal tissue, and necrotic areas were to be seen. The kidney usually exhibited changes. The labyrinthian epithelium was swollen and often necrotic. The tabules contained degenerative products and casts. The glomeruli, except for evidences of albumin in the capsule of Bowman, exhibited little that was pathologic. From these facts the conclusion was drawn that the disease is essentially due to the pressure in the blood of coagulating ferment formed either by the degeneration of the free placental cells found in the blood, or by degenerative changes in the placenta itself. These thrombotic changes are paramount."

Tarnier describes these lesions of the different organs. He says the greatest changes seem to be in the liver, especially in the formation of infarcts and necrotic patches, and in the dilation of the capillaries.

Schmorl concludes from the lesions found that the symptoms produced are toxic in origin. Under normal conditions, according to Tarnier, these exhibit a certain amount of fatty degeneration of liver-cells during pregnancy. To account for the kidney lesion and the renal insufficiency, he suggests, "that there is an imperfect elimination of the non-nitrogenous product of retrograde metamorphosis due to the fatty degeneration of liver cells, whose activity is overburdened by the increase of biliary salts derived from the fetus, and which must be eliminated by the maternal liver." From this imperfect action of the liver, from its failure to entirely transform the waste non-nitrogenous products into urea, the kidney is irritated by bodies which are thus formed. Following this we have an inactivity of the renal organ. In thirteen cases of nephritis occurring during pregnancy, and resulting in death, degenerations of the hepatic cells and vessels were the primary lesions, the kidney lesion being secondary. Auto intoxication produced by a product of metabolism during pregnancy, this causing an overloading of the system and producing secondary changes in the liver and kidney, is a theory which presents some favorable points.

One of the latest theories, that a bacillus has been isolated which produces the toxemia and secondary nephritis, is not believed by bacteriologists.

It is difficult to explain away the theory of pressure upon the ureters or kidney. That nephritis occurs in primipara more often than multipara; that it occurs in twin pregnancies and hydramnios oftener than in normal conditions, is a factor in favor of this theory. Emptying the uterus usually succeeds in stopping a convulsion and correcting the kidney lesion, and it does not necessarily follow that a case of nephritis occurring during the first pregnancy will be followed by nephritis in subsequent pregnancies. Still, when we consider the number of cases of tumors, when the pressure upon the ureter and kidneys is much greater, and no nephritis is present, the "pressure theory" must be somewhat modified.

In the nephritis of pregnancy, i. e., when there has been no lesion of the kidney previous to this time, the prognosis under treatment is favorable.

SURGICAL TREATMENT OF NEPHRITIS OR BRIGHT'S DISEASE.

Dr. Alexander Hugh Ferguson—I desire to state, at the outset, that nephritis so far is purely a medical subject; that its surgical treatment is not mentioned in the various textbooks on surgery; that the inflammatory conditions spoken of in them are pyelitis and perinephritis, and that so-called surgical kidney is within the range of these as well as various other forms of suppuration in and about the kidney; and that the treatment for these has been nephrotomy and nephrectomy until quite recently, when Kelly introduced irrigation of the pelvis of the kidney for pyelitis. It was not my intention to publish my work in this direction so early, but the immediate results have been so satisfactory and the opportunity so propitious, that I feel constrained to give some of my observations. Nephritis, or Bright's disease, has an important surgical relation, and I predict that this new field will be the means of saving many a kidney from partial or total degeneration, often mitigating suffering and saving lives. The medical aspect at present of nephritis is a very sad one. The various pathologic changes are well known, but the treatment for these is everything but satisfactory. The best authorities on internal medicine admit that medication is almost invariably useless. In this connection I might quote Osler (p. 874), who, in speaking of acute nephritis, says: "For the persistent albuminuria, I agree with Roberts and Rosenstein that we have no remedy of the slightest value." The prognosis of chronic Bright's disease is admittedly very bad; as my good old professor used to say, "It is dark, dark, and as dark as dark."

The treatment consists largely in seeking a California climate. It matters not what the cause of the nephritis may be, whether it is due to cold, burns, skin affections, infectious fevers, contagious diseases, specific ailments, pyogenic organisms, chemic toxications, pregnancy or what not, circulatory changes are the first to occur, causing vascular engorgement and enlargement, with intracapsular tension of the kidney, and the secondary changes are epithelial. It is well known that certain blood pressure within the glomeruli, and the activity of kidney epithelium, accomplish the normal secretion of urine. This is the accepted view. Cohnheim has shown that renal epithelium is extremely sensitive to circulatory changes, and that compression of the renal artery for only a few minutes causes serious disturbance, as mentioned by Osler. It is wonderful, therefore, that an inflamed kidney ever recovers, and it no doubt does so on account of its great vascularity, abundant nutrition, and the wonderful sources of drainage it has through its uriniferous tubules. We are oftentimes surprised to find at autopsies the small amount of kidney tissue that had sufficed to carry on excretory functions during life, e. g., cases of hydronephrosis and renal calculi, where, not infrequently, there was but a thin peripheral layer of kidney tissue. We also know that many a person lives in apparent perfect health with but one kidney. If, therefore, nephritis can only be arrested so as to restore to health but a portion of kidney, just sufficient to carry on even a small portion of the excretory functions allotted to it, a great advance will have been made. This, I feel convinced, can readily be done by judicious surgical interference in properly selected cases and certain stages of the disease. The general surgical principles which we apply to control inflammation in other parts of the body should, as far as possible, be directed to the inflamed kidney: 1, remove the cause, if possible; 2, keep the inflamed part at rest; 3, reduce the local blood pressure; 4, prevent access of fresh etiologic agents; 5, hasten absorption and aid resolution: 6, relieve tension, and, 7, drain the inflammatory products. All these indications for treating inflammation, with the exception of the two last, are in nephritis well carried out by internal medication and the general management of the case. If an inflamed kidney were situated beneath the skin, in the loin, where it could be more easily palpated and explored, we would have no hesitation in recommending and employing bold surgical treatment when clearly indicated. The tension, threatening necrosis, molecular destruction and obstruction to excretion by the kidney would be relieved by aspiration, puncture, scarification, free incisions, thorough drainage, etc., as is carried out elsewhere.

It is interesting to look back and see how one error after another has been the means of advancing our medical knowledge and changed internal medication to operative procedures. It is now many years since the older surgeons opened kidneys expecting to find stone, but were rather chagrined at their error in diagnosis. I venture to say that every surgeon of large experience has committed this error, but none of them, as far as I know, has made a complete study of the condition of the kidneys in these cases. The post-operative diagnosis of these is usually put down as nephralgia. It was, however, pointed out by the more observant surgeons that the albuminuria, the hematuria, and local tenderness and pain often subsided after the operation. They were probably cases of nephritis, and were not recognized as such at the time.

Another class of cases that has come under surgical treatment, and from which important lessons may be learned bearing on this subject, is that of floating kidney. Some kidneys have been exposed for the relief of abnormal mobility, pain and tenderness, but in some cases, although the mobility was relieved, the pain and tenderness persisted. Again, it was noticed that these were usually the ones where the capsule was not split nor the kidney explored. There is no doubt in my mind that many of these tender and painful floating kidneys are cases of unrecognized nephritis. In this connection I would like to point out to you some of Reginald Harrison's work, in the *Medical Weekly*, October, 1896, and the *Medical Recorder*, November, 1896, who recommends puncture and incision through the capsule of the kidney to relieve tension. (Dr. Ferguson then gave some of his earlier and incomplete work which led to the complete study of two cases of nephritis which recently came under his care for surgical treatment.)

The following two cases were sent from a distance for diagnosis and treatment after internal medication, rest, etc., proved of no avail. These two cases were operated upon, the kidneys exposed, punctured, capsules peeled off in part or in whole, and the patient symptomatically cured.

Case 1.—Acute nephritis or Bright's disease, caused by exposure to cold. Pain persistent over left kidney with severe exacerbations for the last three years, incapacitating her for work for the last three months. Urine contained no albumin at any time, but was scanty. Hyaline casts were present in one specimen at several examinations. The kidney was explored and decapsulated. Immediate relief from pain was afforded, and patient walked out of the Post-Graduate Hospital symptomatically cured on the twenty-second day after operation.

This patient, Mrs. M., of Odell, Ill., was referred to me by Dr. Walter Fitzpatrick. She is of Irish extraction, and presented herself at the Post-Graduate Hospital complaining of pain in the region of the left kidney, and dizziness. She was 37 years of age; weighed 250 pounds; her occupation was that of housewife and washerwoman. Present illness began three years ago last December, when she felt the pain in the region of the left kidney for the first time. This pain has been constant, with exacerbations in that locality ever since. She has been able to attend to her duty until within the last three months, since which time she has been incapacitated from doing anything whatever. During the exacerbations the pain would radiate to the back and down the inguinal region. The spells lasted for two or three hours and would be brought on by exertion, and had to be relieved with morphin.

The previous illness and personal history are insignificant. She had always been healthy. Since her pain began she has been pregnant twice, carrying one child to full term, and miscarried six months ago, after which she was curetted to stop the flow of blood, but the pain in the kidney was never relieved, nor increased by these two pregnancies.

The family history is fairly good. Her mother, however, died of dropsy at the age of 61 years. She has five brothers, all in good health, except the youngest, who is 28 years of age, and has consumption.

Physical examination shows a stout, well-nourished woman, weighing 250 pounds; florid complexion; heart normal; pulse 86, full and strong; temperature 98.5; respiration 18; tongue clean; appetite fair; digestion good; bowels inclined to be constipated, some bloating, especially during the exacerbations of pain. Abdomen very fat and flaccid. No tumors could be felt. All abdominal organs, except left kidney, normal to touch; pelvic organs normal. The right kidney is not tender, but the left is extremely so on pressure, and deep pressure or prodding brings on an exacerbation or an attack of pain which lasted for nearly an hour. The urine is small in quantity, 24 ounces in twenty-four hours; clear, and of dark amber color when fresh, but on standing a few hours a deposit of urates and phosphates occurs. In six examinations of the urine before operation the specific gravity was between 1025 and 1026, acid reaction, no sugar, no albumin found at any time, no germs, no blood, and no pus. In one examination a few hyaline casts with uric acid crystals were found. She was observed for two weeks in the hospital before operation. No diagnosis was made, but a stone in the kidney was suspected, and exploration advised.

Operation and operative findings.—After the usual preparations with saline purge, ordered eight hours previously, etc., chloroform was administered, and an oblique incision seven inches long was made below the left costal arch, cutting through all the structures in the usual manner until the kidney was exposed. The fat being removed, the peeled-off capsule of the kidney was sutured to the lumbar fascia on either side of the wound, thus suspending it in the lumbar region. A large gauze drain was inserted at the posterior angle of the wound; the muscles sutured together with chromoform catgut, the skin with silkworm gut, and the wound dressed and the patient put to bed.

The kidney was found to be enlarged, 5 inches long and 2¾ inches broad, by actual measurement, and felt thicker than the normal; it was displaced somewhat downward and inward and encased in an enormous mass of fat. The capsule over the vertex being split, cortical substance protruded, clearly demonstrating the presence of intracapsular tension. The capsule was thicker than normal and non-adherent except about the center of the kidney on its anterior surface, where it was firmly attached. No bleeding occurred upon peeling off the capsule except at the point where it was firmly adherent. The kidney was explored in various directions by means of a blunt, straight needle; bleeding very freely took place, but no stone was detected. As no diagnosis was still made, I removed a small section from the cortex of the kidney at about its middle and had it examined in Klebs' laboratory, a report of which is here appended, and the case proved to be one of nephritis.

Progress.—The patient stood the operation well. With the exception of complaining of pain in the wound, she had no subsequent inconvenience. No shock was manifest. There was immediate relief of the chronic pain in the kidney; pulse 80; temperature 100 eight hours after the operation, during which time she had one dose of strychnia and one dose of codein. In fifteen hours the urine was drawn off with catheter; the quantity the first twenty-four hours was twenty-two ounces, and contained blood. On the third day there was a rise of temperature to 103, pulse 98, and respiration 25, which was due to the gauze in the wound preventing free exit to the enormous amount of blood serum pouring from the wound. This being rectified and a rubber drainage tube inserted with gauze, the temperature immediately subsided. She remained in bed for nearly three weeks; the wound closed perfectly, and on the twenty-second day she walked out of the hospital symptomatically cured. Her pain, tenderness and dizziness were completely relieved as the result.

Pathologic examination (Klebs' Pathologic Laboratory).—The section of kidney from the case of Mrs. M., sent to the laboratory January 4, 1899, presents the following changes: The connective-tissue growth is not extensive; the lining epithelium of the tubes is more implicated, as in chronic parenchymatous nephritis. The lining epithelium of the convoluted tubules shows cloudy swelling, and there is some small cell infiltration in some parts of the kidney, indicating that the inflammatory process is still existing. The epithelia of the glomeruli are nearly lost, some of the glomeruli consisting only of a homogeneous mass. Capsules of Bowman thickened; tubules with atrophic epithelium present, dilated tubules, desquamated epithelium in some of them, hyperplastic connective tissue around others. Pathologic diagnosis: "Interstitial nephritis with cloudy swelling."

Case 2.—Nephritis (Bright's disease). Chronic pain over the right kidney for two years, with acute exacerbations, confining her to bed for the last two months; addicted to morphia for the relief of pain, taking from two to eight grains in twenty-four hours. During the last eight months there has been a daily rise of temperature, chills, etc. Urine contained no albumin; a few coli bacilli and staphylococci present. Kidney was decapsulated, with immediate relief of pain and fever. Patient left hospital on the thirty-fifth day after operation, symptomatically cured. A small section about the size of a bean was removed from the cortex of the kidney for microscopic examination.

Mrs. W., of Stanton, Neb., referred to me by Dr. Persons, presented herself at the Post-Graduate Hospital complaining of chronic pain in the right kidney, daily return of fever, and morphin habit. She is 26 years of age, married, American. Her health was good until 1897, when she was taken with pulmonary hemorrhage, which was not severe, and has never returned. Three years ago she had a miscarriage. In August, 1897, a trachelorrhaphy was performed, which was not successful, suppuration having occurred. Immediately thereafter she was very ill with high fever and pain in the right kidney for the first time. Ever since this time she has been troubled off and on with pain in the kidney and with a pyrexia ranging from 99 to 104. In 1898, Dr. Lee of Omaha operated on her for biliary calculi successfully, removing gall-stones, and obtaining union of the wound by first intention. Tenderness and pain in the right kidney still persisted, and the fever was abated but for a short time after the operation. A second operation was done to liberate adhesions which might be the cause of her trouble. The wound of this operation also healed kindly, but she was not relieved of her pain and pyrexia. The last eight months she has been treated for malaria, without any benefit. The only thing in her personal history worth mentioning is unhappy relations with her husband. This gave her considerable worry. Her family history is good.

Physical examination.—Upon entering the hospital a scar was found over the gall-bladder; the abdomen was generally tender, more especially over the right kidney, which was apparently slightly enlarged, and could be felt by palpation. Deep pressure over the right kidney was unbearable. Uterus and adnexa were movable, but tender. Cervix was lacerated; the other abdominal organs were apparently normal; pulse 80; temperature 100; respiration 18. Twenty-three ounces of urine passed in twenty-four hours, specific gravity 1020, acid in reaction, no albumin, no sugar. A few corpuscles, a few casts and amorphous urates were found, the urine teeming with micro-organisms, coli bacteria, phagocytosis of very fine bacilli. Diagnosis: Septic kidney.

Operation and operative findings.—A transverse incision exposed the kidney. The fatty capsule was very scant and bled freely on removing it. The fibrous capsule, several times thicker than normal, was adherent to nearly all the anterior surface of the kidney and non-adherent to the rest. The enlarged kidney measured nearly five inches in length, and was thicker than normal, of darkish hue. The capsule was split and peeled from two-thirds of the kidney without causing any bleeding. The kidney was then explored with a blunt needle, from which puncture it bled freely. The pelvis of the kidney was then opened through the kidney substance, but no pus, nor stone was found. There was nothing discovered except an enlargement, an engorgement and a pathologic feel of the kidney. The capsule was sutured to the lumbar fascia on both sides, and the kidney and wound drained with a rubber tube and gauze. The muscles were sutured together with catgut, the skin with silkworm gut, the wound dressed and the patient put to bed. The patient stood the operation well, suffering very little shock or inconvenience. The temperature never rose above 100 after the operation, and there was an enormous discharge from the wound, necessitating frequent changing of dressings. Only two doses of morphin of four grains each time were given since the operation. Never since the operation has she complained of pain, or undue tenderness in the region of the kidney other than that which is usually found at the seat of operations. The urine passed after the operation contained, in addition to the above-mentioned ingredients, a considerable quantity of blood the first few days. The quantity of urine increased till about the eighth day, when she passed thirty-seven ounces. The last examination was made on February 10, four days after the operation: specific gravity 1020, no albumin, no sugar, acid in reaction, urea 2.1 per cent., some micro organisms, the same as in the examination before the operation, but not nearly so abundant.

Dr. Zeit furnishes the following report from Klebs' Laboratory: The section of kidney from the case of Mrs. W., examined Jan. 14, 1899, shows the picture of an interstitial nephritis with much proliferation and hyperplasia of connective tissue, areas of which consist entirely of this connective tissue growth with obliterated or waxy glomeruli. Between these portions are found islands of partially changed kidney tissue in which there are atrophic tubules and tubules with a desquamated epithelium, flattened epithelial lining in tubules of diminished caliber and some cloudy swelling in the lining of the epithelial cells. In some of the tubules hyaline casts are found. The capsules of glomeruli are thickened, and their connective sue with many nuclei is arranged in concentric layers.

Indicia.—It appears to me that the following symptoms and signs bespeak a condition needing exploration of the kidney: 1, persistent pain; 2, persistent tenderness; 3, persistent hematuria; 4, persistent albuminuria; 5, persistent pyuria; 6, persistent troublesome abnormal mobility; 7, persistent enlargement. The two cases above reported had only persistent pain and tenderness.

Remarks.—It is too early to come to positive conclusions as to the ultimate results to be obtained by surgical exploration of cases of nephritis. But of one thing I am certain, that is, that nephritis (Bright's disease) has a valuable surgical relation. This line of work is in its infancy. Let us use it to relieve suffering. If we can help it, let us not sacrifice organs and lives on the infamous altar of pseudo-conservatism, nor be too dastardly cowardly to recommend and put in practice our honest convictions founded on knowledge obtained by accidental experience or otherwise, but nevertheless purely scientific. The progress of surgical art and science is too liable to be attacked by the elated egotist and pessimist, who dramatically says, "I am the Norns of surgery."

THE MENTAL RELATIONS OF NEPHRITIS.

Dr. **Daniel R. Brower**—The mental disorders that accompany nephritis may be divided into three groups—the acute delirious uremia and two forms of uremic insanity. Dr. Preble has just given us a very admirable account of the pathogenesis of acute delirious uremia, and it is scarcely necessary for me to take any more of your time in the consideration of this very important and most common form of mental disorder accompanying Bright's disease. It is not an insanity, but it is an acute intoxication. We have, however, two forms of insanity that it is very important that we clinically differentiate. One form we find in the ordinary neuropathic individual who has no special tendency to insanity and whose family history is free from this inheritance. It is the product of a chronic intoxication. Its pathogenesis, therefore, differs from acute delirious uremia simply in the process being a chronic one, a prolonged toxemia. The brain's nutrition is impaired by the process continuing for a long period of time. This form of insanity is usually a dementia. These are not, as a rule, cases demanding asylum treatment. They do not usually show any very violent tendencies, and they require precisely the same line of treatment as the cases of acute delirious uremia; less energetic, however, but prolonged through a very much greater space of time, and can be successfully treated in their homes or in a general hospital. This form of uremic insanity is not common. The ordinary form of insanity that results from nephritis develops in the individual who has the insane tendency. The insufficient elimination, the accumulation of the toxic products, the derangement of the circulation result in the development of a latent tendency. These several factors simply serve as the match does, to set fire to the already prepared fuel. The form of insanity that may result from these exciting causes may be any one of the possible varieties of mental disease. It would not, as a rule, be dementia, more probably a mania or a melancholia. These cases do not require a treatment very much different from that which is required for insanity in general. They will require as do most of the cases, isolation and the general methods that are found best in a well-governed hospital for the insane. The prognosis of these cases will depend very largely upon the extent of the renal disease.

(*To be continued.*)

Philadelphia County Medical Society.

Regular Meeting, March 8, 1899.

Dr. **Edmund W. Holmes** made the principal address of the evening, entitled

MODERN TEACHING OF ANATOMY.

He thought that one of the greatest fallacies of the present time was regarding didactic lectures, which, while having some advantages, did not succeed in bringing the student in close relationship with the professor, nor with the subject in hand, thereby depriving him of that knowledge only gained by absolute familiarity with the parts as they existed in the human subject. For this reason the teacher who was with the student when the dissection was being done, who assisted him in the study of each part and who examined the student when the parts were fully dissected, should hold a position not subordinate to the one who gave didactic lectures, but in fact should have a rank even higher than the didactic teacher. The didactic lectures were very important, he admitted, in unfolding to the student many of the relationships that existed between the nerves, arteries, veins, fascia and muscles, because in many specimens that had been carelessly dissected these relations could not be demonstrated as well as when this work had previously been done by one familiar with anatomy, and when each part could be pictured to the student in more vivid colors.

Another fallacy which frequently existed was the fact that inferior specimens were too often brought to the student for dissection. In one college he had visited he had gained the impression that more attention had been paid to the preservation of the bodies of the lower animals than to that of the human species. In pointing out to the students the essential and practical side of anatomy, one should be impressed with the idea that it was not the names of each individual artery, nerve, vein and tendon, but the *relation* which it bore to each surrounding part, namely, the relation to each bone, muscle and fascia.

Prof. **Spencer Trotter** of Swarthmore College agreed with Dr. Holmes relative to the teaching of human anatomy, but also thought that much might be learned by a dissection of the lower animals. This was of especial importance in teaching anatomy in places where there was not such a plentiful supply of bodies as were found in the larger cities. Some of his students had been very proficient in dissecting the thoracic duct and the abdominal sympathetics in the cat. He thought much could be learned by a study of zoölogy and botany.

Dr. **W. S. Forbes** of the Jefferson Medical College made an eloquent appeal, in which he particularly emphasized the great importance of a mutual fellowship and good-will which should exist between the instructor and the pupil. Too often the student had such an irreverence for the human body that instead of it developing the finer qualities within him, it would call up the reverse. From this fact, that person who imparted the instruction to the student as viewed in the dissecting-room should not be subordinate to the didactic professor, but in fact should outrank him. Moreover, this most fundamental branch of medicine should not be taught late at night, when the tired brain already felt the effects of the daily task, but in the morning, when the mind could more easily grasp the necessary knowledge. After the student had acquired knowledge in this way, he thought it of far better advantage to have the examinations upon the green specimen, so that one could be sure the student knew what he was talking about. In at least one case he knew of, the student was entirely unable to locate upon the cadaver the femoral artery or the uterus.

Dr. **Henry Beates**, a member of the State Board of Medical Examiners, gave some humorous instances in which students had demonstrated their ignorance of anatomy. He thought that special stress should be laid upon the teaching of the physiology and pathology of each part, together with that of the anatomic relationship.

Dr. **Addinell Hewson** also endorsed the idea of close relationship between the teacher and pupil, and that the instructor in the anatomic room should not be of a subordinate rank to that of the didactic professor. In giving proper instruction it was always best to divide the class into small sections, when more time could be devoted to each individual student. He agreed with Dr. E. W. Holmes that the examinations in anatomy should not be completed at the end of two years, but that it should be distributed throughout the whole four years.

Dr. **O. H. Allis** thought that anatomy was the very foundation of all medicine and surgery and that a wrong spirit pervaded this teaching when in so short a time the names of Gross, Pancoast and Agnew were almost forgotten. He was greatly opposed to what is now known as a "professor," and if he was to endow a college he would not have a professor in it. They should, he thought, give instruction in the right way—by mutual relationship with the student.

Dr. **Charles K. Mills** thought the time had come when the whole medical curriculum should be reorganized. In order to give proper instruction in anatomy, as well as many other subjects, special laboratories should be erected.

Dr. **John B. Roberts** stated that all the previous speakers had only referred to anatomy as it occurred in the dead body. He thought a great deal could be learned from a study of the living, even while about our daily toil. He also thought it best in many cases, in giving instruction to the student, that the cadaver should be hung up, when the parts would more accurately conform to their relative positions during life.

Dr. **W. M. L. Coplin** thought that the student, in beginning the study of anatomy, should first be taught the characteristics of each individual cell, in other words, histology, when the other kowledge would be more easily learned. Gross anatomy could then be learned and again be worked down to the cell unit.

Dr. **John B. Roberts** read a paper on the importance of using

EXTREME FORCE IN THE REDUCTION OF COLLES' FRACTURE.

Three times within the past few weeks he had been called upon to refracture the radius, on account of faulty union caused by the fact that sufficient force had not been used in trying to reduce the fracture when it first occurred, and the lower fragment had been caught between the fascia, or there had been an impaction of the upper fragment into the lower, which a forcible reduction at the time would have remedied. In the manipulation which he had found of advantage, the hand was first pulled down quite forcibly, to be followed by a quick upward movement, when the bones would usually fall into apposition. In the subsequent treatment he had entirely discarded the Bond splint, and preferred a posterior splint together with an anterior splint well padded at the hand. He exhibited two patients treated according to his method, without stiffening of the fingers.

Dr. Charles L. Leonard spoke of some results he had obtained in a study of Colles' fracture by means of the X-ray, but at this time he could not speak definitely regarding the question of faulty union.

Dr. J. C. Wilson introduced a resolution to the effect that a committee from the Philadelphia County Medical Society be appointed for the purpose of going to Harrisburg and urging members of the Legislature not to repeal the vaccination laws as they now existed in this State. The resolution was carried unanimously and the following committee was appointed by the chair: Drs. J. C. Wilson, John H. Musser and S. Hulshizer.

Medical Societies Entitled to Representation in the American Medical Association, March 15, 1899.

The delegates shall receive their appointment from permanently organized State medical societies, and such county and district medical societies *as are recognized by representation in their respective State societies*, and from the medical departments of the Army and Navy and the Marine-Hospital Service of the United States.

Each State, county and district medical society entitled to representation shall have the privilege of sending to the Association one delegate for every ten of its regular resident members, and one for every additional fraction of more than half that number; *Provided*, however, that the number of delegates for any particular State, Territory, county, city or town shall not exceed the ratio of one in ten of the resident physicians who may have signed the Code of Ethics of the Association.

Members by Application.—Members by application shall consist of such members of the State, county and district medical societies entitled to representation in this Association as shall make application in writing to the Treasurer, and accompanying said application with a certificate of good standing, signed by the president and secretary of the society of which they are members, and the amount of the annual subscription fee, $5. They shall have their names upon the roll, and have all the rights and privileges accorded *to permanent members*, and shall retain their membership upon the same terms.

In accordance with the above extracts from the Constitution, this list is prepared as certified by the secretaries of the State and Territorial medical societies.

Any societies that are omitted should send to the office of the Permanent Secretary notice to that effect *accompanied by a certificate from the secretary of the State society that said society is so recognized in accordance with the above quoted law.*

Wm. B. Atkinson, permanent secretary.
1400 Pine Street, Philadelphia.

ALABAMA.

Alabama State M. S., and all County Societies.

ARIZONA.

Arizona Territory M. S.
Maricopa County M. S.
Pima County M. S.
Yarapai County M. S.

ARKANSAS.

Arkansas State M. S.
Baxter County M. S.
Crawford County M. S.
Hot Springs M. S.
Lee County M. S.
Phillips County M.S.
Prairie County M. S.
Sebastian County M. S.
Southwest Arkansas M. S.
Washington County M. S.

CALIFORNIA.

California State M. S.
Alameda County M. S.
California Acad. of Med.
El Paso M. S.
Fresno County M. S.
Humboldt County M. S.
Kern County M, S.
Lake County M. S.
Los Angeles M. S.
Marin County M. S.
Medico-Chirurg. S.
Orange County M. S.
Pasadena M. S.
Placer County M. S.
Pomona Valley M. S.
Riverside County M. S.
San Diego County M. S.
Sacramento S. for Med. Improvement.
San Bernandino County M. A.
San Francisco County M. S.
San Francisco Clin. S.
San Joaquin County M.S.
San Joaquin Valley M. S.
San Louis Obispo and Northern Santa Barbara County M. A.
Santa Barbara County M. S.
Santa Clara County M. S.
Santa Cruz County M. S.
Sonoma County M. S.
Southern California M. S.
Tulare County M. S.
Ventura County M. S.
Yolo County M. S.
Yuba and Sutter Counties M.S.

COLORADO.

Colorado State M. S.
Alumni Ass'n of the Gross M. College.
Boulder County M.S.
Cripple Creek M. S.
Denver Clin. S.
Denver Clin. and Path. S.
Denver and Arapahoe M. S.
Denver Med. Col. Alumni Association.
El Paso County M. S.
Fremont County M. S.
Lake County M. S.
Las Animas County M. S.
Practitioners' Club of Denver.
Pueblo County M. S.
Weld County M. S.

CONNECTICUT.

Connecticut State M. S.
Fairfield County M. S.
Hartford County M. S.
Hartford M. S.
Litchfield County M. S.
Middlesex County M. S.
New Haven County M.S.
New London County M. S.
Norwich M. A.
Tolland County M. S.
Windham County M. S.

DISTRICT OF COLUMBIA.

Med. Ass'n of D. C.

DELAWARE.

Delaware State M. S.

FLORIDA.

Florida State M. S.
Alachua County M. S.
Duval County M. S.
Hillsborough M. S.
Osceola County M. S.
St. John County M. S.

GEORGIA.

Georgia State M. S.
Atlanta Soc. of Med.
Macon M. S.

IDAHO.

Idaho State M. S.

ILLINOIS.

Illinois State M. S.
Adams County M. S.
Æsculapian S. of Wabash Valley.
Aurora M. S.
Belleville M. S.
Brainard Dist. M. S.
Bond County M. S.
Bureau County M. S.
Cairo M. S.
Calhoun County M. S.
Capital Dist. M. S.
Central Dist. M. S.
Champaign County M. S.
Chicago Acad. of Med.
Chicago Gynecological S.
Chicago M. S.
Chicago Medico-Legal S.
Chicago Neurological S.
Chicago Ophthal. and Otol. S.
Chicago Orthopedic S.
Chicago Pathological S.
Chicago Physician's Club.
Chicago Soc. Internal Med.
Chicago Soc. Med. Examiners.
Clay County M. S.
Clinton County M. S.
Coles County M. S.
Crawford County M. S.
Decatur M. S.
Dewitt County M. S.
Douglas County M. S.
E. St. Louis M. S.
Egyptian M. S.
Fox River Valley M. S.
Fulton County M. S.
Galva Dist. M. S.
Galesburg M. S.
Gallatin County M. S.
Green County M. S.
Hancock County M. S.
Hardin County M. S.
Henry County M. S.
Iowa and Ill. Cent. Dist. M. S.
Jackson County M. S.
Jacksonville Med. Club.
Jersey County M. S.
Kankakee County M. S.
Lake County M. S.
La Salle County M. S.
Lawrence County M. S.
Macoupin County M. S.
Marion County M. S.
Massac County M. S.
McDonough County M. S.
McLean County M. S.
Med. and Sur. S. of Western Ill.
Military Tract M. A.
Monroe County M. S.
Morgan County M. S.
Moultrie County M. S.
North Central Illinois M. S.
Ogle County M. S.
Ottawa City M. S.
Peoria M. S.
Peoria County M. S.
Perry County M. S.
Pullman Dist. M. S.
Quincy Med. and Lib. Ass'n.
Rock River Valley M. A.
Saline County M. S.
Scandinavian M. S. Chicago.
Scott County M. S.
Shelby County M. S.
Southeastern Illinois M. S.
Southern Illinois M. S.
St. Clair County M. S.
Stephenson County M. S.
Tri-County M. S.
Twin City Clin. Ass'n. of Champaign and Urbana.
Vermillion County M. S.
Wabash County M. S.
Warren County M. S.
Washington County M. S.
Western M. and S.S.
White County M. S.
Whiteside County M. S.
Williamson County M. S.
Winnebago County M. S.
Woodford County M. S.
Will County M. S.

INDIANA.

Indiana State M. S.
Allen County M. S.
Bartholomew County M. S.
Benton County M. S.
Blackford County M. S.
Boone County M. S.
Carroll County M. S.
Cass County M. S.
Clark County M. S.
Clay County M. S.
Clinton County M. S.
Daviess County M. S.
Dearborn County M. S.
Decatur County M. S.

Dekalb County M. S.
Delaware County M. S.
Dubois County M. S.
Elkhart County M. S.
Fayette County M, S.
Floyd County M. S.
Fountain County M. S.
Franklin County M. S.
Gibson County M. S.
Grant County M. S.
Greene County M. S.
Hamilton County M. S.
Hancock County M. S.
Hendricks County M. S.
Henry County M. S.
Howard County M. S.
Huntington County M. S.
Jackson County M. S.
Jay County M. S.
Jefferson County M. S.
Jennings County M. S.
Johnson County M. S.
Knox County M. S.
Kosciusko County M. S.
Lagrange County M. S.
Laporte County M. S.
Lawrence County M. S.
Madison County M. S.
Marion County M. S.
Marshall County M. S.
Martin County M. S.
Miami County M. S.
Monroe County M. S.
Montgomery County M. S.
Newton County M. S.
Noble County M. S.
Orange County M. S.
Owen County M. S.
Parke County M. S.
Perry County M. S.
Pike County M. S.
Porter County M. S.
Posey County M. S.
Putnam County M. S.
Rush County M. S.
Randolph County M. S.
Ripley County M. S.
Shelby County M. S.
St. Joseph County M. S.
Steuben County M. S.
Sullivan County M. S.
Switzerland County M. S.
Tippecanoe County M. S.
Tipton County M. S.
Vanderburg County M. S.
Vigo County M. S.
Wabash County M. S.
Warrick County M. S.
Washington County M. S.
Wayne County M. J.
Wells County M. S.
White County M. S.
Whitley County M. S.

INDIAN TERRITORY.

Territorial Ass'n.

IOWA.

Iowa State M. S.
Austin Flint M. S.
Blackhawk County M. S.
Boone Valley M. S.
Botna Valley M. S.
Buchanan County M. S.
Cedar Valley M. S.
Central District M. S.
Cherokee County M. S.
Clark County M. S.
Clinton County M. S.
Council Bluffs M. S.
Dallas County M. S.
Delaware County M. S.
Des Moines County M. S.
Dubuque M. S.
Fayette County M. S.
Fort Dodge M. S.
Gate City M. S.
Iowa Central M. S.
Iowa and Illinois M. S.
Jasper County M. S.
Julien M. S.
Lyon County M. S.
Missouri Valley M. S.
Mitchell County M. S.
North Iowa M. S.
Pocahontas District M. S.
Polk County M. S.
Ringgold County M. S.
Sioux Valley M. S.
Southwestern Iowa M. S.
Spirit Lake Med. Association.
Wapello County M. S.
Wapsie Valley Med. Associa'n.
Warren County M. S.
Washington County M. S.
Winnebago County M. S.

KANSAS.

Kansas State M. S.
Bourbon County M. S.
Eastern Kansas M. S.
Golden Belt M. S.
Leavenworth County M. S.
South-East Kansas M. S.
Topeka Acad. of Med. & Surg.
Wyandotte M. S.

KENTUCKY.

Kentucky State M. S.
Boyle County M. S.
Central Kentucky M. S.
Clark County M. S.
Hardin County M. S.
Lexington and Fayette Counties M. S.
Marion County M. S.
Muhlenberg County M. S.
Northeast Kentucky M. S.
Owensboro M. S.
Paducah M. and S.
Southeast Kentucky M. S.

LOUISIANA.

Louisiana State M. S.
Orleans Parish M. S.

MAINE.

Maine State M. S.

MARYLAND.

Maryland Med. and Chir. Faculty (the State Society).

MASSACHUSETTS.

Massachusetts State M. S.
Barnstable District M. S.
Berkshire District M. S.
Bristol North District M. S.
Bristol South District M. S.
East Hampden M. S.
Essex North District M. S.
Essex South District M. S.
Franklin County M. S.
Hampshire District M. S.
Hampden District M. S.
Middlesex South M. S.
Middlesex East District M. S.
Middlesex North District M. S.
Norfolk District M. S.
Norfolk South District M. S.
Plymouth District M. S.
Suffolk District M. S.
Worcester North District M. S.
Worcester South District M. S.

MICHIGAN.

Michigan State M. S.
Bay County M. S.
Calhoun County M. S.
Cheboygan County M. S.
Detroit Acad. of Med.
Detroit Gynecological Society.
Grand River M. S.
Grand Rapids Acad. of Med.
Kalamazoo Acad. of Med.
Marshall Acad. of Med.
Northeastern District M. S.
Pontiac M. S.
Washtenaw County M. S.
Wayne County M. S.

MINNESOTA.

Minnesota State M. S.
Cross River Valley M. S.
Fillmore County M. S.
Minnesota Acad. of Med.
Minnesota Valley Med. Ass'n.
Hennepin County M. S.
Interurban M. S.
Olmstead County M. S.
Ramsey County M. S.
Southern Minnesota M. S.
South-Western M. S.
St. Louis County M. S.
Wabasha County M. S.
Winona County M. S.

MISSISSIPPI.

Mississippi State M. S.

MISSOURI.

Missouri State M. S.
Atchison County M. S.
Cedar County M. S.
Central Missouri District M. S.
Chariton County M. S.
Franklin County M. S.
Grand River District M. S.
Hannibal M. S.
Henry County M. S.
Hodgen District M. S.
Howard County M. S.
Independence Med. Ass'n.
Jackson County M. S.
Jasper County M. S.
John McDowell District M. S.
Kansas City Acad. of Med.
Kansas City M. S.
Lafayette County M. S.
Limton District M. S.
Macon County M. S.
Memphis M. S.
Montgomery M. S.
North Missouri M. S.
Northwest Missouri M. S.
Pettis County M. S.
Pike County M. S.
Putnam County M. S.
Rolla District M. S.
Saline County M. S.
Santa Cruz M. S.
Shelby County M. S.
Southwest Dist. M. S.
Southwest Missouri M. S.
Springfield M. S.
St. Louis M. S.
St. Charles County M. S.
St. Joseph M. S.
Western Surg. and Gyne'cal.

MONTANA.

Montana M. S.
Park Co. M. S.

NEBRASKA.

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Elkhorn Valley M. S.
Omaha M. S.
Southeastern Neb. M. S.
Lincoln M. S.
Loup Valley District M. S.

NEVADA.

Nevada State M. S.

NEW HAMPSHIRE.

New Hampshire State M. S.
Carroll Dist. M. S.
Central District M. S.
Cheshire County M. S.
Conn. River Valley M. S.
Manchester M. A.
Nashua M. A.
Rockingham Dist. M. S.
Strafford Dist. M. S.
White Mountain M. S.
White River Dist. M. S.
Winnepesaugee Acad. Med.

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Burlington County M. S.
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Cape May County M. S.
Cumberland County M. S.
Essex County M. S.
Gloucester County M. S.
Hudson County M. S.
Hunterdon County M. S.
Mercer County M. S.
Middlesex County M. S.
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Passaic County M. S.
Salem County M. S.
Somerset County M. S.
Sussex County M. S.
Union County M. S.
Warren County M. S.

NEW MEXICO.

New Mexico State M. S.
Bernalillo County M. S.

NEW YORK.

New York State M. A.
Hornellsville M. and S. A.
Kings County M. A.
New York County M. A.
Ontario County M. A.
Med. Ass'n of Troy and Vicinity.

NORTH CAROLINA.

North Carolina State M. S.
Buncombe County M. S.
Charlotte M. A.
Raleigh Acad. of Med.

NORTH DAKOTA.

North Dakota State M. S.

OHIO.

Ohio State M. S.
Adams County M. S.
Allen County M. S.
Ashland County M. S.
Ashtabula County M. S.
Belmont County M. S.
Brown County M. S.
Butler County M. S.
Central Ohio M. S.
Champaign County M. S.
Cincinnati Acad. of Med.
Clarke County M. S.
Clermont County M. S.
Cleveland M. S.
Clinton County M. S.
Columbus Acad. of Med.
Crawford County M. S.
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Defiance County M. S.
Delaware County M. S.
Eastern Ohio M. S.
East Liverpool M. S.
Erie County M. S.
Fayette County M. S.
Gallia County M. S.
Greene County M. S.
Hancock County M. S.
Hempstead Mem. Acad.
Highland County M. S.
Hildreth District M. S.
Holmes County M. S.
Jackson County M. S.
Jefferson County M. S.
Lawrence County M. S.
Lorain County M. S.
Lucas County M. S.
Mahoning County M. S.
Mansfield Acad. of Med.
Marion County M. S.
Meigs County M. S.
Miami County M. S.
Miami Valley M. S.
Montgomery County M. S.
Morrow County M. S.
Muskingum County M. S.
North Central Ohio M. S.
Northwestern Ohio M. A.
Perry County M. S.
Pickaway County M. S.
Pike County M. S.

Portage County M. S.
Ross County M. S.
Sandusky County M. S.
Shelby County M. S.
Stark County M. S.
Stillwater M. A.
Toledo M. A.
Trumbull County M. S.
Tuscarawas County M. S.
Union M. A.
Union M. A. of N. E. Ohio.
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OKLAHOMA.

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OREGON.

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Centre County M. S.
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Clarion County M. S.
Clearfield County M. S.
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Huntington County M. S.
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Jefferson County M. S.
Juniata County M. S.
Lackawanna County M. S.
Lancaster County M. S.
Lawrence County M. S.
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Lehigh County M. S.
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Lycoming County M. S.
McLean County M. S.
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Susquehanna County M. S.
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Minnehaha M. S.

TENNESSEE.

Tennessee State M. S.

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[1] The Weber County M. S. of which Dr. G. W. Baker is secretary.

AN EXPOSITION of what has been accomplished to date with the Roentgen ray is to be a feature of the German Congress of Surgery in April.

Selection.

Effects of Administration of Definite Mixtures.—Before the Royal Medical and Chirurgical Society (*British Med. Jour.*, February 18), Hewitt has presented his observations on the effects on the human being of definite mixtures of nitrous oxid and air and of nitrous oxid and oxygen. The investigation was based upon the following carefully-recorded and timed administrations: Pure nitrous oxid, 22 cases; nitrous oxid mixed with different percentages of air, 107 cases; nitrous oxid mixed with different percentages of oxygen, 102 cases; total, 231 cases. The author arrived at the following conclusions:

1. When pure nitrous oxid is administered to the human subject in such a manner that no free oxygen gains admission during the administration, certain phenomena arise, which for our present purposes may be regarded as being either *a*, phenomena of anesthesia or *b*, phenomena of asphyxia.

2. The anesthetic phenomena of nitrous oxid, although apparently very different from those of ether or chloroform, are in their essential features remarkably similar.

3. The most conspicuous of the asphyxial phenomena of pure nitrous oxid are *a*, embarrassed and deeply stertorous breathing, *b*, cyanosis, and *c*, anoxyemic convulsion. All these may be eliminated without interfering with the anesthetic effects of the gas by administering with it certain proportions of oxygen, either pure or as atmospheric gas.

4. There are other less obvious asphyxial phenomena—such as wide dilatation of the pupils, swelling of the tongue and adjacent structures, and rapid cardiac action—which, like the more important symptoms above referred to, may be prevented or modified by similar means.

5. Under the influence of pure nitrous oxid breathing becomes deeper and quicker than usual. At the end of from fifty five to sixty seconds its rhythm becomes altered either by *a*, obstructive stertor, *b*, anoxyemic convulsion attacking the respiratory muscles, or *c*, both conditions combined. If the administration be pushed far enough, breathing becomes arrested in one of these ways. Paralytic cessation of breathing is very rare, and when it occurs is dependent quite as much upon cerebral anemia from defective circulation as upon the presence of unoxygenated blood in the vessels supplying the respiratory centers.

6. The deep and obstructive stertor of pure nitrous oxid narcosis is not met with when employing mixtures containing moderate percentages of air or oxygen. With such mixtures only softly-snoring breathing is produced. When the percentage of air or oxygen is considerable—30 per cent. air or 13 per cent. of oxygen—respiration becomes noiseless and free from all obstruction.

7. The most marked cyanosis is met with when very small percentages of air (3 to 6 per cent.) or oxygen (under 3 per cent.) are administered with nitrous oxid. With pure nitrous oxid cyanosis may not have time, as it were, to become pronounced, for the administration may be cut short by deep stertor. As the percentage of air or oxygen increases, cyanosis lessens, till with 30 per cent. of air it is very slight, and with 11 per cent. of oxygen it disappears altogether.

8. Anoxyemic convulsion, like cyanosis, is liable to be greater with small percentages of air or oxygen than with pure nitrous oxid itself, and for the reason just given. But as the percentages of air or oxygen increase the convulsion decreases, till with 30 per cent. of air and 6 per cent. of oxygen respectively it ceases to occur.

9. Reflex and excitement movements are most likely to arise either with pure nitrous oxid, or with nitrous oxid mixed with small percentages of air (3 to 7 per cent.), or with nitrous oxid mixed with considerable percentages of air (20 to 30 per cent.), or oxygen (10 to 20 per cent.). They are least likely to assert

themselves with mixtures containing moderate quantities (12 or 16 per cent.) of air, or moderate quantities (3 to 7 per cent.) of oxygen.

10. Phonated sounds are most common when nitrous oxid is administered with large percentages of air (12 to 30 per cent.) or oxygen 20 per cent.). When nitrous oxid is administered pure, or with small percentages of air (3 to 5 per cent.) they are met with to a moderate extent only. Phonation is least likely to arise with nitrous oxid and air mixtures when air is present to the extent of from 6 to 10 per cent., and with nitrous oxid and oxygen mixtures when oxygen is present to the extent of from 3 to 11 per cent.

11. The duration of available anesthesia after inhalation is found to be longest after the administration of mixtures containing from 3 to 11 per cent. of oxygen, the maximum duration having been attained with 7 per cent. mixtures. With nitrous oxid and air mixtures the resulting anesthesia is distinctly longer than with pure nitrous oxid, but the results are very uncertain in these cases. The shortest available anesthesia is recorded with nitrous oxid alone, and with nitrous oxid mixtures containing 30 per cent. of air.

12. In estimating the respective merits of the various mixtures used as anesthetic agents, the investigation shows that the best results were obtained with mixtures of nitrous oxid and oxygen; the next best with mixtures of nitrous oxid and air; and the worst with nitrous oxid free from air or oxygen. Air is not nearly so suitable as oxygen for eliminating the asphyxial factors of a pure nitrous oxid administration, owing to the large volume of useless nitrogen which must necessarily be inhaled. The nitrous oxid and air cases were, as compared with those of nitrous oxid and oxygen, far more uncertain in their course.

13. There is no one mixture of nitrous oxid with air or with oxygen which will successfully anesthetize every patient.

14. In order to obtain the best form of anesthesia, oxygen should be administered with nitrous oxid by means of a regulating apparatus, the percentage of the former gas being progressively increased from 2 per cent. or 3 per cent. at the commencement of the administration to 7, 8, 9 or 10 per cent. according to the circumstances of the case. The longer the administration lasts, the greater may be the percentage of oxygen admitted.

15. The next best results to those obtainable by means of a regulating apparatus for nitrous oxid and oxygen are to be secured by administering certain constant mixtures of these two gases. Mixtures containing 5, 6, or 7 per cent. of oxygen are the best for adult males; and mixtures containing 7, 8 or 9 per cent. are the best for females and children.

16. The next best results to those last mentioned are to be obtained by means of mixtures of nitrous oxid and air, from 14 to 18 per cent. of the latter being advisable in anesthetizing men, and from 18 to 22 per cent. in anesthetizing women and children.

17. Paul Bert, whose valuable researches upon the effects produced by the inhalation of nitrous oxid and oxygen are well known, regarded an increased atmospheric pressure as essential to the production of anesthesia by means of these gases. It is clear, however, from the foregoing investigation, that deep and satisfactory anesthesia, unaccompanied by any obvious asphyxial manifestations, may be secured, at ordinary pressures, by mixtures of nitrous oxid and oxygen containing even as much of the latter gas as is present in our atmosphere.

18. The last mentioned fact would seem at first sight to give a death blow to the asphyxial theory of nitrous oxid anesthesia —a theory which supposes that this gas produces its anesthesia by limiting or arresting normal oxidation processes within the central nervous system. But are we justified in assuming that because no obvious asphyxial manifestations make their appearance during the inhalation, no such interference with oxidation is taking place?

Practical Notes.

Local Treatment of Lupus with Creosote.—Applied after scarification of the skin, the great improvement in circumscribed lupus is sufficient to warrant further trials, although none of the three cases reported by Protopopow were completely cured. The unpleasant odor and somnolence caused by the creosote are the only disadvantages.—*Derm. Cbl.*, February.

Spasm of the Glottis.—Krause has found that excitation of the cerebral cortex near the prefrontal convulution produces spasm of the glottis. Excitation of the vasomotor center at the same time leads to cerebral anemia followed by generalized convulsions. Hugel has successfully treated six cases of reflex spasm of the glottis in infants, by section of the enlarged uvula.—*Munich Med. Woch.*, 1898, No. 44.

Orexin Base in Vomiting of Pregnancy.—F. Hermanni confirms the statements of Frommel and Rech in regard to the benefits of orexin base in the uncontrollable vomiting in pregnancy. He has administered it to nine patients at different stages of pregnancy and all were relieved at once and soon cured with two or three powders a day, thirty centigrams each.—*Therap. Monatsheft*, January.

Value of Injections of Salt Solution.—F. Macini of Parma has established the fact that besides the mechanic effect, directly increasing the blood-pressure, altering the pulse, respiration, respiration and the temperature, there is also a chemic effect, which explains to some extent the constant elevation of temperature and the alterations in the blood—at first diminishing the number of blood-corpuscles and amount of hemoglobin, and later increasing them even beyond the physiologic proportions.—*Clinica Chir.*, 1898, Nos. 2 to 4.

Glaucomatous Atrophy.—Galezowski does not consider glaucoma a serous choroiditis, like the Germans, but the result of obliteration of the lymph vessels, which may be total or partial, slow or rapid, determining the variety of the glaucoma. He describes a new form, recalling the atrophy of tubes with which it is frequently confounded, glaucomatous atrophy, which has none of the usual symptomatic excavation. For this form and also for simple glaucoma; iridectomy is entirely ineffectual. Repeated anterior sclerotomy is indicated in these cases.—*Rev. Gen. d'Ophth.*, January 31.

Diagnostic Value of the Diazo Reaction.—M. Michaelus confirms Ehrlich's statements in regard to the presence of the diazo reaction in the urine in typhus during the first five to eight days, vanishing later and reappearing in case of a relapse. If it persists longer, the prognosis is unfavorable. The same applies to measles and especially to tuberculosis. He even proposes to decide the question of sending a tuberculous subject to a sanatorium, by the absence of the diazo reaction. Baginsky considers it as important a clinical aid as the Widal test.—*Munich Med. Woch.*, February 7.

Treatment of Saturnine Encephalopathy.—Delbet, Tuffier and Goidin have established that in infections and certain intoxications artificial serum produces its effect through the intestines. This is especially the case in lead poisoning, and hence the first indication in saturnine encephalopathy is venesection followed by a saline injection, repeating if improvement is not evident, omitting the venesection if there is too much debility. The most threatening symptoms arrested, continue with the usual medication. Two convincing observations are related by Goidin in the *Jour. des Sci. Méd de Lille*, February 11.

Welander's Pillow Slip Treatment of Syphilis.—C. Stern of Düsseldorff reports most satisfactory results attained in over a hundred cases of syphilis in various stages, with Welander's bag of muslin or flannel worn flat over the back or front of the body (vide Journal, xxx, p. 1306), rubbed every day with five to eight grams unguent. hydrarg. cin. The simplicity, cleanliness and convenience of this method commend it, and the results are fully equal to those of inunctions and injections. As inhalation is a factor in the effect, the patient must himself rub the salve into the cloth, taking ten minutes for the task and bending down over it.—*Munich Med. Woch.*, February 7.

Silver Wire and Electricity in Aneurysm.—Corson (*Phil. Med. Jour.*, March 4) reports a case of thoracic aneurysm treated by the introduction of silver wire with electricity, after the method of Stewart of Philadelphia. He believes that in the case reported, owing to the advanced state of the lesion, it is doubtful whether a cure was possible under any conditions, but the case treated and the autopsy go to show that quick coagulation of blood follows the introduction of the current of electricity, with improvement in the radial pulse, relief of dyspnea for a few hours following treatment, and but little shock or depression to the patient.

Malarial Hemorrhage.—The *Revista Méd. de Bogotá*, Colombia (xxi, No. 234), contains four observations related by P. Q. Romero of Barranquilla, in which severe hemorrhage subsided at once upon the administration of quinin. Each case deceptively simulated another affection. In one there was profuse metrorrhagia, fever and debility, suggesting acute metritis, but the patient recovered at once with quinin, and another attack a few months later yielded to it in the same way. The second case simulated pneumonia, with fever and blood-streaked sputa, but all the symptoms subsided with quinin. The third case with excessive hemoptysis, fever, night-sweats, cough and emaciation, was supposed to be tuberculosis. Quinin arrested the entire syndrome, and by the end of the week the patient was entirely restored to health, with no recurrence of any of the symptoms to date. The fourth observation was a case of sudden, severe, rebellious epistaxis which he treated with quinin instead of tamponning, with almost immediate success. He always combines a few brief cold baths with the quinin treatment.

Strictures of Esophagus and Cardia.—Lambotte reviews the treatment possible with cancerous neoplasms of the esophagus: catheterism, intubation and gastrostomy, observing that the former is not a prudent measure, as it is painful, ineffective, and may result in perforation any moment. Instead of the olive-tipped catheter, he uses a metal ovoid tip in which a screw-thread has been cut, the edges rounded. Such a catheter can be inserted by rotation of the stem without pressure. Intubation is more rational, a metal or rubber sound, large enough to allow the passage of food, is introduced from above with esophageal forceps, or the stomach is opened and the sound pulled down and fastened. In case gastrostomy is performed, the opening into the stomach must be very small, not larger than a match. After the stomach has been fastened to the abdominal wall the trocar is inserted obliquely at the highest point of the projection. The operation thus performed, there is no escape of liquids from the stomach, while it permits nutritive injections, for which his formula is: bouillon 125 gm., sugar 20 to 25 gm., peptones 2 to 3 spoonfuls. He insists further upon the necessity of supplying the full amount of water required by the organism, in drinks, rectal injections and injections of serum.—*Presse Méd.*, February 11.

Differentiation of Typhus in Twenty Hours.—M. Piorkowski has succeeded in securing a medium on which the bacillus typhi develops so rapidly that the diagnosis can be determined in twenty hours. It consists of normal urine, specific gravity 1020, kept for two or three days, during which it acquires an alkaline reaction, mixed with .5 per cent. peptone and 3.3 per cent. gelatin, boiled an hour in the water-bath and filtered without heat, which is easily accomplished. It is then transferred to test-tubes and sterilized at 100 C. for fifteen minutes, sterilizing again the next day for ten minutes. Two loops of typhus feces are used for the first dilution, four for the second and six to eight for the third tube. After the pouring out and the solidification of the gelatin, the plates must be kept at a temperature of 21 to 22 degrees C., as the typhus colonies do not develop typically at a lower temperature. In twenty hours the small, transparent typhus colonies with their spreading fibers can be distinguished on the first plate among the round, yellow-brown, sharp-edged colonies of the bacillus coli. The colonies on the second plate, in thirty-six hours, are larger, round, yellowish and surrounded by a tangle of fibers. Bacilli were found in some cases three days after the subsidence of the fever, and in one, the sixth day of the disease, frequently while the Widal test is still uncertain.—*Deutsche Med. Woch.*, February 16.

Results of Cesarean Section.—Recovery after Cesarean section is frequently disturbed by the suppurating out of the threads used in suturing the uterus, and by the formation of adherences between the uterus and the abdominal wall, which may interfere with the menses and subsequent pregnancy. In one case observed by G. Abel, at the Leipsic clinic, the posterior wall of the uterus tore in the sixth month of pregnancy, on account of adherences, and two similar cases are on record. He has traced fifty-three cases in which Cesarean section was performed, for an average of six and a half years. In eight cases hernia occurred in the laparotomy wound. The operation was performed twice in eleven cases and three times in four. Chrobak has also recently reported a third successful Cesarean section on a woman with a very contracted pelvis. Abel states that repetition does not enhance the dangers of the operation nor diminish the subsequent working capacity, which he considers decides in the negative the question of the advisability of artificially producing sterility in cases of contracted pelvis. Zweifel has a record of sixty-seven Cesarean sections with one death from pre-existing sepsis. He has not found the Fritsch superior to the sagittal fundal incision, while it has the disadvantage of being nearer to the large vessels at the insertion of the tubes. In suturing the uterus he now takes two or three stitches with fine silk, completing the suture with catgut; no threads have suppurated out since he adopted this method. The "Cesar" children have all thrived well, mentally and physically.—*Munich Med. Woch.*, February 7.

Ultimate Results of Symphyseotomy.—Zweifel has performed symphyseotomy thirty-four times, with no death, and G. Abel has followed twenty-five symphyseotomies at the Leipsic clinic on one patient performed twice—for an average of three and a half years, and reports unexpectedly favorable results. All the women were fully restored to their former working capacity. Pregnancy has occurred in fourteen and proceeded without accident. In seven cases all the children born since (eleven) have been delivered spontaneously, showing that symphyseotomy evidently produces conditions favorable to future deliveries. In a third of the cases the symphysis was distinctly enlarged, with a layer of scar tissue. There was no excessive stretching of the scar *in partu*, nor interference with walking later nor with the solidity of the pelvis. The more contracted the pelvis, the longer the convalescence after symphyseotomy, which varied from five weeks to ten months before the ability to walk normally was fully restored. In every case the symphysis retained a mobility of .5 to .75 cm., which proved no inconvenience and had no effect upon the rapidity of the recovery of the working capacity, which depended more upon the smooth healing of the soft parts. In the less successful cases there was cicatricial contraction of the anterior vaginal wall, liable to interfere with the emission of urine and produce retroflexio uteri and pain. Zweifel emphasizes the fact that symphyseotomy only prepares the way for spontaneous delivery; the results are bad if it is found necessary to terminate the birth artificially. Consequently, he prefers Cesarean section if the labor pains are not vigorous.—*Munich Med. Woch.*, February 7.

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SATURDAY, MARCH 18, 1899.

THE PRESENCE OF THE BACILLUS TYPHOSUS IN THE URINE IN TYPHOID FEVER.

It has recently been established that the typhoid bacillus may occur in enormous numbers in the urine, in the course of typhoid fever. Richardson[1] of Boston, showed that in 38 cases of typhoid fever, the bacilli were present in the urine of 9, always in large numbers and in practically pure cultures; the bacilli appeared first in the later stages of the disease, and persisted in most of the cases far into convalescence. The bacilli were nearly always associated with albuminuria and casts. Horton Smith[2] examined the urine in 7 typhoid patients, with 3 positive results; he observed that the organisms may be so numerous that the urine becomes distinctly turbid on that account. Petruschky[3] examined the urine in 50 cases of typhoid fever, with 3 positive results. The first case retained the bacilli in the urine for two months after the temperature had become normal: the second showed bacilli present for a month and a half after the subsidence of the fever, while in the third case the organisms had disappeared eight days after the beginning of convalescence. He calculated that in one case a single cubic centimeter of the urine contained 170,000,000 typhoid bacilli.

Richardson[4] refers to a remarkable case, mentioned by Dr. Cushing of Baltimore, of a man who had an attack of typhoid fever five years before; ever since then there had been trouble with the urine, and investigation showed that there was cystitis present, and the typhoid bacillus was obtained in pure culture from the urine. In connection with this may be mentioned the case recently described by Houston[5] of cystitis of three years' standing, in which the typhoid bacillus was present in the urine. This case is especially interesting because of the presence of a typhoid infection without the usual symptom of typhoid fever ever having been recognized. From the history it seems very probable that the typhoid bacillus had been present in the urine from the beginning of the cystitis. The patient's blood yielded a well-marked agglutinating reaction. This case seems to show that the bacillus may occur in the urine and possibly also in the tissues, the blood serum giving the characteristic reaction, and yet without any clinically recognized typhoid fever.

Referring again to the presence of the typhoid bacillus in the urine in typhoid fever, it is quite plain, in the light of the evidence cited, that the supervision of typhoid patients has heretofore been very inadequate indeed. The urine as well as the stools of typhoid patients must be disinfected, and, as Richardson emphasizes, the necessity of such disinfection and supervision does not cease with the subsidence of the fever, but must be kept up sometimes, it would seem, for weeks, sometimes for years.

In his second article on this subject Richardson[6] dwells particularly upon the value of urotropin as a urinary antiseptic, with especial reference to its use in typhoid fever. Irrigation, with the necessary catheterization, is not a method of treatment that would recommend itself in case internal administration of certain urinary antiseptics should be found to give the desired results. The number of cases of typhoid fever comprised in Richardson's present report is 66, and of these 14 showed the presence of bacilli in the urine. Eleven of these were submitted to treatment, with the following results: Two cases received salol, and in one instance the bacilli disappeared. In one case the salol did not have any effect on the bacilli, and urotropin was then substituted for the salol, followed by the prompt disappearance of the organisms. Nine cases were treated with urotropin, and in every one the bacilli promptly disappeared. This favorable result was accomplished in 8 out of the 9 cases by the use of 60 grains or less of the drug; one case required 200 grains to remove the organisms. A number of the cases (7) were followed for from seven to sixty-six days after the administration of the urotropin was stopped, and the bacilli did not reappear; so that it seems fair to assume that the removal of the typhoid organisms was permanent.

Freshly passed turbid urine, if acid in reaction, should always be regarded with suspicion when it concerns typhoid patients or convalescents. When such urine, on microscopic examination, shows the presence of bacilli it is quite probable they are the typhoid bacilli, and the results of the cultures can thus be foretold.

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[1] Journal of Exp. Med., 1898, vol. iii.
[2] Trans. Medical and Surgical Society of London, 1897.
[3] Centralbl. f. Bakt., xxiii, 1898.
[4] Journal of Exp. Med., 1899, vol. iv.
[5] British Medical Journal, Jan. 14, 1899.
[6] Journal of Exp. Med., 1899, Vol. iv.

Urotropin, introduced by Nicolaier in 1894, is formed by the action of ammonia on formaldehyde. It appears in the urine as early as fifteen minutes after administration, and may be demonstrated for twelve hours or longer after a single dose of 7.5 grains. Elliot, who praises this drug highly as efficient in cystitis, observed no ill effects from its use. In Richardson's cases urotropin did not seem to cause any special changes in the urine.

From the foregoing considerations it may be concluded that, inasmuch as the urine of typhoid fever patients may contain typhoid bacilli in enormous numbers for weeks, months, and even years, and thus constitute a grave danger not only to the patients but also to the public health, the necessity for rigid disinfection and supervision of their urine is at once apparent. It would, therefore, seem advisable that, as it is impossible without bacteriologic examination to determine whether or not typhoid bacilli are present in a given urine, all typhoid patients should receive urotropin (30 grains daily for ten days) beginning as convalescence is approached. In the struggle in which the profession of the United States is engaged against typhoid fever, such observations as are here referred to are certainly of the greatest importance. They point the way along which the practicing physician may do his full duty in his attempts to arrest the spread of the disease when once established.

PHYSICIAN TO THE POPE.

Physicians to the Pope occupy an exceedingly difficult official position, requiring great dexterity, diplomacy and sagacity. The physicians to crowned heads have in comparison a comparatively easy position, the varied interests involved in the Pope's health lead to constant examination of the physician and demand from him the highest judgment and diplomacy. The vatican, moreover, contains a large, inquisitive population whose hopes vary with the health of the Pope. The salary of the position has been the same, it is said, for centuries—$600. This salary, relatively large centuries ago, considering the purchasing power of money, is now exceedingly unremunerative for the services rendered.

Probably the greatest medical man who occupied the position of physician to the Pope was the famed Paul Zacchias, who published what was the greatest contribution made to seventeenth century jurisprudence: his famous "Questions Medico-Legales." Zacchias was not a bookworm and collector of what had been done before him, but an accomplished medical practitioner and proto-medicus, i.e., chief physician to the Pope. As such he was the medical adjunct of the highest ecclesiastic court. Before this tribunal were brought all unusually difficult or doubtful legal questions, and, during the many years that he sat in its chambers, Zacchias gained an experience not only as medical adviser but as legal analyst and judicial critic such as no other member of our profession is likely to have an opportunity of acquiring. Nor was he a one-sided medical jurist, taking an interest only in the abstruse details of the subject to which his great work was devoted. He was the author of several poems of great merit, and was an accomplished student of *belles-lettres* and history. His great work in many respects is a connecting link between the medical jurisprudence of the Romans and that of modern continental codes of law. In some respects it is in remarkable accord with the most advanced teachings of today. The chapter on "Survivorship" could scarcely be improved by modern writers, allowing for the additional experience and study of two and a half centuries which have since elapsed. As a work of reference it occupies the very highest position in all fields of forensic medicine.

That, with these numerous excellencies, a work which was written at the dawn of a period which followed the dark age of science should share the imperfections of the time in which it was written is but natural. When English judges wrote treatises to prove the existence of witches, when judicial decisions teemed with reasoning which would be repudiated by a pupil in the public schools of to-day, Zacchias can hardly be censured because he gravely argued that minors were proper subjects to be put to torture. When it is remembered that in an early edition of an American medical jurisprudence. language is contained which suggests that the authors of that treatise admitted the possibility of demoniac possession, Zacchias can not be reproached for devoting entire paragraphs to this subject. He was certainly one of the best thinkers of his day, and the picture extant of him suggests that he must have been the possessor of a dispassionate and profound mind. His services to medical jurisprudence may be summed up as consisting in the collection of a vast number of precedents and medicolegal data which, but for him, might have been scattered and lost; in mediating the application of the Roman law to medical jurisprudence in consonance with advancing medical science, and, above all, in establishing a juster criterion of legal irresponsibility in the case of the insane than that in use before his day. With the downfall of the temporal power in 1871, the necessity for the forensic services of the Pope's physician passed away.

Dr. Guiseppe Lapponi, the present physician to the Pope, has long been known to the reading medical profession through his contributions to obstetric and internal medicine. One contribution, which attracted widespread attention, nearly two decades ago, was a discussion of the question of the possibility of puerperal infection of the male, at which time the influence of the streptococus was not demonstrated. To this question Dr. LAPPONI contributed (*Giornale Med. e la Riv. Clin.*, 1880) a very striking case, which, with the present knowledge of the rôle of the streptococcus in both puerperal fever and erysipelas, becomes readily comprehensible. At the time of its publication, however, the position taken by Dr. LAPPONI as to the communicability of the puerperal infection to the male was severely criticised.

From his election as Pope, until 1888, LEO XIII had remained under the care of a surgeon. As his lately translated poem on "Health" shows, he had been exceedingly careful as to his diet and very moderate in the use of wine, while at the same time given to pedestrianism. For his years, he has enjoyed, in consequence, excellent health. About 1888 symptoms became demonstrable which led to Father KNEIPP being called in to try his system on the Pope. As LEO XIII is exceedingly sceptic in regard to medical irregularities when applied to himself, KNEIPP failed completely. Dr. LAPPONI, then residing at Osimo on the Adriatic, was called in by the surgeon and came to Rome every week to visit the Pope. He later became resident nearer the Vatican, with which he is connected by telephone. He is the only person who has ever succeeded in inducing Pope LEO XIII to give up habits ingrained by a lifetime's practice, but which have become dangerous because of advancing age. Dr. LAPPONI plays no part in the web of Vatican politics but confines himself entirely to his sufficiently arduous medical duties.

RAISING THE DEAD.

The newspapers are commenting at length upon a reported case of Professor TUFFIER in which it is said he restored a dead man to life by opening the thorax and manipulating the heart. The report is naturally more startling to the lay mind than to the medical reader, for we well know that until certain chemic changes take place in vital tissues, they are not absolutely and functionally dead beyond the possibility of resuscitation. Many physicians can recall cases of revival after apparent dissolution, by continued artificial respiration, injection of stimulants or saline solutions, or some other measure of the kind Professor TUFFIER'S case is, nevertheless, if correctly reported, a striking one, and may rank as a justifiable physiologic experiment on the human subject. That it means any actually important addition to our means of permanently saving human life, is not yet, by any means, demonstrated, but it is easy to see a utility in even a temporary restoration in certain cases, although it may require mutilation, as in the instance reported.

VITAL STATISTICS OF ONTARIO.

According to the Provincial Board of Health, Ontario has the smallest death-rate of any part of the world, the total deaths as reported being only 27,633 to an estimated population of 2.283.182, Dec. 31, 1897, or about twelve per thousand. This, however, could probably be matched by some of the States of our Union with equal proportions of urban and rural population. The birth-rate of the province is also low, as is usual with a low death-rate, it being only about twenty-one per thousand, or a total of 47,323. The registrar estimates, however, that in the cities not nearly all the births have been reported and, this being so, the ratio may really be somewhat higher. It is easy to see by these figures why Canada does not increase more rapidly in population; out of 27,209 immigrants only a little over 19,000 came with the intention of settling, and how many of these leaked over the border is not stated. Add to this possible contingent the emigration of native Canadians. and the population ought to be pretty nearly in a static condition.

THE ANTIVACCINATION FOLLY.

The antivaccination craze has broken out in various parts of the country, but the necessarily local character of legislation in the United States will prevent its taking on a national importance as in England. The antivaccinationists are, however, as virulent and unscrupulous as they can be anywhere, as is shown by the following quotation from an Indiana paper, taken from an antivaccination circular: "The board of health advise all to be vaccinated, but they fail to tell what vaccination is. The reason they do not tell is because they dare not. Vaccination is the inoculation of a healthy person with the putrid pus from a festering sore—of a syphilitic nature—on a diseased animal." It is not a credit to any community that statements like the above should be circulated and receive credence among its members, but there will always be some everywhere possessed of the qualities against which even the gods strive in vain.

A POSSIBLE GERM OF SMALLPOX.

The *Indiana Medical Journal* for March states that Drs. W. T. S. DODDS and THEODORE POTTER of the Medical College of Indiana, have been utilizing the present (or recent) smallpox excitement in Indianapolis to try to find the germ of the disorder. As it says, "their findings are, at least, interesting, although this must be an old and well-studied problem in the great pathologic laboratories of the medical colleges, both at home and abroad." They report finding a constant bacillus in the vaccin vesicles of the seventh and eighth days, which grows in pure cultures and is not morphologically conformable with any other form known to them and requires special staining methods. They have also found, it is stated, an apparently identic bacillus in smallpox pustules, reacting to the same stains and morphologically the same, also similar to a bacillus grown from vaccin lymph taken from hermetically sealed tubes. They have not yet inoculated any unvaccinated children from the cultures, and presumably their research is still progressing and incomplete. It will be of interest to receive the published report of their completed investigation.

ANTIDEGENERACY LEGISLATION.

That newly organized communities are more liable to attempt experiments in legislation than are older and more settled ones, has long been a matter of observation. In North Dakota a bill is stated to have passed, the idea of which is to prevent the spread of certain diseases that are supposed to be hereditary, by putting a restriction upon marriage. The law provides for a commission composed of three competent physicians, to which the persons intending marriage shall apply for examination, to determine whether such person is free from disabilities named in the law, such as dipsomania, hereditary insanity, and tuberculosis, before receiving the necessary license. It will be interesting to observe the history of such measures, provided they are so far in accordance with public sentiment as to permit their enforcement. It is hardly to be expected that these disorders will be immediately stamped out, and the difficulty of enforcing such isolated requirements, with only an imaginary line separating other States which do not possess them, thus favoring their evasion, is obvious. The fact that laws existing in some States against marriage of near relations are thus evaded is sufficient evidence of the inefficiency of such regulations.

SURGEON-GENERAL STERNBERG: TWO OPINIONS.

Mr. William E. Curtis, in the *Chicago Record* of March 4, commenting, disparagingly, on the method of promotion in the army by seniority, rather than by merit, writes: "The experience of the medical department is a good illustration. Dr. Sternberg, surgeon-general of the army, is an eminent scientist. In his particular line he had a world-wide reputation, but he has no more executive ability than a child, and his warmest admirer would never trust him to transact a matter of business. Nevertheless, because he is the senior surgeon he is placed in charge of the medical corps and has enormous business responsibilities which he is not qualified to assume. It is no discredit to Dr. Sternberg that his talents do not run in a particular way. General Grant was a great soldier, but an utter failure in business, and it is very likely that the foremost business man in this country would be an equal failure if he undertook the command of an army; and neither General Grant nor John Rockefeller nor Marshall Field could compare with Dr. Sternberg as a microscopist"

In the page devoted to "Men and Women of the Hour," in the *Philadelphia Evening Post* of March 4, same date as the above, is the following, under the heading "Sternberg the Man of Action:"

"In the recent as in the Civil War, his mind and time were taken up with the duties before him. He had no opportunity, if he had the inclination, to listen to the praise of his contemporaries or the screams of disapproval of his policy from ignorant laymen. Steadfastly and conscientiously he conducted the business of his department. Just how much sickness and misery were escaped by his wise administration will be shown when prejudice and partisans are silent and the history of the war is accurately written. It is doubtful if any one in his profession knows more about hygiene, quarantine, sanitary science, antisepsis, bacteriology and preventive medicines than General Sternberg. But he has more than professional erudition to recommend him for his high office; he is the most practical of men, quick to see and quick to act; he is not handicapped by tradition, but belongs to that school which does not accept a thing until its truth has been demonstrated, nor reject it until it has been proven worthless; nothing in connection with his department is deemed unworthy his attention, and his zeal is unbounded."

When all the criticism, faultfinding, investigations, and charges and counter-charges are ended, and the management of the affairs of the late war can be examined with a mind free from partisanship, prejudice, or personal jealousy, the medical department—represented by the junior ex-president of the American Medical Association—will stand forth without a blemish, and without the necessity of whitewash to cover up the slightest particle of stain, real or imaginary.

TYPHOID FEVER IN PHILADELPHIA.

If modern medical science has made one fact clearer than any other, it is that typhoid fever is a preventable disease. Rarely does the transmission take place through any other channel than water used for various domestic purposes, so that the insurance of a pure and uncontaminated water-supply means a reduction to the minimum in the prevalence of and mortality from typhoid fever. Of all the various means that have been proposed to attain this desirable end, none has proved so efficient as filtration. From whatever source water for domestic purposes is obtained, it will always be susceptible of contamination before it is delivered to consumers, so that in any event filtration will finally be necessary. Theoretic considerations alone are no longer needed. Philadelphia has long been known for its bad water-supply and its correspondingly high morbidity and mortality-rate from typhoid fever. The water for the city is derived in part from the Delaware and in part from the Schuylkill, into both which rivers sewage and the refuse from mills and factories are poured without serious let or hindrance. When the supply is adequate, the water is pumped into reservoirs, where sedimentation of its grosser impurities can take place. In times of need and under some other conditions the water is delivered by direct pumpage into the supply pipes. For the year 1898 there were reported to the Philadelphia Board of Health in the neighborhood of 5000 cases of typhoid fever, and about 600 deaths from the same cause, from which the money loss alone has been estimated at more than a million and a half dollars. The present year seems to have started out to break even this high record, and with marked indications of success. For the ten weeks of 1899 there have been reported to the Board of Health 3434 cases of typhoid and 360 deaths, and for the week ending March 11, respectively 419 cases and 39 deaths. This is discreditable to one of the greatest and most typic American cities. The City Fathers have not agreed, evidently, that filtration is the best means of securing a pure water-supply while those who have so concluded have not agreed upon the best plan of filtration. There is a lingering suspicion in the minds of many that the great obstacle is the desire on the part of a number of possibly eminently respectable capitalists to secure control of the water-supply, as others have already secured control of the gas-supply, and realize a generous profit from the traffic in one of nature's commodities.

Regulation of the Sale of Thyroid Products.—The Paris Academy of Medicine has formally protested against the indiscriminate sale of thyroid products, and urges that they be included in the list of dangerous remedies only to be obtained on a physician's prescription, renewed at each application.—*Bull.*, January 24 (Vide Journal, p. 258).

Medical News.

PROFESSOR STRUMPELL of Leipsic has just completed his fifty-fifth year of uninterrupted teaching.

THE BIRMINGHAM (Ala.) MEDICAL COLLEGE recently suffered several hundred dollars damage by fire.

DR. NICHOLAS SENN addressed the Men's Club of the Fourth Presbyterian Church, Chicago, recently, taking for his subject "The Thunderstorm of Santiago."

DR. JOHN B. DEAVER, Philadelphia, it is stated, has resigned from the faculty of the University of Pennsylvania. Dr. Deaver has been assistant professor of applied anatomy at the university for some years.

THE MEDICAL PRACTICE bill referred to in the last number of the JOURNAL, p. 562, and the bill giving the Secretary of State of Illinois power to revoke charters of fraudulent diploma-conferring institutions, was favorably reported by the Senate Committee, March 14.

OTHERS' VIEWS of happenings in the medical work are interestingly instanced in the following from the *Paris Journal de Méd.*: "The Faculty of Medicine at Chicago has suspended Professor Wiggin on account of the raised scalpels of the thirty female students who attended his lectures. They accuse him of indelicate language and the remark that 'woman is nothing but a dyspeptic owl.'"

IT IS A PITY that even the higher courts sometimes fail to properly grasp sanitary truths. A recent decision, as reported in the daily press, is in evidence of this unfortunate fact. A compulsory local vaccination regulation has been made invalid on the ground that boards of education and boards of health cannot compel vaccination except when absolutely necessary to protect health. Does this mean that the supreme court and not the board of health is to judge as to the absolute necessity?

Dr. EDMUND SOUCHON of New Orleans, La., president of the Louisiana State Board of Health, and Dr. Quitman Kohnke, president of the New Orleans Board of Health, according to press dispatches of March 13, have been served with bench warrants, commanding that they appear in court at Clinton, La., to answer to the charge of manslaughter before the district court at Clinton. The charge is based upon the alleged concealment of the existence of yellow fever in New Orleans last summer, as through the alleged concealment, a citizen of East Feliciana Parish contracted the fever in New Orleans and died after returning to his home. The outcome of this will be watched with interest.

SOME LITTLE time ago the *New York Medical Journal*, with the worthy motive of improving the Latinity of some of the medical literature of the day, asked in a minor editorial paragraph to what language the word "*orem*" belonged, simply as a criticism of what is a too common and presumably inadvertent error. Instead, however, of its being simply accepted as such, the note seems to have called out an exhibition of classic non-erudition, which is more painful to us, inasmuch as it has been taken up editorially by the *British Medical Journal*. When a Boston correspondent, however, regrets the frequency of the use of "*per os*" in the medical journals of the regions south and west of New England, we have to doubly blush.

AN ANTISEPTIC BIBLE is a new idea. The *British Medical Journal* states that Americans, who are nothing if not inventive, have endeavored to reconcile the claims of hygienic science with the sanctity of the oath by making the ritual of swearing aseptic. The Court of Special Sessions of New York has provided a Bible with celluloid covers for witnesses to kiss when they take the oath. After each "kissing" an officer of the court sponges the cover, and at the close of each day the sacred volume is washed in a solution of carbolic acid. Whether this statement of our English contemporary is correct or not we can not tell, but if so it only goes to prove the truthfulness of the motto which says that "cleanliness is next to Godliness."

OMISSIONS in a recent editorial in the JOURNAL A. M. A., on the "Anomalies of English Medical Degrees" (p. 497), are criticized in the *N. Y. Med. Jour.* of March 11. We accept the correction but, as often happens, the critic is also slightly incorrect. There is an L. R. C. S., degree, but it does not appear to be much in demand, judging from Kelly's London Medical Directory. There are also various other kinds of licentiates, but they seem generally to like to supplement their license with an M.R.C.S. or L.R.C.P., or some other more popular qualification. There is also an M.R.C.P. (Edinburgh), and it would appear that the universities are not alone entitled to give the M.D., for if we are not mistaken there was a prominent physician died a few years ago who derived the degree from the Archbishop of Caterbury. It is not remarkable, however, that mistakes should occur in any attempted statement of British medical qualifications, considering the complexity of the subject.

THE HOUSE OF COMMONS, according to a London cable of March 11, has voted an appropriation for a London school of tropical medicine. The institution will be connected with the Dreadnaught Hospital at the Royal Albert docks in London. The appropriation was secured through Mr. Chamberlain, whose idea is that physicians who intend to go out to West Africa should take several months' clinical and practical training in this school in the treatment of diseases peculiar to the tropics. Not only physicians but nurses will be admitted. The expense will not be fully met by the grant, but Mr. Chamberlain has enough guaranteed by private subscription to carry the scheme along successfully. He sees no reason why what has been so effectively done in the treatment of disease at Hongkong and Calcutta should not be repeated on the Niger and the Congo. He says it is no longer necessary to regard West Africa as the white man's grave.

A PROPOSITION is now being discussed in Ohio to establish a medical department in the State University, and the homeopathic physicians are urging their claim for representation. Their idea is to have a single course for the first two years, after which the homeopathic school would be separate, thus making the school of practice elective in the junior and senior years. This is well enough for the first two years, but why the rest? At the present day, when successful homeopathic practitioners (so-called) can not be distinguished in their methods from those of the regular profession, and when leading lights in that school are educating their sons as regular physicians, and others are openly admitting their desire to throw off the garb of sectarianism, would it not be better for them in every respect to make the special homeopathic therapeutics a purely elective post-graduate course to be taken up by those who desire it? A mixed school is not specially favorable to homeopathy, as shown by Michigan experience. "Christian Science" is rapidly displacing homeopathy as a cult among the laity, and the really best defense of the practitioners of that school will be to drop pseudo-scientific professions and fall into line with regular scientific medicine. Why not give the students a chance instead of leading them off into by-ways after two terms of the course.

Correspondence.

Practical Municipal Sanitation.

New York City, March 1, 1899.

To the Editor:—The twentieth century promises to be an eminently practical age. Theorists, dreamers and blatants bawling reform are giving place to the doers of good, the active workers in the ranks of humanitarians. The gospel of health, mental and physical, spread by practical enthusiasts, gives greater reason to hope for the civilization of the heathen than the preaching by fanatic zealots, who have only succeeded in opening the gate to their syphilization and tuberculization. The ardent missionary men and women who have labored to clothe naked savages in red flannel petticoats and thereby taught them, by studiously hiding their sexual organs, to give them a prominence that had never occurred to their virginal minds, when a surf bath and a fresh coating of cocoanut-oil were their daily toilet, have wasted an immense amount of energy, that, directed to the betterment of the really unclean and benighted savages of our own great cities, would have enormously reduced their sick- and death-rates.

In illustration of this statement is the praiseworthy effort of the young lady, the daughter of a clergyman, who has been the successful inaugurator of the system of cheap public baths established in Philadelphia under the direction of the Public Baths Association of that city. It is within bounds to claim that the good already accomplished by this one association in proclaiming the gospel of cleanliness, which is real godliness, in that city since its inauguration, has exceeded any that has been done in any one South Sea island by any missionary body that has labored as many years as it has months. On the other hand, note the frightful ravages from syphilis and phthisis, which, of course, without their connivance, have followed in their train and are ending in the extermination of these races; credit the few survivors with distorted and repellent misconceptions of the Christian faith and estimate the pecuniary outlay in this direction: in the other, see what a few, a very few, thousand dollars have accomplished in a neighborhood of densely populated, degraded barbaric filth. The association began by purchasing land in the heart of the vilest quarter of the city, where ignorance, crime, dirt, disease, degradation, hunger, squalor, misery, rags and vermin prevailed—conditions unknown to the innocent, happy, naked, oily-skinned, banana and breadfruit fed Oceanican, who practiced all the tenets of the Christian faith though ignorant of its doctrines, while the denizens of this plague-spot in a Christian city practiced more of them and only knew the holy names of that faith as convenient oaths and blasphemous expressions of bestiality. The institution is now in successful operation. Men, women and children, for five cents, enjoy, many for the first time in their lives, the luxury of a clean skin, while tickets are sold to the philanthropic and given by them to the indigent who can not buy them and who can use them for this purpose only. Already the locality has assumed a different character and the wisdom of selecting such a site rather than the customary bathing pools on the water front has been justified. The baths, with two or three exceptions, are of the overhead-spray type, the water falling in a shower and running off as it leaves the body, a few tubs only being provided for very old and feeble bathers.

Municipal bath-houses and laundries on an elaborate scale have received a large share of attention for a long time from town officials in England, the first being said to have been established in London in 1844. In 1846, Parliament passed the first baths and wash-house act. Today, according to Dr. Maltbie, of the sixty-five county boroughs with over 50,000 population, only seven do not have baths. In London alone there are more than thirty establishments. Manchester has nine, Liverpool eight, Glasgow seven, Newcastle six, Birmingham five, Bristol and Salford four each. Public bath-houses did not appear in Germany until after the movement in England, a bath and wash-house after the British model having been opened in Hamburg in 1855. Today, Maltbie states in his admirable compendium on "Municipal Affairs," there are municipal bath-houses in over forty of the fifty-five German cities of 50,000 population, including thirteen of the fifteen cities with over 150,000. Municipal bath-houses are much less numerous in France than in Great Britain or even Germany. Several public bathing establishments have been erected in Paris in addition to the swimming-baths on the Seine. Vienna has ten public baths established in different parts of the city by the municipal authorities, and other European cities are gradually instituting them. In South America Maltbie states, municipal baths are reported only in the city of Buenos Ayres, and it is only thirty years since Boston established the first municipal summer baths in America. Until recently, when charitable associations have taken the matter in hand, this important municipal provision scarcely went further than the erection and maintenance of summer swimming pools in the great cities; and baths after the British models have only been instituted in the United States within the present decade. The first was erected by the city of Yonkers, N. Y. In 1894, Chicago opened the Carter Harrison Bath. Two years later Boston made public the baths at the Charles Bank gymnasium and commenced the erection of new bath-houses. In 1897, Buffalo erected public spray baths and Brookline, Mass., a fully equipped bathing establishment. In 1898, municipal baths were opened in Providence and Worcester. The most important municipal baths are those in Boston, where there are twenty-five establishments with an aggregate attendance in 1898 of 1,915,000. Other notable baths are the People's Baths of the New York Association for improving the condition of the poor located at Center Market Place, the Baron de Hirsch Fund Baths of New York City and the latest establishment of the Public Baths Association of Philadelphia.

The Maryland Public Health Association, at the instance of its president, the late Dr. George H. Rohé, made this matter of public baths the exclusive topic of its meeting at Baltimore last November, with the object of instituting a similar enterprise in Baltimore. Efforts in this direction can not be too highly commended. Public health associations really attain their ends by work of this sort. Sanitarians may despair if their accomplishments are to be proportioned solely by the amount of paper and ink expended. Unsanitary housekeepers, dyspepsia engendering cooks and health squandering men and women form the bulk of our populations despite health primers cooking manuals, and essays on wholesome food and pure water. That the use of English, pure and undefiled, is not universal among children educated in the public schools is evident to those who listen to the barbaric language of these same youths in street-cars and other public places, as soon as they are released from the tutelary bondage of their school teacher. "She aint got none; it aint hisn; I didn't get no invite and I couldn't have went nohow; do set down." Their double negatives and disagreeing verbs and nominatives belong to their surroundings; and elaborate injunctions to care for their teeth, their skins and their stomachs will be no better heeded. But, when the violation of a health ordinance costs the violator five dollars, he will hesitate to throw his refuse on the public thoroughfares, just as the "don't-care-a-d—n" private of a volunteer regiment will think twice before micturating or committing a worse abomination inside his tent or on the camp streets, when his laziness or indifference involves extra duty and deprivation of privileges. It is the example of the right-doers which influences others to right-doing, especially when that influence is coercive. The imitative disposition which causes the infant child to acquire a foreign language without rule or precept, is a greater impellent force than mere admonition. People do as they see others do; hence the agitation in favor of public baths promises results far beyond the possibilities from verbal instruction and public health associations are to be congratulated upon the practical direction now given to their labors.

Riverside swimming pools open four months in the year, however well patronized, do not meet the requirements. The establishment should be in the midst of a slum accessible all the year round and available to the indigent class through the distribution of gratuitous tickets by philanthropic agents. A clean skin and clean clothes, though ragged, have a wonderfully humanizing effect on the wretched outcast. The splendid "Mills Hotels" in New York City, where a man can get a bath, a clean bed and a substantial meal for thirty cents are among the noblest benefactions of the time and are a veritable practical sanitary enterprise, as well as a satisfactory business investment. The women of Philadelphia who entered upon the crusade against spitting in street-cars and other confined public resorts served their fellow kind far more than their sister enthusiasts who sewed to clothe naked Fijians, and other women may find the field of municipal sanitation one for which they are peculiarly fitted and one far less repulsive than the growing craze for nursing by young women, who do not realize that manipulating bed-pans and urinals, introducing male catheters, cleansing the buttocks of dysenteric men, sponging grimy fever cases from head to foot and all over, and dressing suppurating buboes and bed-sores are abhorrent and only proper duties for other men. If churches of all denominations shall send an army of sanitary workers into the slums of our great cities, they may save many a poor soul now lost through dirt and neglect. Let bath-tickets for the unclean, whether they be deserving or not, be carried about for distribution, and it would be a clincher for good if a ticket entitling the cleansed pauper to a cup of coffee and a roll of bread were placed in the hands of the bath-house officials for gratuitous disposal to those issuing doubly hungered by their cleansing, care being taken to protect against the abuse of thrifty mendicants, who have made soup-houses supplant the household provisions they are able to supply and caused public dispensaries to become the opprobria of medical charity. If philanthropic men and benevolent women shall provide themselves with a supply of bath-tickets and meal tickets and bedroom tickets and give them to the tramp or beggar who appeals for alms, and close their purses to solicited nickels and dimes, a sum total of reformatory charitableness and of far-reaching good will be accomplished at a smaller pecuniary outlay than is now expended in misdirected charity. This is sanitary evangelization in which churches of every creed may appropriately and profitably engage.

Albert L. Gihon,
Med. Director U. S. N. (retired).

Association News.

Section on Laryngology and Otology.—The bound reprint of "Transactions of the Section on Laryngology and Otology," which contains all the papers and discussions presented to the Section at the last meeting of the Association, is now in press, and will be delivered to subscribers at an early date. Owing to the limited number of copies to be printed those desiring the volume will please send their subscriptions to this office at once. The cost will be $1 per copy, express prepaid.

Columbus Meeting.—A novel and it is believed an effective plan has been adopted by the committee to avoid the confusion which attends many large conventions, and that is in the location of particular classes of attending physicians. It lies in the grouping of specialists in certain departments at certain hotels. The local committee hopes to assign a certain number of Sections to each hotel, as many, possibly, as each can accommodate. When this has been done a report of the assignment will be sent to each Section's chairman, the report being made in triplicate, one being retained by the committee, one being given to the hotel proprietors (each), and one to the chairman. Each signs the paper. The chairman of each Section, on receiving his assignment, at once sends the hotel to which he is assigned a complete roll of the membership of that Section, and the hotel then books them. When a physician arrives at one of the hotels and gives his name, the list is looked over and if his name is on the list for that hotel he is all right; if it is on the list for another hotel, he is directed to that. The assignments will be made with fairness to all and, it is thought, will obviate to a minimum all trouble in finding strangers attending the convention.

Annual Announcement.—The fiftieth[*] annual session will be held in Columbus, Ohio, on Tuesday, Wednesday, Thursday and Friday, June 6, 7, 8 and 9, commencing on Tuesday, at 11 A.M.

"The delegates shall receive their appointment from permanently organized State medical societies, and such county and district societies as are recognized by representation in their respective State societies, and from the medical departments of the Army, Navy and Marine-Hospital Service of the United States.

"Each State, county and district medical society entitled to representation shall have the privilege of sending to the Association one delegate for every ten of its regular resident members, and one for every additional fraction of more than half that number: *Provided*, however, that the number of delegates for any particular State, Territory, county, city or town shall not exceed the ratio of one in ten of the resident physicians who may have signed the Code of Ethics of the Association."

Members by application.—Members by application shall consist of such members of the State, county and district medical societies entitled to representation in this Association, as shall make application in writing to the treasurer, and accompany said application with a certificate of good standing, signed by the president and secretary of the society of which they are members, and the amount of the annual membership fee, $5.00. They shall have their names upon the roll, and have all the rights and privileges accorded to *permanent members*, and shall retain their membership upon the same terms.

At a recent meeting of this Association the following was unanimously adopted:

Whereas, the American Medical Association did, at Detroit, in 1892, unanimously resolve to demand of all the medical colleges of the United States the adoption and observance of a standard of requirements of all candidates for the degree of doctor of medicine which should in no manner fall below the minimum standard of the Association of American Medical Colleges, and

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[*] No meetings in 1861 and 1862.

Whereas, this demand was sent officially to the Permanent Secretary, to the dean of every medical college in the United States, and to every medical journal in the United States, now therefore, the American Medical Association gives notice that hereafter no professor or other teacher in, nor any graduate of, any medical college in the United States, which shall after Jan. 1, 1899, confer the degree of doctor of medicine or receive such degree on any conditions below the published standard of the Association of American Medical Colleges, will be allowed to register as either delegate or permanent member of this Association.

Each delegate or permanent member, when he registers, is requested to record the name of the Section, if any, that he will attend, and in which he will cast his vote for Section officers.

Secretaries of medical societies, as above designated, are earnestly requested to forward, *at once*, lists of their delegates.

Also, that the Permanent Secretary may be enabled to erase from the roll the names of those who have forfeited their membership, the secretaries are, *by special resolution*, requested to send to him, annually, a corrected list of the membership of their respective societies.

Orations: On Medicine, James C. Wilson, Philadelphia; on Surgery, Floyd W. McRae, Atlanta, Ga.; on State Medicine, Daniel R. Brower, Chicago.

Chairman Committee of Arrangements, Starling Loving, Columbus.

Amendment offered by W. L. Wills, California:

Constitution, Art. IV—Officers. Amend to read: "The following officers, viz: President, four Vice-Presidents, Treasurer, Librarian, Secretary, Assistant Secretary, and Chairman of Committee of Arrangements, shall be nominated by a special committee of one member from each State represented at the meeting, and shall be elected annually by the vote on a joint ticket, and shall hold office until their successors are elected."

Sections.—"The Chairman of each Section shall prepare an address on the recent advancements in the branches belonging to his Section, including such suggestions in regard to improvements or methods of work as he may regard important, and present the same, on the first day of the annual meeting, to the Section over which he presides. The reading of such address need not occupy more than forty minutes."—*By-Laws.*

"A member desiring to read a paper before a Section should forward the paper or its title and length (not to exceed twenty minutes in reading) to the secretary of the Section, at least one month before the annual meeting at which the paper or report is to be read."—*By-Laws.*

OFFICERS OF SECTIONS.

Practice of Medicine.—Frank Billings, Chicago, Chairman; Carrol E. Edson, Denver, Secretary.

Surgery and Anatomy.—W. J. Mayo, Rochester, Minn., Chairman; M. L. Harris, Chicago, Secretary.

Obstetrics and Diseases of Women.—A. H. Cordier, Kansas City, Mo., Chairman; W. D. Haggard, Jr., Nashville, Tenn., Secretary.

Materia Medica, Pharmacy and Therapeutics.—Thomas H. Stucky, Louisville, Ky., Chairman; Leon L. Solomon, Louisville, Ky, Secretary.

Ophthalmology.—Casey A. Wood, Chicago, Chairman; Charles H. Williams, Boston, Secretary.

Laryngology and Otology.—Emil Mayer, New York, Chairman; Christian R. Holmes, Cincinnati, Secretary.

Diseases of Children.—Henry E. Tuley, Louisville, Ky., Chairman; L. D. Boogher, St. Louis, Secretary.

Physiology and Dietetics.—J. Weir, Jr., Owensboro, Ky., Chairman; Lee Kahn, Leadville, Colo., Secretary.

Neurology and Medical Jurisprudence.—Frederick Peterson, New York, Chairman; Hugh T. Patrick, Chicago, Secretary.

Cutaneous Medicine and Surgery.—W. T. Corlett, Cleveland, Ohio, Chairman; J. M. Blaine, Denver, Colo., Secretary.

State Medicine.—Arthur R. Reynolds, Chicago, Chairman W. P. Munn, Denver, Colo., Secretary.

Stomatology.—George V. I. Brown, Milwaukee, Wis., Chairman; Eugene S. Talbot, Chicago, Secretary.

Wm. B. Atkinson, permanent secretary,
1400 Pine st., Philadelphia.

Society News.

Pan-American Congress.—The third Pan-American Congress has been postponed to December, 1900, when it will meet at Caracas, Republic of Venezuala.

French Medical Congress.—The fifth French Medical Congress will be held at Lille, July 28. Questions announced for discussion: Myocarditis, adenia and leukemia, and becoming accustomed to drugs.

Association of Military Surgeons.—It is announced that the meeting of this association, which, owing to the late war, was not held at Kansas City, Mo., last year, will be held in that city May 24 to 26, inclusive.

Delaware County Medical Society.—The regular meeting of this society was held at Delaware, Ohio, March 7, the principal subject of discussion being smallpox. The next meeting is to be held in April. Dr. E. M. Semans is president.

Philadelphia Pathological Society.—In the report of this society given in the Journal of March 4, the exhibition of "card specimens of paraplegia," etc., (last lines on p. 501) should have been credited to Dr. Wm. G. Spiller.

Chattanooga Medical Society.—The annual meeting of the Chattanooga (Tenn.) Medical Society was held March 3 and the following officers were elected for the ensuing year: President, D. E. Nelson; vice-president, W. G. Bogart; secretary, W. G. Tatum; treasurer, S. W. Fain.

New Medical Association.—A new medical association, including the physicians of New Kensington, Parnassus, Arnold and neighboring towns, was recently inaugurated at New Kensington, Pa., with Dr. J. G. Alter as president and Dr. D. M. Koontz of Arnold, secretary.

Kankakee County Medical Society.—At the recent meeting of this society held at Kankakee, Ill., it was decided to send a representative to the State legislature to oppose the passage of a bill now before the House legalizing the practice of Christian Scientists, faith-cure doctors and osteopaths.

Luzerne County Medical Society.—At the recent meeting of this society, held at Wilkesbarre, Pa., Dr. A. A. Barton presented a paper on "Puerperal Sepsis." At the next meeting Dr. Roderick is to present a paper on the use of suprarenal extract in operations on the nose and throat. He is also to give a talk on the St. Lazare, Paris, of which hospital he was for some months resident physician.

Associated Health Authorities of Pennsylvania.—In the Journal of March 4 (p. 501) appeared a report of a recent meeting under the caption "Pennsylvania State Board of Health." We regret that a misinformed correspondent led us into this error, as the report concerned the recent meeting of Associated Health Authorities and Sanitarians of Pennsylvania. The third vice-president also, should read, H. H. Whitcomb of Norristown.

Chicago Medical Society.—A clinical meeting was held March 8, Dr. J. H. Stowell in the chair. Dr. O. T. Freer reported and exhibited a case of aneurysm of the aorta with acute paralysis of the left vocal cord. Dr. Homer M. Thomas spoke of an unusual case of aneurysm of the ascending arch of the aorta which he had reported and exhibited to the society last October. Dr. C. O. Young exhibited a case of hydrocephalus, Dr. Gustav Kolischer gave a demonstration of an operation cystoscope on phantom of female bladder. Dr. W. F. Dickson reported a case of cystic kidney, and Dr. F. Kreissl showed a case of renal calculus removed by ureteral catheterization. He also exhibited a localizer for detecting strictures in the anterior urethra.

Tippecanoe County Medical Society.—At a recent meeting of this society, held at Lafayette, Ind., Dr. F. A. Thompson read a paper on "Dilatation of the Stomach," and Dr. M. C. Wilson one on "Leukemia." The following officers were elected: President, Adah McMahan; vice-president, M. M. Lairy; secretary, George F. Keiper; treasurer, George F. Beasley; censors, W. R. Moffitt, E. C. Davidson and George K. Throckmorton.

Louisville Medico-Chirurgical Society.—This society was the guest of Dr. Ap Morgan Vance March 6. He read a paper entitled "Where Are We At?" taking as his text the paper which has been so freely quoted from and commented upon in the medical press in regard to the division of fees by the surgeon and medical attendant in the event of a surgical operation by the surgeon. He deprecated the practice of such a thing, and stated there was no doubt of its prevalence.

Rhode Island Medical Society.—The regular meeting of this society was held at Providence, March 2. The election of officers resulted as follows: President, G. E. Hersey; vice-president, G. F. Keene; second vice-president, W. R. White; recording secretary, F. L. Day; corresponding secretary, Herbert Terry; treasurer, F. T. Rogers. Dr. George L. Collins presented a paper on enterectomy with recovery, and J. W. Keefe a patient on whom he had performed Halstead's operation for excision of the breast. Papers were read by Drs. F. T. Rogers, G. E. Gordon, G. F. Keene and H. G. Palmer.

Washington Medical Society.—At the meeting of this society, on the 8th, Dr. D. S. Lamb presented the specimen of cancer of the liver and gave the history. He also presented three specimens of cancer of the stomach. In one of the cases the patient had submitted to amputation of the cervix eighteen years previously for cancer of that organ. Dr. Samuel S. Adams read a paper entitled "Results in Immunizing Against Diphtheria." He showed the good effects resulting from the administration of diphtheria antitoxin as used in the Children's Hospital; some 400 cases were reported. The immunizing was effected to prevent a spread of diphtheria, which had appeared in the hospital, and was administered to all the patients, irrespective of their other ailments. The results were satisfactory in checking the disease. A lengthy and interesting discussion followed and, on motion, was continued over to the next meeting.

Kentucky State Medical Society.—Active preparations are now in progress for the annual meeting of this society, to be held in Louisville, May 17-19, under the presidency of Dr. David Barrow of Lexington. The committee of arrangements, composed of Drs. John G. Cecil, chairman; T. S. Bullock, Wm. Cheatham, A. M. Vance, and Louis Frank, has issued a circular letter to the profession of the State, and a large attendance is anticipated. Much of importance of a business nature will be considered, the chief of which is a change in the constitution of the society providing for a membership in the State society depending on a membership in a county society. This will necessitate the formation of a society in a number of counties which at present have no medical organization. The popularity of district medical societies, of which there are a number in the State, has caused interest to lag very much in the State society. The constitution also provides for a change in the appointment of delegates to the American Medical Association, which now rests with the president, independent of any county society affiliation. The exhibits will be a feature of the coming meeting, comprising medical and surgical products and appliances. Dr. Steele Bailey of Stanford, Ky., is the permanent secretary.

Medical Association of Georgia.—The preliminary program of the fiftieth annual session of this association, to be held at Macon, April 19-21, contains the following papers:

Address of Welcome, Hon. Emory Speer, Macon.
Response to Adddress of Welcome, DeSaussure Ford, Augusta.
The Woodbridge Treatment of Typhoid Fever, T. Virgil Hubbard, Atlanta.
Infant Feeding in Health and Disease, Gillham Robinson, Atlanta.
Seven Cases of Diphtheritic Croup—and Treatment, R. M. Harbin, Rome.
The Necessity of a State Pediatric Society, O. B. Bush, Colquitt.
The Endoscopic Treatment of Chronic Urethritis, W. L. Champion, Atlanta.
Some Facts in Regard to the Medical Complications, Sequelæ and Treatment of Typhoid Fever, Hobart A. Hare, Philadelphia.
Some Fallacies in the Modern Treatment of Nose and Throat Diseases: 2. The Effect Upon the Eye of Electric Flashes of Light, Dunbar Ray, Atlanta.
Technic of *a*, Suprapubic Cystotomy for Stone; *b*, Varicocele, Willis F. Westmoreland, Atlanta.
Catarrhal Laryngitis; 2. A Suggestion to Increase the Value of Membership in Our Association, H. R. Slack, LaGrange.
Mitral Stenosis, M. F. Carson, Griffin.
The Therapeutic Value of Hypnotism, J. R. Rose, Eastman.
The Surgical Treatment of Empyema, W. S. Elkin, Atlanta.
Acute Obstruction of the Bowels, F. W. McRae, Atlanta.
The Best Remedy for Opium Poison, W. A. O'Daniel, Milledgeville.
Mouth Breathing, J. M. Crawford, Atlanta.
Mumps and Metastasis, A. A. Davidson, Augusta.
Nasal Obstruction and Its Influence, J. L. Hiers, Savannah.
An Analysis of Appendicitis Operative Methods, Joseph Price, Philadelphia.
Appendicitis: From the Standpoint of a Country Doctor, A. C. Davidson, Sharon.
The Importance of a More Thorough Preliminary Education of the Medical Student before Entering College, A. A. Smith, Hawkinsville.
Chronic Diarrhea, T. M. Greenwood, Mineral Bluff.
Emergency Surgery, Nicholas Senn, Chicago.
A Case of Pachymeningitis, Result of a Chronic Syphilitic Rhinitis, Eugene R. Corson, Savannah.
Report of Cases in Eye, Nose and Throat Practice, Ross P. Cox, Rome.
Malignant Aphthous Tonsillitis or Diphtheroid Sore Throat, Mark H. O'Daniel, Bullards.
A Report of Two Interesting Cases, W. D. Travis, Covington.
Improved Perineorrhaphy, Geo. H. Noble, Atlanta.
The Technic of Rectal Examinations, Jas. P. Tuttle, New York City.
Some Remarks on the Tact and Delicacy Necessary in Prognosing Ear Cases, Arthur G. Hobbs, Atlanta.
Crawford W. Long and His Discovery, L. H. Jones, Atlanta.
The Physiology of Ether Anesthesia, J. B. Morgan, Augusta.
Ether vs. Chloroform, W. H. Elliott, Savannah.
The Administration of Ether and How to Meet Its Dangers, S. C. Benedict, Athens.
Title to be furnished, W. E. Fitch, Savannah.
Adenoid Vegetations in the Post-Nasal Regions, with Especial Reference to Their Influence Upon the Ear, A. W. Calhoun, Atlanta.
Posterior Displacements of the Uterus, W. B. Gilmer, Macon.
Title to be furnished, St. J. B. Graham, Savannah.
Some Experiences in a Country Practice, W. L. Story, Sycamore.
The After-Treatment of Abdominal Sections, V. H. Taliaferro, Savannah.
The Prevention and Treatment of Pelvic Inflammatory Diseases in the Female by the General Practitioner, R. R. Kime, Atlanta.
The Treatment of Some Cases of Cancer of the Skin, M. B. Hutchins, Atlanta.
A Case of Intestinal Obstruction, from Meckel's Diverticulum, with Gangrene of Intestine—with Specimen, W. P. Nicholson, Atlanta.
Treatment of Carbuncles, Oliver H. Buford, Cartersville.
Asphyxia Neonatorum, Prognosis and Treatment, C. H. Richardson, Montezuma.
Mitral and Aortic Lesions of the Heart—with Specimens, J. L. Campbell, Atlanta.

The Doctor's Scapegoat, the Liver, E. R. Anthony, Griffin.
Puerperal Septicemia, W. N. Edenfield, Pinehurst.
Sympathetic Ophthalmia, Alex. W. Stirling, Atlanta.
The Rights and the Wrongs of the Medical Witness in Courts of Justice, Jas. B. Baird, Atlanta.
Surgical Treatment of Varicocele, Wm. S. Goldsmith, Atlanta.
Deaf Mutes, with Clinic, M. M. Stapler, Macon.

Public Health.

Foot and Mouth Disease.—The Swiss bacteriologic institute at Berne offers farmers a new serum discovered by Professor Loeffler, to protect cattle against foot and mouth disease.—*Gaz. degli Osp.*, February 7.

Spread of Leprosy in Western Russia.—The autumn recruiting disclosed an alarming spread of leprosy among the young men eligible for military service along the shores of the Baltic, in the neighborhood of Riga.—*Derm. Cbl.*, February.

Detroit Health Report.—For the week ending March 11, the report gives: Deaths 107, under 5 years 44; births, male 39, female 33; diphtheria, last report 7, new cases 9, recovered 6, dead 3, 7 now sick; scarlet fever, last report 31, new cases 8, recovered 14, 0 dead, 25 now sick.

Health in Chicago.—The deaths reported during the week ending March 11 were fifty less than the preceding week and the total number the lowest recorded for any week since that ending Jan 7, 1899. The marked reduction in deaths from pulmonary diseases is the principal cause of the reduction in deaths. Deaths from the impure water diseases, especially typhoid fever, are remarkably low; during the last six weeks there have been only thirty deaths from the latter disease. The total deaths, all causes, for the week ending March 11, were 517, and for the corresponding week in 1898, 508, with 567 for the week ending March 4, 1889.

Health in Indiana.—Reports to the State board of health, for February, indicate a slight decrease in the area of prevalence compared with January, of: influenza, pneumonia, bronchitis, pleuritis, scarlet fever, diarrhea and whooping-cough, with a slight increase in meningitis, inflammation of bowels, erysepelas, diphtheria, croup and intermittent fever. Meningitis has prevailed to an unusual degree, in Vanderburg and Posey Counties being very fatal. Puerperal fever doubled in area of prevalence. Smallpox appeared in Vanderburg, Sullivan, Green, Daviess, Floyd, Clark and Jefferson Counties, and in Marion County, at Indianapolis, smallpox first appeared January 28, and up to March 1 fourteen cases had developed. No fatalities from this disease are so far reported throughout the State.

Appendicitis in French Army.—A comprehensive study of the cases in the army during the last three years—171—shows that 83 were treated medically and 88 were operated on. Medical treatment had a mortality of 4 per cent. among those treated before the fourth day; 37.8 per cent. among those treated from the fourth to the eleventh day, and over 50 per cent. of the few whose affection was not diagnosed and treated correctly until after the eleventh day. The reports of surgical intervention indicate that it is better to wait before operating until the formation of a purulent collection, as the mortality among those operated in the first five days amounted to 42 per cent., while it was only 30 per cent. of those operated the fifth to the tenth day. There were two deaths among 14 operated *à froid*. Another point in which these statistics afford a surprise is that the mortality among the cases in which the surgeon sought out and removed the appendix, amounted to 7 out of 18 cases, while in 56 cases in which the intervention was restricted to opening the abscess and draining, there were only 16 deaths. The best results were attained with an iliac incision, that is, parallel to, and not far from, Poupart's ligament.—Chauvel: *Bull de. l'Acad. de Med.*, January 24.

Typhoid Fever in the Forty-ninth Iowa.—Under date of Feb. 23, 1899, Maj. Jefferson R. Kean, chief surgeon Department of the Province of Havana, reported that since January 21 eight cases of typhoid fever had appeared in the Forty-ninth Iowa Volunteers. As the regiment at the time of Dr. Kean's inspection was absent from its camp on a ten-days practice march, an excellent opportunity was offered for the institution of measures of disinfection. The division sanitary inspector and the regimental medical officer, who had remained in camp in charge of the cases, were directed to have the tents, buildings and floors sprayed or washed down on the inside with a solution of bichlorid of mercury, 1 to 1000, and to have all the buildings and sinks limewashed. During the absence of the regiment the tent walls were to be kept raised from sunrise to sunset, and the ground under the tents thickly sprinkled with freshly burned lime, the tent floors being moved out of the tents for this purpose. All precautions needful to prevent the spread of infection were in force in the hospital.

Precautions in Cuba.—In view of the possible occurrence of yellow fever in his command, Maj. J. R. Kean, chief surgeon of the Department of the Province of Havana, Cuba, has issued the following to his medical officers:

> Attention is invited particularly to the following paragraph of Circular No. 9, Headquarters Division of Cuba, publishing certain sanitary suggestions of the surgeon-general:
>
> "Every case of fever should receive prompt attention. If albumin is found in the urine of a patient with fever, it should be considered suspicious (of yellow fever), and he should be placed in an isolated tent. The discharges of patients with fever should always be disinfected at once with a solution of carbolic acid (5 per cent.), or of chlorid of lime (6 ounces to a gallon of water), or with milk of lime made from fresh quicklime."
>
> With reference to the early diagnosis of cases of yellow fever, two symptoms should be particularly watched for in all fever cases: 1. The appearance of albumin in the urine. 2. A gradual fall in the pulse-rate while the temperature remains stationary, or is rising, or a disproportionate slowness of the pulse as compared with the temperature (Paget's law). To this end, the urine will be tested every twelve hours, and the temperature and pulse taken every three hours, and an accurate record of these observations kept in ink. Temperature charts will be furnished from this office. As we have but little scientific knowledge of the ephemeral fevers of the tropics, these records extending over a large number of cases will be of great value, and it is requested that they be preserved, and at the end of each month sent to the office of the chief surgeon to be forwarded to the surgeon-general's office.

Food and Clothing of Troops at Manila.—In a recent report to the surgeon-general, Maj. Herbert W. Cardwell, chief surgeon, Vols., states that in his opinion the government ration contains an excess of meat and a deficiency of vegetables for the climate of Manila. After the long voyage to the Philippines the salt meat became distasteful to the men and they craved vegetables. The needful vegetable diet was not on hand in the Subsistence Department, and the men consumed large quantities of native fruits, with resultant diarrheas and mango boils. Pineapples were especially dangerous, as they were usually peeled by the natives and exposed to the sun and flies some time before sale. The men craved and needed prunes and other American fruits, beans, rice, peas, oatmeal and other cereals, and canned tomatoes, corn, succotash, etc. The salt meat ration was in great part wasted, and need not have been issued except in sufficient quantity to yield cooking fat. The fresh meat ration was difficult to procure, and coming from refrigerator ships, could not be preserved longer than twelve hours. Its quality was excellent. The cooks on shipboard were inefficient. Such mistakes as cooking corned beef and cabbage in the steam coffee tanks sufficed to spoil the dietary of an entire shipload of troops for days afterward. Most of the complaints regarding life on transports are considered by

Dr. Cardwell to be exaggerated or positively untrue; but nevertheless there was enough of constraint to cause men on arriving on shore to break through all the rules of health, and neglect all the precautions which had been thoroughly and systematically impressed upon them. Concerning the clothing, he states that the earlier arrivals suffered severely from the lack of suitable clothing, but the first issue of light-weight underclothing corrected this evil. The Khakie uniform has not been issued to any of the troops. The canvas fatigue suits or overalls were unfit to be worn without underclothes until several washings had softened their texture. Many men were disabled from duty by chafing caused by these harsh uniforms. The most comfortable as well as the neatest uniform for the Philippines is that provided by the Spanish government for the 73d Regiment of Jolo, consisting of an undershirt of white flannel, closely resembling the heavier outing flannel of the United States, made in the form of a jacket, light underdrawers and white duck uniforms with a belt. This looks well with or without the blouse, and protects the latter perfectly from perspiration. It prevents chafing, and is never too warm.

Legislation in Nebraska.—A measure is now before the Nebraska Legislature, entitled "A Bill for an Act to protect the public health and to prevent the spread of contagious and infectious diseases, conferring sanitary and other powers and imposing new duties on the State board of health, providing for a State health inspector and the manner of his appointment, authorizing the establishment, relaxation and suspension of quarantine, making an appropriation for salary and expenses, fixing penalties for violation of the terms of this act and providing for prosecution of offences against the same and for other purposes."

The first section confers very extensive powers on the State board of health, to establish and enforce quarantine, and requires all local boards of health and county, municipal and State officials to act under their orders under penalty. Section 2 requires the board to investigate the causes of disease in both man and the lower animals and to collect and disseminate information on the same; also to investigate and report on sanitary questions when called upon by the State or local boards of health. Section 3 gives the board the supervision of birth and death reports and their classification and publication, and Section 4 requires local health boards, county and other local officials and physicians, to report promptly to the State board of health all cases occurring of Asiatic cholera, yellow fever, smallpox, scarlet fever, diphtheria, membranous croup, typhus and typhoid fever and such other contagious diseases as shall be specified by it from time to time. Section 5 provides that the county attorney shall institute prosecutions on information from the State board for violations of the provisions of this act. This does not preclude private action by citizens for their own protection or that of the community. All fines, etc., collected, are to be paid over to proper local officers for the benefit of the school fund. Section 6 provides for the appointment of a State health inspector, a regular graduate physician of practical skill and experience, whose term of office shall be four years, subject to removal for cause after trial and hearing before said board, his duties to be prescribed by the board, and his salary not to exceed $2000 per annum. Section 7 requires the secretaries of the State board of health to nominate and recommend a suitable person for State health inspector, within forty days from the going into effect of the act. Section 8 requires the making of annual reports including such matters as may be thought useful for dissemination among the people, with such suggestions as to legislative action as experience and observation may indicate as necessary. Section 9 appropriates $10,000 for the salary of State health inspector and necessary expenses for carrying out the provisions of the act. Two sections originally included —one an emergency clause and the other referring to the transportation of dead bodies, have been omitted in the bill as it now stands. The latter provision will be, in some form, included in an undertaker's bill that is likely to pass. There is another bill before the legislature providing for the reporting of vital statistics to the State board of health, drawn up in the interests of the legal profession, with special reference to questions of successions (inheritance), etc.

Health Reports.—The following cases of smallpox, yellow fever, cholera and plague have been reported to the Supervising Surgeon-General of the U. S. Marine-Hospital Service for the week ended March 11, 1899:

SMALLPOX—UNITED STATES.

Alabama: Mobile, February 25, 1 case.

California: Los Angeles, February 17–25, 15 cases; 5 deaths.

District of Columbia: Washington, February 18 to March 4, 15 cases.

Georgia: Savannah, March 2, 1 new case. Origin probably in North Carolina.

Florida: Jacksonville, February 25 to March 4, 3 cases.

Illinois: Biggsville, March 7, 1 case; Cairo, March 7, 26 cases; Pana, March 7, 1 case; Murphysboro, March 7, 2 cases.

Indiana: Evansville, March 3, 1 case; New Albany, March 5, 1 case.

Indian Territory: Secretary Territorial Board of Health of Oklahoma states March 4, that nearly 50 deaths have been reported to him from Indian Territory.

Maine: Lewiston, February 25 to March 4, 2 cases.

Michigan: Watervliet Township, March 2, 1 case.

Nebraska: Omaha, February 18–25, 3 cases.

New York: New York City, February 25 to March 4, 7 cases, 1 death.

North Carolina: Burlington, Franklin County, March 1, 3 cases, 1 death.

Ohio: Brooklyn, February 7–27, 1 case; Dialton, February 7–27 1 case; Franklin, February 7–27, 2 cases; Gallipolis, February 26, 2 cases; Sandusky, February 7–27, 2 cases; Shenandoah, February 7–27, 1 case; South Charleston, February 7–27, 1 case; Sunbury, February 7–27, 3 cases; Toledo, February 7–27, 1 case; Wellington, February 7–27, 1 case; Willoughby, February 7–27, 1 case.

South Carolina: Harry County, March 9, smallpox outbreak reported.

Tennessee: Memphis, March 1–7, 14 cases.

Virginia: Alexandria, March 6–9, 5 cases; Norfolk, March 4–8, 22 cases.

SMALLPOX ON VESSELS.

S. S., *City of Kansas*, at Memphis, Tenn., March 7, 1 case.

S. S. *Thomas Brooks*, at Santiago de Cuba from Guantanamo Bay, February 3.

SMALLPOX—FOREIGN.

Brazil: Rio de Janeiro, January 13–20, 12 cases, 5 deaths; Bahia, February 4–11, 2 cases.

China: Tientsin, January 4–11, 1 case.

Russia: Moscow, February 4–11, 4, 6 cases, 3 deaths; Odessa, February 11–18, 1 case, 1 death; St. Petersburg, February 4–18, 7 cases, 1 death; Vladivostock (Siberia), November 1–30, 1 case, In other parts of the same maritime district, 21 deaths.

Turkey: Constantinople, February 13–20, 10 deaths; Smyrna, February 3–12, 1 death.

YELLOW FEVER—FOREIGN.

Brazil: Rio de Janeiro, January 13–20, 32 cases, 13 deaths.

CHOLERA—FOREIGN.

India: Calcutta, January 21–28, 16 deaths; Madras, January 28 to February 3, 4 deaths.

PLAGUE.

India: Bombay, January 24–31, 540 deaths officially reported, probably 1100.

Necrology.

John A. Benson, M.D., of the College of Physicians and Surgeons, Chicago, died at his home in Chicago, March 9, from nephritis complicated with la grippe. Dr. Benson was graduated from the College of Physicians and Surgeons, New York, in 1880, and located in Chicago in 1888. He made a specialty of brain troubles, became somewhat prominent in neurology, and was for some time medical superintendent of the Dunning Insane Asylum. During the past year, on account of ill health, he was oblighed to relinquish his work as professor of physiology at the College of Physicians and Surgeons, but recently was enabled to take it up again.

Asahel Hawley Heath, M.D., Castleton, Vt., 1859, died at his home in New York city, March 10, in his 76th year.

Henry Parker Quincy, M.D., Harvard 1876, of Boston, Mass., died at his home March 11. He was a cousin of ex-Mayor Quincy and a member of the Harvard Medical School faculty.

Thomas J. Heard, M.D., Tulane Univ. N. O. La., 1845, died at his home in Galveston, Texas, March 9.

Frank T. Barwis, M.D., College Physicians and Surgeons, N. Y., 1884, died in New York city, at his home, March 9.

James Wood, M.D., Bellevue, N. Y., 1891, lieutenant and asst.-surgeon, 202d Regt. N. Y. Volunteer Infantry, died at Havana, Cuba, March 3, aged 30 years.

Joseph D. Littlefield, M.D., Univ. Pa., 1876, of Jamestown, N. Y., was found in a chair dead from cardiac disease, in his office on the morning of March 11.

John Knight Warele, M.D., College Physicians and Surgeons, N. Y., 1851, died at his home in Hudson, N. Y., March 4. Born in England in 1825, he came to America at an early age, practiced a few years in New York city and in 1854 was ordained a clergyman of the M. E. Church.

Samuel R. Olliphant, M.D., Mobile, Ala., died March 3, aged 71 years. Dr. Olliphant was graduated in medicine, from Tulane University, in 1848, and for a time practiced in Enterprise, Miss., in 1872 locating in Mobile. He was a member of the Mobile Board of Health for some years and was for several years president of the Mobile Medical Society.

Charles S. Buckner, M.D., Baltimore, Md., died March 2, aged 78 years. He was graduated from the Maryland University School of Medicine in 1843, then went to South Africa, where he practiced for a time. Returning to this country, he practiced in San Francisco and then in Baltimore, and is credited with being a member of the first exploring party to enter the Yosemite Valley.

Hiram W. Ross, M.D., St Helen, Ore., died in Portland, recently, at the age of 77 years. In 1853 he was graduated from Rush Medical College, Chicago, and in 1856 moved to Oregon, where he continued in practice until about a year ago.

William Burkitt, M.D., Keokuk, Iowa, died March 12. . . C. E. Conner, M.D., Centralia, Pa., died in New Mexico, recently. . . T. M. Cullimore, M.D., Beatrice, Neb., died at Jacksonville, Ill., March 4. . . W. G. Jeffries, M.D., Tappahannock, Pa., March 3, 68 years. . . Stephen E. Ranney, M.D., North Bennington, Vt., March 3, aged 76 years. . . A. C. Simonton, M.D., Vernon, La., March 6, aged 67 years. . . C. S. Wilmore, M.D., Kirksville, Ky., March 4, aged 70 years.

Miscellany.

The Influenza Bacillus.—In the Journal of March 11, p. 565, in line 5 of the paragraph entitled "The Influenza Bacillus," read "the characteristic symptoms of mumps," the words "of mumps" having been omitted through a copyist's error. In line 10 read "parotitic" for "paretic."

Forceps for Chalazion Extraction.—Dissection and extraction are liable to be difficult with the hook usually employed, as it only seizes the tumor at one point and is apt to tear the tissue. Jacovidès has devised a forceps resembling a clamp, but with openings in the blades to oversee the grasp of the forceps. Each blade terminates in a dozen small mouse teeth which seize the tumor firmly.—*Bull. de l'Acad. de Méd.*, January 24.

Glaucoma Consecutive to Influenza.—Despagnet reports a case of subacute glaucoma following a severe case of influenza infection. Recovery followed instillations of pilocarpin, ingestion of quinin, and superior iridectomy. Two other cases were also reported recently in which glaucoma developed after influenza, terminating in blindness, but in these there was evidently a pre-existing tendency.—*Rev. Gen. d'Oph.*, January 31.

Traumatic Chylothorax.—In 265 years of medical literature there are only fourteen cases on record in which an injury to the thorax resulted in rupture of the thoracic duct and an effusion of chyle into the pleura and peritoneum. Two additional cases are described in the *Munich Med. Woch.* of February 7, in which puncture in the seventh and eighth intercostal spaces gave issue to an orange-tinted, milky fluid at first, milk-white later, evidently chyle escaping from some injury to the thoracic duct. Both cases soon recovered.

Not Necessarily of "Consultation" Rank.—The claim that from the moment more than one physician is called in and attends regularly upon a case every visit made by every physician employed takes rank as a "consultation," the supreme court of Louisiana declares, in the case of the Succession of Haley, as it is termed, can not be listened to. And the court further holds that in fixing the value of the fees due by a succession (or estate) for professional services of physicians, the court is justified in taking into consideration the value of the succession (or estate).

Phagocytosis in Hen Cholera in Rabbits.—Prof. B. Werigo has been examining rabbits inoculated with virulent cultures in the ear or crural vein, then killed in from two to one hundred minutes. The leucocytes and endothelial cells of the liver absorb all the bacteria in a suprisingly brief period, a few minutes after the injections. The bacteria in the leucocytes degenerate, but not all of those enclosed in the liver cells. The rest retain their vitality, multiply rapidly and propagate throughout the organism. The new leucocytes lose their phagocytic property shortly before the death of the animal. These results contradict Metschnikow's theory in regard to immunity, as they indicate that the leucocytes of the rabbit possess no negative chemotaxis even for those bacteria that kill the animal the most rapidly.—*St. Petersburg Med. Woch.*, February 18.

Instantaneous Radiography.—Lenoir exhibited some fine instantaneous radiographs at the Paris Academy of Medicine, February 14; thorax of adults taken in from one to six seconds, thorax of a child in half a second, etc., some with an anticathode parallel to the plate, others with the axis of the tube parallel to the plate, and others half way between, the latter affording best results. He uses a special tube, but observed that any tube with a good vacuum will answer if the incidence which ensures the maximum of penetrating power to the rays can be determined beforehand. He uses rapid radiographic plates, developed in hydroquinone or pyrogallic acid, and a coil with 35 cent. sparks. He has also invented an apparatus to render blurred negatives distinct to the eye; the negatoscope. The negatives are looked at through tinted glasses, a combination of yellow and violet.

Widal's Test with Chemic Substances.—Bossert has established that while none of the numerous chemic substances he examined produce a specific agglutination with the cholera vibrio alone, yet 1 per 1000 sublimate, 25 per cent. formalin and .4 per cent. safranin produce agglutination with various members of the cholera group, and it differs slightly with each. In the absence of a specific serum this fact may be found useful in making a "probability diagnosis" in a doubtful case. It seems probable that in the future we will find it necessary to include the presence or absence of agglutination with various chemicals in our differentiating descriptions of bacteria. He also finds that the blood of the fetus in goats has only a feeble agglutinating power, even when the mother possesses it to a marked degree; also that it is noted in the milk as much as in the serum.—*Annals of Paris Pasteur Institute*, xii, 12.

Duty in Maintaining Hospital System.—A railroad company having undertaken to provide its injured and sick employes with medical and surgical assistance, the supreme court of Indiana holds, in the case of the Wabash Railroad Company vs. Kelley, is bound to exercise reasonable diligence in the selection and retention of its physicians and other attendants. This reasonable diligence, it goes on to state, includes the duty to supervise the work of its hospitals, and to discharge any appointees who, although reasonably competent at the time of their appointment, have, on account of the use of intoxicants and and narcotics, or for other causes, since become incompetent. And this, it adds, is particularly the case where the incompetency of the surgeon in chief has become notorious in the community, so that the company's supervising officials must have, or at least ought to have known it.

Implanted Particles of Hair on Favus Scars.—Menahem Hodara of Constantinople relates that he has been invariably successful in producing a growth of hair in young persons on patches of cicatricial alopecia consecutive to favus, by implanting a large number of small pieces of hairs after scarifying the surface thoroughly and wiping off the blood. The scraps of hair are from one to four millimeters in length, cut from the ends with scissors. A round piece of paper is laid over the spot, held with plaster. When it is removed in four weeks most of the hairs come with it, but a number remain imbedded in the furrows of the scarifications, and these sprout and become regular hairs, with a medullary canal in the center, interrupted at spots, and with apparently normal root and bulb examined with the microscope. By three or four months the patch of alopecia is covered with an actual capillary vegetation, scanty but genuine, and multiplying the scarifications and implantations produces still better success.—*Archives Orientales*, i, No. 1.

Results of Twenty Gastroenterostomies.—Hartman publishes, in the *Presse Méd.* of February 18, a study of twenty observations carefully followed. The subjective troubles have disappeared entirely in nearly every case; the general health is regularly improved—one patient gained sixteen kilos in two months. The stomach diminishes in size, but the motor function remains a little less than normal, although better than before the operation. There is some gastric stasis for months and permanently in a few cases. The continence of the orifice was noted in sixteen out of twenty cases. The acidity of the stomach decreases. A fact constantly noted is the delay in the appearance of the gastric secretions which are permanently retarded. Bile regurgitates into the stomach in all but one case, but has never determined any inconveniences. There is no further constipation after gastroenterostomy and diarrhea was noted in some cases. The patients operated for cancer survived three to eighteen months, an average of seven months, free from vomiting or pain.

Iodin by Electrolysis.—P. Laschtschenko has demonstrated that iodin can be carried into the organism by the electric current. Holding in each hand a platinum electrode wrapped in cotton impregnated with potassium iodid, a current of five to eight milliampères was passed through him for ten to fifteen minutes, which decomposed the potassium iodid. At the positive pole the potassium cathion entered the organism with the current, leaving the iodin anion alone in the cotton, with all the characteristics of simple iodin, while at the negative pole the iodin anion passed into the organism, leaving the potassium in the cotton. He also states that if the hind legs of a frog are placed in test-tubes filled one with a weak solution of nitrate of strychnin and the other of sulphate of sodium, the passage of a current of five milliampères through the frog causes the characteristic phenomena of strychnin intoxication to appear, and ten times more rapidly than with osmosis through the skin. He also asserts that the resistance of the body to the passage of the current is a constant figure, like that of the temperature of the body, an average of 1100 to 1200 ohms (max. 1400; min. 800).—*Deutsche Med. Woch.*, February 16.

Agency of Medical Examiner.—While stipulations that medical examiners shall be regarded as the agent of the applicant for insurance as to all statements made by the latter are now usually inserted either in the application or in the policy, yet, the supreme court of Illinois holds, they can not change the facts, and where a duly appointed agent of the company acts in its behalf, within the scope of his authority as otherwise determined, his acts are binding upon the company. In accordance with this view, it insists, in the recent case of the Royal Neighbors of America vs. Boman, that it was a question of fact as to whose agent the medical examiner here involved was, which should be determined from all the evidence bearing on that subject, and not merely from the statement in the application that he was the agent of the assured. It further holds that inasmuch as the medical examiner in question was acting in the interests of the insurer, his knowledge must be held to be the knowledge of the principal; and that, it being his duty to ascertain the actual facts about the risk, his report to his principal must, where no fraud or intent to deceive on the part of the applicant was shown, be conclusive upon it.

Double Serum and Double Agglutination.—J. Honl has been experimenting with animals immunized against diphtheria infection, trying to immunize them at the same time against streptococcus infection, thus producing a double serum effective against mixed infection. His results were encouraging, but the double serum was not tested on man, and the often noted unreliability of a serum derived from the streptococcus caused disappointment in some of the tests. Later experiments with animals immunized against typhus (with typhus serum, cultures or protein), and then infected and rendered immune against pyocyaneus infection, resulted in the agglutination not only of the typhus bacilli, but also of the pyocyaneus. This proves, he states, that a double immunization, a double serum and a double agglutinating power are possible and practicable. He notes the fact that the serum of a typhoid patient or infected animal confers the agglutinating property upon rabbits or mice, injected into a vein, which may prove valuable in testing serum that is infected with other bacteria, or doubtful typhus suppurations, etc.—*Vienna Klin. Rundschau*, February 12.

Criminal Anthropology.—A contemporary quotes from the *British Medical Journal* a paragraph noting the observations of criminal anthropologists on the stigmata of the assassin, Luccheni, which concludes as follows: "It would have been more satisfactory if the criminal anthropologists could have recognized all these evidences of criminality before Luccheni had perpetrated the crime which has given him the notoriety of infamy which he coveted." Such "hind-sight" comments on notable criminal degenerates are common enough, but it is surprising that they should be indulged in by high-class medical journals. What good would it have done if Luccheni's stigmata had been recognized before, and what could criminal anthropologists have been able to do in that case? The presence of stigmata does not necessarily make a criminal, nor is a man amenable to penal law until he has committed crime. Well-recognized, dangerous paranoiacs are constantly being released by courts in spite of medical testimony as to their conditions and tendencies. The slur at criminal anthropolgists is an unworthy one, though popular and frequently indulged in by the laity and, as it appears, also sometimes by others.

Intoxication with Pomegranate Bark.—Seventy-eight cases of intoxication with ethereal extract of male fern are on record, twelve fatal, and a large number affecting the eyes more or less seriously. A few cases of intoxication and ocular troubles caused by the combination of male fern and pomegranate bark have also been observed, but a case described by Sidler in the *Corr. Blatt. f. Schweizer Aertze* is probably the first in which the same symptoms were noted after the ingestion of pomegranate bark alone: A young man took in three doses a maceration of 125 grams of pomegranate bark in 400 grams of wine, vomiting half of it. The tænia was evacuated intact an hour later, but the patient was seized with chills, syncope and fever for twelve hours, followed by a comatose condition in bed for ten days, when he found he was unable to see. Sight gradually returned to normal for the left eye, but remained permanently 1/20 in the right, with the visual field permanently contracted. The action of the alkaloid can be more accurately defined, but it is well to remember that symptoms of intoxication have been observed after ingestion of two to five centigrams of pelletierin sulphate.—*Rev. Gen. d'Oph.*, January 21.

Medical Witness Entitled to Extra Pay.—The branch appellate court, first district, Illinois, considers that the only question discussed or determined by the supreme court in the case of Dixon vs. People, 168 Ill., 179, is whether a physician subpenaed and interrogated as an expert witness only, can lawfully refuse to testify upon the ground that no compensation other than the statutory witness fees has been paid or promised to him. But, notwithstanding the decision there that he can not, the court thinks that it follows from that very decision, and what the supreme court there said, that if a physician, at the request of a party to a suit, performs any such extra service as making a postmortem examination, or of preparing himself in advance for testifying in court by making an examination or performing an operation, or resorting to a certain amount of study, it is entirely proper and legal to receive payment therefor, or to make an agreement whereby he is to receive such payment. So the appellate court holds, in Lewis vs. Blye, that a physician who had professionally attended the plaintiff in a personal injury suit after such injury could make a valid and binding contract with her whereby he should be compensated for his services in conferring with her attorneys at her request, and in appearing in court a second day, also at her request, so as to be present in oase contradictory expert testimony should be offered.

Abscesses Communicating with Joints.—Phelps (*Phil. Med. Jour.*, March 4) favors incision and drainage in abscesses communicating with joints, having opened and drained every abscess, tuberculous and purulent, that has come under his care during the past fifteen years, without the untoward results predicted by some writers. He gave the following reasons for operating: 1. To save years of treatment and suffering. 2. To explore intelligently. 3. To get rid of foreign material by drainage. 4. To avoid amyloid disease of the liver and kidney by infection. 5. To prevent burrowing into important structures and cavities. 6. To prevent maceration and infection, leading to destruction. 7. To remove sequestra if present. 8. To apply the scientific rules of the surgeon and pathologist. 9. To avoid the danger of the tuberculous cavity becoming purulent, a condition occurring in 90 per cent. of the cases. 10. To anticipate a possible excision. He also advises to always operate: 1. When the capsule of the joint is ruptured. 2. In rapid osteomyelitis or dual inoculations with joint distension. 3. On abscesses appearing at points where they may burrow to other important structures, etc. 4. On all tense abscesses. 5. When carious or necrotic bone is present. 6. In rapidly increasing abscesses. 7. On joints filled with tuberculous or purulent material. 8. In repeated occurrence of abscess and multiple sinuses. 9. In abscesses in feeble children, with rise of temperature. 10. In every abscess with rise of temperature. 11. When there is doubt as to diagnosis. 12. In every abscess filled with pus or when there is breaking down of tuberculous tissue.

Medical Conditions in the Army at Manila.—The condition of the regiments serving in the Philippines may be appreciated from reports dated Jan. 15, 1899, from the 2d Brigade, 2d Division, 8th Army Corps, under the medical charge of Major S. O. Potter, brigade surgeon Vols. The 1st Neb. Infantry is the only regiment of the three in the brigade which has dry-earth closets instead of sinks, and which deposits its wastes in baskets and barrels to be carted away from camp, and it is the regiment which has the smallest sick list, 7.5 per cent., 3.9 being sick in quarters. The total number of sick in the brigade was 309, being 9.6 per cent. of the command, 4.9 per cent being slight cases treated in quarters. The cases arranged by diseases were as follows: malarial fevers 73, venereal diseases 64, intestinal diseases 44, typhoid fever 7, rheumatic affections 19, pulmonary diseases 16, variola 3, vaccinia 16, parotitis 3, pemphigus 3, injuries 33 and all other causes of disability 28. A report from the chief surgeon at Manila, Lieut.-Col. Henry Lippincott, deputy surgeon-general U. S. A., dated Jan. 22, 1899, shows an improving condition of medical affairs in the Philippine army as a whole. There are four hospitals available for the troops. The First Reserve Corps Hospital, at the date of writing contained 583 cases, but during November and December, 1898, had a daily average of 701 cases. This hospital has tent wards of 180 beds, of which few are used. A small building furnished by the Red Cross Society and called the Red Cross ward, affords space for 30 beds used chiefly for serious cases of disease among officers. The smallpox isolation wards also form a part of this hospital. Dry-earth closets have been provided in place of the filthy holes in the sewer pipes, and lavatory and bathing facilities have been much improved and extended. The Second Reserve Corps Hospital on Calle Heron, Malate, had, at the date of writing, 133 cases, with a daily average of 177 cases during November and December, 1898. Convalescents only are treated in this establishment. The District Hospital at Cavite suffices for the use of the troops stationed there. At the date of the report it contained 31 cases, but averaged 47 daily during November and December, 1898. A convalescent hospital has been established on Corregidor Island, at the mouth of the harbor, 30 miles from Manila. This has accommodations for 170 patients with facilities for extending the wards to over 400 beds. A steamer makes daily trips to the island. At the date of the report there were 168 cases in this hospital, many of whom were reported to be improving rapidly; but it is said to be too early as yet to determine what benefit this hospital will be to the command. Dr. Lippincott anticipates that it will be considerable, in view of the refreshing sea air, the moderated heat and the removal from the unhealthy surroundings of Manila. The sick list of the army has been decreasing notably during the past two months. From 12.37 per cent. on Nov. 7, 1898, it fell to 8.70 on Jan. 16, 1899. Of typhoid fever there were on the former date 124 cases in the hospitals, with 13 convalescents in quarters, while on the latter date only 40 remained in the hospitals, with 20 in quarters; and of the 40 reported as in hospital, 26 were well advanced on the way to convalescence. The decline in malarial fevers has also been considerable. The hospital cases of dysentery fell from 83 to 47, but other gastro-intestinal diseases remained about the same. Smallpox prevailed to a considerable extent in the command, its continuance being due to the arrival of new and careless troops. The men were vaccinated and revaccinated with virus from Japan. Recently the city health department opened a vaccin establishment for the production of lymph, and all the Spanish prisoners underwent vaccination directly from the calf. Our regimental surgeons were authorized to have their men vaccinated in like manner if they had reason to doubt the efficiency of the supplies received from Japan, and some have taken advantage of this authority. The total number of smallpox cases recorded has been 124, with 33 deaths. Dr. Lippincott states that his preparations for field service are well in hand, in case of active hostilities (which have since occurred) with the insurgents.

Gleanings.—Fatal hemoptysis in child of 8, with slight indications of incipient pulmonary tuberculosis; organs were normal and no open vessel could be discovered (*Nord. Med.*, February 1) . . . Tuberculous infection on cancer of the stomach noted at a necropsy . . . D'Astros states that the amount of antitoxin contained in the organs of immunized horses is infinitesimal compared to the amount in the serum (*Presse Méd.*, February 1) . . . Dermoid cyst—atheroma—removed from vocal cord of young woman (*Rev. de Laryng.*, xix, 39) . . . Eichel has constructed an apparatus that allows the gradual instillation of salt solution into the abdominal cavity, at the rate of 1 c.c. a minute, after severe hemorrhage, etc. (*Archiv. f. Klin. Chir.*, lviii, No. 1) . . . Spontaneous rupture of the posterior wall of the vagina during delivery of an 8 para, with escape of fetus into the abdominal cavity: disturbances so slight that physician was not summoned for three hours; hemorrhage fatal . . . Mahnert announces that there are liable to be numerous physiologic constrictions in the esophagus, induced by pressure of the bifurcation, etc., and that the circular strictures from corroding substances proceed from these pre-existing physiologic constrictions . . . He adds that the aorta in the embryo is on the median line, close to the esophagus in children, working its way to the left in adults and farther toward the rear in senile relaxation . . . Ries has observed three cases of a calculus in an ovary in one year; four cases on record . . . Graul has noted blisters on the hard palate, eczema scroti, salivation, etc., follow ingestion of antipyrin (*Munich Med. Woch.*, January 31) . . . Eczema a counterindication to vaccination except during epidemic of smallpox (*Presse Méd.*, February 11). . . . An oil paint found superior to mercury for injecting lymph-vessels in preparations . . . Case of spastic spinal paralysis consecutive to influenza, terminating in recovery . . . Mikulicz has found glycosuria in only one out of eighty-five cases of cholelithiasis, which refutes Exner's assertions in regard to its frequency and diagnostic value (*Deutsche Med. Woch.*, February 16) . . . E. Alvarez of Madrid has found hypnotism extremely effective in treating children (*Ann. de Med. et de Chir. Inf.*, Nov. 15, 1898) . . . Wieting recommends vertical suspension with weights on the feet, while applying a plaster walking cast for coxitis. The walking stirrup should start as high as possible . . . Lexer has observed a number of cases of extensive sequestration and phlegmons in the marrow caused by streptococcus infection, almost identic with the lesions produced by the pneumo- and staphylococcus (*Cbl. f. Chir.*, February 18).

Louisville.

Mathews.—Dr. J. M. Mathews has just returned from Philadelphia, where he was called by the serious illness of a member of his family.

Potter.—Dr. Wm. Warren Potter, editor of the *Buffalo Medical Journal*, spent several days in the city, the early part of the month, as the guest of Dr. L. S. McMurtry.

Meningitis.—Kentucky has been having an epidemic of cerebrospinal meningitis, especially in Henderson County. Drs. Arch Dixon and Jas. H. Letcher, members of the State board of health, located in Henderson, called a meeting of the profession and others interested, at that place early this month for a free discussion of the subject. Thirty-nine deaths were reported in Henderson County alone, and forty-eight cases in Evansville, Ind., a few miles down the river. The largest number of cases seems to have been along the Ohio and Green Rivers and the smaller creeks and streams contributory. Several cases have occurred in Louisvslle, a popular trained nurse being one of its first victims.

Smallpox.—The prevalence of smallpox in the city and county has reached enormous proportions, until the State board of health is becoming exercised. Fortunately the epidemic has been of the very lightest form, only very few deaths being reported, but the Eruptive Hospital has been taxed to its utmost to accommodate the patients sent. Case are reported from all parts of the city, it being impossible to keep it localized in any one quarter. Several cases have reported at the out-patient departments of the several colleges, and two students have contracted varioloid. The daily papers have suppressed much in regard to it, but business feels the depression due to its prevalence.

Washington.

Health of the District.—The report of the health officer for the week ended March 4, showed the total number of deaths to have been 112, of which number 61 were white and 51 colored. At the close of the week there were 28 cases of smallpox, 59 of diphtheria and 75 cases of scarlet fever under treatment.

Physician Appointed.—Dr. Jesse Ramsburg has been appointed a substitute physician to the poor, at a salary of $30 per month.

Senator Gallinger upon the Medical Profession.—On February 28, when Senator Warren asked for unanimous consent to bring up for consideration, Senate Bill No. 5069, approved March 15, 1878, entitled an Act for the Relief of Wm. A. Hammond, late surgeon-general of the army, unanimous consent was given, and a lengthy report from the committee read, recommending that Dr. Hammond, who has been on the retired list heretofore without pay, be from this date granted the pay of his rank. Among other things the report contained the following: "Let Dr. Hammond, in event he shall satisfy the President of his right thereto, be restored to his family, his friends and his profession, freed from every taint or blemish which has hitherto been inflicted upon him under fortuitous circumstances. His brethren in the medical profession honor his name and fame, and his countrymen look upon him with pride as foremost in the ranks of American scientists, humanitarian and gentleman. Your committee believes this to be a case wherein the constitutional prerogative of Congress to redress grievances may be safely, justly and fairly exercised, especially since the President is invested by the provisions of the bill, with wise discretion. If he find against the merits and etiquette of the case, then the relief sought must be denied. If he find otherwise, and hence favorably, Dr. Hammond will then receive that reparation to which he is entitled, and which avoids, by the terms of the bill, all reflection and humiliation upon any other party concerned." Dr. Gallinger, the Senator from Vermont, arose and said: "Mr. President, I do not propose to object to any bill that is reported by the committee on military affairs, as I am not specially versed in military matters, but I do want to enter my protest against the remarkable tribute that is paid to Dr. Hammond in this report, in connection with his professional standing. I do not care to go into detail on this subject, but I want to say that the man who has been at the head of a company that has been imposing upon the people of this country the trash that Dr. Hammond has been imposing upon them, under the name of science, does not deserve, in any report made to Congress, a tribute as to his professional standing. While, as I said in the beginning, I shall not object to the passage of this bill, if the older members of the Senate and the committee on military affairs think Dr. Hammond shall, at this late day, have restored to him the emoluments of the office that he once held, I want, nevertheless, to put on record my protest against the fulsome tribute that is contained in this report in regard to his present professional standing and his relation to the medical professional at the present time." The bill was read a third time and passed.—*Congressional Record*, Feb. 28, 1899, pp. 2742–3.

Baltimore.

Report of State Lunacy Commission.—This report gives the number of insane under treatment in Maryland institutions as 2382, 770 of these being in private institutions and 152 in county almshouses. The secretary, Dr. George J. Preston, maintains that the latter lack the appliances necessary for the care of insane patients, and argues that the State should care for all such persons. Thus only, he says, will these unfortunates receive such treatment as will give them a chance for the recovery of reason. It is interesting to have the assurance from the president of the board that no political influence is exercised in any of the benevolent or charitable institutions of the State.

Centennial Celebration.—Preparations continue for the centennial celebration of the Maryland profession in April (vide Journal, p. 267). An exhibition committee under Drs. Welch, Jacobs, Kelly and Whitridge is busy collecting portraits, pictures books and relics, and the exhibit will be held in the large Donavin Hall at the Johns Hopkins University. It is proposed to have a collection of all books written by Maryland physicians during the century past. Another proposition is to have a collection of all instruments invented by them; still another to have portraits grouped so as to exhibit along with the literature the various epochs of medical history. On April 26, the colleges in the eastern half of the city will be open for the reception of physicians present from Maryland and adjoining States; there will be luncheon and exhibition of cases and operations and pathologic demonstrations; the institutions in the western half of the city will be open in like manner on the 27th. The afternoons will be given up to reading of papers and discussions, but these (except Dr. Chew's presidential address) will all be by outside physicians. The evenings will be devoted to private hospitality and a banquet. The centennial or memorial volume will be a unique publication and will contain: 1. A medical chronology of the State from 1608, when John Smith, accompanied by William Russell, "Doctor of Physicke," and Anthony Bagnall, "Chirurgeon," first explored the Chesapeake and called the Patapsco the "Bolus," from the clay on its banks resembling "bole armomick." This name shows its medical source, and it is evident to those who read the original of the two voyages that the accounts Smith gives of them were written by the physicians who were the scientists of the party. 2. A medical biography, a short memoir of all the members. 3. A historic sketch of the society. 4. The proceedings of the centennial meeting.

Smallpox.—The following table exhibits the deaths from smallpox in Baltimore during the last twenty-four years: 1875, 1; 1878, 1; 1879, 1; 1880, 1; 1881, 11; 1882, 551; 1883, 633; 1884, 1; 1886, 1. Since 1886 there have been no deaths. The occurrence of so many cases in Washington and Alexandria has aroused our health department to most strenuous efforts of prevention, and vaccination is being done on a most extensive and compulsory scale.

Eye, Ear, and Throat Charity Hospital.—The seventeenth annual report of this hospital shows that there have been treated in the in and out departments, 2552 eye cases, 714 throat, and 407 ear cases; 460 surgical operations were performed.

Asylum Report.—The 101st annual report of Spring Grove Asylum for the Insane shows that there were 535 patients, and 4 per cent. of those treated, or 26 per cent. of total admissions were cured during the year. Dr. I. Percy Wade is the superintendent.

Philadelphia.

New Health Officer.—Mr. Charles H. Eustis, who was recently appointed to the position of health officer of Philadelphia, to succeed Dr. Benjamin Lee, assumed his duties on March 7.

Free Hospital Bed for Nurses.—The treasurer of the fund for endowing a free bed for trained nurses at the Woman's Hospital announces that up to date $325.69 has been received for that purpose.

Will's Eye Hospital.—This venerable institution has become so popular with the class who depend upon charity that it is almost impossible to care for the patients who go there for treatment. The number of new patients has increased to 12,587, while the number of visits made during the past year amounted to 46,823; 616 patients received treatment in the hospital wards.

Milk Trust for Philadelphia.—Certain citizens of Philadelphia have formed a company with a capital of $500,000, to be increased if necessary to $10,000,000, for the purpose of controlling the milk supply of this city. One of the promoters states that doctors all over the city have come into the trust, and where creameries are now owned by other parties, they will be bought and operated by this new company.

Memorial to Dr. William Pepper.—At a recent meeting held in the mayor's office, representatives of the General Committee of Fifty, appointed some time ago to consider the erection of a fitting memorial to the late Dr. William Pepper, directed that the provisions be properly carried out, but the exact site for the memorial has not yet been chosen. The following committee was appointed to report to the general committee the form and nature of the memorial: Drs. J. M. Da Costa, James Tyson, Superintendent Brooks, Hon. John Wanamaker, Simon Gratz, John H. Converse and Mayor Warwick.

Prevention of Tuberculosis in Cattle.—The State veterinary society recently held a two-days session in this city. The principal address was made by Dr. N. E. Rheinhart, "Tuberculosis in Dairy Cattle and How Shall We Get Rid of It?" Dr. Rheinhart believes all cattle should be tested with tuberculin and, if diseased, should be killed.

Quarantine Headquarters.—At a recent meeting of the State quarantine board, it was decided that it would be very disadvantageous to remove the quarantine station now located at Marcus Hook, to any other place. It was decided to send a committee to Harrisburg for the purpose of informing Governor Stone in regard to the proposed removal. The committee is composed of Dr. Benjamin Lee, secretary of the State board of health, Dr. Boenning, State quarantine physician, and health officer Heustis.

Climate of Cuba.—Dr. John Guiteras recently gave a public address on the "Climate in Tropic Regions," and is reported as saying that there is no bacterial disease in tropic America that does not exist in the United States. The conditions alone are different and can be kept under control. With the advance of science he thought yellow fever could be driven from the American Mediterranean. Yellow fever, he stated, exists almost entirely in the larger cities; smaller towns in the interior, with the same sanitary arrangements, are usually not affected. Under present arrangements, he believes 60 per cent. of those who go to Cuba will have yellow fever, and of this number probably 5 or 6 per cent. will die.

Typhoid Fever.—From Monday, March 6, 1899, to Tuesday, March 7, 1899, there were 11 deaths from typhoid fever in this city. For the week ending March 11 there were reported a total of 419 new cases of typhoid fever, with 39 deaths. During the past year there have been 1538 students who have resided within the walls of Girard College, in a section of the city in which typhoid fever has been most rampant for the past twelve months. Within this time there have been 8 deaths reported among the students. There was not one death from typhoid fever. Girard College is supplied with filtered water; the rest of the city is not.

Cerebrospinal Meningitis.—Since the report of the supposed cases of cerebrospinal fever mentioned in the Journal of last week, a mild epidemic has broken out in Port Richmond, a district situated in the northwestern portion of the city. In one family four cases occurred, three of which have died within the past few days and the other is seriously ill. Two cases also occurred in members of a family living next door to the first afflicted family. For the week ending March 11 there had been reported 34 cases with three deaths. As five cases were reported on March 10, the disease is gradually spreading.

Mortality Statistics.—The total number of deaths for the week ending March 11 was 520, a decrease of 46 over that of last week and au increase of 56 over the corresponding period of last year.

Questions and Answers.

OFFICE PRACTICE GUARANTEED.

Tampa, Fla., Feb. 28, 1899.

To the Editor:—The enclosed circular was received by me today, being the first communication I have had from the author. You may know of him and his methods. If the public is ignorant of him it may be well to call attention to the matter. U. S. Bird, M.D.

Answer.—This letter is a fair sample of many that have been coming to this office for some time, calling attention to this circular. The circular is a "daisy," and is calculated to catch the unwary physician who can be caught by such chaff. It bears the caption, "Better Than a Post Course," and is full of conceit, bad grammar and brazen effrontery, as these selections will show: "I am in a position to help you make your practice easier and more profitable. I can help you greatly increase the income from your practice; and if you want to devote yourself to special work alone you can give up general practice and do office work alone . . . I have the best system of rectal treatment that I know anything about, and I know them all. I know all the injection treatments that have been brought before the profession . . . And I am able to give more practical points about where and how to inject the various varieties of hernia than I could find in all that has been said on the subject . . . All hernias are curable that can be reduced and retained with a truss—about 90 per cent. . . . Many doctors take post-graduate work for some special knowledge which costs, including loss of time, several hundred dollars. I offer you at home what I believe to be practically better on these branches, than a post-graduate course in any school . . . There can be no failure in the work unless one is too low in skill and energy to make an intelligent effort to use it . . . For the small fee of $15 I will give you, in printed pamphlet form, the formulæ with complete directions for injections, operations, applications and treatment in these specialties. I now include with my work the formula for 'The Woman's Specific.' It is the best combination of remedies for most non-surgical diseases of women. It would add very much to your success in this line. I also give the Best Treatment for Gonnorhea. It would make your treatment of this disease a pleasure. The work is copyrighted, so you can not be deprived of its benefits by publication."

That the circular Dr. Bird encloses could have any effect would appear to indicate that some physicians are as easily gulled as the average man, while it would seem that one with even a smattering of medical knowledge would know the claims and statements of this fellow were, to say the least, absurd. One would imagine that a physician who knew so much about special office work, and could give points on how to build up office practice would have a fine office practice himself; and he has, sending circulars to the medical men of the country, and reaping a good reward for his efforts. When inquired into, it will reveal another case of a bald-headed men selling hair restoratives, and will illustrate in a very happy manner the truth of the old proverb, the last part of which is, "and his money are soon parted."

WIDAL TEST.

Cattlettsburg, Ky, March 7, 1899.

To the Editor:—Will you tell me just what the Widal reaction or test for typhoid fever is. I have not been able to find it in my Journal, as I began taking it after you had fully described it. Yours,

W. W. Morton, M.D.

Answer.—Welch (vide Journal, Aug. 14, 1897, p. 304) says that Widal, in his first communication, described both the slow or macroscopic and the quick or microscopic. For each of these he recommended a dilution of one part of blood, or blood serum, to ten parts of the fluid containing the culture. The macroscopic method consists in adding the blood or serum to be tested either to a young bouillon culture of the typhoid bacillus, or to sterile bouillon, which is then inoculated with the bacillus. In the former case the reaction usually appears within two or three hours and consists in clarification of the previously turbid fluid, and the formation of a clumpy sediment composed of accumulated bacilli. In the latter case the tube is placed in the incubator and the reaction is manifest in fifteen hours by the growth of the bacilli in the form of a sediment at the bottom of the tube, the fluid remaining nearly or quite clear. Widal's microscopic test, and to which he gave the preference, was made by mixing the blood or serum with a young bouillon culture or with a suspension in bouillon or salt solution of a fresh growth of the typhoid bacillus and examining a drop or two of the mixture at once under the microscope. With a dilution of one to ten, this microscopic typhoid reaction appears, as a rule, immediately or within a few minutes, and is evidenced by loss of motility and by clumping of the bacilli into masses of various sizes and shapes. The dried blood method is one used more extensively in this country than in Europe, and employed by Musser and Swan (Ibid, p. 309) as follows: A drop of blood is taken from the previously cleansed finger of the patient suspected to be suffering from typhoid fever, and this drop allowed to dry on a cover-glass or microscopic slide and then taken to the laboratory. The dried blood is then dissolved in one drop of distilled water, at the time of making the test. One platinum loopful of this solution is added to nine platinum loopfuls of a pure bouillon culture of the typhoid bacillus, not more than twenty-four hours old, and this mixture is then studied in the hanging drop; if motility is present in the evening this preparation is put aside in a warm room until morning when, if motility is still found and there is no formation of clumps, he considers the reaction absent.

CONSULTANTS.

Ashton, R. I., March 10, 1899.

To the Editor:—I would be thankful for your views on the following: On A's recommendation B is called in consultation in A's case. A second consultation takes place in the interval of a week. B tells the patient and friends that he and A are in complete accord and endorses A's treatment with slight, insignificant modification. After a few days A is notified by the patient's friends not to call again, as they are sending for B. B takes charge of the case without communicating with A. It is not here considered in accordance with professional etiquette for a physician to take the case of another with whom he has been in consultation without the latter's consent, and most practitioners, I among them, would not take it even then. Quærens.

Answer—A consultant called in as B was in this instance ought not to accept an invitation to take charge of the case. This is a rule, however, that circumstances may modify. Instances occur where B could not do otherwise than take the case, although these circumstances occur but seldom. Even if this were one of the cases, B ought not to have accepted the call without first communicating with A. There can be no hard and fast rule laid down, except that which goes by the name "Golden"—Do unto others as you would have others do unto you.

CINNAMIC ACID.

Sutter Creek, Cal., March 4, 1899.

To the Editor:—In the Journal for Feb. 18, 1899, under "Practical Notes," there is an article on the "Success of Cinnamic Acid in Tuberculosis." The remedy has been used by A. Landerer, and the article was from the *Presse Med.* of January 7. Can you give any more particulars about the remedy, or direct me where I can get them? Also can you tell me where I can get the sodium cinnamate? He spoke about injecting the solution into a vein. Is this absolutely necessary, and would not the cellular tissue do as well? Yours truly, L. C. Jones, M.D.

Answer.—We would refer the inquirer to "Mittheilungen aus Krähenbad bei Alpersbach im Schwarzwald. Heilanstalt für innere u. Chirurgische Tuberculose." Kostritz, 1897. This can probably be obtained through some medical bookseller dealing in foreign publications. Some of our readers may be able to give further data.

The Public Service.

Movements of Army Medical Officers under orders from the Adjutant-General's Office to March 8, 1899.

Aristides Agramonte, acting asst.-surgeon, now in Havana, Cuba, to report to the commanding general for assignment.

E. W. Ames, acting asst.-surgeon, from Huntsville, Ala., to the general hospital at Savannah, Ga.

Roger P. Ames, acting asst.-surgeon, from New Orleans, La., to Havana, Cuba, for assignment.

C. L. G. Anderson, acting asst.-surgeon, from the hospital train at Atlanta, Ga., to the general hospital, Savannah, Ga.

Thos. B. Anderson, acting asst.-surgeon, from the hospital at Ft. Myer, Va., to duty on the "Relief" en route to Manila, where he will report for assignment.

Aaron H. Appel, major and surgeon U.S.A., from temporary duty at Ft. Hamilton, N. Y., to Jackson Bks., New Orleans, La.

Leona M. Archey, lieutenant and asst.-surgeon 1st N. C. Inf., resignation accepted.

Wm. B. Banister, major and brigade surgeon Vols. (captain and asst.-surgeon U.S.A.), relieved from the 2d Army Corps when his services can be spared, to duty at Ft. Warren, Mass.; to be honorably discharged from volunteer service, to date April 20, 1899.

C. E. Bentley, acting asst.-surgeon, from Little Rock, Ark., to duty at Ft. Logan H. Roots, Ark.

John T. Booth, acting asst.-surgeon, from the hospital at Ft. Myer, Va., to Cincinnati, Ohio.

Wm. C. Borden, major and brigade surgeon Vols. (captain and asst.-surgeon U.S.A.), honorably discharged from volunteer service, to take effect March 31, 1899.

A. H. Bowman, captain and asst.-surgeon 1st S. Dak. Inf., resignation accepted, Feb. 27, 1899.

Henry H. Bradley, acting asst.-surgeon, from Camp Columbia, Havana, Cuba, to the general hospital, Savannah, Ga.

Wm. W. Calhoun, acting asst.-surgeon, from Ft. Ontario, N. Y., to Havana, Cuba, for assignment.

Wm. J. Calvert, lieutenant and asst.-surgeon U.S.A., to proceed to Ft. McHenry, Md., to accompany the 6th U.S. Artillery to Manila.

Marshall M. Cloud, lieutenant and asst.-surgeon U.S.A., from Camp Shipp, Ormiston, Ala., to his station at Ft. Sill, Okla.

Fred. J. Combe, major and brigade surgeon Vols., leave of absence granted, on expiry of which to proceed to Santiago, Cuba, for assignment.

Chas. G. Cruikshank, acting asst.-surgeon, from Albany, Ga., to Havana, Cuba, for assignment.

J. J. Curry, acting asst.-surgeon, from the hospital at Ft. Myer, Va., to the general hospital, Savannah, Ga.

Walter H. Dade, acting asst.-surgeon, from Chicago, Ill., to Ft. Crook, Neb., to accompany the 16th U. S. Inf. to Manila.

Carl R. Darnall, lieutenant and asst.-surgeon U.S.A., from duty at Huntsville, Ala., to Havana, Cuba.

Jas. C. Dougherty, acting asst.-surgeon, to duty on the transport "Burnside."

Guy L. Edie, major and brigade surgeon Vols. (captain and asst.-surgeon U.S.A.), honorably discharged from volunteer service, to take effect March 31, 1899.

Henry W. Eliot, acting asst.-surgeon, from Willett's Point, N. Y., to Madison Bks., N. Y., to accompany the 9th U.S. Inf. to Manila, reporting to the commanding general for assignment on his arrival there.

P. G. H. Farrell, captain and asst.-surgeon 1st Cal. Inf., resignation accepted, to take effect March 13, 1899.

Henry C. Fisher, captain and asst.-surgeon U.S.A., from duty at Plattsburg Bks., N. Y., to accompany the 9th U.S. Inf. from Madison Bks., N. Y., to Manila.

Chas. J. Fitzgerald, acting asst.-surgeon, from Dorchester, Mass., to Madison Bks., N. Y., to accompany the 9th U.S. Inf. to Manila, reporting on arrival to the commanding general for assignment.

Chas. Fitzpatrick, acting asst.-surgeon, to duty in Philadelphia, Pa., in connection with the mustering out of troops.

Chas. E. B. Flagg, captain and asst.-surgeon U.S.A., from the 2d Army Corps, when his services can be spared, to duty at Columbus Bks., Ohio.

John S. Fogg, acting asst.-surgeon, from the Josiah Simpson Hospital near Ft. Monroe, Va., to the "Relief," for duty in the Philippine Islands.

Clyde S. Ford, lieutenant and asst.-surgeon 4th U.S.V. Inf., commission vacated to accept that of asst.-surgeon U.S.A.

Jos. H. Ford, lieutenant and asst.-surgeon U.S.A., from the general hospital, Ft. McPherson, Ga., to the general hospital, Savannah, Ga.

Chas. M. Gandy, major and chief surgeon Vols. (captain and asst.-surgeon U.S.A.), honorably discharged from volunteer service, to take effect March 22, 1899.

Robert J. Gibson, major and surgeon U.S.A., leave of absence granted.

Lewis T. Griffith, acting asst.-surgeon, from Washington, D.C., to Ft. Ontario, N. Y.

Geo G. Groff, major and brigade surgeon Vols., honorably discharged, to take effect April 30, 1899.

Henry M. Hallock, captain and asst.-surgeon U.S.A., sick leave granted.

John T. Halsel, acting asst.-surgeon, from Ft. Sam Houston, Texas, with the 6th U.S. Inf. to Manila.

John Hamilton, lieutenant and asst.-surgeon 49th Iowa Inf., resignation accepted, Feb. 13, 1899.

Herbert I. Harris, acting asst.-surgeon, previous orders to Madison Bks., N. Y., revoked.

H. S. T. Harris, major and brigade surgeon Vols. (captain and asst.-surgeon U.S.A.), honorable discharge from volunteer service ordered and revoked, and to proceed to Ft. Crook, Neb., to accompany the 16th U.S. Inf. to Manila.

Eugene H. Hartnett, lieutenant and asst.-surgeon U.S.A., to proceed to Ft. McHenry, Md., to accompany the 6th U.S. Art. to Manila.

Frederick M. Hartsock, lieutenant and asst.-surgeon U.S.A., leave of absence extended.

Elmer E. Heg, major and brigade surgeon Vols., to Havana, Cuba, for assignment.

Brainard S. Higley, lieutenant and asst.-surgeon U.S.A., from Ft. Niobrara, Neb., to San Francisco, Cal., for assignment to duty with troops sailing on the first available transport for Manila, where he will report for assignment.

Evan P. Howell, lieutenant and asst.-surgeon 5th U.S.V. Inf. sick leave of absence granted and extended.

Ashton B. Heyl, captain and asst.-surgeon U.S.A., to close the general hospital at Ft. Thomas, Ky., and report for duty as surgeon of that post.

Geo. F. Jueneman, acting asst.-surgeon, from Huntsville, Ala., to duty at the general hospital, Savannah, Ga.

Zadock T. Kalbough, lieutenant and asst.-surgeon 2d West Va. Inf., leave of absence extended.

Wm. P. Kendall, major and brigade surgeon Vols., to proceed to Plattsburg Bks., N. Y., and accompany the 21st U.S. Inf. to Manila.

Frank P. Kenyon, acting asst.-surgeon, from Plymouth, Mass., to Ft. Porter, N. Y., to accompany the 28th U.S. Inf. to Manila.

Wm. J. Kernochan, major and brigade surgeon Vols., honorable discharge, to take effect March 30, 1899.

D. H. Lamb, acting asst.-surgeon, from the hospital, Ft. Myer, Va., to Owosso, Mich.

Henry H. Lee, major and brigade surgeon, honorable discharge, to take effect March 22, 1899.

Wm. F. Lewis, captain and asst.-surgeon U.S.A., leave of absence granted.

Chas. Lynch, captain and asst.-surgeon U.S.A., from duty at Fort Point, Galveston, Texas, to accompany the 6th U.S. Inf. to Manila.

Donald MacLeau, Jr., acting asst.-surgeon, from Washington, D. C., to the general hospital, Savannah, Ga.

James W. Madara, acting asst.-surgeon, from Washington, D. C., to New York City to duty on the "Relief" and for assignment in Manila.

John C. Martin, major and brigade surgeon, Vols, honorably discharged.

Louis M. Maus, lieutenant-colonel and chief surgeon, Vols. (major and surgeon, U.S.A.), previous orders amended to make his discharge from volunteer service take effect April 21, 1899.

James H. McCall, acting asst.-surgeon, from the Josiah Simpson Hospital, Ft. Monroe, Va., to duty with troops at Greenville, S. C.

Champe McCulloch, Jr., captain and asst.-surgeon, U.S.A., to Ft. Barrancas, Fla., from Huntsville, Ala.; leave of absence granted.

W. A. McVean, acting asst.-surgeon, to Jefferson Barracks, Mo., from the general Hospital, Ft. Thomas, Ga.

Edgar A. Mearns, major and chief surgeon, Vols. (captain and asst.-surgeon U.S.A.), honorably discharged from volunteer service to take effect March 22, 1899.

H. E. Ménage, acting asst.-surgeon, from Ft. Sam Houston, Texas, to accompany the 6th U.S. Inf. to Manila.

Clarence B. Millhoff, lieutenant and asst.-surgeon, U.S.A., from Washington Barracks, D. C., to the general hospital, Savannah, Ga.

C. L. Mullins, captain and asst.-surgeon, 1st Neb. Inf., resignation accepted to date Feb. 24, 1899.

Herman Myer, acting asst.-surgeon, from duty in Santiago to Havana, Cuba, for assignment.

George J. Newgarden, captain and asst.-surgeon, U.S.A., sick leave granted.

Charles D. Noble, acting asst.-surgeon, to duty at Columbus Bks, Ohio.

John L. Phillips, major and chief surgeon, Vols. (captain and asst.-surgeon, U.S.A.), from the 2d Army Corps to Ft. Thomas, Ky.; honorably discharged from the volunteer service, to take effect April 20, 1899.

James E. Pilcher, major and brigade surgeon, Vols. (captain and asst. surgeon, U.S.A.), honorably discharged from volunteer service, to take effect March 22, 1899; leave of absence granted.

Junius L. Powell, major and surgeon, U.S.A., from duty at Augusta, Ga., to return to his station, Ft. Riley, Kan.

Henry I. Raymond, major and brigade surgeon, Vols., from the 2d Army Corps to Ft. Porter, N. Y., to accompany the 13th U.S. Inf. to Manila.

Shannon Richmond, acting asst.-surgeon, from Camp Witherell, Greenville, S. C., to Huntsville, Ala., to accompany the 16th U.S. Inf. to Manila.

George W. Roberts, acting asst.-surgeon, from Washington, D. C., to Ft. Porter, N. Y., to accompany the 13th U.S. Inf. to Manila.

Samuel Q. Robinson, major and surgeon, U.S.A., from the Department of Santiago, Cuba, to Ft. Reno, Okla.; leave of absence extended.

Edward R Schreiner, lieutenant and asst.-surgeon, U.S.A., from the 2d Army Corps to Plattsburg Barracks, N. Y.

George A. Sheldon, acting asst.-surgeon, from Washington, D. C., to Havana, Cuba, for assignment.

George K. Sims, acting asst.-surgeon, leave of absence granted, on the expiry of which he will accompany the 6th U.S. Inf. to Manila.

William Stephenson, major and brigade surgeon, vols. (captain and asst.-surgeon, U.S.A.) from Santiago, Cuba, to New York City as attending surgeon and examiner of recruits; honorably discharged from volunteer service, to take effect April 30, 1899.

James B. Stewart, acting asst.-surgeon, from Washington, D. C., to Bradford, Pa.

Hugh L. Taylor, acting asst.-surgeon, from Ft. Clark, Texas, to Havana, Cuba, for assignment.

Benjamin L. Ten Eyck, captain and asst.-surgeon, U.S.A., from Ft. Riley, Kan., to Ft. Niobrara, Neb.

Henry D. Thompson, major and brigade surgeon, Vols., to Havana, Cuba for assignment.

William J. Wakeman, major and brigade surgeon, Vols. (captain and asst.-surgeon, U.S.A.) to Philadelphia, Pa., as attending surgeon and examiner of recruits; honorably discharged from volunteer service, to take effect April 30, 1899.

Philip G. Wales, major and brigade surgeon, Vols. (captain and asst.-surgeon, U.S.A.) from the 2d Army Corps on the closure of the hospital at Greenville, S. C., to Ft. Niobrara, Neb.; honorably discharged from volunteer service, to take effect April 26, 1899.

Samuel L. Waterhouse, lieutenant and asst.-surgeon, U.S.A., from the general hospital, Ft. McPherson, Ga., to general hospital, Savannah, Ga.

Henry E. Wetherill, lieutenant and asst.-surgeon, U.S.A., from supply duty at Huntsville, Ala., to Plattsburg Barracks, N. Y., to accompany the 21st U.S. Inf. to Manila.

William L. Whittington, acting asst.-surgeon, to Ft. Sam Houston, Texas, to accompany the 6th U.S. Inf. to Manila.

Charles Willcox, captain and asst.-surgeon, U S.A., to Ft. Bliss, Texas, from duty in Porto Rico.

Charles E. Woodruff, major and brigade surgeon, Vols., leave of absence granted.

Marlborough C. Wyeth, major and brigade surgeon, Vols., to Havana, Cuba, in charge of medical supply depot to be established there.

Movements of Navy Medical Officers.—Changes in the medical corps of the U.S. Navy for the week ending March 11, 1899.

Rear Admiral A. S. Crowninshield, W. K. Van Reypen, R. B. Bradford, E. Stewart, G. W. Melville, P. Hichborn, M. T. Endicott, C. O'Neil, chiefs of bureau in the navy department, rear admirals from March 3, 1899.

Marine-Hospital Changes.—Official List of Changes of Stations and Duties of Commissioned and Non-Commissioned Officers of the U.S. Marine-Hospital Service, for the seven days ended March 9, 1899.

P. A. Surgeon J. C. Cobb, to proceed to Savannah, Ga., for special temporary duty.

Asst.-Surgeon L. D. Fricks, to report at Washington, D. C. To proceed to the Reedy Island quarantine station and report to the medical officer in command for temporary duty.

Acting Asst.-Surgeon Carl Ramus, to proceed to the Cape Charles quarantine station and report to the medical officer in command for duty and assignment to quarters.

Hospital Steward G. H. Brock, to proceed to New Orleans, La., and report to the medical officer in command for duty and assignment to quarters.

Hospital Steward F. L. Brown, to proceed to the Cape Charles quarantine station and report to the medical officer in command for duty and assignment to quarters.

Hospital Steward Charles Slough, to proceed to the San Francisco qurrantine station and report to the medical officer in command for duty and assignment to quarters.

Hospital Steward R. F. Troxler, to proceed to San Francisco, Cal., and report to the medical officer in command for duty and assignment to quarters.

APPOINTMENTS.

T. Farrar Richardson of Louisiana, W. W. King of Michigan, Frank J. Thornbury of New York, and Carl Ramus of Illinois, commissioned as assistant-surgeons, March 9, 1899.

Wallace B. Hunter of Pennsylvania, to be acting asst.-surgeon for duty at the port of Erie, Pa., March 9, 1899.

Robert F. Troxler of Kentucky, to be junior hospital steward, March 4, 1899.

CHANGE OF ADDRESS.

Ashton, T. G., from 1533 Pine to 128 S. 17th St., Philadelphia, Pa.
Babcock, H. S., from 609 Stocking Av. to 507 Summit St., Toledo, Ohio.
Bremmer, H. A., from Merritt to Ashton, Ill.
Cavanaugh, J. J., from Ft. Scott to Garland, Kas.
Cheshire, M. U., from Anamosa to Marshalltown, Iowa.
Carver, W. F., from Murry to Fort Dodge, Iowa.
Chambers, A. T., from 633 N. Calhoun to 677 Columbia, Baltimore, Md.
Denison, C. E., from 113 W. 12th to 215 W. 34th, New York City.
Fauuer, J. C., from Masonic Temple to 1315 Clinton Av., Minneapolis.
Feltwell, A. L., from Philadelphia to 1202 12th, Altoona, Pa.
Harbeck, J. H., from Cuernavca, Mex., to Boulder, Colo.
Horner, C. P., from 2407 Prairie Av. to Provident Hospt., 36th and Dearborn Sts., Chicago.
Luther, C. V., from Saybrook, Conn., to South Orange, N. J.
Lee, B., from 1532 Pine to 1420 Chestnut, Philadelphia, Pa.
McKeldin, R. A. W., from 1242 Md. Av. N. E., to 56 N. Y. Av. N. W., Washington, D. C.
Montizambert, F., from Quebec to Toronto, Can.
Miller, R. W., from 102 Henne Bldg. to 414 Laughlin Bldg., Los Angeles.
Noren, G. P., from Geneseo to Kewanee, Ill,
Rogers, A. E., from Chatford to Havelock, Iowa.
Reekie, J. S., from Melbourne, Australia, to Sanitarium Summer Hill, Sydney, N. S. W.
Stewart, J. L., from 375 S, Wood to 684 W. Monroe, Chicago.
Wood, E. S., from 524 Michigan Av. to 600 Cherokee St., Leavenworth, Kansas.

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Original Articles.

EARLY METHODS OF MEDICAL EDUCATION IN NORTH AMERICA.

Read before the H. C. Wood Medical Society of the University of Pennsylvania, Jan. 12, 1899.

BY FRANCIS R. PACKARD, M.D.,
DEAN OF THE PHILADELPHIA POLYCLINIC AND COLLEGE FOR GRADUATES IN MEDICINE, ETC.
PHILADELPHIA.

Prior to the foundation of medical colleges in North America it was customary for young men desirous of learning "physic," to go abroad and study in the schools of Edinburgh, London, or the Continent, if they had the means; or, if they had not the "wherewithal" they would apprentice themselves for a term of years to some practitioner of repute in the Colonies, and at the expiration of the term of their indenture to him, begin practice on their own account. As there were practically no laws as to who could, or who could not practice medicine, many poorly educated physicians and charlatans arose to feed upon the laity. It has been estimated that at the outset of the War for Independence, there were upward of 3500 practitioners of medicine in the Colonies, of whom not more than 400 had received medical degrees. Dr. Stille,[1] quotes from a "List of the Graduates in Medicine in the University of Edinburgh," printed by Mill & Co. in 1807, the fact that between the years 1758 and 1788 the names of sixty-three Americans appear on the list. He also points out that but one of these students came from the New England Colonies, signifying the closer relations in existence between the Middle and Southern States and the mother country.

In 1758 Dr. Ralph Asheton of Philadelphia, was one of the students in medicine at the University of Edinburgh, and I have in my possession photographs of his matriculation cards and certificates of attendance on the various courses of lectures. The originals were written or printed upon the backs of ordinary playing-cards—thus we find his ticket to the Royal Infirmary is made out upon the back of the seven of diamonds, and that admitting him to the second course on anatomy, upon the back of the deuce of spades. His cards admitting him to the lectures are all duly stamped with the seal of the university. At the conclusion of his studies he received a certificate, beautifully engrossed with pen and ink, bearing the following inscription:

> This is to certify that Mr. Ralph Asheton has *dilengtly* and carefully attended my Courses of Anatomical and Chirurgical Lectures. (Signed,)
> August 5th, 1758. HENRY WATSON.

Dr. Morton,[2] speaking of the status of these physicians who crossed the ocean for their medical education, well says: "We find that the professional men of the seventeenth and eighteenth centuries were generally much better educated than most of their successors of the present time. Almost without exception they were classical scholars. Their graduating theses must be written in Latin. Travel was essential, notwithstanding the encumbered modes of motion to which they were subjected. Leyden, Paris, Edinburgh, London, Oxford, Upsal, Bonn, and to some extent Vienna, Berlin and the Italian schools, received and honored them; they, as a rule, by their subsequent career, equally honoring the places which they visited and where they sojourned. They were also men of affairs. It is surprising what a part they took at home in politics (in its broad sense) and government. They were good soldiers, and freely offered themselves and their services to their country in time of need." Everyone will recall in this connection the eminent services rendered the patriot cause by Dr. Joseph Warren, who fell at Bunker Hill, by Dr. Prescott, who warned the minute men at Lexington and Concord, and many other physicians, too numerous to enumerate, who served in the armies or in the Congresses of the infant nation.

Not much has descended to us about the student-life of those days. With the exception of the fortunate ones, who could look back upon days spent in an English, Scotch or Continental college, the period of their tutelage seems to have been a dreary one to those disciples of Esculapius whose reminiscences have remained to us. Thacher,[3] in several of his biographic sketches, gives us glimpses of the life they led, which show conclusively that it was not all beer and skittles.

Dr. John Bard was a native of Pennsylvania, born in 1716. He received his early education in Philadelphia, and at the age of 14 years was bound apprentice to the senior Dr. Kearsley, of that city. Kearsley was a man of great professional attainments, and very eminent in his profession and in public and social life, but possessed of a most morose and gloomy temperament. "He treated his pupils with great rigor, and subjected them to the most menial employments, to which, Dr. Bard has been heard to say, he would never have submitted, but from the apprehension of giving pain to his excellent mother, who was then a widow with seven children and a very moderate income, and from the encouragement he received from the kindness of her particular friend, Mrs. Kearsley, of whom he always spoke in terms of warmest gratitude, affection and respect. Under such circumstance she persevered to the end of seven tedious years, stealing his hours of study from sleep after the family had retired to rest, and before they arose in the morning."

Benjamin Rush was born on his father's farm, a few miles from Philadelphia, in 1745. He obtained the degree of A.B. from Princeton in 1760, before he was 15 years old, and at once began the study of medicine, serving as an apprentice to Dr. John Redman of Philadelphia, for the next six years. Thacher says, "The writings of Hippocrates were among the first books Benjamin Rush read in medicine, and while he was an apprentice he translated his "Aphorisms" from Greek into English. He also began to keep a notebook of remarkable occurrences, the plan of which he afterward improved and continued through life. From a part of this record, written in the seventeenth year of age of its author, we derive the only account of the yellow fever in 1762 in Philadelphia which has descended to posterity. In the same year he was one of Dr. Shippen's ten pupils, who attended the first course of anatomical lectures given in this country. Two years after, and while he was a daily attendant in the shop of Dr. Redman, he commenced his brilliant career as an author. On the expiration of his apprenticeship, Benjamin Rush went in 1766, to Edinburgh to prosecute his studies in that city."

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[1] Life of John Dickinson.
[2] History of the Pennsylvania Hospital.
[3] American Medical Biography.

Dr. Daniel Drake was of a later period, but his medical education was so typic of that of an earlier date that I venture to quote concerning it from his life, by Mansfield. His apprenticeship began in 1800, when he was 16 years of age, to Dr. Goforth. "During the next three years his chief occupation was the study of medicine, the running of errands, the compounding of drugs, and all such employments as befall a country doctor's boy, student, young man, or whatever else bluntness or courtesy might call him."

There were no systematic courses of lectures or demonstrations for these young men, unless they happened to live in Philadelphia, Boston or New York. To Dr. Cadwallader Colden is to be ascribed the credit of the first attempt to establish a systematic course of lectures on medical subjects in the colonies. Dr. Colden was born in Dunse, Scotland, Feb. 17, 1688. He graduated in the academic course at the University of Edinburgh in 1705, and then studied medicine. In 1710 he crossed the ocean and settled in Pennsylvania. In 1715 he went back to England, but returned to Pennsylvania in 1716. In a letter of James Logan of Philadelphia, written May 1, 1717, is the following reference to his scheme:

"All I know of that bill is only this. He (Colden) came to me one day to desire my opinion of a proposal to get an Act of Assembly for an allowance to him as physician for the poor of this place. I told him I thought very well of the thing, but doubted whether it could be brought to bear in the House. Not long after R. Hill showed me a bill for this purpose, put in his hands by the Governor, with the two further provisions in it, which were, that a public physical lecture should be held in Philadelphia, to the support of which every unmarried man above twenty-one years, should pay six shillings, eight-pence, or an English crown yearly, and that the corpses of all persons whatever that died here should be visited by an appointed physician, who should receive for his trouble three shillings and four-pence. These things I owned very commendable, but doubted our Assembly would never go into them, that of the lecture especially."

Colden's efforts were fruitless, the prognostications of Logan proving correct.

In the year 1750 Dr. Thomas Cadwallader, who had been a pupil of Cheselden of London, gave a series of practical demonstrations of anatomy to a number of physicians of Philadelphia. It is almost pathetic to read of the eagerness and zeal for knowledge displayed by these old fellows, who, instead of manifesting any jealousy of the superior opportunities of their colleague, anxiously sought to reap the advantage of his London experience, which he in his turn was just as generous in imparting to them. In the same year (1750) Thacher tells us that a criminal named Hermanus Carroll was executed for murder in New York City, and his body was dissected by Dr. John Bard and Dr. Peter Middleton for the instruction of the young men then engaged in the study of medicine. "This is the first essay made in the colonies for the purpose of medical knowledge by dissection, of which we have any record."

Somewhere about the year 1752 there came to Rhode Island a young Scotchman named William Hunter, who was a relative of the two famous brothers, John and William Hunter. He was born in 1729, educated under the elder Monro, and served as a surgeon's mate at the battle of Culloden. In 1754–6 he delivered lectures at Newport, on anatomy and comparative anatomy, which were advertised in the Boston newspapers. He died in Boston in 1777. It is curious to reflect that one of the earliest teachers of anatomy in this country was a near relation of two of the greatest teachers in the medical history of England.

To no one, however, does the advancement of the study of medicine in its early days in the colonies owe more than to Dr. William Shippen, Jr., of Philadelphia. He was born in the latter city in 1736; his father being a prominent physician there. After graduating from the College of New Jersey, as Princeton was then called, he entered the office of his father and studied medicine with him for three years, and then went to England, where he studied anatomy with John Hunter, and midwifery with William Hunter and Dr. McKenzie, finally graduating from the medical department of the University of Edinburgh. His graduation thesis was, "De Placentæ cum Utero Nexu." An interesting letter from his father, to a gentleman in England, has descended to us; in it he speaks of the course of study he wishes his son to pursue while abroad, as follows: "My son has had his education in the best college in this part of the country, and has been studying physic with me, besides which he has had the opportunity of seeing the practice of every gentleman of note in our city. But for want of that variety of operations and those frequent dissections which are common in older countries, I must send him to Europe. His scheme is to gain all the knowledge he can in anatomy, physic, and surgery. He will stay in London for the winter, and shall attend Mr. Hunter's anatomical lectures and private dissections, injections, etc., and at the same time go through a course of midwifery with Dr. Smellie; also enter as a pupil in Guy's Hospital. As soon as the season is over, he may go to France, and live with Dr. Leese in Rouen, and there study physic until he can pass an examination and take a degree."

Young Shippen returned to this country in 1762, having been abroad five years, and in March of the same year he began the delivery of a series of lectures on midwifery—the first special course on that subject ever given in this country. The following announcement of the course was published in the *Pennsylvania Gazette*:

DOCTOR SHIPPEN, JUNIOR,

Proposes to begin his first course on Midwifery as soon as a number of pupils sufficient to defray the necessary expense shall apply. A course will consist of about twenty lectures in which he will treat of that part of anatomy which is necessary to understand that branch, explain all cases of midwifery—

natural, difficult, and preternatural—and give directions how to treat them with safety to the mother and child; describe the diseases incident to women and children in the month, and direct to proper remedies; will take occasion during the course to explain and apply those curious anatomical plates and casts of the gravid uterus at the Hospital, and conclude the whole with necessary cautions against the dangerous and cruel use of instruments.

In order to make this course more perfect, a convenient lodging is provided for the accommodation of a few poor women, who otherwise might suffer for want of the common necessaries on these occasions, to be under the care of a sober, honest matron, well acquainted with lying-in women, employed by the doctor for that purpose. Each pupil to attend two courses at least, for which he is to pay five guineas. Perpetual pupils to pay ten guineas.

The female pupils may be taught privately, and assisted at any of their private labors when necessary. The Doctor may be spoke with at his house, in Front street, every morning between the hours of six and nine; or at his office in Letitia Court every evening.

Dr. Norris[4] gives very copious extracts from notes taken on Dr. Shippen's introductory lecture and I quote from him the following portions. The lecture began with the statement that he was often called in consultation in cases of difficult labor, "most of which were made so by the unskilful old women about them, and seeing that great suffering to the mothers, accompanied often with loss of life to them, or their offspring, have followed, which could easily have been prevented by proper management, had made him resolve to introduce a course of lectures on that useful and necessary branch of surgery, in order to remedy those terrible evils, and to instruct those women who have had virtue enough to own their ignorance and apply for instruction, as well as those students who are qualifying themselves to practise in different parts of the country with safety and advantage to their fellow creatures." He mentions several cases of gross mismanagement of labor cases which had fallen under his observation, and then continues, "I have reason to believe that I shall be able to present each of you with one natural labor at least, and have provided a machine, by which I can demonstrate all kinds of laborious and preternatural labors, and shall give every necessary direction to enable you to manage all cases with the greatest safety to mother and child."

He stated the order in which his lectures would be given, "1st. On the Bones of the Pelvis. 2nd. Male and Female Organs. 3rd. Changes in the Uterus. 4th. On the Placenta. 5th and 6th. On the Circulation and Nutrition of the Fœtus. 7th. On the Signs of Pregnancy. 8th. On the Menses. 9th. Fluor Albus. 10th. On Natural Labors. 11th and succeeding ones on Laborious or Preternatural Labors, with the use of Instruments; and concluded by particular lectures on the Diseases of Women and Children within the month, and directions concerning the diet of each, and methods of choosing and making good nurses."

He reviewed the history of midwifery and pointed out what was necessary to make a man midwife "an adept in his profession, and to gain the good opinion of the female world," advising him to preserve a "grave deportment" with well-timed conversation, but avoiding religiously any jokes about the patient or profession." He warned the class that the drinking habit might easily be contracted "insensibly by the foolish custom of taking a dram in a cold or wet morning." Concerning their fees he says, "I give you only one admonition, which is, to charge no one extravagantly, and every one in proportion to their abilities, remembering that by giving your service gratuitously to the poor, you will get much from the rich."

Those "curious anatomical plates and casts of the gravid uterus at the Hospital," to which Dr. Shippen refers in his announcement, form a most interesting link in the genealogic chain connecting medical education in this country with that in England. They were presented to the managers of the hospital by Dr. John Fothergill of London, and the whole story of their presentation and subsequent history is most interestingly told in Dr. Morton's history of the hospital. When Dr. Shippen was studying abroad he made the acquaintance of Dr. Fothergill, who became much interested in the account he gave him of the hospital. On July 27, 1762, Dr. Fothergill presented the hospital library with its first volume, "for the benefit of the young students who may attend under the direction of the physicians," and he also gave the hospital, toward the founding of a museum, seven cases of anatomic drawings and casts, which were then valued at £350.

In a letter to James Pemberton, at that time one of the managers of the hospital, Doctor Fothergill says: "I need not tell thee that the knowledge of anatomy is of exceeding great use to practitioners in physic and surgery and that the means of procuring subjects with you are not easy. Some pretty accurate anatomical drawings, about half as big as the life, have fallen into my hands, which I propose to send to your hospital to be under the care of the physicians, and to be by them explained to the students and pupils who may attend the hospital. In the want of real subjects these will have their use, and I have recommended to Dr. Shippen to give a course of anatomical lectures to such as may attend. He is very well qualified for the subject, and will soon be followed by an able assistant, Dr. Morgan, both of whom I apprehend, will not only be useful to the Province in their employments, but if suitably countenanced by the Legislature will be able to erect a school of physic among you that may draw students from various parts of America and West Indies, and at least furnish them with a better idea of the rudiments of their profession than they have at present the means of acquiring on your side of the water."

It will be remembered that Drs. Morgan and Shippen subsequently filled the two first professorial chairs in the medical department of the University of Pennsylvania. On the minutes of the Pennsylvania Hospital, May 17, 1763, occurs the following entry:

Doct. William Shippen, Junr. attended and proposed that an advantage may arise to the hospital by the Anatomical Drawing & Casts presented by Dr. Fothergill. He offered his services to attend twice in a month to give some general explanation thereof to such Persons who may be desirous to view them, the Board approving of the Doctor's Kind Intention, the following advertisement proposed by him was agreed to be published in the next *Gazette*, viz:

"The Generous Donation of Doctr. Fothergill of London to the Pennsylvania Hospital of a Sett of Anatomical Paintings and Castings in plaister of Paris representing different views of the several parts of the human body, being now deposited in a Convenient Chamber of the Hospital, as there may be many Persons, besides Students in Physick desirous to gain some general knowledge of the structure of the human body, Dr. William Shippen, Jr. proposes to attend there on the Seventh Day of the Week the 21st inst. at 5 o'clock P.M. and once a fortnight on the same day of the week, at the same hour during the summer season, to explain and demonstrate to such persons who are willing to give a Dollar each for the benefit of the Hospital."

That Dr. Shippen did not possess the sole right to use preparations is shown by the following resolution adopted by the board of managers of the hospital: "Any Professor of Anatomy being desirous to exhibit lectures, he is to apply to the Managers in attendance for Liberty." They also regulated the price for pupils in physic by the following rule: "All pupils attending lectures are to pay a pistole each."

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[4] Early History of Medicine in Philadelphia.

In the autumn of 1762 Dr. Shippen announced to the public, through the columns of the *Pennsylvania Gazette*, his intention to give a course of anatomic lectures, in the following letter.

Philadelphia, November 11th, 1762.

Mr. Hall

Please to inform the public that a course of Anatomical Lectures will be opened this winter in Philadelphia, for the advantage of the young gentlemen now engaged in the study of Physic, in this and the neighboring provinces, whose circumstances and connections will not admit of their going abroad for improvement to the anatomical schools in Europe; and also for the entertainment of any gentlemen who may have the curiosity to understand the anatomy of the Human Frame. In these lectures the situation, figure and structure of all the parts of the Human body will be demonstrated, their respective uses explained, and as far as a course of anatomy will permit, their diseases, with the indications and methods of cure briefly treated of.

All the necessary operations in surgery will be performed, a course of bandages exhibited, and the whole conclude with an explanation of some of the curious phenomena that arise from an examination of the gravid uterus, and a few plain directions in the study and practice of midwifery. The necessity and public utility of such a course in this growing country, and the method to be pursued therein, will be more particularly explained in an Introductory Lecture, to be delivered the 16th, instant, at six o'clock in the evening, at the State House, by William Shippen, Jr., M.D. The lectures will be given at his Father's house in Fourth Street. Tickets for the course to be had of the Doctor at five pistoles each; and any gentleman who may incline to see the subject prepared for the lectures, and to learn the art of dissecting, injecting, etc., is to pay five pistoles more.

In February, 1763, he published the following notice:

Dr. Shippen having finished on Osteology—the most dry, though the most necessary part of anatomy—will admit gentlemen who want to gratify their curiosity, to any particular lecture—Tickets five shillings.

The first course that he delivered was attended by but ten students, but in subsequent years he had as many as two hundred and fifty in a class. There was a great deal of opposition to the establishment of a place in which it was proposed to dissect the human body, and several times the building in which the dissections were performed was attacked and its windows broken. Dr. Norris says, "In one of these attacks the Doctor himself made a narrow escape by passing out through an alley, while his carriage, which stood before the door with its blinds raised, and which was supposed to contain him, received, along with a shower of other missiles, a musket ball through the center of it. More than once he was compelled to desert his own dwelling and conceal himself, in order to avoid the tyrannical exactions of the people. Several times he addressed the citizens through the public papers, assuring them that the reports of his disturbing private burying-grounds were absolutely false, and stating that the subjects he dissected were either of persons who had committed suicide, or such as had been publicly executed; except, he naively adds, 'now and then one from the Potter's Field'." Gradually, however, he overcame the opposition to his project, and the undertaking proved thoroughly successful. Norris says that in December, 1762, the newspapers stated the body of a negro who had committed suicide by cutting his throat with a bottle, was handed over to Dr. Shippen for anatomic purposes, and he also quotes the following paragraph from the *Pennsylvania Gazette*, indicating that he received aid from other sources than the city of Philadelphia: "Last Saturday a prisoner was executed at Gloucester, New Jersey, pursuant to his sentence, and his body was sent by order of the Chief Justice to Dr. Shippen's anatomical theatre for dissection."

The Pennsylvania Hospital was a great center for medical instruction, furnishing greater facilities for clinical observations than could be obtained anywhere else throughout the colonies. The first patient was admitted to the hospital, Feb. 10, 1752. For some time the number of patients capable of accommodation in the hospital was so limited that the physicians and surgeons on its staff did not require the aid of skilled medical assistance in the performance of their duties, but as the number of inmates increased the staff found it very essential that they should have the aid of assistants who possessed some skill in the handling of patients, dressing of wounds, etc., and it became customary for them to bring their apprentices with them when they made the rounds of the wards, and use them as dressers and assistants, the apprentices in turn deriving the benefit of seeing the practice of the hospital. Besides their own apprentices they soon began to allow other students to make the rounds. So many young men availed themselves of these privileges that on May 10, 1763, the managers, resolved, "It is the unanimous opinion of the Board that such of them at least who are not apprentices to the Physicians of the House, should pay a proper Gratuity for the Benefit of the Hospital for their privilege; the consideration of stipulating the sum is referred to the next board after consulting w'th y'e Physicians."

Dr. Morton quotes the minutes of the next meeting of the Board, May 31, 1763, which, as he justly says, shows the "disinterestedness and liberality" of the physicians "in a very honourable light." The meeting occurred just after the annual election of managers and physicians to the hospital.

5th mo., 28th, 1763.

It appears that the Physicians chosen were informed thereof and have agreed to undertake the Service this year. A copy of the Minute of last Board respecting the Students who attend the wards at the time of the visiting the Patients having been communicated to them: Doctr. Thomas Bond and Dr. Cadw. Evans now attended and Informed the board that the several Physicians have met & considered the same & committed their Sentiments thereon to writing which they delivered & was read, it being as follows, viz:

"Philadelphia, May 31, 1763.

"Upon considering the Minute of the Managers of the Pennsylvania Hospital made the 10th of 5 mo. 1763, relative to those Students who attend the Wards of said Hospital. It is our opinion that each Student who is not an Apprentice to one of the Physicians attending the House shall pay six Pistoles as a Gratuity for that Priviledge That the Managers & Doctors in Attendance for the time being shall be the judges who are proper to be admitted or refused. And further, as the Custom of most of the Hospitals in Great Britain has given such Gratuities to the Physicians and Surgeons attending them, we think it properly belongs to us to appropriate the Money arising from thence. And propose to apply it to the founding of a Medical Library in the said Hospital, which we judge will tend greatly to the Advantage of the Pupils & the Honour of the Institution.

"Thos. Bond.
"Thos. Cadwallader,
"Phineas Bond,
"Cad. Evans."

After Consideration whereof the board agrees to the Proposal in respect to the terms upon which Students in Physic are to be admitted to attend the wards; the Gratuity for which to be paid the treasurer, and in Regard to the Proposal for a Medical Library, that such books as are purchased should be approved of by the Managers, as likewise the manner in which they are to be lent out.

At the end of their term of instruction such students were given certificates signed by the medical staff and managers of the hospital. The following was the form used for this purpose:

> This is to Certify that , son of . . . West Jersey, entered regularly as a pupil of the Pennsylvania Hospital . . 1763 and continued his attendance with Diligence and Application, to . . 1764 during which time we hope and have reason to believe he has made considerable Progress in the Knowledge of Anatomy, and the Practice of Physick and Surgery, therefore wishing Happiness and success we give from under our Hands and the seal of the Corporation, this Testimonial of our Esteem and Approbation.

In 1773, Dr. Morton tells us, the managers began the custom of taking young men who wished to study medicine as apprentices to the institution, the term of apprenticeship being five years. They were regularly indentured to the hospital for this length of time; when it was over each young man received a certificate stating that fact and a suit of "cloathes." This system of apprenticeship was continued for many years. After the foundation of the medical department of the University of Pennsylvania the apprentices attended the lectures there while they were in the service of the hospital. It was not until 1824 that the rule was made requiring all those serving the hospital in the capacity of what we now call "residents," to be regularly graduated from a medical college previous to their appointment to the position.

In 1766 Dr. Thomas Bond, of the staff of physicians to the hospital, suggested to the managers the propriety of establishing a regular course of clinical lectures, and in order to secure their assent to such a course being given he invited them to his house, Nov. 26, 1766, where he read them "An Essay on the Utility of Clinical Lectures." This lecture was presented to the hospital, and so pleased the managers that they ordered its insertion in their Minutes, whence Dr. Morton resuscitated it in the "History of the Pennsylvania Hospital."[*]

These lecture courses of Dr. Bond's proved highly successful and were attended by many students. There seems at times to have been considerable difficulty in the collection of fees from the students for the attendance, so that on April 2, 1770, the board of managers passed a resolution that no student should be permitted to attend who could not show a certificate stating that his fee had been paid. In 1774 the cost of the clinical lecture was made £5 per course to "all students attending lectures, and not apprenticed to physicians."

One of the most picturesque of the physicians and teachers in the early history of medicine in Philadelphia was Dr. Abraham Chovet. He was born in England, May 25, 1704, received his medical education in that country, and on Aug. 31, 1735, he was appointed demonstrator of anatomy in the United Company of Barbers and Surgeons. Afterward he went to the West Indies and lived for some time in Jamaica. In 1770 he and his family were obliged to flee from the island, owing to a slave insurrection, and they settled in Philadelphia.

The following description of the old Doctor's appearance was given to Watson,[5] the Annalist, by one who had often seen him: "This aged physician was almost daily to be seen pushing his way in spite of his feebleness, in a kind of hasty walk, or rather shuffle, his head and straight white hair bowed and hanging forward beyond the cape of his black old-fashioned coat, mounted by a small cocked hat, closely trimmed upward upon the crown behind, but projectingly and out of all proportion cocked before, and seemingly the impelling cause of his anxious forward movements, his lips, closely compressed (*sans* teeth) together, were in constant motion, as though he were munching something all the time; his golden-headed Indian cane, not used for his support, but dangling by a black silken string from his wrist; the ferule of his cane and the heels of his capacious shoes, well lined in winter time with thick woolen cloth, might be heard jingling and scraping the pavement at every step; he seemed on the street always as one hastening as fast as his aged limbs would permit him to some patient dangerously ill, without looking at any one passing him to the right or left." The Pennsylvania Hospital still possesses a wax medallion of him, made on his eightieth birthday, which bears the following inscription: "Abraham Chovet, born May 25, 1704, drawn May 25, 1784, by his servant, Dr. Eckhout."

The old gentleman was a great wit, and many amusing anecdotes have descended concerning him. He was noted for his use of expletives, which, Watson says, were held to be "neither useful nor ornamental." Several of the stories of his humor are worthy of repetition: Happening one day to be overtaken by a rainstorm when at the house of Samuel Fisher, a well-known Quaker, the latter lent him his own greatcoat on the condition that while he was in it he was to use no oaths, to which the Doctor agreed. When he brought back the coat, Fisher said: "Well, doctor, didst though swear whilst thou hadst on my coat?" "No," replied the Doctor, "but there was a damnable disposition to lie." He was a notorious Tory, but seems to have been humored in the expression of his opinions, even by advanced patriots.

In the appendix of "Christopher Marshall's Diary"[6] the two following stories are quoted from the *New York Gazette* for 1828: Dr. Chovet one day entered the coffee-house with an open letter in his hand, at the hour when many merchants were in the habit of gathering there. "On seeing the Doctor they all surrounded him, enquiring what news he had in that letter. . . . In reply to this inquiry, he said the letter contained information of the death of an old cobbler in London, who had his stall in one of the by-streets, and asked the gentlemen what they supposed the cobbler had died worth. One said £5000, another £10,000, and another £20,000 sterling. 'No, gentlemen, no; you are all mistaken; not one farthing, gentlemen'; running out, laughing at the joke at the expense of the collected mercantile wisdom of the city."

"Another time having been sent for to the Spanish Minister, Don Juan Miralles, who resided in old Mr. Chew's house, in Third Street, between Walnut and Spruce streets, the weather being rather unpleasant, the Minister ordered his carriage to the door to convey the Doctor home. The Doctor, full of fun and joke, directed the coachman to drive by the Coffee House, which, as he approached, was perceived by the merchants, who immediately drew up in order, hats off, to pay their respects to Don, as minister from a friendly power. The Doctor kept himself close back in the carriage until directly opposite the coffee-house, the gentlemen all bowing and scraping, when he pops out his head. 'Good morning, gentlemen, good morning; I hope you are all well; thank you in the name of His Majesty, King George,' and drove off, laughing heartily at having again joked with the Philadelphia Whigs." At the time when the mob carted Dr. John Kearsley, Jr., the son of the architect of Christ Church, and another violent Tory, through the streets, Chovet only escaped the same fate by hiding in the stable of Mr. Marshall. As a rule, however, Dr. Chovet, so far as his politics were concerned, seems to have been regarded as an amusing and eccentric old gentleman whose idiosyncrasies were harmless. He certainly never endured the gross indignities which befell so many of his fellow Tories.

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[*] This lecture is well worth reading as a statement of medical knowledge at that date, and only its great length—between three and four thousand words—prevents its reproduction here with all its peculiarities of spelling and punctuation. Its reading would in no way diminish our respect for the abilities and accomplishments of the pioneers in medicine in this country.

[5] Annals of Philadelphia.

[6] Edited by William Duane, Phila., 1839.

Dr. Chovet brought from England a collection of wax models, and dried and injected anatomic preparations, and in the winter season of 1774–75 he delivered a series of anatomic lectures illustrated by them, of which he made the following announcement:

> AT THE ANATOMICAL MUSEUM
>
> in Videl's Alley, Second Street, on Wednesday, the Seventh of December at six in the evening
>
> DR. CHOVET
>
> will begin his course of Anatomical and Physiological Lectures, in which the several parts of the human body will be demonstrated, with their mechanism and actions, together with the doctrines of life, health and the several effects resulting from the actions of the parts; on his curious collection of Anatomical wax-works, and other natural preparations; to be continued the whole winter until the course is completed. As this course cannot be attended with the disagreeable sight or smell of recent disease and putrid carcases, which often disgust even the students in Physick, as well as the curious, otherwise inclined to this useful and sublime part of natural philosophy, it is hoped this undertaking will meet with suitable encouragement.
>
> Tickets to be had for the whole course at Dr. Chovet's house in Second Street, Philadelphia.

On Nov. 24, 1783, Dr. John Foulke received permission from the board of managers of the Pennsylvania Hospital to use one of the upper rooms of the building known as the "elabratory" of the hospital for the purpose of giving lectures on "Chirurgical and Physical Subjects during the season." He was not only, according to Watson, reckoned "the best surgeon of his day," but also "the next best skater" in the city; "skating 'High Dutch,' and being able to cut his own name at one flourish, constituted the Doctor's fame as a skater." In 1784 he opened "An Anatomical Hall" with a "determination to put the character of a Philadelphia anatomist upon a higher footing than it had ever before been," also asserting, "that in his pursuit he was determined to observe every attention to decency, solemnity and punctuality." The charge was $12 a course. He continued giving these courses of lectures until his death, in 1796, and they seem to have been very largely attended.

There were several other lecture courses given in Philadelphia toward the end of the last century, which are worthy of note, indicating what an active center the city was in the development of medical education on this continent. Dr. John Hannum Gibbon, who was a Pennsylvanian by birth, graduated from the University of Edinburgh, in the medical department, in 1786; returned to this country and married a Miss Heysham of Philadelphia, after which he settled in the latter city, on Arch Street. In 1789 and for some years afterward he lectured on the "Theory and Practice of Medicine." He died at the early age of 36 years, on Oct. 5, 1795. Norris also mentions the lectures on midwifery, delivered by Dr. Benjamin Duffield, from 1793 until his death in 1799. Dr. Duffield also lectured on "Diseases of Hospitals and Jails," and "The American Practice of Physic." According to Norris, Drs. Church and James continued his obstetric lectures after his death. The same authority speaks of a course of lectures by Dr. Price of London, delivered in Philadelphia toward the close of the century, on "The Theory and Practice of Physick," and "Midwifery and the Diseases of Women and Children," and of the course on obstetrics given by Dr. Dewees in 1797.

PELVIC DISEASE.

IS IT A CAUSE OF NERVOUS AND MENTAL AFFECTIONS?

Presented to the Section on Obstetrics and Diseases of Women at the Forty-ninth Annual Meeting of the American Medical Association, held at Denver, Colo., June 7–10, 1898.

BY FREDERICK PETERSON, M.D.
President of Board of Managers of Craig Colony for Epileptics; Chief of Clinic, Nervous Department, College of Physicians and Surgeons; Clinical Professor of Insanity in the Woman's Medical College.
NEW YORK CITY.

It was in the sixteenth century that Montaigne, a friend of physicians, though a hater of their art, wrote, that it was safer to follow the example of the ancient Egyptians and employ specialists for each particular organ of the body than to trust one's self to the general practitioner. "As we have doublet- and breeches-makers, distinct trades, to cloath us, and are so much better fitted, being that each of them meddles only with his own business, and has less to trouble his head withal, than a taylor that undertakes all; and as in matter of diet, great persons, for their better convenience, and to the end they may be better served, have cooks of distinct offices, some for soops and pottages, and others for roasting, which one cook that should undertake the whole service, could not so well perform, so must we be treated in our cures." If that were good advice in Montaigne's day, how much more valuable must it be to-day when the bounds of scientific medicine have expanded far beyond the vision and comprehension of any one man!

No single mind can grasp and practically apply the vast store of human knowledge accumulated in the domain of the healing art during the past century. And, yet, upon the whole it seems to me that the well-rounded general practitioner has a wider field of usefulness to society than the ordinary specialist of the present day, and for this reason, that the majority of specialists carry their specialism too far. The tendency is for each to consider his narrow spot the center around which the whole human microcosm revolves. It is very much as though one should say that the sole object of human life is manufacture of a skeleton. For is not the skeleton the most enduring part of the body? Does it not last ages after the individual has disappeared? What are the muscles for if not to move the skeleton? For what purpose are the viscera, if not to nourish the muscles; and the nervous system, if not to regulate nutrition and govern the muscles in their manipulation of that supreme apparatus, the skeleton?

The specialist, to be superior to the general practitioner, should first of all *equal* him in a broad understanding of the principles of general medicine, and upon such foundation rear the superstructure of his specialty. He must regard man as a biologic unit in which every organ has its due place and proportion in the harmonious unity. While his own sphere of activity will naturally engross the most of his attention, the specialist should not apotheosize the eye, the nose, the uterus, or any single viscus and make it the divinity to which all the other organs must kneel. It is a species of intellectual myopia which has led some specialists, for instance, to attempt to include a large number of neuroses and psychoses, such as neurasthenia, hysteria, chorea, epilepsy, mania, melancholia, etc., among the disorders dependent upon changes in any viscus which chances to loom up overwhelmingly in their intellectual horizon. It would be vastly amusing, were it not all too often tragic, to observe the alacrity with which some of them seize upon one unfortunate organ as the sole offender in the animal economy. Woe to the individual afflicted with some nervous disorder who should by any sorry chance pass through the hands of a series of such specialists! She would be dissected piecemeal. Her eye muscles would naturally be slashed for a year or two by the ophthalmologist, who recognizes in muscular insufficiencies the origin of chorea, epilepsy, insanity and the like. The long-suffering turbinated bones would be the next to go. Then the rectum would be the site of surgical procedures, after which the clitoris, ovaries and uterus would be the object of attack. The remaining viscera being of minor consequence, the patient may then be safely turned over to the stomach specialist, or referred back to the family physician, or seek perpetual refuge in some hospital, sanitarium or asylum. Is this a picture drawn from the imagination, or is it not rather a faithful sketch of a not infrequent spectacle? Naturally, there is no one present who will, after my preliminary sentences, misunderstand me as berating all specialists. You, as well as I, feel that the specialist who is broad-minded and honest enough to look upon man as a biologic unit, will never fall into the egregious errors just portrayed.

I have been interested, since I was honored with the invitation to discuss this question, to examine five of the best works on gynecology which have been issued within the last three years, with reference to their treatment of the relations of nervous and mental disorders to pelvic disease. Three of the books had nothing to say upon the subject. Two of them discussed the subject from quite different standpoints. One of the writers could be classified among the narrow specialists to whom I have just referred. In one paragraph he states that the disorders of the nervous system resulting from disturbed menstruation "partake of the nature of chorea, hysteria, epilepsy, hystero-epilepsy, migraine and neurasthenia. These, together with nymphomania and other varieties of perverted sexual appetite, onanism and insanity, will be especially referred to." I can not reconcile such statements with others in the same chapter upon the *causes* of disordered menstruation, among which nervous and mental diseases are alleged to play an important etiologic rôle. An example of the author's point of view is his somewhat sweeping classification of insanity, He says: "For our present purposes all cases [of insanity] may be classified as follows: 1, those which are purely central, from cerebral causes; 2, those which are the result of female sexual diseases from reflex causes." What will the ophthalmologist, rhinologist and rectal specialist say to this? Where are now the exponents of the new theory of auto-intoxication?

It is a pleasure to turn from this author to the chapter on the nervous system in relation to pelvic diseases, in the little book on "Diseases of Women," by J. C. Webster (1898), in which the broad position for which I contend is assumed by the writer. The tenor of his dissertation may be inferred from one quotation, as follows: "Too strong a protest can not be urged against the centralization of attention on the local pelvic conditions without regard to wider physical and psychic relationships." I could wish, to be sure, that the author had been guided throughout his brief chapter by the wise dictum just quoted, but it is difficult for any man to free himself wholly from the traditions of his art and the contagion of his environment. The chapter, however, should be an excellent guide for generations of gynecologists yet to come, and I should feel safe in entrusting a nervous patient to a specialist in diseases of women who holds such views. Old Carl von Braun of Vienna, with whom I studied gynecology in my younger days, was wont to speak of the uterus as the Pandora box of woman's woes, a designation comprehensive enough to embody the opinion of all too many of his successors. Were sex determined anatomically by the pelvic organs alone, there might be some excuse for giving them that prominence in pathology for which certain gynecologists, especially those afflicted with the *manie operatoire*, contend. But femininity does not reside solely in the pelvic organs; it pervades the entire organism of woman, her bones, muscles, breasts, viscera and nervous system, and even her mind. The disorders of her pelvic organs have no more to do with her nervous and mental diseases than lesions elsewhere in her body; indeed, they have less to do with her psychoses and neuroses than most of her other organs, for, as in the male sex, the chief causes of their neuropsychoses are to be sought in intrinsic disorders of the nervous system itself, or in perverted nutrition of the nervous system dependent upon affections of the gastro-intestinal tract, kidneys, liver, lungs, heart, etc., and upon pathologic blood states.

It is true that puberty, adolescence, the puerperium, menstruation and the menopause are often closely related to the outbreak or the exacerbation of many nervous and mental disorders, but the pelvic organs themselves play but a small rôle in these physiologic commotions. They have to do with the whole organism of woman. These commotions influence the entire biologic unit. They disturb for a time, the intricate and harmonious adjustment of that central nervous system which serves to correlate and govern the thousands of delicate functions performed within the body, so that during such periods of unstable equilibrium, the chief factors in the etiology of the neuroses and psychoses find the biologic unit more vulnerable to attack. I do not deny that pelvic diseases in women, attended by *exhausting pain*, may give rise to neurasthenic and hysteric states, but the influence of exhausting pain in these organs is no greater than similar exhausting pain elsewhere in the body. Nor do I deny that disorders of the female organs which affect the *nutrition* of the nervous system, such as excessive hemorrhage, or suppurative processes, may be important factors in inducing functional neuroses and even insanity, though disordered blood states brought about by pelvic disease are very infrequent as compared with disordered blood states dependent upon disease elsewhere. These are the main concessions, such as they are, that I should be willing to make in the argument with the gynecologist. There is no evidence whatever to support the opinion that insanity was ever due to a mere reflex influence from pelvic disease. In insanity the two great etiologic factors are hereditary instability and some physical or moral stress directly affecting the nervous system. There has never been brought forward any evidence whatever to show that either epilepsy or chorea can be induced by disease of the female organs. I take the stand, therefore, that the field of the gynecologists in the domain of nervous diseases is comparatively restricted and unimportant, and I, in common with the best men of their own specialty, raise my voice in strong protest against the still prevailing tendency to enlarge the field of operative gynecology by unjustifiable and unscientific surgical interference in cases of nervous and mental disease. It is better to do too little than too much. It is better to err on the side of science than to give the patient the so-called "benefit of the doubt," which should rather be called the affliction of the doubt. Let the gynecologist by all means treat any serious disease of the pelvic organs which may be present in any case of nervous or mental disorder just as he would a similar affection in an otherwise sound and sane woman, but let him not sacrifice upon the altars of strange gods those who trust to his knowledge, skill and broad judgment. The reflex neuroses and psychoses are will o' the wisps that lead one into obscure places, into a maze, and then vanish, leaving him astray, bewildered, remote from any familiar landmark.

4 W. 50th Street.

EPIDEMIC CEREBROSPINAL MENINGITIS.

BY W. J. CLASS, M.D.

MEDICAL INSPECTOR CHICAGO HEALTH DEPARTMENT.
CHICAGO.

INTRODUCTION.

The objects which led to the investigation of which this report is the outcome were: 1, to ascertain whether true epidemic cerebrospinal meningitis existed in the city of Chicago, and 2, to trace if possible its origin and the avenues by which it spread. In regard to the first of these objects, it was soon discovered that there was a greater prevalence of the disease than was generally supposed, and enough data were collected, which we hope are of sufficient interest to the general practitioner, to excuse the writer for encroaching on those particulars of the disease which, strictly speaking, do not perhaps belong to the territory of the sanitarian. Chicago has for a number of years fortunately escaped the ravages of a disease which has been in a constantly increasing number of instances prevalent throughout a large part of the country, particularly in its eastern portion. There is hardly room for doubt that sporadic cases of epidemic cerebrospinal meningitis have almost constantly occurred in our midst; often perhaps escaping recognition from the fact that it is a disease the practitioner has not generally been accustomed to encounter. It was not, however, until the early part of 1898 that these sporadic cases, occurring with increasing frequency, attained the dignity of an epidemic. The greatest number of cases were recorded in April and May; the latter part of August and the early part of September found the city practically free from the disease. The total number of cases which occurred in this epidemic can not be positively stated, as there was no system of notification, but, approximately, the number probably approached close to two hundred during the first seven months of 1898. In presenting this report it is not the intention of the writer to dwell to any considerable extent on the history, classification, symptomatology and treatment of the disease, as these subjects have been exhaustively treated by other writers, more particularly in the excellent monograph by Councilman, Mallory and Wright, recently published by the Massachusetts State Board of Health, but a brief synopsis of the aforementioned subjects will, we hope, be deemed admissible.

The writer wishes to express his indebtedness to Drs. Christopher and Hook of this city for histories of cases furnished by them; to Dr. D. H. Ghon, assistant pathologist to the Pathological Institute of Vienna, Austria, for valuable data, especially in regard to findings made by him in his investigation of the epidemic of cerebrospinal meningitis which raged in Trifail, Steiermark; also for the many courtesies shown him by the resident and attending staffs of the Alexian Brothers, Mercy, Michael Reese, Cook County, West Side, St. Elizabeth, Augustana, St. Joseph and Maurice Porter Memorial hospitals, Chicago, and the Daily News Sanitarium for sick babies.

HISTORY.

The first authentic description of this disease is generally accredited to Vieusseaux,[1] a physician of Geneva, who described an epidemic in that city which presented a symptom-complex that previous to his time had not been recognized as an independent disease. In America the first cases of this disease were described by Danielson and Mann[2] in 1806, in which year a number of cases had occurred in Medfield, Mass. About this time also an epidemic occurred in Southern France. In Germany the disease first made its appearance in 1822.

That these were really the initial epidemics of a disorder which had previously not existed is extremely doubtful, especially when the confusion existing in regard to the different fevers during the eighteenth and early part of the nineteenth centuries is taken into consideration. The almost identic phenomena to which at the present time the name of cerebrospinal meningitis is given, appear in descriptions published in the eighteenth century, under the name of cerebral typhus, jail fever, spotted fever, etc. Even as late as 1846 there was considerable doubt among physicians whether they really had to deal with an independent disease in cerebrospinal meningitis, as is shown by a paper by Rampold.[3] Arnell[4] described an epidemic of spotted fever, the symptoms of which were closely analogous to cerebrospinal meningitis, which existed in Orange County, N. Y., in 1808-1809. From this time until about 1825 the disease was very prevalent in the eastern part of the United States, more particularly in New England. Its spread was, however, not uniform, several towns widely separated being attacked simultaneously, while in the intervening places the disease would perhaps put in an appearance after a lapse of a few years. Very few of the larger towns in Massachusetts and Connecticut entirely escaped the disease during this period, and it was, as a rule, of a more violent type than has been described in recent epidemics, death often occurring within twenty-four to forty-eight hours after its onset; the skin lesions were also much more prominent, hence the name of spotted fever generally given to it. During the period mentioned, Europe remained comparatively immune, although the neighborhood of Geneva, where the disease was first recognized, seemed to remain infected, and small epidemics occurred from time to time.

During the thirties, the disease became more prevalent in Europe, prevailing principally in the western and southern portions, the central States enjoying comparative immunity. No epidemics were reported in the United States from 1830 to 1842. In 1848 Chipley[5] described some cases of epidemic cerebrospinal meningitis occurring in Cincinnati, and in 1846, Mayne[6] some cases in Dublin. Von Ritter[7] of Prague describes this disease in 1851, and Roger[8] in 1846, reported some of the early cases noted in southwestern Germany. In Ireland the disease again made its appearance in 1855, in which year there appeared a report on it by Banks.[9] From 1850 to 1860 the number of cases reported was small, there being no very extensive epidemics noted. During the sixth decade and the first half of the seventh a great increase was noted, epidemics being reported as occurring in almost all the countries of Europe and the United States, and a large addition to the literature on this subject was made. Among the publications of this period are those by Andrew,[10] Baennler,[11] Barton,[12] Day,[20] Gibbon[22] and Martin[30] of Great Britain; Bessey[13] of Canada, Bleything,[14] Borland,[15] Chandler,[18] Conklin,[19] Gifford,[23] Jones,[26] Upham[33] and Webber[34] of the United States; Buttersack,[16] Cannstatt,[18] Hampeln,[24] Heller,[25] Maier,[29] Maier,[31] and Wiebecke[35] of Germany; Spörer[32] of Russia and Drasche,[21] Kratschmer[27] and Loudon[28] of Austria. From 1875 to 1885 there was a partial remission of the progress of the disease, only a few scattered epidemics and sporadic cases being reported. The year 1887 was distinguished by the most important discovery in connection with the study of this disease, viz., that of the micro-organism now generally conceded to be the causative factor—the diplococcus intracellularis. This organism was first described by Weichselbaum,[36] who had discovered it in the exudate of a number of cases of cerebrospinal meningitis, and it was by him considered as the probable causative factor of the disease. From 1885 to 1895 the disease appeared more generally in Germany than it had previously.

The most notable accounts of cerebrospinal meningitis during this time are those by Blümm,[37] who described several small epidemics occurring in Bavaria; Leichtenstein,[38] who published an excellent account of the disease as it occurred in the Rhine Province; Bonome,[39] whose articles on the bacteriology of cerebrospinal meningitis are very good; Lor,[40] who described localized epidemics in the eastern counties of England; Flexner and Barber's description of an outbreak of cerebrospinal meningitis at Lonaconing; Petersen's[42] article on the epidemiology of cerebrospinal meningitis, and Lemoine's[43] report of an epidemic in France in 1891. Since 1895 numerous epidemics have occurred, both at home and abroad; among the more important is the epidemic in Boston in 1897, which has been ably described by Councilman, Mallory and Wright[44]; in the same year there occurred an epidemic in Wuertemberg, which was reported by Benedict.[45] In the winter of 1897–98 a great number of deaths were reported as occurring among the modern Argonauts of the Klondike. During the early part of 1898 a severe epidemic raged in Trifail in Austria, while epidemics and sporadic cases were reported as occurring in different places in the United States, among others Los Angeles,[46] St. Paul[47] and among the soldiers at Chickamauga Park, Ga. The epidemic in Chicago began in January, 1898.

ETIOLOGY.

In treating on the etiology of this disease each factor will be considered under a separate heading, since by doing so it will be easier for the reader to get a view of the entire subject.

Epidemic nature.—As a rule, this disease occurs in well-marked epidemics, as is seen from the preceding chapter; sporadic cases, however, are of frequent occurrence, especially in the larger cities, very closely resembling diphtheria in this respect. The writer is of the opinion that these sporadic cases are of more frequent occurrence than is generally conceded to be the case. The infrequency with which postmortem examinations, particularly those of the head, are made, probably accounts for their apparent rarity.

Age.—The disease attacks children and young adults chiefly, although cases may also occur among persons more advanced in life. In Chicago quite a large percentage of cases occurred between the ages of 30 and 40 years, as is shown by the following figures: Under 1 year, 3; between 1 and 5 years, 6; between 5 and 10 years, 3; between 10 and 15 years, 1; between 15 and 20 years, 7; between 20 and 25 years, 6; between 25 and 30 years, 2; between 30 and 40 years, 7; over 40 years, 3. Total, 38. These figures coincide with those found in the majority of recent epidemics. During those occurring in the early part of the present century, adults were less often affected, the disease occurring almost exclusively in young children.

Sex.—Sex does not seem to be a factor of much importance in the etiology of this disease, although males appear to be rather more liable to contract it than females. In our series of cases there were twenty-four cases in males and fourteen in females.

Season.—The majority of epidemics have occurred during the latter part of winter and during spring, the greatest number of cases in Chicago being during April and May. Berg[76] gives some interesting statistics on the number of deaths from cerebrospinal meningitis in New York City during the years 1892 and 1893; they are as follows:

	1892	1893
January	15	22
February	8	19
March	30	53
April	27	54
May	30	107
June	23	58
July	27	52
August	20	25
September	15	19
October	12	24
November	14	19
December	9	17
Totals	230	469

Meteorologic factors.—It has been frequently noticed that epidemics of cerebrospinal meningitis occur after a cold winter followed by a cold, wet spring. Such was the case, among others, in the epidemic described by Ford[77] and Brooks[78] in central New York. The meteorologic data for Chicago were as follows:

Month.	Temperature. 1897–98.	Mean for twenty-five years.	Monthly precipitation, 1897–98.	Mean for twenty-five years.	Prevailing direction of wind, 1897–98.
September	70	64	0.84	2.93	N.E.
October	58	52	0.18	2.93	S.E.
November	38.7	38	3.06	2.82	S.
December	25	30	1.62	2.34	W.
January	28	23	3.54	2.11	W.
February	28	27	2.59	2.31	S.
March	40	34	4.60	2.40	S.
April	44	46	0.76	3.22	N.
May	56	56	2.23	3.72	N.E.
June	69	67	5.30	3.80	N.E.
July	73	72	1.94	3.49	N.E.
August	72	73	3.03	2.98	S.W.

From the above tables it will be seen that although the winter of 1897-98 was not very cold, it was a very wet one; the months of January, February and March presented very changeable weather, with a great deal of slush and rain.

Association with other diseases.—There is no distinct connection between the occurrence of cerebrospinal meningitis and the prevalence of other diseases occurring simultaneously in a community. Typhoid fever has in some instances, among others in Litchfield and Norwich, followed an epidemic of cerebrospinal meningitis. Epidemics of pneumonia have also frequently occurred simultaneously with epidemics of cerebrospinal meningitis, but these coincidences are considered by modern writers to be purely accidental.

Relative prevalence in city and country.—It has been generally noted that this disease is comparatively more prevalent in farming districts and smaller towns than in our large cities. Osler[29] states that in 1873 the disease was very prevalent in the rural districts of the Ottawa River valley, while the cities of Ottawa and Montreal remained comparatively immune. There is no reason known that will explain this fact satisfactorily.

Nasopharyngeal disease as a predisposing factor.—Weichselbaum, Yaeger and others have expressed it as their opinion that in the majority of instances, the germ which causes the meningitis gains access to the meninges through the nasal cavities, and the meningococcus has frequently been found in the nasal secretions. Considering this fact, it appears plausible that when the mucous membrane of these areas is in a diseased condition, it will afford a better nidus for the growth of the germ and its conveyance to adjacent parts. A large number of observers, among them Richter, Strümpell, Councilman, Mallory and Wright, have found nasal catarrh in a large percentage of the cases observed by them.

Overcrowding, etc.—The disease has been often noted in overcrowded transport vessels, jails, etc. It is, however, hardly probable that the overcrowding in itself should have been the predisposing cause, except in so far as to render the observation of sanitary rules more difficult. The bacteriologic causes, and the influences which unsanitary conditions exert over the disease will be considered elsewhere.

PATHOLOGY AND BACTERIOLOGY.

The pathology of epidemic cerebrospinal meningitis is essentially that of a purulent inflammation of the inner coverings of the brain and cord. The exudate is often localized in the basal region of the brain, more particularly in the neighborhood of the cerebellum, frequently, however, the purulent exudate covers the entire convexity in a thick layer, The greatest accumulations of pus are usually found along the course of the larger blood-vessels, and in the fissures and sulci of the convexity of the brain. But rarely—and then only in cases of a very virulent character—has an entire absence of exudate been found; in these cases there was only a serous effusion, and in some few cases, only an intense congestion of the meninges. The spinal cord is usually affected in a similar degree, generally being covered with an extensive layer of purulent exudate. The more recent the process, the more purely purulent is the exudate, often bearing close resemblance to gonorrheal pus. In cases of longer duration the pus is frequently caseous in character and has undergone more or less fatty degeneration. Very frequently the ventricles contain an exudate, purely purulent in more recent cases, while in those of longer standing the ependyma is coated with crumbly, cheesy masses. As a rule the brain substance itself is not implicated in the process, Ghon, however, in his series of postmortems in Trifail, found in the brain substance of some of the cases, purulent encephalitic areas, either localized in the cortical area or studding the entire brain substance.

In a postmortem made by Thompson,[55] the cord and brain were so extensively degenerated as to be unfit for microscopic examination. In the spinal cord the posterior surface is chiefly affected, the exudate being greatest in the lumbar region. The substance of the cord is frequently the seat of minute hemorrhages. Councilman[44] states that in the more chronic cases the most marked condition is the edema and general thickening of the meninges. The change is most marked in those areas where the acute process is most evident. Along the vessels the meninges are thickened and whitish, with little exudation. At the base the meninges are opaque, enormously thickened, and there are bands of organized tissue extending from point to point. Microscopically the main change is a purulent infiltration of the meninges and the superficial layers of the cortex of the brain. The pus-cells may be found either closely packed together or scattered here and there; sometimes they are enclosed in a network of fibrin. The fixed tissue-cells, as a rule, show little change. The blood-vessels are injected and, usually, those of the meninges are packed with leucocytes. Thrombi are also occasionally met with.

Among the chief pathologic changes in the other organs are inflammations of the bronchi and lobular pneumonia; these pneumonias were formerly considered by various authors to be the starting-point of the infection; they are now generally looked upon as accidental complications, due to the diplococcus pneumoniæ. The heart muscle is generally found to present areas of parenchymatous degeneration; sometimes fatty degeneration is also found. The liver is usually similarly degenerated, with considerable difference in the degree of the degeneration in the different cases. In uncomplicated cases the spleen is seldom much enlarged. The stomach and intestinal tract present no constant lesions; the kidneys are generally found to be more or less degenerated. In the epidemic at Trifail, Ghon found in a number of cases a very intense desquamative catarrh of the mucous membrane of the pelvis and pyramids; frequently this condition was associated with numerous hemorrhagic spots in the areas mentioned.

Biggs[65] found in one case innumerable hemorrhages in the wall of the bladder, associated with some superficial erosions and deposits of fibrin, which process had extended up the ureter and involved the pelvis of the kidney. The pathology of the accidental complications presents nothing characteristic of the disease.

The bacteriology of this disease has been a question which has given rise to much discussion among writers on this subject; at this date, however, the evidence seems to be in favor of the diplococcus intracellularis meningitidis being the causative factor in the majority of cases. This organism was first described by Weichselbaum, in 1887, who found it in the meninges of six cases of acute cerebrospinal meningitis. As described by Mallory,[44] it is a micrococcus of about the same size as the ordinary pus micrococci, and appears in diplococcus form of two hemispheres separated by an unstained interval. It stains with any of the ordinary stains for bacteria, and is decolorized by the Gram method of staining. There is considerable irregularity in staining, some organisms being more brightly stained than the other. There may also be considerable variation in size, and the larger organisms stain imperfectly. In the smaller organisms there is often a brightly stained point in the center, while the remainder of the cell is scarcely colored. These variations in size and in staining appear to be due to degeneration, and are more common in old than in fresh cultures. The two organisms are usually sharply separated, but in some there seems to be a small amount of material uniting them. Division commonly takes place in one plane, giving rise to diplococci; tetrads are occasionally seen. There is little or no tendency to growth in the streptococcus form, although short chains of four to six organisms may be found. In cultures the organism does not grow profusely; blood serum is the best culture-medium, while on agar the growth is scanty; in bouillon the growth is also feeble, the medium becoming slightly cloudy.

Ghon of Vienna considers the meningococcus as closely allied to the gonococcus, especially as its method of division is identic and also since it, as well as the gonococcus, is found within the cells. According to Ghon, the meningococcus grows poorly on glycerin-agar, fairly well on plain agar, and best of all on blood-serum-agar, on which culture-medium it forms colonies identic with those of the gonococcus. On bouillon it forms a thin scum on the surface, after a few days' growth, in this respect also resembling the gonococcus. At ordinary room temperature there is no growth, this being the reason that it does not grow on gelatin. On potato there is a feeble growth. In order to have a continuous growth of the meningococcus, it is necessary, according to Ghon: 1, to protect the cultures from drying out; 2, to keep the cultures in a thermostat, at a constant temperature, not below 25 C. By observing these rules it has been possible for him to keep cultures of the meningococcus viable for seventy days; to the gonococcus the same rules apply, with like results when observed. In regard to the number of meningococci found in the cerebral exudate, the same author states that as a rule in cases of only a few days' standing the number is very great, cell upon cell being filled with the organisms, presenting a picture identic with that found in acute gonorrhea. After a few days the number of cocci diminishes greatly, and it is just this absence of bacteria which is, according to him, characteristic of epidemic cerebrospinal meningitis. The disease may relapse, and then the cocci will again be present for a few days. In the nasal secretion, even in the absence of a nasal catarrh, both Jaeger and Ghon have found large numbers of meningococci. Fronz,[66] in a case of arthritis complicating cerebrospinal meningitis, obtained a pure culture from the joint, no other bacteria being present. Bonome[67] thinks a variety of organisms can cause epidemic cerebrospinal meningitis, which he classifies as follows:

1. The diplococcus intracellularis meningitides.

2. Streptococcus pyogenes, found present in one case by Neuman, and four times by Netter in isolated cases.

3. A short thick bacillus found by Neuman and Schaefer; it resembles the typhoid bacillus, but its growth on potato is different.

4. An encapsulated bacterium which was found in one case due to otitis media; it resembles the pneumobacillus of Friedlaender.

5. The diplococcus pneumoniæ of Fraenkel, which is the most frequent causative factor of cerebrospinal meningitis. Holt and Prudden,[68] in their description of a case of cerebrospinal meningitis, in 1891, considered the pneumococcus as the offending micro-organism.

Biggs,[69] in a series of cases from which cultures were made, found no one constant organism; the majority of the cases showed the diplococcus pneumoniæ, which he considers as the chief etiologic factor; other organisms found were the pneumococcus of Friedlaender, bacillus of influenza and the streptococcus pyogenes; in one case the bacillus coli communis was found in the exudate from the base of the brain. In cases complicated with dysentery, occurring during the epidemic at Lonaconing, the stools, according to Flexner and Barker,[41] contained an organism identic with the micrococcus lanceolatus. Klemperer[70] found pneumococci in the watery contents of herpes, occurring in cases of cerebrospinal meningitis. Onadu[71] found the diplococcus of pneumonia in the blood of a meningitis patient. Spitzer[72] also considers the pneumococcus as the cause. As the meningococcus in a superficial examination may be confused with the pneumococcus, it is possible that some of the cases reported as being due to the pneumococcus were really caused by the meningococcus. To differentiate the two, Heubner[73] states:

1. The meningococci are found chiefly in the pus-cells, less so in the fluid; pneumococci found in fluid.

2. They always occur in pairs, with the broad sides against each other, while the pneumococci join with their narrow sides.

Jaeger[73] also calls attention to these differential features and states that they are constant. To differentiate between the meningococcus and the gonococcus, Kiefer[74] states that the gonococci are more uniform in size, that in the exudate from a case due to the meningococus about 90 per cent. of the leucocytes are filled with the cocci, while in gonorrheal pus only a small number of leucocytes contain the organism. This author, however, does not agree with Jaegar in regard to two differential points, viz., that the gonococci do not occur in the nuclei of cells and that the meningococci found within the nuclei possess a capsule. These two statements Kiefer opposes, and states that the gonococci are also not infrequently found within the nuclei; and that the picture then presented by them is identic with that shown by the meningococci. The writer is of the opinion that if the meningococcus and the gonococcus are not identic organisms, they are at any rate closely related, as is shown by the comparative frequency with which young men affected with gonorrhea are attacked by meningitis during the presence of an epidemic of this disease; we refer in this respect to a report by Fuerbringer[75] and to cases occurring during the Chicago epidemic.

(To be continued.)

TRACHOMA FOLLICULARE.

RUPTURE THE FOLLICLES WITH A TRACHOMA FORCEP AND EVACUATE THEIR CONTENTS. USE AN ASEPTIC SALINE SOLUTION FOR IRRIGATION.

Read before the McLean County Medical Society, March 2, 1899.

BY J. WHITEFIELD SMITH, M.D.

Ex-Superintendent of the Illinois Asylum for Feeble-Minded Children; Lecturer on Physiology and Hygiene in the Wesleyan University; Member of the Medical and Surgical Staff of the Deaconess' Hospital.

BLOOMINGTON, ILL.

Conjunctivitis trachomatosa may be defined as an infectious inflammatory disease of the conjunctiva. It is characterized by a purulent secretion, and in the chronic forms by an hypertrophy of the conjunctiva. It is also distinguished by the presence of a special micrococcus (Sattler and Poucet). The conjunctiva is divided into three divisions: The portion which covers the posterior surface of the lids is called the conjunctiva palpebrarum or conjunctiva tarsi. The portion reflected over the anterior surface of the eyeball is the conjunctiva bulbi, and the conjunctiva which connects these two portions constitutes the third division, known as the conjunctiva fornicis.

The conjunctiva differs somewhat in structure and function in its various portions. The palpebral portion is the thickest and most vascular part. It is also more freely supplied with nerves. It is intimately united to the tarsus, and the lens shows small folds in its structure. This portion contains small papillæ and is covered with a laminated cylindric epithelium. There are no glands in the palpebral conjunctiva. The conjunctiva bulbi is furthermore divided into two portions: the conjunctiva scleræ and the conjunctiva cornea. The former is a delicate thin membrane, loosely connected to the sclera by connective (episcleral) tissue. It is covered with a laminated pavement epithelium and also contains no glands. The latter is closely adherent to the cornea—indeed forms the superficial layer of the cornea—and consists of pavement epithelium, or rather a stratified kind of epithelium. This portion is also devoid of glands.

The middle portion of the conjunctiva, the conjunctiva fornicis, is of adenoid character. It contains the Waldeyer's glands (mucous), Krause's glands (mucous), and lymphoid glands (lymph corpuscles). The conjunctiva at the folds of transition is very freely supplied with blood-vessels, there are a few papillæ of large size, and the membrane is covered with cylindric epithelium. We may notice from this brief description of the conjunctiva that it differs in structure in its various portions, and that it is also modified in its epithelial coverings.

An important difference to be noted is that the conjunctiva of the fornix is of adenoid character, and as this is a favorite location for one form of trachoma, as is the conjunctiva tarsi for another form, it will be worth our while to consider the anatomic elements of their respective structures. Two forms of proliferation or hypertrophy are usually described—the papillary form and the granular form. The papillary form of trachoma is limited practically to the conjunctiva tarsi, and is especially prominent in the upper lid. The granular form of hypertrophy seems to have a selective tendency for its development in the folds of transition. These granules are round, like translucent nodules, of a grayish or yellowish color. These two forms may be regarded as the same disease, as the same cause may produce these different forms, and indeed the two forms may coexist, producing a mixed variety of trachoma. No doubt the different structural elements of the conjunctiva influence the disease process and present the various clinical appearances. However, we shall not investigate the theories of the etiology, pathology nor symptomatology of trachoma; but rather notice the therapeutic measures that look forward to a cure of the disease. In the consideration of trachoma and its treatment, we are having to do with a disease that reaches far back in the world's history—even to the remotest antiquity. We are told that the ancients employed scarification of the conjunctiva by the use of various instruments.

The pharmacopeia has been very thoroughly canvassed for remedial agents, and a number of operations have been devised to meet the exigencies of the respective cases under observation. The rational treatment of trachoma has for its object, aside from any complications that may have arisen during the progress of the disease: 1, the resolution of the inflammation, together with the abatement of the secretion; and 2, the displacement of the hypertrophy. The methods of accomplishing these results have led to a great diversity of opinion.

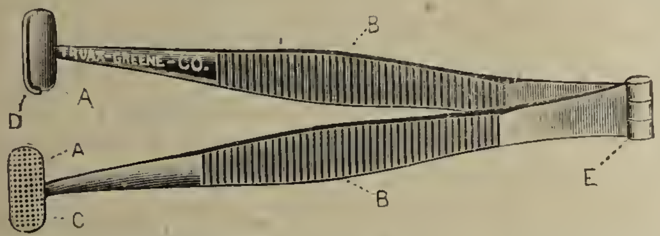
Of the remedies held in popular repute may be mentioned for local application: The caustics—nitrate of silver, sulphate of copper, and bichlorid of mercury; the astringents—tannin, alum, sulphate of zinc, acetate of lead, etc.; the antiseptic lotions—carbolic acid, boracic acid and weak solutions of bichlorid of mercury; powders and ointments—iodoform, aristol, calomel, etc. Of the operative procedures, various methods have also been employed, among which may be mentioned: scarification, excision, abscission, emptying the follicles with a lance or needle, galvanocautery, curettement, squeezing the granules out, either with or without previous scarification, by special kinds of forceps, electrolysis, friction with a stiff brush, etc. The danger arising from the employment of these mechanic means is the cicatrix or scar resulting from the operation, causing deformities in the lids.

Constitutional treatment by general medication also seems to be necessary in a great many instances. Trachoma is not regarded as a disease of constitutional origin, and yet many trachoma patients have blood dyscrasia, and suffer from malnutrition and unsanitary surroundings which should require attention. Tonics and alteratives are usually indicated. Of the former, iron, cod-liver-oil, arsenic, strychnia and the hypophosphites are suggested; of the latter, the iodids and mercurial preparations are useful. In view of the fact that in chronic trachoma particularly involving the folds of transition (the portion of the conjunctiva which contains the glands, and which is of adenoid character) perhaps not enough attention is paid to the alteratives in the general medication, we might expect more gratifying results from the energetic administration of some of the more valuable mineral and vegetable alteratives in some cases.

In the treatment of trachoma from a surgical point of view we may be quite agreed as to the essentials and the object to be attained by operative procedure, but as respects the methods of attaining these results, a very wide range of opinion perhaps exists. At this juncture I desire to call your attention to a trachoma forceps that seems to me to have some advantages in the surgical treatment of chronic trachoma.

In operating on the upper lid the use of the instrument may be described as follows: First push the smooth surface of the blade of the forceps up under the lower surface of the inverted lid, and by gently squeezing the arms of the forceps together the cutting surface of the opposing blade of the forceps would be brought in contact with the upper surface of the inverted lid, directly on the granular bodies. By a little firmer pressure the teeth of the cutting blade would pierce the crests of the follicles or granules and thus facilitate the emptying of their contents. After piercing the follicles in this location, the arms of the forceps should be allowed to spring the blades apart, and then by shifting the blades to another area, and squeezing them together again, we should puncture the follicles of this area, and so on till all the follicles on the upper surface of the inverted lid are ruptured.

Then by changing the relative position of the blades, and placing the cutting surface of the blade up under the inverted lid and the smooth surface of the opposing blade on the upper surface of the lid, previously punctured, by the same procedure as above we should pierce the follicles in this situation. Next, by withdrawing the forceps and reversing them, applying them so that the cutting surface would be carried above and the smooth surface of the other blade would be placed between the eyeball and the inverted lid, commencing at the inner angle of the eye, squeezing the forceps together and drawing them toward the outer angle of the eye, all the contents of the previously ruptured follicles could be evacuated.



A A, blades of forceps; B B, arms of forceps; C, cutting surface of blade, containing small sharp teeth; D, expresser; by reversing the forceps, the edges of the expressers are brought together and in their use the contents of the follicles are squeezed out. E, hinge.

The advantages to be gained by this method of operation may be summarized as follows:

1. The punctures into the follicles may be made practically of an even depth and they are quite uniform. The resulting scar would be also uniform and regular, thereby producing little deformity, or reducing the deformity to a minimum. In scarification some of the incisions are deep, others again are shallow, while some are deep in some portions and shallow in other portions. The resulting scars in such cases are apt to be irregular and uneven, producing contractions and deformities of the lid, with a rough cicatricial surface.

2. In piercing the granules first and then emptying their contents by gentle pressure, there is not produced a very great degree of traumatism in the conjunctiva, and accordingly there is not much inflammatory reaction. In cases in which the granules are squeezed out without previous scarification or rupturing of the follicles, more force and pressure are required to empty them, and consequently the conjunctiva is lacerated and torn and the tissues bruised to a greater extent, and the inflammatory reaction is also much greater.

3. In puncturing the granules and squeezing out their contents an undue amount of traumatism is avoided. The blood-vessels of the conjunctiva are depleted, which acts favorably on the inflammation, and the mechanic irritation produced by the granules is removed. The reaction following is mild in character, and yet sufficient to favor the absorption of the remaining products of the granules.

4. With due precaution, the only tissue involved in the operation is the granular tissue, and any intervening healthy conjunctiva may not be greatly implicated, whereas, in scarification, the small healthy areas of the conjunctiva are usually included in the incision.

Respecting the preparation of the patient, instruments, dressings, etc., it need only be said that in eye surgery the same precautions are necessary as are required by the ordinary rules of antiseptic surgery. The conjunctiva should be thoroughly anesthetized by the use of cocain or other local anesthetic. Immediately before the operation the conjunctival sac should be thoroughly douched with an antiseptic solution. A saturated solution of boracic acid is a very good one. Immediately after the operation it is more important what kind of cleansing solution we may employ than it was before. Remembering that the dangers arising in operative procedure for trachoma are the resulting scars and contractions, without due care, these may produce greater deformities in the lid than would be occasioned by the disease. Hence, if after operating on the conjunctiva, when the follicles and granules are ruptured and their contents evacuated, we should employ strong antiseptic solutions such as bichlorid of mercury, carbolic acid, iodin lotions, nitrate of silver, etc., they would, on coming in contact with the raw edges of the small wounds, coagulate the albumin of the tissues and glaze their surfaces. These cauterized tissue elements may be looked upon as minute foreign bodies. Tiny though they be, they cannot enter into the healing process, and are cast off at the expense of a corresponding loss of tissue, which is replaced by cicatricial tissue.

An aseptic cleansing solution that may be used to wash away the blood and small coagula, and in fact any detritus that might act as an irritant or promote chemic or septic changes, is a sterilized aqueous solution containing the principal inorganic plasmine elements of the blood. This saline solution is made as follows:

℞.	Sodii chlor.	gr. xlii	2	73
	Sodii carb.	gr. xii		78
	Sodii phos.			
	Potasii chlor.			
	Potasii sulph. āā	gr. ii		13
	Aquæ destil	O i	497	60

Fiat solutio.

The solution contains a dram of the potassium and sodium salts to a pint. These are the representative saline elements found in the plasma.

The highest percentage of the inorganic elements of the blood is found in chlorid of sodium. Of its action on animal tissue in weak solutions we may refer to Potter's "Materia Medica, Pharmacy and Therapeutics," p. 370. In speaking of the chlorid, he says: "A solution of 0.65 parts to 100 of water does not destroy animal tissue like water alone, and may be mixed with blood without destroying the corpuscles, though strong solutions are intensely irritating." By bathing the surface of the lids with this solution the vitality of the conjunctiva is increased rather than decreased; any deposit of the solution becoming entangled between the lips of the wounds is absorbed and the tendency to promote quick union is encouraged. The edges of the wounds occasioned by the puncture are brought in coaptation, and the healing process is not so greatly disturbed. In this way the cicatricial tissue is lessened and the conjunctiva may more nearly regain its normal condition.

After the first few hours following the operation, when the healing process is established by quick union, or by some of the other processes of repair, mild antiseptic irrigation may be used to advantage, relieving the dangers of contamination from without. The employment of antiseptic solutions in eye surgery is not to be deprecated, but the nature of the solution and the modifying circumstances and conditions should always be taken into account in their application.

There is a new connective-tissue element formed by the inflammatory infiltration, which shrinks more or less in the trachomatous process. This should not be confounded with the cicatrix due to operative measures.

506 Griesheim Bldg.

URIC ACID.

A FACTOR IN THE CAUSATION OF CHOROIDITIS.

Read before the Fourth Annual Meeting of the Western Ophthalmologic and Otolaryngologic Association, held at New Orleans, La., Feb. 10 and 11, 1899.

BY RANDOLPH BRUNSON, M.D.
Member American Medical Association, Mississippi Valley Medical Association, Western Ophthalmologic and Oto-Laryngologic Association, American Laryngologic, Rhinologic and Otologic Society; Special Examiner U. S. Pension Bureau.
HOT SPRINGS, ARK.

In all my reading and research in this direction I have been greatly impressed with the dearth of written knowledge upon this subject, and so concluded to present to this Society a short paper embodying my experience with this class of cases. Perhaps there is no place in the entire country where the oculist will see so many cases of choroiditis, iritis, etc., as may be seen at Hot Springs, Ark., where patients come from every quarter of the globe. It has been a routine practice in every case of choroiditis to first begin treatment with mercury and the iodids, in conjunction with the hot baths. A few years ago, after repeated failures to obtain the anticipated results from such treatment, it occurred to me that there must be some common pathologic factor other than syphilis to cause this disease, and I began to investigate closely and changed my method of treatment, especially in those obscure cases where no positive diagnosis of syphilis could be made, and as a result, my efforts toward a cure were in many cases rewarded by a clearing up of the trouble by the use of the salicylates, after the patient had been given, either by myself or the gentleman who had referred the patient to me, a thorough course of antisyphilitic treatment without effect. If we will bear in mind the close anatomic relationship between the choroid and the iris, will we be surprised to know that if uric acid, causes a disturbance in the latter, why it should not in the former?

The second tunic of the eye is formed by the choroid behind, and the iris and ciliary processes in front. The choroid is the vascular and pigmentary tunic of the eyeball, investing the posterior five-sixths of the globe and extending as far forward as the iris. The middle layer consists of an exceedingly fine capillary plexus formed by the short ciliary vessels. About half an inch behind the cornea its meshes become larger and are continuous with those of the ciliary process. The ciliary processes are formed by the plaiting and folding inward of the middle and internal layers of the choroids at its anterior margin, and are received between corresponding foldings of the suspensory ligaments of the lens, thus establishing a communication between the choroid and inner tunic of the eye, the larger processes being attached at their periphery to the ciliary ligament, and with the middle and inner layers of the choroid, their anterior surface is turned toward the back of the iris, with the circumference of which it is continuous.

The capillary network of the choroid is the finest and closest in the body. Its total area is at least 800 times greater than that of the short posterior ciliaries from which they arise. In consequence of the law that the velocity of a current in a tube is inversely to its lumen, the velocity of their capillary current must be very many times less than that of the short posterior ciliary artery. The choroid presents another peculiar feature: its vessels are arranged in superimposed layers, progressively diminishing in size from without inward. In the profound chronic toxemias produced by uric acid the earliest manifestations of the long series of necrobiotic changes are found in the arterioles and capillaries. Here the blood-current is slower than elsewhere, and the blood, charged with toxic substances, is in contact with the delicate structure of these minute vessels much longer than in the larger arteries and veins. Haig, in his admirable work on uric acid claims that, "If uric acid affects the arteries in the way and to the extent to which it does, it must influence for good or evil, the function, nutrition and structure of every tissue and organ of the body, from the skin outside to the most central fibers of the spinal cord and brain within." Free uric acid in the blood does cause contraction of the arterioles, and by this interference with interstitial circulation becomes the prime factor in pathologic changes in every tissue and organ in the body.

Mr. Standford Morton[1] relates that he "saw stasis or thrombosis in the vessels of the retina in one or two cases taking place during an attack of megrim, and there is every probability that these troubles were due to uric acid," and if this can take place in the retina, why not in the choroid? Haig sums up one of his brilliant theses as follows: "If my premises are good and my deductions sound, and if uric acid really influences the circulation to the extent which I have been led to believe it does, it follows that uric acid really dominates the function, nutrition and structures of the human body to an extent which has never yet been dreamed of in our philosophy; and in place of affecting the structure of a few comparatively insignificant fibrous tissues in which it is found after death, it may really direct the development, life history and final decay and dissolution of every tissue, from the most important nerve centers and the most active glands to the matrix of the nails and the structure of the skin and hair."

In many cases we have associated with choroiditis of this form typic symptoms of rheumatic iritis also; again, we have the one without the other complication, and upon close observation we find that if the patient has the explosion of uric acid in other parts of the body, the choroid and iris are comparatively free from this trouble until these symptoms have subsided, when we have a recurrent attack of choroiditis, or iritis, or both at the same time. It is not necessarily the case that a well-defined history of rheumatism may be found in order to make the proper diagnosis of the case. If we can discover even any remote symptoms of uric acid after we have eliminated other causes by exclusion, it will guide us in obtaining the line of treatment necessary to perfect a cure.

It frequently happens that no assignable cause can be found for the condition existing in the choroid, the patient does not give a history of rheumatism, yet if uric acid be found and everything else has been done to eradicate this condition of the choroid, and the salicylates are at last administered, the inflammatory process subsides like magic. The changes in the fundus of the eye may be entirely confined to one eye, or may affect both, and may be evenly distributed all over the fundus, or confined to a limited area. The uveal pigment and bacillary of the overlying retina may become affected also, and hence the term "chorio-retinitis" is often a more suitable name than simple choroiditis. Patches of atrophy appear as rounded areas from one-fourth to one disc's diameter, or a little larger, bounded by a ring of black pigment, the entire surface within the ring is white, or bluish white and glistening, and shows no trace of choroidal vessels or pigment. The appearance of the fundus between the atrophic spots is usually normal. In other places we may find similar patches showing very small splashes of pigment on the exposed sclerotic; in other patches again are seen the choroidal vessels unchanged, or with partial or complete obliteration of the blood-streams, from endarteritis, appearing as white or yellowish white strands. At the diseased spots the outer layers of the retina are always more or less infiltrated with the pigment. These foci of inflammation, just as in any other form of the disease, leave the atrophic spots, and thereby interfere with perfect vision. We find on examination of the urine from day to day an increase of uric acid excreted, under the influence of the salicylates, hot baths and a vegetarian diet. It is not necessary to probably weary you with the line of treatment in detail for this class of patients, as any drug which will increase the solubility of uric acid will eliminate the disease through the excretory organs.

I can not refrain, however, from extolling the benefits to be derived from the hot-water treatment as given at the Hot Springs of Arkansas, in conjunction with other remedies, as in many cases this will alone bring about a decided improvement without the aid of the salicylates. This assertion is founded upon facts. I will close by admonishing you to carefully examine the urine in these puzzling cases of choroiditis to find the relative proportion of uric acid to urea, and if you do not find it to be 1 to 33 or thereabout it will show that the uric acid is not being properly eliminated, and in all probability is the cause of the choroiditis.

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[1] Ophthalmic Review, March, 1890.

Let us have a Department of Public Health!

LA GRIPPE.

ITS MANIFESTATIONS, COMPLICATIONS, AND TREATMENT.

BY W. W. GRUBE, A.M., M.D.
PROFESSOR OF PHYSIOLOGY AND CLINICAL MEDICINE, TOLEDO MEDICAL COLLEGE.
TOLEDO, OHIO.

The most popular subject of discussion by the laity and by the profession as well, is undoubtedly la grippe. The multiform manifestations or forms it assumes, together with the serious complications and sequelæ which are so frequent in the present epidemic, render it a fruitful and interesting theme for discussion. While some excellent physicians are rather sceptic and aver that the diagnosis is far too frequent, that there are comparatively few cases of genuine "grippe," it seems to the writer that the characteristic symptoms are so clear that the intelligent observer need not err. The intensity of the catarrhal symptoms, peculiar pains, great prostration, and tardy convalescence form a typic clinical picture.

While the catarrhal symptoms are usually limited to the respiratory mucous membrane, they are not always so, and in the writer's experience in this epidemic, the invasion of the mucous membrane of the digestive tract has been quite frequent. Not alone mucous membrane, but a part or all of the cerebrospinal axis has been invaded. So constantly has it seemed to expend its force on one or the other of these localities, that excellent authority has been pleased to classify it into "The Abdominal Form," "Head Type," and "Spinal Type." However, in some cases, it has seemed that none of these organs or systems has escaped, though one may be the most seriously affected.

In many cases the so-called complications are simply an extension and aggravation of the catarrhal or inflammatory condition; thus an extension of the usual inflammatory condition of the throat through the Eustachian tube produces middle-ear complication; the bronchitis may extend and become capillary, or even a pneumonitis may result. So we believe that in the so-called abdominal form with severe gastroenteric catarrh, it may extend by *contiguity* and inaugurate a general peritonitis.

It is only upon this theory that we can explain the supervention of a severe general peritonitis in a case under our care, now happily terminating in convalescence.

A little girl of 11 years, previously healthy, never seriously ill before, of German parentage, was taken ill February 10, with unmistakable symptoms of "grippe," which seemed to include all the several forms, almost every organ or tissue in the body being affected. When I first saw her, twenty-four hours after the illness began, she presented the following alarming symptoms: high temperature, extreme restlessness, wild delirium, constant emesis, involuntary, frequent and copious discharge of feces and urine. She coughed and had complained of pain in the chest. Prescribed calomel in small and frequent doses with bismuth, also potassium bromid and chloral. Vomiting ceased and she rested, but on the third or fourth day she developed symptoms of peritonitis, abdominal pain, hardness and some tympanites, etc. Prescribed calomel, twenty grains divided into four powders, one every three hours, also the usual turpentin stupes, morphia to quiet pain, etc. The next day, finding no improvement, but rather aggravated symptoms—green vomit, bowels not moved—I gave a very gloomy prognosis, and at the family's request called a consultant, who concurred in diagnosis and prognosis and had nothing more to suggest.

However, on my return in the evening I decided, in view of the great mortality of these cases by the routine treatment, to try the local application of a mustard poultice, and gave internally hydrozone diluted in frequent doses, alternating with doses of glycozone, for their germicidal, antiseptic and healing qualities. In twenty-four hours there was slight improvement, and in forty-eight hours she was decidedly better. Improvement continued, and she was so well February 21 that I dismissed the case.

Perhaps the most common complication in children is the middle-ear inflammation, caused by extension of the pharyngeal catarrh up the Eustachian tube into the tympanum, while very unusual phenomena are furnished by trophic disturbances. As a result of the vagaries of the trophic nervous system, we may have well-marked cutaneous eruptions, which may be confounded with the exanthematous eruptions.

In the case of a child six months old, recently under our care, we had a middle-ear complication and also an eczema capitis, which involved the greater part of the scalp when we first saw the case. The pain in the ear was controlled by the usual methods and by the instillation into the ear canal of a few drops of cocain solution. After suppuration occurred, the canal was cleansed by hydrozone solution (warm) and a piece of absorbent cotton saturated with glycozone used as a dressing by inserting it into the canal. The eczema was treated in the same manner, and the result was in both conditions, surprisingly rapid healing and cure. As the ear complications sometimes prove very serious, it is very gratifying to know that in the above remedies we have a safe, speedy and effectual method of cure, and we believe also that, if these cases were seen early, by proper treatment, the extension and consequent complication might be prevented.

In a little girl with severe tonsillitis and pharyngitis we are spraying the throat with diluted hydrozone and applying glycozone with such marked benefit that on this, the third day of treatment, she is almost well.

In these cases early and effective treatment is surely of much importance, and while we do not usually indulge in extolling the virtues of any remedy or pharmaceutic preparation, we believe that a remedy which possesses such powerful germicidal, antiseptic and healing properties, and yet is devoid of irritating or septic properties, deserves more than a passing notice. In this connection I can not refrain from referring to the case of a prominent city official who had an unusually severe attack of la grippe. All the structures of the nasal cavities were involved in a severe acute catarrh, which progressed to the stage of suppuration. Enormous quantities of pus were secreted, and the location and intensity of the pain led us to fear involvement of the antrum. However, the free use of hydrozone solution by spraying and the application of glycozone soon cleared up the cavity, and in a few days complete cure resulted.

NASAL POLYPUS.

BY CUNDELL JULER, M.D.
CINCINNATI, OHIO.

Among growths found in the nose are polypi, innocent pedunculated mucous growths, often resembling a butter-bean in shape, and having the consistency of an oyster with the moist glistening surface of grape pulp. Polypi, in the majority of cases, spring from the mucous membrane adjacent to or covering the middle turbinated body. They very rarely spring from the superior turbinated body or septum; we may see them in the nose, having their origin in the accessory cavities, notably the antrum of Highmore. They are sometimes seen in children, but commonly in adults, in the male more frequently than in the female.

As to their etiology, Bosworth describes the mucous covering of the middle turbinal area as becoming "water soaked," and subsequent pyriform growth is accounted for by anterior stenosis, and suction action in hawking, sniffing, and nose-blowing efforts. Polypi are often the accompaniment of hypertrophic catarrh, especially in such cases as inherit a tendency to polypoid formation.

The symptoms of polypi in the nose are many: persons come complaining of something falling into the nostril, which flops about when they blow the nose, but will not become dislodged; others suffer from sneezing. The amount of stenosis varies from this simple uneasiness to complete closure of both nostrils. There may be a discharge more or less profuse from the mucous membrane of the nose, excited by the presence of the polypi. By some writers asthma and other reflex neuroses have been connected with the presence of nasal polypi. The toneless muffled voice and thick articulation with mouth-breathing tell the tale in advanced cases.

In the examination of the nasal passages cocain is very useful, especially where the view is obstructed by capillary engorgement, and hypertrophy of the inferior turbinated body. Soak a flattened pledget of cotton with a 10 per cent. solution of cocain, and pass it into the nose by means of a probe, so that it covers, and comes in direct contact with the inferior turbinated body; leave it *in situ* from two to five minutes, and when the pledget is removed we generally have a clear view, which is an aid not only in detecting polypi or other growths, but gives us more space and better light for their removal. The middle turbinated body, especially when enlarged, hanging, as it does, into the cavity, is sometimes mistaken for a polypus. Cocain applied here in the manner mentioned above will temporarily shrink up the swollen mucous membrane, while, if it is polypoid, it will remain much the same in size. It is important that the patient be instructed not to swallow any of the cocain should it reach the pharynx, as rather troublesome symptoms may arise in some persons from this mistake. Each side of the nose should be thoroughly examined by this means; and then by the use of the rhinoscope we can explore the posterior nares, as there are often true nasal polypi or polypoid hypertrophies of the posterior ends of the turbinated bodies either obstructing directly the Eustachian orifice or supporting a postnasal catarrh, leading to ear symptoms.

The only satisfactory treatment for nasal polypi is thorough removal, followed by remedies which will restore health to the soil from which they grew.

Wright's cold snare is the best contrivance for removing soft intranasal growths, as it is easily manipulated, by the thumb working a lever, and requires but a small loop of wire, which can be quickly adjusted. A pair of Wilde's ear forceps are useful in grasping the polypus, after the snare has set it free. The hemorrhage following the operation is seldom alarming, and can, as a rule, be checked by packing the nose with cotton; or should this fail, pledgets of cotton soaked with a 10 per cent. solution of cocain or a 5 per cent. solution of antipyrin will usually succeed, although in any intranasal operation Bellocq's canula or a similar contrivance for pulling a plug of cotton or lint into the posterior nares should be at hand among our instruments.

After removal true polypi return rapidly, hence it is necessary to have the case under observation; the base of each polypus should be cauterized with trichloracetic acid or the galvanocautery. Should a young polypus be detected it should be removed at once, and its base treated accordingly. The nasal passages should be kept cleansed with some simple collunarium, such as chlorate of potash and bicarbonate of soda in water at 95 degrees F., followed by a spray of some bland protective, such as albolin or vaselin, to the cauterized surfaces and mucous membrane. This local treatment conjoined with such drugs as will improve the constitutional condition of the patient, as arsenic, syrup of the iodid of iron, or the hypophosphites, will soon bring us our just reward.

TREATMENT OF GONORRHEAL URETHRITIS.

BY VICTOR F. MUELLER, M.D., Ch.D.
Surgeon and Genito-Urinary Surgeon to the Dispensary of the Wisconsin College of Physicians and Surgeons.
MILWAUKEE, WIS.

The controversy among medical men regarding the treatment of gonorrheal urethritis has long been on, and will continue until some genius comes forth with a true specific for this affection. This difference of opinion, with the many different methods of treatment employed and recommended, has not failed to make an impression upon the thinking public which does not tend to strengthen their confidence in our medical ability. I regret having no specific treatment (in its true sense) to offer, but firmly believe that the great majority of cases of gonorrheal urethritis would be speedily cured if the principles and methods of treatment herein given were carefully followed in all cases.

The use of astringent or antiseptic solutions by means of the urethral syringe as a routine treatment is to be condemned, as it is not based upon rational or scientific principles. The therapeusis of every case must depend upon an exact diagnosis made by microscopic examinations of the secretions, as well as the thorough understanding of the localization of the disease, its intensity and the character of the complications where such may exist. If we expect to find a specific for this disease, we must look forward to a therapeutic agent which has a decided antibacterial action on the deeper structure of the mucosa and the superficial layers of the submucosa without causing excessive irritation, and which does not coagulate albumin or enter into combination with albuminates. Furthermore, if it possess antiphlogistic properties, its value, especially in the acute stage, will be greatly enhanced. Among all the therapeutic agents at our command we find none which will fully satisfy these demands; but nevertheless we have in ichthyol a preparation which comes closer to the ideal of a specific than any other.

Ichthyol[1] (ammonium-ichthyol-sulphonate) is a thickish reddish-brown liquid of the consistency of syrup, with a bituminous taste and odor. It has antiphlogistic, anodyne, alterative, antipruritic, antiseptic, and astringent properties. Its peculiar virtues are largely ascribed to the large amount of sulphur it contains—being about 15 per cent. sulphur combined partly with oxygen and partly with carbon. It is readily soluble in water and mixes nicely with glycerin. When applied locally it acts as a reducing agent, abstracting oxygen from the tissues; hence its application is followed by a diminution of heat, a reduction of swelling, paling of the tissues, and a relief of pain (Unna). Moreover, the drug undoubtedly inhibits bacterial development, as proved by the experiments of Fessler and Klein. Neisser states that a 1 per cent. solution will destroy gonococci, which I believe to be able to verify from data obtained by recent experiments made by myself. I fully agree with P. Colombini,[2] that ichthyol is the best remedy for genito-urinary affections of blennorrhagic origin. Villetti[3] strongly advises its use in acute urethritis. R. Coltman, Jr., H. Lohnstein, Colosanti, M. le Tanneur, Lorain and others have used it with the most brilliant results. By using in addition to the ichthyol injections, copious irrigations of a solution of permanganate of potassium (1/12000 to 1/3000), we have a treatment which lacks in nothing but being a specific.

Prophylactic treatment.—After suspicious intercourse, the glans penis should be thorougly washed and the urine passed in a full stream, which is suddenly checked by occluding the meatus. This will distend the anterior urethra, causing the water to penetrate to all portions of the fossa navicularis and the lacuna magna. The water passed in this way acts as a thorough irrigation to the anterior urethra and lacks the disadvantage of irritating injections. A 2 per cent. solution of ichthyol in water may then be injected. Pressure is brought to bear upon the urethra, back of the fossa navicularis, and the injection is forced into the urethra so as to fully distend the fossa, and is retained about three minutes. This is twice repeated. This injection is sufficiently strong to destroy gonococci, and will not cause an irritation of the mucous membrane. If these measures are carefully carried out, freedom from infection will be the rule.

Abortive treatment.—The injection of strong solutions of nitrate of silver (20 gr. to the ounce) in the early stages of gonorrhea, with a view of converting the specific process into a simple acute inflammation, should never be employed, as it has proved unsatisfactory and dangerous. Though it may have aborted the disease in some cases, it must not be forgotten that such heroic treatment is very liable to aggravate the condition, causing the inflammatory process to extend and produce turgescence of the glans, marked ardor urinæ, abscess, prostatic congestion, cystitis or epididymitis. However, if a 5 to 10 per cent. solution of ichthyol in water be employed, the results are superior to those obtained from the silver nitrate; it often aborts the disease, and never causes the inflammatory reaction produced by the latter. I have frequently employed this treatment on married men and traveling men, with brilliant results.

Acute anterior gonorrhea.—The success of treatment in this as well as all other forms of gonorrhea greatly depends upon the careful attention to details. I never consider it advisable to prescribe only an injection to be given the patient to use himself. How can a physician expect to treat his patients skilfully, when he orders him to use an injection for a week or ten days, and then report as to progress? Here is where the greater part of the mischief lies. The patient, after the lapse of the specified time, reports to his physician, who, upon examination, finds that his patient is worse, probably suffering from a posterior urethritis, due to forced injections into the deep urethra.

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[1] Sajous' Annual and Analytical Cyclopædia of Practical Medicine, Vol. iii.

[2] P. Colombini: Commentario Clin. della Mal. Cut. e Genito-Urin, Nos. 5-7, 1893.

[3] Villetti: Report of Inst. of Exp. Pharm. of the Royal University of Rome. 1894.

Alcoholic beverages must be strictly forbidden; the diet in some cases must be regulated, and internal medication be employed only for the general condition, and to keep the bowels open. Moderate smoking need not be interdicted, as it has a beneficial influence, if any at all. I have never seen any good results follow the administration of santal-oil, cubeb and copaiba, which only derange the digestive organs and do more harm than good. I consider the internal use of salol (1 to 5 grams), or salicylate of soda (3 to 4 grams) per diem, as valuable, as they render the urine slightly antiseptic and aid in preventing the inflammatory process from extending backward to the *pars posterior*. Marked kidney disease is a contraindication to their use. If ardor urinæ be present, 1.3 grams citrate of potash is given per diem. From practical experience, I can not agree with Finger and his followers, who strictly oppose the use of antiseptic injections in the acute stage, and only use such when the acute stage has subsided, or the inflammatory reaction is very mild. Every case of acute gonorrhea presenting itself should be given the following solution at once, to be used from four to six times daily, by means of a urethral syringe: Ichthyol 3 gm., glycerini puri, 32 gm., aquæ dest. q. s., ad 128 gm. The patient is directed to urinate in a full stream and then wash the glans penis thoroughly before using injection. The urethra is then compressed behind the fossa navicularis, and the above solution, which has previously been warmed, is injected so that the entire urethra to the point of compression is distended. The fluid is retained from two to three minutes, and the injection repeated twice.

Janet's method of copious irrigation with a solution of potassium permanganate (1-12000) is employed, as hot as can be borne, twice daily, unless the inflammatory reaction is severe, when these irrigations are commenced on the third day. This irrigation is limited to the anterior urethra, and no force must be employed. Irrigation by means of a catheter is to be condemned, as it is usually followed by posterior urethritis. The strength of the solution is increased daily, until a solution of 1-2000 is reached. Under this treatment the acute symptoms rapidly subside, the discharge becomes mucopurulent and ceases altogether within about two or three weeks. The strength of the solution is then decreased, and treatment continued once daily or every two days for about a week, then once every three to four days, and if at the expiration of this time no gonococci are found, the patient is discharged. Relapse is impossible without reinfection.

Chronic anterior urethritis.—Chronic urethritis is the discharge which continues for more than two weeks, as the result of failure to cure the acute inflammation, and is usually due to stricture or chronic posterior urethritis. The main symptom is a mucopurulent discharge. This may appear only in the form of the morning drop, or mere gluing together of the lips of the meatus, or even as free continuous running. A thorough examination must be made for stricture and localized areas of inflammation. If stricture is found to be present, sounds are passed, beginning with the 22 or 24 French. If the meatus does not admit these, meatotomy should be performed. The sounds should be passed every three days, using one of larger caliber at each séance, and continuing this treatment until the urethra is fully dilated. Copious irrigation of a solution of permanganate of potassium, 1-12000, increased gradually to 1-2000, are used daily to flush out the entire anterior urethra. If foci of inflammation are found, the same are treated by the installation of a few drops of a 5 to 10 per cent. solution of ichthyol in glycerin, by means of Ultsman's deep urethral syringe. These areas of inflammation may also be treated by a direct application of the same solution of ichthyol through a urethroscope. If the urethra be hypersensitive, injections of a 2 per cent. solution of ichthyol in water may be employed to great advantage. A cure is effected in from two to six weeks.

Chronic posterior urethritis.—The main symptoms of this affection are: repeatedly recurring discharge after apparent cure, tenesmus, frequent desire to urinate, clap shreds in the second urine, attack of epididymitis, prostatitis, cystitis, and symptoms of sexual neurasthenia. The urethra should be carefully examined for circumscribed inflammatory areas, infiltration erosions and ulcerations, by means of the endoscope (Gruenfeld, Leiter, Nitze, Otis), urethrometer, olive-point bougies (Otis) or sounds *à boule* (Guyon). The urine should also be examined (test with two glasses) for clap shreds and cloudiness of the urine in the second glass. If by careful examination circumscribed inflammatory areas or ulcerations are discovered, the patient will suffer much pain during such instrumentation, and the urethra will be found extremely sensitive. In these cases ichthyol is especially indicated. The entire anterior urethra is thoroughly irrigated with a 2 to 3 per cent. solution of ichthyol as hot as it can be borne. The patient is then instructed to relax the compressor muscle by trying to urinate, and the fluid will flow into the bladder without any trouble. In this way the entire urethra may be irrigated. In some cases it may be necessary to use a catheter to accomplish irrigation of the prostatic urethra. These irrigations are employed once daily, and after using them for a few days instrumentation of the urethra may be accomplished without pain. Full-sized sounds are to be passed every third day until the urethra is fully dilated. If the prostatic portion be the seat of trouble, the prostatic dilator should be employed and injections of a hot 2 to 3 per cent. solution of ichthyol be made into the rectum by means of a reflow rectal tube. Epididymitis and acute prostatitis are contraindications to instrumentation, but the ichthyol injections may be continued with brilliant results. If foci of inflammation or ulcerations do not quickly subside under the above treatment, then instillations of 5 to 10 per cent. of ichthyol are to be made directly to the point of localization. If the discharge is not checked within two to three weeks, then irrigations of permangate of potassium should be employed in conjunction with the above treatment. By this treatment the most obstinate case can be cured in from five to eight weeks. The course of the disease should be followed by microscopic examinations, and the treatment be continued a week or two after gonococci have disappeared.

Room 5, Metropolitan Block.

BICYCLE SADDLES.

INJURIES PRODUCED THEREBY AND THEIR RATIONAL REMEDY.

BY JOHN L. SHORT, M.D.
ROLLA, MO.

While my association with other cyclists has been limited, it is sufficient, when connected with my medical practice, to enable me to form an opinion as to some of the benefits and ills produced by the wheel. That much benefit is to be derived from a moderate "spin" at the proper hour, for certain patients, is not to be denied. The physical exercise in open air, combined with recreation and pleasure for the mind, is certainly advisable in many cases of neurasthenia, hypochondria, hysteria and other debilities; especially is it to be recommended in many cases of mental derangement. I believe that every insane asylum should be provided with an ample supply of bicycles, and a good track. For all persons who are subject to sedentary life, even though they may seem well, the wheel is not only a source of pleasure and pastime, but nowadays a necessity for health and development of the muscles and nerves.

In order to be a graceful rider, and to promote health, one must sit perfectly erect, with the entire weight on the saddle and pedals. No weight should be on the handlebar. The handlebar need not be touched, except to guide the wheel; and with a good saddle on a good wheel, one can, with a little practice, ride miles and miles without touching the handlebar, making all necessary turns by the motion of the body and feet.

The injuries produced by judicious cycling are but slight. Many good men and women have too hastily condemned the use of the bicycle, claiming that it is a vehicle which carries young girls to prostitution, but my experience teaches me that such theory is not correct. In cycling practiced on the public highways, and at the proper hours, girls may be as safe as in the parlor with closed doors. It is true, some abuse the liberty afforded through cycling; but probably they are already subject to the will of Satan, and the use of the wheel only reveals the fact. Some claim that the irritation of the genitals produced by cycling leads to immoral inclinations, but I am convinced that their conclusions have been drawn more from imagination than from actual knowledge; however, I do not deny that such a result is possible where girls are permitted to ride saddles with high and hard pommels. But when a well-shaped saddle is used, and the rider sits erect, no such effect will occur.

That accidents happen, certain affections are increased, and some diseases are produced, by careless and fast riding and by riding at improper hours, I am free to admit. But by selecting a clear track, and riding with moderate speed, in daylight, all objectionable features are obviated, and cycling becomes less harmful than riding in the carriage, on cars, or on horseback. I admit that a large percentage of the various saddles breed disease and misery, and should not be used. The hard pommel bruises the soft parts in the pubic arch, and may bring on a train of diseases of the genito-urinary organs of both sexes; and the hard center at the back of the saddle is worse, for it hurts the coccyx when the rider sits erect, causing him to pitch forward, throwing his weight on the handlebar, forming what is called "the bicycle hump." Men and boys prefer to hump forward at the expense of the urethra and other anterior structures, rather than suffer the excruciating pain produced by a bruised coccyx, but women must sit erect, notwithstanding their coccygodynia—an affection which no one can fully comprehend unless he has had it.

In order to make my explanation plain, I desire to allude to the anatomic structure of the little triangular extremity of the spinal column, known as the coccyx. In early life this bone is composed of four segments: It is one and a half inches in length, and its proximal piece, which articulates with the sacrum, is one and a half inches wide; but the three last segments are only about one-half inch in width. Thus it is easy to comprehend how this little bone, shaped like a cuckoo's beak, can dip down to the bottom of a crevice which is only a fraction of an inch in depth; especially when the wheel is bumping over stones and railroad tracks. Ossification of the coccyx takes place as follows: In the first segment, at birth; in the second, at from 5 to 10 years; in the third, from 10 to 15 years; in the fourth, from 15 to 20 years. As age advances, these various pieces unite and form one bone. Later on, in females, the coccyx unites with the sacrum, forming one bone out of what was in youth five pieces. Before ossification of the coccyx takes place, it is cartilaginous and flexible: the sphincter ani is attached to the last segment and draws it forward, while there is nothing to hold it straight, except the delicate extensor coccygis, which is often absent. Consequently, long-continued pressure while the coccyx is soft, will force it against the rectum, thereby lessening the diameter of the pelvis permanently, a point well worth the consideration of obstetricians.

How a slight bruise of the coccyx can produce the severe pain that cyclists suffer is not a mystery when we consider the little ganglion known as the "plexus vasculosum coccygeus," so well supplied with capillary vessels and nerve filaments. It is true that our physiologists have not found a function for this ductless mass called "a gland," but every country wheelboy who has received a bump on his cuckoo bill is enlightened on the subject, for it resembles a blow on the solar plexus—once felt, never forgotten!

Medical men have not given much attention to the construction of bicycle saddles, but have left the matter to mechanics who know but little of anatomy and physiology. A leading wheelman, who is considered authority on anything concerning a bicycle, recently displayed his lack of anatomic knowledge to me by saying: "When I slip forward, in order to keep from bruising my 'sternum bone' on the back of the saddle, my legs go to sleep from lack of circulation of blood." He meant that in order to save his coccyx, he slips forward till both ischia drop over in front of the saddle, allowing the edges to press into the sacrosciatic notches, interfering with the sciatic nerves. It requires anatomic knowledge to design a perfect saddle, and mechanic art to execute the work as designed.

Of the large variety of saddles heretofore designed, none I have seen are perfect. Many of them have a hard pommel, and bruise the soft parts in front, while all interfere with the coccyx. Several designs of saddles have been advertised in our leading medical journals as perfect; but close observation reveals the fact that the groove in the center is not deep enough, for a groove only the fraction of an inch deep, the bottom of which is hard, can not furnish perfect protection to a coccyx one and a half inches long. The cut which we see in medical journals, showing the ischia resting on the saddle, while the tip of the coccyx is raised clear above the top of the pubic bones, is incorrect and misleading, for when the spine is erect, the tip of the coccyx comes nearly to a level with the pubic arch. The tuberosities of the ischia and the gluteal muscles should rest firmly on the saddle; but the soft parts in the pubic arch, the sacrosciatic ligaments, and the coccyx, must be free from pressure. The saddle should be too soft to bruise, and too firm to give. The best padding is wool felt. Hair is not good, because it soon becomes displaced, packs down and gets hard. The pneumatic pad is not as good as hair, because it is too hard when well inflated, and, when only partly filled, pressure at one point displaces all the air at that point, allowing the part making the most pressure to come in contact with the hard structure of the saddle. It is also liable to burst, or get punctured.

THE FAUCIAL TONSIL.

ITS SPHERE AS AN AGENT OF SYSTEMIC INFECTION.

Presented to the Section on Laryngology and Otology, at the Forty-ninth Annual Meeting of the American Medical Association, held at Denver, Colo., June 7-10, 1898.

BY GILLIFORD B. SWEENY, M.D.
PITTSBURG, PA.

The faucial tonsil must be regarded as occupying a very humble position in the human body, either from a histologic or a physiologic standpoint. In fact, the only function of any importance that can be attributed to it is that of leucocytogenesis. Of the entire glandular organism concerned in this work, the tonsil probably occupies the least important part. Its relation to phonation or sexual nutrition need be mentioned only to be dismissed, as every intelligent observer will testify that its absence in no way interferes with the former nor does its presence enhance the latter. As an agent for the secretion of fluid intended to facilitate agglutination, it is observed that it is no more active than the mucous membrane which surrounds it and replaces it when removed. The tonsil may be said to be most nearly normal when practically absent from the faucial cavity. It is only when it becomes the seat of morbid phenomena that it requires our serious attention.

It is not the purpose of this paper to dwell at length upon the individual diseases occurring in the tonsil, but rather to refer to them incidentally, especially when considering systemic manifestation having their origin in a morbid state of the tonsil and which in their ultimate results are far-reaching and often most disastrous. We submit for your consideration the following proposition: That the tonsil, while in a state of inflammation, is a frequent and common source of morbid processes which, ultimately, affect the entire human economy. Fortunately the scientific advances of the past few years yield considerable information which goes far toward aiding in establishing the truth of this proposition. We are no longer in doubt as to how the system is primarily attacked in diphtheria. Systemic infection, systemic symptoms must and do invariably follow local morbid processes, which often obtain their hold upon the body through the vulnerability of the organ first attacked. The same may be said of scarlatina, follicular tonsillitis, and, in our judgment, the same occurs in rheumatic fever, in many forms of tuberculosis, and in typhoid fever. That the faucial cavity is a most readily accessible point of attack in infectious diseases is easily understood when we consider the gross anatomic proportions of this region. From its position it may be compared to the smaller and constricted portion of a funnel situated at an abrupt angle. All the agents of respiration and deglutition must come in immediate contact with it in their passage back and forth. However mild the inflammatory process, whether acute or chronic, the tonsil becomes a hotbed for infection, and readily propagates and distributes the morbid products to adjacent and remote organs. Its anatomic construction so closely binds it to the vascular and lymphatic systems, that we are apt to overlook the local and initial manifestation and regard the secondary systematic invasion as the primary morbid process. The immediate result of repeated inflammation of the tonsil, terminating as it does in early life in hyperplasia, or in the mature subject, in true hypertrophy, is familiar to us all. Interfering with nasal respiration it produces the "mouth breather," with its train of deleterious results. Improperly filtered, moistened and warm air is hastily conveyed to the lungs, oxygenation is seriously interfered with, which promptly displays its ill effects in the dull, listless eye, impaired mentality, the pallid complexion, the contracted chest, and the anemic and often wasted muscular organism. Hypostatic congestion in the nasal tract is followed by interference with the normal functions of the organs of sight, smell and hearing, and encourages the hypertrophic process to extend indefinitely in all directions. None can deny the statement that the tonsil offers special facilities for the propagation of the diphtheritic bacillus; failing to admit this, how can we account for the fact that the vast majority of cases originate here? We can not generalize and say that it is because of the susceptibility of mucous tissues, for how really few cases originate in the nostril, the eye, or other equally accessible points.

I am fully convinced that not only is the tonsil a vulnerable point for diphtheria, but that when in a morbid state it becomes often a culture-medium for the propagation of germs which otherwise would perish before gaining access to the body of their host. The same is true to even a greater degree in those two other highly contagious and infectious diseases—scarlatina and follicular tonsillitis. While diphtheria may primarily attack some other organ than the tonsil, scarlatina certainly very seldom, and infectious follicular tonsillitis never, selects any other organ as a point of initial invasion. We are now able, I believe, to establish almost beyond doubt the infectious nature of rheumatism. One can not fail to observe the analogy in the systemic symptoms of follicular tonsillitis and acute rheumatism. While we have not yet been able to isolate a germ strictly characteristic of rheumatism, yet in this disease we find in the blood streptococci and staphylococci, which characterize follicular tonsillitis and are found in the tonsil when affected in that disease.

The metabolic theory as to the causation of rheumatism is certainly barren of the essential facts necessary to establish even its plausibility. To assume that defective assimilation under widely varying circumstances may produce a specific chemic agent—

lactic acid—and that this in its turn becomes the cause of rheumatism, is simply building a theory upon premises unsupported by facts or phenomena. The nervous theory, as to its origin, has been in a manner evolved from the former, and is equally devoid of underlying facts.

Medical science is not peculiar in that she recognizes no facts that are not supported by intelligible phenomena; and these phenomena going to prove the infectious nature of rheumatism are not isolated nor conflicting.

Since rheumatism has invaded the system through the blood, as shown in the case of a mother infecting the child *in utero*, since the systemic manifestations resemble those so often recognized in infectious diseases as in gonorrhea, septicemia and pyemia, it is certainly natural that we should search along similar lines for other sources of its development. Jaccoud, the eminent Frenchman, not only regards the tonsil as being the usual channel by which rheumatism attacks the body but believes that under favorable systemic circumstances any abraded surface may prove an open gateway for infection. Clinical study of the features of acute rheumatism strongly suggests: defective elimination, chiefly renal and cutaneous, and a specific bacterium, which, having gained access to the body, is fostered and nourished by the products of retarded elimination while it wages war upon the normal leucocyte. This hypothesis will be found to be compatible with all the clinical phenomena of the disease and in conformity with other similar diseases whose etiology has been established.

Turning to the consideration of tuberculosis, while we find hardly a tissue of the body which enjoys immunity from its devastating ravages, there is certainly no class of tissue that suffers more often than the glandular, whether we consider that attenuated form of tuberculosis which displays itself in the strumous diathesis and which we find wandering about at pleasure, to the remote portions of the body, devastating all classes of tissue, from the hair follicle to the powerful bony framework of the body, or whether we turn to those more directly fatal forms of tuberculosis attacking the lungs and alimentary tract, we find that the glandular system plays an important part in admitting the tubercular bacillus into the body and in furnishing soil well adapted for its development and propagation. No observant physician can fail to observe the promptness with which the parotid, submaxillary and cervical glands become infected in all inflammatory conditions of the tonsil. It can not be again said that this same infectious process may easily and naturally extend to the bronchial and mesenteric glands and become the agent of infection of the adjacent organs. Different eminent observers have found that in a given number of tuberculous subjects but a small percentage of cases exhibited the tubercular bacillus in the tonsil, and therefore conclude that it is rarely the organ first attacked. We well know that tubercular infection takes place readily at any point where there is a solution of continuity. To conclude that the tonsil must be a very frequent agent to be an active one in the causation of tuberculosis is certainly not a fair deduction, especially in the absence of data showing just where and how infection did take place. Conclusive proof in that direction, we believe, must contemplate the furnishing of evidence tending to show that in persons affected with tonsillar disease but a small percentage developed tuberculosis. When such investigation is instituted it will be found that a very considerable percentage of cases of tuberculosis invade the system through the open gateway to the lymphatic system—the tonsil.

Lack of time prevents our going into elaborate detail in the consideration of the means of infection in typhoid and malarial fevers. That the one is due to a specific bacillus, while the other is characterized by hematozoa and plasmodia, whose exact natures have not yet been fully determined, we are aware. Moreover, we also know that of all the influences tending to spread both these diseases no other agent plays as important a part as drinking water. What has been already said regarding infection through the tonsil in other diseases may, with equally good reason, be said of both these fevers. We would not urge that every person having unhealthy tonsils must necessarily be infected in this manner because he has partaken of contaminated water. Intestinal infection can not be regarded as being very common, otherwise in a city with such water-supply as we have in Pittsburg—my native city—we would look for one universal and uninterrupted epidemic of typhoid fever. We would only claim that the tonsil, being an open gateway for reception of all kinds of disease germs, is as plausible a point for infection as Peyer's patches or Brunner's glands. While it is beyond the scope of this paper to consider the treatment of tonsillar affections, and while medicinal agents usually yield very satisfactory results, we can not refrain from criticising the disposition to indulge in the surgical coquetries in cases of hypertrophy of the tonsils by the use of injections, electrolysis or chemic caustics. Radical extirpation by means of the tonsillotome is here the method *par excellence* for disposing of the morbid condition with the least possible amount of pain and with every assurance of the most satisfactory results.

DISCUSSION.

Dr. Richards—Dr. Sweeney speaks of the desirability of removing the gland in order to prevent systemic infection. I do not see how it is possible in most cases to remove all of the gland. If any crypts are left there is always the possibility of systemic infection again occurring. At the Philadelphia meeting last year the point was made that the adhesion to the anterior pillar should always be separated. Since then I have followed this method with considerable satisfaction. In spite of this I have been mortified that in a few cases there have been recurrent attacks of tonsillitis. So that now I am inclined to hedge when asked if patients will ever have an attack of tonsillitis again. I always remove all the tonsil I can, but do not promise that when any crypts remain an attack of tonsillitis will never occur. It is not probable, but it may take place.

Dr. Coulter—My position in reference to the method of removal of the tonsil is quite well known. My paper, I apprehend, was the cause of the discussion which took place on this subject at the Philadelphia meeting. I do not believe the operation of tonsillectomy can be done by any possible method of operating other than that of a bloodless dissection by means of the cautery. You can by this method remove every follicle of the gland, and you can then promise the patient that there will not be a return of tonsillitis. Any operation which merely amputates the gland, leaves still more open this gateway to the system.

Dr. Stucky questions advisability of attempting total extirpation of the tonsil. If one-half or two-thirds of the gland is removed, the remaining portion becomes so atrophied as to cause no future trouble.

Dr. Barnhill, Indianapolis—I think in the operative treatment of tonsils that we should, as elsewhere, use our judgment and follow no one plan. In cases of children, the gland having no adhesions, projects sufficiently to be caught deeply with the McKenzie tonsillotome. and the desired result can thus be quickly and satisfactorily attained. But in many cases of diseased tonsil in the adult the tonsil is small, hard, adherent and does not project sufficiently to be caught deeply enough to cure the disease for which the operation is performed. And in such cases the tonsillotome is inefficient, and it seems to me that the operation suggested by Dr. Coulter would here be a good one. I have never believed it necessary to remove more of a tonsil than that which will include the bottoms of all the crypts. However, I do not believe the body will suffer any for complete removal, for the tonsil is a part of the general lymphatic system, and the several hundred other lymphatic glands of the body can readily carry on the work done by the tonsils. I think Dr. Coulter should carefully describe and widely distribute the method of his operation, for I am sure the profession does not understand its minutiæ.

EPISTAXIS.

A SIMPLE AND EFFICIENT MEANS FOR ITS CONTROL.

BY BOYD CORNICK, M.D.

KNICKERBOCKER, TEXAS.

Recurrent or prolonged nosebleeding occurs sufficiently often in general practice to occasionally prove a nightmare to those practitioners who must rely on the means of checking it which are recommended by most authorities.

Having witnessed, twenty-two years ago, the ineffectual efforts of a specialist to check the hemorrhage in a case of unilateral epistaxis, I naturally felt no little concern when, a few years later, I was called on to arrest a bleeding from the nose of some twenty hours' duration. The means finally resorted to (with success) was a strong astringent injection, by means of a postnasal syringe, the tip of which was inserted through the mouth into the upper pharynx, behind the velum palati, the fluid flooding the floor of both nasal passages, and flowing out of both nostrils anteriorly. But there is a better and simpler method than this, if I may judge from its prompt success in some half dozen severe cases encountered since then.

So late and so good an authority as Struempell's "Text-book of Medicine" (revised edition) recommends plugging the nares with absorbent cotton. In all the cases in which I have known this measure to be adopted the result was a failure. Perhaps it was not done *secundem artem*. And perhaps, with so unsatisfactory material, this method requires more skill than most practitioners—and some specialists—possess.

My treatises on general surgery, on the other hand, lay no little stress on internal remedies, and fall back on the plugging of the posterior nares with Bellocq's canula as a last resort. Meantime, if they refer to an attempt to plug the anterior nares, it is with the recommendation that a quill, or a section of a gum catheter, be enclosed in the plug, and that a solution of perchlorid of iron be used to first saturate the plug. Of these recommendations the first is needless bother, and the second produces needless irritation.

There may be constitutional conditions predisposing to nosebleed, which call for internal medication. Plethora or cachexia, coexisting with epistaxis, calls each for its own appropriate treatment. Nor is it my purpose to deal in this paper with those cases of intermittent nosebleed, occurring in adolescence, without debilitating the patient, nor with that class of patients in later life where, because of contracted kidney and arterial sclerosis, an occasional profuse epistaxis acts, as a safety-valve in the steam engine, by preventing a degree of intra-arterial pressure which threatens apoplexy.

The class of cases which I have encountered, though generally presenting evidence of some constitutional disturbance of the normal condition of the blood, or of the normal blood-pressure, has likewise given evidence of the existence of a localized solution of continuity in the nasal mucous membrane itself. In all such cases, were the lesion situated externally, so as to be easily visible and readily gotten at, what authority would lay stress on internal medication to constringe the arterioles, as an aid to checking the hemorrhage? What surgeon would propose astringent or styptic applications to the bleeding site?

It is because the site of the lesion, in most cases of even persistent epistaxis, while not easily visible, is nevertheless as easily subject to compression as though on the external surface of the body that, in all the cases I have encountered within the last fifteen years or more, compression of the bleeding site has been as readily accomplished, and has been as promptly successful, as though it had been located on the external surface.

All that I have found necessary has been to fashion with a pair of scissors a dry plug of prepared sponge, in size and length comparable with the little finger of a 12-year-old-boy. This should be carefully soaked in boiled water, to free it of grit, squeezed dry to free it of unnecessary fluid, and inserted its full length, gently, along the floor of the bleeding nostril. No styptic is necessary; it would be needlessly irritant. The expansive pressure of the soft sponge against the bleeding site, increased by the coagulation of a few drops of blood in its interstices, will check the bleeding at once. Remove it in twelve hours. Under no circumstance let it remain longer than twenty-four. Melted vaselin containing .5 per cent. of carbolic acid applied with a medicine-dropper in liberal quantities is the only local treatment called for afterward.

PELVIC MASSAGE.

BY LLEWELLYN P. BARBOUR, M.D.

BOULDER, COLO.

The recent papers in the Journal of the American Medical Association discussing massage have been of much interest and of much worth to the general practitioner. It is to be regretted that this valuable remedial measure is not more widely appreciated by all who deal with pathologic conditions of the female pelvis. There is nothing in its technic that may not be done by the general practitioner with a good knowledge of the anatomy and physiology of the pelvis, and with ordinary dexterity. My attention was forcibly called to the subject six years ago by Dr. Dudley, of the New York Post-Graduate School, and the results I have since obtained have been a source of much satisfaction to me. I will report two recent cases, not because they surpass the success of the previous ones, but because they are recent, and because they serve as an example of what can be accomplished.

Case 1.—Mrs. Y. This patient first applied to me for treatment in July, 1897. Three years previously she had miscarried at three months. I could not learn the cause of the abortion. She was quite sick afterward, evidently from septic infection. She has suffered from menstrual pains since—not before—and somewhat from "bearing-down" sensations. She is troubled with constipation; has not been pregnant since the abortion, but is anxious to become so.

An examination revealed a retroverted, prolapsed and subinvoluted uterus, glued firmly in its position by inflammatory adhesions. Before coming to me this woman had consulted two physicians—one an eminent gynecologist—and both ha told her that nothing could be done for her except by surgical means. To this she firmly refused to submit.

Remembering unexpected successes in the past, I cautiously held out some hope from massage. I was cautious, because I had never before attacked a case with such a mass of adhesions and with the organ so seriously misplaced. I warned her, too, that it would take some time to accomplish noticeable results. The results have, however, been all that one could ask absorption of the plastic material, loosening of the adhesions, restoration of the uterus to its normal size and position, and finally, what to my patient has been the source of greatest satisfaction, a pregnancy six months along.

It is doubtful whether a mere operation, such as had been suggested to this woman, would have given her much relief. At least my observation does not make me at all enthusiastic for such work. Mechanic separation and suspension of the uterus would most certainly not have brought about the complete restoration of size, position and function that was thus accomplished, as it were, physiologically. I should say that in this, and in all my cases of this kind, I used an occasional douche of hot water, tamponage and faradism. It is not wise to neglect remedial resources of value for any one method of treatment, as long as they are not incompatible.

Case 2.—Mrs. E. K. The patient consulted me because of her sterility. She was 28 years of age; had been married six years, and had never been pregnant. Menstruation was always scant, but with very little pain; it began at 18 years of age. Her general health has always been good.

An examination revealed a very small uterus—nothing else abnormal. Two years before this the patient had been told that the sterility was due to the small mouth of the uterus, and had submitted to an operation for relief. This operation had been successful in enlarging the os, if it had ever been necessary, but not in relieving the sterility. My diagnosis was: sterility due to an "infantile uterus."

Massage seemed in this case the one thing that held out most hope of stimulating the uterus to growth and activity. After the third month of treatment there was a decided increase in menstrual flow, but no appreciable increase of size of organ. After ten months she became pregnant and is now a happy mother. This woman, besides submitting to the operation for enlarging the os, had taken various compounds containing saw-palmetto, viburnum, etc., but without any results. I used massage alone, with results given above.

Dr. Westerschulte, in the Journal of Jan. 28. 1899, says that "cases hitherto considered incurable or only accessible to operations, have been cured in comparatively short time." I do not know how long a time he means by "comparatively short time," but I have found the length of time a serious objection. Patients become tired and impatient; I do not mean they tire of one séance, but of the number necessary. The successful results, however, justify even a comparatively long period of treatment, and it may be I shall learn that a more complete knowledge will make the time I have hitherto used unnecessary.

Before closing, I would repeat, for emphasis, from Dr. Westerschulte's paper: "For success with pelvic massage an accurate diagnosis is necessary, and whatever manipulation is applied is to be done lightly and without using force."

Differentiating Test Between the Eberth and Colli Bacilli.—Gorbunoff recommends the following simple method: Two test-tubes are filled with liver bouillon tinted violet with an infusion of litmus. One is inoculated with the bacillus coli and the other with the bacillus typhi. Both are kept at a temperature of 37 degrees C. for twenty-four hours, when the first tube will be found tinted reddish, while the tube with the bacillus typhi is colorless. Grains of blue will be seen on the bottom, which color the contents unevenly when shaken and soon settle to the bottom again.—*Gaz. degli Osp. e delle Clin.*, February 9.

SYPHILIS OF THE NERVOUS SYSTEM AS THE GENERAL PRACTITIONER SEES IT.

Presented to the Section on Cutaneous Medicine and Surgery, at the Forty-ninth Annual Meeting of the American Medical Association, held at Denver, Colo., June 7-10, 1898.

BY C. TRAVIS DRENNEN, M.D.
President of Hot Springs Medical Society; Member of Arkansas Medical Society; Ex-Vice-President of the Tri-State Medical Association; Member of Rush Medical College Alumni Association; Mississippi Valley Association, and the American Medical Association.
HOT SPRINGS, ARK.

Syphilis of the nervous system is undoubtedly a disease of common occurrence, but, as the general practitioner sees it, in the majority of instances it might be considered a rare as well as most formidable one—rare, for the reason that he does not recognize it; and formidable, because in its very nature it is such, and made more so through failure of proper recognition, permitting the stage of exudation to enter far into that of degeneration, long before the true character of the malady is brought to light.

If we might be permitted to judge from our own observation, we would be led to say that in the vast majority of cases of syphilis of the nervous system coming under the observation of the general practitioner, it is not recognized until too late for the neurologist or syphilographer to do more than make a correct diagnosis or write a death certificate. This being our conception of the condition, what is to be done? Our answer is: nothing, save to more thoroughly educate and acquaint the general practitioner, if possible, with the pathologic changes which syphilis produces, and at the same time give him a clearer insight as to the general as well as the special symptomatology of the disease.

It is well for him to remember, first, that in man there is not a single organ or constituent part that is exempt from the ravages of syphilis, and that syphilis and hysteria—whatever that may be—go hand-in-hand both as simulator and imitator, and as such, may be mistaken for almost any disease which humanity may have fallen heir to. He should know that absence of skin lesions and chancre or evidence of its former existence counts for naught in women presenting history of frequent abortions with subsequent symptoms of an invaded system, for the reason that syphilis by conception is a common accident. Have him understand that absence of knee-jerks in young persons without other symptoms being present in the nervous system is strongly suggestive and is well worth his timely and careful consideration, no matter how negative the history of syphilis may be. He should become an expert in traversing the entire lymphatic system, recognizing blindfolded as it were inguinal epitrochlear and postcervical adenitis without hesitancy.

It would do him no harm if examination of the hemoglobin and blood cells were made, in order to ascertain the degree of anemia, which is almost invariably found in syphilitic subjects who have not been subjected to antisyphilitic treatment, regardless of the age of the disease. Now the headaches, leg aches nocturnal in character with bony enlargements, diseased nails with either past history or present, falling off of the hair in spots, with copper-colored discolorations about the skin and iritis, should not be forgotten.

He should bring to mind and keep ever in view the fact that syphilis of the nervous system may be found at almost any age of the disease, and that Rev. Mr. —— may be a most virtuous and devout individual of today, but possibly a common renegade and libertine of earlier years.

His failure to recognize and properly diagnose is in many instances not worse than his treatment, for he has been taught that mercury and the iodids cure syphilis, but he has forgotten—if he ever knew—that the long-continued use of either mercury or of the iodids without interruption, given in large and increasing doses, is capable of adding insult to injury. He does not call to mind the fact that in certain individuals who have taken largely of the iodids we have, as a result of such administration, formations of ulcers in various places throughout the skin, frequently intractable to all forms of treatment, and that any agent or agents capable of producing such pathologic changes might be schooled to act upon the nerve structures in a similar manner. It would be just as well for him to ask the question: Since mercury sometimes acts untowardly, producing necrosis of the bony structures and general disintegration of the soft parts, why might it not enter tissues known to be better protected anatomically than the skin and do like damage to tissues known to be far more vulnerable if abused?

Let him know further that the only way we may ever hope to lead the syphilitics to health in safety with our present knowledge of the disease lies in the old principle of nutrition and elimination, and that this can only be brought about through the higher knowledge of dietetic and hygienic conditions, coupled with a more earnest study of physiologic laws, which do and must ever govern mankind in his afflictions.

The mantle of iniquity woven upon the hapless loom of one's own shortcomings should not be thrown upon and be forced to be worn by the helpless, unprotected and innocent shoulders of another. Hence, it might be well for those who instruct to ever bear in mind that a chain can not be stronger than its weakest link, and that the maker is measurably responsible for the job.

LIPOMA OF THE LABIUM MAJUS.

BY HENRY MARSHALL FENNO, M.D.

Member of the American Medical Association, American Public Health Association, New York State Medical Association, Monroe County Medical Society, etc.

ROCHESTER, N. Y.

Kelly, in his excellent work on "Operative Gynecology," says that lipoma or fatty tumor is one of the rarest gynecologic affections; no writer has yet recorded more than a single instance in his own practice.

Dr. Boldt, in Keating and Coe's "Clinical Gynecology," speaks of a case where he removed a lipoma weighing ten ounces which was attached to the left labium majus by a pedicle two inches long; he says that the tumor was not altogether of fat tissue, the lobules of the latter being enveloped with a fibrous connective tissue; hence the designation "fibrolipoma." Kelly says of a case which he saw in the Episcopal Hospital, Philadelphia, that an ovoid tumor, three inches long, hung from the middle of the right labium majus by a slender pedicle two inches in length.

My own case was a mulatto girl, Sylvia A. C., 28 years of age, married, having one child, a girl, 9 years old. About four years ago she was confined a second time, giving birth to a still-born child. Soon after the birth of this child she noticed a swelling on the left labium majus which slowly but steadily increased in size, until, becoming alarmed, she came to my office to consult me in regard to the matter. Upon making an examination I found the growth to be a lipoma attached to the left labium majus by a pedicle, one and a half inches long, and three-quarters of an inch thick. After a few days of preparation treatment, I removed the tumor at the patient's residence, Dec. 7, 1898, assisted by Mr. O. J. Bryan, who attended to the administration of the anesthetic (ether). After thoroughly cleansing the tumor and adjacent parts, I passed a needle armed with a double ligature of braided silk through the base of the pedicle, tying it each way; the upper ligature in this way included a small artery which passed through the upper central portion of the pedicle into the growth; the tumor was then excised; there was no hemorrhage, the ligature controlling the bleeding completely.

The tumor was fibro-fatty and measured three inches in length, by one and a half inches in breadth and one inch in thickness, and weighed two ounces; the patient remained in bed twenty-four hours, and on December 12, came to my office, where I removed the ligatures. In one week more, December 19, everything was nicely healed up and the patient was able to be about her work as usual, doing a heavy washing on that day.

Society Proceedings.

San Francisco County Medical Society.

March Meeting.

Dr. C. G. Levison presented a report of a case of

RESECTION OF RECTUM AND BLADDER; COLOSTOMY; CURE OF ARTIFICIAL ANUS; RECOVERY.

The patient, a man of 65 years, married, and the father of several healthy children, gave a history of a fall about two and one half years ago; he struck on his back and sustained also a Colles' fracture of the right arm. He fell with the legs extended and the impact was upon the coccyx; the bladder was full at the time. After the fall he suffered from pain in the back for some three months, and complained that the bowels did not move so freely as had formerly been the case. Constipation was progressively worse; blood and mucus finally appeared in the stools. He consulted Dr. Levison for relief from the discomfort of the difficult evacuations; had lost no weight. Examination of the rectum disclosed a fungus growth quite occluding the lumen of the rectum, and extending two inches above the sphincter. The finger could not be passed through this growth, which was hard, painful and bled easily on handling. The diagnosis was cancer of the rectum.

On July 28, 1898, colostomy was performed in the left iliac region; the gut was sewed to the peritoneum over a spur formed by a glass rod pushed through the mesocolon. The gut was later opened by means of the actual cautery. The patient did well, temperature not rising above 100. Later the gut and rectum were disinfected by means of hydrogen peroxid through the fecal fistula; the pelvis was elevated by a sand pad under the abdomen. The parasacral incision was made and the sacrum removed with the chain saw. Peritoneum opened, the growth was found to involve the rectum for about two inches. About five inches of the rectum and sphincter, the prostate, and a portion of the bladder wall were removed. The only complication during the recovery was the failure of the stitches in the bladder wall to hold. This had been expected, owing to the considerable amount of bladder wall which had been removed. It was later decided to close the artificial anus, which was quite perfect. The gut was thoroughly disinfected both above and below the opening, and the opening was then closed with clamps. Dissecting the gut from the peritoneal wall was found to be a matter of much difficulty, but was at last successfully performed. A portion of the gut was then resected and the ends brought together by means of a Murphy button. Recovery was uninterrupted. The growth was found to be an adenocarcinoma.

Dr. Levison gave a résumé of the whole question of rectal cancer and the various operations for the treatment of that condition, together with statistic abstracts from all recently published literature. Excision of the rectum seems to be accepted by all authorities, with one or two exceptions, as a justifiable procedure. The advisability of a preliminary colostomy is, however, a much discussed question. The mortality of the operation of resection is a matter of some doubt, owing to the fact that there are undoubtedly many failures which have not been, nor will they ever be, published. Mr. Ball, "Diseases of the Rectum and Anus," cites 175 cases with a mortality of 16 per cent.; a writer in the *Weiner Med. Woch.*, 1897, reported 88 cases with a mortality of but 10 per cent.; Quenu and Kocher are of the opinion that the mortality is about 20 per cent. Finet collects 375 cases reported, with 76 deaths, of which 42 were from infection, 16 from collapse. Sepsis is considered by Quenu and Hartmann to be the cause of not less than 80 per cent. of the fatalities. Many cases which were apparently cured were cited, and cases in which there had been no recurrence for three or more years were comparatively common. Esmarch, having kept his patients under observation, had observed no recurrence at the end of 3, 4, 8 and 11 years. Finet's thesis records cases in which no recurrence had been noted at the end of 16½, 16, 14, 10, 8, 6, 5, and 4 years. Mr. Ball in his work, records nine patients alive six years after a radical operation. Dr. Levison found the average term of life following resection of the rectum to be about two years; after colostomy alone, in cases of inoperable cancer, about eighteen months. The question as to whether the patient will be more comfortable without his rectum and sphincter, or with these useless appendages and with an artificial anus, is an exceedingly difficult one for the surgeon to decide.

The Doctor's opinion was in accord with what seemed to be the generally growing opinion at present, that the more radical operation is much to be preferred. The preliminary colostomy is much to be preferred to the simple operation of resection, in most cases. The comfort of the patient after resection of the rectum will depend largely upon the amount of tissue involved and necessarily removed. If a classic resection is performed and the sphincter retained, then the end of the gut may be brought down and the control of the evacuations will be perfect. If this is not the case, and the sphincter has been removed, then the amount of control will depend upon the degree of contraction resulting; this may indeed be too great and demand subsequent dilatation. Where the sphincter must be sacrificed, it has been suggested by Gersung as an advisable proceeding, to treat the end of the gut by torsion, and then fix the twisted portion to the skin by sutures. Several cases are cited in which this method has been successfully employed. Another method has been highly recommended by Witzel; in this operation, the end of the gut is brought through some of the separated fibers of the gluteus maximus. The Doctor then discussed the various methods of performing the actual operation of excision, first prefacing his remarks by defining the terms generally employed, and the anatomic relations of rectum, peritoneum, and gut. In making the iliac colostomy the method as well as the landmarks differ with different surgeons, though the greater weight seems to be with an incision of two to two and a half inches long, one and one half inches above and parallel with Poupart's ligament. Just here arises the greatest difficulty with the iliac operation —prolapsus; it is on this account that many operators are now making the incision high up on the abdominal wall, where the pressure is less and the tendency to protrusion consequently smaller. Much difficulty may be experienced in finding the colon, after the abdominal incision has been made, though it usually presents at the wound. The gut may have greatly atrophied as a result of the malignant disease, and the consequent decrease in the longitudinal muscular fibers with a disappearance of the epiploces. If the colon can not be found, it may be necessary to fill the gut with water; in this manner indicating its whereabouts. The gut should be carefully drawn out and the serous surfaces sewed to the peritoneum, some resistant material being passed behind the loop of gut.

He then considered the methods of resection, stating that there were five routes presenting themselves from which the operator was to make his choice: 1, through the perineum; 2, through the sacral region, with resection of the sacrum; 3, a combination of the sacral or perineal methods; 4, through the vagina; and 5, abdominal section. The sacral route of operation was discussed at some length. It is indicated where the growth is high up on the middle or upper third of the rectum, and was made possible by the discovery that the sacrum might be with safety resected as high up as the third sacral foramen. Previously the method of Kocher had been employed, in which the long incision is made and the coccyx is removed. Much care should be employed in removing the portion of the sacrum, for if the cut is made too high, permanent paralysis of the bladder may result. The incision may be either along the left side of the sacrum, long and extending almost to the anus, with a transverse incision at about the point where the bone is to be divided, or a ∩-shaped incision may be made and the bone turned down after sawing. Either method gives ample room for operating. Hemorrhage may be quite profuse. The peritoneum should be incised and the rectum hooked up with the finger. If the dissection is carried on close to the sacrum, there is but little danger of interfering with the blood supply of the anus. If the sphincter is not involved, the gut may be brought down and sutured, or fastened to it by means of the Murphy button; if the sphincter is involved, as in the present case, it must be removed and the gut sewed to the skin under the sacrum. The other methods of operation were touched upon, and the patient was then demonstrated, as were slides of the prostate, clearly showing the cancerous involvement of that gland.

Dr. Julius Rosenstirn said that he could find only words of congratulation on the excellent result of the operation, though doubtless it was not so satisfactory as Dr. Levison himself could have wished. That, however, was the fault of surgery, not of the surgeon. In his opinion there was no doubt that the present position of the English surgeons in opposing colostomy is wrong, and that the preliminary colostomy is to be considered as a highly desirable proceeding. In regard to the probable average mortality, statistics were not to be depended upon as evidence pro or con, for the reason that so many cases were reported where the result has been good, but no one could tell how many operations had been performed where the result was not satisfactory. The opinion of one good surgeon who had plenty of material on which to base his opinion was certainly of more value than the published statistics from promiscuous reporters. Buckle reports 43 cases on which he has operated, with 33 per cent. well at the end of three years. Some of these cases had gone six to twelve years with no recurrence. He believed that Levi's method should be more generally adopted, as it gave a large incision with plenty of room and an opportunity for free drainage after the operation. Where it is possible to save a portion of the rectum and anus, it is well to invaginate the upper portion, pull it through and sew the serous surfaces together. In this way there is little chance for infection, the greatest cause of danger in the operation.

Dr. Tait said that the operation, considering the involvement, was most remarkable. He recalled that at the meeting of the State medical society three years ago, this question of how to deal with cancer of the rectum had come up for discussion. At that time the general opinion seemed to be that the best method of dealing with these cases was by the artificial iliac anus. He was glad to see that three years had been enough to change the general opinion and direct it toward what was eminently the more surgical procedure. He recalled two cases in which he had operated for cancer of the rectum. The first was a woman of 32 years. The malignant growth involved the rectum for at least three inches and also the posterior vaginal wall. The gut was brought down and stitched to the skin. The growth was an epithelioma of limited area. Recovery was good, but the patient died four months later from a development of similar trouble in the liver. The second case was one of sigmoid cancer in a man 54 years of age. In this case what is known as Quenu's operation was tried. This is the combined abdominal and perineal operation. The result was good. Rectal surgery is changing very much, in Dr. Tait's opinion, and the sacral route is being abandoned save for cancers very low down. The two sources of danger, in his opinion, are sepsis and hemorrhage. To avoid sepsis, the ends of the gut should be first completely closed and the involved gut treated then as a cyst. The hemorrhage could be avoided or controlled by ligating the iliac arteries. An excellent operation, and one not thus far reported in the American medical press so far as he was aware, was Quenu's operation, already referred to by Dr. Levison. In this operation, which is performed through the abdomen, the intestine is cut between clamps with the cautery; the upper end is then inserted into the abdominal wall, making a permanent artificial anus. The free lower end is then carefully dissected out by means of a circular dissection, leaving the sphincter if possible. The hemorrhoidal vessels should be ligated. The drainage-tube should be surrounded by gauze. This operation makes the excision very much like the removal of a cyst. There is little danger of sepsis.

Dr. Kugeler presented a specimen and the report of a case of

TRAUMATIC RUPTURE OF THE LIVER.

The patient had been driving in Golden Gate Park on Sunday, March 12. The horse shied suddenly, throwing the man out of the buggy; in his fall he struck violently against a post, his right side coming in contact with the post. He was taken to the park receiving-hospital, unconscious, and there examined. There was no bruise nor indication of any injury. He soon recovered consciousness and was sent home. He complained somewhat of pain in the side and back. Later he became worse, and Dr. Kugeler found him suffering from evident collapse. He then showed all appearances of hemorrhage; he was pale and collapsed; vomited small amount of whisky and water with a very few small particles of blood clot; pulse 90, but weak; respirations rapid. He complained of severe pain in the right side and back. There was dulness in the right flank. Dr Evans was called in consultation, and he quite agreed in the diagnosis of ruptured liver, with internal profuse hemorrhage. The patient was removed to the Waldeck Hospital, Dr. Carpenter called in, and operation determined upon at once. An incision was made along the right rectus; when the peritoneum was opened, the blood gushed out in torrents. It could be seen pouring into the abdomen, but the point of hemorrhage could not be located. It seemed to be coming from above, but when the hand was introduced the posterior surface of the liver could be felt to be torn. The extent of the rupture could not be determined. What to do was not easily answered; had it been the spleen, it would have been removed, but "hepatectomy" is not yet a well-recognized proceeding. The liver was packed as well as possible, the intention being to make pressure against the diaphragm, and if possible control the hemorrhage in that way. He stood the operation comparatively well, salt solution, strychnin and other stimulants being liberally employed. After the operation he rallied and did well throughout the next day, until late in the afternoon. In the morning he had a temperature of 103, but this dropped to 102.2 later in the morning. There was some oozing of blood on the dressings, but no indication of profuse hemorrhage, and he seemed to be doing very well until afternoon, when he developed severe pain in the back, for which morphin was given without relief. Later he became delirious, had to be strapped in the bed, and at 8 A.M. died. He lived in all between thirty-eight and thirty-nine hours after an injury which had produced an enormous laceration of the liver. The postmortem examination had been made on the morning of the day of the society meeting, in the presence of the coroner, and the liver was shown to the society. The whole of the upper and posterior portions were torn into shreds, the wounds extending deeply into the liver substance. At one point was to be seen a gangrenous spot, which it had been suggested might have been the cause of the temperature.

Dr. Carpenter said that the question arising in these cases, was: What could be done? On the operating-table there was no doubt as to the laceration of the liver, but the question was: What could be done? The extent of the injury could not be determined, and it was utterly impossible to go any farther with their investigations than they had gone. He had wondered if the laceration could have been handled any better from above, but thought not.

Dr. Kenyon said that in his opinion and experience these cases were always fatal. There was no way known to him of checking the profuse hemorrhage. Pressure was the only thing, and that was sometimes, as in the present case, impossible.

Dr. Rosenstirn said that in the present case nothing could have been done that would have changed the outcome of the case. The operators might have gone through the pleural cavity and come down upon the upper portion of the liver, where the most extensive injury was, but it would have been of no avail as pressure could not have been made any better in this way. The statements of Dr. Kenyon were, in his opinion, not supported by the facts, for he had known of many cases in which hemorrhage of the liver could be and was controlled. He called attention to the method of stopping hemorrhage of the liver by the use of a stream of hot air. Steam had been suggested and used, but it was not comparable to hot air. He had employed it experimentally on animals, and it had been successful. In the present case it would have been impossible to reach the area of injury without entirely removing the liver.

Dr. Tait said that the use of gelatin had been suggested to control these hemorrhages, and that on animals he had found it quite satisfactory.

Dr. Kugeler said that gelatin had been suggested at the time of operation, but the question which then arose and which prevented the use of the gelatin was: Where should they put the gelatin? The extent of the rupture could not be determined, and as it was found on postmortem examination, could not possibly have been determined without the complete removal of the liver. In the fluid found in the abdomen were small pieces of tissue which at the time were recognized as liver tissue and were kept for microscopic examination, in the case of the recovery of the patient. They had not been examined, as the postmortem examination was quite enough to prove the liver laceration. Another feature of interest, found on postmortem examination, was the presence of a supernumerary spleen. It was small in size, about the size of a walnut, and surrounded by fat. The structure was the same as spleen structure.

Chicago Medical Society.

Regular Meeting, March 15, 1899.

The president, Dr. Arthur D. Bevan, occupied the chair.

Dr. Sanger Brown read a paper entitled

DEVIOUS MANIFESTATIONS OF EPILEPSY,

in which he said that there was perhaps no symptom complex which properly permitted of a more concise and definite description than the consecutive pathologic phenomena constituting a typic epileptic seizure, and consequently there were few subjects regarding which the students of medicine were likely to preserve a clearer and more perspicuous mental image. But while it is true that there is a very obtrusive similarity in the manifestations of the classic fit, as noticed in different individuals, it is no less certain that there is an almost infinite number of deviations from this which are sometimes scarcely less diagnostic than the fit itself, but which are nevertheless quite frequently unrecognized. The purpose of the paper was to call attention to some of these deviations, and in relation with them to enunciate a few general pathologic principles, which, if clearly comprehended, might in some cases contribute to an early diagnosis.

The essayist expressed his conviction that the main pathologic feature in epilepsy consists in a sudden disturbance of equilibrium between the several forces of the central nervous system. He regards all neurons directly connected with end-organs as peripheral; all others as central, though these latter are frequently further subdivided into projection, intermediate, etc., this equilibrium being soon completely restored and a permanent tendency to recurrence remaining. These general statements regarding the pathology of the malady correspond with the best descriptions of the classic fit, and also with the most characteristic deviations therefrom.

Few observers, who have given the subject much attention, will dissent from the view that by far the most potent etiologic factor consists in a predisposition inherent in the cerebral tissues to undergo those changes which give rise to epileptic phenomena. Some ingenious arguments have been advanced to the effect that the main causative element consists in a vice of metabolism, resulting in an excess of some noxious substance or substances accumulating in the tissues of the brain and thus exciting this abnormal activity. But even if this is admitted, then it is not unreasonable to assume that this metabolic vice owes its origin mainly to influences derived from the nervous system, so that in either case an inherent pathogenic tendency of the central nerve elements has a similar etiologic significance. The simple fact, however, that therapeutic measures projected on the basis of an autotoxic etiology have been notably barren of results, so far at least, rather discredits this theory. That individuals are frequently met with, however, who, on the one hand, have been repeatedly exposed to influences usually regarded as especially likely to act as exciting causes of epilepsy, without developing the disease, and on the other hand, innumerable instances are observed where the disease develops without any appreciable exciting cause whatever, powerfully magnifies the probability of an inherent predisposition.

Several instructive cases were narrated by the essayist, illustrating the above observations. Two of the cases reported showed the relationship of migraine and nightmare to epilepsy. But while it is reasonable to suppose that disorder of the central nervous system is the most essential pathologic factor in the two former conditions, as it is in epilepsy, the onset is much slower and of longer duration, and judging from the symptoms, the cerebral changes are of a very different nature. Hence it may be argued that primarily they are not necessarily very intimately connected with epilepsy, but rather that the neuropathic condition which gives rise to their symptoms more or less strongly predisposed the nervous tissues concerned to take on that state of abnormal activity peculiar to the latter disease. If this were not the case it would seem that their association might be very much more frequent than it is.

Some of the mental states which the cases illustrate might be set down as insignificant, because it is not a matter of very uncommon experience, for instance, to have the feeling that the environment is a repetition; to feel as if an individual met for the first time had been intimately known for years; to have familiar surroundings seem strange and strange surroundings seem familiar, or even to have the scenes of childhood come rather vividly and unexpectedly before the mind. The suddenness, however, the strength, the brevity, the rapid and complete disappearance, and the recurrence of the manifestation, and the immediate subsequent phenomena, as sleep, or violent headache, afford the principal diagnostic criteria, and indeed, the author thinks this is practically all that can be said regarding the possibility of deciding as to whether various slight seizures are epileptic or hysteric, for there is probably a borderland, not very wide, to be sure, separating epilepsy from hysteria. That is to say, cases are to be met with in which for months or years minor manifestations can not be certainly classified. His personal experience has been, however, that in the majority of instances, where the symptoms seemed a long time doubtful, positive signs of epilepsy finally appeared.

Dr. Carl Beck followed with a paper on

THE VALUE OF RESECTION OF THE SYMPATHETIC GANGLIA OF THE NECK IN THE CURE OF EPILEPSY.

He said that in 1897 Jonnesco recommended total extirpation of the sympathetic ganglia of the neck on both sides, for epilepsy, Basedow's disease, hysteria, chorea, tumor of the brain, progressive paralysis, and many other similar diseases. In all three cases of genuine epilepsy reported at that time the cure was perfect, but these cases were observed for only a very short time. Navratil, of Budapest, also reports three cases of operations similar to Jonnesco's and Donath's, and describes the results. In all three cases the results were negative. At the surgical congress held in Moscow two years ago Jonnesco reported a number of cases thus treated, and also others, among them Chipault. These men are sanguine as to the results, while men like Péan have been very skeptic.

During the last few years Dr. Beck has had occasion to operate on several cases in the manner suggested by Jonnesco, namely, the resection of both sympathetic ganglia of the neck, and he briefly reported the experience gained from these operations, giving a short history of each case.

In reviewing his results he summed up by saying that the method suggested by Jonnesco, and so highly praised by him and his followers, is of hardly any value, and that the few changes for the better that have been observed are either accidental, or such as are observed in almost any interference. Nevertheless, the operation on these cases has aided us a great deal; in the first place, to show the influence of the removal of the sympathetic nerves and ganglia of the neck upon the eyes.

It has occurred to him that at the time of the operation of the third case, he had at the same hospital a case of large goiter in a young woman, the disease causing considerable trouble. The goiter had developed more on one side than on the other. In removing the large left lobe he had to go very deep, and probably lacerated one of the sympathetic nerves in some way, for immediately after the operation the eye on one side sank back, the eyelid drooped, the tears ran freely on that side, the side appeared red, the other pale, the side perspiring, the other not. At the present time these symptoms have subsided entirely and the eyes appear alike. He does not think that he removed the sympathetic in this case of goiter, but thinks that it was irritated in some way by pulling with the retractor, or by pressing the fibers, or in some other way. He can not otherwise explain this unilateral change. Taking this change and the chance observation of the second case of the influence of the removal of the sympathetic upon the eyes and the nervous system, he should say that the removal of the sympathetic might be of great value for the treatment of Basedow's disease, and that, at any rate, he would suggest it for such cases, for the reason that it is less difficult and less dangerous than any other surgical method suggested for the treatment of this disease; but as for the cure of epilepsy, he is satisfied of its being of doubtful value.

Methylene Blue in Gonorrheal Urethritis.—O. Horwitz has attained extremely favorable results with the administration of a capsule three times a day containing each: methylene blue .06 to .12 gm.,; oil of santal and copaiba āā .18 gm.; oil of cinnamon 1 gtt. for one capsule. Make xx.—*Jour. de Méd. de Paris*, February 19.

Denver and Arapahoe Medical Society.

Regular Meeting, March 14, 1899.

Dr. J. N. Hall reported three cases of

LEUCEMIA.

Case 1.—Splenomyolegenous leucemia in a male, German 47 years of age. His mother died of dropsy. Three years ago his abdomen began to increase in size; for several months he noticed exhaustion, breathlessness and debility upon attempting to work. When seen April 1, 1898, he was moderately anemic, and abdomen protuberant; spleen reached to within two inches of pubes; notches being distinctly palpable; temperature varied between 98 and 100; pulse 90 to 100; urine normal; blood 2,890,000 erythrocytes and 33,000 leucocytes, a ratio of 1 white to 8.7 red cells; many normoblasts were present. The myelocytes were 55 per cent. and were diagnostic of splenomyelogenous leucemia. The patient gradually failed and died in September. The spleen weighed six and one-fourth pounds; liver normal; right kidney filled with pus.

Case 2.—A female, 44 years old; was first seen Nov. 21, 1897. She had three children; for eighteen months complained of dyspnea, slight dry cough, progressive increase in size of abdomen, slight edema of feet, lost fifty pounds in weight; no digestive disturbance; moderately anemic; temperature 99.6; pulse 104; lungs and heart normal; liver normal; spleen reached to navel and within four inches of pubes; slight enlargement of glands in axilla and groins; ratio of white cells to red, 1 to 5; has taken Fowler's solution for a long time; patient still attending to her household work, and in comfortable condition.

Case 3.—A male, 8 years of age, was seen November, 1898; family history good; no specific history; had chicken-pox when a baby, diphtheria at three years and pneumonia at five years; in October, 1897, the glands in the neck and both groins became swollen; from January, 1898, confined to bed for eight weeks; slight cough all the time; lost twelve pounds in weight. Since the beginning of the glandular trouble, there has been constant daily rise of temperature, 101 and 102 degrees; pulse 120-144; complained of pain in knees, splenic region and right flank; six to eight stools daily, except when taking medicine. Two aspirations into the hepatic region have given negative results. The hepatic dulness extended from the fourth rib to two inches below the costal margin. In the back the dulness extended upward to the eighth rib. The splenic dulness was 344, the edge of spleen palpable. It is to be noted that the spleen is less enlarged in cases of leucemia having diarrhea; lungs negative; blood count: red cells 4,500,000, hemoglobin 60 per cent; color index .73; white cells 35,000. A little over one-half were of the lymphatic variety. The patient was placed upon ascending doses of Fowler's solution; at the end of six weeks has gained four pounds in weight, and improved much in color; blood showed an increase of a quarter of a million of red cells; hemoglobin 65 per cent, lecucocytes 15,800. In January his condition was still improving.

Dr. Hall then discussed the points of differential diagnosis between mixed lymphatic leucemia and ordinary leucemia, chlorosis, progressive pernicious anemia and anemia infantum pseudoleukemia of Jaksch. The blood count serves to exclude the ordinary splenomyelogenous leucemia absolutely, particularly the small number of myelocytes. "In my opinion this is one of the cases in which an absolute diagnosis is impossible without a study of both the clinical history of the case and the blood. It is, however, not an acute lymphatic leucemia of the variety commonly fatal in a few weeks, for such cases often present 90 to 95 per cent. of lymphocytes, and, moreover, our case has already lasted more than sixteen months."

Dr. Stover made a few remarks concerning blood counts and the percentage relations of blood elements. He exhibited drawings of the various blood elements and also microscopic slides.

Dr. Edson called attention to the necessity of clinical facts and blood examination combined. He holds that pure lymphatic leucemia probably never had existed and never does exist, that it is always a mixed leucemia.

Dr. C. A. Powers read a paper entitled

METHODS AND RESULTS IN 175 CASES OF SIMPLE FRACTURE OF THE FEMUR.

He said: "Of the entire number of 175 cases, 39 were in the upper third of the bone, 113 were through the middle third and 19 involved the lower third: 80 per cent. of the fractures through the neck of the femur occurred after the age of 30, the third, fourth, fifth and seventh decade furnishing the larger number of cases. Of the simple fractures through the middle third, 38 per cent. were in children under 11 years. Their distribution was: right thigh, 65; left, 56; both, 4; the remaining not noted. Direct violence gave 99, and indirect 31. Symptoms and diagnosis: In the neck, pain, disability, eversion and shortening; average shortening five-eighths of an inch, greatest one and one-half inches. Between the neck and femur, crepitus, local mobility, upper fragment drawn forward and upward, average shortening one inch, greatest thirteen and three-fourths inches. In 77 cases of simple fracture of the middle third, the shortening was one inch; in seven cases, two inches.

All cases except two were treated by Buck's extension; average length of confinement fifty-two days; average shortening on discharge three-eighths inch.

The cases cited in this article were managed before the days of Roentgen rays, which thus far he has not been obliged to make use of in femur fractures. Of just what use it is to be, he is yet uncertain, yet he would not trust its evidences to the exclusion of clinical facts, and believes the cases rare in which palpation and other methods of examination will be insufficient for diagnosis; while there is much to learn from these wonderful pictures and what they mean, we must remember that their medicolegal value is too uncertain to permit of their introduction in courts of law. Of cases of fractures through the middle third of the femur, 41 were treated throughout by plaster-of-Paris splints; 46 cases by Buck's extension. The functions returned as quickly after one form of treatment as after the other. Average shortening on discharge, one-fourth inch; functional result, 39 perfect, 22 evolved well, 5 presented moderate joint stiffness. Delay in ossification of callus was observed in 7 cases. In most of the cases of delayed union a vigorous rubbing together of the fragments at intervals of a few days sufficed to produce union at the end of the third or fourth month. In a man of 42 years, who had non-union at the end of the fourth month, an interrupted plaster splint was applied leaving the seat of the fracture so exposed that the thigh could be actively percussed with a hammer. Union follows in a moderate length of time.

Of fractures through the lower third of the femur, two died, 1 of traumatic delirium tremens, the other of shock; 3 were treated by Buck's extension, 4 by plaster and splint. The average shortening on discharge was three-eighths of an inch; functional results, perfect 7, moderate stiffness 3, 2 evolved well when seen one year after discharge.

Dr. Powers advises that phosphorus in some form should be administered in femur fractures.

Dr. McNaught agreed with Dr. Powers, on all points except as to the X-ray. He favors the use of the double inclined plane.

Dr. Axtell wanted to know whether the thyroid extract had been used in fractures.

Dr. Miel favored plaster in cases requiring to be transferred.

Dr. Stover spoke in favor of the X-rays.

Dr. Warren said that thyroid extract is known to reduce weight and related a case of ununited fracture of humerus in which thyroid extract was given and union brought about. The weight of the patient was reduced forty pounds.

Dr. Bane showed a new improved probe for packing gauze into sinuses, which by grooving the head, does not slip through the gauze.

Philadelphia College of Physicians.

Section on General Medicine, March 13, 1899.

Dr. D. J. Milton Miller read a paper and presented a patient with a

RARE INTRATHORACIC TUMOR.

The patient was a man 38 years of age, American, whose mother had died of cancer. He had previously had typhoid fever and pneumonia. There were no evidences of syphilis. He was not addicted to the use of tobacco in excess. The present trouble began eight months ago, when he noticed a small tumor over the precordia, which has continued to grow until its deeper attachments extend almost from the left clavicle to the fifth rib, is very hard in consistency and not reddened. There is no bruit present. The heart sounds are feeble and best heard one and one-half inches to the right of the sternum. Six months previously there had been considerable pain in the region of the left chest, with some dyspnea. The dyspnea especially continued after the development of pleurisy with effusion, for which the patient has been tapped several times, large amounts of bloody fluid being successively withdrawn. The blood count showed 5,800,000 red and 10,000 white blood-corpuscles per cubic millimeter, with 80 per cent. hemoglobin. This large amount of red cells was thought due to the fact that the blood was concentrated in the peripheral vessels on account of the venous stasis arising from the dyspnea produced by the pleural effusion. A moderate lymphocytosis was present. This blood condition might indicate lymphosarcoma, as considered by some writers.

Dr. James Tyson thought that the clinical symptoms pointed to chondroma.

Dr. Charles W. Burr read a paper in which he detailed the history of several cases suffering with

ORGANIC BRAIN DISEASE WITH PECULIAR NERVOUS SYMPTOMS.

Case 1 was due to left-sided cerebral hemorrhage with loss of sense of touch, but pain over the left side was especially severe on slight pressure. The patient was 51 years of age, the onset occurring nine years ago, the palsy affecting the right side. The patient had been speechless and there was stiffness of the right leg. There was no wasting of the right leg or arm. Light pressure over the palsied side caused extreme pain, but the patient can not distinguish the sense of heat; cold is felt as pain, but not as cold. There is a left-sided hemianopsia, the arteries reduced in size and hypermetropia and astigmatism present.

Case 2 was one of cerebral diseese with loss of sense of heat and cold, in a patient of 37 years. The onset occurred in October, 1898, manifested by inability to swallow liquids, water being frequently discharged from the mouth. The tongue seemed to be very thick. The patient frequently bites the cheek and tongue during mastication. There was a stabbing pain in the right eye, a limp of the left leg and the left arm was beyond the patient's control. The face on the left side was flattened in its lower portion and with eyes closed the patient can not recognize objects given him. Ophthalmic examination was negative. An autopsy had been made, and a small tumor was reported situated in the floor of the lateral ventricle. Its exact nature was not known.

Case 3 was a patient aged 30 years, addicted to the use of alcohol. In 1894 he became paralyzed on the left side of the body. In 1895, paralysis affected the left side of the face; was deaf in the left ear. There was weakness of the left arm and the knee-jerk was increased, but there was no ankle-clonus. The patient does not respond to pin-pricks and is unable to close the left eye. Examination revealed small arteries, but the exact ocular lesion could not be determined; hemianopsia was probably present. On the left side there was complete loss of sensation to pin-pricks, heat, cold and pressure, but with eyes closed he could tell the nature of an object. The patient is unable to touch the right hand with the left unless the following movements are made: the left hand is first thrown against the sternum, and by a pushing movement is gradually moved over to the right and down the right arm to the hand. The left plantar-jerk causes contraction of the toes. In 1892 the patient was blind in both eyes for a period of six weeks; the pupils reacted to light stimulus.

Dr. J. H. Musser related a case of

TYPHOID FEVER WITH HEMORRHAGIC DIATHESIS.

The patient was an American, aged 21 years, and had suffered from epistaxia and diarrhea. Typhoid spots had occurred on the chest and abdomen. The apex-beat was strong and the spleen not palpable; the pulse was dicrotic, 120 per minute; aortic, systolic and mitral murmurs were present. He had suffered from excessive hemorrhage from the mouth and nose; petechial spots were prominent. The Widal reaction was obtained and was positive. An autopsy was performed by a resident of the Presbyterian Hospital and revealed both lungs congested posteriorly, the left ventricle was hypertrophied, aorta much narrower than normal and without the presence of atheroma; the kidney showed evidences of cloudy swelling and were filled with blood; the thymus gland was persistent. Five cases similar to the above have been reported by Osler.

Dr. H. A. Hare spoke on the prevailing opinion that typhoid fever was due to a mixed infection rather than from the presence of the Eberth bacillus per se, and it is his opinion that the hemorrhage in this case arose from the fact that more than one kind of micro-organism was diffused throughout the system. Dr. Hare also read a paper on

ACUTE THYROIDISM FROM TRAUMATISM.

The onset had occurred somewhat suddenly after a blow over the thyroid region, which the patient had received by bending over the back of a rocking-chair at night. The symptoms were cardiac palpitation, violent headache, mitral murmur not transmitted, breath very fetid. The thyroid gland was considerably enlarged, especially on the right side, and had a reddened appearance; the pulse was 120. Some time later the thyroid had become as large as the fist, but was not tender. There was marked difficulty in swallowing. The symptoms quickly subsided and, according to the patient, ceased in one night. The Doctor thought the symptoms had been caused by acute thyroidism brought on by the traumatism, which caused an increased amount of secretion from the gland.

Dr. J. H. Musser spoke of a case in which he had seen suppuration of the thyroid gland occur during the course of typhoid fever.

Section on Gynecology.

Dr. William R. Pryor of New York (by invitation) read a paper on the

SURGICAL TREATMENT OF PELVIC INFLAMMATORY DISEASES,

with special reference to the vaginal route.

He did not desire to introduce to the gynecologists of Philadelphia any innovation in the treatment of diseases of the uterus and adnexa, for he was well aware of their preference for the abdominal route. But he outlined the technic of vaginal hysterectomy, as it has been of great service to him during the past five years. After drawing down the cervix the first incision is made in the cul-de-sac, and of a crescentic shape. Anteriorly a similar incision is made. In both instances he exercises care in leaving a sufficient amount of vaginal tissue for the purpose of forming union. The finger is passed posteriorly as high as the fundus, for the purpose of detecting adhesions and to aid in pulling the organ into a better field for operating. If any adhesions be present they are gently detached by means of the fingers. The uterus is divided into halves, beginning at the anterior surface first and subsequently the posterior section is made by means of a bistoury and grooved director. Bleeding is controlled by means of large clamp forceps, after which the patient is placed in the Trendelenberg position, and the cavity packed with gauze, using as many as ten or twelve strips four inches wide. A retaining catheter is then inserted, and at the end of forty-eight hours a saline purge and enema are given. At the end of several days the packing and forceps are removed. He thought that the vaginal route had several advantages over the abdominal, from the fact that in the latter hernia was more common (3 per cent)., that adhesions between coils of intestines might occur, that there was greater danger of breaking up recent lymph formations, that a scar was produced and that shock was more common. The main contraindication to the vaginal route was when the uterus was situated high up or when it was abdominal. He had performed operations upon the uterus and appendages by the vaginal route 100 times, including such diseases as pyosalpinx, diffused suppuration, pelvic adhesions, abscesses, etc., without a death, and was under the impression that the vaginal route was the one of election in these conditions.

Dr. J. M. Baldy read a paper on

SURGICAL TREATMENT OF PELVIC INFLAMMATORY DISEASES BY ABDOMINAL METHOD.

Regarding the efficiency of the operation and the nature of the condition, each man must choose for himself. Regarding shock, he had seen only one case at the Gynecean Hospital during the past four years. There had been three cases of hernia, but since he had resorted to a new procedure in the abdominal incision there had been none. He thought that by the abdominal route it shortened the length of time of convalescence. He has seen patients able to leave the bed at the end of two weeks, while the vaginal operation required a longer period. In seventy-two patients operated upon there had been two deaths, one occurring three weeks after the operation, from obstruction of the bowels, the other from septic peritonitis. He thought all operators should bring the mortality below 6 per cent. by the abdominal method. The advantages of the method are that the ureters are not likely to be injured, no danger of forceps slipping; no shock; no hernia; no pain in the scar, and there is less likelihood of doing damage to the internal organs.

Dr. B. F. Baer thought the statistics of Dr. Pryor very alluring, those of Dr. Baldy almost as convincing, but he disagreed with both, that after the ovaries had been removed the uterus should also be sacrificed. It was his custom to leave the uterus because it was of great value as a support to the intestinal organs. From sentimental reasons, too, it should be left. In case of pyosalpinx and gonorrheal endometritis, he preferred leaving the uterus and had seen but little trouble. Complications might ensue, but in a very small percentage, and why should such an organ be removed to satisfy such a small percentage? By the abdominal method drainage was hardly ever required, while the vaginal method always required it, thereby being a possible means of infection.

Dr. Wells of the New York Polyclinic stated that when he first began investigating the claims of Dr. Pryor he was somewhat opposed to the vaginal operation, but now could entirely agree as to the advantages of his method. In doing the operation, however, more skill was required than in the abdominal. He spoke of a case in which sepsis had followed an operation, and in which there had been very high fever at the time the uterus was removed by Dr. Pryor's method, within forty-eight hours the temperature had dropped to normal.

Dr. John B. Deaver argued with Dr. Baldy in preferring the abdominal route, for adhesions could be better broken up, concealed abscesses evacuated, less risk of tearing the bowel, and less danger of injuring the ureters. It should be chosen because the surgeon could see every step he was taking, while in the vaginal operation this was impossible. In protecting the bowels he had stopped using pads and sponges, preferring loose folds of gauze in these cases. In opening the abdominal cavity he always selects that portion corresponding to the rectus muscle, because there is less danger from hernia than through the linea alba or linea semilunares.

Dr. Charles P. Noble preferred the abdominal incision. He had resorted to the vaginal operation in probably fifty instances, but each time loses faith in it. He was afraid of the drainage necessarily required. He had seen very few cases of shock.

Dr. H. D. Beyea read from statistics of Dr. Penrose who preferred the abdominal method. In 178 cases there had been but five deaths.

Dr. Pryor states that he always practiced conservative surgery and that while the abdominal method had certain advantages, his record upheld his claims for preferring the vaginal route.

Philadelphia Pediatric Society.

Meeting March 14, 1899.

Dr. C. S. Potts presented to the members of the society a case of

FRIEDRICH'S ATAXIA,

occurring in a girl aged 5 years. The symptoms had gradually developed, the most characteristic being marked inco-ordination in movements, especially on closing the eyes; patient rolls from side to side and would doubtless fall if she tried to walk; the jerky movements of the head were also observed, as well as a similar condition of the arms. The movements of the hands were very clumsy and she had great difficulty in picking up objects. A slight degree of talipes varus also existed. The eye ground was normal and the mental condition good. The facial expression was also quite characteristic of hereditary ataxia in that the face had a dull expression, mouth open, eyes partly closed or droopy. The patellar reflex was entirely gone.

Dr. J. P. Crozer Griffith stated that he had seen three cases of this disease last year in the hospital, and in all had met with twelve or thirteen cases. He thought the expression of the face in this patient quite typic. In one case he had seen, with symptoms of Friedrich's ataxia well marked, the diagnosis was chorea, due doubtless to only a superficial examination having been made. He thought many similar cases had been reported as chorea. Regarding treatment, he had several times resorted to suspension for long periods of time, but could not say that it had been beneficial. He asked Dr. Potts how he accounted for the patellar reflex being different in the case of Friedrich's ataxia and that of ataxic paraplegia, which Dr. Potts explained upon the ground that in ataxic paraplegia the area of sclerosis was higher up in the cord and more localized or circumscribed and the knee-jerk escaping, while in Friedrich's ataxia the areas of sclerosis were more diffused and as a rule situated low down in the cord, thereby causing abolition of the patellar reflex.

Dr. C. W. Lefever presented a case of

ACUTE DILATATION OF THE HEART,

with reference to the use of digitalis in the treatment of these cases. The patient was 4½ years of age; birth was normal; at six weeks of age it was put upon cow's milk, upon which it did well, cutting teeth at the proper time. The father and mother had been healthy, but there was a history of hemophilia in family. At the age of five months the child began to suffer with considerable cough and nausea at intervals; subsequently had an attack of pneumonia from which it recovered with much difficulty. Upon physical examination the following condition was found: Weight 28 pounds (May 10, 1898): marked cyanosis of lips; superficial veins distended; fingers not clubbed, but hands and feet cold; chest in region of precordia has a bulging appearance; over this area a thrill was detected on palpation, especially in the region of the sixth interspace. The liver dulness had never been increased upward, the dulness being found in the eighth interspace; liver dulness extended downward as far as the anterior superior spine of the ilium and as far to the left as the spleen. The left lobe of the liver was considerably enlarged. Some pain was manifested on pressure over the enlarged liver. The lungs were hyper-resonant. A loud systolic murmur was heard over the apex of the heart. The patient had been confined to bed and given a nutritious diet. The feet and legs had been wrapped in blankets. Tincture of digitalis had been given, 5 drops three times daily, and gradually increased to 15 drops three times daily at the end of six weeks' time. For a while as much as twenty-four drops had been given three times daily, with no bad results. Within a short time after digitalis had been given the liver dulness began to decrease in area, with gradual abatement of the symptoms except that the thrill and heart murmur were still present. At the present time the child appears to be in good condition and weighs forty pounds. The edema of the hands and feet has disappeared. Some tenderness still exists over the liver, the dulness in this region extending from the eighth interspace to one inch below the costal margin on right side. Dr. Lefever was under the impression that the case was one of dilatation of the heart and that digitalis had done much good, in that it had a trophic influence upon the heart muscle, and in relieving the engorgement of the liver and peripheral circulation.

Dr. A. O. J. Kelly desired to know why the case should not be looked upon as being due to endocarditis rather than as dilatation.

Dr. J. P. Crozer Griffith was not quite certain from the examination that mitral stenosis could be entirely excluded.

Dr. Graham stated that the effects of digitalis upon the heart muscle had been worked up pretty thoroughly by Dr. H. A. Hare, several years ago. Dr. Hare had taken four pigs, from a litter of eight, and had given them powdered digitalis. Later, all were killed, and in those which had been given digitalis the heart muscle in each instance weighed more than in those which had had no digitalis.

Dr. Lefever, in reply to Dr. Kelly's question, stated that he had based his diagnosis upon the fact that the onset had been slow, that a physical examination had revealed the symptoms of dilatation, that the hands and feet were cold and with a certain amount of edema existing, that the superficial veins were engorged, that high fever had been absent, and that he did not find the most important symptoms of endocarditis present.

Dr. J. H. Jopson exhibited a case of

PATULOUS MECKEL'S DIVERTICULUM,

through which the feces were being extravasated. The patient was four months old, and the family history negative. The umbilic cord had dropped off at the end of four days. On the second day there had been an enlargement in the umbilicus region, followed by formation of a fistulous tract through which feces began to be extravasated. A considerable amount of granulation tissue had formed around the opening, into which opening a probe could be passed.

Dr. T. S. Westcott exhibited a graduated glass jar which he had found serviceable in estimating amount of sugar of milk rather than having the substance weighed.

Dr. F. S. Pearce read a paper on

TRAUMATIC NEURITIS WITH COMPLETE MONOPLEGIA OF RIGHT FOREARM.

A boy, 14 years of age, had sustained a fracture of the forearm, union taking place in due time, though motion was not established. There was paralysis of both motion and sensation of the right forearm. At the end of several months there was no improvement, and an operation was performed by Dr. Charles H. Frazier. The musculospiral nerve had sustained considerable damage and was firmly bound down by adhesions. The adhesions were broken up, the nerve dissected from its bed, after which the wound was closed. After union was firm, massage was resorted to. The boy is now able to grasp some objects quite firmly and can write his name. Sensation is returning and he can move the hand moderately well.

Dr. L. J. Hammond read a paper on five cases of cerebellar abscesses treated in children. Regarding the etiology of this condition, he thought diseases of the nasal and tympanic cavities responsible for most of the cases; mastoiditis very frequently gave rise to cerebellar abscess. The most typic symptoms were contraction of the forearm, outbursts of crying or muttering, inability to comprehend questions asked, pupils dilated, absence of optic neuritis, pulse about 110, glycosuria and symptoms of involvement of special nerves according to region affected. Trephining is indicated at the earliest possible moment.

Dr. J. P. Crozer Griffith read a report of several interesting cases he had treated. The first case was one of acute yellow atrophy of the liver occurring in a child 7 years of age, with all the typic symptoms, jaundice, diminished liver dulness, light colored stools, and the presence of leucin and tyrosin in the urine. The second case was one of angioneurotic edema in a child 2 years of age. Urticaria was an intercurrent complication during the attack. Dr. Griffith also spoke of two cases of masturbation. In the first instance the child was only six months of age, and in the second, thirteen months. He could not state definitely that the habit was due to hereditary influence. He had examined the region of the clitoris in both instances, but found no accumulation of smegma, to which some writers have attributed the cause of this vice. Regarding treatment, he thought some mechanic device should be used so that the thighs could be kept apart. The third case was one of nervous incontinence of feces.

Dr. J. H. McKee read a paper on

INFLUENCE OF PLAY ON DEVELOPMENT OF CHILDEEN,

in which he thought that the play brought into action all of the stimulus necessary for the full development of both the brain as well as the muscular system. To play, he contended, was the natural bent of the child, and as it was entered into zealously was most necessary to complete the development of both male and female offspring.

Dr. George H. Woodward read a paper on "Streptococcus Infection in Milk." In one instance a microscopic examination of milk had detected pus-cells and streptococci. Those who had used this milk had been repeatedly rendered unwell.

Philadelphia Pathological Society.

TYPHOID ULCERS.

Dr. Joseph Sailer presented a specimen showing typhoid ulcer in a Meckel's diverticulum. The specimen had been obtained from a person with well-marked lesions of the disease in the small intestines, and is of interest from its rarity.

Dr. David Riesman read a paper and presented a card specimen of a case exhibiting typhoid ulcers in the esophagus. The patient, a boy 17 years of age, had presented a well-marked attack of typhoid fever, and a positive Widal reaction had been obtained. At the autopsy quite a large number of typic ulcers were found in the smaller bowel, having a longitudinal direction and a tolerably well-marked area of congestion at the base. On opening the esophagus, three ulcers were found to be present, the upper one being several millimeters distant from the gullet, the second and third immediately below. All these ulcers had a longitudinal direction and their edges presented a velvety appearance and, mounted on an inflammatory base, they macroscopically presented all the characteristics of ulcers occurring in other portions of the body in this disease. At the apex of the right lung, a moderate-sized patch of lung was found in which a croupous pneumonia had begun. The heart was especially interesting from the fact that the pulmonary valve was composed of four leaflets and the aorta was very small. He thought the size of the aorta had something to do with the unfavorable symptoms which manifested themselves toward the close of the disease. Cultures had been made of the cerebrospinal fluid and that from the pleural cavity by Dr. L. Napoleon of Boston. They showed the presence of micro-organisms having the characteristics of the colon bacillus. He had not found the Eberth bacillus in the ulcers from the esophagus. He thought that possibly the reason ulcers were not more frequently found in this region was because they were not looked for, and that their presence in unsuspected cases might account for stricture of the esophagus, which had been noted in one or two instances, one being reported by Osler.

Dr. H. A. Hare emphasized the importance of ulcers frequently found in the vermiform appendix, and of their being the etiologic factor in the production of appendicitis, by no means a rare condition during the course of typhoid. He cited instances to show that typhoid ulcers had been found in various portions of the alimentary canal, and stated that this fact of the distribution of the disease throughout the system might account for the troublesome complications of the inflammation of the pharyngeal tonsils, which are frequently noted.

Dr. Alfred Stengel had, in quite a number of autopsies, made at the German Hospital several years ago, found typhoid ulcers of the vermiform appendix so frequently that he had ceased to note it as being a rare condition. In some instances he had found multiple ulcerations. Ulcerations had been found when the appendix was patulous, or when it was closed.

Dr. D. L. Edsal spoke of certain instances in which a chronic form of pharyngitis had been noted during the course of typhoid fever.

Dr. Hare stated that after carefully looking over the literature on typhoid ulcers he had found that as far back as 1827 one author had noted this occurrence as being quite common. For several successive years typhoid ulcers were reported; then for forty years or more a period of quiescence occurred, and now we are beginning to find them again.

Dr. Joseph Sailer and Dr. Llewellyn reported a case of

MENINGITIS FOLLOWING ENDOCARDITIS.

At the autopsy it was found that certain sclerotic areas were found both on the upper and lower portions of the middle lobe of the cerebrum, as well as in several other regions. It might be possible that in certain cases in which epilepsy manifested itself later in life, the attacks might be due to a localized meningitis having occurred during infancy.

Dr. William G. Spiller spoke of the morbid anatomy and its mode of production, which he thought primarily originated from the irritation of the nerve-cells, subsequently affecting the neuroglia tissue.

Dr. Alfred Stengel presented a specimen of

COLLOID CARCINOMA OF THE STOMACH

with peritoneal extension and metastasis, and called attention to the small size of the cavity of the organ, which was not much larger than that of the large intestine, the pyloric orifice being only of minute size. The walls of the stomach were from one to two centimeters in thickness in certain areas; metastasis had occurred in the surrounding peritoneal surfaces, producing a very large mass which had been easily detected by palpation. Quite a large number of nodules studded the surface of the right lobe of the liver on its under surface and posterior edges. Along the anterior edges there were no nodules which could be elicited by palpation. On making a section of the whitish nodules the milky or cheesy mucoid substance exuded. He referred to the teaching of some authors, of the slowness of metastasis in cases of colloid cancers, doubtless due to the material of which it was composed.

Dr. Hare spoke of one or two instances in which death had occurred from carcinoma of the liver and in which no nodules could be detected on palpation.

Dr. Wm. G. Spiller presented a specimen of brain showing the effects of an

INTERNAL HEMORRHAGIC PACHYMENINGITIS.

In this case the calvarium was removed with great difficulty, on account of the adherent dura. On detaching the dura it was found that it was composed of two separate and distinct membranes. Quite a large collection of blood had exuded when the brain was exposed.

Dr. Wm. L. Coplin spoke of

JENNER'S NUCLEAR STAIN,

which he said gave good results. In certain instances he had noticed that the washings which were derived from the precipitate formed by the mixture of eosin and methylene blue had been found to act admirably as a nuclear stain.

Wayne County Medical Society.

Regular Meeting, March 16, 1899.

Dr. J. A. Patton read a paper before the society on the subject of

BILIOUSNESS.

The Doctor referred to the apparent triviality of the subject and the general lack of attention given it by the average physician. He declared, however, that biliousness is most important, not only because it may be the condition which is liable to render one susceptible to the successful attack of some grave disease, but also because it is a factor to be reckoned with in the treatment of most acute diseases sooner or later. "Indeed," he said, "the treatment of typhoid fever itself resolves to a greater or less extent into the treatment of the results of biliary insufficiency and the consequent fermentation and putrefaction of intestinal contents." He further said that often symptoms of a grave constitutional disease are developed and cause the attending physician a great amount of study and care, leading him to predict an attack of meningitis or an approaching fever, when the light of later events reveals that the case is only an attack of biliousness.

Biliousness was described as a term used to designate a condition of the system rather than a disease, a condition depending upon a lack of the bile, its retention in the bile-ducts or a perversion of its functions. The symptoms enumerated by the author include the following: dizziness; depression; languor; headache; pasty, coated tongue; anorexia; usually jaundice; scanty, highly-colored urine; clay-colored, pasty stools; flatulence and discomfort, and pain throughout the body, described by the patient as "bone ache." The attack is usually slow in onset; sleep is disturbed and unrefreshing, the appetite is disordered; the bowels are irregular and jaundice usually develops. There may be chills and fever or a subnormal temperature. In advanced cases nausea and vomiting often occur, the vomit usually containing bile which has been regurgitated from the duodenum. The etiology, as given by the Doctor, depends, primarily, upon indigestion and the consequent fermentation and decomposition of the food in the alimentary tract; secondarily, upon changes in the bile itself, with a further derangement of the whole digestive apparatus. The pathologic conditions given by the author were principally those of the liver. The functional disturbance in the alimentary canal leads to disordered nerve action in the liver; the bile is changed in quality and is retained in the ducts; the liver fails to eliminate the toxins from the blood sent to it and these circulate throughout the system, producing all the mental and nervous phenomena. The treatment outlined was dietetic and medicinal. Proper food or even fasting at first, calomel, ipecac, sodium phosphate and bicarbonate, podophyllin and aloes were the most important remedies given.

Orleans Parish Medical Society.

New Orleans, March 11, 1899.

Dr. M. J. Magruder reported a

CASE OF PARTURITION IN A GIRL OF TWELVE YEARS.

The patient, white, was born in April, 1886, and began to menstruate during the summer of 1897; menstruation ceased in February, 1898, when she was but 11 years and 10 months old. The period of gestation was uneventful. Labor came on at 3 P.M., Nov. 21, 1898, and terminated at 1 P.M. the following day. After the birth of the child, which weighed nine pounds, and is believed to be the largest on record born to a mother of this age, profuse hemorrhage occurred from the relaxed uterus. The placenta was removed with the hand in the uterus, and hot water was injected into the uterine cavity. The temperature of the injections was such as to destroy the lining of the organ, which was thrown off in a complete cast in a few days. The constitutional effect of the hemorrhage was profound; the girl became unconscious and pulseless. Strychnin, atropia, nitrogen and digitalin were given hypodermatically (ergot had been injected as soon as the hemorrhage occurred). Hypodermatoclysis was resorted to, between one and one-half and two pints of saline solution being injected under the skin over the abdomen. After two hours the radial pulse was again palpable; nine hours later consciousness returned. Convalescence was speedy.

Dr. H. A. Gabert exhibited the photographic negative of a case which he promised to report in full at a later date. It was that of a woman who had suffered with rheumatic symptoms for many years; gradually the upper part of the spine had become bent forward until the chin rested on the chest, and extension of the neck could not be effected. The latter condition has now existed for three years.

Chicago Academy of Medicine.

Meeting of Feb. 28, 1899.

(Concluded from page 611).

FORENSIC RELATIONS OF NEPHRITIS.

Dr. Harold N. Moyer—There is practically nothing written upon the forensic relations of the kidneys. There is an entire absence, considered apart from the mere report of cases, in the systematic treatises on legal medicine; yet the subject is one that is not devoid of interest from a medicolegal standpoint. We are to remember that the kidneys are vital organs, and there is no vital organ but what has important medicolegal relations. The ordinary injuries and accidents to which the kidney is liable are met in court by the ordinary knowledge possessed by physicians; therefore, we will not burden you with a description of chance cases as they may present themselves, because they can be dealt with from our general surgical and medical knowledge.

I want to call your attention especially to two legal relations which the kidneys have, and which are not referred to in the books. The first deals with the possibility of an injury to the kidney, shown by the presence of blood sometimes, by the presence of albumin always, and sometimes casts in the urine. I have met three such cases which were subjects of medicolegal inquiry, the parties having brought suit for the injuries. Part of the symptomatology of those cases were those named.

One longer under observation than the others was a man injured by being run over. A heavy wagon passed over the loins, and among some rather insignificant nervous symptoms he presented a copious hematuria, followed by albuminuria and casts in the urine. This lasted for some weeks. There were no vascular changes, and prior to the accident in question the man had always been well. He made a perfect recovery. I examined his urine at intervals for two years following the injury. I believe he sustained a serious injury to the kidney, which produced albuminuria and casts, and which subsequently cleared up. I have seen two similar cases, but not so well studied. It is possible that injuries of the kidney may have a medicolegal interest in a case of ordinary damage suit.

The other point to which I would specially direct attention is uremia, and Dr. Preble has fortunately saved the necessity of general remarks on that subject. I agree with his endorsement of Bouchard's views. We may have uremia without appreciable alteration in the kidneys. I believe that it is responsible for some cases of sudden death. Cases are met with by those who make examinations of dead bodies to ascertain the cause of death for medicolegal purposes in which absolutely no change can be found in any of the vital organs—the brain, heart, lungs and kidneys are seemingly normal. Death by the heart or by the brain almost always leaves distinct traces that can be seen post-mortem. I have believed for some time that uremia explains some of the peculiar, and by no means rare, cases. The experimental data which have been accumulated regarding the relation of the kidneys can not be explained on any other theory than that in uremia we have an exceedingly complex poison, not necessarily one that fails to be eliminated by the kidney. These symptoms may gradually appear from some disturbance in the metabolism of the tissues or glandular organs other than the kidneys, and present identic symptoms with those that follow advanced kidney disease. I believe some of the cases of sudden death attended by coma are explainable in this way. The subject is an important one from a forensic standpoint.

BIOCHEMISTRY OF NEPHRITIS.

Dr. John A. Wesener—The standard specific gravity for normal urine is usually given as 1018 to 1030. This, however, is only a rough index, as it may be as low as 1002 or as high as 1035, and still remain a normal urine. Hysteric and nervous individuals excrete a large quantity of urine, the specific gravity of which is low. On the other hand, inactive individuals excrete a concentrated urine of high specific gravity. They are usually poor water drinkers, but hearty eaters. In an examination of 3000 urines, we found that 74 per cent. had a specific gravity of 1018 or higher; 26 per cent. were below this standard. Twelve hundred of these contained either albumin, casts, blood, pus or sugar. Out of 901 pathologic urines, 68 per cent. gave a specific gravity of 1018 or more, with 32 per cent. below that.

Taking all the urines as they come to the laboratory, we find a normal specific gravity in about 75 per cent. of them. Forty per cent. of all urines with a specific gravity below 1015 were pathologic. An exact deduction from these figures can not be given, inasmuch as the total quantity passed for the twenty-four hours was not always designated. Under the pathologic urines we find the specific gravity normal in 68 per cent.; but no practical conclusions can be drawn from this, as a large number of these were from cases of acute nephritis, glycosuria, hematuria and pyuria, in which case the specific gravity is usually above 1018.

Urea is one of the end-products of nitrogenous metabolism. The normal amount varies between 2 and 3 per cent. during the twenty-four hours. It is formed in the liver from the peptones, and in all cells from the oxidation of protoplasm. Inasmuch as it is very soluble in water, we have the right to assume that if the kidneys are able to excrete water they will then also excrete the urea. According to Bouchard, 6.31 grams of urea are necessary to kill one kilogram of animal. To kill a man, therefore, of 60 kilograms weight, it would require 380 grams of urea at one dose. Or take it this way: A 60-kilogram man excretes 20 grams of urea in twenty-four hours; in order to produce the grams of urea necessary to fatality he would be 19 days making it, without any elimination during all of this time. Urea is nature's diuretic, and to my mind should be used in preference to all others. By some, urea is supposed to be toxic, doubtless associating the term "uremic coma" with this harmless compound. Others claim that it is non-toxic, but when greatly diminished should then be taken as an indication of the retention of other toxic products found in the urine. Why not go a step further and say that the total amount of urine excreted with a normal specific gravity should be taken as the index?

Out of 741 urines which contained no albumin, sugar, casts, etc., 53.3 per cent. contained the normal amount of urea. This goes to show, as I have already stated, that if urea is formed in the body, and the kidneys are able to excrete water, they will also eliminate the urea. The total amount eliminated varies with the kind of food taken. Nitrogenous food increases it, not alone on account of the proteids ingested, but because this increase stimulates cellular activity, and consequently increases oxidation. On the other hand, carbohydrates do not furnish nitrogen to the body, hence oxidation is decreased and the proteid matter is not expended.

Charrier claims that healthy individuals excrete normally three grams of potassium chlorid daily, whereas nephritics usually have retention of one-third to two-thirds of this amount. In one case he found in the vomited matter a large increase in the potassium salts, and in three other cases he found an abnormal increase of this salt in the urine. Bouchard found in his investigation along this line that most of the toxic action of urine, both normal and abnormal, depended on the potassium salts. Aiello and Cacace show that the urine of nephritics is most toxic when nitrogenous food only is taken; less on a mixed diet, and least on a strictly milk diet. Kolich's work proves that the total alloxan bases in nephritics are not diminished. To my mind, too much stress has been laid on the total output of solids in nephritic urine. If you diet an individual, giving largely milk, etc., you can not expect as large an elimination of urea and other products, as you would on a full diet.

Not long ago it was supposed that serum albumin was the only proteid of importance found in the urine. To-day, urine is tested not only for serum albumin, but for globulin, oleoresin and peptones. This certainly makes it somewhat more difficult for the ordinary practitioner to make a correct differentiation. Of 901 pathologic urines, 13.7 per cent. contained albumin and casts, with a specific gravity of 1018 and higher; 8 per cent. with casts and albumin had a specific gravity below 1018; 2 per cent. contained only albumin. My object in giving these percentages is particularly for the purpose of discussing so-called physiologic albuminuria. I make the statement yearly to my class that I believe the number of undiscovered cases of acute nephritis which recover is greater than those diagnosed and treated.

Arnozan stated that certain authors, Senator in particular, admitted that albumin was a normal element of urine, but this opinion is rejected at the present time by the majority of chemists and physicians. Others, such as Capitan, Leube and Stewart, thought that albumin might exist in the urine accidentally and in a transitory manner; that is to say, that there is a physiologic albuminuria independent of all diseases. According to Lecorche and Talamon, all albumin is pathologic. L. Pizzini also states that all albuminurias are pathologic. He differentiates spurious albuminuria from genuine albuminuria. It seems that this experimenter followed the same method of concentrating the urine (after dialyzing), but removed the globulin body which is nearly always present, by the use of a saturated magnesium sulphate solution, and then testing the filtrate for albumin. He states most positively that when albumin was found it always indicated that there was a lesion in the kidney. As normal urine contains leucocytes and epithelium, it naturally would follow that a trace of globulin is always present. Peterson and Paykull found one case of genuine albuminuria out of seventy cases of normal individuals examined.

The total per cent. of proteid matter found in these urines was 14.3 per cent., but with the one exception, these were all of a mucin or nucleo-albumin nature. To study this question experimentally, I put three normal individuals on a diet of raw eggs given at breakfast time; the urine passed was collected during the forenoon and tested for albumin, the results being entirely negative. The test employed would show as little as one part in 120,000.

I have had an opportunity of examining a number of cases of transitional albuminuria. In these casts were seldom found; yet I consider these cases as pathologic. If we take into consideration the metabolism of the nitrogenous food, several changes in its molecules must be thoroughly understood. Some of the peptones are probably absorbed by the liver and there burned up into urea; whereas most of the peptones pass through the intestinal wall and are changed into serum albumin. Egg albumin can not readily pass through, because it is not dialyzable. Furthermore, it is a foreign body to the organism, and as such could not be utilized. Serum albumin, on the other hand, is physiologic to all tissues. If it is increased in the blood-vessels, it must be gotten rid of by being stored up or removed by increased metabolism. It is not removed by a normal kidney.

In condensing these statements, it must be admitted that a urine can not properly be called pathologic unless all the facts are thoroughly considered. The specific gravity and urea can not be taken as an infallible standard. The presence of albumin, in the absence of casts, does not necessarily mean symptomatic kidney disease. A few hyaline casts, with specific gravity normal, does not necessarily mean symptomatic kidney disease.

GASTRO-INTESTINAL DISEASE IN RELATION TO NEPHRITIS.

Dr. Fenton B. Turck—Remarkable as it may seem, there is really extremely little known of the conditions of the stomach and intestines in cases of nephritis, and still less, practically nothing in fact, is known of any causal relations that may exist between gastro-intestinal diseases and nephritis with albuminuria. The reason our information on this subject is so meager is largely to be found in the fact that up to the very last few years we have had no means of making any exact observations in regard to the conditions of the gastro-intestinal tract. We thus find, on the one hand, that observations which have been made on the subject concern almost exclusively the chemistry of the stomach, together with a very few observations in regard to disturbances of motility, and these observations, moreover, do not at all agree among themselves, and they are, as Riegel points out, altogether too scanty, and probably too inaccurate, to permit us yet to accept any conclusions drawn from them.

Thus we find that Schneider, Krowkow and Zipkin have recorded some observations on the stomach contents, but as hypo-, hyper- and anacidity are recorded, and one condition about as frequently as any other, we can draw no conclusions whatever from their results. Biernacki, who has reported some twenty-five cases, found HCl either diminished or absent in all these, and further reports what he considers increased motor activity for a number of the cases.

Notwithstanding the few and scanty results which have so far been obtained from a study of the gastro intestinal tract in nephritis, the subject must be considered extremely important, and further and more careful work will surely bring out facts of the highest importance to the right understanding and treatment of this disease. That this must be so is evident when we consider that the gastro-intestinal tract acts vicariously for the kidneys when the latter fail to properly eliminate the substances that they normally excrete. Among the excretions normally eliminated by the kidney are a number of substances which produce so-called uremia, toxic substances which enormously aggravate the condition of the patient, if allowed to accumulate in the system. These substances must largely be eliminated through the gastro intestinal tract, or they will accumulate and will then rapidly intensify the progress and the complications of the disease. Dietetics is, moreover, already recognized as the most effective and, in some cases, the only way by which we can retard or check the disease, and it is evident that no dietetic treatment can succeed unless we know the condition of the digestive tract. Gastro-intestinal disorders, moreover, will not only often make a cure of nephritis impossible, but such disorders can also, in all probability, be looked upon as one of the causes of the renal disease, since in such gastro-intestinal disorders the toxic substances producing kidney lesion may be largely produced in the digestive tract itself. A thorough investigation of the gastro-intestinal tract is therefore absolutely essential to rational therapeutics in nephritis.

In the course of the past few years I have had occasion to examine a considerable number of nephritic patients with regard to the symptoms and pathologic conditions found in the digestive tract. The symptoms may perhaps conveniently be divided into two classes: 1, such as are purely gastro-intestinal symptoms; 2, symptoms of uremia, modified or intensified by the gastro-intestinal disorder. The first group include such symptoms as are generally ascribed to indigestion: eructation of gases, pressure and heaviness in the epigastric region, pain and distress, etc., vomiting, intestinal disturbances, constipation and diarrhea. Hematemesis and hemorrhage of the bowels need not be considered here, because these are usually due to the same vascular changes that occur in other parts of the body, and they are, therefore, not peculiar to the stomach and intestines. The second group of symptoms found in nephritis are those of uremia. These symptoms are also found in cases where there is no nephritis, and are moreover, in cases of nephritis, often so masked by other gastro-intestinal symptoms that it becomes impossible to tell which are due to the kidney lesion and which to the gastro-intestinal disorder. Some of these uremic symptoms, moreover, disappear as the condition of the digestive tract is improved.

In regard to the pathologic conditions found, I must state that I have so far observed chiefly chronic nephritis. The pathologic conditions in these cases are: 1. Chronic gastroenteritis, characterized by large accumulations of mucus which may sometimes be of a thick, ropy character, or simply accumulations of mucus on the walls, and can be easily removed by means of the gyromele, followed by the needle douche. 2. In lavage of the colon I have frequently found large amounts of scybalous masses mixed with mucus, or large, flat membranous substances, composed mostly of mucin and exfoliated cells from intestines and colon. The mucus is often mixed with leucocytes and colonies of bacteria. 3. One of the most common conditions found is the atony of the gastro-intestinal tract, which invariably results in retention of materials which undergo decomposition, and further affects the kidneys by throwing into the circulation substances that are partly digested, and other toxic substances, which increase the work of the already crippled organ, the kidney. It might be assumed that the catarrhal condition and the atony of the gastro-intestinal tract may be due to toxic substances acting either directly upon the gastro-intestinal walls in the process of their elimination, or indirectly through the action of these toxic substances upon the nerve-cells, or upon the vascular area of the stomach and intestines, and this indirectly produces the pathologic conditions found. Whatever view may be taken of the subject, the fact which deserves attention is that atony and disturbances of motility are the chief pathologic conditions found, and when these conditions are restored, not only is there an improvement in the gastro-intestinal and uremic symptoms, but also often a disappearance of the albumin and casts in the urine. This is not only true of intestinal albuminuria, but I have also found the same marked, general improvement to follow an improvement of the gastro-intestinal motor power, even when the nephritis was seemingly the direct result of typhoid fever and septicemia. Taking into consideration those facts concerning the gastro-intestinal tract in nephritis, it is evident that due regard to the condition of the digestive tract becomes highly important in any successful course of treatment. The points to be sought in such treatment are: 1, an increase of the nutrition of the patient; 2, reduction to a minimum of the formation of toxins. Both these points are to be obtained by improving, if possible, the preparation of the food in the stomach by improving the churning, the motor, and the secretory power of this organ, and by improving the circulation of the gastric and mesenteric vessels, whereby the disturbances in the renal circulation are also indirectly relieved. My methods for accomplishing these ends are by this time reasonably well known, and, therefore, need no discussion here.

In conclusion, I wish, however, to call your attention to one important point, namely, that by the use of heat in the splanchnic area we not only stimulate the mesenteric but the renal vessels as well, and this treatment, as used in my practice, may have quite a decided effect upon the kidney. To this effect is further added that of a much increased peripheral circulation, and consequent elimination of toxic products through the skin. It may perhaps not be amiss to point out that by improving the mesenteric circulation and the motor power of the stomach and intestines, we also increase the eliminating power of the gastro-intestinal tract to a maximum, thus relieving the kidney and giving it a chance to recover.

OCULAR RELATIONS OF NEPHRITIS.

Dr. J. G. Huizinga—There are two ways in which vision may be impaired as a result of nephritis.

In the first place there are those cases in which the visual centers are primarily affected as a result of the blood being surcharged with excretory matter. There will be sudden blindness coming on shortly before the attacks of acute uremia, accompanied by severe headache, dizziness, and all the characteristic symptoms of disturbances of circulation in the brain, lasting during the attack and sometimes for days or even months afterward. Ultimate restoration of vision is the rule. The fundus in these cases presents nothing abnormal.

In the second place, there are those cases in which the impairment of vision is due to pathologic changes in the retina itself, which are undoubtedly the result of a diseased condition of the blood-vessels. The retina does not receive its proper nutrition, resulting in a fatty degeneration often in the neighborhood of the macula, characterized by a stellate figure, which is nothing more than a fatty degeneration of the radiating fibers of Mueller. There may also be an inflammation of the optic nerve, a true papillitis, with enlarged and tortuous veins and narrowed arteries. There are almost always, or in the majority of cases at least, hemorrhages in different parts of the retina. If these are in the neighborhood of the macula there will be great impairment of vision. There may be plaques of exudate covering part of the retina, usually in the neighborhood of the disc, sometimes assuming the form of miniature snowbanks, as de Schweinitz mentions, I believe, which are quite large at times and may interfere very much with vision. However, the largest majority suffer no impairment of sight, because the macula has not been encroached upon either by exudates or hemorrhages.

The trouble that first compels a certain percentage of these patients to seek medical advice is the failure of vision. The physician, noticing the conditions in the fundus, orders an analysis of the secretions from the kidney and thus arrives at a diagnosis of nephritis. The percentage of cases in which the retina is affected is about 30 to 35. This varies according to different authorities. According to latest investigations, the percentage of cases in which the retina is affected has been underestimated rather than overestimated. In a large number of cases of nephritis the retina is never examined, because there is no occasion for it, but lately some investigators—I forget their names just now—have taken the trouble to make an ophthalmoscopic examination in every case of nephritis they met with, and have found a larger percentage of retinal troubles than they would have found had such an examination been neglected. The point is this: unless the pathologic changes are in the neighborhood of the macula, the chances are that the acuity of vision will not be impaired and consequently neither the attention of the patient nor that of the attending physician is directed to the eye, while, if an ophthalmoscopic examination were made there would undoubtedly be found many cases in which cross-lesions in different parts of the retina would be present.

Dr. Reuben Peterson—While the facts presented by Dr. Ferguson are no doubt interesting, in that pain supposedly located in the kidney and due to disease of that organ disappeared after operation, I am not at all convinced that in all the cases reported nephritis existed. Dr. Wesener has brought out the fact that it is at times an extremely difficult procedure to make a diagnosis of nephritis by mere examinations of the urine, which reveal a small amount of albumin and perhaps hyaline casts. Certainly, mere pain in the kidney does not justify us in making a diagnosis of nephritis. We must, on the other hand, accept the diagnosis in those cases where a portion of the kidney was subjected to microscopic examination. Even here we must be careful not to ascribe too great benefits to the operation because of pain and other symptoms decreased in severity. If, as stated by Dr. Preble, the changes in the kidney in nephritis are parenchymatous and interstitial, I can not see how the mere splitting of the capsule of the kidney can produce any lasting benefit. I understand that Dr. Ferguson is contemplating some experimental work along these lines, and I am sure we shall watch with interest the results of these experiments.

Dr. R. B. Preble—I would like to call attention to the looseness with which some of the members have used certain words. In the first place, Dr. Pusey uses the word "albuminuria" as synonymous with "nephritis." They are not synonymous terms. Albuminuria is one condition, and nephritis another. Albuminuria is a symptom of nephritis, and we sometimes have cases of nephritis without albuminuria. Then, too, I think Dr. Paddock spoke of puerperal eclampsia and nephritis in its relation to pregnancy as being synonymous. They are entirely distinct from each other. These criticisms, however, are not of very great importance. But I think a special criticism ought to be made with reference to the use of the word "nephritis" by Dr. Ferguson. Properly speaking, it would be a diffuse inflammation of the kidney.

There are certain forms of inflammation of the kidneys which are susceptible of surgical treatment. These forms of inflammation of the kidney, however, present a quality present in all afflictions capable of surgical treatment—they are local. These are the so-called pyelonephritis, ascending inflammations from the pelvis of the kidney. The bulk of the cases reported by Dr. Ferguson are instances either of this form of inflammation, or of some other localized inflammatory process. For example, the cases in which a number of cysts or abscesses were punctured are of this sort, and have little or no bearing upon the subject of nephritis.

In regard to the last two cases, the report is interesting. So far as the result was concerned in the case where the woman complained of dorsal pain, relieved by operation, I do not think it has very much, if any, bearing upon the question of the surgical treatment of nephritis. Splitting the capsule I consider a dangerous procedure, as well as useless, because in chronic nephritis the capsule would be relaxed. In acute nephritis the capsule is tense because of the swelling. In such cases puncture of the capsule would possibly relieve the pain of which some of these patients complain. The prognosis is so good in the acute cases that they either recover spontaneously, or at least with care and good management, and serious operative procedure is unnecessary. We must not forget that the cortex of the kidney is to a certain degree nourished by the vessels derived from the capsule, and when we deprive them of their blood-supply we bring about resulting alteration of tissue. While Dr. Ferguson's paper was interesting, still the bulk of the cases do not apply to nephritis at all, and the latter cases which were demonstrated to be nephritis have not recovered from their nephritis, but have been relieved of a purely subjective symptom.

Dr. Alexander Hugh Ferguson—With reference to the etiology of nephritis, history is replete with instances of the disease following unsuccessful operations, not only on the urinary tract, but on the fingers and toes. I do not claim that all cases I mentioned from the literature of the subject were cases of nephritis. I gave it as my opinion that very likely they were nephritis and not nephralgia, as given by the authors who operated on those cases.

With regard to tension, every inflamed organ has tension. Every inflamed organ that has a capsule like the kidney must have intracapsular tension, and there is an indication in these days to relieve tension on those general surgical principles that apply to other parts of the body. Puncture would relieve the inflammatory exudates over the inflamed kidney or organ. The condition first begins with vascular changes, with the determination of blood to the part, and this may continue as a subacute condition. We may have an effusion of serum or blood beneath the capsule, and why not relieve it?

With reference to the slight nutrition the capsule affords to the cortical substance of the kidney, while that is true in the normal kidney, it is readily cut off by inflammatory changes in acute cases, and I doubt whether in any of the chronic inflammations of the kidneys we find any nutrition whatever coming from the capsule to the cortex of the kidney. In fact, to remove the cicatricial capsule would be only to relieve the kidney and to give more determination of blood to it from within, and also allow healthy surrounding structures to come in contact with it.

The only two cases which I positively stated were instances of nephritis are those which I gave *in extenso*, and furnished you absolute proofs.

Much might also be said with regard to chronic cysts of the kidney, and the probable benefits to be derived by exploration and puncture of the cysts. It is not necessary to give general anesthesia in many of these cases. I have explored and drained kidneys by the aid of local anesthesia. The lumbar route to these organs is safe, and no important structures are met with that need debar us from carrying out surgical treatment, when indicated, in Bright's disease.

Practical Notes.

Ointment for Hemorrhoids.—The *Gaz. degli Osp.* of February 7 publishes Kossobudski's formula as follows: chrysarobin .8 gm.; iodoform .3 gm., extract of belladonna .6 gm., vaselin 25 gm.

Mercurial Syrup for Syphilis.—The favorite prescription at the Paris Saint-Louis for the tertiary manifestations of syphilis, and also the cutaneous and organic, is called "mixed syrup," and contains one centigram biniodid of mercury and a gram of potassium iodid to the tablespoon. Formula: Hydrargyrum di-iodatum .1 gm., potassium iodid 10 gm., simple syrup 200 gm.

Lamp-Shade For Nose and Throat Work.—An excellent shade to be placed over a straight lamp-chimney may be made of Russia glazed tin with an aperture about its center. The aperture should be of a slightly oval shape two inches long and an inch wide. This shade, when placed around a Welsbach light, produces an intense and excellent light for nose and throat work.

Purulent Pericarditis.—Ljunggren reports a case of purulent inflammation of the pericardium cured with incision and drainage. Puncture and drainage he considers dangerous and ineffective. An opening must be made large enough to remove the mass of fibrin, and in such a place as to favor the drainage of even the posterior portion of the pericardium. The after-treatment is of great importanee, as the pus and fibrin must be entirely evacuated to enable the pericardium to contract. and without the formation of fibrous connective tissue.—*Nord. Med. Ark.*, ix, 6.

Yellow Oxid of Mercury Salve.—This salve is decomposed not only by the light, but also by the action of the fatty acids developed as the fats become rancid. Schanz therefore recommends the following formula to avoid decomposition: Yellow oxid of mercury, recently prepared, .01 to .05 gm., lanolin and aq. dest., āā 2 gms; vaselin, q.s. for 10 gm. Sig. In black glass.—*Nouveaux Remèdes*, 1899, No. 2.

Absorbing Capacity of Children.—W. Jakubowitsch states that absorption by the gastric mucosa is much diminished immediately after lavage of the stomach. Elevated temperatures reduce the absorbing capacity of the stomach and rectum. Absorption by rectum is slowest in the infant and most rapid between 2 and 4 years of age. Aqueous solutions of potassium iodid are not absorbed by the normal skin.—*Med. Obos.*, 1899, No. 1.

Antisepsis of Lungs Via Rectum.—Bouteron disinfects the lungs by means of rectal injections administered the last thing at night, after a cleansing injection of boiled water. His formulæ are: 1. Creosote v to xx gtt., yelk of egg 1 gm., olive-oil 60 to 100 gm. 2. Crystallized guaiacol dissolved at a gentle heat, .2 to 1 gm,; oil, 50 gm. A suppository can be used instead of an injection, if preferred. 3. Creosote .3 to .5 gm., cocoa-butter 4 gm. For one suppository. Two a day. Or 4. Guaiacol .2 to .5 gm., cocoa-butter 4 gm.—*Presse Méd.*, February 15.

Infective Diseases in Uremia.—C. Girardeau calls attention to the deceptive course of an infective disease in an uremic subject. The subnormal temperature constant in uremia gives way to more or less fever, chills and other manifestations of disturbance, followed suddenly by grave uremic accidents, coma, convulsions, delirium, etc. If the subject dies the trouble is attributed to his uremia, but if he recovers from these accidents, it will be found that some infective disease is running its course, and that the onset disturbed the balance of the uremia, sufficiently under control in ordinary circumstances. If the fever was present before the commencement of the uremic accidents or persists after them, it is almost certain that the renal lesion has nothing to do with it, but that it may be caused by indigestion, grippe, or a more serious infection.—*Presse Méd.*, February 18.

Hydrastis Canadensis in Tuberculous Hemoptysis.—Gabrilowisch observes that acute fatal hemoptysis in chronic pulmonary tuberculosis is rare; generally there are small capillary hemorrhages appearing for four or five days and then arrested, sometimes three to nine the first day and less afterward. The amount of blood lost may surpass that of an acute fatal hemorrhage, but the patient may not be sensibly affected by them. He recommends in these cases the prolonged administration of extract of hydrastis canadensis: thirty drops three times a day for the first two weeks; thirty drops twice a day during the third week; the fifth and sixth week, thirty drops two or three times a week. Hemoptysis is more frequent during the spring and fall.—*Rev. Gen. de Path. Int.*, February 5. We note a case of intoxication from two doses of twenty drops each, of fluid extract of hydrastis canadensis, causing edema of the lung in adults.

Treatment of Habitual Constipation.—E. Doumer reports a large number of convincing observations that proclaim the great value of static electric treatment in habitual constipation from whatever cause, except consecutive to severe mucomembranous enterocolitis. The stools become spontaneous and return to normal after three or four applications, if not sooner, and when improvement commences, it continues until a complete and permanent cure. Three séances a week are usually sufficient; the rapidity of the results depends upon the strength of the current, although in most of the observations a machine emitting three or four 12-centimeter sparks a second was used. The electric discharge is directed against the iliac fossæ, the shirt and flannel interposed, or if sparks are used, a still thicker garment. Doumer attributes the effect to a special influencing of the secretions of the intestines. *Bull. of French Society of Electrotherapy*, January.

Early Differentiation of Progressive Paralysis.—E. Schwarz states, in a communication in the *St. Petersburg Med. Woch.* of February 4, that the pupils afford valuable information in the differentiation of this disease, as he has had occasion to note in fifty personal cases and the published accounts of other cases. Dementia paralytica is present in 92 per cent. of the cases of mental disease in which there is no reflex reaction to light on the part of the pupils. There is no reaction to the light, or very slight reaction, in 70 per cent. of the cases of dementia paralytica. This condition is characteristic of progressive paralysis, and may exist for years before other symptoms develop.

Albumose and Peptone Preparations.—These preparations are assumed to be very nourishing, readily assimilated while the digestive apparatus rests, and are usually ordered by the physician and taken voluntarily by the laity with this end in view. But F. Voit of Munich has established that these assumptions are erroneous. The gain in weight frequently observed when ten or fifteen grams of somatose, for instance, are taken daily is due to the increased appetite it arouses, and this is produced by the directly stimulating effect of these preparations on the gastric and intestinal secretions and peristalsis, which they exaggerate. They are in fact, *medicines;* stomachics and purgatives, with a slight nutritive value.—*Munich Med. Woch.*, February 7.

Extirpatio Recti Abdomino-Vaginalis.—C. Schwarz of Agram-Croatia, recently operated on a cancer of the rectum that had broken through into the vagina and spread to neighboring glands, by opening the abdomen, making an artificial anus according to Frank's method of gastrostomy, and detaching the flexure with the corresponding mesentery and included glands, then opening Douglas' sac and extirpating the rectum through the vagina according to Rehn. The thoroughness, simplicity and rapid recovery commend this operation, which he considers indicated in all cases of rectal cancer in women, in which infiltrated glands can be palpated, or when the cancer is located very high with adherences and extends to the fornix vag.—*Cbl. f. Chir.*, February 4.

Testing Permeability of Kidneys with Methylene Blue.—After verifying the blue with the spectroscope (much diluted, black band in the red), and adding it to sterilized water, inject a Pravaz syringe of the solution (.05 grams blue to twenty parts water fills the syringe) deep into a muscle. The subject should urinate at the time of the injection, then in a separate, labeled glass, every fifteen minutes the first hour, every half hour till the third hour, then every two hours, or four or five at night, continuing for a week or so until all trace of the blue has vanished. In a normal subject the blue appears in half an hour, but very faint, rather greenish. It reaches its greatest intensity toward the third or fourth hour, remaining the same for several hours, then gradually diminishing and disappearing in forty hours. Sometimes the blue is eliminated as a colorless compound, but the color can be restored by adding a drop of acetic acid and boiling the urine in a test-tube. If the blue is tardy in making its appearance, or is in the colorless form, a slight degree of impermeability is indicated, such as might be expected in a tuberculous or typhoid subject. Delay in the appearance of the blue indicates impermeability of the kidneys, such as accompanies interstitial nephritis or senile shrunken kidney. The elimination is usually very protracted in this case. Abnormally prompt and brief period of elimination indicates a parenchymatous lesion: "In interstitial nephritis the renal filter is stopped up; in parenchymatous nephritis it is full of holes." Intermittent elimination is rather an evidence of a hepatic lesion, observed by Chauffard in infective icterus. The elimination is approximately normal with cardiac affections.—*Presse Méd.*, January 25.

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SATURDAY, MARCH 25, 1899.

ORIGIN OF PIGMENT IN SKIN, AND THE NATURE OF CERTAIN PIGMENTED TUMORS ARISING IN THE SKIN.

Some years ago Karg transplanted skin from the negro to the white man, and vice versa. In both cases the grafts "took," and after a while the black skin lost its pigment and the white skin became black. The deepest layers of the epidermis contain peculiar spider-like branching cells full of pigment, and called "chromatophores." Similar cells also occur in the cutis. Karg believed, as is commonly taught, that these chromatophores are fibroblasts emigrating from connective tissue to the epithelium of the skin, where they deposit their pigment. When black pigment becomes white a reverse process is assumed to take place. Recently Loeb[1] of Chicago made some experiments with the skin of the guinea-pig, replacing black skin with white and white with black, and it was found that white grafts would not adhere indefinitely when placed upon colored skin, whereas black grafts invariably took well. These results Loeb found to be so uniform that they could not be attributed to failures in technic. Carnot obtained the same results. These experiments throw considerable light on the origin of skin pigment, at least as regards the guinea-pig—a subject of theoretic as well as practical bearing.

As already indicated, it is now generally taught that pigmentation of the cutaneous epithelium is due to the action of chomatophorous fibroblasts, which are supposed to carry pigment derived from the hemoglobin to the epithelium. It has not been believed that pigment in the skin originates in the metabolism of epithelial cells. In the guinea-pig, for instance, white and pigmented epithelial cells live on the same tissue and under the same general conditions, yet one produces pigment and the other does not, a fact which would indicate that the pigment must come from the metabolism of the epithelial cells themselves. This statement is also strongly supported by the fact that white epithelium transplanted to cutaneous tissue previously supporting black epithelium does not seem to develop pigment; when black skin is placed upon a defect in white skin it remains black, according to Loeb's results, even though the upper layers of the graft are constantly thrown off, thus requiring the production of new pigment. After a while the connective tissue between the pigmented grafts is found to contain pigmented granules, which previously did not occur in the tissue and which must therefore be accounted for as due in some way to the presence of the pigmented grafts.

As is also known, the pigment of the epithelial cells of the skin is not evenly scattered throughout the protoplasm of the cell, but is found mostly on the side of the nucleus which is nearest the surface. In guinea-pigs the glands around the hair follicles are not pigmented; if the pigment is brought by chromatophorous mesoblastic cells, it would be rather strange if these cells should not also distribute pigment among the glandular epithelial cells. It seems, therefore, that a more probable explanation of the origin of pigment in the skin is, that chemic processes in the deeper layers of the epithelium lead to the formation of pigment, and that there is an essential difference in the structure and functions of white and pigmented epithelium.

These observations become of direct importance in the consideration of malignant growths arising from pigmented moles, concerning the carcinomatous or sarcomatous nature of which the opinion of pathologists and dermatologists diverge. It had long been regarded as settled, that pigmented tumors arising in moles were sarcomatous; in 1892 Unna came to the conclusion that the pigmented cells of the corium, which form the characteristic elements in the moles, are derived from the rete layer of the epidermis and not from connective-tissue cells. This conclusion was based mainly upon the study of moles in early life. Since the publication of Unna's researches, divergent opinions have been expressed in regard to his conclusions.

Gilchrist[2] recently reported two cases of pigmented cutaneous tumors, together with the results of some study of the pigmented moles. The second case described is of particular interest in connection with the subject under discussion. The tumor began in a pigmented mole on the face of a young physician, and was excised at an early stage in its growth. Microscopic examination left no doubt whatsoever as to the malignancy and nature of the growth, it being unquestionably a melanosarcoma. A small pigmented mole, excised from the skin of the abdomen of a child 21 months old, established conclusively on microscopic examination that the groups of epithelioid cells which went to make up the structure of the mole were originally derived from the epidermis by detachment of collections of epithelial cells and by the separation of the lower portions of the interpapillary processes. GILCHRIST'S present investigations go to confirm UNNA'S views. It is self-evident that if the epithelioid cells which constitute moles are of epidermal origin, malignant growths springing from these cells would have to be regarded as being carcinomatous and not sarcomatous in nature, according to the present classification and nomenclature of tumors.

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[1] Medicine, March, 1899.

[2] Journal of Cutaneous and Genito-Urinary Disease, March, 1899.

GLONOINISM.

While we are all more or less acquainted with the effects of nitroglycerin when introduced into the system in medicinal doses, we are perhaps not so familiar with the peculiar conditions it produces when absorption takes place by inhalation and through the skin in doses the size of which we have no means of ascertaining, but which may be enormous. Observations, therefore, of a class of patients of this kind, carefully made, and covering a considerable period of time, can not fail to prove interesting. In "International Clinics" for January (vide also JOURNAL, Oct. 1898, p. 793), Dr. GEO. C. LAWS has reported a number of cases of intoxication by this agent, to which condition he has given the name "glonoinism." His experience was obtained among the workers in a nitroglycerin factory during the past twenty years, where many of the employes are compelled to handle thousands of pounds of nitroglycerin a day, and the hands and arms as far as the elbows are covered with it, frequently for hours at a time. Naturally, absorption through the integument, or, as is now believed, some volatilization and absorption through the lungs, occurs. In either case the result is the same: the drug exerts its action upon the arterial system through a paralyzing action upon the vasomotor system. The left ventricle dilates as well as the blood-vessels themselves. Consequently the pulse is soft and compressible, though usually full, and is somewhat accelerated. Palpitation of the heart is common, and with it a corresponding throbbing of the arteries, which latter being most appreciated in the vessels of the brain gives rise to a severe throbbing occipital headache to which the name "powder headache" has been given. The dilatation of the arteries results in a marked reddening of the entire body surface, though with an increased poisoning, some failure of circulation ensues and cyanosis more or less profound succeeds. Among others of the initial symptoms may be mentioned nausea and vomiting, diarrhea, more or less prostration with great languor, and eruptions of various kinds. After the lapse of a week or ten days, a sort of immunity, as far as the "powder headache" is concerned, is acquired by the new man; but as the drug is thrown off very soon after absorption, the immunity is by no means lasting, and a few days' absence from work is sufficient to destroy it entirely. Indeed, some of these men suffer from the "powder headache" every Monday morning. These symptoms, which might be called acute, are unfortunately not confined to those actually engaged in the work. The wives and children, friends, and even medical attendants suffer. The wives, if they attend to the laundry, are usually attacked every wash-day, and ironing is particularly liable to precipitate an attack on account of inhaling steam from the clothes. In time these women may acquire a comparative immunity, but still they usually suffer to some extent when ironing. Dr. LAWS states that he himself, as well as his colleagues, has frequently had attacks of the headache, even after a short physical examination of the chest. Among the children, especially the younger ones, several deaths have undoubtedly been due to their having slept with their parents and inhaled the exhalations from their bodies.

Following the acute trouble, by a greater or less period of time, a chronic condition of dilatation of the heart and of the entire arterial tree supervenes. This varies much in degree, depending upon the amount of the substance handled each day, the length of time exposed, and the individual resisting power; but it is present to some extent in all. The symptoms vary with the degree of dilatation; in mild cases an accentuated first sound with diffuse apex-beat is present; then arthymia, palpitation, shortness of breath on slight exertion; finally, incompetency of the valves with regurgitation of the blood, as indicated by murmurs over the various valvular seats. With this condition, there may be any of the accompanying symptoms of impaired cardiac action. As far as the nervous system is concerned, there is usually a certain amount of mental hebetude, and especially is this the case during the working hours. A peculiar feature is the action of alcohol upon the victims of glonoinism, a small drink of whisky often bringing on the symptoms of the primary attack of which we have spoken. The women are also subject to chronic glonoinism, and while the same course may be followed as in the case of their husbands, as a rule the symptoms are not so severe. With them, however, exophthalmic goiter is by no means uncommon; and menorrhagia and metrorrhagia, miscarriages, premature births and comparative sterility are all more common than among their sisters not influenced by these peculiar conditions. The children of these people are far from strong, as compared with the other children of the neighborhood, and are able to offer but little resistance to the onslaughts of disease, particularly infectious diseases and catarrhs.

Of still more practical importance is the question: What effect, if any, have the fumes arising from the combustion of nitroglycerin and its compounds upon the individuals in the immediate neighborhood? It is well known that nitroglycerin when detonated produces the same symptoms that we have described as occurring among the workers in the explosive, hence the objection to using dynamite in mines. Hunters using smokeless powder are also occasionally the victims of the same symptoms. It is known that the smokeless powder used by the Spanish troops contained a large amount of nitroglycerin. From all this is it possible that one of the causes of the surrender in Cuba, which General Toral "could not speak about," was the incapacitation of his army by the undecomposed nitroglycerin in the atmosphere? At any rate, this subject is deserving of some attention by the War Department; and if a nitroglycerin smokeless powder causes a high sick-rate during an engagement, it is far better to use the old powder, even if it does "show the enemy where to shoot," a matter for which our Government was severely censured during the late war. What if the Spaniards did know the location of their enemies, if they were so disabled by their own powder as to be unable to use their weapons?

MEDICAL CRITICISMS OF THE LATE WAR.

The Journal has hitherto refrained from noticing to any extent the various medical criticisms of the conduct of the late War with Spain, for what seemed the good and sufficient reason that from the great mass of accusatory evidence, much of it semihysteric in character, and other portions with a more or less pronounced political or personal tincture, it was not advisable to take sides or express positive opinions. It has, however, on more than one occasion, taken pains to put forward the view that the war was necessarily entered upon without due preparation and that much allowance should therefore be made for errors and deficiencies. As regards the medical history of the war, including under this head whatever affected the health of the army, whether it came under the direction of the medical department or not, this is especially true. The mistakes and serious blunders that were made can be almost invariably traced back to the unprepared condition in which we entered into hostilities. The public that enthusiastically demanded war with Spain was one that knew nothing of what war really is; the volunteers who offered their services so freely had no idea of the realities they were to encounter; the army bureaus, inadequate as they were, were largely manned by men who had grown up in the traditions of thirty odd years of peaceful red-tapeism, their reinforcement to meet the emergency was necessarily with inexperienced men, and to crown the whole, the actual military operations, except those in the Philippines, were crowded into a brief space of time and carried out under the most trying climatic and other conditions. Even the medical department, which was, as a scientific organization, less bound down by precedents and traditions than some others, was compelled to accept the services of a large number of men who had almost everything to learn in regard to the special problems of military sanitation and were absolutely ignorant of the details of their administrative duties as army surgeons. The difficulties were the greater from the recklessness of the green volunteers and the ignorance of their officers, to whom even any idea of sanitary discipline was too often absolutely unknown or at least ignored. Indeed, trained soldiers also erred to some extent, and owing to the fact that we had hardly any traditions of tropic warfare and no time for the adjustment of routine conditions to meet the new and unforeseen emergencies that arose, and that we had to carry on a campaign in a most unhealthy season and under most unfavorable conditions, there resulted a vast amount of sickness and suffering, much of which, as it is easy to make appear at this date, ought to have been avoided. It is always easier to criticise the past than to avoid the possibility of criticism of the future, and, taking all things into consideration, and allowing that avoidable mistakes and worse than mistakes have been committed, the country may be congratulated that matters were not worse, as well as commiserated that they were as bad as they have been shown to be.

The Journal does not express any opinion upon the questions still under investigation; the time for that has not arrived. They are, however, only details that need not prevent us from taking a general view of the war as a whole. As regards the strictly medical aspects there is in this purview less reason for disadvantageous comparisons with other military operations than the lay press and the public seem to imagine. The French operations in Madagascar made a worse record of disease and mortality, and even the much-belauded Soudan expedition, so regarded as a model in these respects, could have furnished ample opportunity for the attacks of the "yellow" journalism of to-day, did it exist in Great Britain. In fact, the actual record of the medical department in the active operations and occupation of Cuba and Porto Rico, to say nothing of the Philippines, is a brilliant one when we take into account the conditions there existing.

TREATMENT OF EPIDEMIC CEREBROSPINAL MENINGITIS WITH ANTISTREPTOCOCCIC SERUM.

Inflammation of the meninges of the brain and the cord may arise from a multiplicity of causes, and as a primary disorder or secondary to other disease, general or local. It may result also from traumatism. It has been observed in connection with a number of acute infectious processes, and it has developed through extension of adjacent disease, as from the nose and the ear. It is occasionally found as a terminal process in fatal cases of nephritis, arteriosclerosis, heart disease and gout.

The micro-organisms most commonly related etiologically with cerebrospinal meningitis are the meningococcus, the pneumococcus, the tubercle bacillus and the streptococcus, although others also are found at times. The first named is now generally considered responsible for the epidemic variety of the disease, so-called cerebrospinal fever. The differentiation clinically of these several forms depends essentially, when it can be made, upon the attendant circumstances, the knowledge of epidemic distribution or of the existence of primary disease. A study of the fluid obtained by puncture of the spinal membranes in the lumbar region may yield conclusive evidence. The prognosis of the meningococcus variety is said to be less unfavorable than that of the others.

In the way of treatment we are without specific remedial measure, and the data are insufficient to justify an expression of opinion as to the utility of serotherapy in this connection. The intelligent and conservative use of antitoxins would seem perfectly legitimate, although their efficacy in the treatment of such diseases as pneumonia, typhoid fever and tuberculosis in human beings has not been sufficiently demonstrated, and the reports concerning antistreptococcus serum are as yet too divergent. McNabb (*N. Y. Med. Jour.*, Feb. 25, 1899, p. 262) reports two cases in which the diagnosis of cerebrospinal meningitis was made and injections of ten cubic centimeters of antistreptococcic serum were given, in one with a successful and in the other with a fatal issue. The evidence as to the correctness of the diagnosis is not conclusive, but improvement seemed to follow the injections, although it was not maintained in one case. While we are not in a position to state that antistreptococcic serum may not be useful in cases of diplococcus meningitis, it seems more reasonable to expect any good effect of which it were capable to be exerted especially in cases of streptococcus meningitis. McNabb views the action of the serum as a stimulating one upon the nerve-centers, and comparable to that which may result from the use of warm saline infusions. He thinks it may increase phagocytosis and in this way exercise an antidotal effect on the meningococcus; and that it may, further, prevent purulent infection of the exudate.

RATES FOR THE COLUMBUS MEETING.

As we go to press we learn that the Central Passenger Association has made a rate of one fare for the round trip for the Columbus meeting. If this is true, the other associations will probably do as well, although thus far the best they offer is a one and one-third rate. As those in charge of this matter are diligently at work we may confidently hope for a flat half rate. If this can be secured, we may expect to see the next meeting of the American Medical Association the largest ever held, not excepting that at Philadelphia two years ago. As it is, the outlook for a most successful gathering is very promising, and the profession in Columbus, assisted by that of the whole State of Ohio, is hard at work to make this the best meeting ever held. While the semicentennial anniversary was held two years ago, this will be the fiftieth annual meeting, and the occasion deserves the large attendance which is looked for by those in a position to judge.

CEREBROSPINAL MENINGITIS.

Dr F. W. Reilly, assistant commissioner of health, Chicago, has courteously furnished us, for advance publication, the report on "Epidemic Cerebrospinal Meningitis in Chicago," by Dr. W. J. Class, the first instalment of which appears in this number of the Journal. This report, through an abstract which appeared in the monthly bulletin issued by the health department, several months ago, has caused widespread comment in this country and abroad. Cerebrospinal meningitis has been, and is, quite prevalent throughout the country and the thorough discussion of the subject here given is timely and important.

REGISTRATION OF BIRTHS.

The secretary of the Illinois State Board of Health is preparing to enforce the registration of births and deaths and may ask the legislature to fix a fine of at least $10 for each neglect on the part of the attending physician. As regards death reports, there should be no need of such a law, as no burial permit should be permitted without such certificate or a coroner's verdict, but it is an injustice to require physicians to even expend postage in reporting births without compensation. In the one case the State can look to the well-remunerated undertaker for the report, in the other it will often be only an additional burden in charity cases, and the rule will not reach the many cases unattended by either physicians or qualified midwives. It would be better and more effective for a thorough registration to have a small compensation made for each report of a birth, as is the practice in some other States.

NEW CONCEPTION OF SMALLPOX.

A new conception of smallpox has recently been evolved from the expansive intellect of an imaginative Frenchman. In brief, this genius holds Jenner up to obloquy and opprobrium for his discovery of vaccination and its protective influence against smallpox, which he considers "a spontaneous eruption of nature—which violently rejects, expels and deposits outside the evil influences that are in the body." The signs of croup, typhoid fever and pulmonary tuberculosis are looked upon as merely manifestations of smallpox turned inward; carcinoma and meningitis own a like etiology, and insanity and suicide are traceable to the same morbid influences. In commenting upon these ebullitions of a mind unhampered by scientific considerations the *British Medical Journal* suggests "that the mere possibility of such dire consequences from the 'turning inward' of smallpox afforded some justification for an attempt to keep it out altogether."

PERILS OF SANITATION.

The recent occurrences in Colorado and Texas illustrate the possible dangers of sanitation attempts with unenlightened individuals. A health officer was ordered to prevent a public funeral of a person who had died of a contagious disease, and he was killed in the performance of his duty. As the Chicago *Post* says, editorially: "He was a victim of the idea that health laws are made for the purpose of distressing those who already are sufficiently distressed." There is, with all our boasted enlightenment, a large amount of barbaric ignorance in this country, not only among the recently imported elements, but also amongst those who should know better. As the *Post* says, there is a feeling apparently existing in some degree among persons esteemed and esteeming themselves educated and intelligent, that the laws relating to contagious and infectious diseases are made to be ignored. If this is not a sign of what we have charitably called it, barbaric ignorance, it is something worse, it means a reckless indifference to law and to human life.

EUPHORIA VS. EUTHANASIA.

The following from the London *Lancet* (Feb. 18, 1899, p. 489) is here presented as an example of unfortunate medical timidity and of how a thing ought not to be done.

> *To the Editors of the Lancet, Sirs:*—Within a few weeks I have had under my care a case of carcinoma uteri extending to the bladder and adjacent parts. The pain accompanying the disease in its later stages was severe and only controlled by strong suppositories of morphia, and the patient's death struggle was an awful and most pitiable experience, lasting certainly three or four days. I tried liquor opii sedativus 10 minims every two hours, but only two or three doses could be swallowed. I seek in this letter information from my confrères on the treatment one should adopt in such cases—e.g., would it be justifiable to use morphia hypodermically? or to what extent would the inhalation of chloroform be admissible in mitigation of so great agony and distress? I am, Sirs, yours faithfully,
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> Euthanasia.

The hyperconscientious (that is the kindest term we can use) physician who wrote the above apparently did not recognize the difference between helping the patient to an easy death and prolonging life by relief of exhausting pain. It is unfortunate, at least, if the teachings of the British medical schools are not definite enough on this point to enable their graduates to at once decide such questions rationally and humanely in these emergencies. The *Lancet*, however, editorially discusses the case without special condemnation (Feb. 25, 1899, p. 532), and leaves the impression that such hesitancy as above indicated is a natural and frequent occurrence. If such is the case, it hardly speaks well for the profession. The question of giving an overdose is not raised, except it may be in the use of the term "euthanasia," that might, perhaps, imply it. It is one that need never occur to the physician's mind; the case is one of giving comfort and ease, not of interfering with or lessening vital powers. Euthanasia is at best an ambiguous word; while it may mean only rendering certain death painless, it is liable to another construction. Euphoria, meaning ability to endure pain, as well as comfort and sense of well being, is a better term.

END OF THE SCHLATTER CASE OF GASTRIC EXTIRPATION.

The famous Schlatter case of ablation of the stomach, the first in which the entire organ was removed, with the survival of the patient, has at last completed its history—the finale is reported by Dr. Schlatter in the *N. Y. Med. Record* of March 18. The woman died on October 29; about 14 months after the operation, the cause of the death being metastasis of the original disease involving the mesenteric, retroperitoneal, bronchial and supraclavicular glands with studding of the pulmonary pleura with carcinomatous nodules. Whether the mutilation the patient had undergone diminished her resistance to the morbid process, indirectly or otherwise, can only be conjectured; the account furnishes no evidence on that point. The additional interest given the case by the autopsy is evident. There was clearly no attempt of nature to form a substitute for the stomach by cardiac or duodenal dilatation, and the continuance of life for over a year, and even the improved nutrition during part of the time, with complete absence of what we have been inclined to consider the essential organ of digestion, the stomach, may be said to be a proven possibility. It will be next in order to find a case justifying the removal for other cause than malignant recurring disease, so that a larger element of time can be contributed to the question whether gastric digestion is an indispensable mechanic factor or not. The case shows that a person can exist for more than a year without a stomach, and possibly indefinitely, and that its removal in a case of last resort is a justifiable operation.

Medical News.

The Baltimore Medical College has appropriated $3500 toward building a gymnasium for its use.

An International Congress of medical ethics is being organized to follow the Congress of Medicine, at Paris in 1900.

Governor Roosevelt is reported to have signed an amendment to the New York civil code, which prohibits a physician from divulging any information concerning a patient, either before or after death.

At the Hospital for the Insane, Kankakee, Ill., the medical force has been reduced from thirteen to ten physicians, the three retiring being non-residents of the State.

Dr. Irwin Schueller, Columbus, Ohio, has been appointed health officer to succeed his father, the late Dr. J. B. Schueller. He has for several years been studying sanitary science in Europe.

The Paris Academy of Medicine has elected Lord Lister and Robert Koch foreign associate members, the first time foreigners have been thus appointed who were not already connected with the academy as correspondent.

Cases of bubonic plague are officially announced at Djeddah and other points along the Red Sea. This may lead to the prohibition of the pilgrimage to Mecca, especially as the disease is still raging in a large portion of British India.

It is perhaps not generally known that Professor Kanthack the late distinguished professor of pathology at the University of Cambridge, England, was a Brazilian. He was born in Bahia in 1863, and was, therefore, still a young man at the time of his lamented death.

Dr. John Guitéras of Philadelphia, will sail for Europe about May 28, for the purpose of making a special investigation of tropic diseases before returning to his native soil, Cuba. He will first go to Vienna and later to other medical centers of Europe, and expects to be absent about a year.

Dr. Reginald H. Sayre, at the Sportsman's Show in New York City, recently won one of the leading prizes in the revolver contests, thus adding another to his numerous trophies. Dr. Sayre has for some time been inspector of carbine and pistol practice in cavalry squadron A of the State militia.

In attempting to carry out instructions of the State board of health to isolate smallpox cases among Mexican residents at Laredo, Texas, a riot occurred on the 20th of this month, two of the natives being killed. A detachment of United States troops quelled the disturbance and protected the officers in enforcing the sanitary law.

Surgeon-General VanReypen, U. S. N., has gone to San Francisco to inspect the construction of the new naval hospital at Mare Island. An appropriation of $100,000 was recently made for the construction of a naval hospital at that place. The surgeon-general will be absent about a month, and during his absence Surgeon John C. Boyd will act as chief of the Bureau of Naval Medicine and Surgery, at Washington, D. C.

The Committee of citizens of Philadelphia appointed to select a fitting memorial commemorative of the esteem in which the late Dr. William Pepper was held, have decided to erect a statue of the Doctor in bronze. The cost will be about $15,000, and the statue will be placed in the city hall plaza, one of the most favorable sites that could have been chosen.

Dr. A. J. C. Skene, president of the Long Island College Hospital, Brooklyn, has been invited to take the presidency of a new institution to be known as the Hospital for Breadwinners. It is designed for the benefit of self-supporting women, and nearly $300,000, it is said, has been subscribed to put up and equip a suitable building.

Dr. Spencer Morris, who has for a long time held the chair of professor of medical jurisprudence in the Medico-Chirurgical College, Philadelphia, was stricken with apoplexy a few moments before he was to deliver his farewell address to the graduating class of students, March 13. The latest accounts state that the Doctor has partially regained the use of the leg and arm and his condition has otherwise improved.

The chief of the War Department in England informed a parliamentary committee that there is no question of equipping the army with bullets such as have been used in the latest English campaigns. For humanitarian reasons the military authorities have no intention of substituting bullets with uncovered or hollow points which produce frightful mutilations at short range. The Disarmament Conference might possibly be justified in interfering, he added, if such a procedure were contemplated.

One of Philadelphia's newspapers, in speaking of the muddy water furnished to some parts of that city, complains that the supply is besides inadequate, contending that "if councils will insist on our using the unclarified Schuylkill, they should at least see that we get enough of it." Not at all; that would be but an aggravation of the crime. The city, no doubt, finds its health-bill and its death-bill from contaminated water already too high and considers it the part of wisdom to deliver the concentrated filth that goes by the name of water in minimum rather than maximum doses.

At the American Psychological Association meeting December last (reported in *Science*, February 10), Dr. E. W. Scripture of Yale University reported some interesting experiments with passing alternating electric currents of high frequency through the human body, producing practical anesthesia and analgesia to touch and cold, though apparently not to heat. He suggested a possible value of this fact for surgical analgesia. As a psychologist it is to be inferred that Dr. Scripture was able to eliminate sources of error from suggestion, etc., in his experiments, and there may be a possible surgical utility, as he points out.

Dr. Nelson J. Henry, now a member of the N.Y. Assembly, recently introduced in the Legislature a bill providing for the organization of a State school of public health under the auspices of the University of the City of New York, and appropriating the sum of $25,000 for its establishment, and a like amount for its maintenance for the year beginning Oct. 1, 1899. The bill has been favorably reported with an amendment by the Ways and Means Committee stipulating that the school thus incorporated shall furnish free instruction in sanitation to properly accredited members of boards of health of towns and villages, and also authorizing the school to conduct examinations regarding the purity of the water-supplies of the State.

The Board of Health of the State of Rhode Island has drafted a bill which it is endeavoring to get through the legislature, forbidding the practice of so-called Christian Science. One of the pleas made for the bill is the fact that, with their peculiar views and practices, Christian Scientists are public dangers, especially in times of epidemic disease. This is a truth that ought to be widely published. The danger from the sect is not in the occasional passive manslaughter in which they indulge, but in the actual every-day risk to their fellow-beings. One zealous Christian Scientist can undo the work of many efficient health police, provided he has the liberty to carry out his religious medical vagaries to their logic results. It is certainly in the interest of public health that some restriction should be placed upon them, that they should be compelled to at least respect sanitary regulations, regardless of their peculiar views.

Correspondence.

Medical Progress in the State of Wyoming.

Rock Springs, Wyo., March 1, 1899.

To the Editor:—Although Wyoming is one of the youngest States in the Union, and geographically is located on the very backbone of the continent, yet, considered from a medical standpoint, her position in medical science is also high, and may well be compared in some respects to her position and elevation above sea level. As early as 1876, long before the Territory of Wyoming was dreaming of the question of Statehood, its territorial legislatures passed medical laws, which were superior to many of its senior commonwealths in the Union at that time. While it did not provide for a medical board, and the law was lenient in some of its features, yet, at the same time, it practically provided that no one should practice medicine in the Territory of Wyoming, who had not obtained a diploma and registered the same with the county clerk, under oath, that the same was *his* diploma and not that of some one else.

The laws passed at that time were codified in 1887, and after our Territory was admitted to Statehood, they were made a part of the medical laws of this new commonwealth, until the meeting of the fifth legislature, which has just closed its session, when a new bill was presented and in a few days enacted into a law. Among other medical statutes, of which this State may be well proud, and in fact covering a point for which few others have provided, is one that "Any physician or surgeon who may be called upon to testify as an expert, shall be entitled to a fee of $5.00 for half a day or less, and for more than a half day $10.00, and when called upon to make a postmortem shall be entitled to a fee of $30, provided the postmortem is actually made."

It will be seen by these extracts that the citizens of this so-called "wild and wooly west" Territory have for more than twenty years protected themselves by protecting the medical profession of the Territory, and more recently of the State, and while other States had no provision worth mentioning for this protection, this Territory was far in advance by having fairly, and in some respects exceedingly, good laws for its protection.

The rapid advancement of the State in industries of various kinds, in population and in wealth, indicated to the medical profession that it was its duty to organize a State medical society, which took place at Rawlins, Wyo., May 13, 1898, when a constitution and by-laws were adopted, which put the medical profession of Wyoming on an equal footing with that of any other State in the Union in this regard. Among other things provided for in this constitution was a committee on legislation whose duty it was to look after the medical legislation of the State and provide, if possible, such needed measures as would have a tendency to advance the medical and surgical profession of our commonwealth. On Nov. 1, 1898, the second meeting of the Wyoming State Medical Society was held and a more thorough organization completed. The writer had the honor to be elected president at the first meeting and re-elected to the same position at the second. The matter of legislation was taken up, and a committee of three was elected by the society, consisting of the president, ex-officio, Dr. C. H. Solier, superintendent of the Wyoming State Hospital for the Insane at Evanston, Wyo., and Dr. G. G. Verbryck, State senator from Cambria, Weston County. Dr. Verbryck also held the position of second vice-president of the State society, and Dr. Solier the position of treasurer. The entire committee set to work very shortly after the meeting at Rock Springs and gathered together the various laws of the different States, with a view to applying them to this State. In this connection it must be remembered that we have a large State, so far as territory is concerned, and aws which would apply to other States would not be applicable to this one for want of railroads, the existence of immense mountain ranges, the different classes of industries and the lack of railroad communications, which made it necessary for certain modifications in order to get a law through the legislature that would be operative and would not work an injury to those who are on the frontier, and probably hundreds of miles from a practicing physician. After taking all these local questions into consideration, the committee prepared and placed in the hands of their representative, Senator Verbryck, a bill, which in their judgment covered the ground as practicably as possible. When the senator and his committee looked it over it was found necessary to make some changes of a minor character, and after making the changes he succeeded in securing the passing of an act which we feel justified in saying has placed a protection around the people of this rapidly growing State, and given to the medical profession a law which will guard them against the invasion of quacks and charlatans, comparable to the laws of many States, much better than some and equally as good as the average.

Thanks to His Excellency, the Governor, who has the power to appoint the board, and who is a man of good, deliberate judgment, and a friend of the highest standard in the medical profession, a board was appointed in accordance with the law, composed of three members of the medical profession, all of whom are graduates of regular schools.

The following are the principal features of the new law: It provides for a State board of three examiners, appointed by the Governor with the advice and consent of the Senate, who shall pass upon the qualifications and determine the fitness of all persons who may desire to practice medicine, surgery or obstetrics, or who may publicly profess to cure or treat disease, injury or deformity, in any manner whatever in the State. The board shall have the power to administer oaths and take testimony, and shall meet annually at such points as may, as far as reasonable, accommodate applicants in different sections of the State. Every person desiring to practice medicine shall, if a graduate in medicine, present his diploma to the board for verification. If found genuine and issued by a medical college of acknowledged merit, said college being a member of the Association of American Medical Colleges, the Homeopathic Institutes, or the National Eclectic Medical Association, or any college of similar standing in foreign countries, and if the person named therein be the person claimed and presenting the diploma, the board shall issue its certificate to that effect, signed by the majority of all the members thereof, with the seal of the board attached; and said diploma and certificate shall be conclusive as to the right of the lawful holder of the same to practice medicine in the State. The board shall receive a fee of $5 from each such graduate. No person not qualified as above shall be permitted to practice medicine until he has passed a satisfactory examination before the board. The examination may be in whole or in part in writing and shall be of an elementary and practical character on the subjects of anatomy, physiology, chemistry, pathology, materia medica and therapeutics, hygiene, theory and practice of medicine, surgery and obstetrics, and sufficiently strict to test the qualifications of the candidate as a practitioner. For this examination, a fee of $25 shall be paid the treasurer of the board. The board shall be permitted to issue a certificate to any person not possessed of a diploma who has been actually engaged in the practice of medicine for ten years, the last five of which were in the State of Wyoming, under similar conditions as when a diploma is presented. Registration of certificate with the county clerk of the county is provided for, also penalties for fraud or misrepresentation, the refusing and revoking of certificates for unprofessional or dishonorable conduct, the examination and licensing of midwives, punishment of itinerant and unlicensed vendors and quacks, and also the usual exceptions to its provisions of students under preceptors, medical officers of the army or navy, and the medical examiners of relief departments of railroad companies, consultants from other States, practitioners residing in other States whose practice extends over the borders, and of gratuitous services in case of emergency.

Fortunately, Wyoming has had a medical law which prohibited any one from practicing in the State who did not have a diploma, and required a person who practiced medicine in the State of Wyoming to register his diploma with the county clerk. This has prohibited a great many so called "legal practitioners" locating in this State, who by this law are permitted to practice medicine without a diploma, provided they have practiced medicine ten years, five of which must be in Wyoming.

We believe there is no other State in the Union which can boast of but one State board of medical examiners all of whom are graduates of a regular school of medicine of high standing and who have opportunities, notwithstanding the law is not all that could be desired, of raising the medical standard and keeping it at such a point as to prevent the influx of any members of the medical profession who are not up to the average standard of the best modern medical schools of the United States. The board consists of Drs. S. B. Miller, president, Laramie; Geo. P. Johnston, secretary, Cheyenne; C. M. Borkwell, Cheyenne. Our personal knowledge of the *personnel* of the board leads us to believe that they will look well to their honors and to the high standard of the medical profession in the State of Wyoming. R. HARVEY REED, M.D.

Etiology of Seasickness.

NEW YORK, March 12, 1899.

To the Editor:—In the JOURNAL of March 11, in an article on this subject Dr. W. E. Darnall gives the disturbance of equilibration as the cause. If his meaning is that that is one of the *various* causes of the malady, I agree with him most heartily. But I have seen many cases in which I scarcely consider it a sufficient explanation of the trouble. I have spent most of my life near the ocean, and for several years have been surgeon on an ocean steamer, making long voyages, so speak from a large and varied experience. I have become convinced that no *one* cause can be assigned to all cases; and, from the results of empiric treatment, have gotten into the way of roughly classifying them under one of two heads: those in whom the trouble seems to be chiefly due to disturbance of the nervous system, and those in whom the digestive organs are mainly at fault. The line between the two is, however, not always very clear. Of the first are those who may be quickly and permanently relieved by the application of a belladonna plaster over the back of the neck, and a capsicum plaster over the pit of the stomach. These are usually women. Other women get almost complete relief by leaving off their corsets, thus avoiding pressure over the solar plexus, congestion of which seems responsible for the illness. Among those also whose nerve-centers seem to blame are the ones who are relieved by the exhibition of morphia and atropia, preferably given hypodermically; and among these are the victims of disturbance of equilibration. An entirely different class seems to be those who are speedily cured by the use of calomel given in triturates of 1/10 to 1/4 grain, frequently repeated till purgation results. If this does not occur in twenty-four hours a saline cathartic should be administered. This second class includes that numerous body of travelers whose friends, with mistaken kindness, have been giving them farewell dinners, and overloading them with an abundance and variety of indigestible food, which in itself would be enough to account for an attack of illness if the victims had remained on land.

I recall, however, some cases which I have never succeeded in explaining to myself. Many years ago I went fishing in a small boat to a ledge off the coast, in company with a gang of professional fishermen. With us was an elderly farmer whose home was near the shore. All went well as long as we were on the water, although we were anchored in a very choppy sea. On reaching shore we were invited to dine at the fishermen's hut, where we found an abundant "boiled dinner," and ate heartily, but before the meal was over the farmer was taken so ill with seasickness that he had to be put to bed, and it was not till next day that he recovered sufficiently to go to his home, less than a mile away.

A year or two ago, among the passengers on my ship was a gentleman who was taken ill with all the symptoms of seasickness as soon as we left the dock, although the water was perfectly smooth. For several days he barely took sufficient nourishment to keep him alive. One morning the engines were stopped for a few hours to make some repairs to the machinery. A very unpleasant sea was running, and the ship rolled and pitched heavily. The gentleman, however, as soon as the engines stopped, got up and ate a hearty meal with relish. As soon as the machinery began to move again he was once more a wreck, and was constantly suffering from nausea and headache until he landed, some two weeks later. I think, in his case, relief would have been secured by the use of morphia and atropia; but he absolutely refused to take them. Akin to this case are those who suffer from nausea, etc., on the railroad.

At the risk of being tedious, let me partially sum up the subject of treatment: Rely chiefly, in nervous cases, on morphia and atropia, given by preference hypodermically; and on calomel and Rochelle salts for disturbed digestions. Bromocaffein will often relieve the headache, and cocain will sometimes achieve wonders in overcoming nausea if given per os. Avoid the bromids of potassium and sodium, as they do more harm than good, by upsetting the digestion. Remember that a belladonna plaster over the nape of the neck, and a *large* capsicum plaster over the epigastrium will often be all that is needed to secure immunity from headache and nausea. If, when the ship is pitching much, a person instinctively holds his breath as he sinks to the hollow of each wave, insist on his "breaking step," so to speak. A determined effort to breathe regularly and not in rhythm with the motion of the vessel will quickly be successful in overcoming a muscular contraction of the diaphragm which, unchecked, would speedily lead to emesis. As regards diet, it is best to let patients choose for themselves to a great extent; what will do admirably for one being just what another can not tolerate. Liquids should be restricted in amount. Solids, like toast, or dry unsweetened biscuit, with a little iced champagne, or brandy and ginger ale, are less likely to be rejected by the stomach than are the usually administered beef tea and chicken broth. Do not insist too much on the value of fresh air on the deck. A day or two in bed with restricted diet is sometimes of more benefit than fresh air secured at the expense of one's reserve fund of energy.

When I have the chance to advise prospective voyagers, I always insist on careful diet for several days before going to sea; and a liberal calomel and saline purge about forty-eight hours before sailing.

Hoping that this brief summary of my experience with this hydra-headed cause of misery may be of service to some of your readers or their patients, I am,

Yours truly, PHILIP KITTREDGE TAYLOR, M.D.

BURLINGTON, IOWA, March 13, 1899.

To the Editor:—Under the above title I notice in the JOURNAL of March 11, the exploitation of another theory for this most distressing malady. It is perhaps needless to say that, like others, it is an explanation that does not explain, otherwise, one who should have the sickness once, should have it every time there was provocation; and prevention and cure would be out of the question.

I shall not attempt to offer an explanation, but as this seems to be a subject for periodic discussion, I would like to offer some suggestions gathered from observations I made upon myself. For the convenience of a few of my personal friends, who, contemplating a sea voyage, have asked my advice, I have put these suggestions into the following rules, which I have called "Rules for the Prevention and Cure of Seasickness:"

Rule 1.—Stay on deck if weather will permit, until the ship has left the harbor. The odor of bilge water may penetrate the saloon and may not be pleasant.

Rule 2.—If the stomach is disturbed by the motion, look only at the horizon—the line where sea and sky meet. That stands still and the motion is less and less noticeable.

Rule 3.—Do not overeat at meals, and do not allow the stomach to remain long empty. If vomiting occurs, force yourself to eat a little well-seasoned, simple food (no slops) as soon thereafter as you can get it. The stomach may thus be "settled," or if vomiting must occur again it comes easier. Then eat again and again until the food is retained.

Rule 4.—Make up your mind, and keep the resolution *constantly in mind*, that you are always going to *fight* the tendency to seasickness.

Rules 1 and 2 are not hard to follow, 3 and 4 not easy. Rule 1 is based on the fact that some people get nausea from irritation of the olfactory nerves. Rule 2 is suggested by the fact that the body can be subjected, with only slight discomfort, providing the eyes are closed, to motions which could not be borne without giddiness, if the eyes witnessed the movements. Rule 3 needs no comment. Rule 4 is simply a recognition of the influence of mind over matter. It must be evident to all that if one can force the mind—and it can be done—to ignore the motion until the body learns to compensate for it, the fight against seasickness is won.

I have only to add that in four voyages, comprising in all thirty-eight days at sea, I had but one attack, and it lasted less than three days. I followed the plan outlined by these rules.

Truly yours, H. B. Young, M.D.

"Surgeon-General Sternberg: Two Opinions."

Washington, D. C., March 18, 1899.

To the Editor:—In an editorial note in the Journal of March 18, 1899 (p. 620), under the title "Surgeon-General Sternberg: Two Opinions," you cite the views of W. E. Curtis, in the *Chicago Record* of March 4, and those of the *Philadelphia Evening Post* of the same date, regarding the executive ability shown by the surgeon-general of the army in discharging the duties of his office. In the minds of those who are most intimately acquainted with the responsibilities and work of the surgeon-general during the past year there are not two opinions. They concur fully in the views of the *Evening Post*, as given under the heading "Sternberg, the man of action," and in the editorial expression of opinion with which you judiciously close the article. I, personally, have seen much of the work that was done, and I am confident that the ultimate recognition of its value will sustain you in your prognostication.

It was not, however, to compliment you that I undertook the present writing, but to point out the gross misapprehension or misrepresentation of facts on which Mr. Curtis builds his remarks. He speaks disparagingly of the methods of promotion in the army, by seniority rather than by merit, and cites the experience of the medical department as an illustration, claiming, in effect, that because Dr. Sternberg was the senior surgeon he was placed in charge of the medical corps with its enormous responsibilities, irrespective of his qualifications for the position. Now, it is true that in the army promotion is ordinarily by seniority up to and including the grade of colonel, but when it is a question of filling the position of a general officer or chief of a bureau, the President of the United States is untrammeled in his selection. He does not select the senior officer of a corps as its chief unless he is satisfied that the senior officer is the best man to discharge the duties of the office. Dr. Sternberg was selected by President Cleveland, May 30, 1893, to succeed Dr. Charles Sutherland as surgeon-general of the army. At that time Dr. Sternberg was not the senior officer of his corps. He was not even a member of the senior grade of officers, the colonels. He was only a lieutenant-colonel and not even at the head of that list. In fact, there were ten officers of the medical department who were senior to him when he was selected by the President for the honorable distinction of being made chief of his corps because he was considered to be the man best suited to discharge the important duties of that position. Mr. Curtis, as a journalist of ability and repute, should take care of his facts before he makes deductions from them. He should not disparage honorable men by arguing from his assumptions or misapprehensions.

Respectfully,

Charles Smart,

Lieut.-Col. and Deputy Surgeon-General, U. S. A.

Public Health.

Smallpox in New Orleans.—Up to March 17 inclusive, 76 cases were reported; no deaths; 10 discharged cured; 66 cases on hand, all in smallpox hospital in isolation.

Detroit Health Report.—For the week ending March 18: Dead 83, under 5 years 24. Contagious diseases: diphtheria, last report 7, new cases 8, recovered 6, dead 2, now sick 7; scarlet fever, last report 25, new cases 4, recovered 5, now sick 24.

Health Reports.—The following cases of smallpox, yellow fever, cholera and plague have been reported to the Supervising Surgeon-General of the U. S. Marine-Hospital Service for the week ended March 18, 1899:

SMALLPOX—UNITED STATES.

Alabama: Mobile, March 10, 4 cases.

California: Los Angeles, February 25 to March 4, 9 cases, 2 deaths.

District of Columbia: Washington, February 25 to March 11, 21 cases.

Florida: Jacksonville, February 18–25, 2 cases.

Georgia: Savannah, March 8, 7 cases; one among troops returned from Arecibo.

Kentucky: Louisville, March 3–11, 53 cases, 1 death.

Louisiana: New Orleans, February 25 to March 7, 19 cases.

Illinois: Chicago, March 10, 1 case.

Indiana: Clark County, Daviess County, Floyd County, Green County, Jefferson County, Marion County (Indianapolis), March 1, smallpox reported.

Ohio: Cincinnati, February 24 to March 11, 30 cases, 1 death.

Pennsylvania, Homestead, February 11 to March 11, 1 case: Altoona, February 11 to March 11, 1 case; Bedford County, February 11 to March 11, 1 case; Fulton County, February 11 to March 2, 1 case; Huntingdon County, February 11 to March 2, 5 cases; Somerset County, February 11 to March 2, 1 case.

Virginia: Alexandria, March 9–12, 5 cases; Lynchburg, March 4–11, 1 death; Norfolk, March 8–10, 18 cases; Portsmouth, March 4–11, 25 cases; Richmond, March 6–13, 5 cases.

Tennessee: Madison County, February 13 to March 11, 53 cases; Hardeman County, March 1–11, 1 case; Shelby County, Memphis, January 30 to March 11, 35 cases; Oliver County, March 3–11, 7 cases.

Texas: Bryan, January 29 to February 13, 24 cases; Monterey, March 2, 3 cases.

Washington: Spokane, February 25 to March 4, 1 case.

SMALLPOX—FOREIGN.

Brazil; Rio de Janeiro, February 20–27, 6 cases, 8 deaths.

Canada: Quebec, March 10, 2 cases.

Egypt, Cairo, Feb. 4–11, 1 death.

England: London, February 19–25, 2 cases.

India: Calcutta, January 28 to February 4, 2 deaths; Madras, January 28 to February 3, 1 death.

Mexico: Mexico, February 19-26, 2 cases, 1 death.

Russia: Moscow, February 5-12, 4 cases, 5 deaths; Odessa, February 18-25, 2 cases, 1 death; Warsaw, February 11-18, 3 deaths.

Turkey: Constantinople, Feb. 20-27, 16 deaths.

YELLOW FEVER—FOREIGN.

Brazil: Rio de Janeiro, February 20-27, 47 cases, 28 deaths.

Colombia: Barranquilla, February 5-18, 2 cases, 2 deaths.

CHOLERA—FOREIGN.

India: Calcutta, January 28 to February 4, 12 deaths.

PLAGUE.

India: Calcutta, January 28 to February 4, 1 death.

Society News.

Louisiana State Medical Society.—The annual meeting of this society will take place in New Orleans, April 25, 26 and 27.

Will County Medical Society.—This society held a special meeting and banquet, at Joliet, Ill., March 14. The speaker of the evening was Dr. D. R. Brower, of Chicago, who spoke on cerebral paralysis, presenting a paper. The next meeting will be held in May.

Stark County Medical Society.—At the meeting of this society, held in Massillon, Ohio, recently, the following officers were elected: President, W. O. Baker, Louisville; secretary, Dr. Pumphrey, Massillon; corresponding secretary, Dr. DeWitt, Canton; treasurer, Dr. Tyrell, Canton.

Salt Lake County Medical Society.—At the recent meeting of this society, Salt Lake City, Utah, it was voted to increase the dues of members in order that funds be assured for the establishment of a medical library, to be housed at present in the public library.

Pasadena Medical Association.—Dr. John B. Murphy of Chicago was the guest of honor at a recent meeting of this association, Pasadena, Cal., and presented a paper on "Gall-Bladder Surgery." Dr. Norman Bridge also presented a paper on "Pulmonary Hemorrhage."

Toledo Medical Association.—Friday evening, March 10, Dr. J. T. Lawless read a paper before the Toledo (Ohio) Medical Association, entitled "Operation for Fracture of the Patella." The Doctor also presented an umbilic cord fifty-four inches long, knotted in several places. The child had been dead four or five days when delivered.

Butler County Medical Society.—The election of officers for this society, at the last session, held in Hamilton, Ohio, resulted as follows: President, re-elected, F. M. Barden; vice-president, J. H. Roll; secretary, re-elected, August Schumacher; treasurer, re-elected, F. M. Fitton. Drs. Dan. Millikin, J. H. Roll and Geo. C. Skinner were re-elected censors. Dr. W. D. Hancock read a paper on "Scarlatina," and Dr. G. A. Hermann one on "Pneumonia as a Secondary Complication Following la Grippe."

New York County Medical Association.—At the last meeting of this association, Dr. Hermann Grad reported a case of successful excision of gastric ulcer. The following standing committees have been announced: Committee on medical charities and public health, Louis Fischer, chairman, C. I. Proben, Wickes Washburn, M. C. O'Brien and J. H. Woodward; committee on ethics and discipline, J. Harris Dew, chairman, J. Blake White, J. A. Wyeth, J. E. Messenger and D. L. Hubbard; committee on legislation, J. L. Nagle, chairman, D. H. Stewart, G. D. McGauran, W. T. Jenkins and E. E. Harris.

Missouri Valley Medical Association.—The semi-annual session of this association has just been held at St. Joseph, Mo., under the presidency of Dr. B. F. Crummer of Omaha. The day and evening sessions were occupied by the reading of papers, followed by a banquet, presided over by Dr. S. G. Gant as toast master. About one hundred physicians were present from neighboring cities and a visit was made to the State Lunatic Asylum No. 2, through the courtesy of the superintendent, Dr. R. C. Woodson. The officers of the association are: B. F. Crummer, Omaha, president; J. Geiger, St. Joseph, first vice-president; C. C. Allison, Omaha, second vice-president; T. B. Lacy, Council Bluffs, Iowa, treasurer; V. L. Treynor, Council Bluffs, Iowa, secretary. The next meeting of the association will be held at Council Bluffs, Iowa.

Cincinnati Academy of Medicine.—At the meeting of March 13, Dr. Gustave Zinke exhibited an infant suffering from exstrophy of the bladder; a female (from 80 to 90 per cent. occur in males); symphysis pubis absent, so that the posterior wall of the bladder bulges greatly forward through the unnatural opening, and forms a sort of convex tumor due to the pressure of the intestines from behind. The mucous membrane of the bladder is in a state of acute inflammation, and is covered with a lot of unhealthy, easily bleeding granulations; the openings of the ureters could be readily seen. The vagina is converted into a narrow fissure. The resignation of Dr. N. P. Danridge from the board of trustees of the academy was accepted, and Dr. Giles Mitchell was elected in his place. The financial secretary was voted $50 as a testimonial of the appreciation of the academy for his services during the year. The annual reports of the various officers were then read and accepted. The retiring president Dr. Louis Schwab, then made an address welcoming the new administration, and the president-elect, Dr. E. W. Mitchell, made his inaugural address.

Washington (D.C.) Medical Society.—At the meeting of the society held March 15, the discussion was continued on the paper of Dr. Adams, on immunizing with the antitoxin of diphtheria. Dr. J. E. Walsh, medical sanitary inspector of the health office, gave statistics showing varying mortality in the use of antitoxin and other treatments in diphtheria. In 1894, 174 cases treated with antitoxin had a mortality of 13.2, while 142 cases, treated without antitoxin, had a mortality of 34.9. In 1896, 288 cases were treated with antitoxin, with a mortality of 7.3, while 335, treated without antitoxin, had a mortality of 26. The mortality from diphtheria in the District from 1891 to 1893 was as follows: 1891, 34 per cent.; 1892, 32 per cent.; 1893, 33 per cent.; 1894, 40 per cent.; 1895, 29.6 per cent.; 1896, 23 per cent.; 1897, 17.7 per cent.; 1898, 18.7 per cent. Dr. D. S. Lamb presented the following pathologic specimens: 1. Both kidneys on right side, one in normal position, the other in right iliac fossa; the two ureters united and entered the bladder on the right side. 2. Malarial kidney in a patient aged 30 years, spleen and liver enlarged; cortex of kidney mottled; patient had suffered from hematuria. 3. A very small kidney, believed to be a congenital defect. 4. Contracted kidney; history of rheumatism; heart enlarged; myocarditis, with hemorrhage into lungs. Dr. Glazebrook, the deputy coroner for the District, presented a specimen of ascending and transverse colon with numerous deep pouches containing fecal concretions. The pockets and depressions containing the concretions caused attenuation of the muscular coats almost to perforation. The patient had died suddenly of angina pectoris.

Miscellany.

Noma.—Klautsch (*Archiv für Kinderheilkunde*, 26 B., iii, u. iv Heft, p. 245) reports a fatal case of noma in an ill-nourished child, 2 years old, with gastro-intestinal derangement, and expresses agreement with the opinions that the disease is dependent upon the activity of not a single specific microorganism, but of any of a number of putrefactive bacteria, that do no harm upon a healthy mucous surface, but lead to necrobiosis of mucous membranes whose resistance has been lowered by disease or other nutritive disturbance.

Oatmeal as a Cause of Constipation.—Dr. Geo. J. Monroe of Louisville (*Lancet-Clinic*, March 11) calls attention to the frequent constipation from the habitual use of oatmeal as an article of diet, especially in the aged and in those of sedentary habits. He reports several cases, and says he can recall many cases of the trouble which he is now satisfied were produced by the too free use of oatmeal.

Funnel-breast.—Jas. R. Arneil (*Phila. Med. Jour.*, March 11) reports six cases of this peculiar deformity, which has been considered rare, but which is now looked upon as, comparatively, most frequent in degenerates and especially in the insane. Only one case is reported in full, the others are simply mentioned. The author discusses the causation of this deformity and gives various opinions that have been offered in regard to it. The congenital form is especially difficult to explain. A notable feature in this paper is that five of these cases were men of not only normal vitality, but fine physical development and excellent family history.

Aguinaldo.—In its issue of March 4, the *British Medical Journal*, after mentioning several prominent public men who have been members of our profession, says editorially: "It appears that medicine may also have the perhaps doubtful honor of at least partly claiming Aguinaldo, the Filipino patriot. His face and features and the conformation of his skull are of the European type and he is believed to be the son of a Spaniard, though there is a conflict of testimony as to whether the honor of his paternity belongs to a general or a Jesuit. He was born in Cavite and was, in his boyhood, in the service of a priest, who gave him some education. At the age of 15 he entered the Pontifical University of Manila, where he worked under Professors Waldo and Buitrago. He afterward studied at the Victoria College, Hongkong. He was remarked for his ability as a student, but nothing else is known of his career. We are, therefore, unable to say positively whether he was ever pronounced *dignus entrare in nostro docto corpore.*

The Urine of Intermittent Fever.—In the study of the urine in six cases of malaise intermittent fever, Hitzig (*Deutches Archiv für Klin. Med.*, 62 Band, iii u, 4, Heft, p. 358) found the secretion increased in amount during the febrile period, of light color and low specific gravity. The maximum quantity was attained generally at the acme. A diminution at this period and an increase in the sweating stage occurred only exceptionally. The total amount of nitrogen eliminated was increased during the febrile period, the variations corresponding with those in the amount of urine, but sometimes preceding or succeeding those in temperature. The urea corresponded with the total amount of nitrogen, but no conclusion could be reached as to the percentage—participation in that amount—during and independently of the febrile period. The ammonia was increased during the febrile period, the increase often corresponding with that of the total nitrogen, but sometimes following this, so as to fall at times upon afebrile days. The relation between the total nitrogen and the nitrogen of the ammonia, as compared with the normal, of 100 : 5, was in some cases greatly altered in favor of the ammonia; in one instance equaled 100 : 25. The variations in the elimination of uric acid corresponded in time and amount approximately with those of the total nitrogen. No marked increase in the amount was observed. The elimination of potassium and of sodium was greatly increased during the febrile period, that of the former, was about tenfold; that of the latter about sixteenfold. The chlorids also were greatly increased during the febrile period, but later correspondingly diminished, the increase corresponding in time and amount to that in the sodium and not being attributed to disintegration of red blood-corpuscles. The phosphates were greatly diminished during the febrile period, but later correspondingly increased, the diminution beginning before the advent of the fever.

Gynecology on the Insane.—Dr. W. P. Manton (*Medical News*, March 11) anticipates the report of the Eastern Michigan Asylum by publishing the results of gynecologic operations performed on patients in that institution. A total of twenty-eight operations were made on seventeen patients, as follows: vaginal hysterectomy, 3; abdominal hysterectomy, 1; celiotomy for intraligamentous cyst, 1; ventral fixation, 4; curettage and divulsion, 6; trachelorrhaphy, 4; perineorrhaphy, 3; anterior colporrhaphy, 1; posterior colporrhaphy, 1; occlusion of vagina, 1; removal of uterine polypus and submucous fibroids, 1; removal of hemorrhoids, 2. Four patients recovered after the operation (23.52 per cent.), three improved mentally (17.64 per cent.), and ten remained unchanged. There were no fatalities. Of the four patients that recovered, two had melancholia and two had acute mania. The fact that two of the cases, one of acute mania of ten weeks' duration, and one of melancholia of nine months, were within the usual limit of time that may be considered hopeful, affects the estimate of the value of the operations in these two cases. In the other cases of melancholia the duration was unknown, but recovery may occur in that form of disorder after long periods. One case of acute mania reported as of one year and seven months' duration is possibly a case of periodic insanity, and this possibility is to be considered in all cases of that type. The paper is a valuable one as showing the tolerance of gynecologic operations in the insane, but it can hardly be considered as conclusive as to its effect in producing permanent mental improvement or recovery. There is no question that the insane woman has as good a right to have her disability removed as any other, and therefore gynecologic operations in these cases are advisable whenever they are indicated and are practicable.

Tuberculosis in the Insane.—Dr. H. H. Tomlinson, superintendent of the St. Peter's Asylum, Minnesota, published in the *N. Y. Med. Jour.*, March 11, an interesting paper on the observations and findings as to phthisis in the insane. The period of his study covers from January, 1895 to 1898, during which time fifty patients succumbed to the disease. None of these had their condition thus diagnosed on admittance, and tuberculosis appears to have originated during their residence. The special type of the disease, in the great majority of these cases, was a peculiar one. There was little emaciation until shortly before death and rational signs were largely absent or not so marked as cases outside the institution. Attention was generally first called to these cases by the elevation of temperature, general weakness and sweating. The course of the disease was often greatly prolonged, and even after the patient had taken to his bed, he might continue a merely vegetative existence for months or even a year. The condition of the lungs on postmortem was also peculiar; the cavities were few and small, the lung heavy, its tissue dense, the basis often only a mass of dense fibrous tissue, and the only normal appearing portions were found in the middle and anterior regions of the lungs. Dr. Tomlinson calls attention to the close resemblance existing between these conditions and those of bovine tuberculosis, except that in the latter, the animals having been killed, the stages are not so advanced. Undoubtedly the conditions must have existed for a long time before attention was called to them. The Doctor recapitulates his paper by stating that phthisis in an old institution like St. Peter's is relatively more common than in the general population; for the last year covered by the paper, the percentage of deaths 46. It is most common among degenerates in whom the lungs and kidneys are both likely to be affected with the connective-tissue degeneration described. He considers this tendency to connective-tissue degeneration to be especially a manifestation of inherent defect, in other words, a symptom of degeneracy. In seventy-two post-mortems made during the period, he found all more or less involved as to the lungs and kidneys. In no case was there a perfect healthy condition found. He, therefore, accounts for the relative frequency of tuberculosis in the insane to this original defective tendency of the organism, rendering them the more liable to infection and morbid conditions favored by the overcrowding, etc., in such institutions.

St. Joseph, Mo.

Ensworth Medical College.—The commencement exercises of this college were held Tuesday, March 14.

Cerebrospinal Meningitis.—A large number of deaths have been reported recently from cerebrospinal meningitis.

Missouri Legislation.—A bill has been introduced in the State Legislature prohibiting advertisement by physicians, to cure any disease. The object is to drive out advertising quacks.

New York City.

Appointment.—Dr. Edward H. Peaslee has been appointed manager of the State Custodial Asylum for Feeble-Minded Women, by Governor Roosevelt.

Fatality of Pneumonia.—The great prevalence and fatality of pneumonia in New York during the winter months is shown by the fact that during the four weeks embracing part of February and the first three days of March, there were reported no less than 968 deaths from the disease, or 255 more than the deaths from pulmonary tuberculosis. The largest number of deaths from it in any one week was 257.

Washington.

Central Dispensary and Emergency Hospital.—At the meeting of the board of trustees, held March 10, the report of the attending staff gave the number of new cases as 1067; visits 2343; operations 353; prescriptions compounded 2541; deaths 4; ward cases 58; ambulance calls 58; smallpox patients applying for treatment 5; sent to pest-house 5. Two cases of epidemic cerebrospinal meningitis admitted to the wards promptly died, the post mortem showing the characteristic lesions.

St. Elizabeth's Hospital.—The monthly lecture to the patients of the Government Hospital for the Insane was recently given by Dr. A. H. Witmer of the medical staff. He presented stereopticon views showing the important transactions of the Spanish-American War incident to the capture of Santiago.

Health of the District.—The report of Health Officer Woodward, for the week ended March 11, shows the total number of deaths in the District to have been 108, 62 white and 46 colored. There were 8 fatal cases of cerebrospinal meningitis, 27 cases of smallpox, 75 of scarlet fever and 55 of diphtheria under treatment.

Philadelphia.

Honorable Discharge.—Dr. Edward O. Shakespeare, who received the appointment of brigade surgeon at the commencement of hostilities with Spain, has received an honorable discharge from the Secretary of War.

Dr. Harte Ill.—Dr. Richard H. Harte, surgeon to the Pennsylvania Hospital and demonstrator of osteology at the University of Pennsylvania, is ill with typhoid fever.

Typhoid Patients.—The Episcopal Hospital announces that there are 69 cases in that institution; the Pennsylvania, 65 cases; the Presbyterian, 45 cases; the Medico-Chirurgical, 14 cases; while the University, St. Joseph's, St. Agnes, Polyclinic and other institutions are filled to overflowing with typhoid fever patients.

Right in Establishing Quarantine Station.—Word has been received from the attorney-general's department to the effect that the State has the right to condemn and acquire any property necessary for the establishment of a quarantine station in Pennsylvania, according to the Act of 1893. This was in answer to the question recently submitted to the attorney-general by Dr. Benjamin Lee, formerly health officer of Philadelphia.

A Bold Thief.—The police are looking for a man about 5 feet 5 inches in height, about 40 years old, of medium build, smooth face, dark slightly gray hair and patent leather shoes, who recently committed a burglary in broad daylight. The man was in the disguise of a "sanitary inspector" and wore the prescribed uniform, including the hat. He called at the home of a citizen and asked to inspect the water pipes and sanitary arrangements of the house. He was admitted to the bath-room and, on the butler being called away (probably by a confederate), the man entered an adjoining room and stole jewelry valued at $450.

Governor Makes Appointments — Governor Stone, on March 16, sent to the Senate, for confirmation, the following: Charles E. Yarvey, vice George G. Groff, and P. A. Boyer of Selin's Grove, vice Pemberton Dudley, to be members of the State Board of Health and Vital Statistics.

Charity Ball.—The charity ball of 1899 resulted in $9000 to be distributed to: Children's ward of the University Hospital; St. Christopher's Hospital for Children; Pennsylvania Society to Protect Children from Cruelty; Sanitarium Association of Philadelphia. Since 1881, the total amount raised by this means has aggregated $180,000.

German Hospital Report.—The thirty-ninth annual report shows that during the year just closed there were treated in the hospital a total of 4139 cases, an increase over the previous year of 1157 cases. Through the gift of the president, Mr. John D. Larkeron, a new pathologic institute has been erected. The total receipts for the year were $71,606.14, and the total expenses $76,131.16.

Successor to Dr. Guitéras.—Dr. Simon Flexner, professor of pathologic anatomy in the Johns Hopkins University, has just accepted the position of professor of pathology in the University of Pennsylvania, to succeed Dr. John Guitéras, resigned. Professor Flexner graduated from the medical department of the University of Louisville in 1889, and in the following year entered Johns Hopkins University as a graduate student in pathology. In 1891, he was given the Fellowship in pathology, from which he advanced through the grades of associate in pathology, and associate professor of pathology. Subsequently, the chair of pathologic anatomy was created, to which he was appointed. He is widely known throughout this country and Europe as an original investigator, his most important work having been in the field of experimental pathology. He has been regarded as one of the most earnest, successful, and popular teachers in the Johns Hopkins University. He enters upon his duties at the University of Pennsylvania September 1 of the present year. Dr. Flexner will be offered unusual facilities with which to conduct the teaching of pathology, as well as to carry on original work. The University of Pennsylvania is about to erect a large laboratory building, a large part of which will be devoted to the department of pathology. The main part of the building is 192 feet in length, and there are wings running back 128 feet at each end. Large student laboratories will be placed in the wings, while the front of the main building will be divided into a number of special research rooms, offices, and workrooms of various sorts. To the rear of the center of the main building there is on each floor a special demonstration room, and a lecture-room arranged in the form of an amphitheater.

College of Physicians.—This institution, probably the oldest medical body in the United States, is making an earnest endeavor to increase its endowment fund to $50,000. The college should be looked upon as a public institution and the conservator of the health of the entire community, for it is here that medical societies and general scientific bodies meet for the discussion of subjects of vital interest to all citizens. Out of a membership of somewhat over 300, thirty-one fellows, or one-tenth the membership, have either written or edited medical books during 1898.

Medical Men Oppose Antivaccination.—The physicians of Philadelphia have become considerably aroused over the antivaccination movement which has been quietly but progressively pushing forward in the State for the past few months. The foremost opponents of the Bill introduced by Representative Allen, and who sent their members to Harrisburg, were: The College of Physicians, represented by Drs. John K. Mitchell, William M. Welch and David Cleeman; County Medical Society, by Drs. J. C. Wilson, A. H. Hulshizer and

J. H. Musser; Pediatric Society, by Drs. M. Hamill, J. Madison Taylor and D. L. Edsall. The principal address before the Legislature was made by Dr. John K. Mitchell. Dr. Leonard Pearson, State veterinarian, also made an address to prove that vaccin matter was not the mode of conveyance of loathsome disease, as had been charged by the antivaccinationists.

Mortality Statistics.—A summary of the typhoid epidemic may be made as follows: New cases reported March 1, 95; deaths, 9; cases for week ending March 18, 477; deaths, 44; cases since January 1, 4509; deaths, 457. The total number of deaths occurring the week ending March 17 was 520, the same as the preceding week and an increase of 36 over the corresponding week of last year; 127 deaths occurred in children under the age of five years. The principal causes of death were: apoplexy, 15; nephritis, 30; tuberculosis, 71; diabetes, 1; heart disease, 48; influenza, 6.

Questions and Answers.

PROSTATE TABLETS.

Chicago, March 15, 1899.

To the Editor:—In the Journal of February 18, p. 369, there is mentioned the use of prostate tablets in prostatorrhea. Can you give me any information regarding these tablets or where I will be able to obtain them?

Yours respectfully, J. M. B.

Answer.—Armour & Co., Chicago, make desiccated extract of the prostate gland, and Burroughs, Wellcome & Co., London, England, prostate tablets.

PRACTICE IN WYOMING AND NEBRASKA.

Nashville, Tenn., March 10, 1899.

To the Editor:—If it is not too much trouble, will you let me know what is necessary for permission to practice medicine in Wyoming and Nebraska. Please let me know what to do and what it will cost in each State. I am a graduate of the Baltimore Medical College. J. W. W.

Answer.—Full information in regard to the Wyoming medical laws can be obtained by reference to our "Correspondence" columns of this week. The Nebraska law requires the submission of a diploma to the board of health, which, if it is from a recognized college, will grant a license. Write to the secretary of the board of health, Lincoln, Neb., and he will send a blank to be filled out. The fee is $10.

ANTIQUE SURGICAL INSTRUMENTS.

Cleveland, Ohio, March 6, 1899.

To the Editor:—I notice in the Journal of February 25, p. 444, an appeal to possessors of antique surgical instruments, etc. As I have a "medicine chest" with dates of 1790 in it, I should be glad to have the address of the above mentioned collectors.

Yours respectfuly,

Jessie Boggs, M.D.

Answer.—We believe that the information desired can be obtained by addressing Dr. A. Chauffard, Professeur Agrégé de la Faculté de Méd., Paris, France.

ANOMALIES OF ENGLISH MEDICAL EDUCATION.

Panora, Iowa, March 13, 1899.

To the Editor:—I was much interested in your editorial in the Journal of March 4 on the "Anomalies of English Medical Education." May I ask what is the work required in the different colleges for the right to practice medicine and surgery? I mean for the M.R.C.S. and F.R.C.S. and the M.R.C.P. and F.R.C.P., etc., as also the M.D. I have in mind to find out the difference in the requirements of authority to practice medicine and surgery in England and America. Yours fraternally,

C. O. Sones, M.D.

Answer.—The information will probably be best obtained from the student's number of the *British Medical Journal* and *Lancet*, which generally appears in August. The examination papers are, of course, not published. In brief, however, we might say that the M.R.C.S. and the M.R.C.P. degrees are obtained upon examination after a five-years course in clinical work and lectures has been taken. The F.R.C.S. and F.R.C.P. degrees are to a certain extent honorary, although not entirely so. The M.D. degree is conferred only by universities, and is presumed to require a classic education besides the medical.

CINNAMIC ACID.

Chicago, March 20, 1899.

To the Editor:—I notice in the Journal of March 18, p. 633, an inquiry from a California physician, concerning this remedy for tuberculosis, and in addition to the matter given him in answer, I would like to add that Prof. A. Landerer's address is Stuttgart, Germany, where he has charge of the surgical department of the Carl Olga Krankenhaus or Hospital.

E. P. C.

CHANGE OF ADDRESS.

Antisdale, E. S., from Benton Harbor, Mich., to 103 State St., Chicago.
Bobo, C. S., from Weatherford, Tex., to Norman, O. T.
Brown, J. M., from 39 Whitehall to 391 Washington St., New York City.
Brashear, B. B., from Cleveland, O., to 803 Pacific Av., Atlantic City, N. J.
Behle, W. H., from Summitt Blk. to Galena Blk., Salt Lake City, Utah.
Caldwell, F. H., from Sanford, Fla., to Waycross, Ga.
Gee, E. H., from 650 Van Buren to 649 Adams, Chicago.
Green, E. M., from 303 W. Chestnut, Louisville, to Versailles, Ky.
Herr, A. W., from 66 Michigan Av. to 446 Euclid Av., Cleveland, Ohio.
Hubbard, E. E., from Faribault, Minn., to Rialto Bldg., Kansas City, Mo.
Jenney, F. L. B., from 1033 Evanston Av. to 60 Bitter-Sweet Pl., Chicago.
Johnson, M., from Wilcox Blk. to 508 Frost Blk., Los Angeles, Cal.
Lyon, S. B., from Chicago, Ill., to 8 Mason St., San Francisco, Cal.
Lincoln, B. S., from Missouri City to Monroe City, Mo.
Petzke, E. A., from Madison to Hixton, Ill.
Richstein, J. J., from Evansville, Ind., to 1003 Clay St., Oakland, Cal.
Reedy, E. S., from Joliet, Ill., to Bloomington, Ill.
Spring, C. K., from 1409 Harrison to 46 Fowler, Chicago.
Smith, J. E., from 3255 Hermitage to 236 Winchester, Chicago.
Sweemer, W., from 12th and Walnut to 622 11th St., Milwaukee. Wis.
Schmall, O. B., from 109 14th St. to 110 E. 8th St., Cincinnati, Ohio.
Tuttle, J. P., from 35 W. 45th St. to 42 W. 50th, New York City.
Wilson, A. L., from 823 to 1527 N. Illinois St., Indianapolis, Ind.

The Public Service.

Movements of Army Medical Officers under orders from the Adjutant-General's Office to March 16, 1899.

Robt. L. Bartlett, acting asst.-surgeon, from duty at Anniston, Ala., to New York City, reporting to the medical superintendent of the transport service.

Powell C. Fauntleroy, lieutenant and asst.-surgeon U.S.A., from the hospital ship "Missouri" to the general hospital, Savannah, Ga.

Richard M. Fletcher, Jr., acting asst.-surgeon, from Anniston, Ala., to post duty at Ft. Harrison, Mont.

John N. Goltra, acting asst.-surgeon, from Anniston, Ala., to post duty at Ft. Douglas. Utah.

Wm. R. Hall, major and surgeon U.S.A., to proceed to Camp Meade, Pa., to supervise the hospital accommodation and the sanitation of the camp during its occupancy by volunteer troops.

Henry S. T. Harris, major and brigade surgeon Vols., leave of absence granted.

H. Hartnett, lieutenant and asst.-surgeon U.S.A., former orders amended so as to direct him to report to the battalion commander 6th U.S. Art. at Ft. Monroe, Va., to accompany the command to Manila, P. I.

Frederick M. Hartsock, lieutenant and asst.-surgeon U.S.A., leave of absence extended.

Jas. H. Hepburn, acting asst.-surgeon, from Washington, D. C., to Plattsburg Bks., N. Y., to accompany the 21st U.S. Inf. to Manila, P. I.

Wm. F. Lewis, captain and asst.-surgeon U.S.A., from duty with the 8th U.S. Cav. and as examiner of recruits at Baltimore, Md., to Madison Bks., N. Y., to accompany the 9th U.S. Inf. to Manila, P. I.

David T. McKinney, acting asst.-surgeon, from Minneapolis, Minn., to New Brighton, Pa.

Harry C. Perley, major and surgeon U.S.A., leave of absence granted from his command at the army and navy general hospital, Hot Springs, Ark.

Elias H. Porter, acting asst.-surgeon, from duty at Albany, Ga., to New York City, reporting to the medical superintendent of the army transport service.

Henry I. Raymond, major and brigade surgeon Vols., former orders suspended, requiring him to proceed to Ft. Porter, N. Y., to accompany the 13th U.S. Inf. to Manila, P. I.

Jos. C. Reifsnyder, acting asst.-surgeon, from Greenville, S. C., to Ft. McHenry, Md., to accompany the 6th U.S. Art. to Manila, P. I.

Shannon Richmond, acting asst.-surgeon, from Huntsville, Ala., to Ft. Leavenworth, Kan.

Henry A. Shaw, captain and asst.-surgeon U.S.A., sick leave granted.

B. F. Van Meter, acting asst.-surgeon, from Ft. Sam Houston, Tex., to accompany the 6th U.S. Inf. to Manila, P. I.

Wm. C. Warmsley, acting asst.-surgeon, on the arrival of the 23d Kan. Inf. at Ft. Leavenworth, Kan., to proceed to Santiago, Cuba, for duty in that department.

Raymond E. Whelan, acting asst.-surgeon, to duty on the army transport "Hooker."

Robt. S. Woodson, captain and asst.-surgeon U.S.A., from the Dept. of Santiago, Cuba, to post duty at Ft. Clark, Tex.

A board of medical officers consisting of Majors Wm. R. Hall, Louis A. La Garde, Edw. C. Carter, surgeons U.S.A., and Capt. E. L. Munson, asst.-surgeon U.S.A., was appointed to meet in Washington, D. C., on the call of its president, for the purpose of making recommendations relating to a revision of the standard supply table and field supply table as published in the manual for the medical department, approved June 17, 1898.

General Orders No. 46 from headquarters of the army, issued March 13, 1899, direct the honorable discharge of a number of officers of the volunteer army, among them certain medical officers. The discharge of each is to take effect on the date specified:

CHIEF SURGEONS.

Lieut.-Col. Robt. M. O'Reilly, May 12, 1899.
Lieut.-Col. Alfred C. Girard, April 12, 1899.
Lieut.-Col. Timothy E. Wilcox, April 12, 1899.
Lieut.-Col. Jefferson R. Kean, May 12, 1899.

BRIGADE SURGEONS.

Major Paul Clendenin, May 12, 1899.
Major Jas. D. Glennan, May 12, 1899.
Major Nathan S. Jarvis, April 22, 1899.
Major Peter D. McNaughton, May 12, 1899.
Major John R. McDill, May 12, 1899.
Major Geo. B. Bunn, May 12, 1899.
Major Elmer E. Heg, May 12, 1899.
Major Wm. S. Bryant, May 12, 1899.
Major Wm. F. de Neideman, May 12, 1899.
Major Francis C. Ford, May 12, 1899.
Major John L. Macumber, May 12, 1899,
Major Robert Burns, May 12, 1899.

Movements of Navy Medical Officers.—Changes in the medical corps of the U.S. Navy for the week ending March 18, 1899.

Asst.-Surgeon W. H. Bell, detached from the naval hospital, Washington, D. C., and ordered to the "Vixen."

Asst.-Surgeon H. D. Averill, detached from the "Iowa" and ordered home.

Asst.-Surgeon W. H. Ulsh, detached from the naval hospital, Philadelphia, Pa., and ordered to the "Glacier" April 6.

Asst.-Surgeon R. K. McClanahan, detached from the "Richmond" and ordered to the naval hospital, Philadelphia, Pa.

Medical Director D. Kindleberger, retired, granted leave abroad from April 15.

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Addresses.

SOME OF THE MINOR IMMORALITIES OF THE TOBACCO HABIT.[1] *

BY MATTHEW WOODS, M.D.
MEMBER OF THE AMERICAN MEDICAL ASSOCIATION,
With a Foreword by De Forrest Willard, M.D.
PROFESSOR OF CLINICAL SURGERY, MEDICAL DEPARTMENT UNIVERSITY OF PENNSYLVANIA.
PHILADELPHIA.

Man muss etwas Sein um etwas zu Machen.—GOETHE.

When first aroused by feelings akin to indignation by the announcement that this society was about to give a "smoker," it was not because I loved less the brethren chiefly instrumental in making the compromising spectacle possible, but because I loved my profession and alma mater more.

I had been taught, and still believe, that medicine is a sacred calling, that it combines in itself the excellencies of all professions, just as the greater contains the less; that the physician is, or ought to be, a man set apart, devoted to the betterment, not the destructive pleasures, or obliteration of the better interests of humanity, for the broad study of medicine, not to be confined within the narrow limits of therapeutics, considers man morally as well as physically and includes within its sphere the issues of life and death.

As law concerns itself with his constitutional and other rights, theology with his relation to God—or if you prefer it, good—and his fellow-man, so medicine has to do not only with these, but also with the health and indirectly the morals of the community, so inseparably associated with a sound body that often bad morals to the physician simply means bad health.

With the conception of the duties that belong to our vocation, this consuetudinarilly implied necessity on our part—transmitted perhaps from Hebrew and Greek priest—for physicians not only to avoid evil, but its appearance, this positive duty devolving upon us to separate ourselves from, and condemn everything causing, either moral or physical deterioration, you may imagine the sorrow that possessed many of the alumni of our common foster mother when they realized that, on the contrary, this association called by her name had gone over to the Philistines, that this division of her sons, of all men, after the manner of the profane world, had actually decided to give a "Smoker!" had deliberately and officially announced its purpose to throw the weight of its great example in favor of an indulgence condemned by almost every prudent father, by almost every mother and wife, by all who have been its victims, by nearly all who have not been, and by many who are still, under its thrall.

That a collective body of esteemed men should decide to stamp with the approval of a sanitary and presumably sagacious society—recognized custodians of the public health—a custom opposed to health and that has become the bane of domestic and public ethics as well as esthetics, a menace to higher education, a concomitant of nearly every modern error, an enemy of moral reform, a cause of mental decay, a habit, as many homes can testify, often causing the obliteration of that faculty that enables man to recognize the rights of others; that we as an association of physicians should have deliberately decided to feed with the bread of encouragement this procreator of hydra-headed disease, this habit which, according to the opinion of many educational and medical authorities, is the worst curse of modern civilization, is indeed one of those anomalies of conduct calculated to make the judicious grieve.

It is because of a belief in the not always recognized or admitted power of the habit for varied evil that we have been persuaded, mostly by conviction, but also by the compliment of your esteemed invitation to address you to-night on some of the minor immoralities connected with its use.

We are not discussing the rights of the individual, for, much as we regret friends somewhat dead in narcotic trespasses and soporific sins, we presume not to limit the liberty of any man; our protest is with an association, as if there was no other way of blowing the spark of good-fellowship into a flame, officially deciding to do what is not only inconsistent and unseemly, but morally wrong.

After the manner of the schoolmen—those curious old divines of the middle ages who occupied so many otherwise monotonous hours in discussing the niceties of abstract speculation—let us inquire for a moment what is morality and what is implied by vice, its reverse?

It is only necessary to consult a dictionary to learn that "morality implies the quality of an intention, a character, an action, a principle or a sentiment when tried by the standard of right;" "The practice of the moral and social duties, or the duties of men in their social relations;" that in theology, "morality has reference to man's duty toward himself, his fellow-men and God," and that "vice" is defined variously as "something that mars, a blemish, an unworthy or undesirable habit," and "as the habitual gratification of a debasing appetite."

We shall consider the tobacco vice first in relation to his better nature and suppression of what is base.

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*Read at the New England Supper given by the Philadelphia Society of the Alumni of the Medical Department of the University of Pennsylvania.

[1] This paper is the result of an invitation from the Board of Directors of the Philadelphia Alumni Society of the Medical Department of the University of Pennsylvania, in which Dr. Woods was asked to address the society on the subject of tobacco. The previous gatherings had been denominated "Smokers," to which title Dr. Woods naturally objected, feeling that not only the thing, but even the name, compromised the dignity of the profession. His acceptance of the invitation, as will be seen by his paper, was intended to bring before the association and to elicit discussion upon an indulgence which he, in common with others, considered derogatory to the intelligence of professional people as leaders of hygienic thought. The article has already brought forth good fruit among thinking medical men, and it is now published at the request of a number of friends for the benefit of the profession at large.—DE FORREST WILLARD.

In this connection you will allow me to draw your attention for a moment to the quality of Discontent, so important a factor in the moral, religious, social and physical development of the race, that we are almost justified in calling it divine, in saying as much in its favor, if we knew how, as the blood-stained poet-traitor Macbeth, said of sleep:

> ———Innocent sleep;
> Sleep that knits up the ravell'd sleave of care;
> The death of each day's life, sore labour's bath,
> Balm of hurt-minds, great nature's second course,
> Chief nourisher in life's feast.

Thus we may say, beneficent Discontent; the originator of reform; the mother of science, literature and art; the maker of beauty, the divine cause to which we are indebted for the amenities of social intercourse and all the buoyant exhilarations of modern life. Our country, national constitution, our consorting here tonight as clothed men around this cheerful board instead of barbarians around the burning bodies of our enemies, are all due to the influence of this thoughtlessly regretted possession. But for it, Luther would have remained a monk; freedom of speech, tolerance in religion, rights of private judgment, liberty of conscience would have been unknown, the Declaration of Independence unwritten. Without it we either retrograde or stand still; with it advancement is sure. The naked savage is content with his bed of leaves; an Alexander nobly discontent because there are no other worlds to conquer.

You will agree with me, therefore, that anything diminishing without adequate return, this progress-evoking quality, is morally wrong. If Columbus had been content with the map of Europe he would never have added to it. If our forefathers had been content with the injustice of an alien land they would never have declared themselves free. Asia was conquered by Athens, Athens by Rome, and the civilization of beyond the sea has been transmitted to us because of the discontent of the men who had gone before. If early man had been content with clay huts and worship in the exposed wilderness, we would not have known the glory of the Parthenon or the stately grace of the Cathedral of Milan. It was discontent that invented the spade, the harrow, the plow. It created the locomotive, replaced the galleon by the steamer, the postillion by the telephone. The studiousness of the scholar, the ardor of the poet, the sacrifice of the patriot, the fire of the hero, and the rapture of the saint, are all due to the presence of rest-preventing discontent; and yet so oblivious are we of its value as a means of conquest and development, that instead of having it instigate to the removal of obstacles, like our elders, to secure their opposite, we merely aim to destroy it with a drug; we put an enemy in our mouth to steal it away, and thousands of young men as a consequence, under the spell of its artificially induced calm, fail in the race of life as the great world with its struggles and aspirations moves on; West Point rejects them, Oberlin does, and many of the better colleges would like to refuse them; success does not attend them; arrested development is their portion, but what care they; like the Lotophagi in the Homeric legend, they have eaten of the enchanted fruit and are content to live in effortless idleness in Lotusland! This then is the testimony of educators—presidents of colleges, the higher schools and military academies—not only here but throughout the world, in reference to students who fail.[1]

It was a recognition of this that caused Fourier to exclaim in one of those prophetic, though terse sentences peculiar to him: "The nation that smokes perishes." This which seems such an exaggeration will bear inspection, for it needs no lighting of the casuistic candle to see that producing artificial tranquillity by a drug—whether it be opium, cocain, hashish, chloral or tobacco—in the place of growth-urging discontent, is an offence against our better nature, weakening that power of progressive achievment that ought to characterize nations and men.

Significant, too, is the fact that unlike other lethal products, tobacco almost alone has no medical properties entitling it to an honored place in the dispensatory. It is not used as a remedy for any disease; there are even no modifications of it employed in the treatment of the sick; it does not destroy germs or keep off contagion as certain conjecturally smoke-cured brethren seem to imagine. Chewing or smoking it does not diminish the danger when inhaling poisonous dust or vapor; it does not "prevent obesity," "aid digestion" or "relieve asthma," as its victims sometimes claim. On the contrary, it has been—not only because of its uselessness but also its danger—ignominiously expelled from the pharmacopeia of every civilized land, and yet, we *physicians*, knowing this and more, come together for the purpose of putting ourselves under its control, call our gatherings by its name, use it with as much tolerance as if it were a panacea for every ill, giving the sanction of our example *instar omnium* to its general use, thus casting our influence on the side of evil by publicly honoring this ubiquitous wrong, Is not this an immorality?

The demoralizing effect of this omnipotent evil enters every avenue of life. The laboring man and his family have no worse enemy than tobacco. "It often leads to drink," says Dr. Chalmers, "and drink leads to the devil." Returning from the work of the day with a pittance, about sufficient for bread, larder empty, children half clad, wife worn out with the overwhelming perplexities of the day, the home and its misery presenting a spectacle that appeals to his better nature, and for a time "wrapped in the worldly creed of prudence," he is under the influence of that discontent that would soon effect a betterment of his estate. He is a teetotaler, perhaps, with scruples against beer, but there on his mantel, void of ornament, lies a pipe black with the stains of long usage, and soon under the power of its discontent-dispelling influence, what cares he for the misery of his condition, the cough of his pallid wife, the helpless cry of half-fed children, the tawdry emptiness of his spare apartments, for with a garrulous newspaper in his hand and a pipe in his mouth, is he not translated into the listless paradise of self-complacent minds where care does not enter; and "the slavery holds him within this sepulchre of ambition," and will not let him go until the grave closes over him, a tobacco-saturated victim of self-indulgence, his orphaned children too often a care on the State?

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[1] They tell us variously that "the evils of tobacco exceed those of drink," that "tobacco is undermining the health and weakening the will of the present generation, and is as noxious as the giant evil, drunkenness;" that "there are students, even clergymen, whose usefulness has been as thoroughly ruined by tobacco as it could have been by drink;" that "it stupefies the moral sense;" that "student-smokers are deficient in scholarship"; that "more young men break down in body and mind and go astray as a result of smoking than of drinking"; that by "indulgence in the solacement of this seduction the power of achievement is weakened and men handicap themselves in the struggle where usually only the fittest survive"; that "tobacco soothes the excited nerves to render them ultimately more irritable"; that "it produces debility in self-restraint and weakens the power of the will"; that "it impairs physical vigor, perverts the taste, diminishes mental capacity, corrupts the moral sense and stimulates the animal nature"; that "it causes among students inferior scholarship and takes away the sense of shame in failure"; that if a census could be taken of all the young men who smoke, it would surprise and ought to distress our American people, for it has to do with social, moral and political degeneracy; that "the tobacco habit gains ground at the expense of emotional refinement and spiritual force." As witness Spain, Italy, Persia, Turkey, Syria, Mexico, Egypt and all the retrograde countries where even women are its prey.—(See 'The Tobacco Problem,' by Meta Lauda. Boston: Lee & Shepherd.)

Is not this an immorality? Would it not be better, more manly, instead of thus "sicklying o'er the native hue of resolution" with the pale cast of self-delusive content, to oppose and conquer the ills we have rather than resort to the reconciliation of a drug that moralists tell us "makes man selfish, unmannerly and sometimes worse," that permits him to carry unseemly odors into any company, a sick wife's or a sick child's, and show himself callous to the requests of others, and that would allow otherwise gentlemen "to fill the atmosphere of the continent with a perpetual stench," but for the self-defensive prohibitions found *necessary* to be placarded in places of public resort.

"The drunkard does not compel you to drink, the opium-eater to eat opium, but the smoker makes you smoke, nay more, visibly inhale the very vapor just ejected from his own mouth." Is not this a minor immorality to be regretted and concealed—since it seems it can not be abandoned—at least practice alone in the middle of a ten-acre lot, rather than as in these unseemly "smokers," *ater noctes*, unblushingly vaunted and exposed.

Again, Coleridge's axiom that "every educated man ought to know the best things," like Matthew Arnold's on the same subject, has almost become one of the pedantries of pedagogics.

If this applies to the ordinary gentleman, it does so with double force to the physician, who needs to be a man of varied endowments, requiring a wide extent of knowledge for the proper practice of his profession; associating with the most polished people of the community, he certainly ought to be acquainted with "the best things."

"We often can not do our entire duty," says Bagehot, "because of unpopularity," and what, we may ask, in a learned profession, causes unpopularity more than the frivolous ostentation of narrow endowments? Yet how can that man, however limited his horizon, with perhaps nothing quick about him but his temper, feel so dissatisfied with himself as to cause the realization of Coleridge's dictum, who carries in his pocket a drug that will produce inflation and content when he ought to be miserable and ashamed? He may not be living up even to the necessarily limited opportunities of his own profession. He may know nothing of "the best things," the great works, unconscious of the soul, the mighty have projected into their achievements; . . . the books of nature, inspiration and achievement equally closed to many, because with a self-complacent cigar in their mouths, a tawdry newspaper in their hands, they are content to be unacquainted with the best things, content to leave the mighty masters' mysteries, while they float the primrose way of dalliance on the vapor of a weed. Is not this an immorality?

Are there not men of good purpose in the profession, confined within the narrow limits of a mere specialty world, excluded from the essential delights of a more comprehensive life, who do not know a language but their vernacular, and, like the Mesquites of Homer, "know that wrong," who are utterly unacquainted with the best things in those universal tongues, painting and music, familiar with but little in the history of their own compassionate art, whose mere treadmill existence is so full of puerilities and self-noise that there is room for nothing else, who do not even perceive, as Professor Gross once said, that "the doctor who knows nothing but medicine does not know that?" Like Bottom, the weaver, satisfied with the "tongs and bones" when they might have celestial symphonies, the music of the spheres, the great "well of Truth" from which they draw their facts a mere barrel, and sometimes empty, and yet they are content! or if there is an occasional realization of deficiency, instead of permitting discontent to inspire repair, take a smoke or a bite from a mass of talismanic material they carry in their pockets—coerce the reward, omit the preliminary work—and presto! they are Sir Oracle, and when they ope' their mouths let no dog bark.

Is not this a minor immorality, especially on the part of the younger men, presumably self-reliant and strong, yet instead sometimes tobacco voluptuaries at 30, so regardless of the fitness of things, we have almost become familiar with the sight, as to ride through the streets with cigars in their mouths and enter the rooms of the sick reeking with the fetid fumes, stultifying professional propriety . . . ?

"It changes thought into reverie," says Victor Hugo. "It besots the nations," says that prince of observers, Balzac.

Again, is it not acquiescence in evil, to aid by concerted professional action, or alone, a *traffic* that makes morally obtuse the people who engage in it, and that constantly and persistently uses obscenity for the popularization of its wares, whose most powerful firms, as a matter of mere uncondemned routine, draw attention to their products by pictures intended to pollute and are only prevented by lack of ability from filling homes with indecency, the public imagination with suggestions of vice? Are we justified in adding thus to the power and ill-gotten wealth of the great tobacco houses, the vile people who mock morality, scorn modesty, who never hesitate to corrupt youth merely to effect a paltry sale, and are base enough to pictorially employ the fact of certain Cyprians taking to tobacco as a reason why it should be used by our sisters and wives?

Is it not an inconsistency for us *physicians*, teachers of sanitation, protectors of public health, interested *nolens volens* in the spiritual uplifting of our fellows, members of a responsible, yet joyous profession, though "as full of labor as a wise man's art," is it not an immorality for *us* to give the sanction of our conduct to the use of this obtunder of moral discrimination; that, to repeat again familiar facts, weakens the memory, vitiates the appetite, produces vertigo, enfeebles the action of the heart, depresses vitality, leads to intemperance, arrests development, causes insanity, amaurosis, deafness, laryngitis and cancer of the lip, and makes men content with conditions needing correction and reform?

These charges, suggestions for discussion, if you please, can not be laid at the door of the "giant evil," alcohol, for with all our knowledge of the wrongs of drink, we can not but admit that it is the excessive use, the abuse of the fluid "that makes glad the heart of man," that has caused so much injustice and distress, but with Raleigh's discovery, even its moderate man's duty to himself, viz.—the development of use often produces the indifference and pseudo-content that makes possible many of the evils we regret. The old intellectual masters "who still rule our spirits from their urns," the great works in every department of exalted endeavor, the mighty things of the past—the pyramids, decalogue, the psalms, prophets, Homer, Athens, Laocoon, Venus de Milo, Apollo, Phidias, Scopas, the Coliseum, the Forum, Pantheon, La Nile, the Sibyls, Pieta, Sistine Madonna, the sublime creations that perennially inspire intellect and heart were done mostly by people who drank—we but state a fact—before the pipe prevented the ultimate development of the renaissance, but the frantically boasted progress of this tobacco age, when master and man, artist and artisan are equally its victims, has to do chiefly with the arts that produce mere physical comfort and ease, and but little with the great things that perennially appeal to the soul.

We do not mean to imply that genius is made impossible by tobacco, that it prevents all moral development, or that the prominent people of modern times have avoided its evils, for to their loss they have not, but we do claim that with our enormously increased facilities for the inculcation of sound principles and learning (in the past twenty years $200,000,000 having been given in private gifts alone for higher education), in these nicotin days when grave professors despairing over soporific lectures endeavor to gain even an ephemeral interest by seducing students to "Smokers" in their tobacco-poisoned rooms, converting as it would seem, every opportunity of college life into an excuse for the immolation of their independence to their grobian deity, in these *nicotin* days we repeat, with their facilities for the acquirement of sound principles and learning, it is a significant fact that we produce so few men of supreme intellect, that so many of our high public places are controlled by incapable people, and that our public buildings, even our venerable public buildings, often in their most admired places, too, as if like Sir Toby Belch there was "no respect of place, person nor time" in us, are so defiled as a consequence of the pernicious habit that we have become a byword among the nations.

Nor do we mean to assert that worth is obliterated by tobacco, that its use always implies minds resigned to the seductions of sense, that getting under its influence secures entrance into the pornerastic paradise of the sexual voluptuary, as the obscene advertisements of tobacco vendors aim to indicate; this may and evidently does apply to youth, and is one of the ways by which it leads to their moral ruin. The sexual precociousness and depravity of boys and young men addicted to tobacco is familiar to you, and the vile pictures by which tobacco dealers foist their wares on the public show that they at least recognize the kinship of the two vices, yet one of the perplexities encountered in opposing the tobacco habit is that so many otherwise good people remain its devotees—Pantagruel took Panurge for his favorite—acquiring the habit usually during the thoughtlessness of adolescence, notwithstanding resolves and regrets, it clings like a horrible Old Man of the Sea, to the end. It disfigures and degrades youth and makes senility, that needs so much to be attractively neat and clean, malodorous and repellent.

Do not either make the other mistake of quoting in support of the harmlessness of tobacco certain distinguished persons addicted to its use, living long and doing well, although surely not as well as if unbaned. There is a temptation to this sort of reasoning, especially on the part of people desiring justification for faults they either can not or will not overcome. Coleridge's and De Quincey's bondage to opium, Hirst's and Verlaine's to absinthe, Rossetti's and Naphey's to chloral, Burns' and Poe's to alcohol, notwithstanding the productive power of the men, do not imply that their habits were harmless and justify their adoption by others. As well might we urge that epilepsy was "harmless" because Cæsar and Charlemagne, Mohammed, Napoleon and Flaubert were epileptics, or that scrofula "augments the power of judgment" because Æsop, Johnson and Pope were scrofulous, or that consumption "quickens the imagination" because Keats, Clough, David Gray, Lanier and Stevenson were consumptives, or that neurasthenia "draws wisdom from the lips of philosophers and shuts up the mouths of fools," because Spinoza, Kant and Herbert Spencer were never well, or that insanity was an advantage because Antone Wiertz, William Cowper, Nathanael Lee and William Blake were insane, or that sacerdotal mutilation was a benefit because Narses and Origen were thus mutilated. There are minds that nothing can keep from rising above the shallows, but this in spite, not in praise of, restraining influences, but this is no excuse for their adoption or sanction by us, who because of the responsibility of our calling ought to stem the tide engendered by the will-engulfing weed rather than drift indolently upon its bosom, for we may be assured, to use the words of the Autocrat of the Breakfast Table, that "the stain of the reverie-breeding narcotic strikes deeper than we think."

The vulgarity and licentiousness of the press, with its mercenary pandering to vice, corrupting as it does that very fountain of national strength, the home; the lubricity, the demoralizing baseness of the degraded drama, disfigurement of hoardings by the cigarette-soaked indecencies of the variety stage, making it difficult for our children to walk the streets without contamination, the growing fondness for certain social functions with their flimsy vaudeville adornments, the mockery of and attempted obliteration of personal puritanism, the crass things done by tobacco-biased young people, degradation of seats of learning by the introduction of smoking-rooms, those hotbeds of vice and agnosticism, of ballet dancing and brainless burlesque—imbecility and irreverence under the auspices of fashion—defilement of public buildings by foul receptacles provided for a people so base that it is necessary to ask them to please not spit on the floor, the negro minstrel methods of some of our churches, the effeminacy of religious periodicals with their venal advocacy of successful quackery and fraud, the prevalence of the gambling mania among women, leveling all ranks, wasting energy, dissipating time so much needed in more ennobling ways, medieval grotesqueries, euchre and wine parties for the spiritual and physical benefit of the outcast and sick, made so by gambling and drink! what, unless completely engrossed in other things, could induce thoughtful men to silently submit to these, but that undiscriminating drowsiness of conscience—"denying nothing, doubting everything," so frequently induced by tobacco?

Thus our limit is attained without our having suggested but a few of the more elusive immoralities of this least decorous of "the pleasant vices of which the just gods make instruments to scourge us." Others, likely more convincing, will occur to each, as it is the physician's function to detect the beginning of evil. Because of such neglect—it is too late when ignorantly acquired indulgences become fixed habits —there are but few families without at least one member maimed in some of his faculties, neglecting some of his duties, violating some canon of social or domestic ethics because of the seductions of this alluring tempter, so that content, evidently designed by nature as a reward for successful labor, is coerced without labor by the hypnotism of a drug that makes men "lovers of pleasure more than lovers of good."

1307 South Broad Street.

SURGICAL TREATMENT OF PERFORATING AND BLEEDING WOUNDS OF THE CHEST.*

BY RUDODPH MATAS, M.D.

PROFESSOR OF SURGERY, MEDICAL DEPARTMENT TULANE UNIVERSITY OF LOUISIANA.

NEW ORLEANS, LA.

The dangerous hemorrhages of the chest that more frequently give the surgeon an opportunity for the application of direct hemostasis are those resulting from parietal, pulmonary and diaphragmatic wounds. Hemorrhages from the aorta and its large intrathoracic branches, the heart, the pulmonary arteries and veins before they penetrate the hilum, the venæ cavæ and venæ azygos are promptly fatal, especially if due to gunshot wounds. These are the chief causes of the great and unavoidable mortality from chest wound on the battle-field. From the surgical or operative point of view they need not be considered, as the patients die, as a rule, before they can be reached; though to this rule the records show some remarkable exceptions.[1]

It is more than probable, as shown by recent reports, that more frequent and successful attempts will be made in the future to relieve the stab and punctured wounds of the heart that survive the immediate effects of the injury; but this class of cases will ever be rare, in spite of the brilliant examples of Farina, Capellan, Rhen, Parozanni and Parlavecchio. As to the gunshot perforations of the heart, they will continue, for obvious reasons, to spare the surgeon even the contemplation of his helplessness to relieve them.

In spite of the antiquity of the recommendation, I would insist upon the importance of carefully examining all wounds of the chest, presenting serious symptoms, for injury to the internal mammary or intercostal vessels.

The fact that bleeding from these vessels is frequently overlooked because it is so often concealed and internal has been clearly impressed upon my mind by two cases of stab wounds of the internal mammary artery and one of the intercostals that have come under my observation. All these cases occurred in the Charity Hospital—the two mammary injuries ending fatally. In one of these, at least, a careful and thorough examination would have probably averted the fatal end.

Case 1.[2]—A. B., male, negro, aged 25 years; was brought in the ambulance suffering from the effects of a stab wound of the chest, implicating some large vessel. Much external hemorrhage had taken place at the time of injury, but this was stopped without much difficulty. When brought to the hospital, the patient was very pale and suffering from profound shock; breathing short, rapid; pulse intermittent, very rapid and almost imperceptible; consciousness retained; complained of a feeling of great oppression in the chest. Messrs. A. and M., the ambulance surgeons, immediately injected an extemporized saline solution in the median cephalic. The pulse improved at first as the fluid flowed into the veins, and almost the normal rhythm and number of beats had been reached when the injection was stopped. About two pints were injected. Though the pulse was very notably improved, the respiration still continued quite rapid and panting. The general effect on the patient was most remarkable. He appeared greatly relieved of his previous anxiety and distress and so expressed himself. The effects of the injection were temporary, however, and the patient succumbed about four and one-half hours after admission. The post-mortem examination revealed an enormous hemothorax, caused by a completely divided internal mammary artery (third interspace). The pericardium had also been perforated, but the heart was intact. In this case vascular depletion, anemia and apnea, from complete compression of the left lung, were the causes of death. Still, in spite of these eminently lethal conditions, life was prolonged several hours by the saline infusion. It is reasonable to conclude that this patient would have had a better chance for recovery had the original wound been enlarged and the bleeding vessel secured *in situ* while the patient was being stimulated with the hot saline solution. The belief that a large pulmonary vessel of the heart had been injured discouraged any attempt in this direction.

The next case is one in which the injury was precisely similar, and yet, in which, notwithstanding the ligation of the divided mammary and exploration of the heart and chest while the infusion was being applied, the patient died in less than twelve hours after the intervention, from the combined effects of traumatic anemia and apnea.

Case 2.[3]—F., white, male, aged 25 years, laborer, at 2 A.M., April 6, 1897, was stabbed by a companion in a drunken brawl. The wound was inflicted with a pointed clasp-knife, which entered one-third of an inch to the left of the second sterno-costal junction, on the left side. The wound was a little over one-half an inch in breadth, and was directed obliquely downward and to the left. The cartilage of the second rib was almost completely divided and part of the interspace below was involved. When seen by the ambulance surgeons, the patient was completely collapsed, and it was believed that he would scarcely survive the transfer to the hospital. He had bled profusely from the external wound, but this had finally stopped spontaneously by the formation of a clot. While in the ambulance the clot became detached and the bleeding was renewed. Upon arrival at the hospital the assistant house surgeon on duty made a careful examination and decided that the internal mammary artery had been injured. The pulse was so weak that the patient was at once infused, and received three-quarters of a gallon of hot saline solution, intravenously, with decided restorative effect. The man's condition was so serious, however, that it was decided to disturb him as little as possible. Instead of a regular dissection and ligation of the injured vessel a deep wire suture was passed through the thickness of the chest wall, encircling (as was believed) the wounded vessel in the interspace, the ends of the wire being firmly twisted over an iodoform gauze roll, which with two other stitches completely closed the comparatively small wound.

The bleeding appeared to be controlled by this means, and the patient was put to bed, where he was warmed up with hot cans, etc. The great shock and signs of internal hemorrhage aroused the suspicion that in addition to the internal mammary, the heart or lung had been injured. The length of the blade, the great violence of the blow, which had nearly cut the cartilage in two, and its position in the precordia, confirmed this impression. Under the usual treatment—rest, morphia hypodermically, strychnia, etc.—the patient gradually improved during the night; the pulse grew strong and the respirations moderated in frequency. Early in the morning (April 7) notwithstanding his extreme pallor, hope was entertained of his recovery. Later in the morning, after 9 A.M., and after taking liquid nourishment, a change occurred, the patient complained of distress about the heart, the face grew more anxious, the respirations became more violent and the pulse weaker. I saw the man about 11 A.M., and was at once struck with the gravity of his condition. He was gasping for breath, his face was livid, almost cadaveric in hue; cold sweat bathed his skin, and his pulse, 150-160, was almost imperceptible at the wrist. I renewed the dressings and noticed a marked fulness in the precordia and intercostal spaces on the left side, and great tension in the wound as if it were about to tear open. There was complete dulness on percussion over the entire left thorax. Evidently the man was dying from hemorrhage into the pericardium and pleura. In spite of his desperate and unpromising condition I decided to make an effort to reach the bleeding point. I was ably assisted by the late Dr. J. Leake, who took charge of the intravenous saline infusion, which I decided to repeat once more before attempting any operative treatment. A canula was introduced into the right median cephalic and after a pint of the deci-normal saline solution had flown in, the pulse began to improve. The line of incision was mapped out with an infiltration of 1 per cent. cocain solution, and a cone containing a little ether was held over the patient's nose, but no attempt was made to secure general narcosis. The wound sutures were then cut and a gush of dark blood and clots followed as the wound burst open, showing that the blood had accumulated under great pressure in the mediastinum or pericardium. As the original wound was sufficient to expose the mammary artery, and believing that this great hemorrhage came from the pericardium or the heart itself, I freely enlarged the opening by an incision on a level with the second cartilage, horizontally, and for over four inches to the left; a vertical incision, at each end of the horizontal cut completing a figure H, which permitted two osteoplastic flaps to be reflected upward and downward. The second and third cartilages with part of the corresponding ribs were rapidly cut with a costotome and the two osteoplastic flaps, consisting of cartilage, skin and soft parts, were easily separated, and the mediastinum freely opened to the fourth rib. The internal mammary was then seen completely divided in the second interspace, close to the cartilage, where it was still spurting, and evidently the chief cause of the hemorrhage. It was also evident that the perivascular silver ligature, which had been applied on admission, had entirely missed the vessel, and failed to accomplish its purpose. This again shows the necessity in all similar cases not to trust to ligatures en masse, but to follow the golden rule, and to cut directly to the bleeding vessel, and secure it at the bleeding point. The vessel was seized with forceps and ligated on the proximal side. By the double trap-door opening that had been made in the precordia, the mediastinum and pericardium and pleura had been freely exposed. The chest appeared to be filled with blood, every inspiration causing it to well up almost to the surface of the skin. After removing the clots and blood by sponging and irrigation with neutral saline solution, I failed to discover any bleeding point. The heart was plainly exposed before us, and its tumultuous, irregular and churning movements as they lashed the serum and blood into a foam made a deep impression on all present. The constant motion of the air as it rushed in and out of the large fenestrum in the chest, combined with the violent efforts made by the patient to breathe, added to the tragic character of the occasion. The impression produced on all present was that the pericardium had been freely opened and that the blood we saw was contained in its cavity. The post-mortem examination subsequently proved, however, that the pericardium had been wounded to the extent of one inch only, and that the bleeding had been mainly extrapericardial, mediastinal and intrapleural. The pericardial cavity was really free from blood, and the membrane had adjusted itself so accurately to the surface of the heart that the organ was seen through it as if wrapped in a transparent veil. We all examined carefully and failed to see any wound of the heart itself. In fact, no other bleeding point could be detected outside of the original mammary injury which we had controlled. All the bad symptoms were therefore due to hemothorax, collapse of the lung and shock. The lung was so completely collapsed that I could scarcely see it behind the heart. The condition of the patient in the meantime was most alarming and distressing to behold. The pulse had been reduced from 160-170 to 120 by the saline infusion, of which nearly three pints had been injected, intermittingly, and the volume was a great deal better, but the respiration was very bad. The lips were livid, bluish black, and the whole picture was that of intense respiratory distress. After freely irrigating, flushing and filling the pleura and pericardium by pouring pitchers of hot saline solution, a procedure which I thought might, on account of the heat, have some restorative effect, as it sometimes has in the peritoneum—but which in this instance failed totally to produce any marked effect—I hastened to close the wound and put on an occlusive aseptic dressing.

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*Extracted from an address on Surgery of the Chest, read before the Louisiana State Medical Society.

[1] Otis and Delorme, among the military surgeons, have collected a number of wonderful cases of survival after injury of the large arterial and venous trunks in addition to the more numerous recoveries after heart injuries. A rough idea of the proportion of the fatalities from hemorrhages due to injuries to the great vessels as compared with the lung injuries is obtained in a statement made by Liddell. At New Berne he examined thirty-two dead from chest wounds, and of these, at least eight had wounds which must have involved the heart and great vessels.—Otis' Surgical History of the War of the Rebellion, Vol. ii.

[2] Abstracted from the author's paper entitled "A Clinical Report on Intravenous Saline Infusion in the Wards of the Charity Hospital from 1888--1891." Louisiana State Medical Society's Transactions, p. 1891, and New Orleans Medical and Surgical Journal, July, 1891, p. 16.

[3] I am largely indebted for the notes of this case to Dr. A. R. Hagen of New Orleans, who embodied it in his excellent graduation thesis (unpublished): "Reports of Five Gunshot and Stab Wounds in and about the Pericardium." Medical Department Tulane University: class 1896-97. Dr. Hagen was in attendance as interne in my service, Charity Hospital, ward 9, when the patient was admitted.

I believe now that if I had only been able to inflate the collapsed lung and had sutured it to the chest wound, the man's condition would have improved, and he, perhaps have been saved. But we knew nothing of the Fell-O'Dwyer apparatus at that time. The entire closure of the wound was quickly terminated, and in fact the whole exploratory procedure, including the ligature of the mammary artery, involved a comparatively short time—not over 25 minutes. The pain involved in making the osteoplastic flaps appeared to be greatly obtunded by the partial asphyxia that existed; at least the patient made little, if any, complaint, though he was perfectly conscious throughout. The skin flaps were sutured with interrupted stitches, but two drainage-tubes were left at the lower angles to favor the escape of bloody serum; after this a heavy gauze and cotton dressing, over which was applied a large flat plate to compress the wounded area more thoroughly and seal it hermetically. Adhesive strips and bandage further secured the entire dressing and chest. The patient was then stimulated freely with strychnia, digitalis, whisky and aromatic spirits of ammonia in the endeavor to relieve the dyspnea and great exhaustion. The pulse was never reduced lower than 115 at its best moment. It continued fair as to fulness and frequency shortly after the infusion was discontinued, but it was extremely irregular. The cyanosis became more and more marked after the operation; respirations more shallow and hurried. A cold, clammy perspiration bathed the surface. By night-time it failed and the patient sank, apparently from complete exhaustion due to shock, hemorrhage and asphyxia. The autopsy, held the same night, revealed a large amount of bloody fluid (serum and saline solution) in the pleural cavity. The pericardium showed a wound not much over half an inch in length. The left ventricular wall was punctured about one and one-half inches above the apex, and about one and one-half inches to the left of the anterior interventricular groove. The puncture was very small, barely one-fourth inch deep, and did not penetrate into any of the heart cavities. The pericardium contained ⅗ ounces of serosanguinolent fluid, but no clots. Clearly, the primary cause of death was the wound in the mammary artery.

The intercostals have also furnished me with at least one instructive experience:

Case 3.—A negro, aged 40 years, was struck a sharp blow with an axe, the upper edge and point of which entered the chest on a level with the ninth rib, about a hand's breadth from the lower angle of the scapula and to the outer side of it. The rib was cut in two, and the pleura punctured. The man became very weak and faint and bled very freely from the wound, which was about three inches long. A local physician washed the wound carefully, closed it with deep sutures and put on a firm antiseptic dressing. The man grew worse, however, and was sent to the hospital during the night. The next morning I saw him, and, finding him very pale, with very rapid and scarcely perceptible pulse, and in great distress with his breathing, I concluded that serious hemorrhage was going on in the pleura. The dressings were removed and the great tension of the wound and intercostal spaces confirmed my impression. The patient was at once prepared for operation and stimulated with brandy, digitalis and strychnin. No anesthetic was given. The sutures were cut, the wound was reopened, and a free escape of blood followed. The axe had cut the rib completely and with it the intercostal artery and vein at a distance of about eight inches from its origin. The vessel could not be seen or secured with the ligature until nearly two inches of rib had been removed with the costotome. In order to do this a syringeful of cocain solution, 1 per cent., was injected in the neighborhood of the nerve on the proximal side. Whether it was due to this or to the man's own fortitude, he made little complaint. After securing the vessel the pleural opening was enlarged and a considerable quantity of fluid blood and clots (nearly two quarts in all) escaped from the pleura. The pleura was immediately closed to prevent pneumothorax. The patient became very faint by this time; his pulse nearly imperceptible. We hurriedly sutured the wound and applied a firm dressing. In the meantime, the ordinary stimulants were applied freely, while he was warmed with hot cans: the head was kept very low. After a long suspense the patient rallied. He did well for the next four or five days, when signs of pleural infection showed themselves, which necessitated the introduction of a drain in the pleura. The patient was so exhausted that for a long time we did not believe he would live; finally, however, he recovered.

Cases of this sort readily explain the bad results that have been so frequently recorded as following injuries of intercostal arteries. "In the Civil War, out of a total of 15 cases variously treated, 11 ended in death. In 8 an operation was performed; of these, 6 died—1 from pyemia, 1 from empyema, 1 from exhaustion and 3 from secondary hemorrhage. The operations had scarcely been more successful than the cases treated by compression. But because this was the case are we justified in believing that it is not necessary to operate in these cases, or to do more than plug the wound?" (Paget.) These experiences simply show the need for more thorough and prompt investigation of all deep wounds which are situated in the anatomic course of these vessels, especially where they are of larger caliber, as in the posterior half of the thorax, nearer their origin. In conditions of great exhaustion, and where there is doubt that bleeding is actually going on, it may be sufficient to plug the wound with a Desault's bag or tampon which can be aptly compared to a small Mikulicz bag, thoroughly packed so as to compress the wounded vessel. But, when the situation does not improve and there is evidence that bleeding is going on, the quickest and surest treatment is to enlarge the wound (in extreme exhaustion, with cocain anesthesia as a help) and expose the intercostal or internal mammary. With the help of the rongeur or a sharp costotome this work can be done quickly. The subperiostal resection of a rib is so certain to expose the bleeding vessel, and is so easily accomplished, that there is no excuse for delay in critic conditions when the patient's life hangs in the balance.

But if the intercostal or internal mammary arteries are not at fault, must we stop after ascertaining positively that the hemorrhage is internal? This brings us to the question: Whence does the hemorrhage come if it is not from the parietes? We have already noticed that bleeding from a wounded heart, aorta or the great arterial and venous trunks of the mediastinum will kill so quickly through the fierce bleeding that follows that we rarely see these patients outside of the moribund condition.

The bleeding wounds of the lung which give rise to progressive hemothorax are those that offer some hope for the direct ministrations of surgery, notwithstanding the gloomy prognostications of many eminent surgeons. The source of the bleeding in the lung is a question that did not appear to interest the older surgeons even down to the time of Larrey. All that they cared to know was whether the hemorrhage was parietal or visceral. If it was decided that the bleeding was visceral, that was the end of the inquiry. Nature and the materia medica alone could come to the rescue, except when, occasionally, the surgeons would enlarge the wound to allow the pent-up blood to escape. Dupuytren, in his clinics, was among the first to discuss the source of the blood in hemothorax. He believed that an abundant hemorrhage into the pleura could only occur as the result of injury to the large vessels at the root of the lung. In 1853, Jobert de Lamballe ascertained by actual cadaveric examination that superficial wounds of the lung only give rise to insignificant hemorrhage, and that the parenchyma bleeds but little when wounded. Dupuytren's teaching was generally accepted until about 1880, when Charles Nélaton's experimental, clinical and anatomic researches came to light and proved three things: 1. That wounds of the large vessels (arteries and veins) at the root of the lung, before they subdivide in the substance of the organ, are invariably fatal in from nine to ten minutes. In the animals experimented upon, a wound of these vessels caused the blood to spurt in a large stream, which quickly filled the pleura and compressed the lung. The animals expired in the midst of intense dyspnea and anxiety. It is possible that the coincidence of acute pneumothorax had something to do with these bad results, but the profuse hemorrhage observed by Nélaton is quite sufficient to convince us that wounds of this class are almost as promptly fatal as those of the aorta or vena cava. What are the wounds, then, that give rise to the hemorrhages which, though very serious, will allow of sufficient survival to permit of surgical interference? According to Nélaton's investigations they are the arterial branches of the second and third magnitude which accompany the larger divisions of the bronchial tubes. These vessels are not only of large size, but have a tendency to bleed freely, even when the lung is collapsed or compressed by the extravasated blood. The cartilaginous resistance of the larger bronchi to compression and the close connection of these vessels with the open tubes prevents the retraction of the arteries even after complete collapse of the lung has taken place. Therefore, the most dangerous zone of hemorrhage is a comparatively circumscribed area in the neighborhood of the hilum; the zone rapidly diminishes in importance as the bronchi become smaller and lose their cartilaginous resistance. The fact that this hemorrhagic area is comparatively small as compared with the mass of the lung accounts for the frequency of recoveries after complete perforating wounds of the chest, and also for the comparative rarity of that middle class in which the primary hemorrhage is not so furious as to cause immediate death and yet bad enough to resist nature's hemostatic resources and thus bring about a fatal termination at a later moment. The surgeon can not be expected to determine the primary seat of the hemorrhage. He can usually diagnosticate a lesion of the lung and judge of the importance of the vessel injured by the rapidity and extent of the hemothorax and also by the symptoms. He can not localize the lesion with precision, but he can tell if the patient is bleeding to death. In this last class of cases we are now interested, as it would be superfluous to consider those in which the symptoms are of moderate intensity, and in which the usual classic and expectant rules of treatment yield perfectly satisfactory results.

What, then, is the best course to follow when we clearly determine that the bleeding is profuse and does not come from the chest wall? Shall we pursue a conservative policy to the last, trusting that something favorable will turn up, or shall we resolutely proceed to investigate and treat the bleeding point by free exposure of the wounded lung or other bleeding surface? This question has been frequently asked in medical assemblies, and has been answered at various times in different ways, in accordance with the resources of the period. In fact, the history of the perforating injuries of the chest, like those of the abdomen and cranium, is a faithful reflex or mirror of the history and progress of surgery in general. At the present moment this question has not yet been decisively or, at least, unanimously answered by those most competent to express an opinion. Unfortunately precedents and statistics are insufficient to decide on the question of intervention or non-intervention, of expectation or aggression, in this matter, and the course of the practitioner must largely depend upon his individual judgment, skill and experience.

That a tendency to aggressive action is developing rapidly in the most advanced centers of surgical teaching is unquestionable, especially since the great discussion started by Réclus, at the French Surgical Congress in 1895, aroused new interest in this direction. Nevertheless, the attitude of most teachers of surgery here as in England, is decidedly conservative in tone, a conservatism which, in purely educational texts, is evidently proper at a time when the tribunal of authority is still waiting for more evidence before rendering its final judgment. Thus we find the authors of the "American Text-Book of Surgery" (edition 1897) expressing themselves as follows: "The day may come when the thorax will be opened for access to the wounded lung, pericardium, and heart; and the experimental results of Bloch and others on the lower animals would warrant this belief, but the time has not yet arrived when the general recommendation of this course is justifiable." All the older texts are still more formal in the injunction not to interfere. They tell us, if the hemorrhage comes from the lung, to simply close the external wound, place the patient on the injured side and apply ice-bags to the chest. Give morphia or ergotin, hypodermically; turpentin, aromatic sulphuric acid, gallic acid, etc. If the bleeding continues and it is evident that great distension of the pleura exists, we are advised—and in fact, there has been no other alternative hitherto—to reopen the wound, and if necessary enlarge it for the removal of the clots. Ice-cold water injected into the pleural cavity has been recommended by Délorme: but if the bleeding continues, the wound must be again closed, cold applied externally and the patient laid upon the wounded side, "thus persevering," as Otis remarks, "opening and closing the wounded side, hoping to gain time and stave off the most pressing danger." (Stevenson, Wounds in War, 1898, p. 309.) This uncertain state of opinion is a repetition of the history of perforating wounds of the abdomen when in bleeding cases "to operate or not to operate" was the anxious question. In the abdomen that question has been definitely decided, and "*to operate*" is now the command whenever there is just enough life in the patient to sustain the traumatism required to arrest the hemorrhage.

In contrast with the policy of expectation, which trusts solely to nature's efforts, we hear the voice of many men of recognized judgment and discretion who believe that Gluck's dictum: *Ubi hemorrhagia, ibi ligatura*, as applied to chest wounds, is as sound in precept as in dealing with hemorrhage in more accessible parts of the body, provided it is carefully tempered with a due amount of discretion. The matter was clearly presented by Réclus, in 1895, when, quoting the unfortunate but remarkable cases of Omboni and Delorme, he asks; "Shall we be discouraged that they failed? I think not. I believe that in a case of hemorrhage persisting in spite of rest, immobilization of the chest wall and occlusion of the wound, if the loss of blood is endangering the patient's life, is filling the pleura and threatening to stop the action of the heart, or of the lung, then a free opening into the chest will enable the surgeon to stop the bleeding by tying the vessel, or the piece of lung which is wounded, or by packing the wound with iodoform gauze. If we wait, the patient may bleed past hope of help; on the other hand, we must not forget that it is a very serious business to interfere in these cases, to inflict the shock of operation on a patient already enfeebled, and to induce pneumothorax of the whole side of the chest, over and above the disadvantages which are already hindering the vital changes in the blood."

Michaux, who reported a successful case of gunshot wound of the lung in which the bleeding was arrested by direct pressure with a gauze pack, quotes Charles Nélaton's thesis of 1880 (on hemothorax) in support of operative interference. Nélaton's statistics show that the mortality of the great hemorrhagic effusions caused by wounds of the lung embrace at least 50 per cent. of the cases when treated by expectation and ordinary methods of treatment. This fact alone, Michaux believes, justifies the intervention of surgery, though he recognizes that many of these deaths were due to secondary septic causes. The surgical indications should not be based upon a single symptom. Michaux mentions the following conditions among the positive indications for operation: 1. Indubitable symptoms of a recent extravasation, extensive flatness on percussion, absence of vocal fremitus, etc. 2. More or less dangerous topography of the wound (neighborhood of the heart, of the intercostal and mammary arteries). 3. Exhaustion, anguish, dyspnea, if progressively increasing. As long as the danger is not pressing and there is doubt as to whether the hemorrhage is increasing, it is much better to wait a few hours if necessary in order to observe the conditions carefully and not act unnecessarily. The great indication for action is positive evidence of serious and progressive hemorrhage.

Under these circumstances the secret of success lies in the judgment of the practitioner who knows *when* to act and not wait until the opportunity has passed. Once the conviction comes that the patient is bleeding to death, prompt and decisive action is called for without losing time in abstract possibilities of spontaneous recovery. Réclus, Délorme, Michaux, Berger, Terrior, Souligoux, and finally Stephen Paget, whose well-balanced judgment and profound knowledge of the problems involved no one will question, agree with many others that this is the proper course to pursue.

But it is plain that we should never undertake the exposure of the injured or bleeding lung without thoroughly weighing the patient's capacity of resistance to shock or further traumatism, and without due preparation for the serious contingencies that will certainly arise in the course of the operation. The conditions that are to be most feared under these circumstances are, fatal shock and uncontrollable hemorrhage, cardiac and respiratory failure; and it is fortunate that in dealing with these perils the contemporary surgeon is armed with better resources than were ever accorded to his predecessors. So recent, in fact, are these acquisitions that I scarcely believe it is justifiable to even estimate the possibilities of thoracic surgery in dealing with visceral, and especially pulmonary, traumatisms until the restorative influence of intravenous hot saline infusion, given as a prophylactic against shock and as a preparatory measure in preventing it, as well as in relieving the exhaustion and vascular depletion—not as it is usually resorted to, *after* the shock of additional traumatism has finished with the little vitality that is left in this class of patients—has been thoroughly tried. In addition, the possibilities of artificial respiration with the Fell-O'Dwyer apparatus (a bellows with a tube inserted in the larynx) to prevent asphyxia from pneumothorax should never be forgotten in estimating the future prospects of this class of patients.

In preparing to operate upon patients in such critic conditions as those herein contemplated, the proper procedure is to begin by exposing a vein in the arm or leg and introducing a canula through which the saline solution can be infused steadily before the anesthesia is begun. In the majority of these cases the condition of the pulse is so bad and the cyanosis so great that neither chloroform, ether, nor the Schleich mixtures are well borne. The fear of these anesthetics led me on one occasion to use cocain in very weak strength, .2 and .1 per cent. (Schleich formula), with sufficient effect to permit me to make an osteoplastic flap including four and one-half inches of a rib, with comparatively little pain, the intercostal nerve having been thoroughly anesthetized on the proximal side with cocain before the rib section was made. At other times in which the administratisn of a general anesthetic was absolutely required, the general condition improved so much after the saline infusion had begun that I was able to administer chloroform in minute but sufficient quantities to produce the necessary anesthesia. On the other hand, if, under the influence of the infusion, the pulse fails to improve, it is perfectly useless to continue and all hope of operative relief must be abandoned, unless the cardiac failure is attributable to respiratory embarrassment from collapse of the lung, when inflation of the lung and artificial respiration with the Fell-O'Dwyer apparatus should be tried in conjunction with the saline infusion.[4]

If under these conditions the pulse progressively improves, then the operation should be continued and pushed to a finish as quickly as possible. While the saline infusion is flowing, the assistants should sustain its action by hypodermic injections of strychnin, caffein, camphor, digitalin, ether or dilute ammonia. Enemas of brandy and champagne with hot coffee will also be found serviceable. The saline infusion should be kept up as long as the pulse is not a safe one. When reasonable conditions of fulness and slowness have been reached, the infusion can be temporarily suspended, leaving the canula in the vein, the infusion to be renewed again if the condition of the circulation calls for it. The solution should be hot, not lukewarm, as hot as the hand can comfortably bear it, and the quantity to be administered should be measured solely by the effect on the patient and not by any fixed standard of measurement.

Saline infusion is a remedy that I have learned to trust as an anchor of salvation in almost all great surgical crises in which the heart is flagging and is about to surrender. It is an agent to be relied upon when all other remedies in the materia medica fail. I have seen it bring the pulse back when the picture of death was almost complete and dissolution appeared to be inevitable. Under its magic influence the heart muscle is roused to renewed effort, the stagnant oxygen-carrying corpuscles are again set in motion and the tide of life is restored. Saline infusion has its limitations, but it is in bridging over a crisis when death from shock and hemorrhagic depletion threaten to jeopardize the success of a final heroic effort that it is of priceless value. In the last few years I have performed many operations which I would not have dared undertake and in which, I know, the patients would not have survived the operative act itself, without the vivifying, almost resurrecting, influence of this remedy.

We have noted elsewhere the comparative helplessness of the surgeon in dealing with the collapse of the lung in other conditions in which the pleura is opened and the failure of the expedients that are usually recommended for this purpose to meet the urgent indication of the moment, namely: to restore immediately the aerating function of the injured lung Artificial respiration by any of the recognized procedures, Sylvester's, Marshall Hall's, Howard's, etc., is an absolute failure when practiced on a subject whose pleura is wide open. Simple closure of the chest wound, pulling the collapsed lung with forceps and tacking it to the wound, filling the pleura with warm sterile water, etc.—all these have more or less served their purpose in preventing further collapse of the lung by the admission of air, but they fail totally in restoring its respiratory function at the time when this is most needed. It is in this respect that the Fell-O'Dwyer apparatus, or other appliances (Doyen's) that act on the same principle, viz.: by inflating the lung through an intubating canula introduced in the larynx, are destined to revolutionize all past experience.[5] With it, not only pure air but oxygen is insufflated into the lung, intrapulmonary tension is restored, atelectasis is overcome and a regular rhythmic respiration is maintained. It may be objected that a return of the normal, increased intrapulmonary tension in a collapsed lung will favor the return of hemorrhage by the displacement of clots or increase in the vascular tension; against this objection it may be said that the greater access of the lung that is obtained by inflation will favor the certain and ready obliteration of the bleeding surfaces by suture. Wounds on the inner surface of the lung can be brought to view by lifting the anterior edge of the lung and drawing it out of the wound. Some of these wounds will perhaps be controlled by the thermocautery, but in a general way suture of the wound, followed by anchoring of the lung to the chest wall, by the procedure previously referred to as costopneumopexy (Quénu), will be the simplest and most often available method. It may also be objected that if there is a decided tear in the lung, with or without involving a bronchus, it will be impossible to inflate it. This is very true, but the objection is partially overcome if the wound is sutured carefully while the lung is collapsed; in this way the air-leak can be sealed and there should then be no difficulty in inflating the lung to its full capacity. The thorough exploration of the lung and injured side of the chest while the breathing function of the organ is going on ought also to facilitate the sterilization of the pleura if this shows evidences of contamination; foreign bodies could be removed and the best points for drainage recognized. Ordinary free drainage would favor the return of a partial pneumothorax, even after anchoring the lung to the parietes and closing the external wound; but this can be avoided in septic conditions—which are exceptional at the time when these interventions are called for—by attaching a canula or glass tube to a receiver connected with an aspirator, e. g., Potain's apparatus. The drainage by progressive aspiration would be sufficient in this way to meet indications until adhesions would have had time to form and thus prevent any further risk of pneumothorax if freer drainage should be ulmately required.

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[4] For technic and other details, see author's report on "Intravenous Saline Infusion," in the wards of the Charity Hospital of New Orleans from June, 1888, to June, 1891. New Orleans Medical and Surgical Journal, July and August, 1891.

[5] For details of history and application, of the Fell-O'Dwyer's apparatus in the treatment of surgical pneumothorax, see the author's complete address on the "Surgery of the Chest" in the forthcoming Transactions of the Louisiana State Medical Society, for 1898.

As to the precise method of operating, little need be said; the operations must vary with the situation, extent and character of the wounds. Réclus presents this side of the problem very clearly when he says: "The rules of surgical technic need never trouble the surgeon. The surgeon is taking his chance of what he will find, and his procedure will be according to the exigencies of the case. I will only say that if he has to deal with a wound of the lung, he must make his opening into the chest wall very free, or he will never find the bleeding vessels. Délorme's temporary resection does this for us, but such heroic treatment is full of danger when the patient is wounded, feeble and drained of blood, and the surgeon will have to steer between Scylla and Charybdis, neither to be too sparing with the incisions lest he fail to find the source of the hemorrhage, nor to cut too freely lest the patient come in danger of death from shock."

We believe, however, that the danger of losing valuable time by an insufficient opening is greater than that of inflicting shock, unless it be in the posterior region of the chest, where the ribs are thick and the intercostal arteries are very large. But as a fenestrum in the lateral aspect of the thorax should suffice to expose the entire external surface of the lung, and the internal also, if the organ is lifted up, and dragged out of the chest, it is not likely that posterior thoracotomies will ever be required or attempted. In this region it is comparatively easy to control the bleeding from the intercostals with hemostats, and to cut the osteoplastic flap quickly with a sharp costotome. It is very probable that the bleeding in the lung will always be best controlled by suturing with an absorbable material, chromicized or cumolized catgut being preferred. In view of the ease with which the lung tears, and also for fear of puncture-leaks, a round milliner's needle or intestinal needle should be used. Thus far hemostasis has been attempted only by packing with gauze, three cases (Quénu, Michaux, DaCosta); by tying the bleeding surface and cutting off the pedicle above the ligature (Omboni); by sutures (Délorme and Robert, Turetta, P. Ferraresi). It is possible that the thermocautery may also be useful; on this point, as on many others, the surgeon must act according to his convictions and opportunities.

In making these suggestions I again wish to be understood as not underrating the gravity of the circumstances in which these operations are performed. I recognize only too well that there will ever be a certain percentage of penetrating chest wounds which will inevitably end in death, no matter what the resources of surgical science and art may be, just as there will be others that will recover without treatment, with the simplest mode of treatment, and even in spite of treatment. But there is an intermediate zone, occupied by those who are not killed outright after these injuries, and those in whom it is evident from the first that they have not sustained a mortal injury; it is this doubtful zone which will furnish the battle-ground in which it will be possible for timely and skilful intervention with the new aids here described—to tip the balance so that some will live who would otherwise die.[6]

Original Articles.

EPIDEMIC CEREBROSPINAL MENINGITIS.

BY W. J. CLASS, M.D.
MEDICAL INSPECTOR CHICAGO HEALTH DEPARTMENT.
CHICAGO.

(Continued from page 646).

SYMPTOMS.

Among the different classifications of this disease, that of Hisch[49] is probably the best, although like every subject whose different phases approach each other, this disease can not be divided into distinct forms without there being some cases which belong partly in one form and partly in another. Hisch's classification is: 1, meningitis cerebrospinalis epidemica siderans; 2, meningitis cerebrospinalis epidemica abortiva; 3, meningitis cerebrospinalis epidemica intermittans; 4, meningitis cerebrospinalis epidemica typhoides.

Under the first form come those cases which commence with violent initial symptoms, agonizing headache, backache, chills, high temperature, uncontrollable vomiting, coma and death within a period varying from twenty-four hours to two or three days. Cases of this nature were of frequent occurrence in the older epidemics, but have of late years become rare.

That type called the abortive[50] has also been of unfrequent occurrence in the later epidemics. In it the initial symptoms are also of a marrow-freezing nature, resembling in severity those of the first form described, but instead of ending fatally, the patient after two or three days makes a remarkably quick and permanent recovery. Cases resembling the description of this form were not unfrequently found in young children during the Chicago epidemic, but the consensus of opinion was against their being true cases of cerebrospinal meningitis; the vast majority being found in cases where dietary errors had been committed, recovery generally following a cleaning of the gastro-intestinal tract.

The cases which might be classified as intermittent are usually those which run a protracted course, lasting six to eight weeks or longer. In these lengthy cases it will sometimes occur that all alarming symptoms disappear, sometimes with surprising rapidity, and the patient be apparently on the road to recovery, when a relapse occurs, the case taking possibly a fatal ending.

Cases of medium duration are by far the most frequent, lasting two to four weeks, and frequently passing into a sort of typhoid condition. The disease begins as a rule quite suddenly, with severe headache, chiefly in the occipital region; pain in the cervical region and stiffness of the neck, and a general feeling of debility. Quite frequently there will be vomiting, which, especially in children, may be uncontrollable. With these initial symptoms there is as a rule some rise in temperature. In the majority of cases disturbances of the sensorium soon follow in the wake of the other symptoms; they vary in severity from simple dizziness and drowsy feeling to a distinct delirium. An initial chill is sometimes met with.

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[6] The detailed reports of the published cases of bleeding wounds of the lung that have been treated by direct surgical intervention, and the bibliography of the subject will be found in the forthcoming volume of Transactions of the Louisiana State Medical Society for 1898.

The headache in cerebrospinal meningitis is usually very intense; as a general rule it is most marked in the occipital region, extending down the back and in some cases radiating into the shoulders. The pain may be of a throbbing character which keeps up constantly, even when under the influence of opiates. In some of the severer cases, the patient will frequently moan and roll about, denoting a pain which, in a large number of instances, death alone can conquer. In a smaller number of cases the pain is neuralgic in character, there being periods of comparative ease between the paroxysms. With the extension of the inflammatory process to the spinal meninges, there is tenderness of the entire vertebral column, which through contracture of the erector muscles of the spine is stiff and straight, sometimes even decidedly opisthotonic, the head being drawn backward. The cranial and spinal nerves in this disease present an interesting variety of disturbances, most frequent among them being those affecting the motor nerves of the eye, such as inco-ordinate movements of the eyeballs, nystagmus, inequality in size of pupils, and tardy reaction to light and accommodation.

Lagophthalmus was noticed by Blümm.[51] Ptosis was an early prominent symptom in the Viennese cases described by Schroetter.[52] In the territory supplied by the facial nerve, muscle contractures are of frequent occurrence, giving the face a peculiar drawn expression. The nerves of special sense are also often implicated, so for instance Stovell[53] describes a case in a child where there was temporary blindness extending over a period of five months, the optic disc being bluish and indistinct; a similar case was also reported by Presser.[54] Thompson[55] and Randolph[56] report cases of trophoneurotic ulceration of the cornea; Knapp[52] saw ten cases of cerebrospinal meningitis with intraocular disease, in all but one, blindness being the result; this complication came on during the second or third week of the disease, and, after a course of three to four days, ended in blindness. Knapp considered it as a hyperplastic choroiditis with consecutive retinal detachment. Flexner and Barker,[58] in a description of an epidemic in Lonaconing, state that out of thirty-five cases the fundus oculi was normal in only seven. Difficulty in hearing, and other disturbances of the ear, have been of frequent occurrence in some epidemics, among others in the one described by Blümm.[51] The auditory nerve itself may be influenced and pus may be found in the labyrinth. Disturbances of the spinal nerves are less frequent, among the most frequently noted being hyperesthesias and twitchings of the muscles of the extremities. Contractures of the limbs have also been met with.

Belor,[59] in his description of an epidemic in Aranzo, states that hemiplegia was of frequent occurrence. Bernhardt[60] mentions a case in which there was paraplegia, followed by paralysis of both the upper and lower extremities, while the bladder and rectum remained intact. Among other forms of paralyses may be mentioned a case by Gahlberg,[61] in which there was paresis of the tongue, and one by ——,[62] which was followed by a loss of the power of articulation. The mucous membranes were affected in a number of epidemics described. Berg[63] states that in the epidemic of 1893, in New York City, conjunctivitis and photophobia were present in almost every case. Strümpel says a considerable number of his cases were preceded by nasal catarrh. The reflexes are not uniform in their behavior in this disease; the skin reflexes as a rule are somewhat exaggerated, while the tendon reflexes are sometimes so affected; in other cases they are retarded. In a large number of cases there is no deviation from the normal. Skin symptoms were very prominent in the earlier epidemics; in the later ones, a herpetic eruption on the lips and face was the only cutaneous lesion to which importance could be attached. Other eruptions, such as roseola, urticaria, petechiæ, etc., have also been observed. Disturbances of the gastro-intestinal tract other than the initial vomiting are rare. Loss of appetite and more or less irregularity of the fecal movements occurred in the severer cases, but presented nothing characteristic. The spleen is sometimes enlarged, but rarely to the extent of the typhoid spleen. Multiple joint lesions have been observed in some epidemics. Kotsonopulos,[64] in an epidemic described by him, found acute inflammation of the joints in a large number of cases, as did also Berg[63] in the epidemic in New York in 1893.

The genito-urinary apparatus is not as a rule affected, although albuminuria has been of frequent occurrence in some epidemics; polyuria and glycosuria have also been observed. The lungs are frequently affected in the severer forms of the disease; hypostatic and "schluck" pneumonia occur occasionally in the later stages. Anatomic disturbances of the heart are rare, endocarditis being the one most often found. The pulse-rate is usually slightly increased, but not in proportion to the height of the temperature. Leucocytosis is almost constantly present. The temperature shows no regularity, and its height is not proportionate to the severity of the disease; fatal cases sometimes run their course with little or no rise in temperature. The majority of cases show an irregularly remittent type of fever. There is no distinct evening rise in temperature; in some cases, the morning temperature will even exceed that of the evening. Increasing severity of the cerebral symptoms is not as a rule attended by a corresponding rise in temperature. In fatal cases there is often hyperpyrexia shortly before death, temperatures of 109 and 110 F. having been observed. After the disease has run its course favorably, the patient is, as a rule, left in a greatly exhausted and debilitated condition. Temporary or permanent deafness is a frequent sequence of the disease. Disturbances of vision often remain, giving evidence of intraocular lesions. Permanent paralyses of the motor muscles have also been observed after recovery, but are comparatively rare. Where the disease has occurred in young children, the mental faculties frequently remain permanently impaired.

DIAGNOSIS.

During the presence of a well-marked epidemic, the diagnosis of cerebrospinal meningitis as a rule presents little difficulty. More difficulty is encountered in the diagnosis of sporadic cases, especially when they come under observation for the first time when already in a delirious or unconscious condition, as is frequently the case in those sent to the hospitals, especially if no history is available. In these cases it becomes necessary to exclude typhoid fever, tubercular meningitis, miliary tuberculosis and some of the severer septic disturbances. From a diagnostic standpoint, the most important symptoms are the characteristic headache, the rigidity and tenderness of the nape of the neck, the herpetic eruption and the well-marked leucocytosis. If it can be made, a lumbar puncture will usually show conclusive evidence as to the nature of the disease. During the Chicago epidemic, typhoid fever was sometimes confused with this disease. Below are given some of the differential features between the two conditions:

CEREBROSPINAL MENINGITIS.	TYPHOID FEVER.
1. Onset, as a rule, sudden with nausea, vomiting and frequently a chill or chilly sensation.	1. Onset. as a rule, gradual, with malaise and bronchial catarrh.
2. Temperature during early stage very irregular, may be high or may be normal. No step-like increase. (See charts.)	2. Temperature during early stage usually regular between 100 and 108 degrees F. Step-like increase in the evening, temperature of each day being slightly higher than that of the preceding day.
3. Headache very agonizing.	3. Headache of a less severe type.
4. Tenderness of cervical column and retraction of head.	4. Tenderness of abdomen, cervical column normal.
5. Abdomen retracted, boat-shaped.	5. Abdomen prominent, often tympanitic.
6. Herpetic eruption on lips, sometimes petechial spots.	6. Rose spots on abdomen.
7. Spleen rarely enlarged.	7. Spleen enlarged and palpable.
8. Conjunctivitis and photophobia of frequent occurrence.	8. Very rare.
9. Fever irregular, no constant evening rise.	9. Temperature during fastigium uniformly high, with evening exacerbation.
10. Pulse-rate not as a rule very frequent, does not increase with temperature, except in some instances.	10. Pulse rapid, its increase is generally proportionate to the increase in temperature, often dicrotic.
11. Urine as a rule normal, diazo reaction negative.	11. Urine often slightly albuminous. Diazo reaction positive.
12. Blood shows large and constant increase in leucocytes. Widal test negative.	12. Leucocytosis exceedingly rare. Widal test positive.
13. Joints frequently affected.	13. Joints rarely affected.
14. Bowels as a rule regular.	14. Obstipation during early part of the disease; after second week, slight diarrhea with "pea-soup" stools.
15. Tongue has no characteristic coating, frequently not coated at all.	15. Tongue coated thickly in center, edges and tip are clean.
16. Convulsions in children and twitching of muscles in adults frequent.	16. Convulsions and twitchings of muscles rare.
17. Paralysis of frequent occurrence.	17. Paralysis very rare, and then only as sequelæ.
18. Disturbances of sensation (hyperesthesia, etc.).	18. Not present.
19. Lumbar puncture shows increased pressure in spinal canal, and a superabundance of cerebrospinal fluid.	19. Lumbar puncture negative.
20. Duration of disease very variable.	20. Duration of disease usually three to four weeks.

Tubercular meningitis.—The diagnosis of this disease from the epidemic form sometimes offers considerable difficulty, especially if there is no clear family history and an absence of tubercular lesions elsewhere. The chief differential points are as follows:

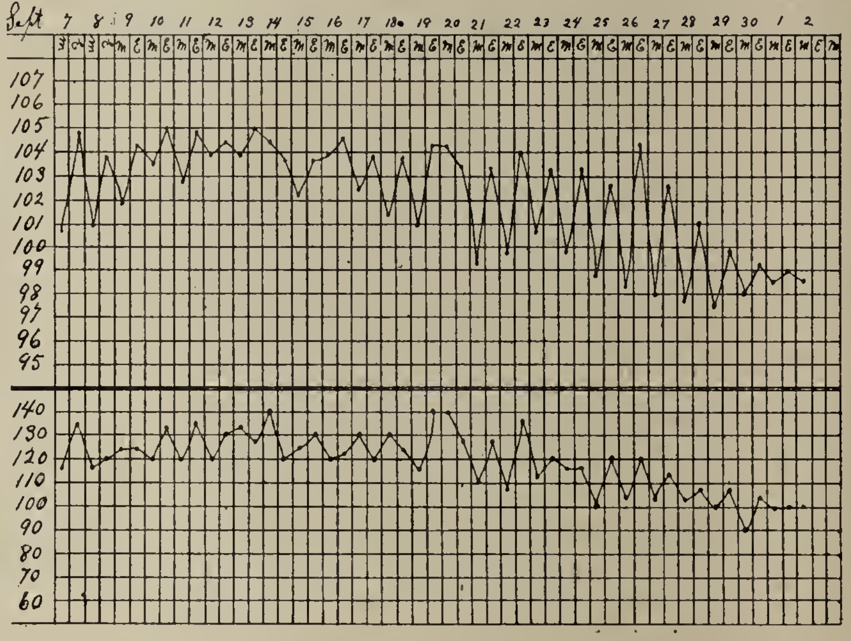
EPIDEMIC CEREBOSPINAL MENINGITIS.	TUBERCULAR MENINGITIS.
1. Family history as a rule negative.	1. Generally tubercular family history, and tubercular lesions in other parts of the body, most often in lungs.
2. Occurs at all ages, most frequent between the ages of 10 and 20.	2. Cases generally occur in chilunder 10 years of age.
3. Onset sudden.	3. Onset gradual.
4. Delirium early in disease.	4. Delirium late in disease.
5. Temperature as a rule comparatively high.	5. Rise in temperature as a rule very slight.
6. Occurs as a rule in epidemics.	6. Is never epidemic.
7. Affects chiefly the convexity of the cerebrum.	7. Affects chiefly the base of the brain.
8. Cerebrospinal fluid during acute stage contains meningococci, later sterile.	8. Cerebrospinal fluid contains tubercle bacilli.
9. Herpes frequently present.	9. Herpes never occurs.

The meningitic symptoms in cases of *pneumonia* are sometimes of such a nature as to resemble true cerebrospinal meningitis. There are, however, in these cases, rarely retraction of the muscles of the neck or opisthotonos. The eye and joint symptoms are also as a rule absent. Undoubtedly, however, pneumonia and cerebrospinal meningitis caused by the meningococcus may exceptionally occur together. Certain *septic conditions* may sometimes simulate cerebrospinal meningitis. A careful search for the causative factor and a consideration of all the symptoms will, as a rule, soon clear the diagnosis. In some epidemics of *influenza* cases have occurred which resembled cerebrospinal meningitis; when any doubt exists in this respect, however, a bacteriologic examination of the mucus from the nasopharynx will as a rule speedily clear the diagnosis, as that from an influenza patient generally teems with Pfeiffer's bacilli.

PROGNOSIS.

The physician, in expressing an opinion as to the probable outcome of a case of cerebrospinal meningitis, should avoid all positive assertions. Although, as a rule, in the epidemics of later years the majority of patients have recovered, the mortality seldom exceeding 30 per cent., the outcome of any individual case is always doubtful; and even should the disease not end fatally, its ravages often leave the patient a mental and physical wreck. In estimating the patient's chances as to recovery, the condition of the pulse and temperature offer no index; more to be relied upon are the cerebral symptoms. A delirium of a noisy character, the patient tossing about and grasping at imaginary objects, augurs ill; a prolonged state of unconsciousness, especially when setting in early, is also of grave significance.

Severe vomiting, which is difficult to control, means a fatal ending, or at any rate slow convalescence on account of the exhausted condition in which it leaves the patient. Involuntary evacuations of urine and feces denote extensive destruction of nerve tissue. Dysphagia is an almost certain sign of approaching dissolution. Ulceration of the cornea or intraocular lesions usually mean an extensive and virulent type of inflammation. On the other hand, if the vomiting is easily checked and a fair amount of food is assimilated, the mind being only slightly clouded, and the second or third week of the disease being reached without any of the unfavorable symptoms previously mentioned occurring, the prognosis may be set down as favorable, even though the temperature remains high. Unforeseen complications which may occur and frequently do occur in apparently the most favorable cases, must be taken into consideration when expressing an opinion.

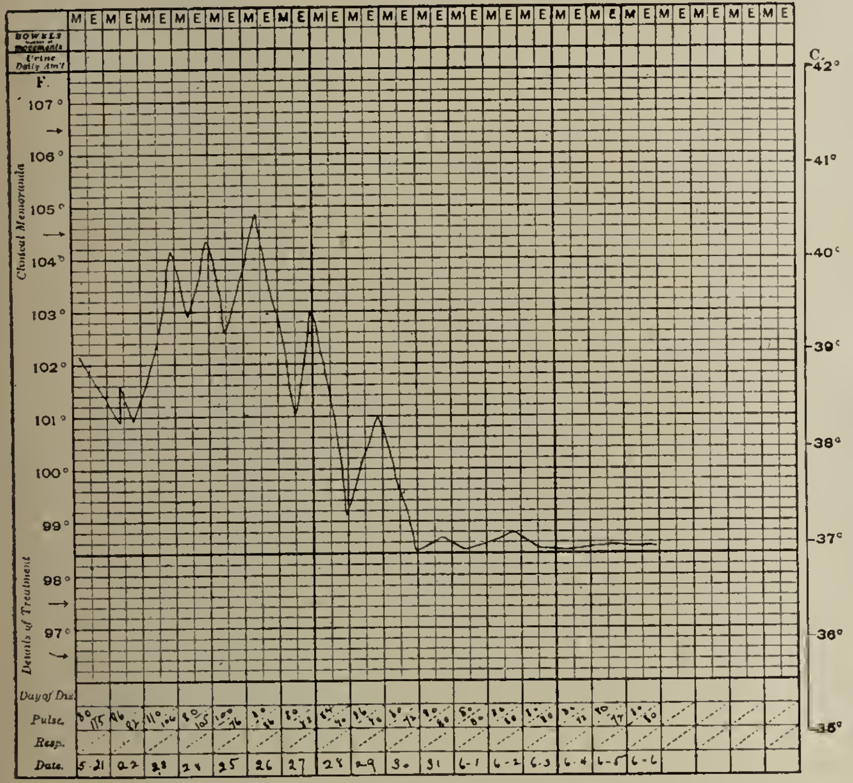


Temperature and pulse chart. Typhoid fever (Osler).

TREATMENT.

Little can be said on this subject, as the treatment of cerebrospinal meningitis is at present still purely symptomatic. The therapeutic value of lumbar puncture is still doubtful. Although some cases where it has been performed with apparent beneficial results have been reported, the amelioration of the symptoms in these cases was probably due to the reduction of intracranial pressure exerted by the fluid withdrawn. Ice-bags to the head and spine are almost universally used and have a tendency to diminish the pain. Hot baths have recently been advocated by German writers, but the philosophy of this mode of treatment is not quite clear. Narcotics are indicated if the pain is very severe. Considering the probable origin of the disease, frequent nasal douches with mild antiseptics are considered advisable as a prophylactic measure.

The cases here cited occurred under the observation of a number of skilled diagnosticians. All uncertain and doubtful cases were eliminated, thus curtailing the number, but we hope its value is thereby increased. One regrettable feature is that a large number of post-mortem records were not available. The records are as exhaustive as was considered necessary, although varying somewhat in detail by being collected from a number of hospitals.

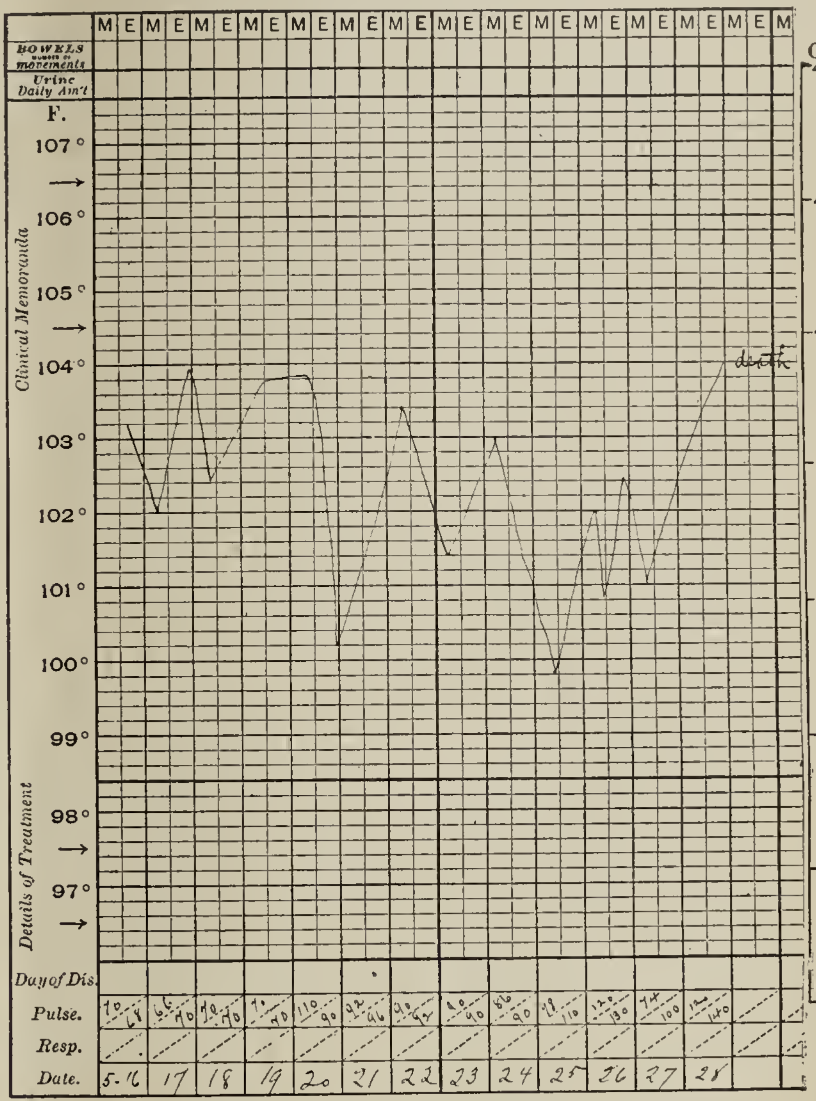


Case 7.—Cerebrospinal meningitis. Recovery.

Case 1.—Male, aged 24, admitted July 1, 1898; has been sick six days; last Saturday had a chill, followed on Tuesday by another, with vomiting, headache, backache, diarrhea, fever, delirium, rigidity and tenderness of neck and back; eyes congested, dull; tongue thickly coated; gurgling in iliac fossæ; slight tympanites; rigidity and retraction of abdomen; temperature 103 degrees F.; pulse 74; lumbar puncture made, no fluid obtained; discharged recovered, Aug. 3, 1898.

Case 2.—Male, aged 45, admitted June 17, 1898; five days before taken suddenly with vomiting and diarrhea, followed by severe headache, backache and pains in the extremities; when first seen complained of severe headache; mind very dull; patient constantly stroked his head and neck with his hands, and groaned; great tenderness on pressure; pupils contracted and equal, reacted normally; no ocular nor other paralysis; pulse 48, regular, full and soft; temperature 98; respiration 28; no eruption; the night following was in continuous pain and very restless; morphin. The pulse remained slowed and the temperature on the day following ranged between 100 and 101 degrees. During the following day the pulse remained slow, while the temperature on the 22d reached 103 degrees, with a pulse of 68. Headache and mild delirium continued. No new symptoms were observed except a slight right sided facial paresis. An opthalmoscopic examination on the 22d showed no change in the fundus; there was a marked cupping of the right disc. The delirium became more marked and continuous; headache and tenderness with rigidity of the neck persisted; but under the influence of bromids or morphin the patient slept four to six hours during the night. The pulse increased in frequency; on the 25th it ranged from 100 to 120; temperature 100 102.4 degrees. Lumbar puncture was made on the 26th, 20 c.c. of fluid being removed, from which cultures were made showing the diplococcus of Weichselbaum. The puncture was followed by apparently beneficial results; patient discharged recovered. (Case reported by Bassoe, Journal American Medical Association, July 23, 1898.)

Case 3.—Male, aged 7, admitted April 3, 1898; taken sick three days previous with chill, vomiting, headache, rise in temperature. On admission is delirious, head retracted, eruption on lips, tenderness along spine; temperature 100 degrees; pulse 78. April 6, abdomen retracted, pupils dilated, most so on left, delirious. April 10, patient somewhat better, delirium abated. April 12, complains of pains in wrists, tender on pressure. April 18, temperature normal, patient takes more interest in surroundings. May 5, discharged recovered. No lumbar puncture was made.



Case 8.—Cerebrospinal meningitis. Death.

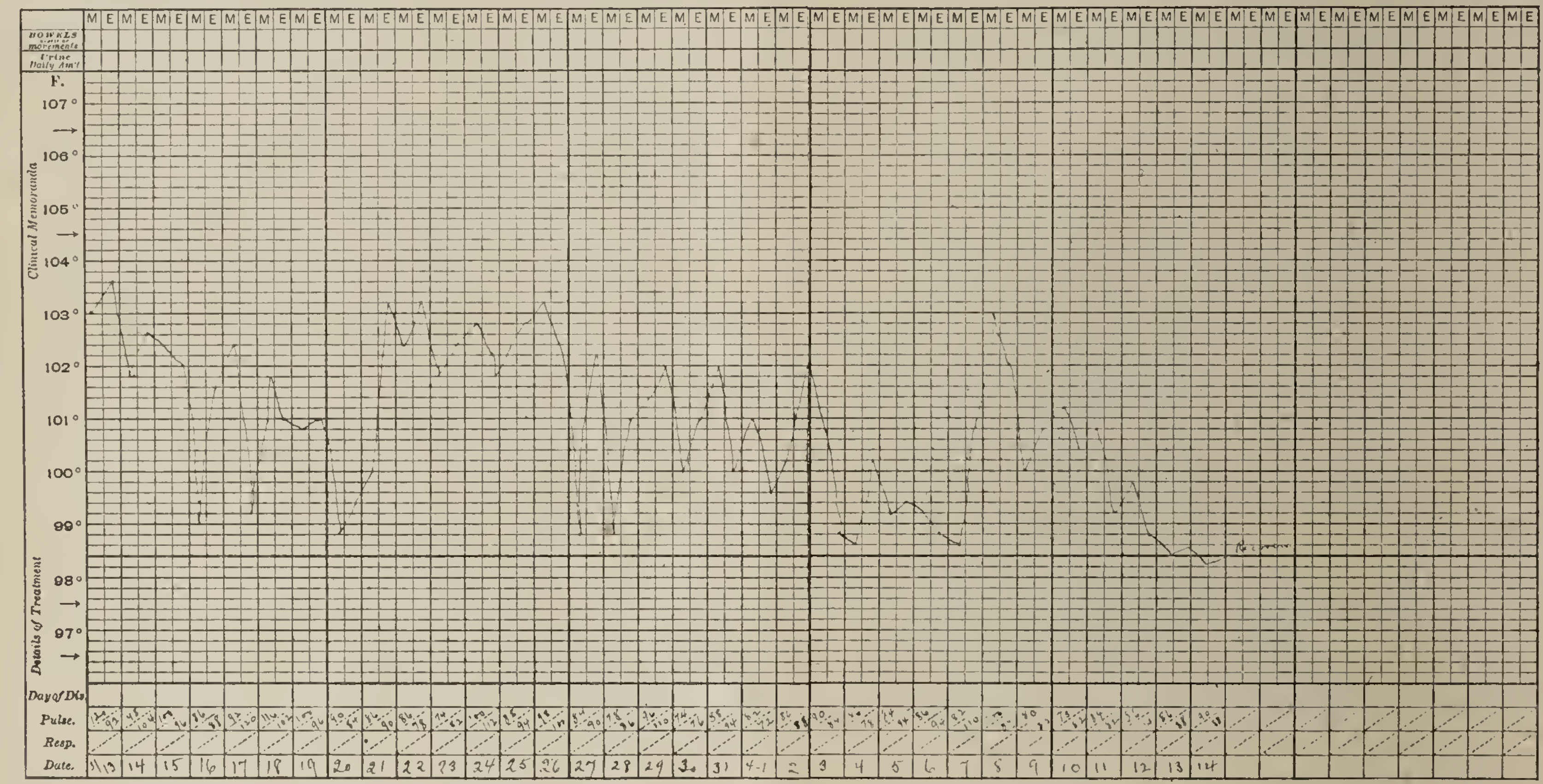
Case 4.—Female, aged 12, admitted April 7, 1898; history of sudden onset with vomiting and severe headache; on admission, delirious, head retracted, spine tender, slight strabismus, abdomen retracted; temperature 103 degrees; pulse 122: temperature very irregular during the course, as high as 105.5 one day, the next day not over 100 degrees. Discharged in about two months; no lumbar puncture.

Case 5.—Male, aged 40; taken sick June 10, 1898, with severe head and backache, also vomiting. On admission, June 14, there was severe headache, causing sleeplessness; the neck rigid and painful, with but slight retraction; no paralysis; over abdomen and thighs were many petechial spots; mind clear, but the patient constantly complaining of his head. He lived until 10:45 p.m., June 19, dying on the tenth day from the onset. During the last thirty-six hours the pulse became more rapid. He never vomited after admission. He gradually became wildly delirious. The petechial spots faded somewhat before death, no new ones appearing. There was no herpes. No paralysis was at any time made out. Post-mortem: Entire pia infiltrated with a thick purulent fluid, especially marked about posterior margins of the cerebellum. The amount of cerebrospinal fluid is small, but the lateral ventricles contain a quantity of purulent fluid, which in the horns becomes thick pus; walls of the ventricles soft. There is exudate around the upper end of the spinal cord, but the spinal canal was not opened. Cultures from the meningeal exudate showed a coccus, with all the characteristics of the diplococcus intracellularis meningitidis. (Case reported by Herrick, Journal American Medical Association, July 2, 1898.)

Case 6.—Male, aged 45, admitted June 24, 1898; very delirious; temperature 101.2 degrees; taken sick two or three days before; had severe pains in back; headache, soon followed by delirium; eyes congested, boat-shaped abdomen, coma, casts; lumbar puncture made, and 30 c.c. of clear fluid removed; pressure in spinal canal, 205 mm.; sp. g. of fluid, 1006; bacteriologic examination of fluid negative; patient lived twenty-four hours after admission; no post-mortem.

Case 7.—Male, aged 24, admitted May 21, 1898; about six to eight days before, began to complain of head and backache; about three days afterward had a chill, followed by vomiting, severe headache, pain in abdomen, fever and delirium; tongue coated in center; gurgling and tenderness in iliac fossa; spleen enlarged and palpable; herpes; head retracted, tenderness over cervical vertebræ; blood examination for typhoid, negative. This case showed only a slight decrease in temperature after a bath was given. Lumbar puncture was not made. Delirium and other symptoms gradually abated; patient discharged June 9.

Case 8.—Male, aged 15, admitted May 16, 1898; about eight days before, complained of pains in arms, eyes congested, bone and backache; then he lay on the floor in a draught a couple of hours, asleep; next day had a severe headache and vomiting, fever and delirium; pain in back of neck, with retraction of head; delirious and restless; tongue coated; constipated; May 20, trophoneurotic ulceration of left cornea; catarrhal conjunctivitis of left eye; May 26, facial paralysis on left, May 28, general paralytic condition; puncture between third and fourth lumbar vertebræ, 65 c.c. of clear fluid removed; pressure in spinal canal, 750 mm.; sp. gr. of fluid, 1007, slightly albuminous; bacteriologic examination negative; died May 28; no post-mortem.



Case 9.—Cerebrospinal meningitis. Recovery.

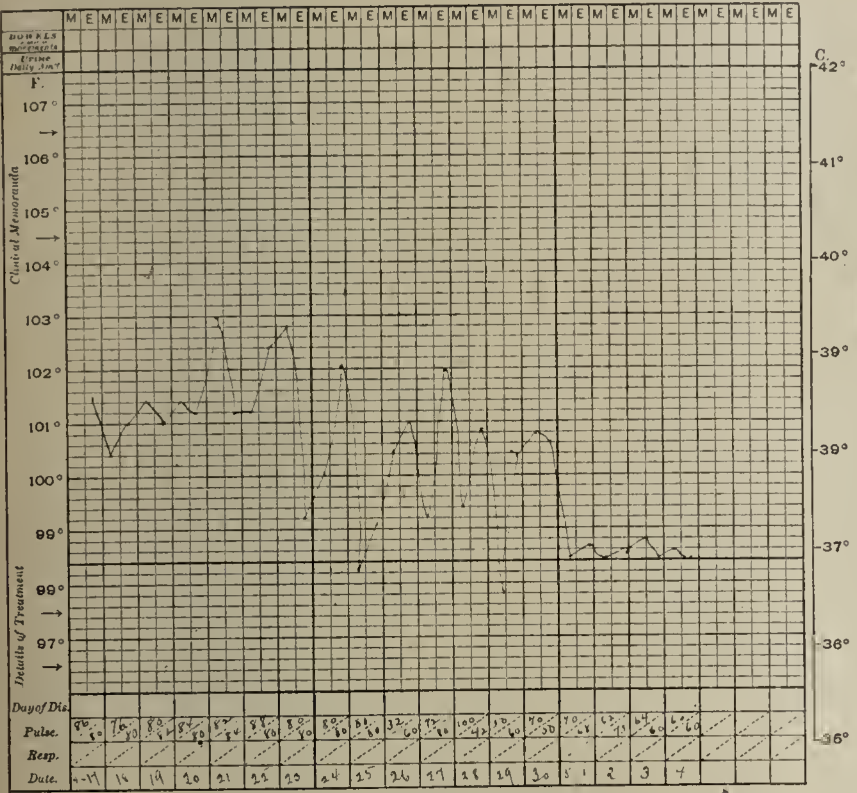
Case 9.—Male, aged 22, admitted March 13, 1898; pain in back of neck, back and legs, came on very suddenly, with chill, nausea and vomiting four days previous to admission; has persisted since: most severe in back of neck; retraction of head; cries out with pain when head is flexed; pulse 120; temperature 103 degrees F.; tongue coated; abdomen boat-shaped; reflexes increased; muscles tender; no albumin in urine; no puncture; patient discharged April 22.

Case 10.—Male, aged 21, admitted April 19, 1898. Four days previous to admission he was taken with a very severe headache, the next day had a chill, and then ached all over; last three days has vomited everything that he has taken; two days ago began to have stiffness in the neck, was constipated, and suffered from insomnia; well nourished, pale, nystagmus, increased patellar reflex; on standing is very dizzy; tongue slightly coated, spleen enlarged and palpable. Patient made a gradual recovery, and was discharged May 15; no puncture.

Case 11.—Male, aged 18, admitted April 29, 1898. The patient had been complaining for two weeks, of headache, pain in limbs, chilliness and weakness, also had a cough; April 20, had cough, pain in abdomen and tympanites; April 28, very restless at night, could not sleep, very severe headache, anodynes did not produce sleep; April 29, delirious, rigidity of neck first noticed yesterday morning, left hand hyperemic and puffy; April 30, severe chill lasting thirty minutes; May 2, involuntary evacuations of urine and feces; muttering delirium; patient has double vision; May 4, patient complains of severe pain in pit of stomach; May 6, some improvement, slept well; May 7, not much change; May 10, slightly delirious, subsultus tendinum very marked; May 12, very restless and delirious, involuntary evacuations; May 20, less delirious; May 23, pupils very much dilated; May 25, pulse very irregular; May 26, 9 A.M., became cyanosed and could not be aroused from stupor for about twenty minutes, then seemed to sleep quietly, respiration regular, pulse 70; died suddenly at 3 P.M.; no post-mortem.

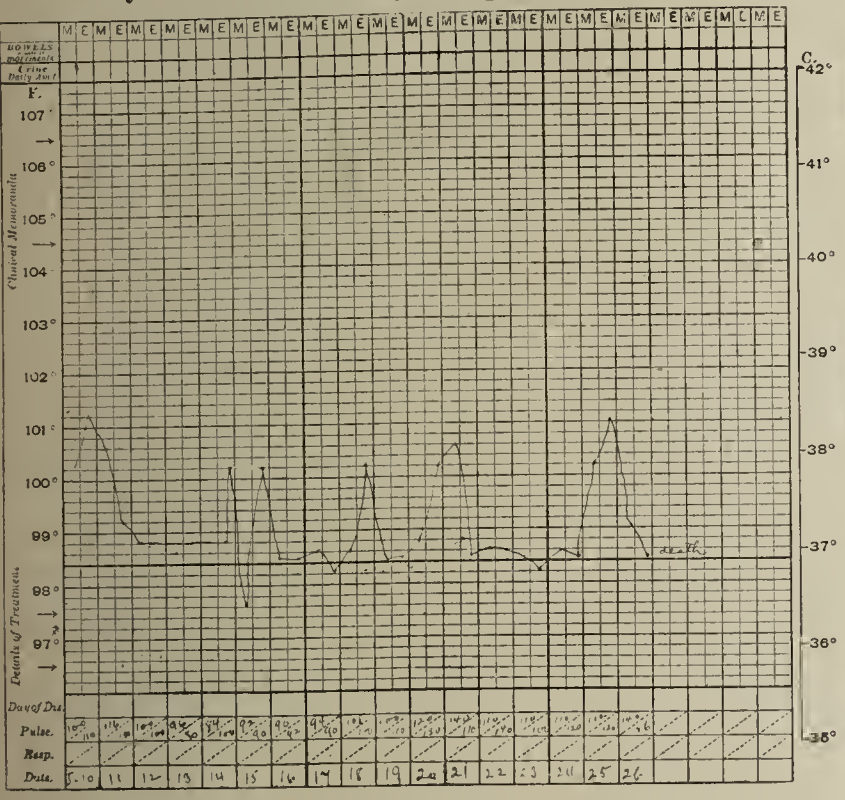
Case 12.—Male, aged 40, admitted March 20, 1898; at five previous evening had severe pain in epigastrium; was able to work during the day; at 2 A.M. began to vomit; has vomited three or four times since; vomitus slightly tinged with blood; entered hospital intoxicated, but previous to last night had drunk no liquor for eight months; mind clear but apathetic; well nourished; skin dry and hot; pupils react; tongue coated at sides; spleen not palpable; extremities negative; reflexes diminished. Temperature 101 degrees F.; pulse 120 on admission; March 23, epistaxis, pain in head and neck; March 25, for last twenty-four hours patient has complained of pain in left ankle and shoulder. Examination shows slight redness, swelling and considerable tenderness; March 30, symptoms continue; April 2, ankle-joint symptoms almost subsided; April 5, patient semiconscious, pupils dilated, the right larger, react to light; moves hands aimlessly, fingers of right clutched; involuntary urination; face drawn to left; right hand apparently paralyzed; died 5 A.M., April 6.

Case 13.—Female, aged 25, admitted March 4, 1898; three days ago was taken with pain in left wrist, headache, vomiting and fever; was very nervous and had one or two convulsions; not unconscious during the attacks; complained of pain in precordial region; wrist was very sore, red and swollen; had been sore before but began to be worse at this time; could not sleep at night; four years ago had an attack of rheumatism which lasted three weeks. She says she does not know of having had any heart trouble at that time; face flushed; expression dull; tongue moist, not much coated; eyes react to light; pulse 118, regular; temperature 102.5 degrees F.; loud systolic murmur heard plainest at apex; no friction sound; spleen not palpable; no rose spots, no tenderness; urine albuminous; very slight edema of legs; March 5, had been delirious during night; March 14, severe headache; March 16, delirious during night; March 18, patient apparently in stupor; has convergent strabismus, pupils small and sluggish; patellar reflex on right marked, absent on left; sensation and motion good in both arms and legs; strabismus not constant, can move eyes through whole of arc; no facial paralysis; March 21, involuntary evacuations of urine and feces; March 22, profuse perspiration over whole body; has pain in stomach; vomited colorless liquid; March 24, more conscious; complains of constant headache; March 26, appears somewhat improved; March 31, patient complains of pain in back and lower part of body; April 1, tremor in right hand and arms; conjunctiva injected; no pain in head or neck though rigid; April 7, not much change; sweats profusely; April 9, has difficulty in swallowing; April 10, gradually growing weaker during night; died at 8:40 P.M.



Case 10.—Cerebrospinal meningitis.

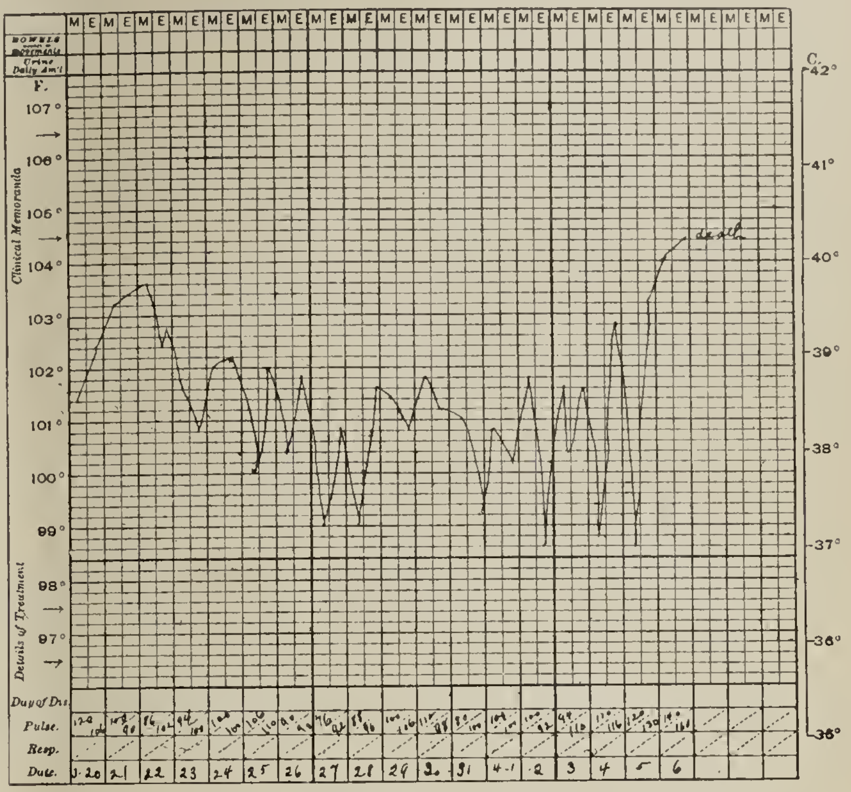
Case 14.—Female, aged 28, admitted May 10, 1898; patient delirious; no history obtained; general nutrition good; pupils react; tongue has a brownish coating; abdomen somewhat prominent and tender, spleen not palpable; temperature 103 degrees F.; pulse 108; May 12, delirious, very restless; May 13, muscles twitch from head to foot; tries to get out of bed; involuntary evacuations; May 15, quieter; May 16, back of neck very painful; May 18, difficulty in swallowing; May 20, lay in stupor all night; died at 11:30 A.M. Temperature at no time very high, there being little difference between morning and evening temperature. Shortly before death it became normal.



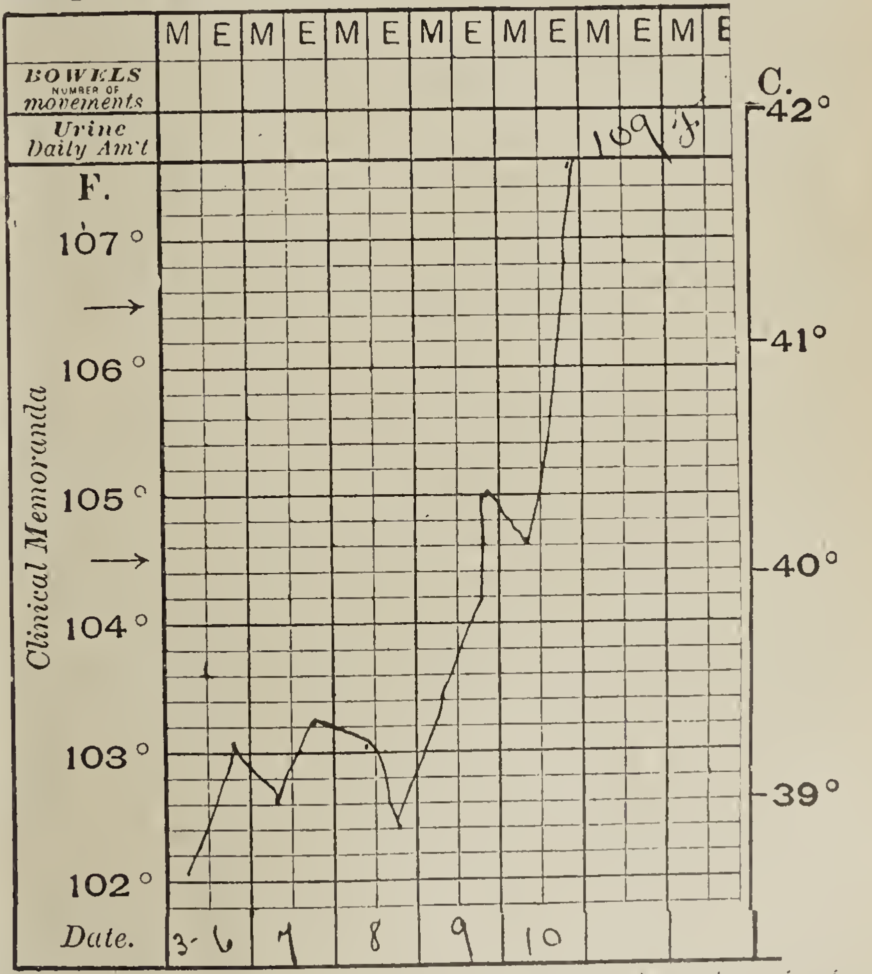
Case 11.—Cerebrospinal meningitis. Death.

Case 15.—Male, aged 20, admitted April 22, 1898, was taken sick about a week ago with prodromal symptoms of typhoid; face flushed, tongue broad and dry; abdomen rather distended, tenderness in iliac and splenic areas; no rose spots; skin dry; patient chilly; headache; tenderness over cervical vertebræ; vomited medicines; April 24, slept but very little, was restless, but did not vomit after 2 A.M. April 25, vomited greenish fluid, could not retain nourishment. April 26, face flushed, eyes dull, pupils dilated, tongue very dry and glazed, abdomen distended, tender; patient delirious. Delirium gradually gave way to coma, and patient died April 28, 12:10 P.M.

Case 16.—Male aged 40, admitted Jan. 9, 1898, lies on his back motionless, oblivious to surroundings; eyes open; nystagmus; face flushed; skin moist; pupils react; abdomen depressed; spleen not palpable; reflexes somewhat exagerrated; January 10, seems to understand some things; involuntary evacuations; January 12, conjunctiva congested; died at 9:30 P.M. Post mortem examination of brain shows dura mater adherent to pia, especally along superior longitudinal fissure; meningeal vessels congested.



Case 12.—Cerebrospinal meningitis. Death.

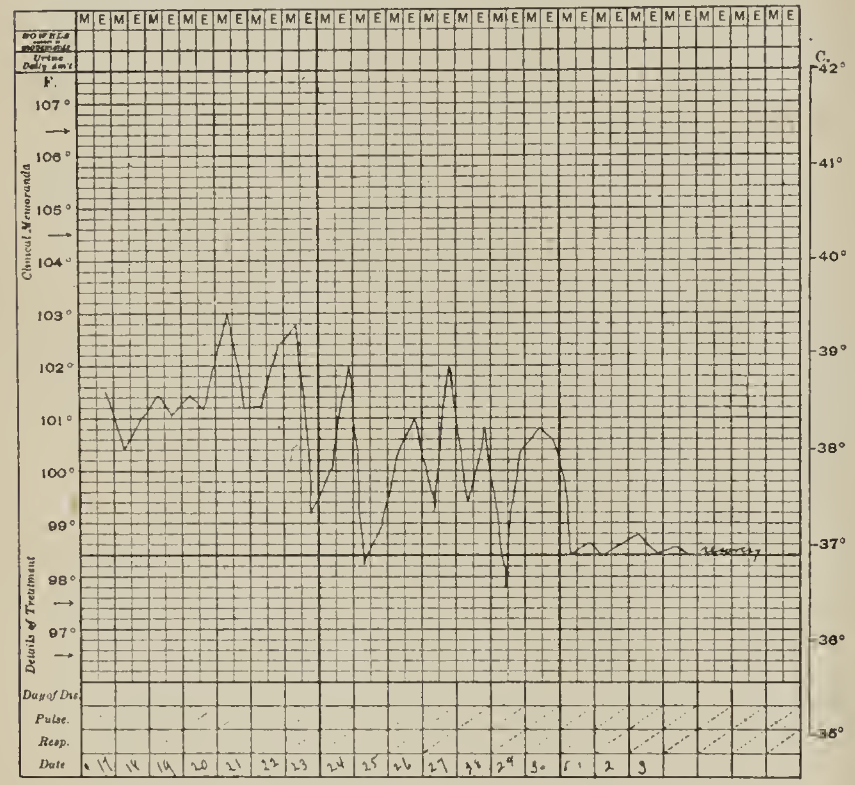


Case 13.—Cerebrospinal meningitis. Showing ante-mortem rise in temperature.

Case 17.—Male, aged 24, admitted April 2, 1898, had been on a spree, and four days ago, when he awoke after the spree, felt very sick, complaining of a severe headache, vomiting and pain in the bones; says that he is very nervous and can not sleep; is often nauseated; nutrition excellent; pupils react; spleen not palpable; abdomen slightly tympanitic; temperature 103.2

F.; pulse 108; April 4, very delirious, April 5, patient complains of very severe headache and pains in back of neck; during afternoon became semicomatose; is rigid; tenderness and hyperesthesia along spine; marked tremor in hands and same in muscles of face; herpes on lips. April 6, head drawn toward the left; conjunctiva congested; breathing rapid; subsultus tendinum; swallowing difficult; died April 8. Post-mortem: Veins of dura distended; vessels of pia injected; over convexity of hemisphere, especially along course of vessels, is a tenacious yellowish exudate, apparently purulent; all the vessels of the membrane are markedly distended: great deal of turbid fluid escapes when the dura is cut; lateral ventricles not distended; one or two small areas of exudate around vessels at base; about upper extremity of spinal cord is seen seropurulent fluid; spinal canal not opened.

Case 18.—Male, aged 33, admitted April 6, 1898; present illness began Tuesday morning with headache and backache; no vomiting; bowels constipated since Tuesday; herpes since Wednesday; patient walked to the hospital; has been drinking some; stupid, slightly restless; eyes normal, except dull: pupil normal; lips covered with vesicles; heart shows no abnormality; abdomen not distended; area of splenic dulness slightly increased; reflexes slightly diminished; April 4, in evening, patient almost comatose; April 5, patient has difficulty in swallowing; rigidity of neck. April 6, patient comatose, died same day. Post-mortem: Convexity and base of entire brain covered with fibrinopurulent exudate; substance soft; cerebrospinal fluid poured from spinal canal is slightly turbid; cocci and diplococci found in exudate, not enclosed in cells.



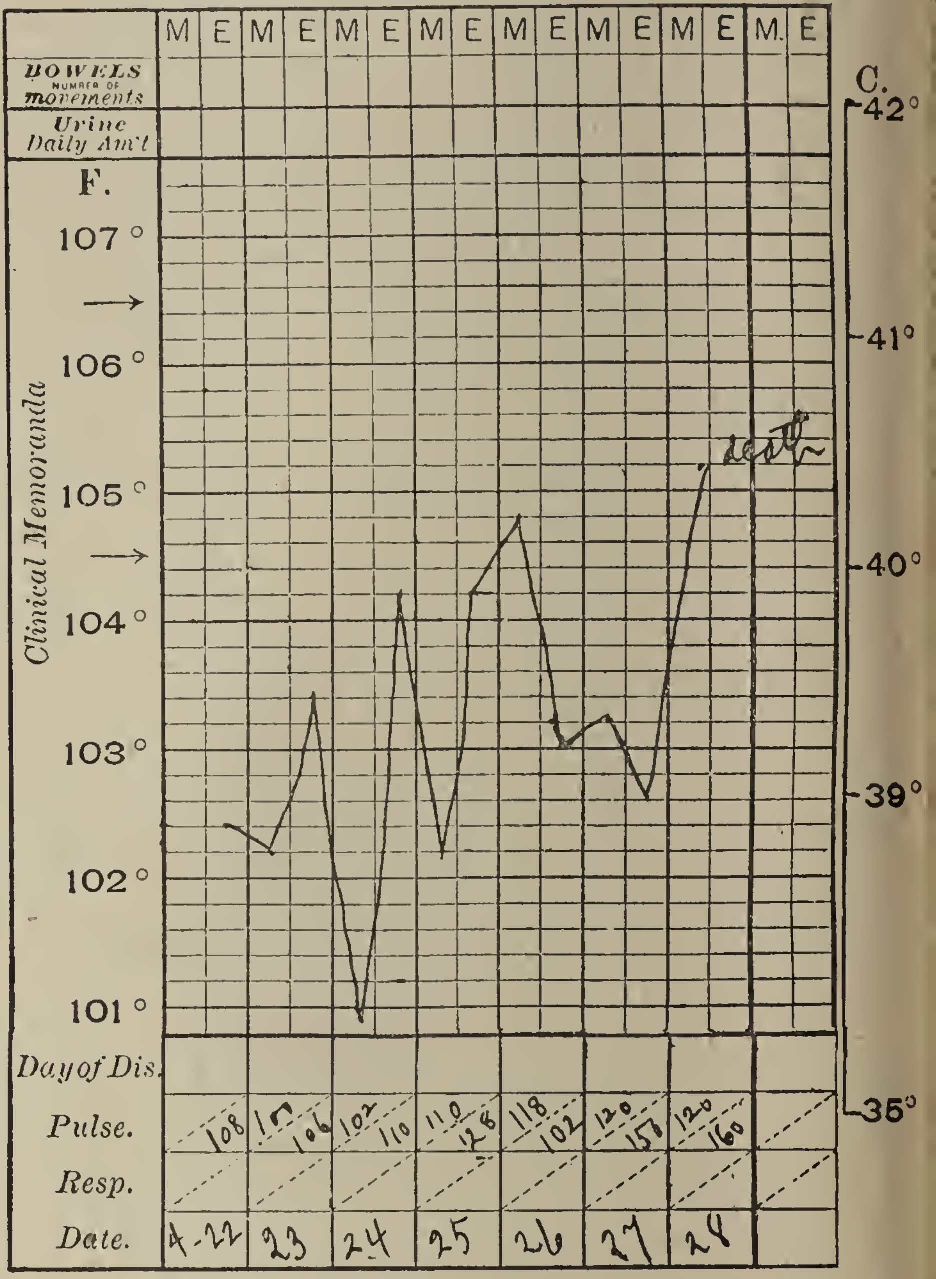
Epidemic cerebrospinal meningitis.

Case 19.—Male, aged 19, admitted April 28, 1898; illness began about a week previous, with headache and vomiting; somewhat emaciated; very irritable; mind lethargic; is, however, readily aroused; cries aloud; temperature 99.2 F.; pulse 120 and very weak; pupils react, right more readily than left; nearly deaf in left ear; tongue seems swollen; neck retracted; spinal muscles rigid; shoulders permanently shrugged; marked *taché cerebrale;* abdomen retracted; patellar reflexes not demonstrable; April 29, patient delirious; April 30, slight nystagmus and paresis of left side of face; eyes do not move together; apparent paresis of right external rectus; died April 30, 10:30 P.M. Post mortem: On pia, especially about commissures, is a thick purulent exudate; dura negative; overconvexity of lobes; along vessels is some purulent exudate; pia everywhere injected; vessels involved in a mass of exudate; lateral ventricles are unchanged; brain substance is soft.

Case 20.—Male, aged 4, admitted April 18, 1898; present illness began suddenly about noon, April 16, with vomiting and headache; vomiting continued almost incessantly all through the day and night; about 2 P.M., April 17, became unconscious and had twitching movements of the extremities about every twenty minutes; when conscious could not see; eyes, mouth and throat negative; head drawn back to slight extent, and slight rigidity of neck muscles; also tenderness along nape; reflexes normal; semicomatose; died May 19, 1898; no post-mortem made.

Case 21.—Male aged 5, admitted April 25, 1898; was taken suddenly ill two days ago; had repeated convulsions on day that he was admitted; temperature normal; pulseless at wrist; respirations 36; rigidity of neck muscles and tenderness of neck and spinal column; eyes negative; reflexes present; very restless, talking and crying incessantly, convulsions about every thirty minutes, twitching of extremities; died at 2 P.M., April 26, 1898. Post mortem showed a small amount of pus under pia mater along course of larger vessels.

Case 22.—Male, aged 24, admitted May 24, 1898, in a comatose condition, head retracted, *taché cerebrale*, pupils unequal; previous history, as far as it could be obtained, that of cerebrospinal meningitis of the epidemic form; died about one-half hour after admission.



Case 15.—Cerebrospinal meningitis. Death.

Case 23.—Male aged 3 years, 7 months; seen March, 1898; taken sick with earache and fever; throat red; examination of secretion showed presence of diplococci; about four days later showed symptoms of meningitis, vomiting, headache, retraction of head, unequal pupils; about same time developed a croupous pneumonia accompanied by a serous exudate in pleural cavity, which showed pneumococci; purulent discharge from ear; death on nineteenth day of disease.

Case 24.—Female, aged 1 year, 6 months; seen April, 1898; taken sick suddenly with vomiting, retraction of head; *taché cerebrale;* tenderness along spine; abdomen boat-shaped; high irregular temperature, delirium, coma and death.

Case 25.—Female, aged 5, sister of above; taken sick about same time, with symptoms of typhoid fever which were soon followed by the characteristic symptoms of cerebrospinal fever; during its course pus was discharged from ear, containing diplococci; died within an hour of her sister.

Case 26.—Female. aged six months, admitted April 3, 1898; badly developed; rickety; taken sick suddenly, April 2, with convulsions, followed by vomiting; retraction of the head; tenderness along spinal column; *taché cerebrale*; pupils contracted; gradually became comatose, convulsions brought on by the slightest touch; death April 13, 1898.

(*To be continued.*)

Let us have a Department of Public Health!

SUBMUCOUS FIBROID; FIBROID UTERUS; CURETTEMENT AND ANTERIOR FIXATION.*

BY E. E. MONTGOMERY, M.D.
Professor of Gynecology, Jefferson Medical College; Gynecologist to St. Joseph's and Jefferson Hospitals; Ex-President of the Pennsylvania State Medical and Philadelphia Obstetrical Societies.
PHILADELPHIA, PA.

Submucous fibroid.—One week ago I brought this patient before you, and removed a fibroid growth which had been extruded from the cavity of the uterus into the vagina. This condition is recognized as submucous fibroid, or submucous polypus. The tumor, hung by a pedicle, was very easily twisted off; but the principal difficulty was in the subsequent removal of the tumor. The patient has done well; there has been no abnormal range of temperature, and her condition is excellent. She sits up to-day. Such growths are not unfrequently a source of considerable difficulty in diagnosis. Thus, where the pedicle, or a portion of the tumor is closely constricted by the uterus and sloughing or gangrene of a portion of the tumor results, which causes very profuse discharge, not infrequently hemorrhages, the physician, unless careful in making examination, is led to believe that a malignant disease exists. The digital examination, however, is usually sufficient to disclose the fact that the carious or necrotic tissue is only the lower portion of the tumor, while the upper part will be smooth, which is not characteristic of malignant disease.

Fibroid uterus.—I bring before you another patient with a pelvic growth of a different class. She is 34 years of age and married. Her father is living, and in good health at 82 years of age. Her mother died during confinement, when the patient was 2 years of age, and one sister died at 42. She had scrofula when young, but the immediate cause of her death was some abdominal trouble. There are two brothers and two sisters living, in good health. The patient has had measles, mumps and scarlet fever during her childhood, diphtheria at the age of 14, from all which she made a good recovery. Puberty occurred at the age of 12, the menstrual function being normal until her present trouble. She was married at 25, but has never been pregnant. Six years ago she had an attack of grippe, which lasted her nine weeks, and during it she had attacks of severe pain in the region of the left ovary, and profuse vaginal discharge. Her family physician asserted that the left ovary was enlarged to the size of a walnut. The patient has had other attacks which have ceased under treatment, since which she has enjoyed excellent health and been free from pain, until two years ago; then she fell backward from a step-ladder and struck her back over the sacrum. Following this injury she suffered from dysmenorrhea, and first noticed an amount of blood at the menstrual periods slightly in excess of that lost in previous years. During the last year she has grown steadily worse, menorrhagia increasing, becoming almost uncontrollable, associated with nausea and vomiting, which required her to remain in bed two or three days out of a month. She has even resorted to opiates to be free from the pain. She is free from pain during her intermenstrual period. The discharge is not offensive, the patient is well nourished, and has not lost flesh. She has no trouble with micturition, appetite is good, bowels regular, tongue clean, heart and lungs normal. The urine has an acid reaction, contains neither albumin nor sugar, has a specific gravity of 1021, and shows two grains of urea to each ounce. During the time she has been in the house she has menstruated profusely, pain is quite severe, but not so severe as she has often experienced. She has not required the use of opiates since her entrance.

This patient presents a history of having undergone an injury two years ago, subsequent to which there was an attack of dysmenorrhea, the occurrence of increased menstrual flow, amounting at times to hemorrhage. During this time, there has been an enlargement of the abdomen, and upon examination we find a mass which extends to the umbilicus, situated in the median line, not very regular in outline, presenting a number of nodules. By vaginal or conjoined examination we find the mass extends into the pelvis behind the uterus. That it is continuous with that organ above is evident from the fact that pressure on the mass above causes movement in the one below. It is firm, hard, resistant, and presents not the slightest sign of elasticity or fluctuation. Movement of the mass above with the hand upon the abdomen moves the cervix, which is pushed forward.

You will ask, what is the growth that causes such symptoms? In arriving at a diagnosis it is important to keep before you a careful synopsis of the various conditions which might possibly cause such symptoms, otherwise we may overlook the existence of certain signs which, if recognized, would afford us information as to the diagnosis and appropriate course of treatment. In summing up, then, the conditions which have produced the symptoms present, we must remember the organs in that part of the body in which this tumor is found, and which necessarily afford the source from which it has originated. It is true that other organs, from increased weight, may gravitate into the pelvis. A very large liver may so stretch its attachments as to extend into the pelvis. A kidney that becomes large or from insufficient attachment becomes known as a floating kidney, may be situated at the bottom of the pelvis. Intestinal tumors, as sarcoma or an omental tumor, may occupy this situation. We have to consider the organs that are in the pelvis, the uterus, ovaries, tubes, rectum, and the possibility of growths from the retrouterine or retroperitoneal tissue. We should not forget the possibility of the patient suffering from an accumulation of fecal matter, as that not unfrequently is a cause of error in diagnosis and has led to operation, when a dose of castor-oil would have been sufficient to have entirely removed it, and rendered the diagnosis certain. In this patient, the tumor is situated in the pelvis and extends upward. If it were the liver we would find a line of dulness continuous from a point above and downward toward the pelvis. On the contrary, the line does not extend above the umbilicus and we are able to indefinitely outline the upper part of this mass. Further, then, we are unable to trace any outline of the fundus of the uterus with the finger in the vagina and the hand over the abdomen. Again, we find the cervix passes directly into the mass. The cervix does not lie to one side of it, but is pushed forward up against the pubic bone and the continuation of the mass with the cervix demonstrates that the tumor is uterine in its origin.

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* A clinical lecture delivered at the Jefferson Medical College.

In the possibility of uterine tumor we have to consider various forms; thus, fibroid growths, sarcoma or carcinoma of the uterus. The cervix in the great majority of cases is the seat of malignant disease, which forms either as epithelioma, carcinoma, a hard, resisting mass, or which may later, through proliferation, break down as an ulceration upon the cervix. Again, malignant disease may begin in the cervical canal or cavity of the uterus, but carcinoma or sarcoma is exceedingly rare. In carcinoma or epithelioma we do not have marked enlargement of the uterus. The body in such cases remains small. In sarcoma the uterus becomes large, but does not attain to the size of the organ of this patient, without more or less breaking down; it does not present the firm resisting character to be felt in this growth, so we are brought to the consideration of the fact that we here have a condition of the uterus known as fibroid degeneration or fibroid growth of the uterus. A week ago I told you we had different varieties of fibroid growth according to the situation. Thus, one found in the cavity of the uterus, covered with mucous membrane, becomes known as a submucous fibroid; when situated equally distant from the internal and the external wall, involving the wall of the organ, it becomes known as mural or interstitial fibroid; others situated near the external layer, as they increase in size are pushed out of the wall beneath the peritoneum, and are known as extramural fibroids, also called subperitoneal. Tumors are also named according to the relation of the uterus. It may be extruded from the uterus, hanging by a pedicle, known as a polypus. The term "polypus" is used more particularly with reference to those which are extruded into the cavity of the organ, while those situated in the external surface are known as pedunculated subserous fibroids.

In preparing this patient for operation we have the parts thoroughly cleansed, not only on the external surface through which the incision will be made into the abdomen, but the vulva and vagina as well. The latter is scrubbed thoroughly with tincture of green soap and creolin, irrigated with sterile water, and finally washed with alcohol. One purpose in doing this is that more than likely in the removal of the growth it may be necessary to enter the vagina, and we prefer to have it thoroughly cleansed so as to prevent the possibility of infection being derived from it. The operation will consist in the removal of the entire tumor, possibly including the greater, or entire part of the uterus.

Making an incision through the abdominal wall, we are careful to secure the bleeding vessels before we enter the peritoneal cavity. The vessels here are larger, owing to the presence of the pelvis, the abdominal vessels becoming more distended. This gives rise to more bleeding than in ordinary conditions. We pick up the peritoneum and cut it between forceps so as to avoid the possibility of injuring a knuckle of intestine situated in front. Such a knuckle of intestine would be very readily injured or possibly omentum incised, requiring additional time to suture it and secure bleeding vessels. Having cut through the peritoneum I introduce my finger to examine the tumor, which is found quite firmly fixed. There have been attacks of inflammation which have bound this tumor down and made it more difficult to accomplish its removal. As a preliminary step I enlarge the wound upward so as to give more room, and a number of sponges are introduced to hold back the intestines. In these operations it is sometimes difficult to release the tumor from its bed; the tumor impacted in the pelvis, suction is very marked. This tumor is found difficult to raise. I expedite this a little by splitting through the anterior wall and pushing back the envelope. We in this way practically accomplish partial enucleation of the tumor. It is easier to do this than to separate the firm adhesions to its capsule. I still further enucleate the mass and cut smaller masses out, reducing the size of the mass until we are better able to get around it. Such tumors from pressure in the pelvis not unfrequently become molded to the surface, and you see one which I am now withdrawing, which has been flattened out from its pressure upon the tumor in front of it. We find a cyst of the left tube, which is probably the tube and ovary—you remember the patient gave a history of having pain on that side.

These are the cases that try men's souls. Everything is matted together and we have to work down carefully, knowing there are important vessels which may be injured. As the tumor is fairly well fixed posteriorly, I cut through the peritoneum in front and push off the bladder, then sutures are introduced laterally to secure the uterine and ovarian arteries, after which we can proceed with our dissection, making sure that we have the mass removed. Very frequently we find the appendix is firmly adherent to it, as in this patient, when I tie it off. This enables us to bring up the fibroid growth which is situated below in the pelvis. We have in this patient to be very particular as to the relation of the parts, for everything is displaced. I am here pulling up a structure which is the round ligament or the ureter, I am uncertain which. Exploring it and the direction which it takes, we find it is the round ligament, considerably larger than usual. If we always had a round ligament the size of this, there would be no difficulty in securing the uterus forward by using it as a support. We now pass the ligature deeply at the side of the uterus to secure the uterine artery. As this ligature is tied, I ask my assistant to take off forceps on this side, which shows that the bleeding vessel has been secured. A ligature is placed on the other side of the stump in a similar manner. It is an important consideration in this case to completely secure hemostasis so that important vessels will not continue to bleed. Knowing where these vesssels come off, we are enabled to pass our ligatures, surround them, and cut off the supply. In some cases, the better plan of procedure instead, would be to ligate en masse or ligate the internal iliac arteries. When the latter is done, it will be found that the bleeding is controlled in the pelvis; pads are now removed and the cavity thoroughly irrigated. There is a tumor situated on the right side, which we enucleate, removing the corresponding tube. A portion of the tumor is filled with blood from the sac that is left. Proceeding further we count the sponges.

Hot water has an excellent effect as a styptic, causes the vessels to contract, and is a good stimulant to the patient. We use for the purpose a normal salt solution, because if we use simply hot water it will cause the epithelial covering of the peritoneum to swell up and render it unfit for the absorption from the peritoneum later. Now we place a hot towel over the intestines to keep them from being exposed, place the patient in the Trendelenburg posture and use an electric light. Thus we can thoroughly examine the cavity. Having examined and found that hemorrhage is well controlled we proceed to suture the peritoneum over the stump, shutting it out from the general peritoneal cavity. This is done by a continuous catgut suture, beginning on one side of the pelvis and suturing the peritoneum across the stump to the other side. These sutures are introduced in such a way as to make pressure upon the end of the stump and thus secure additional hemostasis. The procedure is a somewhat tedious part of the work, but very important. We bring these surfaces together, for upon securing the control of the hemorrhage the favorable result very much depends. I again irrigate with normal salt solution, leaving a considerable portion of it remaining in the abdominal cavity. The wound is closed with a figure-8 stitch, by which the abdominal wall and the aponeurosis are brought in apposition, and the ends brought out through the skin and superficial fascia, so that they have all the advantage of the mattress suture, with the ability to remove it. I am particular in introducing this suture that it picks up the aponeurosis and brings it well over the muscle, so that we will have a good firm ventrum, otherwise the patient will likely suffer from ventral hernia. The sutures are introduced about half an inch apart.

Curettement and anterior fixation.—This patient is 35 years of age. Her mother died of typhoid fever at 31 and her father at 36. She has lost one brother from scarlet fever, while other members of the family enjoy good health. She had measles and pertussis during infancy. Puberty occurred at the age of 12 The cervix and perineum have been torn and subsequently repaired. Fifteen months after her labor she had a miscarriage at two months. Seven years ago she had a miscarriage at four months, after which pregnancy has not recurred. Menstruation is regular, leucorrheal discharge marked at times, but her general health has been good. She has had aching pain in the sacral region and lower part of the abdomen. This pain now precedes and follows menstruation. The establishment of the flow ceases to alleviate the suffering; headache is almost constant. Six months ago she was confined to bed from nervous prostration induced by uterine trouble. The symptoms now are much aggravated, and she suffers from constant distress, which has led to convulsions. These convulsions are likely to occur at the menstrual period. On examination we find the uterus retroflexed, and there is considerable metritis.

I shall dilate the uterus by bougies. In introducing the first one it must be carefully accomplished to see that it passes in the proper direction; the instruments as you notice pass backward. Having accomplished the dilatation we curette the cavity, going over the lining membrane in different directions to make sure it is completely scraped, using a flush curette so the fluid will wash away the débris as the operation proceeds. Curettement is followed by packing the cavity with iodoform gauze. It serves as a drain, keeps the surfaces separated, promotes the throwing out of plastic material and sealing up of the abraded surfaces. An incision is made in the lower part of the abdomen, through which to raise up the uterus and draw it forward. A short incision is employed. Old adhesions binding down the uterus posteriorly are broken up, and the fundus seized. A fine silk thread suture is passed through the peritoneum on one side through the fundus of the uterus and brought out through the peritoneum on the opposite side. This is to form a peritoneal band which will permit the mobility of the uterus and yet will restrain it from falling backward. The wound is closed with a figure-8 suture.

DERMATOLOGIC DIFFICULTIES.*

BY L. DUNCAN BULKLEY, A.M., M.D.
Attending Physician to the New York Skin and Cancer Hospital; Consulting Physician to the New York Hospital, etc.
NEW YORK CITY.

The difficulties of dermatology are thought by many to be very great. Apparently the general practitioner often regards the whole subject as almost hopeless, and is frequently content with a very limited consideration of diseases of the skin. The difficulties in the way of mastering completely all the possibilities of dermatology are indeed not light, and even the most experienced will often find trouble in diagnosis and disappointment in treatment. To attempt to point out all dermatologic difficulties would be to produce a textbook on diseases of the skin, so no attempt will be here made to cover all the ground; but it may not be without advantage to direct attention to a few of the points where special difficulties occur, and to make a few practical suggestions in regard to overcoming them. We may briefly consider them under the heads of diagnosis, prognosis and treatment.

Diagnosis.—While in a certain proportion of cases it is relatively easy to make a correct diagnosis, to one who has any knowledge of this class of diseases, it must be acknowledged that in a considerable proportion of cases there must always be some doubt, until analytic reasoning has established the exact nature of the case. As correctness in diagnosis is the first essential of successful treatment, in diseases of the skin, almost more than in other branches of medicine, a little thought may be given to this dermatologic difficulty.

1. The examination should be made in the most complete and thorough manner possible: no hasty or superficial glance will enable even the skilled observer to arrive at a positive diagnosis. The practitioner should never be satisfied with inspecting only a portion of the eruption present, but he must insist upon examining the whole of the diseased surface; and it is also important to examine the neighboring healthy skin as well.

2. To observe diseases of the skin satisfactorily it is necessary that there should be good light; for this purpose daylight is almost essential, and plenty of it, preferably from a northern exposure. It is almost impossible to judge correctly of the color of skin lesions by artificial light. A good lens, about two inches in diameter, is often of great assistance in bringing out clearly the separate features of an eruption. The microscope should always be used in doubtful cases of the vegetable parasitic eruptions.

3. Care and patience must be exercised, in very many cases, in analyzing the elements of the eruption and determining exactly the disease to which they belong and the indications present for treatment. In making the diagnosis of an eruption there are two methods by which the end can be arrived at; these should be employed together, in order to obtain any absolute accuracy. The first is by recognizing the actual characters or features of the disease present,

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and their likeness to a well-known lesion or malady of the skin; the second is by *exclusion*, namely, by considering other eruptions which the one present might be mistaken for, and excluding each in turn, by the absence of some particular, distinctive feature belonging to it. Both methods must be employed where the case is at all doubtful; indeed, even with the expert, this process of mental logic is more or less employed in every case.

In studying an eruption it is well to observe and note carefully the distribution of the lesions, for, as is well known, different affections have especial seats of predilection and different modes of development and arrangement of their elements. Thus, eczema is prone to attack the flexures, while psoriasis, ichthyosis and lichen are found by preference on the extensor surfaces. The several peculiar locations of the lesions of scabies, on the interdigital spaces, elbows, anterior fold of the axillæ, buttocks, and genital region, are very striking. Other eruptions appear on some of these localities, but the concurrence on them all would point to scabies. Many other illustrations will occur to everyone, which need not be detailed here.

Time and space would fail in any attempt to present the difficulties which may sometimes occur in connection with the diagnosis of special diseases of the skin, or certain stages or phases of eruption; each one at times may be fairly easy or at times may present great difficulty. But if the habit of careful scrutiny of all the eruption be acquired, together with a painstaking investigation and record of the history, and study and analysis of each case, very much of the difficulty will vanish. But it must, however, be acknowledged that cases do arise and conditions develop on the skin which may at times baffle even the most skilled.

Prognosis.—This is always an important element to consider, and one which the patient has a right to be peculiarly interested in and anxious about; and yet it is one about which the gravest difficulties often arise. Diseases of the skin are proverbially rebellious, and a guarded diagnosis is always in order. But, on the other hand, it is very desirable if we can rightly give assurance of relief and cure, and the element of time is always an important one in the mind of the patient. Here so much depends upon exact diagnosis and correct and faithful treatment that it is very difficult indeed to be exact. Many general diseases have more or less fixed periods of duration, under favorable circumstances, and we can predict the probable duration of pneumonia, typhoid fever, an acute attack of gout, and the like, with tolerable definiteness.

With many diseases of the skin it is quite different; even under the best of circumstances the progress may be slow, and, unfortunately in many instances, somewhat uncertain. Moreover, there is very little tendency in most diseases of the skin to recover spontaneously; it is all up-hill work, while some have the tendency to recur with the slightest provocation, and often indeed without any apparent cause. Some of the greatest difficulties in dermatology are, therefore, often connected with prognosis. Moreover, some of the difficulties are increased by the semi-quack publications of drug houses, to say nothing of the blatant advertisements of the daily press, which would lead the ignorant and uninitiated to believe that the single use of this or that remedy was all that was needed to cure the most rebellious of skin diseases.

Treatment.—The subject of the treatment of diseases of the skin is a very broad one, but its difficulties lessen in proportion to the broadness of mind of the practitioner. If the question simply is asked, "What is good for this or that disease of the skin," but little real good will result. Some prescription or remedy may be suggested, which according to the knowledge or experience of the suggestor, may possibly be of service in some particular case—more commonly it is of little real or permanent benefit. But if, with broad medical knowledge and experience, the disease and the particular case are studied in all their aspects, therapeutic suggestions will arise and measures will suggest themselves in quite a different manner, and far more favorable results will follow.

It will help to overcome some of the difficulties in practice to remember certain facts regarding diseases of the skin and their treatment.

1. The skin is a great secreting organ, very closely connected with the functions of the rest of the economy, and one whose vitality and integrity depend greatly on the condition of the rest of the system.

2. There is nothing intrinsically strange or curious in diseases of the skin; the same pathologic processes which occur elsewhere in the body take place on the skin. While the diseases may at times assume strange and even *bizarre* forms, they are due to the operation of fixed pathologic laws or processes, which are to be met in more or less the same manner as when occurring elsewhere.

3. There is no specific for diseases of the skin. While arsenic is of some value in some diseases or conditions, its range of action is limited, and it is far from being a cure-all for this class of affections.

As corollaries to these may be mentioned:

1. In order to secure the best results in diseases of the skin, the health and vitality of the individual, as well as of the skin itself, must be put in the best condition possible.

2. Learning by careful study the pathologic changes which have occurred, they are to be treated on principles suited for the condition. Treatment is to be guided in this manner, rather than by any fixed plan, dependent upon the name which has been given to the particular group of lesions present.

3. Avoid seeking for specifics for particular diseases of the skin, and apply broad medical principles in therapeutics. Treat each case on its own basis, seeking for the remedies, local or general, suited to the condition present.

The greatest errors which occur are generally on the side of overstimulation. The tender and delicate structure of the skin is ever to be borne in mind; most of the diseases of the skin are of an inflammatory or congestive character, and the difficulty is often in securing measures which shall combat this successfully. Even in pruritic states of the skin, irritating and stimulating measures are often wrongly used, when soothing remedies, calculated to allay the excited nerve elements, are rather indicated. With all care and thought, however, it must be admitted that the treatment of some cases of disease of the skin presents great difficulties, and in few branches of medicine are more patience and deeper thought required than in the one under consideration But the difficulties of dermatology are not insurmountable. Vast strides have been made in the past quarter-century, both on the recognition and clear differentiation of separate diseases, and in the knowledge of their pathology and natural history, and with these, also advance in their treatment. The difficulties connected with this branch can not be overcome in a moment, but with patience and hard work every one can accomplish very much toward solving many of them. The days of hasty and careless diagnosis, and of routine treatment are, or should be, past; arsenic and zinc ointment do not represent the science of the dermatology of to-day.

In conclusion it may be stated that many of the difficulties ordinarily experienced in dermatology, are the result of the relative neglect which this branch has heretofore received at the hands of the general profession, and the relatively little attention often paid to these cases in practice. With sufficient study and thought on individual cases, many of them will appear less formidable and disappear.

4 East 37th Street.

MUCOCELE OF THE ETHMOIDAL CELLS SIMULATING AN ORBITAL TUMOR.

BY F. C. HOTZ, M. D.
PROFESSOR OF OPHTHALMOLOGY AND OTOLOGY, RUSH MEDICAL COLLEGE, CHICAGO.

If, in the course of an inflammation of the ethmoidal cells, the secretions can not be discharged into the nasal cavity because the natural outlets are blocked up, the imprisoned fluid will after a while begin to exert considerable pressure upon the bony walls and cause them to expand. The very thin orbital wall of these cells is especially apt to yield to this high pressure and to form a round, slowly-growing tumor behind the inner canthus of the eyelids, which causes more or less marked displacement of the eyeball. In some of these cases the cystoid nature of the tumefaction was readily revealed by fluctuation; but in some instances the tumor appeared so firm and hard that in the absence of fluctuation it was mistaken for a solid neoplasm and preparations were made for its extirpation. An exploratory incision into the exposed tumor of course revealed its true nature. In the treatment of these cases the chief object should be to establish a free communication of the ethmoidal space with the nasal cavity, which is best accomplished by breaking down the nasal partition at the lowest point of the ethmoidal space, and inserting a drainage-tube for a few weeks.

Judging by the very few cases on record, ethmoidal mucocele protruding into the orbit seems to be a rather rare occurrence; and therefore the report of an additional case—the only one I have observed in twenty-five years—may not be without interest to the readers of the JOURNAL.

On July 25, 1898, a girl, 13 years old, was brought to my office on account of a very strange appearance of her left eye. Four years previously she had met with an accident by which the bones at the root of the nose were fractured. Since that time she had been troubled with nasal catarrh, and the inner canthus of the left eye was drawn down so that the palpebral fissure had a decidedly oblique direction, as in the Mongolian race. During the past year her parents noticed her left eye to "bulge" and the skin of the upper lid to become at times red, swollen and painful.

I found the left eyeball slightly protruding and markedly displaced to the temporal side of the orbit, but its mobility was not impaired in any direction; the vision was normal; there was no diplopia, and the fundus showed normal conditions. The displacement of the globe was evidently caused by a tumor which seemed to proceed from, and to be continuous with, the inner wall of the orbit. Upon palpatation the tumor appeared smooth, round and firm, but upon deep pressure through the upper lid undoubted evidence of fluctuation could be obtained. The tumor reached downward to a little below the palpebral ligament, where its boundary was marked by a sharp, ragged ridge of bone; its upper contour was lost behind the supraorbital margin.

The patient was admitted to the Presbyterian Hospital on July 27, and the following operation performed under ether anesthesia: An incision was made extending from that bony ridge at the root of the nose to the middle of the brow; the orbicularis muscle and subjacent connective tissue were liberally dissected up so that the wound edges could be well retracted and the surface of the tumor exposed. An exploratory incision into the most prominent part of the tumor drew a creamy fluid of a stale odor; the incision was at once enlarged, and I found that the ethmoidal cells had been converted into one large cavity, from which at least four ounces of the creamy emulsion were withdrawn with a syringe. In exploring the cavity it was found to extend one inch directly inward and two inches downward; no carious or necrosed bones were detected. The part of the cyst wall which protruded into the orbit and consisted of a rigid membrane, like thin cardboard, was excised with scissors. Then passing a bone curette toward the most dependent part of the cavity, I there broke down the thin osseous partition to establish a free communication with the nasal cavity, and inserted a drainage-tube, and after thorough irrigations with boric acid the upper part of the wound was closed by sutures, and a dressing applied.

The after-treatment consisted in daily irrigation with boric acid; under this treatment the discharge rapidly disappeared and the wound was gradually filled up with granulation tissue. After two weeks the drainage-tube could be left out; and four weeks after the operation the wound was completely healed and the protrusion and displacement of the eyeball had entirely disappeared.

LUMBAR NEPHROPEXY WITHOUT SUTURING, WITH REPORT OF CASE.

BY EMANUEL J. SENN, M.D.
Associate in Surgery, Rush Medical College, in affiliation with the University of Chicago; Assistant Surgeon St. Joseph's Hospital.
CHICAGO.

Since N. Senn devised and described this method of treatment for movable kidney a year ago, the operation has been performed frequently by different surgeons, and it will undoubtedly soon assume its proper place in operative surgery, that is, it will supplant an irrational technic. The old method of fixing a movable kidney in its normal location by passing sutures through the glandular structure of such a delicate, as well as vital organ as the kidney, should be emphatically condemned. Sutures which are tied sufficiently firm to suspend a kidney must, through subsequent cicatricial contraction, destroy a considerable amount of kidney tissue. If such sutures remained *in situ*, it would be far better than what actually takes place in the great majority of such cases, that is, cutting through of the sutures. This was well illustrated *in vivo* in a case upon which I recently did a nephrotomy. I passed two sutures through the kidney capsule and a small portion of the cortical layer, to act as guy-ropes in steadying the organ. I made very slight traction and was very much surprised at the extreme friability of the kidney, although normal in structure. Even such slight force was sufficient to cause the suture to cut through. Consider the force brought to bear upon the sutures after nephrorrhaphy; the continued downward rhythmic movement of the diaphragm; occasional straining and coughing, and the weight of the kidney itself; and then the doubtful efficacy of nephrorrhaphy, as demonstrated by abundant clinical observation, is not without reason. Even Hahn, the originator of kidney fixation, advised opening of the capsule and stitching it to the parietal wall; while Tuffier, still more radically inclined, advocated that the capsule be extensively stripped from the kidney in order to obtain a large granulation surface. This procedure should be condemned for several reasons: 1, the protective envelope of the kidney is destroyed; 2, union is extravasated between pararenal connective tissue of low origin, characterized by great intrinsic proliferative power, with the highly complex parenchyma of the kidney—a tissue very deficient as regards regeneration. Again, may not some of the renal ganglia be destroyed? At least this branch of anatomy is yet in the dark, and until more light is thrown on the subject, the surgeon must be guarded and not destroy or injure a nervous mechanism, which may cause reflex neurosis. This is well shown from the fact that often a most violent nephralgia of long standing succumbs to a simple splitting of the kidney capsule. The following case recently came under my observation, and I had an opportunity to perform nephropexy by this unique method.

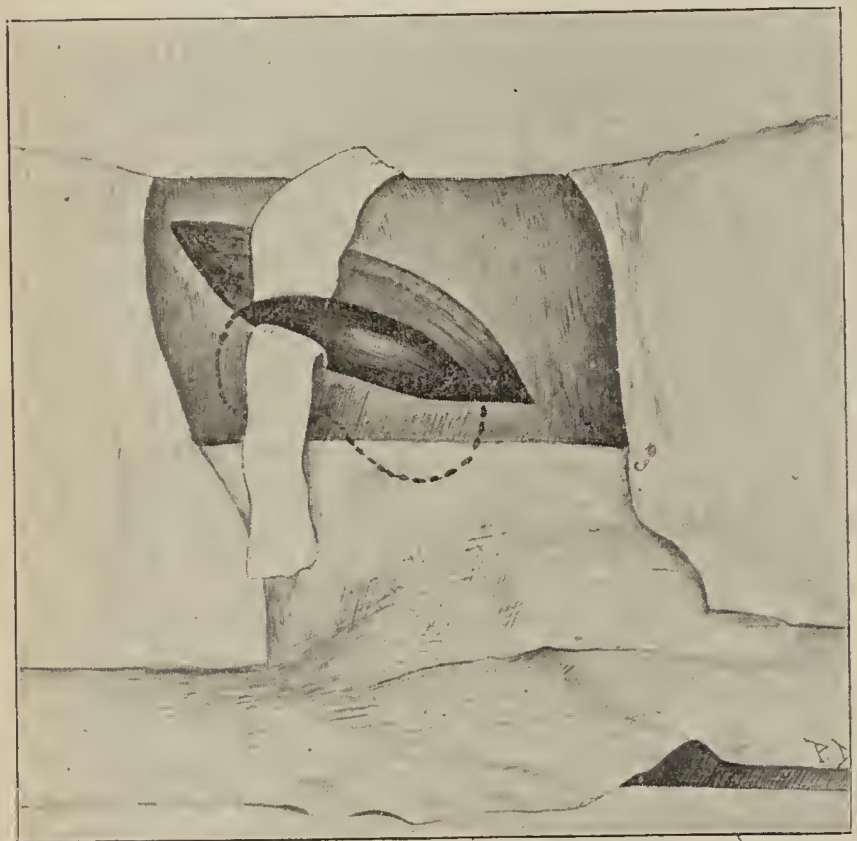

Fig. 1.—Gauze sling *in situ*.

Mrs. R., aged 40 years, married, has one child, 15 years of age. Since the birth of this first and only child she has had three miscarriages. At the time of confinement, the patient was obliged to remain in bed several weeks, presumably on account of a metritis following infection at the time of delivery. The patient was considerably reduced in flesh and of a very nervous temperament; complained of pain in the hypogastric and dorsal regions; also of loss of appetite and indigestion; no vomiting. Examination by bimanual manipulation, according to the method of Israel, revealed a movable kidney of the left side. In the erect position the organ would descend into the pelvis. The ovaries were normal, uterus slightly retroverted, with a scanty discharge. I curetted the uterus, then placed it in proper position and held it there by means of a pessary. I also ordered an abdominal bandage, with a kidney pad. No benefit resulted from this treatment, and the patient was admitted into St. Joseph's Hospital, Nov. 4, 1898, for operation. She was placed on the left side upon a narrow cushion, in order to fully expose the right lumbar region. An incision was made at the outer border of the quadratus lumborum muscle, extending from the twelfth rib to near the crest of the ilium. After all the succeeding structures were divided, the adipose capsule was reached and opened. An assistant was instructed to place his fist in the hypochondriac region in order to push up the kidney; but this procedure was unsuccessful, no kidney being palpable. It was only by raising the chest of the patient, who had been lying in a recumbent position, that the kidney presented itself beneath the twelfth rib. It was seized with a forceps and the fatty capsule removed with dissecting forceps and scissors. The fibrous capsule was next thoroughly scarified with two cambric needles held in hemostatic forceps. The scarification was carried to a degree just short of causing hemorrhage. A strip of iodoform gauze, twelve inches long and two inches wide was then carried underneath the lower pole of the kidney. A gauze pad was placed over the portion of the kidney exposed and the gauze sling tied over it. The region beneath the kidney was firmly packed with a gauze tampon, thus forming a barrier which would preclude any possibility of descent of the kidney. The external wound was not sutured. Two secondary sutures were placed in the upper angle of the wound. A pad, consisting of a folded towel, was placed in the hypochondriac region, which further reinforced the gauze packing. This was incorporated in a bandage which passed around the waist and held the dressings in place.

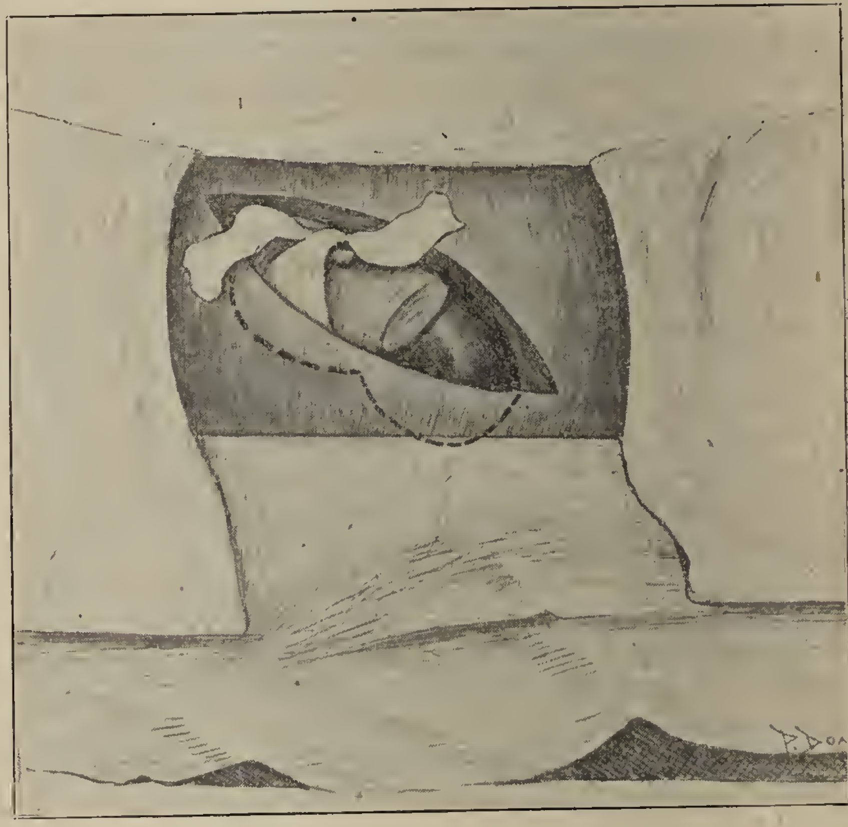

Fig. 2.—Sling tied over pad. Operation completed.

The first dressing took place three days later, when the two secondary sutures were tied. The packing beneath the kidney was removed six days after operation and revealed a mass of healthy granulations. Five days later the gauze sling was removed, showing the kidney buried in granulations. The external wound was drawn together by means of adhesive strips. The patient progressed in a most excellent manner as far as the wound was concerned. The operation caused a temporary augmentation of her nervous condition. However, rest in bed, with the Weir Mitchell treatment, caused a wonderful improvement. The patient was kept in bed for a month, not on account of the operation, but for her nervous condition. She was then allowed to walk about the hospital, with a kidney pad, and two weeks later was discharged, greatly increased in weight, and in excellent health in every respect. I have lately seen her, and upon examination found the kidney in its normal location, lying upon a firm bed of cicatricial tissue. Her general health is better than in years, and the rapid increase in weight has made it impossible to wear the same clothes which she wore before the operation.

This method of kidney fixation is founded upon a rational basis, and if properly performed, and the patient kept in the recumbent position until perfect cicatrization has taken place throughout the wound, a relapse is an impossibility, as the kidney is not only suspended by a band of cicatricial tissue, but lies firmly bound upon a floor of connective tissue.

I would offer the following conclusions in recommendation of this operation:

1. An extrarenal support for the kidney is obtained.
2. This support is formed by a union of the fibrous capsule of the kidney with the pararenal connective tissue; hence, no interference with the kidney itself.
3. The gauze sling draws the lower pole of the kidney in an outward direction, placing the axis of the kidney at an oblique angle. This position secures support from the parietal wall at the lower angle of the wound, and favors correction of flexion of the ureter, provided there is one.

CONTRIBUTION TO OUR KNOWLEDGE OF TUBERCULOSIS ANTITOXIN.

BY C. FISCH, PH.D., M.D.
ST. LOUIS, MO.

In a paper on this subject, published in 1897, I reported on a series of experiments, which, although not altogether uniform in their results, certainly established the existence of a substance with a pronounced affinity for the toxin of the tubercle bacillus. To the experienced and well-versed reader this was nothing new; antitoxic properties of the serum of animals treated with tubercle bacilli or their metabolic products had before been observed and described repeatedly, the whole question being only sidetracked by the very natural desire to employ this quality practically. The inadequacy of the antitoxic intensity for therapeutic purposes led to a doubt of its existence, and up to this day this consideration of practical possibilities has dominated the subject. It is not my aim to here enter into a discussion of the startlingly prolific literature on antituberculous serum. A surprisingly large percentage of it exhibits an utter ignorance of the principles involved, and only too often the wish has been made the father of the thought. The goal that I was trying to reach in my experiments was not the finding of antitubercular substances, about the existence of which there could be no reasonable misunderstanding, but the establishment of accurate and definite numeric proportions of their potency. There was absolutely no work done in this line up to that time, and, in spite of the fact that to-day, after almost two more years of assiduous and untiring labor and the imbibing of the grand and penetrating train of conceptions originating with men like Ehrlich and Behring, for whose personal kindness to me my gratitude will never cease, my conclusions appear to me in many respects questionable, I can not help asserting that my work was carried on in the proper lines, and that it laid a foundation which I must consider final.

The problem of paramount importance in dealing with the tuberculosis-antitoxin question is the nature and specificity of the toxin concerned. After Koch's work on the new tuberculin, all further efforts as to the production of a stronger and more concentrated toxin seemed to be useless; Koch himself expressed this view quite pointedly. The toxin which I used for my experiments was a combination of the two forms of new tuberculin, TO and TR, and was of a toxicity hitherto unknown, when freshly and properly prepared. Ever and again, however, the question was mooted, whether in these toxins we had to deal with a specific substance, or perhaps with several specific substances, or finally whether the toxicity of it was of the nature of one of the well-known bacterial proteins. It was Buchner who especially advanced the latter hypothesis, and, even now, in the mind of many physicians, tuberculin and its derivatives are bare of any specific significance. The specificity of the tubercle toxin was the *conditio sine qua non*, and without any definite knowledge about it, all further attempts to explore the problem under discussion were bound to remain inconclusive.

Well knowing the importance of this point, Behring worked on it and was last year able, after a long and laborious research, to demonstrate that the nature of the bacterial poison in absolutely all the different forms of the so-called tuberculosis toxins is exactly the same, and that only quantitative differences obtain. Following an irrefutable method he showed that an antitoxin prepared by the action of one of these toxins formed in certain definite proportions neutral or inert compounds with all of them, so that it was possible to counteract the toxic effect of any one of them by a given amount of one and the same antitoxin. The far-reaching effect of this discovery can not be overestimated; as a practical consequence it may be mentioned that it enables us to exactly ascertain the real value and potency of the numerous "improved," or "purified," or attenuated tuberculins, or antiphthisins, or extracts, which have sprung into existence of late and which without a single exception are no more nor less than dilutions of the common tuberculin. For the scientific exploration of our subject, entirely new paths have been opened by the demonstration of this specificity and unity of the tubercle toxin, although it must be admitted that no additional knowledge has been directly gained as to the chemic nature of the latter.

That much is certain, that the tubercle toxin differs chemically in many directions from the bacterial toxins so far studied most thoroughly, the tetanic and diphtheritic toxins. To enter into a discussion of these problems would necessitate a recapitulation of Ehrlich's admirable researches and lead too far.

Another difficulty which most seriously hindered the investigations was the determination of the toxic potency of the toxin and the preparation of substances of a high toxicity. Here, too, new light is shed by Behring and his disciples. The reason for the utter discrepancies between the results of different observers, with one and the same toxin, is to be looked for here. In the absence of a certain and easily controllable standard it was almost an impossibility to obtain satisfactory comparative results—all efforts foundered on this rock. If I may refer to my method of preparing a very effective toxin, it will be remembered, that with 15 to 17 mg. of dry substance an adult guinea-pig could be invariably killed. In the course of my experiments I suspended this amount in a smaller quantity of fluid than originally directed, on account of the disturbances that sometimes a quantity of 15 to 17 c.c. subcutaneously set up. Now, while the fresh toxin always gave uniform results, changes sometimes became evident after a very short time—two to three days—the suspension losing considerable of its toxicity. The same was true for the dry substance, and the same holds good for the two new tuberculins and for the old tuberculin, in fact, for any form of tuberculosis toxin. In other words, these toxins are very labile, seemingly more labile than the diphtheria and tetanus poison, and can only be preserved unaltered in their specific effects for a short time or under certain precautions.

More embarrassing, perhaps, than this exceeding changeableness of the toxins, is their comparatively low toxicity. Of the common forms of tuberculin, from .5 to 3 c.c. are necessary for a fatal effect in healthy guinea-pigs of 300 to 450 grams weight, and besides, the susceptibility of the individual animals varies greatly.

In addition to these facts it must be remembered that the physical nature of the different forms of toxins (fluids, emulsions, dried, living or dead bacilli, bacillary dust) prevents making sure that in each case the inoculation is made in the same way, and that the resorption is homologous in its course. The ideal way out of these difficulties would be the use of a standard or test serum; unfortunately, however, for this purpose the serum ought to be of a very high antitoxic potency, which in spite of all efforts has not been obtained yet. That we will be in possession of it in the near future may be assuredly predicted.

It is a disciple of Behring, von Lingelsheim, who, by introducing intracerebral injections, made it possible to arrive at very accurate results in the determination of the toxicity of our toxin. Following the method of Ehrlich in the testing of diphtheria toxin and not attempting to produce pathologic effects (tuberculin fever—or reaction) as the characteristic point of the toxic action, he determined the dose necessary to bring about the death of the animal experimented upon. Thus he found that it took 1/180 of the subcutaneous or intraperitoneal dose to kill a guinea-pig of 250 to 300 grams by intracerebral injection.

After a long series of experiments I can fully corroborate these statements; I only find it necessary to confine oneself to one and the same size of the animals, those of 250 to 300 grams being the most suitable. Larger guinea-pigs seem to be absolutely and relatively more susceptible to the intoxication and with them too the proportion between the weight of the body and that of the brain is larger. In the former it varies between 102.1 to 109.1 (von Lingelsheim 110.1), while in pigs of 510 to 700 grams the proportion is, after my weighings, 120.1 to 135.1. These differences account for many otherwise unaccountable discrepancies between the findings of different observers.

The method of toxin testing by intracerebral injections is very simple and, after some little practice, seldom accompanied by a failure. In addition to the proofs brought out by von Lingelsheim, who injected peptones and other substances for comparative purposes, I may state that of seventeen animals injected in this way with indifferent solutions (salt, bouillon, etc.), none showed any disturbances whatsoever, while in toxin injections the effects became manifest in strict congruity with the amount of the dose. A description of the method will be found in the paper quoted. In my experiments I never used more than .2 c.c., Koch's syringe being the best for the operation. The results thus gained are exceedingly valuable; before I enter into them, we have to cast a glance at the toxins used for the experiments.

In Koch's new tuberculin a toxin seemed to be found that could not be excelled in toxicity by any other preparation. This, however, was a mistake. We owe to Behring the knowlege of methods by which substances may be obtained 60 and 100 times stronger than tuberculin. The strongest toxin which I have been able to prepare is about four times stronger than TO and kills a guinea-pig of 250 grams (intracerebral injection) in the dose of 0.00025 or 1/4000 gram. Behring's strongest toxin has more than double the potency of this. The preparation of these substances is very difficult and altogether impossible without specially constructed and very expensive machinery. It is especially the grinding apparatus that has to be at once effective and perfect; a machine which I had constructed for this purpose triturates, within one hour, ten grams of bacilli into such an impalpably fine material that after emulsifying it with glycerin solution my very powerful centrifuge hardly yields any precipitate. For ordinary purposes this bacillary dust (TBT) forms a toxin very suitable for immunizing purposes. Its toxicity is much increased, when before triturating, the washed and dried bacilli are successively extracted with 1/10 normal NaOH solution, alcohol, ether and carbon sulphid (TBET, see the tables). If the bacilli, treated in this way and triturated afterward, are suspended in a 10 per cent. glycerin solution and for about one hour subjected to the heat of overheated steam (130 to 145 C.) in an autoclave, and if the hot fluid is rapidly filtered, quite a voluminous precipitate is formed. Dried in vacuo and kept in small evacuated bottles, this precipitate forms the most powerful toxin that I obtained, killing, as I said, in the dose of 1/4000 gram (TDR; Behring's designation for this form of toxin). The handling and preparing of these substances is a very delicate task, exposure to moisture, direct light and to the atmospheric air deteriorating them very rapidly. It would fill an especial paper to describe the incident details.

In order to achieve good results it is absolutely necessary to utilize only fresh and vigorous cultures; I prefer cultures that are obtained from sputum after one passage through a guinea-pig—the guinea-pigs must die within twenty-eight days after the injection with the sputum; my original very virulent culture has become very much attenuated during the successive transplantations, and so I was led to raise new cultures from acute cases of tuberculosis.

In determining the toxity of the different forms of tuberculosis toxin it is a very interesting and important fact to note that while the TBT and, also, the TBET preparations, made from cultures of varying origin differ somewhat (although not very considerably) in the degree of their toxic effect, this is absolutely not the case in the TDR toxins; a given amount of them always yields the same result. It may be that the opinion is correct, that the elaborate chemic processes to which these substances are subjected in the course of their preparation have split up the original toxin molecule; since, however, through Behring, their specificity is established, we must assume that this diminution in size of the toxin molecule has made them more easily assimilable. Indeed, we find that the toxic action with them is considerably quickened. Presumably in the case of the original tuberculosis toxin molecules, something in the way of an "addiment" is necessary for the binding and breaking up of them, while with the TDR groups a direct neutralization or assimilation by the "*seitenketten*" or antitoxin groups may be possible. However this may be, TDR represents a substance which, although certainly not chemically pure or forming a definite chemic compound (it gives the biuret reaction, is salted out quantitatively by ammonium sulphate, etc.; more about these reactions we may soon expect to hear from Behring himself), always quantitatively and qualitatively acts alike, provided that it is kept and preserved with the necessary cautions.

The toxic action of these different substances may be gathered from the following experiment records:

1. *Toxicity determination of TBT.* — The four-weeks-old bouillon cultures were filtered, the bacilli washed with distilled water, dried and pulverized (guinea-pigs die within four weeks after inoculation with the culture). H. T.=highest temperature.

Weight of guinea-pig—gm.	Amount of fluid injected—c.c.	Quantity of dry toxin—gm.	Results.		
			H. T. 1st day.	H. T. 2d day.	H. T. 3d day.
270	0.2	0.002	40.2 C.	Dead	
250	0.2	0.001	40.5 C.	Dead	
265	0.2	0.0005	39.0 C.	39.2	38.4
275	0.2	0.00075	40.1 C.	40.0	38.2
285	0.2	0.0009	39.7 C.	Dead	
266	0.2	0.0009	39.9 C.	39.6	38.4

Least fatal dose: 0.001 gm. (intracerebrally); 1 gm. of the toxin = about 1400 M. (M = 1 gm. of guinea-pig.)

2. *Toxicity determination of TBT.*—The same toxin as in 1, after being exposed to light and air in a loosely-stoppered bottle for six days.

Weight of guinea-pig—gm.	Amount of fluid injected—c.c.	Quantity of dry toxin—gm.	Results.		
			H. T. 1st day.	H. T. 2d day.	H. T. 3d day.
295	0.2	0.001	39.5	38.2	38.1
270	0.2	0.002	40.2	Dead	
270	0.2	0.0015	40.1	39.5	38.5
285	0.2	0.0019	40.3	Dead	

Minimal fatal dose: 0.0019 gm.; 1 gm. = 850 M (approx.).

There has been, therefore, a loss of toxicity of 39 per cent.

3. *Toxicity determination of T. Alc.*—A toxin prepared from common tuberculin by precipitation with alcohol.

Weight of guinea-pig—gm.	Amount of fluid injected—c.c.	Quantity of dry toxin—gm.	Results.		
			H. T. 1st day.	H. T. 2d day.	H. T. 3d day
300	0.2	0.001	38.2	38.4	38.3
257	0.2	0.003	38.7	38.3	38.4
270	0.2	0.006	39.8	Dead	
285	0.2	0.005	40.1	39.6	38.4
275	0.2	0.0055	40.2	39.8	38.4—20 g. loss.

Minimal fatal dose = 0.006 gm; 1 gm. = 255 M.

4. *Toxicity determination of Koch's TA.*—See for description of preparing this toxin Koch's article on TR. The culture used was a very virulent one.

Weight of guinea-pig—gm.	Amount of fluid injected—c.c.	Quantity of toxin—gm.	Results.		
			H. T. 1st day.	H. T. 2d day.	H. T. 3d day.
280	0.2	0.025	39.6	40.2	Dead
270	0.2	0.023	40.2	39.6	38.4
275	0.2	0.024	39.2	39.5	38.2
260	0.2	0.020	38.6	38.4	38.4

Minimal fatal dose: 0.25 c.c.; 1 gm. = 62 M.

The old tuberculin of Koch (TK), which is about equal in its toxic value to the TA, would, therefore, be expressed approximately by the equation, 1 gm.= 60 M. It must be remarked, however, that the toxicity of the different cultures varies within wide limits and repeatedly; especially when the culture fluids are evaporated in vacuo together with the bacilli, tuberculins are obtained for which the formula, 1 gm. (TK) =160 to 180 M. holds good. This is a point of vital importance for the therapeutic and diagnostic use of the old tuberculin.

5. *Toxicity determination of Koch's TO.*—Prepared from cultures which kill, inoculated subcutaneously (mode of inoculation described by Spengler) into guinea-pigs, within 3 to 4 weeks. The toxin contains 54 per cent. of the substance of the triturated bacilli.

Weight of guinea-pig—gm.	Amount of fluid injected—c.c.	Quantity of dry toxin—gm.	Results.		
			H. T. 1st day.	H. T. 2d day.	H. T. 3d day.
265	0.2	0.0015	39.7	Dead.	
270	0.2	0.0012	40.4	Dead.	
275	0.2	0.001	39.9	Dead.	
260	0.2	0.0008	40.4	39.6	38.4
255	0.2	0.0005	39.2	39.0	38.2
270	0.2	0.001	39.8	40.4	Dead.

Minimal fatal dose: 0.001 gm.; 1 gm. = 1500 M.

6. *Toxicity determination of Koch's TO.*—Prepared from a culture that had been grown on agar for two years.

Weight of guinea-pig—gm.	Amount of fluid injected—c.c.	Quantity of toxin—gm.	Results.		
			H. T. 1st day.	H. T. 2d day.	H. T. 3d day.
260	0.2	0.001	39.2	38.4	38.2
270	0.2	0.002	40.4	Dead.	
270	0.2	0.0015	39.8	Dead.	
265	0.2	0.012	39.5	39.1	38.8

Minimal fatal dose (approx.): 0.0015 gm.; 1 gm. (approx.) = 1000 M.

7. *Toxicity determination of TR.*—This toxin was prepared from the material of Experiment 5.

Weight of guinea-pig—gm.	Amount of fluid—c.c.	Quantity inoculated gm.	Results.		
			1st day.	2d day.	3d day.
300	0 2	0.0015	38.6	38.4	38.4
305	0.2	0.002	39.2	39.0	38.5
280	0.2	0.0025	39.6	39.5	39.0
285	0.2	0.003	40.2	Dead.	
260	0.2	0.0027	39.2	39.4	39 0
280	0.2	0.003	38.8	Dead.	

Minimal fatal dose very nearly 0.003 gm.; 1 gm. = 520 M. (very nearly).

TR is therefore 6 to 7 times more toxic than the old tuberculin.

8. *Toxicity determination of TD.*—After the so far incomplete and unsatisfactory directions given by Behring, I have tried to prepare a substance of high toxicity. The result was a toxin, which although not reaching the efficacy of Behring's most potent prepa-

ration, still invariably kills when injected subcutaneously in the dose of 0.05 gm. My impression is that it is a matter of virulence of the cultures used to enhance the toxicity, since even without the very complicated processes necessary for the manufacture of this toxin, I have formerly been able to prepare toxins of even higher potency. Just now I am experimenting with a culture which bids fair to reach the former high standard mentioned in my previous paper. I have already given the method and have only to add that it is incumbent on every one who attempts to repeat the experiment to go through it with the utmost possible speed. That a full equipment of apparatus and machinery is the main condition, has been stated before. The TD or TDR represents a white crumbly powder, which is somewhat hygroscopic and easily dissolves in water of a very slight alkalinity (.1 c.c. normal KOH or NaOH solution to 99.9 c.c. of H_2O). It must be kept in evacuated flasks and be protected against moisture and light. I keep it in a way analogous to that in which the standard serum of the Berlin Institute for Serum Testing is preserved.

Weight of guinea-pig—gm.	Amount of fluid—c.c.	Quantity inoculated gm.	Results.		
			1st day.	2d day.	3d day.
275.	0.2	0.0005	39.2	Dead.	
270.	0.2	0.001	40.2	Dead.	
255.	0.2	0.0004	39.8	Dead.	
260.	0.2	0.0001	39.2	39.4	38.8
285.	0.2	0.0002	39.6	39.8	39.0
290.	0.2	0.0003	40.1	Dead.	
265.	0.2	0.00025	38.8	Dead.	
290.	0.2	0.00025	39.6	40.4	39.8 Dead.

Minimal fatal dose: 0.00025 gm.; 1 gm. = 5888 M.

It may not be amiss to attach to these determinations a few records which show in a comparative way the exactness of the method used. The toxins employed were the same as those used in the just described experiments; the amount of fluid injected was always 2 c.c.

Weight of guinea-pig—gm.	Dose of toxin.	How administered.	Calculated intracerebral dose.	Found intracerebral dose.	Fo'nd dead hours after inoc.
295.	0.555 TR (7).	Subcutan. . . .	0.00315	0.00308	40
282.	0.530 TR (7).	Intraperiton . .	0.00301	0.00293	28
250.	0.158 TO (5).	Subcutan. . . .	0.00092	0.00088	36
273.	0.169 TO (5).	Intraperiton . .	0.00101	0 00094	23
305.	0.295 TO (6).	Subcutan. . . .	0.0017	0.0016	44
266.	0.235 TO (6).	Intraperiton. . .	. .0015	0.0013	25

As will perhaps be remembered, I followed in previous experiments the method of employing tuberculous guinea-pigs for testing the strength of the toxin; the works especially of Kasparek and Borrel suggested a method which fascinated by its ingenuity. A more sober contemplation, however, of the facts in the case soon afterward showed that it was misleading, and that here, more than anywhere else, the individuality of the animal made itself felt. It is true, after a very short time following the inoculation of tubercle bacilli, the greater number of guinea-pigs show a typic reaction on tuberculin injection. But the length of time after which the phenomenon may be observed varies considerably, even when one and the same culture is employed—from 1½ to 6 days—and the results become altogether unsatisfactory (because incomparable) when different cultures or successive transplantations of the same culture are used. While in diphtheria experimentation these differences can easily and correctly be estimated in a few days, with tubercle bacilli several months are needed, thus practically precluding the feasibility of the method. Through von Lingelsheim we know that it takes from 1/500 to 1/1000 of the fatal subcutaneous dose intracerebrally to kill a tuberculous guinea-pig of a given weight. I did not attempt to verify this assertion, although there is not the slightest doubt that it will be found correct. In a few cases in which I injected one-half and one-third of the otherwise fatal dose into the brain of newly infected animals, the latter died very rapidly; I am, however, not in a position to give exact figures.

The eminent importance of this work as regards the exact determination of the toxicity of tuberculosis toxins becomes evident the moment we approach the question of a tubercle antitoxin. The discouragingly diverging opinions on this subject are for the greater part due to the employment of methods that allow of no comparison (difference in the strength of the toxin), and to some degree to the relative inertness of the toxins used, as well as to the inefficient amounts of toxins injected into the animals that were to be immunized. We even read about injections of triturated organs of tuberculous guinea-pigs and rabbits as an immunizing agent.

Leaving out for the present any consideration of the therapeutic utilization of such an antitoxin, it is a comparatively easy task to demonstrate its existence. If suitable animals are for a certain time regularly treated with increasing doses of tuberculosis toxins, their serum acquires the property of neutralizing in fresh animals the toxic effects of these very same toxins. On specific tissue-cells the latter act as a stimulant to hyperproduction of peculiar molecular groups with a strong affinity for the toxin molecules; this surplus of antitoxic groups is discharged into the circulation and is found in the serum, where it can be experimentally demonstrated. Ehrlich's theory of this interesting process is supposed to be too well known to need quotation here.

In tuberculosis it was for a long while a matter of doubt which of the different toxic materials was the specific one, and which one therefore was to be used in the antitoxin producing process. I myself have fallen a victim to this doubt, and believing in a variety of toxins, have pointed out that TR and TO ought to be the ones promising the best results. That this way of looking at the question was wrong we now know through Behring's researches; it is essentially indifferent whether we work with the old tuberculin, with TA, TO, TR, TDR, or any other modification. The practical difference is only given by the degree of toxicity and the intensity of the antitoxin producing reactions caused by it. After all, the toxicity of the tuberculosis toxins is slight, when compared with other bacterial toxins, and the relative amount of poison, therefore, to be introduced into an animal's organism is very considerable. Necessarily the best results must be obtained with high doses of the most potent toxic preparations; there are practically no prospects for even large amounts of the old tuberculin and similar substances.

The question as to the fitness of the different animals for the antitoxin production has been much discussed. It seems reasonable to employ only species which are susceptible to tuberculosis, and as early as March, 1898, I pointed out in a paper read before the Chicago Academy of Medicine that it would be discussable whether or not a preliminary artificial infection of these animals would prove of practical value. This idea has found a most surprising confirmation by the announcement of Behring that he succeeded in curing a tuberculous cow by intraperitoneal injections, and that the serum of this animal possessed a very appreciable amount of antitoxic potency (2.5 c.c. neutralize 1.5 times the fatal dose for a guinea-pig). I can confirm this assertion by my observations on two tuberculous cows in my possession, under treatment for more than eight months, and by this time cured, the disease not only having not progressed, but all the symptoms having disappeared (lungs clear, glands reduced and cicatrized, no reaction on enormous doses of the most toxic preparations) after continued intraperitoneal injections of TBET and TBT. I have not made an exact investigation into the qualities of their serum, but have found that its antitoxic potency is quite marked.

(*To be continued.*)

Society Proceedings.

Chicago Gynecological Society.

Regular Meeting, March 17, 1899.

Dr. T. J. Watkins occupied the chair in the absence of the president, Dr. Nicholas Senn.

Dr. Franklin H. Martin exhibited specimens and made further report of

IMPLANTATION OF THE URETERS INTO THE RECTUM.

In the Journal for Jan. 28, 1899, he described the new operation, having for its object the making of subsequent infection of the ureters and kidneys impossible after double implantation of the ureters in the rectum. In the March number of the *Am. Gyn. and Obstet. Jour.* he reports the post-mortem findings in these experimental operations for ureterorectal anastomosis, where no effort was made to provide for valve formation, and in which the reports show unmistakable signs of infection of the kidneys due to ascending infection through the ureters. He has operated upon nine dogs by this new operation, two of which recovered from the operation.

The paper deals with the report of the first dog which lived in the second series, that is, one operated upon after the improved method described in the Journal, already referred to. The dog was operated upon Dec. 22, 1898, and was anesthetized and killed March 11, 1899, having lived nearly three months.

Operation.—1. The patient is placed in the Trendelenberg position; the abdominal incision is made so as to expose the rectum, and the omentum and intestines are packed back. A longitudinal incision of the peritoneum over the ureters is made down to their insertion into the bladder, and they are dissected out with the finger to a height of about three inches; each ureter is tied near the bladder with strong silk and then they are severed above that point. 2. Each ureter is brought forward, and then they are approximated in front of the rectum by including the wall of each in one fine silk suture armed at each end with cambric needles; the ureters are further approximated by two fine silk sutures passing through the outer walls of the ureters only, securing the two tubes parallel. The severed ends of the ureters are placed on a gauze sponge while executing the next step. 3. A longitudinal incision two inches long is made through the peritoneal and subperitoneal tissue of the upper wall of the bowel, and this tissue is dissected back so that an oval surface of the muscular coats of the intestines is exposed, the length of the primary incision in the bowel, and one inch wide at its center. The flaps are held apart by silk stays, tenacula or small retractors. 4. After making sure that the bowel is free from fecal matter and having secured it above by a clamp, he makes a small incision through the remaining coats of the bowel about large enough to admit the two ureters without pressure, and about one-third the distance from the lower end of the oval denudation and passes the double-threaded suture, previously placed in the ends of the two ureters, through this opening into the interior of the bowel, bringing the needles out a short distance apart, slightly below the lower end of the denudation, about one inch from the opening made for the ureters, and draws the ureters through the opening and to the point at which the stay silks find their exit. 5. Elevating the two ureters at right angles to the bowel, they are secured to the fibrous and mucous coat of the bowel by a number of closely applied sutures of fine catgut or silk, great care being necessary not to penetrate to the mucous coat of the ureter or to apply the sutures so as to constrict the ureters. The ureters are then laid parallel with the bowel on the denuded portion, the handling silk being made taut and additional sutures passed, securing the ureters to the muscular coat of the intestines as it is rolled in by the tension of their ends. 6. The ureters are now buried in the muscular coats of the bowel by holding those coats over them for a distance of one inch, and securing them to the ureters by fine silk sutures. 7. The peritoneal coat of the bowel is closed over the ureters to the point where they separate and then below them above that point. This is accomplished by a running inversion stitch of silk. A few additional interrupted sutures of silk attach the peritoneal coat to the outer coat of the uterus. He closes the abdomen with a small gauze drain, passing down to the bowel in the lower angle of the wound.

Principles.—The principles of Dr. Martin's operation are:

1. The ureters empty into the bowel in the direction of its long diameter, and from above downward, so that the urine is discharged in the direction taken by the fecal current.

2. The ureters are buried in the walls of the rectum for a distance of an inch or more longitudinally, so that in the act of defecation the fecal mass will squeeze the caliber of the ureters closed by its pressure on the mucous membrane, and that pressure is exerted from above downward in the direction of the onward flow of the urine, thereby emptying the ureter by a milking process.

3. The ureters are further protected by the muscular coat of the intestines. This is accomplished by surrounding them in their longitudinal course through the intestine to the extent of two centimeters by the circular coat of the bowel. This muscular coat of the bowel, in acting from above downward, milks the urine downward and holds the ureters closed when the rectum is aiding in defecation. When the contraction and closure due to the defecation are over, the urine will spurt forth with considerable force, acting as its own cleanser.

4. The ureters are implanted in the lower bowel, which is normally empty except at defecation.

A preliminary report of bacteriologic findings during life and post mortem in case of implantation of both ureters into the rectum, was given by Dr. F. Robert Zeit of the Klebs Pathological Laboratory, the substance of which is as follows:

Case 4.—March 11, 1899, large black male dog weighing forty-five pounds. Dr. Martin operated on this dog, which had been kept with a number of others, three months ago. The dog lately contracted an infectious disease common among dogs, beginning with diarrhea, purulent conjunctivitis, poor appetite, fever, and ending with great emaciation and an eruption all over the body. Under the circumstances Dr. Martin decided to have an immediate examination, the dog having been quite well until a short time ago. On March 11 he was chloroformed, the abdomen opened, and cultures and cover-glass smears taken from incisions into the liver, spleen and right and left kidneys, with the following results: Right kidney, smear, no micro-organisms found; culture gave growths of bacillus coli commune. Left kidney, smear, no micro-organisms found; culture showed no growth. Liver, smear, no micro-organisms found; culture, bacillus coli commune and coffee-bean-like diplococci. Spleen, smear, cocci; culture showed staphylococcus aureus, staining by Gram. After these procedures the dog was killed by drawing the blood from the right carotid.

Post-mortem examination.—Heart, lungs, liver, spleen and intestines apparently normal; both ureters were found implanted in the rectum six inches above the anus. Water poured into the pelvis of the kidneys passed into the rectum, somewhat easier from the left than from the right kidney; mucosa of rectum normal. Both ureters enter the recum at about the same point, the mucosa showing a papillomatous nodule about the size of a large pea, from the base and sides of which spurts one fine stream when water is poured into the pelvis of the right kidney. If the same procedure is undertaken upon the left kidney, two fine streams spurt from the side near the apex of this papillary growth. It would seem that what operative skill can achieve has been realized here; and yet the right kidney shows, on section, the picture of suppurative nephritis. The capsule, non-adherent, being removed, numerous elevated, yellowish, purulent foci of the size of a millet seed are seen distributed over the whole surface of the cortex. Upon section, yellowish, purulent rays are seen extending toward the surface of the organ and there ending in the millet-seed elevation just described. Hyperemic areas are seen along the bases of the pyramids and along the regions of the interlobular vessels and vasa recti. The pelvis is empty and apparently normal. No bacteria were found in it in cover-glass smears.

The left kidney is almost normal except a portion along the middle of the convex border, which has a nodulated appearance similar to that of the granular kidney of chronic interstitial nephritis. The capsule was slightly adherent over this portion; pelvis normal.

The bladder, strange to say, was found moderately distended with a semipurulent fluid which escaped from the urethra when pressure was exerted. Cultures and cover-glass smears were taken directly from the bladder. Smear: staphylococci, streptococci, biscuit shaped diplococci. Cultures: staphylococcus aureus and streptococcus, staining by Gram, and biscuit-form diplococci, decolorized by Gram. Cover-glass smears and cultures from blood of both ventricles showed no micro-organisms or growths. The histopathology of this case has not yet been completed.

In summing up the different findings of this case, staphylococcus aureus, streptococci and diplococci in the distended bladder, staphylococcus aureus in the spleen, it is evident that this dog has been infected from other causes than those following the operation. The absence of pyelitis in this case contrasts markedly with the findings of former post-mortems reported before the society, and speaks in this case against an ascending infection from the rectum up. If the left kidney can be taken for a criterion of what is to be expected after such operations, the results might be considered in a more favorable light. It is possible that this left kidney shows what would have become of the right kidney had the dog been allowed to live.

Dr. Reuben Peterson reported

A CASE OF TUBERCULOSIS OF THE MESENTERIC GLANDS.

Tuberculosis of the mesenteric lymph-nodes as a primary disease is but seldom recognized. This is not strange when it is considered that there are no pathognomonic symptoms of the affection, and that the glands in their early stages are not palpable. From an experience with four cases of tubercular mesenteric disease he is convinced that the glandular enlargement is usually accompanied by a certain amount of abdominal pain, which, while not pathognomonic, may, when long continued in young subjects, lead one to suspect the existence of the disease. It is for the purpose of adding to the sum total of our knowledge of the subject that he is led to report the following case:

L. M., colored, aged 9 years, school girl, was referred by Dr. J. L. Van Valkenburg. There was a doubtful family history of tuberculosis, the father having died of a pulmonary trouble brought on by exposure, and the mother at the present time suffering from some lung trouble. The patient never has been strong, but was not noticeably different from other children until some three years ago, when, during a portion of each day she complained of abdominal pain. She would leave her play and come to her mother complaining of stomach-ache. This pain had been increasing in severity. She had had a protruding navel for some years, but this had not been considered of any importance, as the pain was situated more in the epigastric region. The appetite was excellent. There had never been any diarrhea.

The patient was admitted to the Charity Hospital, Jan. 5, 1899. He had only a few minutes in which to examine her prior to operation at the Post Graduate Hospital on the following day. There was a slight umbilic hernia with impulse on coughing and an opening in the fascia admitting the forefinger, otherise the abdomen seemed normal to inspection, palpation and percussion, excepting a somewhat localized tenderness just to the right and two or three inches above the umbilicus. Satisfied that the hernia could not explain the abdominal pain, he determined to operate for a radical cure, and at the same time seize the opportunity of thoroughly exploring the abdominal cavity.

An elliptic incision, three inches in length, was made so as to include the umbilicus. The latter was removed, and the edges of the fascia freshened. A thorough exploration of the abdominal cavity showed no abnormality except enlarged mesenteric glands. These glands were numerous and varied in size from a pea to that of a bean. The large glands were situated more toward the pelvic cavity. The peritoneum was smooth and apparently perfectly normal. The intestines were not injected. Six of the enlarged glands were removed for microscopic examination, and the incision in the mesentery closed with fine catgut. Fine catgut was used in closing the peritoneum, while No. 3 chromicized formol catgut was used for the fascia and silkworm gut for the skin.

The microscopic examination of the removed glands, as made by Dr. Zeit of the Klebs Pathological Laboratory, is exceedingly interesting and as follows:

Tuberculosis mesenteric gland.—A small mesenteric gland was received for examination, and upon section showed whitish nodules. Direct cover-glass smear preparations from the freshly cut surface of the gland showed about thirty tubercle bacilli.

Histologically.—The lymphadenoid tissue is scanty and replaced by areas of caseous necrosis, epithelial cell proliferation, and many miliary tubercles, showing the characteristic structure of giant cells surrounded by epithelial cells, and an outer mantle of small round-cell infiltration. Most of the giant cells have necrotic centers and in nearly all of them tubercle bacilli can be demonstrated.

Two years ago Dr. Peterson reported before this society the case of a young girl, 11 years of age, where an exploratory laparotomy revealed enlarged mesenteric glands as the only lesions explanatory of her continual abdominal pain. No direct smears were made of the removed glands, and no tubercle bacilli were found in the sections, but the histologic appearance left no doubt as to the tubercular nature of the growths. While admitting that the outcome of the case was problematic, he ventured to express a hope that, as in the case of tubercular peritonitis, a favorable issue might result from the laparotomy. Within two weeks he has heard, through her family physician, that the patient is in the best of health and presents no evidences of constitutional or local disease. Less than three weeks after the operation in the case just mentioned, he operated upon her sister, who presented similar symptoms of continued abdominal pain and tenderness; enlarged mesenteric glands were found, and microscopic examination of a number removed showed the tubercle bacilli present. This patient is also in excellent health to day.

In a paper presented to the American Gynecological Society in May, 1887, he mentioned a third case of enlarged tubercular mesenteric glands, operated on in 1891 for the same continued abdominal pains. Although an unfavorable prognosis was made at the time of operation, the patient is alive and well at the present time.

In all four cases mentioned there was abdominal pain with localized tenderness severe enough to lead to an exploratory abdominal incision. The time since the operation in the last case is too short to draw any deductions. In the three other cases the pain and other symptoms have ceased, and they are in good health. While this does not prove that the glands are now free from tubercular deposits, or that the opening of the abdomen was a factor in the amelioration of the symptoms, there are good reasons for believing that both may be true. We are far from being able to explain the action of the peritoneum upon growth involving the membrane itself, as tuberculosis of the peritoneum, or where the neoplasms are deeper seated and are merely covered by the peritoneum. Not a few cases are on record where growths undoubtedly malignant in character have been found to have markedly decreased upon examination at a second laparotomy. White, in an article entitled "The Supposed Curative Effect of Operations per se," records many curious cases where abdominal tumors have diminished after the mere opening of the peritoneal cavity. It can not be denied that the mere cutting into the peritoneal cavity produces physiologic changes different from those met with elsewhere in the economy. The exact nature of these changes has never been satisfactorily explained.

It can not be denied that the cases described might have recovered without an abdominal section. This argument was at first used in cases of tubercular peritonitis where healed tubercular peritoneal lesions were found subsequent to operative procedures. Cases of calcareous tubercular mesenteric glands have not infrequently been found post-mortem. Oftentimes these were the sole evidences of tuberculosis present. As an example of spontaneous cure of tubercular deposits in the mesenteric glands, he cited the following case, the notes of which were furnished him by Dr. A. E. Halstead.

Miss B., aged 20; one sister died of tuberculosis. At the age of 15 some glands, thought to be tubercular, were removed from the neck. A year and a half later Dr. Halstead removed a cervical gland which microscopic examination showed to be tubercular. Six months later, in May, 1896, the patient had an attack of appendicitis, calling for the opening of an abscess located in the ileocecal region. Previous to this attack the patient had been a sufferer from abdominal pain and bloating. A portion of the abscess wall was excised and shown by microscopic examination to be tubercular. Emaciation, night sweats and elevation of temperature followed. There was no ascites, however. Two months after the operation she weighed but sixty-seven pounds. Under tonic treatment she was apparently restored to health, and her weight more than doubled. One and a half years ago she developed a small hernia at the site of the operation, which was radically cured by Dr. Halstead, Feb. 10, 1898. By inspection the parietal and visceral peritoneum was seen to be normal. After pulling out a loop of the intestine the mesentery was found studded with hard calcareous masses, varying in size from a split pea to that of a small marble. No enlarged glands were present which did not exhibit the same changes. A few similar calcareous masses were found retroperitoneally. There was no fluid in the peritoneal cavity.

The presumption in this case is that the mesenteric glands were affected at the time of the removal of the tubercular cervical glands. The calcareous changes probably were coincident with the progressive gain in weight and recovery.

(*To be continued.*)

Associated Health Authorities and Sanitarians of Pennsylvania.

Sixth Annual Meeting, Harrisburg, Pa.

Dr. Richard Slee in the presentation of a paper on

MODERN METHODS IN THE PRODUCTION OF VACCIN VIRUS,

said in part: Early in 1898 Dr. Lee prophesied an outbreak of smallpox in this and adjoining States, tracing up the advancing wave from its foci in the Southeastern States where it had been lingering since February, 1897. Events are showing the clearness of his judgment. All over the country, reports come, not of isolated cases but of areas where the disease is epidemic. The Marine-Hospital Service reports 1925 cases with 36 deaths between Dec. 1, 1898, and Feb. 10, 1899. It is spreading with alarming rapidity, and as Sir R. Thorne has said, "the year 1899 may see an epidemic such as has been unknown to the present generation." This may be properly used to express the situation on this side of the ocean as well. What is the cause for the recrudescence of this disease? Several factors are at work. After importation from Cuba it appears in the mountains of Virginia, Tennessee, Georgia, Alabama, and neighboring States, among the great unwashed and unvaccinated class of people, mostly of negro origin. Thence it is easily traced. For example, the outbreak among the waiters of Put-in-Bay, more recently among the unvaccinated recruits at Fort Niagara, N. Y., McHenry, Md., etc., the recruits being lodged in the Imperial hotel at Rochester, N. Y., while waiting transportation and, while so, exposed to a concealed case of the disease in one of the waiters.

Returning soldiers also spread the disease broadcast and the brunt falls severely on those sections where neglect to enforce vaccination has prepared an extensive field for it to grow upon. It is also rife where antivaccinationists are in force, and where they are now reaping the well-seeded and nurtured harvest. As to which is the more criminal, neglect to vaccinate or direct antagonism, it is not my purpose to decide. We have all these centers of population, ill fed, ill housed, of Chicago, New York, Philadelphia, exposed every twenty-four hours to more direct contagion due to the vast tide of visitors. As an example of what can be done by thorough vaccination a report of Dr. Woodson shows the extermination, in three months time, of the disease by the vaccination of over 10,000 people in Holguin, Cuba, where for twelve years the disease has been epidemic. Not a single soldier contracted the disease, though doing guard dutyat the lazarettos, all having been thoroughly vaccinated.

Aside from neglect, there exists a marked timidity in voluntarily submitting to protection. Without doubt, a few people have suffered from mixed infection following vaccination. While this can not be laid at the door of protective inoculation with cowpox, save in rare instances, still the fact that such events may follow or accompany vaccination has led many competent workers in this country and abroad to endeavor to produce a vaccin free from all extraneous organisms, in other words, to give cowpox pure and simple, without any inflammatory or septic accompaniments. I want to emphasize this fact, that the investigations which have led to the present standing and methods of producing vaccin virus, the glycerinated pulp virus, are directly the result of a number of independent workers, many of them of the highest possible standing in scientific work and in no wise connected with any vaccin producing establishment or with any mercantile interest in such establishments. Among these may be mentioned Kitasato, that gifted and brilliant Japanese to whom the world owes the discovery in a great measure of diphtheria antitoxin. While we continue to use the calf or any animal as the soil on which to grow our crops of virus, it is an utter impossibility to exclude or prevent contamination with many organisms. Why is easily explained. Many organisms are persistent inhabitants of all animal surfaces; found not only on the skin, but deep down beneath the superficial layers and in the base of the hair follicles. This is why so much care is needed to prepare a patient for an abdominal operation, and even with twenty-four hours' careful preparation and the use of strong antiseptics, we sometimes fail to sterilize our field of operation, and have an infected wound. Many surgeons appreciating this, wear thin, sterilized gloves while operating. In the animal we have original infection many times multiplied owing to the greater number of hair follicles, and also to its habits, which we can not control. Should we succeed in saturating the surface of the skin with the stronger antiseptics, and rendering it a sterile soil, we could not produce a successful vaccination, owing to the great susceptibility of the vaccin organism and the readiness with which it is destroyed by even the mild antiseptics.

With the most careful preparation of the calf we begin the production of vaccin with an infected skin. That is not sterile. If we make a scratch and cause a little serum to flow and at once transfer a drop of this serum to a tube of culture-medium, and incubate it for a few days, we almost without exception have as a result a luxuriant growth of many organisms similar to the plate exhibited. Many of these are harmless, but there are some which bear a close resemblance to pus-producing varieties, and the only way to decide this is to test them with some susceptible animal. Starting with an infected skin, the cowpox will be infected. Should we succeed in destroying the majority of organisms in the beginning, those undestroyed would reinfect the wound in a few hours and, if not, the exposure to the air of the stable would cause the vesicle to swarm with many varieties in a short time. It being impossible to produce a vaccin free from contamination, we must destroy or render harmless those germs present, and the one agent which has given the most satisfactory results in all hands is chemically pure glycerin. Vaccin virus stored in glycerin for three or four weeks is rendered practically sterile as far as extraneous organisms go. Glycerin is a very mild antiseptic agent, still you can prove its power of destroying germs by adding to some pure glycerin virulent cultures of any pathogenic organism and make cultures from week to week from this mixture. You will find that the cultures rapidly die out and the few organisms that may continue to grow, do so under such unfavorable conditions that they rapidly lose their pathogenic power and are without significance. It has been shown that the pus producing organisms are rapidly destroyed by the action of glycerin. The use of glycerin as a preservative is not a recent method. It was not till 1890 that the bactericidal action of glycerin was prominently brought before the world. As both pulp and serum are equally infected for all practical purposes, it is well to use that portion of the vaccin vesicle which possesses the greatest vaccinating power. Several observers have shown that the greatest percentage of vaccinating material is obtained in the cheesy underlying mass called the pulp; in other words, this seems to be the natural culture-bed for the cowpox organism. The modern method of preparing glycerinated pulp vaccin is:

A calf of suitable age, three to six months, should be kept in quarantine for a week; if healthy, then removed to the station. There it is placed on the table and the lower part of the abdomen, as far as the umbilicus having been shaved, is thoroughly washed with a solution of carbolic acid, then rinsed with sterile water and dried with soft sterilized towels. With a sterilized sharp scalpel, incisions are made parallel to the long axis of the body, on the clean shaven area. The depth of the incision should be such as to pass through the epidermis and to open the rete Malpighii, if possible without drawing blood. As these are made, glycerinated lymph, which by examination has been proved to be free from extraneous organisms, is run into them by means of a sterilized blunt instrument, and the point of the scalpel is also from time to time dipped into the vaccin emulsion. After five days or 120 hours the vaccinated surface of the calf is first thoroughly washed with warm soap and water, rubbed over it by the clean hand of the operator, and finally the whole area is cleansed with sterile water. The remaining moisture is then removed by sterilized sheets of blotting paper. The vaccinated incisions will now appear as lines of continuous vesicles raised above the surface, each line separated from its neighbor by about one fourth inch of clear skin. Any crusts which appear in the vesicular lines are picked off with a blunt sterilized instrument. The vesicles and their contents are then removed by means of a sterilized Volkmann's spoon and transferred to a sterilized bottle of known weight. By going over the lines only once with the spoon, it is quite easy to remove the whole of the pulp without any admixture of blood. The abraded surface is carefully washed and may be dusted with fine oatmeal or starch and boracic powder. Subsequently the calf is transferred to the slaughter-house and the carcass is examined by the veterinary surgeon, who reports by certificate its condition. Should this not be satisfactory, the vaccin pulp from the animal is destroyed. The bottle containing the pulp is taken to the laboratory and the exact weight of the material ascertained.

A calf vaccinated this way will yield from 18 to 24 grams, or more, of pulp. This is thoroughly rubbed up in a sterilized mortar or in a mechanic triturating machine. When it is brought to a fine state of division it is mixed with six times its weight of a sterilized solution of 50 per cent. chemically pure glyerin in distilled water. The resulting emulsion is then transferred to small test-tubes, which are then aseptically sealed and should be stored in a cool place, protected from light. When needed for distribution it is drawn up into capillary tubes which are sealed in the flame of a spirit lamp. As soon as the pulp is thoroughly emulsified, agar-agar plates are made from it, and after incubation for seven days the colonies that have developed are examined. Week by week this is done. Invariably the colonies diminish until at the end of the fourth week the agar-agar plates show no development of colonies. The lymph is subjected to further culture experiments, and if these show freedom from extraneous organisms the matter is ready for distribution. The elimination of the extraneous organisms occurs with marked regularity by the end of the fourth week. The only exception is when the lymph originally contains a number of spores or bacilli of the hay, which are very resistant to the action of glycerin, but if the precautions are carried out, their presence may generally be excluded. The duration of the glycerinated lymph varies with atmospheric conditions, the fineness of the division of the pulp, and with the condition of the calf itself. Some yield excellent lymph, others poor. We must determine the value of each. One sample used at intervals of weeks after glycerination has given 98 per cent. Thus can be prepared a lymph which will continue for very long periods, though there is no need of keeping it. One can see from what has been said that the preparation of glycerinated lymph demands skill and care. This has been strongly insisted upon by Sir R. Thorne. His report of an examination of the chief Continental establishments fully explains what was found, and some places are under condemnation because of the difficulty of ensuring freedom from micro-organisms.

Until within a year or so, in America, serum dried on quills or points has been demanded; there seems to be an association in the minds of many between the ivory point and colorless serum. The fact is that the weakest portion of the vesicle exudes a serum having protective power. Pass this serum through a Pasteur filter and it is rendered inert. As the serum oozes through the base of the uncovered vesicle, it gathers the other organisms and holds them in suspension till dried. The use of this serum has no doubt given many people a wrong sense of security, its failure to take being accepted as evidence of immunity to smallpox. The absence of color is produced by washing the base of the vesicles and, of necessity, removing the major portion of active vaccin allows a clear straw-colored serum to ooze up; this is notoriously unreliable, so that many advertise their points as trebly charged, in itself a confession of weakness of the serum. A pure cowpox will give practically 100 per cent. successes in primary cases. To the unaided eye the clear serum appeals, but when under the microscope we find red blood-cells, leucocytes, or pus-cells, epithelial debris, etc. Of the many objects present the only ones of clinical importance are the micro-organisms; these will rapidly reproduce millions of their kind.

In conclusion he compared the advantages of each, the dried points and the glycerinated lymph. Glycerinated pulp virus retains its activity for many months, increasing in power up to a certain variable point, being at its height at the end of two months or ten weeks from date of production. Dried virus is most active when fresh, but gradually loses power, becoming inert in four to six weeks, due to atmospheric influence. As to safety, the former, owing to the destruction of pathogenic bacteria, offers the most, while in the latter, should infection be there, we have no provision for its removal. The grinding and trituration of the pulp insures every portion being of the same power. The principle used in making tablet triturates, which enters into its manufacture, accomplishes this; hence, if active it will give practically 100 per cent. of successes. In drying virus on points or quills, each one depends on chance for its activity. It may or may not gather enough material to produce success, and as a rule 70 is a fair average.

Unpleasant symptoms accompanying vaccination are as a rule local, and vary from edema and erythema to actual ulceration and, at times, abscesses elsewhere than at the site of vaccination. This may be understood, for if we touch the skin with a red-hot pinhead, the burn heals promptly. Increase the size of the instrument, say to half inch in diameter, the destruction of tissue is considerable, perhaps the wound is infected, though the instrument is absolutely sterile and sterilizes the skin. The same applies to cowpox vesicle; the greater the area the greater the danger of the crust becoming detached and its base infected. We must not forget that pus-producing organisms normally inhabit the vast majority of human skins; all they need is a proper soil to become active, and this is furnished in the ball of every normal cowpox vesicle. In all branches of medicine, except vaccination, we have a dosage. In other words, with few exceptions we do not think of giving as large a dose of medicine to a child as we would to an adult, yet some place as large a vaccin vesicle on the arm of an infant as on a man. Glycerinated vaccin lymph is very concentrated. It bears the same relation to the old-fashioned ivory point per quill as morphia bears to the older forms of opium. Hence the dose applies here. Regulate the size of the scarification—to a child up to five years a single scratch about one-eighth to one quarter inch long suffices; up to 12 years, four lines crossing a spot one-eighth inch square; for an adult, three to four lines involving a quarter inch square. One typic vesicle the size of a split pea affords as much protection as a dozen. Whatever form you use, remember the production of vaccin virus is not an exact science. We are not dealing with a fixed drug, but with a biologic product with many unsolved problems. An active virus presupposes the presence of a living organism, whose length of life can not be predetermined any more than a human life. The rule adopted by life insurance companies, of averaging, is therefore the only one that can be applied here. It is one of the few medicinal preparations in which the results are visible, and it therefore impresses itself upon the observer as either good or bad, in a vivid manner.

Philadelphia Pathological Society.

Meeting of March 23, 1899.

Dr. A. C. Abbott presented a paper to the society, entitled

THE RELATION OF THE BILE TO INFECTIOUS DISEASES.

He stated that the bile outside the body was only feebly germicidal, and in infectious diseases that obtained from the gall-bladder was frequently found to store up bacteria which remained pathogenic long after they had been destroyed in other portions of the body. However, it must be true that the bile has some effect in limiting putrefaction in the intestinal canal, because in suppression of this fluid the feces are highly putrefactive; therefore it has some antiseptic influence. Being feebly germicidal, it has been a question as to which ingredient of the bile had the greatest influence in this respect; but more recently this has been ascribed to taurocholic acid. The bile has been proven to contain antitoxic properties, as shown by injecting the venom of snakes into animals and subsequently bile, which to a limited extent had the effect of counteracting the effects of the poison. In typhoid fever the colon and typhoid bacilli have been found in the bile long after the abatement of the disease. This is, however, due to the fact that the condition of the bile has been altered by the disease.

Probably one reason more definite knowledge has not been obtained in regard to this secretion is that investigators have generally regarded it as an inert substance, and have not taken the precautions to procure it in the way that other vital fluids have been obtained, such as the blood, for instance. From this fact many errors have occurred from experiments with bile.

Dr. John B. Deaver read a paper on "Inflammation and Diseases of the Biliary Passages and Gall-Bladder," to be published in the Journal.

Dr. Joseph McFarland presented statistics of the autopsies in which gall-stones had been found, as observed in various parts of the world. In 4300 autopsies one writer had found gall-stones 270 times, another, in 2300 autopsies, met with them 166 times. It had been proven by observations made post mortem that obstruction and perforation of the bowels was by no means an uncommon occurrence in persons who suffered from gall-stones.

Dr. Wm. L. Coplin quoted from Posey, who in one case of obstruction of the biliary passages found a polypoid growth situated in the common duct. Echinococcal cysts had also been found to give rise to obstruction of the bile-ducts. Regarding the condition of the bile in infective diseases, he thought the important features would be hard to determine, from the fact that micro-organisms had been found to be in a dormant condition in this fluid over long periods of time. In obstruction of the portal circulation certain writers had reported as having met with multiple hematomata of the abdominal wall.

Dr. John P. Arnold spoke of the antitoxic action of bile as observed in experiments he had made upon frogs. He had in certain instances injected strychnin into frogs and at the same time injected in other portions of the animal bile derived from frogs, and found that the poisonous effects of strychnin had been counteracted by that of bile, while in control animals the drug exerted its usual potency. He had also used ox bile in the experiments made upon frogs and found that it had less influence in arresting the symptoms of strychnin poisoning than when frog's bile was used. In the experiments in which bile from the frogs had been used, he had been unable to recover any strychnin from the animal's body.

Dr. Beatties called attention to the fact that the bile which had accumulated in the gall-bladder was of a distinctly different character to that found in the common bile-duct, bilirubin being the principal coloring agent in the fluid from the latter region, while biliverdin gave the color to the fluid in the gall-bladder.

Dr. Alonzo Taylor mentioned a case treated by the late Dr. William Pepper in which a fatty growth had formed at the head of the pancreas, giving rise to obstruction of the biliary passages.

Dr. W. E. Hughes spoke of the pain present in biliary colic, while many writers had stated that at the onset pain was located in the epigastric region, thence radiating to the right hypochondrium and right shoulder; he had seen a case in which the severest pain originated in the epigastric region, radiating to the region of the precordia, left shoulder and arm, simulating in many respects angina pectoris.

Dr. Albert Woldert stated that in several cases in which patients had suffered from biliary colic he had noticed that no pain had been referred to the region of the right shoulder. Regarding the pathologic condition, which might be present in long-standing cases of biliary calculi, he referred to statistics presented by Christian Fenger, who had stated that the gall-bladder on being constantly irritated by hard particles, such as calculi, might in time become so small as to become almost obliterated from cicatricial contraction.

Dr. John B. Deaver, in closing the discussion, stated that there were many circumstances which might cause a surgeon to change a preconceived opinion regarding the special operation to be performed. On the whole, he was much opposed to the use of mechanic devices in operations upon the gall-bladder. He did not approve of cholecystenterostomy, much preferring the establishment of a biliary fistula.

Philadelphia County Medical Society.

Meeting of March 22, 1899.

The regular order of business was suspended in order to permit the introduction of a resolution by Dr. James Tyson, demanding the immediate filtration of the water supplied to Philadelphia. The resolution was carried unanimously.

Dr. Joseph Head read a paper on

LANCING THE TEETH AND CARE OF TEETH DURING ILLNESS.

He said that in giving acid drugs during disease, the only way to prevent injury to the teeth was to rinse the mouth subsequently with a solution of bicarbonate of soda. Giving the drug through a glass tube did but little good, since the acid solution again found its way around the base of the teeth, where it did harm. Regarding the philosophy of cutting the teeth, when one or two teeth do not come through in a limited time they exert a backward pressure upon the nerves, giving rise to severe pain and manifested by manifold symptoms indicating impairment of health to the child, and should, therefore be incised by a physician. It is practice to make a crucial incision in the case of the molars and a linear incision in the case of the incisor teeth. It is of special importance to cut down upon the teeth, going through the deeper structures until the edge of the bistoury rests upon the upper edge of the enamel. He disapproves of the use of rubber rings thimbles, pennies, etc., as a slow method of aiding nature in overcoming the resistance of the gums.

Dr. J. P. Crozer Griffith did not agree with the speaker in the method advocated, because he thought many of the ailments of children attributed to teething arose from wholly independent causes than teething, and he was opposed to lancing the gums to aid the tooth in coming through.

Dr. W. J. Taylor thought incising the gums often did good in hastening the process.

Dr. Mordecai Price thought that more teeth were lost by lancing than by any other method of treatment, because in using a sharp instrument the enamel would be injured, thereby leading to early decay of the tooth.

Dr. E. B. Ferguson of Troy, N. Y., read by invitation a paper entitled

CYSTS OF THE URACHUS.

He said that nature might be deficient in two ways in the development of the human species, either through omission or commission. In the embryo the bladder and alantois were almost of the same size, but later the bladder became enlarged, while the alantois became obliterated. In some instances, however, this obliteration did not wholly take place, but the canal might be left open for a certain portion of its course and hence become dilated to such an extent that a large tumor might be formed. Probably the most common condition was to find the umbilicus patulous. The fluid from a cyst of the urachus is of low specific gravity, resembling that of a parovarian cyst. In nearly all instances cysts of the urachus were situated extraperitoneally. Dr. Ferguson had operated upon a case of cysts of the urachus occurring in a man 47 years of age. There had been a gradual loss of flesh and strength, frequent urination and pain in the lower abdominal region. At this time a small tumor was detected. On palpation it appeared to be flat, hard and quite superficial, as if situated in the abdominal wall. At the onset of the tumor he believed it malignant. At the operation it was found that instead of being flat it was globular, and what had given the impression of the former state was, in fact, due to the recti muscles, which, in this region, were very tense. After anesthesia, relaxation of the abominal muscles occurred and the mistake was noted. During the early part of the operation it was thought that the tumor might be a greatly distended bladder. Probably two to four quarts of fluid were removed. The dissection was begun by first removing the lining membrane of the sac on its lower posterior surface. Nearly the entire lining was removed, only leaving that portion at the umbilicus where there were deep digitations of cribriform type. After several weeks that portion about the umbilicus was allowed to become infected for the purpose of forming a firmer cicatrix in this region. In looking over the literature on the subject he found that Tillman had reported fourteen cases of cyst of the urachus.

Dr. W. W. Keen stated that he had never seen a case of cyst of the urachus and complimented the speaker upon his good results. He thought that stripping the lining of the sac was a good procedure and would try the method should he be called to operate upon the pancreas.

Dr. Reisman had seen a dilated urachus in a man, and in children had seen instances in which the urachus was partly open.

Philadelphia College of Physicians.

Section on Ophthalmology, March 21, 1899.

Dr. John T. Carpenter read a paper on

BILATERAL EXTENSIVE CHOROIDAL HEMORRHAGE IN THE MACULAR REGION.

The patient was also shown and presented the following history: age 45, two miscarriages, general health good except occasional attacks of bilious headache accompanied by nausea and vomiting. About fifteen years ago an oculist prescribed concave glasses which seemed to give some relief, but there was still a blur in the right eye. Objects across the street were altered in shape, generally being crooked or bent. The left eye proved to be in a condition of myopic astigmatism with evidences of former hemorrhage. In the right eye subretinal hemorrhage can now be seen.

Dr. S. D. Risley thought the case one of considerable interest as affording an opportunity of studying the condition at different periods of its existence.

Dr. James Thorington reported a case of

CONGENITAL COLOBOMA OF THE CHOROID AND IRIS

in each eye without involvement of the lenses. In Miss F. C., aged 18, vision in right eye 6/50, left 6/15; ophthalmoscopic examination showed coloboma of choroid with indistinct vessels and pupils dilated. In all respects the condition seemed to be congenital. There was no history of coloboma in the family. This case evidently shows that coloboma of choroid does not necessarily mean coloboma of lens.

Dr. George De Schweinitz reported a case of double coloboma of the choroid.

Dr. S. D. Risley read a paper on the

LATE RESULT IN IMPLANTATION OF SPONGE IN THE ORBIT AFTER ENUCLEATION.

He referred to a paper read by himself before the American Pathological Society in 1898, in which he had followed this procedure, after which the sponge had become absorbed and the cavity filled with new tissue. This case was now presented with a false eye, which seems to fit accurately. However, on the whole, it is not a desirable operation.

Dr. Risley also read a paper on the

EMPLOYMENT OF THE KALT STITCH IN CRITIC CASES OF CATARACT EXTRACTION.

Up to this time he has made use of this in three cases in which the lenses were hard to extract, and has found it of great service. In two cases there has been considerable prolapse of the vitreous, which had been returned, vision subsequently being moderately fair, one being 5/6. The needle he uses is very short, sharp, and curved, without cutting edges. The finest silk suture is best. The greatest danger from the use of any stitch in this region is from infection, but in his experience there has so far been none.

Dr. Risley's third paper referred to

FIXED SEGMENT OF THE IRIS, WITHOUT SYNECHIÆ AFTER IRITIS.

There had been an exacerbation of iritis on October 22, last, and still later an attack of parenchymatous form of the disease, The vision went back to 6/6. After the attack it was found that the nerves of the lower portion of the iris had been paralyzed. A gelatinous mass was found in the lower left quadrant of the pupil, the latter being kept in a condition of dilatation. There might have been some adhesions back of the iris, but these could not be demonstrated.

Dr. George De Schweinitz read a paper on

FISTULA OF THE ORBIT DUE TO DISEASE OF LACHRYMAL DIVISION OF ETHMOIDAL CELLS.

The patient was 19 years of age, unmarried, and family history negative. For quite a long period there has been a discharge of pus into the region around the middle meatus of the nose. Two probes were inserted into the mouth of the fistulous nose and passed upward, one into the lachrymal division of the ethmoid cells, the other into the posterior division. A considerable amount of pus was evacuated. The tract was thoroughly curetted, during which operation some necrosed bone was removed. A rubber tube was inserted and left for some time, but this was subsequently removed to be replaced by a stylus, which was allowed to remain for a period of four months, effecting a complete cure. Dr. De Schweinitz thought that fistulous tracts in this area were very frequently the result of disease of the ethmoid cells.

Dr. Wm. Zentmayer spoke of a similar case to that reported by Dr. De Schweinitz. In this instance the fistulous tract had been a sequel of scarlet fever.

Dr. James Thorington also reported a case in which there had been obstruction of the lachrymal duct, following a blow, suppuration subsequently developing, for which an operation had been performed.

Dr. Zentmayer reported a case of tumor of the orbit, with secondary involvement of the submaxillary, axillary and inguinal glands. This condition had developed in a child, the subject of hydrocephalus. Choked disc had been present in the right eye and marked neuritis in the left.

Dr. G. C. Harlan spoke of

ABSCISSION AND COMBINED KERATECTOMY.

Regarding this method he thought it had more recently become neglected from the fear of development of sympathetic ophthalmia, a rare condition now with asepsis.

Dr. H. F. Hansell reported a case of a typic retinitis pigmentosa, in which the patient suffered from night blindness.

Practical Notes.

Liniment for Articular Rheumatism.—Glycerin 30 gm., camphorated alcohol 30 gm., ether 8 gm., chloroform 10 gm., tinct. opium 3 gm. Apply and wrap in cotton.—Decoopman, *Echo Méd. du Nord*, February 26.

Lubricant for Sounds.—Tragacanth 2.5 gm., glycerin 10 gm., 3 per cent. solution of carbolic acid 90 gm.; triturate cold. This combination produces a cold cream, dissolving in water. A sound, coated with this cream and dried, cleanses itself by simple immersion in tepid water.—O. Kraus, *Progrès Méd.*, February 11.

Lesions of Lachrymal Ducts and Nasal Affections.—B. Rischawy has noted that many cases of chronic affections of the lachrymal ducts are caused by compression from hypertrophied bone or muscle in the nose, and are cured by removal of the hypertrophied tissue.—*Vienna Klin. Rund.*, February 19.

Addition of Quinin to Prevent Salicylic Intolerance.—Decoopman treated a case of recurring acute articular rheumatism with marked intolerance of sodium salicylate, with a combination of salicylate of lithin, .5 gm., to sulphate of quinin, .2 gm., arresting an acute attack in four days without an indication of intolerance (total 13 gm. salicylate).—*Echo Méd.*, February 26.

Gargling.—M. Saenger of Magdeburg reports a number of tests and experiments with staining fluids, powders, etc., which have established the fact that only in very rare and exceptional cases does gargling bring the fluid in contact with all the surfaces desired. It does not reach the tonsils nor the back of the pharynx. It is also directly injurious, as it forces the diseased parts to excessive activity.—*Munich Med. Woch.*, February 21.

Hot Baths in Children's Bronchitis.—Professor Jürgensen of Tübingen has been very successful in treating cases of capillary bronchitis in children, with a hot bath three or four times a day or every two hours, followed by a brief cold affusion on the bulbar region. This produces a violent attack of coughing which expels the mucous secretions and relieves the depression. A little wine should be given and the child taken up occasionally. The mortality with this treatment is much lower than with the usual methods.—*Semaine Méd.*, Febuary 22.

Internal Treatment of Urinary Affections.—Salosantal, a combination of a balsamic and antiseptic, ol. santal and salol, has proved very effective in over a hundred cases of disease of the urinary passages reported by L. Hahn of Berlin, and its low price is another point in its favor. It is especially useful in acute and chronic gonorrhea in the male, with cystitis counterindicating local treatment. The effect is marked in a few days and cure complete in two weeks in nearly all of the twenty-five observations described in detail in the *Derm. Ztft.* for February.

Hematology of Cancer of the Stomach.—Recent research on this subject has been published by Hofmann (*Ztft. f. Kl. Med.*, B. 33), Henry (*Cbl. f. In. Med.*, 1839, No. 5), V. Jez (*Vienna Med. Woch.*, 1898, 15) and Heyem (*Presse Méd.*, 1898, August 27). They all agree that, while investigation of the blood does not furnish reliable information in all cases, yet it may prove an invaluable assistance in certain doubtful ones. The most frequent alterations in the blood in case of cancer of the stomach are a marked decrease in the number of red corpuscles, to between two and three millions, and an increase of the white corpuscles to about fifteen thousand; also the presence of nucleated red corpuscles, normoblasts, their deformation or fragmentation, and the absence of digestive leucocytes.

Test for Albuminoids, Alkaloids, Leucomains or Toxins.—Chibret and Izarn describe a new test by which opalescence is imparted to an iodized solution by nearly all vegetable or animal products of a nitrogenous nature, the dilution required varying with each, and the opalescent reaction conspicuously absent in the case of urea and the urates. Three drops of nitric acid are added to 2 c.c. of solution of cocain hydrochlorate at 1/800,000, and well shaken. To this are added three drops of the iodin reagent made by the formula: iodin 47 gm., potassium iodid 58 gm., aq. dest. 60 gm. Normal urine produces opalescence at 1/30 to 1/50, but in morbid conditions the dilution rises above 1/50 and may attain 1/100 or even 1/200. A special illumination is required to distinguish the opalescence.—Paris Academy of Sciences, session of February 13.

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SATURDAY, APRIL 1, 1899.

DIAGNOSTIC CURETTAGE.

In spite of the boasted brilliancy of recent microscopic technic, the friends of diagnostic curettage have not been able to lift this procedure to the plane of scientific acceptation, and even in cases of suspected malignant uterine disease, digital exploration has approval as the best of pertinent diagnostic measures. Curettement as a means of diagnosis can count a few sporadic friends. Its foes are legionary. They may be classified for contemplation into two groups: The first is made up of those gynecologic routiniers, who, in deference to an over-refined sense of delicacy, or from sheer indifference to the less salient details of diagnosis, prefer not to explore the malodorous and unsightly matter vented from the diseased uterus or vagina, and who likewise turn unmindfully from the examination of feces, pus and sputum.

The most prized of scientific riches have been gleaned in exploration of the unpicturesque excreta. The modern medicine of which we haughtily own ourselves disciples has bulwarked itself with facts picked up on excursions of research in sputum, pus and urine. In the feces new worlds of scientific wealth await a heroic COLUMBUS; and in uterine curettings, however homely they may appear to barbaric eyes, there are pathologic pictures which charm the appreciative seeker, and which are of incalculable worth, since they indicate the way to rational therapy.

Another class embraces those who use the utmost pains to gather diagnostic evidence, but who deem the examination of curetted matter to this end a method of small importance—preferring to contemplate the clinical symptoms and to examine locally with the speculum and finger.

Preliminary dilatation of the cervical canal sufficient to allow passage of the exploring finger is not unaccompanied by danger; indeed, fatal shock has been reported as its result. Curettement is the less heroic method, even with the possible attendant risk of perforation and peritonitis. Anesthesia is unnecessary, and with the aid of a rapid method of sectioning and staining, like that of THOMAS CULLEN of Johns Hopkins, the diagnosis may be made at a single sitting. Under some circumstances, as in the case of virgins, narrow senile vagina, elongatio colli or fibroid uterus, digital intrauterine exploration may be impossible. The finger can not always distinguish benign from malignant neoplasms, but the removal of tissue with the curette leads to positive decision. Without the introduction of the finger into the cavum uteri, fragments of endometrium may be removed by the sharp spoon and a decision as to the character of the piece examined may at least be made and, with practice, the condition of the endometrium may be determined with the microscope.

The procedure is indisputably indicated whenever suspicion of carcinoma or sarcoma exists, and this suspicion, it will be conceded, is well grounded, whenever in spite of well-directed treatment, recurring hemorrhages from the uterus present themselves at or near the time of the menopause. It can not be successfully denied that in case of carcinoma, sarcoma and tuberculosis of the uterus, diagnostic curettage is the only measure which reveals the condition, while there is still hope that surgery can save life.

It is probable that a method of examination like diagnostic curettage, which demands of the examiner somewhat more than usual care in the technic of curettement and in the use of the microscope, will not be universally applied; nor need we be hypercritical if, after application of the method by skilful men, some uncertainties of diagnosis still remain. It may still be said with truth, that of all clinically undiagnosticated cases the majority may be elucidated with the microscope by one who regularly embraces every opportunity to examine the normal and diseased endometrium. The experience which one receives in examining normal and mildly pathologic conditions will certainly be of great service when one is called to investigate obscure conditions.

The diagnostic curettement is not more than an auxiliary to clinical and anatomic diagnosis; therefore, he who takes the tissue from the living woman for examination, as well as he who uses the microscope, must have mastered the other and more universally powerful means of diagnosis. The gynecologist and pathologist should, if possible, be represented in the one man. If the gynecologist would meet the universal demand he must be prepared to grasp the knife and operate as well as the general surgeon, and just so if any gynecologist would be regarded as something more than a routinier, he must at least know the pathology of the organs with which he deals as well as does the general pathologist.

JAUNDICE IN ACUTE INFECTIONS.

The occurrence of jaundice at some period during the course of many of the infectious diseases is a matter of common observation. Of these, malaria, particularly the estivo-autumnal variety, typhoid and typhus fevers, yellow fever, and the septic processes, septicemia and pyemia, offer the usual and typic examples. For convenience of classification it has been the custom to divide the ordinary forms of jaundice into two classes: 1. The hematogenous, which occurs when the specific germ or the products of its manufacture causes such excessive destruction of the red blood elements that the liver is totally unable to perform the increased amount of work imposed upon it, that the product of this red corpuscular destruction, bilirubin, becomes to some extent reabsorbed by the lymph and blood-vessels, and the characteristic discoloration follows. In these cases, and this fact is an important one, the urine contains but little bile pigment, and the stools are not clay colored, showing that a normal amount of bile reaches the intestinal tract. 2. The so-called hepatogenous or obstructive jaundice—and the obstruction may be located in either the small or large ducts—may be due to obstruction within the lumen, in the wall, or without the wall of ducts of any size, though naturally the smaller the lumen of the duct the greater the number that must be involved to produce a tangible symptomatology. It may also be due to gall-stones or parasites, tumors either of the ducts themselves or of neighboring organs, stricture or inflammation either of the lining of the duct or of the duodenum.

It has been the custom to assign the jaundice occurring in the infectious diseases above enumerated to the hematogenous division, for unquestionably large numbers of red corpuscles are destroyed during the course of these diseases, as shown by counting the corpuscles and by the hemoglobin estimation. In malaria the writer has frequently found the reds reduced to between two and three million, with the hemoglobin ranging from 40 to 60 per cent. But while mild forms of jaundice may be dependent upon destruction of the red corpuscles alone, it is but natural to look for other factors when the infectious disease is complicated with very deep jaundice, nor is the explanation hard to find in view of modern research.

The liver, in addition to its many other important functions, may be looked upon as a most efficient health officer to the general circulation. It has long been known that many drugs, particularly alkaloidal products, when introduced into the stomach, are questioned and quarantined when attempting to slip past the liver and enter the circulation beyond, so that the therapeutic law of diminished dosage hypodermically was gradually deduced. Recent experiments by **Futterer** have shown that micro-organisms, when introduced into the portal circulation, are eliminated by the liver with great rapidity. **Adami** has demonstrated a bactericidal function of the liver. Many other investigators have proven that in the various infections, the specific micro-organism, when known, may be found in the liver. Under ordinary circumstances, in health the liver is able to attend to all organisms that may come from the gastro-intestinal tract and speedily secure their elimination. But in disease, as in typhoid fever, where the resisting power of all the tissues is below par, and where the organisms received are in larger dose and of greater malignancy, the liver is inadequate to the excessive demands made upon it. Some of the organisms enter the general circulation; the remainder, either by their own action or that of their ptomains, rapidly produce inflammation, and the presence of the inflammatory products prevents the ready escape of the bile. In addition the bile-ducts themselves may become subject to the inflammation, and the viscidity of the bile due to this cause, together with the tumefaction of the lining membrance of the ducts, also a result of inflammation, will tend still further to obstruction; in other words, there will be an obstructive jaundice in addition to a hematogenous one. The amount of obstruction, and of jaundice, will depend upon the extent and virulence of the inflammation—but it is improbable that the inflammatory reaction will be so great that no bile will be permitted to escape, so that the stools will be more or less bile-stained. The obstruction present determines the amount of bile pigment in the urine and, vice versa, an estimation of the amount of urinary biliary pigment is a good register of the amount of obstruction.

A DIRECTOR-GENERAL OF PUBLIC HEALTH.

It will be gratifying to the many friends in the United States of Dr. **Frederick Montizambert**, the distinguished superintendent of quarantine of Canada, and former president of the American Public Health Association, to learn that he has recently been appointed director-general of public health of the Dominion of Canada, with the rank of deputy minister.

With the example of our neighboring republic on the South, which has long since intrusted the sanitary interests of Mexico to the Consejo Superior de Salubridad Publica (Superior Council of Public Health—a National Board of Health), of which Dr. **Eduardo Licéaga** is president, also an ex-president of the American Public Health Association; and now on our northern boundary, that of a director-general of public health, whose office is but a degree below that of a cabinet minister, it may be hoped that Congress will no longer delay establishing a National board of health for the United States on the lines suggested and earnestly advocated by the American Medical Association, the American Public Health Association, the State boards of health, the New York Academy of Medicine and other influential bodies of physicians and sanitarians. It is not creditable to the intelligence of this country that there should be absolutely no responsible organized department of health in its government, empowered to treat with foreign nationalities, especially those immediately adjoining it, on questions relating to the importation and exclusion of contagious diseases that may become epidemic. Now that the great focus of yellow fever has practically come within our own geographic limits, these countries will naturally look to this Government for provisions for the prompt extinction of this plague-spot, so long the opprobrium of Spain, but beyond a makeshift recourse to a bureau intrusted with the care and treatment of sick and disabled merchant sailors, a sufficiently large responsibility for any one office, we have no means of preventing its introduction and spread among our own exposed populations. There is no health organization of a distinctively national character. The several independent State boards of health are able and efficient, but they are not correlated and they themselves recognize the need for a common executive board and have repeatedly urged upon Congress that such should be provided. The two great representative bodies of the physicians and sanitarians of the United States, the American Medical Association and the American Public Health Association, have agreed upon a measure which they believe will satisfactorily accomplish this object, and have appointed committees of their members, all men charged with the sanitary responsibilities of widely distant localities of the country, to personally urge upon the President and Congress the danger of longer delay in creating a National department of health, with power to act under the emergencies that are every day so fearfully imminent. The recent act of the Canadian Government in instituting such a department encourages the hope that early in the approaching session of the new Congress, legislation to this effect may be enacted.

MULTIPLICITY OF MEDICAL SOCIETIES: CONSOLIDATION THE NEED OF THE HOUR.

Of the utility of organization, and of that special kind that is exemplified in the medical society, there can be no shadow of doubt. In union there is power and in well-directed organization progress. The tendency of the day is toward centralization rather than the opposite, and it is from this point of view that we wish to say a few words, suggestive rather than conclusive, with regard to the waste of energy, time and resources entailed upon the medical profession by reason of the existence and continued organization of what appear to us unnecessarily large numbers of medical societies.

Thus, we have several organizations of national scope and membership; in most commonwealths, State medical societies, and in the counties, cities and towns thereof, usually local and constituent bodies. In the large cities, as for instance Chicago, New York and Philadelphia, there are often several individual bodies whose work and membership are of a general and similar character, and, besides, a large number with independent organizations devoted to the special departments of medicine; not including the intramural collegiate societies that exist in some places almost without number. There must thus result a considerable waste of time, energy and money, and it seems that with such a division—one might say dissipation—of forces, the influence for good that the constituent membership would otherwise be capable of wielding must be materially attenuated.

It is in this spirit that we beg, therefore, to make a plea for consolidation, for a union of forces, that the greatest good may inure to the largest number. Why need there be more than one great national, American medical body—as there is but one great national British medical body—with the organization of sections in all of the departments of medicine? Each State and Territory would also require but one central organization, and one society would suffice for each county, with as many special and geographic divisions and branches as the exigencies of the individual case would demand.

The difficulties of such consolidation and reorganization as we suggest are not insurmountable; the details could easily be arranged, and the result, if consummated, would unify and strengthen the medical profession as no other measure is capable of doing. With such a united body the cause of preventive medicine would be greatly forwarded. Besides antivivisection and antivaccination, there will be other battles to be fought for the public welfare, and divided forces will fail where united influences must prevail.

TREATMENT OF DYSENTERY.

In the present state of knowledge, dysentery can scarcely be looked upon as a specific disease. Pathologically it may be considered a form of colitis of varying degree and extent and dependent upon a number of exciting causes. Thus, there have been described catarrhal, tropic or amebic and diphtheric varieties. The symptomatology has been rather more uniform, the distinctive clinical manifestations being frequent, small, sometimes ineffective stools, containing often mucus and blood, together with tormina and tenesmus.

Recovery may take place spontaneously. The best treatment consists in the removal of the offending cause and the restoration of the bowel to its previous condition. For this purpose magnesium sulphate has proved useful, as has also irrigation of the bowel. Other remedies of repute are ipecacuanha, which has found great favor among the physicians of British India, and mercuric chlorid. A single large dose of mercuric chlorid may be given at the outset in conjunction with the employment of magnesium sulphate; the ipecacuanha may be guarded with small doses of opium; and quinin or tannic acid or potassium chlorate may be cautiously incorporated into the irrigating fluid.

An interesting clinical contribution to the treatment of dysentery is made by **Day** (*British Med. Jour.*, Feb. 4, 1899, p. 271) who reports the results obtained in 60 cases of dysentery, 25 of which were treated with ipecacuanha and 35 with magnesium sulphate. The former was given, freed from emetin, in ten-grain doses, every two hours, with one grain of opium twice daily, and in some cases with solution of mercuric chlorid every four hours. Of magnesium sulphate a dram or more may be administered three or more times a day. Among the 25 cases treated with ipecacuanha there were 9 deaths, 32 per cent.; while among the 35 cases treated with magnesium sulphate there were but 2 deaths, 5.7 per cent.—but one of these patients had previously received the ipecacuanha treatment and had indulged in an indiscretion in diet. Further, recovery under the ipecacuanha treatment was slow and relapses were frequent, while under the magnesium sulphate treatment recovery was rapid and complete. The number of cases here considered is not so large as in itself to justify a final conclusion, but taken together with other evidence it goes to strengthen the confidence that clinicians have already learned to place in the eliminative method of treating dysentery, and especially with magnesium sulphate.

WHERE IS THE COLLEGE-MADE MAN?

A Philadelphia paper recently contained the following paragraph, which is deserving of some comment:

> Andrew Carnegie having recently asked: "Where is the college made man?" the superintendent of schools in Sioux City, Iowa, has directed a systematic search for the missing individual, with no little success. A canvass of the leading men in the following named professions and occupations in the principal towns of Iowa gave these results, which are published in the *Educational Review* for March:

Profession.	Whole number canvassed.	College bred.	Per cent.
Ministers	67	60	90
Teachers	65	55	85
Lawyers	78	53	68
Doctors	85	52	60
Bankers	66	26	40
Editors	53	16	30
Merchants and manufacturers	119	31	26

The position of the medical profession in the above is not as satisfactory as one might wish, but it puts it fairly in the category of the learned professions, there being a long step between it and the next below. There is no good reason, however, why doctors should have, to any extent, less general education than lawyers, and with modern tendencies in professional education, it is very possible that their respective positions may be reversed in the near future. The low percentage of editors in regard to college education is somewhat of a surprise at first sight, but further investigation would probably not change the above conclusions.

INSURANCE OF VEGETARIANS.

We have had in this country sectarian insurance companies, both religious and medical, but we believe that they have not been long-lived; certainly none of them have been brilliant successes. We may have more from time to time, but they will all have to undergo the tests of hard business experience. It is said that at the present time there are several life insurance companies in England that take vegetarians at reduced rates, considering them as better risks. With the views now held on this subject by the highest physiologic authorities, this would seem a doubtful business venture, but the experience of these alleged companies, if this policy is constantly followed long enough, ought to be an interesting practical experiment. All the other possible elements will have to be duly estimated to make it of any real value, but this, it is assumed, will be the case.

OVARIAN GRAFTING.

The old question that sometimes puzzles juvenile casuists as to whether the hen that laid or the hen that hatched the egg is the mother of the chick, may yet in the progress of surgery have its parallel in the human species. In fact, there is a remote possibility that interesting medicolegal questions may yet arise as to the proper maternity of individuals, a question that has been hitherto restricted to the paternal ancestor. Dr. **R. L. Morris**, in a recent work, republishes the account of two cases out of a total of five operations in which he has transplanted the ovary in the human female and in which functional results followed. In one, a woman became pregnant from the action of a piece of ovary grafted into the fundus uteri, and in the other an undeveloped young woman with seemingly rudimentary sexual organs, took on an apparently normal sexual life after implantation of a piece of ovary from another woman. **Knauer** has more recently successfully grafted ovaries in the rabbit and seen pregnancy result and go to term, and **Morris'** case, while the pregnancy was early interrupted, is almost as conclusive as to the possibilities in the human subject. The fact that out of five operations he had two such striking results ought to be suggestive to future operators. The operation is apparently practicable, and it is easy to see that it may have its utility and be an advisable one in certain cases, but if it should become a popular one, we will have to look out for some interesting tangles of heredity.

LEPROSY IN MINNESOTA.

The "Biennial Report of the State Board of Health of Minnesota" has just been published, and among other interesting features, it contains a discussion of the subject of leprosy in that State. It has long been known that owing to the large proportion of Scandinavians among its immigrants, Minnesota has become a sort of local center for this disease, and, according to the report, there are at present thirteen and probably sixteen known lepers in the State, of a total of fifty-one that it is known have been or are now resident. It is believed there are also a few unrecorded cases, and in all probability there are at least twenty, and some claim even as high as fifty, lepers now living in Minnesota. Allowing that there are only twenty, it is assumed on the basis of the late census that there is probably a like number in each of the four adjoining States of Wisconsin, Iowa, North and South Dakota, with a probable total of 150 Scandinavian lepers in the United States. It would be of decided interest if the same care taken in Minnesota was taken in other States to ascertain the facts in this respect. If there is any real endeavor to stamp out leprosy in the Northwest, it would seem that it would have to be with concerted action of all these States and the general government. Many of the points made in the report referred to have been already printed (vide Journal, Oct. 22, 1898), but its official publication will serve to call attention to important facts that require some general action on our part to rid ourselves of what is to some extent at least a public danger.

PAVEMENTS AND DISEASE.

The attention of sanitarians is respectfully directed to a possible cause of urban morbidity in the pavement of streets. Well-paved streets are generally considered as conducive to health as favoring cleanliness, but the question might be raised whether there is not in this case, as in other mundane matters, a reverse side of the shield. Dirt roads may be considered in a sense antiseptic, at least they carry out the principle of dry-earth disinfection the greater part of the year, and for the remainder the germs are smothered or frozen in mud or in one way or another put *hors de combat* for most of the time. On a solid pavement, and especially one that is as reasonably clean as is possible under urban conditions, disease germs there deposited are the sport of every breeze that blows, and are wafted into the eyes, ears and air-passages of every passer-by. The danger may not be great, but with all the multitudinous sources of microbic infection that are concentrated on city streets, it can not be denied that it exists. The character of the pavement may also have to receive some consideration, a soft, bibulous one, so to speak, like wood. may be more dangerous in some respects than a hard stone or asphalt one, and vice versa. The actual relative danger of each kind under each special condition is worth some consideration. These points are not specially new, in fact, they are old, but they are suggested by the newspaper reports of the recent utterances by the health officer of one of our cities Dust and disease are often enough mentioned, but the special conditions that favor the combination are less often the subject of thought or comment. Once in a while some fact bearing on this question may have an important significance with reference to individual or general morbidity.

PASSING OF PRESCRIPTIONS.

It appears to be a fact that the prescription business of druggists is lessening in this country; as much as 50 per cent. is the estimate of the author of a paper recently read before the Maine Pharmaceutical Association and published in the *Pharmaceutical Era*, March 9. He does not discuss the reasons for this fact, which are, perhaps, more obvious to medical men than to pharmacists, but dwells at length on its disadvantages, as it is natural he should. His paper, however, is not altogether a labored *ex parte* plea, for it contains a number of points that are worthy of consideration.

Leaving aside the occasional necessity of the physician being his own dispenser, especially in country practice, the unreliability of many druggists, a fact made known by experience to many physicians, the introduction of the tablet triturates, and the various granules, parvules, etc., which, with some objectionable and many valuable features, have apparently come to stay among us; leaving out all these, together with others that might be mentioned, there are still good reasons for regretting the disuse of the prescription, and some of these are fairly stated by the writer referred to above. It must be admitted by all that the physician who can readily compose a really good original prescription, for whatever ailment, is a higher grade man in some respects than one who is not thus qualified, and it can not be denied that with the use of all the modern facilities for self dispensing, this accomplishment of ready prescription-writing is becoming to some extent a lost or disappearing art. It indicates too often, it is to be feared, a lessened familiarity with materia medica, which in itself is an indication of medical indolence or lack of study. The old, much-abused, polypharmacy of the shotgun prescription was in some regards less evil in its tendencies than this.

It is doubtful whether the medical profession can ever dispense with the qualified pharmacist by dispensing its own drugs. This being so, whatever tends to degrade or render *functus officio* the pharmacist is liable to have its recoil on our profession. It is for our interest as well as the druggists' that such an outcome should be averted. The dignity of the medical profession, whatever we may say about it, is also somewhat compromised if we are to be apothecaries as well as physicians, and to some of our clients we may come to be regarded as only a higher grade of drug peddler—the mercantile rather than the professional side appealing more directly to their mental apprehension. The remedy for all the possible disadvantages lies in our taking a middle course, not discarding the good there may be in controlling the administration of our remedies, not giving up the aid we have had in the past from the dispensing pharmacist. And above all we should, as members of a learned profession, seek to never lose any prestige given by the time-honored customs of the past. The physician of to-day should be able to prescribe as well as be, in a fashion, his own compounder.

STATE MEDICAL EXAMINATIONS OF 1898.

The February *Bulletin of the American Academy of Medicine*, contains some interesting tables of the number of graduates of the different medical colleges that passed the State examinations in twenty-six States where such a test is made a condition of the right to practice medicine. An analysis of these tables affords some few surprises, though, as a rule, the facts are what might be expected, and some of those that appear otherwise are capable of explanations. For example, one homeopathic institution has no failures of its graduates to pass, in these tables, and, therefore, at first sight, makes an excellent showing which, however, is qualified somewhat when we find that thirty-one out of thirty-two of these graduates passed in the State where the college is located and before an exclusively homeopathic board of examiners. Since no other institution has so favorable a showing, these facts appear the more significant.

Quite a large number of medical schools, nearly one-fourth of the whole, are not represented by any examinations in the tables, their output, presumably, going entirely to States where examinations are not required, or at least none happened to apply in 1898. Nearly one-half of the remainder are represented by less than half a dozen graduates, so that there remain only a little over seventy colleges that are fairly represented. Of these only seven have a perfectly clear record, all their graduates having passed the examinations, though a number of others barely escaped it, with only one failure. One of these has already been noticed. The University of Minnesota makes a good showing with twenty-five graduates, all passed, and next comes Trinity College, Toronto, and the Medical College of the State of South Carolina, with twelve each. These institutions have, however, but a comparatively small number of representatives before the examining boards, and cannot be fairly compared to those with a very much larger number and with a correspondingly larger chance of failures.

The foreign institutions appear to have fared as badly before the examiners as the native schools, their proportions of those not passed averaging fully as high. The tables are, on the whole, encouraging to us as Americans, but we must remember that in our own schools the examinees were, as a rule, fresh graduates, while the foreigners were presumably older and may have become rusty in some departments.

It is hinted that similar tables will be an annual feature in the *Bulletin* and that in future they will be made more complete, giving data that will be still more valuable in estimating the rating of the various colleges. At present many points suggest themselves affecting this question—the age of the diploma, the influence of locality and many others. Some of these may be really of little actual importance, but others are certainly deserving of consideration.

Medical News.

DR. **WILLIS O. NANCE**, Chicago, has accepted the professorship of ophthalmology in the Chicago Clinical school.

A **JOURNAL** consolidation of The *Kansas City Medical Index* and the *Kansas City Lancet* is announced. Dr. John Punton assumes editorial charge.

THE FRENCH MEDICAL PRESS ASSOCIATION is organizing an International Congress of the medical press, to meet at Paris in 1900.

PROFESSOR TSCHIRKOW of Kiew was recently shot in the left lung by a companion on a hunting expedition, but is apparently recovering.

DR. J. T. DUNN, Louisville, Ky., has resigned from the faculty of the Kentucky School of Medicine, of which he has for several years been a member.

DR. **GEORGE N. WATSON** of Cleveland, Ohio, left recently for Rosewell in the Pecos Valley, New Mex., where he will in the future reside. Ill-health compelled change of climate.

DR. W. W. KEEN of Philadelphia has been elected chairman of the committee which has for its object the raising of the permanent endowment fund of the College of Physicians to or above $50,000.

DR. JOHN MITCHELL, of the Medical Department of the University of Pennsylvania, class of '84, is serving with the Ninth United States Volunteer Infantry, in Cuba, as surgeon, with the rank of major.

DR. S. W. REID, the retiring surgeon-general of the National Guard of Pennsylvania, which position he has held since 1870, was recently tendered a dinner by the Union League Club of Philadelphia. Among others present were three ex-governors of the State, under whom Dr. Reid held office.

THE OHIO SUPREME COURT has sustained the State board of medical registration on a mandamus case brought against it by an unqualified practitioner. This settles the question as to the status of illegal practitioners in that State and relieves the State board from the annoyance of future similar mandamus suits.

DR. SIMON FLEXNER of Baltimore, who recently accepted the professorship of pathology in the University of Pennsylvania (vide JOURNAL, p.681), with Dr. L. F. Barker of the Johns Hopkins Hospital, sailed from Vancouver, B. C., on the *Empress of India*, March 27, for Manila, where they will spend some months in the study of tropic diseases.

SECRETARY OF STATE HAY has appointed Dr. J. M. Baldy, Philadelphia, delegate to represent the United States at the next meeting of the International Congress of Gynecology and Obstetrics, to be held in Amsterdam, August 9 to 12 inclusive. It is also announced that delegates will be sent from New York, Washington, Chicago and Boston.

A LAWYER in Tennessee has sued a druggist for damages caused by wood alcohol in a preparation ordered as a foot wash, but utilized as a beverage. As the *Pharmaceutical Era* says: "Aside from the interesting legal points involved in this case there stands out prominently the fact that foot washes can not be safely used as beverages." The druggist's money ought at any rate to be safe in this case.

Twenty-seven members of the profession in England (*Revue Méd.* March 8) have been condemned in court for illegal procedures during the past year. This does not include the Nugent case, in which a man rented the diploma and instruments of a physician who had deserted his family and gone to Australia. The wife was paid a certain small amount weekly for the use of her husband's name and credentials.

Sellers of pure butter, in Philadelphia, have been procuring evidence against those who have violated the State and National laws regarding oleomargarin. The State law absolutely prohibits the sale of oleomargarin, but many of the dealers have paid a special tax to the government to comply with the National law. Over 125 cases, it is stated, have been laid before Internal Revenue Collector McLain and United States District Attorney James M. Beck.

The New Orleans Board of Health is reported as having adopted an ordinance making ventilation compulsory, and requiring all householders to open up their houses to the sun and air, especially in clear cool weather. It would be a good thing if the board could also compel the construction of buildings, so as to admit light and air. There are too many flat buildings in our large cities, and some of them pretentious ones, with dormitories where direct sunlight can not enter, and where ventilation seems to have been ignored.

The Osteopaths have been making a hard fight in Nebraska this winter to get a bill through the Legislature permitting them to practice in that State. The bill was defeated in the Senate last Saturday, a result brought about through the fact that the physicians had unitedly opposed the measure. The registered physicians of the State had organized into a league, and were ready to make a big fight in the House had the bill passed the Senate. The work done in the Senate, however, was sufficient to put a stop to this "fad" legislation.

American Charity, in an editorial in the Havana *Archivos de la Policlinica,* is expatiated on as the *notable esplendidez* of the free distribution of food to the poor in Havana, "remarkable not only for the quantity, but the quality and variety of the articles," and the prompt supply of bread, quinin and opium to the smaller towns. *La Discusion* states that the American nation has supported over a hundred thousand Cubans during the last month. The great improvement in the cleanliness of the city is also favorably mentioned.

The Illinois Senate passed the medical practice act on March 28. As given in the daily press, it requires graduation from (or attendance at two years' lectures in) a recognized medical college prior to taking the examination needed to obtain the right to practice. While special examinations for special practice are allowed, no one will be permitted on such practice outside of that specialty, and none but those authorized to practice in all branches are permitted to call themselves physicians or doctors. Fraudulent advertising and criminal record may be ground for refusal of permission to practice.

Correspondence.

Relative Merits of Clinical and Didactic Teaching of Medicine.

Chicago, March 13, 1899.

To the Editor:—The editor of the *Philadelphia Medical Journal* has spoken vehemently of the usefulness of clinical and the uselessness of didactic lectures in the teaching of medicine. I am glad to see the didactic lecture defended by two such able writers and lecturers as Barton Cooke Hirst (*Phila. Med. Jour.*) and Hobart Amory Hare (*Med. News*). I have recently, somewhere, seen some foreign utterances in behalf of the didactic lecture, and the statement that Virchow disapproved of the disfavor into which didactic teaching seems lately to have fallen. It is undoubtedly true, that at one time didactic teaching was greatly overdone and that there was a crying need of the system of quizzes and recitations. With the advance of medical science, the improvement in the instrumental and chemic means of diagnosis, and the desire for more exactness in all the departments of the art of medicine, the laboratory rose into merited prominence, the hospital ward became the chief center of interest, and the actual contact of the student with the disease about which he was studying became more and more of a desideratum. So great and important were all these factors that the methods and personality of the teacher were utterly lost in the desire of the student to know and to comprehend the thing taught. As a result, clinical teaching became more and more the thing, until it seemed as though the veriest tyro standing beside a hospital patient would be regarded as a greater master in the art of medical teaching than a Sydenham or a Hunter could ever have hoped to be, talking beside a reading-desk. It is a serious question, whether the pendulum has not really swung too far in the opposite direction, and whether we are not making a serious mistake in giving up the didactic lecture. It seems to me that much of the discussion upon this subject is due to erroneous notions in regard to what constitutes a clinical and what a didactic lecture. A clinical lecture is supposedly one delivered in the presence of the patient, who is made use of to illustrate the points of the lecture. A didactic lecture is merely a discussion without the presence of the patient. A clinical lecture is therefore synonymous with an *illustrated* lecture, the chief illustration in this case being the living subject. A didactic lecture may be illustrated or not, the illustrations, however, being always confined to charts, models, experiments, etc. We have all at times listened to clinical lectures that were only clinical in name. For instance, a gynecologic case may have been brought in upon a bed, a few questions asked of the patient lying beneath the sheet and the hour consumed with a didactic discourse upon uterine fibromata. On the other hand, a didactic lecture in ophthalmology, with the aid of a large model of the eye, would really be more of a clinic than an actual ophthalmologic operation which none but the students in the immediate vicinity were able to see. I take it, therefore, that the real, the essential distinction in the relative values of medical lectures is not the presence or absence of the patient, but the use or non-use of illustrations. The discussion, then, concerns itself not about the absence or presence of the patient, not about whether a student can learn more from the living subject (clinic) than from the model (didactic lecture), but about the relative values of the illustrated and non-illustrated lecture and of the illustrations used.

Viewed from this broader standpoint, it will be seen that to give up the didactic lecture entirely would be a fatal mistake. Without doubt an amputation of an arm in a clinic is more impressive and instructive than any sort of a mere description of the same operation. On the other hand, a lucid, complete description of the cause of a typhoid fever, delivered by a master, with all the precision and enthusiasm of which such an one is capable, will instruct a class of students more than an hour's gazing upon a typhoid patient called into the arena from the wards of the hospital. As it is given to but few men to hold an audience by the power of speech alone, the clinic will always enjoy the greatest popularity with lecturers. The novelty, expectation and curiosity aroused by a clinic enable a dull talker to hold the attention of the largest kind of a class of students. Nay, more, such a lecturer may hold his class, if in his didactic discourse he makes abundant use of pictures, models and other useful paraphernalia. But rare, indeed, is it for a lecturer to be able to keep his students from becoming restless without the abundant use of pictures and models, unless he be a master of his subject, a master of the art of speaking and endowed with an unusual degree of personal magnetism. Given such a lecturer as the latter, however, in some parts of medical teaching, the didactic discourse rises in importance far above the clinical. To follow the full and lucid teachings of Charcot, one did not have to look upon a batch of patients. The clearness, the wealth of illustration and the gradual evolution of the picture being described by the master made the presence of the patient appear almost as an insignificant accessory. When I listened to the glowing and accurate descriptions of Savour, I almost forgot that a patient about to be operated on was actually in the room. As I followed the words of Germain Sée, who sat behind a table while lecturing to his class, and used not a single illustration, his clear, enthusiastic and logic exposition of the uses of drugs in disease did not cause me to regret for a moment the absence of the patient. Undoubtedly, some medical facts can only be learned accurately in the clinic and in the presence of the patient, just as some other facts can only be fully grasped when observed in the experimental laboratory. But there are still other facts or pictures of disease that only a lucid, forceful exposition on the part of a clear-headed, clear-tongued and enthusiastic lecturer can carry and fix in the minds of the students. It is in connection with the latter that the didactic lecture will always hold its own.

While recognizing the infinite value of clinical and laboratory teaching, it seems nevertheless true to me that the didactic lecture should not be abolished. Not only do certain subjects require the didactic method for their fullest exposition, but the personality of the teacher, his special knowledge, his individual opinions, his whole being as the guide of his class, have a better play in the didactic lecture than in the clinic, and especially more so than in the method of recitations and quizzes, with the aid of a text-book. I maintain that the art of teaching means something more than a mere rehearsal of certain facts between student and instructor. The art of teaching, in its highest expression, involves the personality of the teacher. This is so obvious that I hesitated to refer to it, but it is a fact that seems to have been utterly forgotten by the advocates of the extreme laboratory-clinical methods. The personality of the lecturer can only have its fullest expressions in the continuous, logic, united discourse of the didactic lecture. If the lecturer can not make his personality felt under such circumstances he can rest assured that just by so much is he deficient as a teacher.

Clinical and didactic lectures, then, are not to be weighed so much in the balance, one against the other, as are the relative merits of the teachers themselves, and the relative value of illustrated and unillustrated lectures. All lectures should be illustrated as profusely as possible. Living subjects, as well as models, charts, etc., should all be elaborately employed. If the living subject is not as good as the model or chart, and sometimes it is not, the clinic should take rank behind the didactic lecture. If the laboratory teacher is less lucid, less enthusiastic, less of a master in the exposition of his theme in the laboratory than the lecturer is behind his desk, then the laboratory should rank second to the lecture as a mode of instruction. Every influence should be brought to bear for the good of the student, and as I have endeavored to show, this influence under some circumstances and in connection with certain subjects, can be made more manifest behind the reading desk than behind the sick bed. The teaching of medicine is a matter too large to be decided upon the mere ground of bedside or non-bedside instruction. Until a teacher's individuality ceases to be a factor in the art of teaching, until textbooks are more perfect than they now are, until methods of illustration shall have been all brought down to one uniform level, and until students are endowed with all the knowledge requisite to appreciate what they are to observe in the clinic, the illustrated didactic lecture will continue to form a part of the best medical teaching. L. Harrison Mettler, M.D.

Antivaccination Agitation in Pennsylvania.

Philadelphia, March 21, 1899.

To the Editor:—The organized effort of the antivaccination people culminated recently in the introduction of a bill by the Hon. J. A. Allen, to the Legislature of Pennsylvania (vide Journal, March 25, p. 681) to abolish the compulsory vaccination of children entering the public schools. The measure was hurried through as fast as possible, but by strenuous efforts a final hearing was postponed until March 14, at which time these committees were appointed, and every member of each of these committees promptly appeared and met the opposition on the floor of the House. The advocates of the bill were represented by counsel, a certain O. Beasley of Philadelphia, a layman, N. R. Taylor, and two physicians, one a graduate of the defunct eclectic medical college of Philadelphia, known as Buchanan's College, and one a graduate of the Homeopathic College of Baltimore, both Englishmen, not especially prominent either medically or in other respects. The committees who met them consisted of Drs. John K. Mitchell, chairman, Wm. M. Welsh and Richard A. Clennan, of the College of Physicians of Philadelphia; next, Drs. James C. Wilson, chairman, John A. Musser and A. H. Hulshizer, of the Philadelphia County Medical Society; lastly, a committee from the Philadelphia Pediatric Society: Drs. S. M. Hamill, chairman, J. Madison Taylor and D. L. Edsall. Every man was at his post, and after a preliminary conference it was agreed to allow the advocates of the bill to present their case as they chose, taking an hour and a half to do so; then the medical committees were to reply as they chose, for the same length of time. Finally, the advocates were to have fifteen minutes to sum up the case.

The character of the presentation by one of the speakers was a pompous arraignment of medical men and their practices generally. They were stigmatized as swayed by the most sordid and mischievous motives, and the chief contention stated that not only did vaccination not protect, but it was essentially syphilis and "produced that loathsome disease." If loudness of voice and heat of body could sway multitudes, the committee should have been promptly convinced of the evils outlined, but inasmuch as they appeared to be a very intelligent and judicious body of men, it often transpired that they appeared much amused by his fervid eloquence and looseness of statement. The testimony of another was chiefly a rambling array of personal experiences, which would appear to be enormous, and much vague conjecture. The "experts" then began to demonstrate the horrors of vaccination, all which will no doubt appear upon the records and can be secured by those who desire to peruse it at length. This was illustrated by livid pictures of impetigo contagiosa and septic conditions following vaccination and what purported to be copies of plates representing syphilis, from Ricord, etc.; also a series of tables were given from old English records, but no mention was made of Continental statistics.

The medical committee began their reply by a most comprehensive yet succinct presentation by Dr. John K. Mitchell, followed by Dr. Wm. M. Welsh, who gave, in addition to statistics drawn from German, Austrian and other sources, his own enormous personal experience of between five and six thousand cases of smallpox, which were published in 1894, and drew careful deductions from his studies of the protecting power of vaccination. Dr. James C. Wilson made a brief but pungent reply to the points claimed by the introducers of the bill, in a most scholarly and eloquent fashion. Dr. Hamill and myself were called upon for remarks, but we felt that the matter had been amply elaborated.

The members of the committee assured us we need have no fear of further difficulties at this time, as the introducers of the bill made so feeble a showing that they offered no testimony of a convincing character whatsoever. Indeed, it seemed to be a needlessly powerful array of scientific opinion and medical experience against a pitiably feeble effort of a few misguided men who obviously had not studied the matter fully. However, two years before, at the same place, a similar bill was almost made law, at which time the medical societies had no knowledge of the measure to be introduced, and it was only due to the good sense of the committee that the measure was then defeated.

It is most important when such movements are initiated that the medical men meet them fairly and promptly, otherwise much trouble may result, and the community be deprived of one of the most important safeguards against disease, death, and commercial paralysis.

Finally, it is a curious commentary on medical apathy that the only city in the State to send any organized opposition to this insidious measure was Philadelphia. The towns and other large cities of the State failed to raise their hands and, except for the earnest efforts of these busy men the measure might have been passed, not on its merits but because there was no one to reply. J. Madison Taylor, M.D.

Congenital Deformities of Hand.

Philadelphia, Pa., March 21, 1899.

To the Editor:—Referring to Dr. F. R. Sherwood's very meritorious article in the Journal of March 11, on the above subject, I am constrained to contribute this brief record of an observation, made *en passant* as it were, which may possess some interest for the doctor, and for some other readers.

It was several months ago that, while riding in a trolley-car, I saw sitting upon its mother's lap near by, a child apparently about three years of age, having five distinct fingers on each hand—no thumbs. In place of the latter there were two prehensile fingers having each three phalanges, and quite closely resembling the apposed forefingers respectively, in size, shape, length, and mobility. The *finger-thumbs* seemed to serve the hands with as much freedom of motion, prehension and adaptability as ordinary thumbs, as I could unmistakably detect while in a sufficiently favorable position to notice the child's movements without seeming to be too obtrusive.

Very respectfully,

Howard S. Anders, M.D.

Largin in Gonorrhea.—L. Fürst of Berlin warmly endorses largin and protargol in the treatment of gonorrhea muliebris, considering the former more strongly bactericidal while still possessing all the other advantages of protargol (protargol 8.3 per cent. silver, largin 11.01 silver). He keeps the patient very quiet in bed for three weeks, as he finds success impossible with ambulatory treatment, and starts above the seat of the infection to prevent ascending infection, commencing by irrigating the uterine cavity when the lesion is at the cervix.—*Derm. Ztft.*, February.

Current Medical Literature.

Medical Record (N. Y.), March 25.

1.—Neurasthenia, Etiology and Treatment of. Joseph Collins and Carlin Phillips.
2.—Eruptions of Face Due to Nasal Pressure. G. D. Murray.
3.—Cocain, Notes on. Walter P. Jenney.
4.—Bottini Operation, Inflating the Bladder with Air Preliminary to. Bransford Lewis.

Medical News (N. Y.), March 25.

5.—Abscess of Lung, with Clinical Data. Henry L. Elsner.
6—Occipito-Posterior Positions in Labor Cases, the Diagnosis and Management of. Charles H. Glidden.
7.—Nasal Catarrh in Children. Clarence C. Rice.

New York Medical Journal, March 25.

8.—U. S. Army Ration and its Adaptability for Use in Tropic Climates. Louis L. Seaman.
9.—On a Polymorphous Cerebral Tumor Containing Tubercles and Tubercle Bacilli. Claribel Cone.
10.—Antiphthisic Serum, a Further Report on. A. Mansfield Holmes.
11.—Bathing a Regiment. H. M. Cohen.
12.—Chronic Ulcers of the Leg, Treatment of. John B. Corsiglia.
13.—Gonorrheal Vaginitis and its Treatment. Harry Greenberg.

Boston Medical and Surgical Journal, March 23.

14.—Phlegmasia Dolens, or Milk-Leg in Typhoid Fever. J. M. DaCosta.
15.—Infant Feeding. Charles W. Townsend.
16.—Probing of Nasal Duct from Nose. Arthur J. Shaw.

Philadelphia Medical Journal, March 25.

17.—Dysphagia and Cough, Treatment of, Especially in Tuberculosis. W. Frudenthal.
18.—Neurotrophic Function, bearing of, on Cutaneous Conditions. Samuel Wolfe.
19.—Hepatic Sclerosis, Some Signs of. A. L. Benedict.
20.—Poisoning by Roaches, Report of a Case. J. Murray Johnson.
21.—Triple Infection, two Cases of. Augustus A. Eshner.

Medical Review (St. Louis), March 25.

22.—Trifacial Neuralgia (Surgical) Treatment of, with Report of Case of Removal of Gasserian Ganglion. N. B. Carson.

Cincinnati Lancet Clinic, March 25.

23.—Puerperal Eclampsia. Robert W. Stewart.

Journal of Medicine and Science, March.

24.—Bovine Tuberculin Tests. George H. Bailey.

Journal of Nervous and Mental Diseases, March.

25.—Deep Reflexes of Lower Extremities, Points of Special Interest in the Study of. Charles K. Mills.
26.—Stereognostic Sense, Contribution to Knowledge of. Joseph Sailer.

American Gynecological and Obstetrical Journal, March.

27.—Myomectomy by a New Method. Alex. J. C. Skene.
28.—Malposition of Uterus, Electricity in Mechanic Treatment of. Franklin H. Martin.
29.—Malposition of Uterus, Use of Massage in. William H. Rumpf.
30.—Displacement of Uterus, Tampons and Pessaries in Treatment of. T. J. Watkins.
31—Recent Pelvic Surgery, Relations of Pelvic Cellulitis to. Ely Van de Warker.
32.—Lower Uterine Segment, Dangerous Thinning and Elongation of. Robert L. Dickinson.
33.—An Elective Cesarean Section. G. M. Boyd.
34.—Ethyl Bromid, Value of, in Gynecology and Obstetrics. Frank C. Hammond.

Medicine, March.

35.—Skin, Transplantation of, and Origin of Pigment. Leo Loeb.
36.—Foreign Bodies in Maxillæ, Implantation of. Carl Theodor Gramm.
37.—Rheumatism, Differentiation of Chronic Forms of. Louis Faugéres Bishop.
38.—Neurasthenia, Remarks on Treatment of. Hugh T. Patrick.
39.—Gelatin in Aneurysm, Subcutaneous Injections of. Harold N. Moyer.

Maryland Medical Journal, March 25.

40.—Croupous Pneumonia, Treatment with Hot Water Bags. Louis Kolipinski.
41.—Vaccin Virus, Purified. W. F. Elgin.

International Medical Magazine, March.

42.—Phthisis, Notes on Cases of, with Peculiar Cardiac Physical Signs. Wm. Ewart.
43.—Typhlitis, a Medical Study. A. L. Benedict.
44.—Chronic Plumbism from Drinking Water. L. Smirnow.

American Journal of the Medical Sciences, March.

45.—Sporadic Trichinosis, Clinical Features of. Wm. Osler.
46.—Syringomyelia with Unusual Symptoms, a Case of. Wm. Norton Bullard and John Jenks Thomas.
47.—Typhoid Fever Complicated by Cholecystitis, Tapping of Gall-Bladder; Cholecystotomy; Death. C. N. B. Camac.
48.—Dupuytren's Contraction of Palmar and Digital Fascia, a Clinical Study of. J. B. Nichols.
49.—Empyema of Frontal Sinuses and Intracranial Infection. C. L. Gibson.
50.—Röntgen Rays, Relation of Trachea and Bronchi to Thoracic Walls Determined by. Joseph A. Blake.
51.—Hemiatrophy of Brain without Disturbances of Intelligence or Personality. Pearce Bailey.

Medical Register (Richmond, Va.), March.

52.—Meningitis, Cerebrospinal Followed by Gangrene of Feet. W. P. Matthews.

Columbus Medical Journal, March.

53.—Extra Uterine Pregnancy, Clinical Phases of. O. M. Cardier.
54.—Epithelioma of Penis, a Case of. N. E. Aronstam.

Southern Medical Record (Atlanta, Ga.), March.

55.—Tubercular Peritonitis, Diagnosis and Treatment of. William L. Robinson.
56.—Phthisis Pulmonalis, Creosote in. L. H. Warner.

Pediatrics, March 17.

57.—Multiple Sarcomata in a Child. Frederick A. Packard.

58.—Congenital Talipes Equino Varus: Circumcision. William Rodman.
59.—Precordial Area in Children Ranging in Age from Seven to Puberty. and Its Relative Value in the Diagnosis of Heart Lesions in Cases Presenting Systolic Murmurs. Wm. J. Butler.
60.—Multiple Congenital Deformities, Two Cases of. R. Abrahams.

St. Louis Medical and Surgical Journal, March.

61.—Chronic Ulcer of Leg, Rapid and Successful Treatment of. A. H. Ohmann-Dumesnil.
62.—Tuberculosis, Cure of, Proven by Experiment on Guinea-pigs. A. D. Barr.

Bulletin of Johns Hopkins Hospital, Jan.-Feb.-March.

63.—Sphincter Ani Muscle, Dissection and Liberation of, Followed by Direct Suture in Complete Tear. H. A. Kelly.
64.—Müllerian Duct, Abberant Portions of, Found in Ovary. Wm. Wood Russell.
65.—Uterine Hemorrhage, Cause and Significance of, in Cases of Myoma Uteri. J. G. Clark.
66.—Suprarenal Gland, Primary Malignant Tumors of, Study of Sixty-seven Cases. Otto Ramsay.
67.—Corpus Uteri of Non-pregnant Women, Bacteriology of Cavity. Report of Sixty-eight Cases. G. Brown Miller.
68.—Vermiform Appendix, Presence of Foreign Bodies in. James F. Mitchell.
69.—Ovary, the Blood-Vessels of, Their Origin, Development and Degeneration. J. G. Clark.
70.—Ovarian Cysts in the Negress. Thomas R. Brown.
71.—Acute Ulcerative Endocarditis, Caused by Hitherto Undescribed Peptonizing Diplococcus. W. G. MacCallum and T. W. Hastings.

Fort Wayne Medical Journal, March.

72.—Carbolic Acid Poisoning, Treatment of. Wm. O. Gross.
73.—Physician as a Business Man. Joseph Fairhall.

Peoria Medical Journal, March.

74.—Cancer. E. M. Sutton.
75.—Colitis, Membranous. R. A. Kerr.

Alabama Medical and Surgical Age, March.

76.—Fracture of the Thigh, Hodgen Splint for. George S. Brown.
77.—Pleurisy. Wm. M. Jordan.
78.—Puerperal Infection and Its Consequences. Wyatt Heflin.

University Medical Magazine, March.

79.—Hydrogen Peroxid, Intratympanic Injections of. B. Alexander Raudall.
80.—Optic Nerve, Foreign Body in. Charles A. Oliver.
81.—Hereditary Syphilis of Nasopharynx at Puberty, a Case of. P. S. Donnellan.
82.—Anesthesia, Schleich's Mixture for. Walter Lathrop.

Canada Lancet, March.

83.—Dislocation of Hip, Congenital. B. E. McKenzie.
84.—Gynecology, Progress of. A. Lanthorn Smith.

Annals of Gynecology and Pediatry, March.

85.—Ovarian Tumor Removed During the Acute Stage of Typhoid Fever. E. W. Cushing.
86.—The Uterus Again. E. F. Fish.
87.—The Placenta, Premature Separation of. Charles Greene Cumston.

Journal of Cutaneous and Genito-Urinary Diseases, March.

88.—Acute Gonorrhea, a Study in the Treatment of. George Knowles Swinburne.
89.—Lupus Erythematous in a Tuberculous Subject. J. A. Fordyce.
90.—Are Malignant Growths from Pigmented Moles Carcinomatous or Sarcomatous? E. Caspar Gilchrist.
91.—Nevus Pigmentosus, Congenital Multiple. Burnside Foster.
92.—Herpes After Large Doses of Arsenic. Charles O'Donovan.

American Journal of Obstetrics and Diseases of Women, March.

93.—Sexual Organs, Physical and Moral Effects of Absence of Internal Female. Paul F. Mundé.
94.—Puerperal Infection. Julius Rosenberg.
95.—Post-Operative Insanity. George H. Rohé.
96.—Post-Operative Insanity and Undetected Tendencies to Mental Disease. Henry M. Hurd.
97.—Catgut in Surgery, Advisability of Using, Method of Preparing. C. C. Frederick.
98.—Catgut, Method of Preparing. Barton C. Hirst.
99.—Hysterectomy Following Double Ovariotomy for Malignant Adenoma. J. M. Baldy.
100.—Labor, Abnormal Mechanism of, Two Cases of Obliquely Contracted Pelvis with. Edward P. Davis.
101.—Peritonitis, Simulated, in Hysteric Woman. George Wythe Cooke.
102.—Pregnancy, Multiple, Case of. Jennie G. Drennan.

1.—Etiology and Treatment of Neurasthenia.—Collins and Phillips present an analysis of 333 cases of nervous exhaustion, and find that it is more frequent in middle life and among married than single. Youth and old age are generally excepted; about 80 per cent. of the cases follow the indoor occupations; fully one-half gave their nationality as American, but this included a large number that should be classed as German, Irish and Russian-American. The most notable frequency was among the Jews. The author estimates that upward of 40 per cent. of the number were Polish, Russian and Austrian Jews. Heredity was an important etiologic factor, also overwork and sexual excess. The treatment is largely prophylactic with special training of the young, special methods of education and careful attention to general health, particularly when they come to the period of puberty. The authors lay special stress on the general hygiene, isolation, proper amount of sleep, dietary, interdiction of stimulants, attention to the excretions and elimination, and hydriatic treatment. Electricity, rest and exercise, climato-therapy are also special heads. As for drugs, they are of least importance, though not to be altogether neglected. Individual treatment is essential.

2.—Eruption of Face.—Murray calls attention to facial eruptions, which he believes are due to special pressure within the nose. The characteristics were particularly a muddy complexion and friable skin, which rapidly disappeared after operation. They always appear worst on the side corresponding to the pressure, and clear away first on the opposite side. He believes that they substantiate Lennox Browne's theory of sensitive areas in the nose, and makes a plea for a careful search for some irritation of that organ in the treatment of all skin diseases of the face of uncertain origin.

3.—Notes on Cocain.—Jenney calls attention to the local effects of cocain in solution when applied to the skin, and to the possibility that the peculiar effects noted are due to the fact that the drug may not consist of a simple substance, but may be a mixture of two alkaloids, one non-poisonous and analgesic and antiphlogistic and the other actively toxic.

4.—Inflating Bladder for Bottini's Operation.—Lewis suggests that a boric acid solution used in Bottini's operation may produce a scalding effect in proximity to the heated blade and therefore suggests the advisability of air inflation instead. He believes that the experience of those who use this method will be more favorable than those operating with fluid in the bladder.

5.—Abscess of the Lung.—Elsner reports three cases of abscess and discusses the causes and diagnosis, suggesting the persistent use of the exploratory needle in corroborating the diagnosis. The majority of the cases, if detected in time and radically treated, will recover.

7.—Nasal Catarrh in Children.—Rice discusses cause and treatment in cases of nasal catarrh in children, and believes too much stress has been laid on the constitutional conditions and too little on the local nasal lesions, which are the essential exciting causes.

8.—Army Ration in Tropic Climates.—Seaman continues his observations (begun in a previous number) on the adaptability of the U. S. army ration to these climates, recounting its effects on the troops the past summer. Considering its unsuitableness as a diet in the tropics, he points out its defects, compares it with the British ration, and makes suggestions as to a suitable ration.

10.—Antiphthisic Serum. TR—Holmes, who first published the results of his observations in the Journal (Feb. 5, 1898), here brings his observations down to Jan. 1, 1899, covering a period of sixteen months.

14.—Milk Leg in Typhoid Fever.—Da Costa considers this condition as illustrated by soldier patients in the Pennsylvania Hospital, where the general proportion of cases with this complication is not more than 1 to 2 per cent. There were, however, 30 cases, or almost 14 per cent., among the 215 cases of typhoid treated in soldiers. Of 18 of these 30 cases, the left leg was affected in 3, the right in 2, and both in 13, the latter generally beginning on the left side, when not beginning simultaneously in both. As to the greater tendency of this complication to occur in the soldier patients, he thinks it may perhaps be attributed to relaxation with distension of the venous system in the legs, due to marching, thus predisposing them to the disease. The cases likewise occurred in those in whom the typhoid fever had been very severe, and generally at the end of the fever. Besides reporting cases, he considers the symptoms and treatment: elevation of the leg; fomentations with hot compresses wet in lead water and laudanum, or witch-hazel distillate; laxatives, in constipation; in persistent pain, belladonna plaster strips along the veins; absolute rest in bed; continued mechanic support by bandages, etc., after the patient sits up, until the veins recover their tone and all symptoms of obstruction are past. He avoids massage when there are signs of venous disturbance.

15.—Infant Feeding.—Townsend points out the need of a knowledge of home modification of milk, and that while it is essential that the physician know in percentages the amount of fat, sugar and albuminoids he is giving, so much calculation is required by the usually advised methods that very few will carry it out. He gives the following rule for a simple method he has found effective: "Each ounce of 10 per cent. cream in a twenty-ounce mixture represents .50 per cent. of fat, .20 per cent. of albuminoids and .20 per cent. of sugar; and each even tablespoonful of sugar of milk represents 2 per cent." This gives a fixed relation between the fat and albuminoids, the fat being two and one-half times as much as the albuminoids, the normal relation in human milk. To increase the albuminoids without increasing the fat, add the milk from which the cream has been removed or whole milk or top milk containing less than 10 per cent. of fat. And where it is necessary to increase the albuminoids gradually, without increasing the fat beyond 4 or 5 per cent., it can be done by pouring off more of the top milk, so there is less fat in proportion, while the amount of albuminoids remains as at first—4 per cent. He derives his rule from recognition of the fact that to make cow's milk, containing more albuminoids and less sugar than woman's, resemble the latter, it is necessary to dilute it with water and add sugar of milk. The top quarter taken from a bottle or can of milk that has stood from six to eight hours contains 10 per cent. of fat, and albuminoids 4 per cent., while a tablespoonful of sugar of milk weighs three and one-half drams, and, added to a twenty-ounce mixture, raises the percentage of sugar 2 per cent.

16.—Probing of Nasal Duct.—Shaw presents his method of probing, of great value in epiphora, not relieved by passage of probe from above or in obstruction due to folds or hypertrophy of the entire nasal mucous membrane. The method is as follows: Hold the long arm vertically upward, and the short arm now lies parallel to the floor of the nose; now, after dilating the nose with the nasal speculum, and throwing a good light from the head mirror, pass the point in under the lower turbinate, then bring the long arm gradually down; the probe point slides well up under the lower turbinate and glides forward so that one can feel the probe as it slides into the canal opening; should it not go in directly, slide gently back and forth and it will surely enter. After it enters push it gently up the duct as far as it will go. The only harm an improperly handled probe can do here is to injure the canal exit; there are no other structures here; the wall between the antrum and canal would usually require considerable force to penetrate, and if penetrated would do no serious harm. The orbit is separated by considerable antrum space—one-half inch or more from the entrance of the canal; then, briefly, there are absolutely no structures one can harm.

18.—Skin in Estimating Systemic States.—Wolfe calls attention to the significance of the condition of the skin in estimating general systemic states, or judging of organic changes or functional disturbances of the deeper organs. He makes a systematic classification and infers that there are impulses passing from the centers through the conducting paths to the periphery, and which largely affect metabolism; and also special portions of the cerebrospinal axis, which have specially to do with the generation of these impulses, thus constituting centers; and that the trophic centers are closely related to the vasomotor centers, but are not identic with them. Trophic centers are situated in the spinal cord, and probably can be found at every level. That the ganglia of the posterior spinal roots have trophic functions relative to the sensory nerve-fibers is unquestioned, and there is reason for believing the ganglia of the sympathetic also to be connected with the trophic function. After further discussion he states that it is quite probable that the cerebrospinal system conveys impulses which are conducive to growth, while the sympathetic exercises restraining influences, and that this function is at least partially independent of the vasomotor system. His final conclusions are: 1. That trophic powers and metabolic properties are inherent in the tissues themselves. 2. These are related in highly specialized organisms to impulses generalized in gray nervous matter in the ganglionic systems of the cerebrospinal axis and the sympathetic. 3. That impulses arising in the brain and cord are anabolic in character, while those arising in the sympathetic are katabólic. 4. That the impulses are in each case conveyed over special fibers adapted to their function by virtue of their central and peripheral terminations. 5. That the field of dermatology offers exceptional opportunities for the study of neurotrophic processes.

19.—Signs of Hepatic Sclerosis.—Benedict calls attention to the fact that after determining the size of the liver, we are deficient in exact means of diagnosing its condition. Sallowness is an almost uniform sign, while jaundice is seldom present except in the biliary form of Hanot, or when there is a concomitant catarrhal condition of the biliary radicals. The common association of a similar condition of sallowness in conditions of autointoxication renders this sign of little importance. Caput medusæ, while a typic sign, is extremely rare, especially in the better class of patients examined; again, venous congestion in this region may be due to obstruction associated with umbilic hernia, or abdominal veins may be rendered visible and enlarged from the constant use of a belt. Hemorrhoids are so commonly found in healthy individuals that the value of this sign is lessened, while ascites does not usually appear until after the diagnosis of hepatic sclerosis is an easy matter. The value of the test for hippuric acid in urine after administering benzoic acid is lost in view of the absence of a reliable test for distinguishing hippuric and benzoic acid in solution. Some writers now consider that benzoic acid is converted into hippuric acid in the kidneys, so that test could not apply to hepatic disease. The production of alimentary glycosuria has been used to test the adequacy of the hepatic function; often, however, the absence of this sign of hepatic inadequacy is due to a slowness of absorption, or possibly to renal impermeability. He recommends testing the rapidity of intestinal absorption in all cases. A new sign is suggested, available for a comparative early diagnosis of hepatic sclerosis. "In a compound curve corresponding closely to the attachment of the diaphragm, a number of arborescent venous tracings are seen. Each has a spread of branches, and a height of about three-fourths inch. Each trunk ends abruptly by dipping into the deeper tissue. These marks are usually limited to the right anterior region, but may extend to the left of the sternum or into the axillary region." The sign is often absent, but seems to be present in cases without other circulatory signs. Splenic enlargements he considered as almost a constant sign of back pressure from the liver; occasionally it undergoes fibroid contraction.

20.—Poisoning by Roaches.—Johnson reports this novel case in a nursling of six months, while under treatment for some bronchial affection. The administration of small doses of the mild chlorid of mercury effected the passage of an offensive stool, and six roaches! Just how the roaches found their way to the child's stomach is not clear; the physician advances the theory that the roaches were attracted to the child's mouth by the cough mixture she was taking.

24.—Bovine Tuberculin Tests.—Bailey makes an excellent statement of the facts in regard to bovine tuberculosis, its danger and prevention. Discussion following the reading of the papers before the Portland Academy of Medicine is also published.

25.—Deep Reflexes of Lower Extremities.—Mills details and discusses a case of lost knee-jerk with retention of ankle-clonus, the symptoms of which were due to a combination of muscular and neural disease of somewhat uncertain pathology, though he suggests a possible toxic cause. He discusses at length the literature of the syndrome, which is limited, and offers the following conclusions as to its etiology:

"1. The syndrome may be due to a compression of destroying lesion, such as caries with pachymeningitis, or transverse myelitis, involving the spinal cord in the region of the patellar reflex arc, namely, somewhere between the second and fifth lumbar segments, and most probably the second or third lumbar segment.

"2. The syndrome may be due to disseminated sclerosis, foci of sclerosis being present both in the reflex arc for the patella, and in the lateral columns.

"3. The syndrome may be due to focal lesions, like hemorrhage, softening, or cavity formation, attacking points in the reflex arc, and also the lateral columns.

"4. The syndrome may be due to peculiar forms of developmental arrest of the spinal cord, as for instance to defect in the gray matter of the lumbar segments and in the lateral columns.

"5. The syndrome may be due to a combination of muscular and neural disease, as in my case, and as was probably also the case in the man suffering from typhoid fever as recorded by Fleury. It is known that hyaline degeneration of muscular fibers occurs especially in typhoid fever. Fleury's case was probably in its pathology not unlike my own.

"6. On theoretic grounds it seems probable that the syndrome might be due to a focal lesion in the cerebral cortex, or in the cortical spinal (pyramidal) tract, or to arrested development of the tract, associated with disease (inflammation or degeneration) limited to the crural nerves and their muscles!"

The article also discuses the question of the significance of the ankle-clonus in diagnosing organic from functional disorders, especially hysteria. Dr. Mills, like Gowers, holds to the opinion that the presence of true foot-clonus is, aside from conditions with contracture, a symptom of organic disease. It is from hysteria in particular that this diagnostic importance is greatest, and the medicolegal bearing of the questions are obvious. Dr. Mills admits that toxemic conditions may be accompanied with this symptom and that leaves open the way to a large number of apparent exceptions to this rule. There is no such certainty that the symptoms of what we may diagnose as neurasthenia or hysteria may not in some cases include in their etiology a toxemic element. The other reflexes discussed are the patellar clonus which he puts in the same general category, as regards its diagnostic significance, as the ankle-clonus, and the tendo Achillis jerk in tabes. Mills gives some weight to this last symptom as aiding in the diagnosis in doubtful cases, though he apparently does not quite agree with Babinski that it is as important as Westphal's sign. In conclusion he calls attention to the tendon and muscular reflexes in the diagnosis of encephalic tumors from tabes. When the muscle as well as the tendon phenomena are absent, the diagnosis of tumors is more probable. In all the cases (twenty-eight) of tabes examined, the quadriceps and gastrocnemius muscle phenomena were present. Their absence in tumor he credits to a toxemia excited by the growth.

26.—The Stereognostic Sense.—Sailer reports a couple of cases of loss of this sense (that of recognizing solid dimensions) and discusses the literature of this defect, concluding as follows: 1. The stereognostic sense is due to a complex sensory perception, the impulses of which are probably received in the parietal lobe of the brain, and there recognized in consciousness by some higher center or group of centers. It may be lost if either one of these centers is disturbed. 2. In case of peripheral disturbance, that is, some disturbance in or between the center and the parietal lobe and the terminations of the sensory nerves in the skin, stereognosis is lost, if tactile sense is lost, and it is greatly impaired or lost if localization sense is lost. It is usually, but not always, disturbed if the muscular sense is lost, but may persist if any of the other forms of cutaneous sensations are lost or disturbed. The apperceptive center may be disturbed as a result of severe injury to the brain, as, for example, in apoplexy, and in these cases the stereognostic sense may be lost, even though all forms of sensory phenomena are preserved.

28.—Vide Journal, March 4, p. 484.

35.—Origin of Pigment in Skin Transplantation.—Loeb found, in his experiments on guinea-pigs, that while white skin would not grow on defects where black skin has been removed, the reverse condition, black skin on white skin defects, showed natural growth and the pigment infiltrated. That is to say, in the guinea-pig, black skin can be successfully transplanted, while white skin can not. In discussing the causes of these facts, he refers to the leading views that have been expressed and largely favors the one that the pigment has its origin in metabolic changes in the epithelial cells, and that there is an essential difference between white and pigmented epithelium (vide Journal, March 25, p. 670).

36.—Implantation of Foreign Bodies in Maxillæ.—Gramm relates experiments in this with reproduction of bone independent of periosteum. Of six experiments on dogs, he obtained good results in two, and found that while periosteum was most effective in bone production, all other connective tissue, when irritated and forming plastic exudates, are capable of producing bone. The process resembles an osteosclerosis consequent upon and following osteitis.

38.—Neurasthenia.—Patrick discusses the treatment and calls attention to two classes of cases, the one in which the condition is due to adequate causes, and the other in which predisposition favors its development under any slight excitation. The management of the two classes is necessarily quite different. In the first we have a disordered condition of nutrition and function due to an adequate cause, in which with proper treatment, we may expect a favorable result. In the other the disease may be said to have existed prior to its apparent development, and the individual must be treated. A large portion of the paper is given to accounts of cases.

39.—Gelatin in Aneurysm.—Moyer gives a critic review of subcutaneous injections of gelatin in aneurysm, on the theory that gelatin solutions increase the coagulability of the blood. His general conclusions are that the method has some value; that it must be used empirically, as experiments have not furnished sufficient basis for treatment; that a 1 per cent. solution should be used and great care taken in the technic. Absolute rest in bed is also necessary, and other treatment suitable in these cases. While not a cure for aneurysm, it may have value as a treatment. There may be dangers which have not yet been discovered in the treatment.

40.—Hot-Water Bags in Croupous Pneumonia.—Kolipinski advocates the use of large rubber bags, a gallon size being preferable, which are filled with boiling water. They are then each covered with a shawl or blanket so that the heat will be retained, and modified so that the skin will not be blistered. The bags are then placed side by side on the bed, the mouths pointing upward, and over these is placed a third shawl or blanket. The pillows being adjusted, the patient is placed so that the scapula on each side rests on a bottle. A mean temperature of 110 F. should be aimed at, as more than that is liable to blister, an accident which does no harm only so far as the discomfort is concerned. The bags are filled every three or four hours, and are kept on till the fever is all gone. In croupous pneumonia the diet should be light, the best being milk and cocoa. No remedial treatment is necessary. A history of ten cases is given which were successfully treated by the author with this method.

41.—Purified Vaccin Virus.—This is a plea for the use of the glycerinated virus in place of the unscientific and unhealthy ivory "points."

42.—Apparent Displacement of Heart.—Ewart refers to two cases reported by Hale White and Willmore (*Lancet*, Nov. 19 and Dec. 10, 1898), and reports two similar cases in his own experience, though in one the heart was retained in its abnormal position by adhesions. Assuming that all these cases were displacement of a mobile heart by atmospheric pressure owing to extensive distension of the right lung, without compensatory falling in of the chest wall, he suggests that skiagraphy during life might be of some diagnostic use, especially in such cases as those where the autopsy throws doubt on the diagnosis *intra vitam*.

43.—Cecal Inflammation.—Benedict takes up the question of the surgical and medical treatment of cecal inflammation and calls attention to the older term typhlitis, which he rehabilitates as covering certain cases where the appendix may be nearly or quite uninvolved. The diagnostic points indicating these, as he enumerates them, are a history of coprostasis or an obvious increase of irritation of this part of the bowel, cecal tumors, normal condition of the leucocytosis at the beginning, absence of muscular rigidity, especially a board-like rigidity of the muscles of the right side of the abdomen, while a low temperature and rapid, thready pulse, and great prostration even with normal leucocytosis, are all unfavorable signs. None of these, good or bad, however, are pathognomonic; the diagnosis must be made with caution and from the clinical picture as a whole. As the writer states: "For the present, we must be exceedingly conservative in regard to denying our patients radical treatment," but there is hope that with greater experience we may learn to know just when to call in the surgeon and also to dictate the terms on which he shall act.

45.—Sporadic Trichinosis.—Osler points out that clinically and in hospital and private practice, trichinosis is a comparatively rare disease, but that in post-mortem and anatomic work calcified trichinæ are found in a by no means inconsiderable number of cases. He then cites cases he has himself thus found, and gives the history of the first case recorded in which it was recognized that trichinæ produce a severe and fatal disease in man, and reports in detail five cases, all of moderate severity, but cases in which the diagnosis was suggested by the blood examination and confirmed by muscle examinations. He gives as the three features of marked diagnostic value, muscular pains and swellings, edema and leucocytosis and eosinophilia, the former two being "well known," the latter brought out by a study of the blood in these cases. The eosinophilia was marked in each case (Case 1, 37 per cent.; Case 2, 67 per cent.; Case 3, 48 per cent.) and accompanied by a marked leucocytosis.

46.—Syringomyelia.—Bullard and Thomas present a case of interest in presenting none of the typic symptoms of this disease, but symptoms at the time considered due to chronic hydrocephalus. Later came the paraplegia of sudden onset, with paralysis of the sphincters and anesthesia of the trunk and limbs below a given level. He says it may be necessary in future to distinguish a hydrocephalic type of syringomyelia in which the hydrocephalic symptoms are the only prominent ones in the early and middle stages.

47.—Cholecystitis Complicating Typhoid Fever.—Camac details a case with the history of this complication, method of infection, symptoms and treatment. Infection is by four channels: Through the intestinal wall; directly from the duodenum through bile passages; through the liver; through the portal system. A study of collected cases shows the tenth to the thirtieth day as beginning of the disease, the twenty-first to the thirtieth having the majority. Out of the 25 cases of which notes were made, pain at the onset occurred in 19. The symptoms, however, present no regularity. As 28 cases showed perforation of the gall-bladder in 21, he considers active treatment advisable, e. g., counter-irritation, cholecystotomy, or aspiration. The first is of use only when pain is complained of, to avert further development, the real question depending on the two latter. His conclusions are: "The complication occurring at the height of the disease, when the patient is in the worst possible condition for operation, is a serious consideration. If, however, there is any chance of averting what from the table appears to be inevitable, is it not through prompt operation? And are we not increasing the dangers by attempting to aspirate the gall-bladder?"

48.—Dupuytren's Contraction.—Nichols presents the results of a study based on fifty cases of contracted fascia among inmates of the U. S. Soldiers' Home, Washington, D. C., and embracing all grades of severity. He divides the cases into three groups: 1. Ordinary well-marked typic cases in which there is contraction of one or more fingers, together with the characteristic manifestations of the disease in the palm. 2. Cases in which there is hypertrophy of the palmar fascia and the characteristic thickening, induration and altered configuration of the skin are present in the palm, but the fingers are not contracted. 3. Cases in which the shortening of the fascia are limited entirely to a finger, the palm being unaffected. Of the

50 cases, 31 were of the first, 18 of the second and 1 of the third class. He also gives results of a systematic examination of the hands of 1000 ex-soldiers, for determining the frequency with which Dupuytren's contraction occurs. He believes that the contraction is is of idiopathic origin, more apt to occur in the senile period, and showing marked hereditary influence.

49.—Empyema of Frontal Sinuses.—Gibson reports a case of this comparatively rare form of suppuration in the cavity of the frontal sinuses, with intercranial infection, and cites cases from the literature.

50.—Relation of Trachea and Bronchi to Thoracic Walls.—Blake considers the difficulties of determination of these relations as largely overcome by the X-rays, the bronchial tree being first made impervious to the rays by the injection of a proper substance. His method is to harden the bodies with formalin and then fill the bronchi with a metallic alloy fusing at 155 C., forced in at moderate pressure.

51.—Hemiatrophy of Brain Without Disturbances.—Bailey reports a case which he considers unique, in that there was no disturbance of intelligence or personality, there being destruction of the frontal region of one side.

52.—Cerebrospinal Meningitis Followed by Gangrene of Feet.—This is a report of a case of this disease in a colored woman aged 25. The illness commenced April 22, 1898, with a severe chill, which was followed with severe back- and headache. After this there was continuous vomiting, with a back- and headache and stiffening of neck and back muscles; pulse slow, full and bounding. Crushed ice and lime-water finally ameliorated the vomiting. The patient weakened slowly for two days, the head being drawn backward, muscles more rigid, pulse still slow. By the evening of the fifth day, the condition became alarming; herpes febrilis on lips and throat; bowels quite loose, showing paresis of muscular layers of the intestines; opisthotonos present. Strychnia and whisky were given hypodermically and hot applications applied to the surface and extremities. Other medicines were also given as required, and the patient began to improve until May, when it was noticed that gangrene of the toes had taken place. This, the writer thinks, was caused by ergot, which she had been given at the beginning of the illness in dram doses every four hours. The feet were kept wrapped with cloths saturated with bichlorid solution until a line of demarcation was established, and then a portion of the phalanges and a part of the second metatarsal of the left foot were amputated. The patient recovered.

57.—Multiple Sarcomata in Child.—Packard reports a case, in detail and with illustrations, which "suggests the possible close connection between sarcoma, Hodgkin's disease and leukemia—a connection that is in some ways apparent; in other ways quite vague."

58.—Circumcision.—Rodman describes his technic in this operation, as follows: In drawing the prepuce forward over the glans, be sure and not cut while you are still making traction on the prepuce, as you may, in that way, take off too much. Pull it down to the proper point, then hold it with the forceps, being sure that the forceps are held obliquely so as not to include any portion of the glans, and snip off the prepuce in front of the forceps. No matter how you cut, you will find that the mucous membrane will not be severed on a line with the skin; it is so resilient that it gets out of the way of the knife or scissors. You will have no vessels to tie, as the stitches already mentioned will include the small artery at the dorsal aspect of the penis. Then apply the dressing shown you to-day. Do not use sutures, except in the adult, and then it is better to use fine catgut. The result will depend largely upon the care with which you dress the case. The operation is really of less importance than the dressing.

59.—Vide Journal, January 21, p. 124.

63.—Suture in Tears of Périneum.—Kelly divides the cases of complete tear into: 1, those in which the tear barely extends through the sphincter and goes no farther; 2, those in which the sphincter ends are separated by a well-defined interval of a centimeter or more. In the first class, he considers the resulting cicatrization a conservative effort of nature to approximation of the ends. Experience in the second class of cases—sphincter ends not bound together—leads to the conclusion that "tonic control exercised over the bowel functions resides rather in the internal sphincter ani than in the external, and that the external sphincter muscle is a provision against an emergency and is intended to form a temporary, powerful supplement to the internal sphincter. . . . When the external sphincter ends lie close together and the internal sphincter is therefore uninjured, continence is always preserved." He details operative procedures which he favors, with his modifications: "carefully conducted denudation, giving the sphincter a wider berth, so as to separate it from the skin surface, after all the parts have been brought into apposition, by a greater interval"; "dissection and liberation of the sphincter ends until one or one and a half centimeters or even more are pulled out free on each side." He favors, equally, attention to the securing of accurate approximation of the internal sphincter, and gives his method.

65.—Uterine Hemorrhage in Myoma Uteri.—Clark's study is based on the artificial injection of ten specimens of myoma uteri, with a review of 100 other cases. He treats of the normal circulation of the uterus, the mechanic disturbances in the circulation by the myomata (illustrated by casts), the surgical aspect, and the literature on the etiology of hemorrhage in cases of this class.

66.—Malignant Tumors of Suprarenals.—Ramsay presents a study of sixty-seven cases, with conclusions as to symptomatology, prognosis and operative possibilities. His summary notes the rarity of malignant tumors of the suprarenal gland, more common in the male sex. In many no symptoms point to the suprarenal origin, while the most prominent symptoms are rapid loss of strength, debility, emaciation, digestive disturbances and abdominal pain. Skin changes are rather the exception. The duration is shorter than is usual with neoplasms in other organs, and the diagnosis, impossible in many, is difficult in all cases. Differential diagnosis must be made from other suprarenal diseases, renal tumors, hepatic tumors, diseased retroperitoneal glands, and from cysts and new growths of the pancreas. Even following a successful operation, the prognosis is always grave, and while the operation gives the only hope of relief, it has been successful in but two cases, the principal difficulties in it being the friability of the tumor, tendency to hemorrhage, and frequency of adhesions.

67.—Bacteriology of Cavity of Corpus Uteri.—Miller tabulates his findings in 68 cases, in non-pregnant women, 53 showing changes of an inflammatory nature as indicated either by endometritis, or by inflammatory changes in the uterine adnexa. In histologic examinations of the uterine mucosa in 51 cases, 19 showed an acute or subacute, and 12 a chronic endometritis. The endometrium showed no inflammatory change in 18, and in none of the cases where there was no endometritis were bacteria found, strengthening the prevailing view that "the body cavity of the normal uterus is free from bacteria." The gonococcus was found 7 times, the streptococcus pyogenes once, the staphylococcus pyogenes aureus once, and staphylococcus pyogenes albus twice. Tubercle bacilli were found twice, and unidentified saprophytic bacteria 4 times. Clinically, of the 53 cases showing inflammatory changes, 26 were probably of gonorrheal origin, 12 puerperal, 3 tuberculous, 4 due to myomata or carcinoma, 4 to previous operations, and 2 were unclassified. The gonococcus was, therefore, the probable cause of infection in more than one-half.

68.—Foreign Bodies in Vermiform Appendix.—Mitchell has collected 1400 cases during the last ten years, and finds that about 7 per cent. contain true foreign bodies, while in 700 of these cases, in which a definite statement was made as to the nature of the foreign body, 45 per cent. were fecal concretions. He considers the subject with especial reference to pointed bodies, and finds that pins are the most conspicuous found and by no means uncommon, the appendix seeming to act as a trap for pointed bodies and objects like shot or bullets. Foreign bodies are, however, known to play a much smaller rôle than that formerly accredited to them in appendicitis. Cherry-stones, grape-seeds, etc., are rarely found.

71.—Ulcerative Endocarditis Due to a Hiterto Undescribed Diplococcus.—MacCallum and Hastings report a fatal case of ulcerative endocarditis in a man 37 years old, in which there was isolated from the blood during life, and besides, after death from the vegetations upon the leaflets of the aortic valve and from infarcts in the spleen and kidney, a diplococcus which in its mode of growth resembled the micrococcus lanceolatus, the diplococcus intracellularis meningitidis and the streptococcus rather than the pyogenic staphylococci, although in its behavior on gelatin it resembled the staphylococci. From all of the pyogenic cocci mentioned it differed in bringing about the peptonization of milk and coagulated blood serum. In view of the last named peculiarity the name "micrococcus zymogenes" is proposed for the organism.

72.—Carbolic Acid Poisoning.—The rational treatment heretofore has been to check the escharotic action of the acid on the living tissues, which was accomplished by giving large quantities of fixed oils, etc. Subsequent developments proved the efficacy of exhibiting a strong solution of some soluble sulphol, endeavoring to form a new chemic compound of the sulphocarbolate variety. This acted well if given early and in sufficient quantity, but it failed if the acid had been absorbed. Gross refers to the experiments of Powell and Phelps, which resulted in the adoption of alcohol as an antidote for carbolic acid poisoning. He then gives experiments which he himself made. In one of these experiments he deliberately placed the end of his tongue in carbolic acid which was contained in a shallow dish, with the result of receiving the full escharotic action of the acid on the soft, delicate tissues and membranes. The pain experienced was intense, yet the application of alcohol, which was made by holding a tablespoonful of the fluid in the mouth for a period of thirty seconds, entirely relieved the pain and destroyed the action of the carbolic acid so that no inconvenience was afterward manifested. He therefore became thoroughly satisfied that alcohol relieves the pain, and prevents the further destruction of tissue, besides acting as a stimulant when swallowed. The close relation of carbolic acid (phenol) and alcohol, the writer thinks, offers a solution to the situation. "The chemic symbol for carbolic acid being C_6H_5OH and that of alcohol C_2H_5OH, it appears that when brought in contact with each other the alcohol exerts a stronger influence over the phenol radicle and converts it into a new variety of the benzin or aromatic alcohol series, and in doing so it not only changes the molecular formulæ of phenol, but also converts it into a compound having the chemic and therapeutic properties of alcohol. The ease with which the antidote alcohol for carbolic acid is procurable and the simplicity of its application, coupled with its safe and rapid action, stamps it as being, as far as known at the present time, the specific for poisoning by carbolic acid."

76.—Hodgen's Splint for Fracture of the Thigh.—Brown makes a strong plea for the use of this splint in the treatment of fracture of the thigh, and in other diseases and injuries of the leg. He has modified the splint in many respects, which, he believes, has added much to its value. The advantages of the Hodgen splint are that practically no shortening results, the writer having had but two cases of shortening in fourteen cases of fracture so treated. Union is facilitated by the exercise which both the patient and the limb get, and finally the comfort to the patient. An illustrated description of the splint is given, as well as its method of use.

78.—Puerperal Infection and its Consequences.—Notwithstanding the introduction of antiseptics into obstetric work, Heflin thinks the mortality from puerperal infection is yet too high. Antisepsis will not take the place of asepsis in obstetric work. The obstetrician should be as clean when he goes to attend a woman in confinement as the gynecologist or surgeon when he does a celiotomy. The finger nails should always be kept short. The hands and arms should always be thoroughly cleansed and rendered aseptic with bichlorid solution. If the hands come in contact with anything after they have been rendered aseptic, they should again be cleansed. The external genitals should be thoroughly scrubbed with soap and hot water, and if the labor is long an antiseptic douche should be used. The writer's treatment for the disease is to use antiseptic douches of 1 to 3000 bichlorid solution three or four times daily. The general treatment recommended is to keep the bowels moving freely, quinin in five-grain doses four times daily with alcoholic stimulants, preferably whisky or brandy, and nourishing diet. He thinks that the serum treatment of puerperal fever offers a great deal of promise, but as yet it is not satisfactory.

85.—Ovarian Tumors Removed During Typhoid.—Cushing reports a case of ovariotomy for cystic disease in a 11-year-old girl, both ovaries removed during the attack of typhoid fever and with a temperature of 104 F. Impeded respiration (mechanic) necessitated the operation; recovery. Although the ovaries were removed before puberty, sexual development, in appearance and feeling, etc., seems perfectly normal after nearly seven years.

86.—Advisability of Removal of Uterus.—Fish discusses the question as to the advisability of removing the uterus in excision of the appendages, and concludes that he would leave it: 1. Because it is an important sexual organ in its natural site, and consequently not in the way of any other pelvic organ. 2. Because it preserves the vaginal vault, and when *in suspensio* maintains the contour and natural length of the vagina. 3. Because it precludes the possibility of vaginal hernia, prevents prolapsus vagina, and delays atrophy of the vagina. 4. Because it minimizes nervous shock and depressing mental manifestations. 5. Because it maintains the pelvic diaphragm and the anatomic geography of the pelvic contents. 6. Because in the event of successful ovarian transplantation, it might be reinstated as an organ of procreation. As regards the reason last given, he evidently thinks that the operation of ovarian transplantation has a possible future.

88.—Treatment of Acute Gonorrhea.—Swinburne flushes out the anterior urethra with a hot solution of potassium permanganate, 1 to 4000, at a temperature of 110 to 115 degrees, in some cases 120, and flushing inch by inch, by grasping the penis between the thumb and finger at each point until the farthest point that can be grasped is reached; then only is the fluid allowed to pass back to the cut off muscle. Where only the anterior urethra is involved, it alone is irrigated, the patient lying on a table and the urethra being gently distended with a 2 per cent. solution of protargol, by the ordinary urethral syringe, one holding two or three drams being preferable. The patient grasps the glans as close to the meatus as possible, holding it about ten minutes. It is then closed with absorbent cotton and gauze bandage, to be thrown away at the next urination. As the first treatment may be accompanied with faintness, the patient must lie down to receive the injection. In involvement of the posterior urethra, he irrigates in the same way in those who readily learn to relax the sphincter, allowing the bladder to fill the meatus, emptying the bladder immediately. Where they do not readily learn this, he follows the anterior injection of protargol by a soft rubber catheter, sterilized, 12 to 26 F., having the eye near the tip. This is passed down to a point just entering the posterior urethra, and half an ounce of a 2 per cent. solution of protargol slowly injected through it. This the patient immediately urinates out.

93.—Absence of Internal Sexual Organs.—Mundé reports two cases of congenital absence or rudimentary conditions of internal organs, with apparent normal sexual development. He discusses the physical and moral effects, and gives a classified list of twenty-seven cases observed within six years. He believes that castration of the adult female has no effect, physical, moral or mental.

95.—Post-Operative Insanity.—The late Dr. Rohé says post-operative insanity is an etiologic, not a clinical type, generally of the confusional form, and not restricted especially to either sex or to any special class of operations. Attention should be given to possible septic infection in these cases. This is, as the *Journal* states, the last paper written by Dr. Rohé, and has a special interest on this account.

97–98.—Preparation of Catgut.—Hirst's method is as follows: 1. It is soaked in benzin for twelve hours, to eliminate the fat, then dried on blotting paper and soaked again in sterilized water to render it absorptive, after which it is immersed in a 5 per cent. solution of formalin for about fourteen hours. It is then washed in sterilized water to remove the excess of formalin, and stretched on a form, such as Edebohls uses for chromicized gut, and allowed to dry in a well-heated room for four or five days. Then it is wound on a wooden spool, so that the layers do not cross, and is finally put in a 10 per cent. solution of glycerin in absolute alcohol and sterilized for from forty-five to sixty minutes in a metal cylinder placed in an autoclave sterilized at 240 degrees F. In this way it is rendered absolutely sterile and antiseptic, as well as aseptic. He finds gut thus prepared absolutely satisfactory. It will last seventeen days in the vagina, and longer, imbedded in healthy tissue. It is as strong as catgut can be expected to be and is soft and pliable as silk; much more so than cumol gut. Frederick describes a somewhat different method. He winds the gut tightly on small glass spools in one layer, firmly secured, and immerses it in a 3 per cent. formalin solution for periods of one, three five and seven hours respectively, according to the size, the larger one (Nos. 2 and 3) the longest. Then he washes it in running water for an equal period or longer and sterilizes by boiling for fifteen minutes. Then it is placed in sterilized glass jars and covered with 95 per cent. alcohol with 8 or 10 per cent. of sterilized glycerin (that has been immersed in a bottle in boiling water for half an hour). Catgut thus prepared will be found, he says, always sterile, strong and durable, and will last a week or ten days before absorption. Chromicized gut is made by a twenty-four-hour immersion in a solution of bicarbonate of potassium (23 grains), glycerin and carbolic acid (each 2½ drams) and water 1 quart. Then, after draining and drying for a few hours, the gut is put through a formalin process as described above. Thus prepared, he says, it will resist absorption six weeks in all tissues except the peritoneum and the kidney.

101.—Simulated Peritonitis in Hysteric Woman.—Cooke reports a case in which gastric ulcer was diagnosticated from the symptoms which finally took on the characteristics of perforation peritonitis, excepting that the pulse was fuller and slower than would be expected in that condition. On this ground alone, operation was delayed, and as the patient did not get worse, a suggestion was made of hysteria. At this stage hysteric constriction of the lower limbs occurred, and an enema of asafetida emulsion dissipated the symptoms.

Let us have a Department of Public Health !

Association News.

Railroad Rates for the Columbus Meeting.—The Committee on Transportation hereby announces that the Central Passenger Association has informed the committee that a one-fare rate for the round trip has been agreed on to the Columbus meeting. Tickets to be sold on June 5 and 6 and bear return limit leaving Columbus June 10. The Central Traffic Association includes the territory east of Chicago and west of Pittsburg and Parkersburg. No trouble is anticipated by the committee in securing the above rates in the Western, Southwestern and Southeastern territories, but considerable doubt is entertained concerning the action of the Trunk Lines Association. The committee is now dealing directly with the doubtful territory and will exert every influence to secure the rate desired. A subsequent report will be made through the columns of the Journal. H. L. E. Johnson, M.D., chairman,
Washington, D.C.

Society News.

El Paso County Medical Society.—This society was organized last October and was the first organized in El Paso, Texas, that has held its own. It has a membership of twenty. The officers are: President, F. W. Gallagher; vice-president, M. O. Wright; treasurer, Howard Thompson; secretary, Junius A. Rawlings.

Jackson County Medical Society.—Dr. Kyger read a paper on "Dietetics, as taught in the Medical Colleges," before this society, at a recent meeting in Kansas City, Mo. He recommended having a chair on dietetics in every medical college, and said that physicians at the time of their graduation have no knowledge of the proper kinds of food necessary for patients.

De Soto County Medical Association.—This association met in Hernando, Miss., March 13. The secretary-treasurer presented his eighteenth annual report, and Dr. Watson presented, for diagnosis and advice as to treatment, a case of chronic tuberculosis of the knee-joint. Dr. Richmond McKinney of Memphis read a paper on "Chronic Hypertrophy of the Laryngeal Tonsil in Children." The following officers were elected for the ensuing year: President, A. L. Emerson of Eupora; first vice president, W. T. Wilkens of Lewisburg; second vice-president, A. J. Weisinger of Days; secretary-treasurer (17th term), A. J. Jagoe of Hernando. The next meeting will be held May 8 and 9.

Kansas City Academy of Medicine.—At a recent session of this society, Dr. L. G. Burnett read a paper on Friedreich's disease, with report of a case and illustrative cuts showing the location of the pathologic lesion as compared to that of tabes. Dr. S. C. James, of the Missouri State Board of Health, related some of the difficulties the physicians of the State had in trying to get a bill through the legislature regulating the practice of medicine. He said that the desk of every member of the Legislature was daily filled with letters from quacks asserting that they were members of the leading medical societies of their community and voiced the sentiments of all the leading physicians in denouncing the proposed medical law now before the Missouri Legislature. This bill was defeated, however, a few days ago, in the House. The physicians have hopes of still passing a bill introduced in the Senate.

Washtenaw County Medical Society.—At the 126th regular meeting of this society, held at Ann Arbor, Mich., March 17, Dr. Geo. Dock read a paper on "Some Observations in Camp Hospitals," dealing more particularly with the different phases of typhoid fever as presented at the Sternberg Hospital. Dr. John A. Wessinger showed a specimen of hygroma prepatellaris, which he had recently removed from a patient. The specimen was interesting on account of its unusually dense walls. Dr. Flemming Barrow was elected delegate to the American Medical Association meeting at Columbus, and authorized to select his four associates. A committee was appointed to invite the Wayne County Medical Society to Ann Arbor to visit the University of Michigan Medical Department. Special clinics will be held on this occasion.

Wayne County Medical Society.—At the regular meeting, March 23, 1899, Dr. M. Aronstam read a paper on "Marriage from a Medicolegal Standpoint." His object in presenting the paper was to review the evil conditions of life which are dependent upon the marriage and intermarriage of persons who have constitutional taints or inherited weaknesses of either mind or body, and to propose measures for the amelioration of these evils. The means that the author would like to see carried into effect were considered under three heads: 1. Moral suasion, the inculcating of pure and upright principles by precept and example of physicians and others who are able to wield a powerful influence upon the young. 2. The regulation of prostitution by law. 3. The absolute control and supervision of marriage contracts by the government. This implies the actual examination, physical and mental, of both contracting parties, by a responsible and efficient physician, upon whose report a license to marry would be granted or refused according as the report was favorable or not.

Detroit Academy of Medicine.—At the last regular meeting, Dr. Albert B. Lyons read a paper on "The Conservatism of Our Nineteenth Century Civilization." It was pointed out that the present massing of the population in the cities is a serious question, especially when the children are considered. The leaders of the cities are now largely country bred, but this must soon cease. Hence, the city-bred boy must be taught along the line that his country cousin has used, viz., must be brought more closely in contact with nature and with manual labor in his education. This question is one that concerns the physician, who should be the leader and director of the physical side of education. Our schools aim to develop the mental side alone, when they should develop the moral and, at any rate, the physical. While the manual-training idea is good, what our boys need most of all is to come in contact with untamed and untrained nature. The use of hoe and rake is preferable to gymnastics. Work on the streets and lawns and in public parks might give this contact, but there must be training to habits of helpfulness and not so much theoretic cramming. Another menace to present civilization is the alarming decrease in the size of families, not from lack of procreative power, but because the parents fear that a large family can not be properly supported, or because the wife is unwilling to forego her social pleasures long enough. Physicians should take a decided stand on this question and be most careful not to lead patients astray in sexual matters.

Hundred Year Club.—This society, recently organized in New York City for the promotion of longevity, based on the study of its physical and mental phases and the circumstances of heredity and environment, held its first general meeting March 23. The views of many of the individuals assembled on this occasion appeared to be somewhat too diverse and incongruous to offer much expectation that the high aims expressed will to any extent be realized, but, at all events, the object of the club is a laudable one, and possibly some good may be accomplished. Dr. W. H. Wiley, chief chemist of the U. S. Department of Agriculture, who had previously been elected president of the club, read a paper on "What Chemistry Has Done for Longevity in the Past Twenty-five Years," and expressed the opinion that the time is coming when men and women will be fed from infancy for the profession or occupation they are to follow. Other papers were by Dr. George W. Grover, on "The

Eclipses that Shorten and the Lights that Lengthen the Sum of Human Life," and L. H. Bailey, professor of horticulture in Cornell University, on "Science and the Farmer;" also an address by Rev. Dr. Joseph Silverman, a well-known New York rabbi, on "Longevity Among the Hebrews." He attributed the long life and freedom from epidemics, enjoyed by that race in past centuries, to the observance of the Mosaic laws, and stated that to the Jew his religion was a philosophy of life. Incidentally he spoke of the latter as the only real cosmopolitan, who could live in any country and enjoy health in any climate.

Berlin Tuberculosis Congress.—The German central-committee for the erection of sanitaria for consumptives has issued a call for a congress to be held in Berlin, Germany, May 24–27, 1899 (vide Journal, p. 139), for the purpose of discussing the subject of tuberculosis. The congress will meet in the new building of the Imperial Diet and is under the patronage of Her Majesty, the Kaiserin, while Prince Hohenlohe, the Imperial Chancellor, will serve as honorary president. All of the German states, also local authorities, medical faculties and societies, and all corporations interested in fighting tuberculosis have been requested to send delegates, and all foreign countries represented at the imperial court have also been invited to take part. The United States embassy has been requested to extend a cordial invitation to American physicians to become members of the congress, and the same invitation has been extended through other missions to physicians of other nationalities. As basis for discussion, papers will be presented as follows: "Distribution and Extent of Tuberculosis," by Geheimrath Koehler, director of the imperial health office, and Geheimrath Krieger of Strassburg; "Etiology," by Professors Robert Koch and B. Fraenkel of Berlin; "Prophylaxis," by Professor Gerhardt and Generaloberartzt Schjerning of Berlin; "Therapy," by Professor von Ziemssen of Munich and Professor Schroetter of Vienna; "Sanitaria," by Herr Gaebel, president of the imperial insurance office, Berlin, and Dr. Dettweiler of Falkenstein. Following the presentation of the two leading papers—limited to twenty minutes each—in the respective divisions, there will be a general discussion, speakers being limited to ten minutes each. All papers and remarks are to be in German, although the chairman is empowered to make exceptions during the general discussion. All persons interested in the subject of tuberculosis are eligible for membership; membership cards (20 marks, nearly $5) are to be obtained at the office of the congress (Bureau des Organisations-Komites, Wilhelm Platz 2, Berlin, W) and entitle the holder to a copy of the Proceedings. An early registration is requested. There are undoubtedly many American practitioners especially interested in tuberculosis, and possibly some laboratory workers, and should any such desire to attend the congress, yet prefer to receive a personal invitation, the writer will be pleased to forward the names of such persons, upon proper introduction, to the executive committee of the congress. As "proper introduction" will be considered a letter from any recognized medical, scientific, or veterinary faculty, or society. Ch. Wardell Stiles, Ph. D., Scientific Attaché, U. S. Embassy, Berlin, Germany.

Public Health.

Variola in New Orleans.—There have been reported in New Orleans, La., to March 23 inclusive, 100 cases of variola, of which 15 have been discharged and none have died; 85 are still under treatment.

Detroit Health Report.—For the week ending March 25, 1899, deaths numbered 95, under 5 years 38. Births were: male 43, female 42. Contagious diseases: diphtheria, last report 7, new cases 6, recovered 5, now sick 8; scarlet fever, last report 24, new cases 5, recovered 7, 22 now sick.

Dietetic Preparation.—In the *Toledo Med. and Surg. Reporter* (March), E. J. Rose advocates the use of maltine as an ideal dietetic preparation in wasting or malnutrition, as in phthisis, where there can not be much bodily exertion and a larger proportion of carbohydrates is required. Tests show that its diastasic strength is sufficient to produce four times its weight of maltose and probably, taking account of other intermediate products, considerable additional quantity of soluble starch and dextrin. It is, he holds, an agent of value in the forms of indigestion that depend upon inability to convert and assimilate starchy foods.

Climate on Deleterious Effects of Alcohol.—Prof. J. A. Sikorsky publishes some surprising statistics in regard to the differences observed between the southern and northern provinces of Russia in the number of fatal accidents due to abuse of alcohol. Averaging 15 to 22 per thousand inhabitants in the South, they range from 70 to 110 in the North, although the consumption is almost a liter less per capita. These statistics are particularly valuable for comparison, as the alcohol is universally taken in the same form, brandy. He draws the conclusion that external cold increases the toxic effects of alcohol by tripling the chances of intoxication.—*Semaine Méd.*, February 22.

Medical Practice in Illinois.—The following is a proposed amendment to the law concerning corporations, which is likely to pass the Illinois Senate at the present session of the Legislature. It is more likely to pass both houses of the Legislature than is the bill noticed in the daily press, which provided that all degrees and diplomas should be under the supervision of the State University. After stating the method of organizing a corporation, the amount of fees, etc., the amendment goes on to say:

> And provided further, that the Secretary of State is hereby empowered and it shall be his duty to revoke charters issued to corporations which authorize such corporations to confer degrees, diplomas or other certificate or certificates of qualification in the science of medicine, pharmacy or dentistry upon the recommendation of the attorney-general, such recommendation to be accompanied by affidavit that such corporation is conducting a fraudulent business or violating the terms of its charter: or the attorney-general may in his discretion file a bill in chancery in the name of the People of the State of Illinois, against any corporation conducting such fraudulent business or violating the terms of its charter, in any court having jurisdiction of the corporation and subject-matter of such bill and for an injunction to restrain said corporation from conducting its business fraudulently or violating the terms of its charter; and also for the dissolution of said corporation and thereupon it shall be the duty of the court in which said bill is filed to hear and determine the same as in other cases in chancery.

Three other bills of interest to the medical profession: one establishing an epileptic colony; one amending the pharmacy act so as to allow physicians of eight years' practice to act as pharmacists; and one placing local water-supplies under the control of the board of health, were reported upon unfavorably in committee.

Tuberculosis and Altitude.—In a recent work published in Mexico (*La vie sur les hauts plateaux*), which won the Hodgkins' prize of the Smithsonian Institute, Herrera and Lope devote a chapter to the treatment of tuberculosis by altitude, noteworthy in many respects. They find that statistics show that not only in men but in lower animals tuberculosis is decreased in high regions. In 1885, out of 73,000 cattle killed in the general abattoir of the city of Mexico, only forty-five were tuberculous. This favorable effect they attribute to the higher solar illumination in high altitudes and the dryness and coolness of the atmosphere as working against the existence of microbes. The benefits of rarefied air in consumption are given by the authors from their experimental and other observations, as follows: 1. Lessening pressure increases the circulation of air in the lungs, dilates them and obliges torpid parts to functionate. 2. Lessening pressure determines a greater quantity of blood in the lungs. 3. Lessening pressure permits a uniform distribution of blood, regulates its circulation and combats congestion. 4. Lessening pressure diminishes intrapulmonary tension in general and particularly intravascular tension. 5. Augmentation of red and white globules. 6. Desiccation of mucous surfaces; the favoring of evaporation. Besides experiments on animals, observations of actual cases of tuberculosis, treated by rarefied air, are reported by the authors. Of 13 cases thus treated only 1 lost weight, 1 remained stationary, and 11 notably increased, 1 increasing 300 grams in one day. In none, either healthy or tuberculous, were the alarming symptoms described by Paul Bert experienced.

Antitoxin Treatment of Diphtheria.—The advance sheets of the forthcoming *Bulletin* of the Chicago Health Department give an interesting statement, in continuation of that heretofore given, of the experience of the department in the antitoxin treatment of diphtheria. The record of the treatment for the past four months (November and December, 1898, and January and February, 1899) is even better than that heretofore published, showing a reduction of mortality to only 4.78 per cent. in 418 cases. There was no death in 129 cases treated with antitoxin in the first or second days of the disease, and there were only three among 114 treated on the third day, a percentage of 1.23 in a total of 243 cases treated in the first three days from the onset. These records deal exclusively with the gratis treatment of diphtheria among the poor and under the most unfavorable conditions, and do not include the cases removed to hospitals. Thirty-eight, or 9 per cent. of the cases, required intubation, with 30 recoveries and 8 deaths, a mortality percentage of 21 or less than two-thirds of the average death-rate of all cases before the introduction of the antitoxin treatment. The constantly decreasing mortality statistics also indicate that the use of the antitoxin treatment is increasing in private practice and that Chicago physicians are employing this method more generally and successfully than any similar number of their profession in any part of the world. The *Bulletin* will contain a diagrammatic curve showing the actual number of deaths from diphtheria and croup by monthly average from 1886 to 1895 (the preantitoxin period of the records), and one of the three years period (antitoxin), 1896–8, which shows the difference very strikingly. The Commissioner, Dr. A. R. Reynolds, takes occasion to give credit to Dr. F. W. Reilly, whose efforts to arouse interest in the treatment through the JOURNAL and the daily press instituted the present system, the striking success of which is above detailed, and to the staff which have so successfully carried it out. Other matters of interest are data as to the already effected sewage diversions and the method of disease-notification adopted, that of allowing the physician to assume responsibility in cases of infectious disease and to issue warning handbills instead of placarding the houses. Dr. Reynolds has sent to the Associated Press a letter denying absolutely the correctness of the alleged statements of Drs. Crosby and Biggs of the New York Health Board, as reported in the *New York Times* of March 22. They are reported as testifying that an inferior quality of diphtheria antitoxin was sold to the Chicago health authorities after rejection by the New York Board. The results of antitoxin treatment in Chicago would not appear to be those of an inferior quality of the remedy and support Dr. Reynolds' contention. It seems certain, if they were correctly reported, that Drs. Crosby and Biggs must have made a mistake.

Health Reports.—The following cases of smallpox, and yellow fever, have been reported to the Supervising Surgeon-General of the U. S. Marine-Hospital Service for the week ended March 18, 1899:

SMALLPOX—UNITED STATES.

Alabama: Mobile, March 17, 2 cases.
California: Los Angeles, March 4–11, 10 cases, 1 death.
District of Columbia: Washington, March 18–23, no new cases.
Florida: Jacksonville, March 4–18, 1 case; Key West, March 12, 1 case.
Indiana: Evansville, March 13, 1 case.
Kansas: Atchison County, March 16, 21 cases; Independence County, March 16, reported; Sumnor County, 2 cases.
Kentucky: Louisville, March 9–16, 26 cases; 2 deaths.
Louisiana: New Orleans, March 4–11, 57 cases.
Mississippi: McLaurin, 3 deaths.
Missouri: St. Louis, March 15, 10 cases.
Montana: Missoula, February 23 to March 9, 2 cases.
New York: New York City, March 11–18, 2 cases, 1 death.
Ohio: Cleveland, March 11–18, 17 cases.
Texas: Laredo, February 25 to March 4, 59 cases, 19 deaths.
Virginia: Alexandria, March 15–22, 2 cases, no new cases; Norfolk, March 15–21, 13 cases.
Wyoming: Cheyenne, March 4–11, 3 cases.

SMALLPOX—FOREIGN.

Brazil: Bahia, February 11–25, 3 cases; Rio de Janeiro, February 3–10, 5 cases, 4 deaths.
China: Hongkong, January 28 to February 4, 3 cases, 1 death.
England: London, February 18–25, 2 cases.
Mexico: Chihuahua, February 25 to March 18, 5 deaths; Mexico, February 26 to March 5, 6 cases, 1 death; Vera Cruz, March 2–16, 1 case.
Russia: Moscow, February 18–25, 7 cases: St. Petersburg, February 18–25, 12 cases, 3 deaths; Warsaw, February 18–25, 1 death.

YELLOW FEVER—FOREIGN.

Brazil: Rio de Janeiro, February 3–10, 65 cases, 50 deaths.

Book Notices.

Elementary Physiology. By BENJAMIN MOORE, M.A., Professor of Physiology in the Medical Department of Yale University; late Sharpey Research Scholar, and assistant Professor of Physiology, at University College, London. With 125 illustrations. New York: Longmans, Green & Co. 1899. Price $1.20.

Though an unpretentious volume of less than 300 pages, this book contains all the elements of physiology written in a style that is interesting and, which is of most importance, easily understood by the class for whom, the author says in his preface, it was written—"those who have no previous knowledge of the subject." The introductory chapter on the fundamental and simple forms of life is especially to be commended for the simplicity and yet completeness in which the subject is handled. One can not but wish that such a book might be used in our public schools rather than the trash that is too often found in the hands of pupils, and labeled "physiology." The book will be a useful one for the medical student to take up before entering on a more extended course.

The Serum Diagnosis of Diseases.—By RICHARD C. CABOT, M.D. Physician to Outpatients, Massachusetts General Hospital. New York: William Wood and Co., 1899. Price $1.50.

One of the results of the labor and thought which have been put upon the investigation of immunity has been the development of the method of serum diagnosis. While the paper of Widal, read less than three years ago, on the serum diagnosis of typhoid, brought the possibility of this method, previously known to but few, before the medical world, and while much work has been done and many papers published in the medical journals of the world since then, still the theories and methods are but little understood and appreciated by the vast majority of medical men. While the author says in his "Prefatory Note" that the book is nothing but a compilation, that its aim is to bring together in convenient form the results of the immense amount of work which has been done upon serum diagnosis, still he has done much more; by a thorough description of the methods and technic used he has made it possible for all to apply this means of diagnosis, which, though by many thought to be difficult, is readily understood and easily carried out. Very little apparatus is necessary, little more than a good microscope being demanded.

The writer recognizes three methods of demonstrating the clump reaction; the microscopic or quick test of the fluid serum or blood; the microscopic or quick test of the dried blood, and the macroscopic or slow test. He believes that either of these has its advantage as well as disadvantage, and endorses the view promulgated by the committee of the Section on Medicine of the American Medical Association, at the meeting in Philadelphia, that each observer should select some one method and stick to it, so that by experience in a large number of cases he may become thoroughly familiar with its workings.

The author is to be congratulated upon the excellent manner in which he has performed the task of putting into compact form the present knowledge of the subject of serum diagnosis, and that too in such a way that it can be made of practical value to those who are anxious to understand and use it.

A Practical Handbook on the Muscular Anomalies of the Eye. By Howard F. Hansell, A.M., M.D., Clinical Professor of Ophthalmology, Jefferson Medical College; Professor of Diseases of the Eye, Philadelphia Polyclinic, etc.; and Wendell Reber, M.D., Instructor in Ophthalmology, Philadelphia Polyclinic, etc.

The subject-matter of this little book of 182 pages is, according to the preface, an elaboration of a short series of lectures delivered in successive winter courses at the Philadelphia Polyclinic.

The anatomy and physiology of the ocular muscles are briefly reviewed in the introductory chapters, and the subject of ocular palsies is discussed in the second part.

By far the greatest space is given to the consideration of functional anomalies of the eye muscles, and here it is pleasing to note that the authors have taken fairly conservative ground and do not care to be classed with that band of enthusiasts who claim to cure everything from alopecia to zoster by snipping the eye muscles.

Some influence in the causation of heterophoria is ascribed to general nervous conditions, and some emphasis, very properly, is placed upon the due consideration and treatment of such conditions.

The different tests for determining the relative strength of the muscles are very clearly described, and the treatment that has proven satisfactory in the hands of the authors very tersely outlined.

Proceedings of the American Medico-Psychological Association. Cloth. Pp. 417. Published by the Association. 1898.

This volume contains the proceedings of the fifty-fourth annual session, held in St. Louis, Mo., May 10-13, 1898, together with list of members and officers, a "Geographic Distribution of Members and Institutions," the constitution, and memorial notices of the following members: William Palmer Jones, James Olmstead, H. A. Buttolph, George Allen, R. H. Moffitt, Hugh F. McNary and Julia K. Cary. The papers included number twenty-five.

American Year-Book of Medicine and Surgery. Under editorial charge of George M. Gould, M.D. Illustrated. Cloth. Pp. 1102. Philadelphia: W. B. Saunders. Chicago: W. T. Keener. 1899. Cloth, $6.50; half morocco, $7.50.

The preparation of this year-book, annually, is no small task, but the present volume is up to the usual high standard. We miss the name of the late Dr. William Pepper from the list of contributors, although his work has been creditably taken up by Drs. Alfred Stengel and D. L. Edsall. Other contributors to the volume are Drs. Samuel W. Abbott, John J. Abel, J. M. Baldy, C. H. Burnett, Archibald Church, J. C. DaCosta, W. A. Newman Dorland, Louis A. Duhring, V. P. Gibney, H. A. Griffin, J. Guitéras, C. A. Hamann, A. Hand, H. F. Hansell, M. B. Hartzell, Barton C. Hirst, E. Fletcher Ingals, Wyatt Johnston, W. W. Keen, H. G. Ohls, Wendell Reber, David Riesman, Louis Starr, G. N. Stewart, J. B. Tillinghast and J. Hilton Waterman. A number of full-page plates add much to the value of the work, which should be in every practitioner's library, as its title indicates, aiming to present the advances in all departments of medicine during the year just past.

Ready Reference Handbook of Diseases of the Skin. By George Thomas Jackson, M.D. (Col.), Professor of Dermatology, Woman's Medical College of the New York Infirmary and in the Medical Department, University of Vermont, etc. Third edition, revised and enlarged; 75 illustrations. Cloth. Pp. 647. New York and Philadelphia: Lea Brothers & Co. 1899.

In preparing this, the third edition of his work, the author has revised the text thoroughly to accord with dermatologic advances since former editions, and given the reader entire new sections on bulpiss, bunion, Roentgen ray dermatitis, blastomycetic dermatitis, lupus pernio, pityriasis alba atrophicans, and idiopathic multiple pigmented sarcoma. An appendix contains formulæ. Throughout the work, symptomatology, diagnosis, and treatment have received greater consideration than etiology or pathology, and, as in former editions, the arrangement of the different diseases is alphabetic.

A Compend of Human Physiology, especially adapted for the use of Medical Students. By Albert P. Brubaker, A.M., M.D., Adjunct Professor of Physiology and Hygiene in the Jefferson Medical College: Professor of Physiology in the Pennsylvania College of Dental Surgery, etc. Ninth edition, revised and enlarged. With new illustrations and a Table of Physiologic Constants. Philadelphia: P. Blakiston's Son & Co. 1899. Price $.80.

This is one of Blakiston's "Quiz Compends," and its continued popularity is evidenced by the fact that another, the ninth edition, is called for. The author has taken advantage of this new edition to revise many parts and bring every subject up to date. The table of physiologic constants will be found of great value to the student, since it compresses into a very small space most of the important facts included in the subject of physiology.

Necrology.

Edward A. Logan, M.D., according to a press despatch, perished on the Valdes glacier at an uncertain date. He was born in Springfield, Ill., and some eight or ten years ago went to New York and was graduated from the College of Physicians and Surgeons, New York city, about five years ago. While attending lectures he lived in Orange, N. Y., and there married a daughter of the Hon. Thaddeus W. Collins, of Lyons, N. Y. The couple went to Louisville, Ky., where Dr. Logan began practice. Afterward he removed to Denver, Col., then went to Alaska in the employ of a syndicate for the exploration of the Copper River region, his wife returning to her present residence in Springfield, Ill. On August 10 of last year, he was reported just inside the coast line, about 35 miles from Valdes, at First Timber, prospecting.

Sigismund Waterman, M.D., died in New York, March 15. He was born Feb. 22, 1819, in Bruck, near Erlangen, Germany, and came to this country in 1840. While professor of modern languages at Yale he began the study of medicine, and in 1848 was graduated with high honors. Then after arriving in New York he began practice, and in 1857 was appointed a police surgeon, a position from which after thirty years' service he was retired on account of age. During the Civil War he was a draft surgeon with an unexceptional record. He is also credited in 1868 as having introduced the study of spectroscopic analysis into the practice of medicine. Prominent in Hebrew circles, he was identified with many philanthropic interests; was singularly unselfish, and although an accurate diagnostician, contented himself with the society of the quiet members of the profession.

Washington Ayers, M.D., San Francisco, Cal., died on February 15. Dr. Ayers had for many years been a member of the Academic Senate of the University of California, at which institution he held the professorship of hygiene. He had also been president of the State medical society and was 76 years of age. He studied medicine at Harvard in 1847, going to California during the gold excitement of 1849.

George R. Orwig, M.D., Cleveland, Ohio, died of cerebrospinal meningitis, March 14. The doctor was 44 years of age a graduate of Jefferson, 1876, and member of the Cleveland and other medical societies.

William W. VanArsdale, M.D., Leipsic, 1883, of New York city, died at Atlantic City, N. J., March 17. He was a visiting surgeon at Mt. Sinai and New York Cancer hospitals and at the time of his death had been only recently married.

John Henry Seaburg, M.D., College Physicians and Surgeons, New York city, 1872, died at his home in Yonkers, N.Y., March 16, aged 51 years. He was at one time a medical examiner for several life insurance companies.

Wilson J. Reinhard, M.D., Jefferson, 1885, died in Hellertown, Pa., after receiving a cocain injection in one of his arms, March 13. The death was attributed to the puncture of an artery.

Jeremiah Wilson, M.D., died in Alexandria, Pa., March 8, aged 65 years. He was an alumnus of the University of Pennsylvania and a successful portrait painter.

Delano Ames, M.D., Baltimore, Md., died March 10, aged 31 years. Dr. Ames was a graduate of the Johns Hopkins University and of the Medical School of the University of Maryland, and was formerly director of the pathologic laboratory of the Baltimore Medical College. At the time of his death he was pathologist of the Union Protestant Infirmary.

Martin Nurrup, M.D., Philadelphia, Pa., died at the Jewish Hospital a few days ago, of purulent meningitis. The Doctor was a graduate of the College of Physicians and Surgeons, Baltimore.

Amos Allen, M.D., Berkshire Medical College, Pittsfield, Mass. (now extinct), 1846, of Grafton, N. Y., died in Canarsie, N. Y., March 8 . . W. G. Brooke, M.D., Ellsworth, Ohio, March 10, aged 73 years. . . C. E. Chamberlayne, M.D., Middleburg, Va., March 12, aged 52 years . . John M. Dunlap, M. D., Medical College of Ohio, Cincinnati, 1859, of Indianapolis, Ind, died March 14, aged 70 years . . Frederick P. Muffe, M. D., San Francisco, Cal., March 10, aged 50 years . . Ermine Powell, M. D., Chicago, March 10.

Miscellany.

To Establish Value of Services.—The supreme court of Tennessee holds, in Camp vs. Ristine, that in an action instituted by a physician, to recover a bill for professional services, the expert testimony of other witnesses to show the value of the services is admissible.

Pseudo-Hermaphroditism.—Neugebauer reports the unique case of a well-formed woman normal in all other respects, with a penis between the vulva and anus. The penis is on the median line, 52 mm. in length, and resembles the normal penis in every particular; noted by him during normal childbirth.—*Cbl. f. Gyn.*, February 4.

Silicic Acid in the Pancreas.—Künkle states that the pancreas serves as a receptacle for silicic acid, which is stored in this organ as iodin is stored in the thyroid gland, the pancreas in cattle containing several milligrams. It also forms .1 per cent. of the hairs, where its mechanic purpose is evident.—*Vienna Klin. Rund.*, February 19.

Compensatory Hypertrophy in Renal Pathology.—In nearly every case of renal lesions the invasion of the organ is gradual, and Albarran and Chauffard have established that the sound remainder becomes hypertrophied and compensates the diseased portion. There is no new formation, but merely the growth and development of existing elements.—*Presse Méd.*, February 22.

Mountain Sickness.—Professor Mosso, in a recent work, attributed the well-known mountain sickness to an actual decrease of carbonic acid in the blood, on the theory of acapnia, which assumes that this is the normal exciting agent of the discharge of the bulbar centers. Mountain sickness is, therefore, an asphyxia dependent on a lack of carbonic acid.

Not Accidental Death.—In the case of Feder vs. Iowa State Traveling Men's Association, the supreme court of Iowa holds, February, 1899, that the death of an insured person, caused by the rupture of an artery while he was attempting to close the shutters of a window, was not "accidental," within the meaning of a policy of insurance.

Removal of Double Fish-hook Lodged in Throat.—A drawing and description of the extraction of a double fish-hook from a boy's throat, by Sir R. Christisen in 1819, was recently exhibited at a meeting of the London Society of Laryngology. A ball of ivory was hollowed out on one side to fit over the prongs of the hook. The ball was then pushed down over the hook, which released the tips, when the whole was drawn out together by the fish-line still fastened to the hook.—*Rev. de Laryng.*, February 18.

Spontaneous Luxation of a Cataract.—J. Ramos communicated to the Mexico Academy of Medicine, February 1, the observation of a man of 58, who had refused an operation for his cataract—the other eye blind from staphyloma—trusting in God for relief and spending hours in the cathedral praying. In the course of his numerous genuflexions a spontaneous luxation of the cataract occurred, restoring his sight. Galezowski has reported a similar "miracle" occuring in the cathedral at Paris.—*Gaceta Méd.*

X-rays in Military Surgery.—Major J. Battersby, in a paper read before the Roentgen Society, London, January 10 (*Nature*), stated that after the battle of Omdurman, out of twenty-one cases in which the bullet could not be located by ordinary means, it was satisfactorily diagnosed as to position by the X-ray. The twenty-first case was too ill for the test. In many cases the patient was saved much suffering by this means. The motor power used was a small dynamo operated by a tandem bicycle, which answered admirably.

Phonendoscopy of Organs in Turkish Bath.—The lungs and heart gradually dilate in all directions in the course of fifteen minutes in the hot room at 50 C., and in three minutes at 80. The stomach also dilates if it is empty and, if not, expels the contents. Passing into the cold rooms the organs rapidly contract, followed by a gradual return to normal, except the stomach, which remains contracted. The liver, spleen and intestines also dilate, but in a much less degree.—Paris Academy of Sciences, Session of January 30.

Artificially Purified Air.—Referring to Laborde's announcement that he had discovered a chemic substance that would absorb carbon dioxid and generate oxygen at the same time, d'Arsonval calls attention to his announcement several years ago that he had realized these conditions by the mutual decomposition of oxygenated water and chromic acid. Tests with these substances demonstrated that animals could live and thrive in a hermetically closed chamber with the air artificially purified by the mutual action of these substances (vide Journal, p. 445).—*Presse Méd.*, February 22.

Women Physicians in Europe.—Germany thinks the time is not yet ripe to admit women to the universities on an equality with men, especially to the medical department, and France, although she allows them equal matriculation privileges, has refused to inscribe a woman lawyer, and the Faculty of Medicine has denied the petition of a woman physician to open a "free course" in ophthalmology. Roumania has also recently excluded women from the positions of "rural physicians" (paid by the State), and also of physicians to hospitals, except those with special pavilions for women. Berlin has, however, recently appointed women physicians for the compulsory examination of prostitutes.

Depopulation of Pacific Islands.—Dr. Tautain (*L'Anthropologie*, 1898, No. 4; *Science*, February 10) finds the following as the chief causes of the decrease of population of the Marquesas Islands (French): 1, leprosy, which leads to impotence and sterility; 2, tuberculosis, which is eminently contagious and destructive; 3, syphilis, which is less marked than might be supposed; 4, licentiousness, the consequences of which are very visible in developing metritis and sterility or abortion. This last is the most injurious of all causes, and Dr. Tautain places it as the principal factor in leading to the diminished natality. The total absence of sexual morality operates in many directions to undermine the viability of the race.

Asylum Entitled to Pension of Lunatic.—Kentucky has a statute providing that the board of commissioners of a lunatic asylum may recover the amount of a patient's board where it is ascertained that the latter has, or shall acquire, an estate, the sum realized to be covered into the public treasury. Under this statute, the court of appeals of Kentucky holds, in the case of Western Kentucky Asylum vs. White, that a lunatic asylum is entitled to subject the money arising from a pension allowed a patient to the payment of its claim for board, and whatever sum may be recovered goes into the public treasury, for the purpose of reimbursing the State for the expense incurred in the maintenance of the lunatic while confined in the asylum.

Examination of Recruits for the Army.—General Orders No. 47 from the headquarters of the army, issued March 15, 1899, modify the regulations concerning the fees to be paid to civilian medical men for the examination of recruits. From June 17, 1898, the compensation was only forty cents per man examined, whether accepted or rejected. The new regulations are more liberal. In the absence of a commissioned medical officer or contract surgeon, recruiting officers are authorized to employ a civilian physician to make the examination of recruits preceding enlistment required by army regulations, at the following rates of compensation: For the examination of a single recruit, $1; of two recruits on the same day, $1.50; of three on the same day, $2; of four on the same day, $2.50, and 40 cents for each recruit over four examined on any one day. At recruiting stations where a large number of recruits are to be examined, or when a recruiting officer goes from place to place for the purpose of securing recruits, application will be made to the surgeon-general for authority to employ a physician by the month under contract. When a recruiting officer who has employed a contract surgeon under proper authority is ordered from place to place to make enlistments, he will give the contract surgeon proper written orders in advance to accompany him for the purpose of examining recruits, naming the places to be visited, and stating in the order that the travel enjoined is necessary for the public service.

Liability of County for Medical Relief of Pauper.—Counties owe no other duties to the poor and incur no other liabilities for their support than those imposed by statute. Therefore, to entitle one to recover from a county for services or supplies furnished to a pauper to whom such county owes the duty of support and care under a State statute, the supreme court of North Dakota holds, it must appear that the services rendered and relief given were in pursuance of an authorization proceeding from some one having authority to bind the county. Here was an action brought by the St. Luke's Hospital Association against Grand Forks County, to recover for care, nursing, board and lodging furnished an alleged pauper. For the purpose of this decision, it was conceded that the support was given as alleged, to one to whom, under the statutes, the defendant county owed the duty of extending relief. But the complaint did not state that such relief was extended at the request or instance of any one having authority to bind the county. On the other hand, it showed affirmatively that the authorization was refused on behalf of the county. Under these facts, the supreme court maintains that the complaint failed to set out a legal liability.

Pathogenic Capacities of Saprophytes.—The *Annals of the Paris Institute* for December, 1898, contains the report of experiments by Prof. Vincent with the bacillus megaterium and the bacillus mesentericus vulg., which establish that bacteria possess such a capacity fer adaptation in certain conditions that they can gradually develop from their saphrophytic condition into pathogenic germs, although possibly retaining the tendency to return to their original condition. Cultures of these bacilli introduced into the peritoneum of animals in collodium sacs attained such virulence in the course of six passages, that they affected animals like the most energetic poisons, causing death by acute septicemia or without local processes. These facts explain the revival of epidemics and the spontaneous evolution of diseases. If some hitherto harmless microorganism finds in some animal for the first time the appropriate conditions for its further development, and if opportunity offers for further passages, as in the experiments, then the saprophyte becomes pathogenic and a new infective disease is evolved. They also confirm the assumptions of Pasteur, Chamberland and Roux that a virus may become attenuated and then reacquire virulence.

Medical Matters Regulated by a Military Officer.—The following general order, No. 28, issued Feb. 18, 1899, by Gen. Guy V. Henry, from the headquarters of the Department of Porto Rico, is of interest in showing how far away from military affairs the duties of army officers have been carried by the successful issue of our war with Spain:

1. The sub-delegation of medicine and surgery is authorized in accordance with orders of the Spanish Government dated May 29, 1866, to grant certificates of practitioners in minor surgery, provided the requirements in said order shall have been filled.
2. All certificates of surgeon-dentists, issued by the said sub-delegation understood as entitling the holders thereof to perform the duties of doctors in dental surgery not being authorized by said Spanish orders, are hereby declared null and void.
3. The holders of these certificates shall return them within ten days to the sub-delegation of medicine and surgery, where they shall be exchanged for certificates of practitioners in minor surgery.
4. Those who at the end of the time indicated shall not have exchanged their certificates and continue practicing medicine in spite of the orders given, shall be called up by the mayors of the respective places, who will compel them to deliver the certificates, and besides levy a fine of $50 on every certificate-holder.
5. The practitioners of dental surgery shall be allowed to practice only under the supervision of a doctor in dental surgery.

Not an Insurer.—The supreme court of Minnesota says that a physician or surgeon is not an insurer that he will effect a cure. Neither is he required to come up to the highest standard of skill known to the profession. When he accepts professional employment, he is bound to exercise only such reasonable care and skill as are usually exercised by physicians or surgeons in good standing of the same school of practice. And where any person claims a cause of action for neglect to exercise the required degree of care or skill, the court adds, in Martin vs. Courtney, that the burden is upon him to prove such neglect. In this case, it goes on to state, perhaps the most serious charge against the defendant was in not making a second amputation at the ankle. Concerning this, the court says that he was required to exercise ordinary professional skill and judgment in determining what was best to save the patient's life, but conservative surgery required that as much of the foot as possible should be saved. A surgeon, under the circumstances, had to take into account the great value of a foot, especially to a laboring man. In determining where to make the amputation he would also have to take into account the degree, as well as the extent, to which the foot was infected; also the general health of the patient and his power to throw off or resist disease; and then, in view of all these considerations, act in accordance with ordinary and reasonable professional skill.

Dinner by ex-Resident Physicians of the Pennsylvania Hospital.—At the University Club, Philadelphia, on the evening of March 11, about sixty of the ex-residents and medical officers of the Pennsylvania Hospital sat down to a dinner, at which Prof. J. M. DaCosta, the senior attending physician, acted as toastmaster, and Dr. J. A. Scott was chairman of the committee on arrangements. The oldest living resident physician, Dr. Alfred Stillé, was unable to be present. To Dr. John Ashhurst, who was prevented from attending on account of sickness, a message of sympathy was ordered to be sent. Short speeches were made by Dr. Thos. G. Morton, Dr. John H. Packard, Dr. Horatio C. Wood, Dr. Thos. H. Andrews, Dr. Geo. C. Harlan, and others. Dr. Morton's remarks contained the following interesting medical reminiscences:

My earliest remembrance of the Pennsylvania Hospital was when a boy of perhaps 10 years of age, and I did not revisit it until as a medical student, in 1856, I attended the course of clinical lectures held in the old operating room or "theater," as it was called, on the third floor of the center building. There I had the opportunity of listening to Gerhard, Wood, the senior William Pepper, Neill, Joseph Pancoast, and Peace. Occasionally, we were taken into the surgical wards, rarely into the medical, but when this was done, the dignified James Brice, the head nurse, always showed his disapprobation of the invasion of the ward by the students, by his haughty demeanor. Brice will always be remembered by those under whom he served. He was a faithful and most efficient nurse and his ward was always kept in perfect order. My own sojourn at the Pennsylvania was most pleasant and, indeed, how could it have been otherwise. There was plenty of work, the surgical wards being especially interesting. In the medical ward I remember that there were several cases of typhus and yellow fever.

My chief at the hospital for a considerable time was Joseph Pancoast, whose surgical skill impressed me profoundly. He served the hospital ten years. On Feb. 29, 1864, I was agreeably surprised to receive from him the following note:

Monday Morning, Feb. 29, 1864.

My Dear Doctor:—According to promise, I announce to you my intention of resigning my place in the Pennsylvania. I shall send in my resignation this afternoon, and it will give me pleasure to find you my successor.

Yours truly, J. Pancoast.

The next day I received from the secretary of the board of managers a notice of my election to the medical staff as one of the attending surgeons, accompanied with the following personal note:

Dear Doctor:—I have pleasure to send herewith an extract from our minutes. I hope the "extract" may be as pleasant to take as the most sugared draught the profession can compound. Very truly thy friend, Wistar Morris.

The duties of the position at once brought me into the most acceptable and pleasant intercourse with the other members of the surgical staff, Drs. Norris, Peace and Hartshorne.

Dr. Norris always took charge when his term of service commenced, serving the full time of three months, but Peace and Hartshorne rarely did so, and so, during many years, I had frequently the greater part of the surgical work to perform, in addition to my own.

I performed my first operation before the class and delivered my first clinical lecture immediately after my appointment. The operation was lithotomy, and although I was considerably disturbed by the large audience, and the newness of my position and my youth, all happily went well and my patient promptly recovered.

The wards at that time, and for many years later, were much crowded. Gradually the character of the patients and also of many of the operations changed; whereas formerly ligations of large arteries, cutting and crushing for stone, removal of large tumors, and plastic operations were quite frequent, later those operations became unusual, and the number of major amputations also considerably lessened. The ligations and lithotomy cases probably found their way to the college clinics, and the serious accident cases, which often require amputation, are now taken to the hospital nearest the site of the accident.

Just a word in reference to the comparisons which have been instituted between the past and present system of nursing. In extolling the very efficient system now in vogue, we should avoid being unfair to, or in any way reflecting upon, the past. With nearly twenty years of personal experience with the former or old system of nursing, I desire to state that during the period preceding the introduction of trained nurses in 1876, our hospital patients were generally well nursed by conscientious, faithful, and fairly intelligent male and female chiefs, who by long years of service and experience and training had become qualified for their work. In justice to them, I can say that every order, by day and by night, was properly carried out, and the patients were well and properly fed, and all their wants properly cared for. To all this the remarkable medical and surgical results sufficiently attest.

There is one other point to which I would refer: At that time the walking cases and convalescents assembled at a common table in congregate dining-rooms for their meals, which were served in attractive form, always hot and ample in amount. This moving of patients several times each day out of the wards seemed to be beneficial, and this plan to me appears to be far better than the present one, which requires all of the meals to be brought from the kitchen into the surgical wards, where they are consumed in silence and often among unpleasant surroundings. This method of serving food, besides being wasteful, takes up the time of the nurses without any corresponding gain in experience or nursing.

We would naturally suppose, with all the splendid improvements in the hospital made during the last few years, in new buildings, reconstruction of the old, and the adoption of modern methods of treatment and nursing, that the present mortality rate would stand forth in marked contrast with that of forty years ago.

The figures appear to show that during the last year, from May, 1897, to May, 1898, the surgical mortality rate was 3 per cent., while that of the same period of 1857 to 1858, or forty years ago, was 2.4 per cent. Of the resident physicians of the hospital, who preceded me in service, seven are still living, Dr. Alfred Stillé, who served in 1839, or sixty years ago, being the senior surviving member.

Louisville.

City Hospital.—The Board of Public Safety has just ordered a number of changes in the City Hospital, among them some much-needed improvements. A ward devoted to the treatment of diseases of children will be established, in which a few private patients may be accommodated, but for the most part it will be for the use of the poor. The amphitheater will be rearranged to enable students to obtain a better view of the arena. A cold-storage plant will also be introduced. All the employes will have to sleep outside the hospital after the present month.

State Board of Health.—The annual session of the Kentucky State Board of Health was held in the parlors of the Galt House on the evening of March 14, the following being in attendance: Drs. J. M. Mathews, J. M. McCormack, Wm. Bailey, Arch Dixon, J. H. Letcher, G. T. Fuller, and the following visitors, Drs. M. K. Allen, city health officer, B. W. Smock, county health officer, and F. T. Eisenman, state veterinarian. The election of officers resulted as follows: J. M. Mathews, president (re-elected) for a term of two years; J. M. McCormack, re-elected secretary for a term of four years. If Dr. McCormack serves to the expiration of the term to which he has just been elected he will have served for twenty years, making him perhaps the oldest State health officer in the country in point of service. A committee composed of Drs. Letcher, Dixon and Fuller was appointed to draft resolutions expressing the sentiment of the board in regard to cerebrospinal meningitis in the State. The committee reported that the newspaper reports regarding the epidemic in this and adjoining States are very much exaggerated; that the opinion of the board is that the disease is very slightly, if at all, contagious; but that the board recommends the keeping of all premises clean, and the disinfection after all cases of the room in which the sick have been; and that it does not think it necessary to close the schools in any part of the State. Smallpox was also considered, and a resolution introduced by Dr. Bailey provided for the promulgation of the report that there was no danger to outsiders coming to the city, as the epidemic is very light and confined almost entirely to the negro population; but an order was prepared to be placed in all depots in the following cities where some of Louisville's cases have come from: Cincinnati, Indianapolis, St. Louis and Memphis, which order provides for the issuing of certificates to all colored or other passengers of whom it may be demanded, that they have been duly protected by successful vaccinations. Another important order issued by the board at this meeting was that requiring all physicians who graduate this year after only a three year course in medicine and expect to practice in Kentucky, to take an examination before the board before the issuance of a certificate. Many of the colleges of the South will graduate large classes this year after a three-year course, but before they can practice here they must first pass an examination before the board.

Questions and Answers.

ENGLISH AND SCOTTISH SURGEONS.

Zanesville, Ohio, March 22, 1899.

To the Editor:—Can you tell me where or how I can get the names of the principal English and Scottish surgeons? C. E. Drake, M.D.

Answer.—There is no official list of the principal surgeons of England or Scotland. The best way we can advise would be to take the names from the references in the leading works on surgery and from such serials as "Sajous' Annual" or its successor. There are some names that are known to all, such as those of Lister, Tait, MacEwen, etc., but there are many who may be called leaders in surgery.

AN ARTIFICIAL CORNEA.

Los Angeles, Cal., March 6, 1899.

To the Editor:—Will you kindly inform me to whom I can apply for a description of the artificial cornea and the method of application, with more particulars than I can get from the item in the Journal of Oct. 22, 1898, p. 100. John V. Gaff, M.D.

Answer.—If any of our readers can answer the writer's question or state if any fuller account of the method has been published in English, we would be glad to have them do so. The article referred to is on "Artificial Cornea for Leucoma," devised by v. Shröder, and the account of which was published in the *St. Petersburg Medical Wochenschrift* of Sept. 11, 1898.

CONSULTANTS.

St Louis, March 24, 1899.

To the Editor:—In the Journal of March 18, in answer to Quaerens (p. 653) you make this statement: "Instances occur where B could not do otherwise than to take the case." I do not pretend to be an authority, and would like for you to state under what circumstances could it have been right for B to take A's case.

In an experience of twenty years, I have always declined to take charge of a case in which I have been a consultant. In cases where it has been pressed upon me I have always said to the friends, kindly but very firmly: "You can not have my services alone in that case, but if it is agreeable to the attending physician I will be glad to attend the case jointly with him, but under no circumstances will I take charge of the case." In my entire career I fail to recall a single instance in which this failed to have the desired effect, that of the attending physician retaining the case. Another rule to which I have adhered is, not to take charge of the next case of sickness occurring in a family in which I had been a consultant, believing it a breach of confidence bordering on highway robbery to supplant the attending physician in the family before he had a chance to regain the confidence of the family in question. R. H. Finley.

Answer.—Our correspondent is in the main correct, and if every physician would carry out the same rules of action as he does, the world would be a better one to live in than it is to-day for all of us. But we repeat what we said before, such cases are occurring continually in small villages and the physicians in the case being the best of friends. We repeat, also, that no physician should take charge of a case to which he had been called in consultation without its being done with the free consent of the one at whose instigation he was called. The "Code of Ethics" does not lay down any specific rule for such cases except in so far as Section 4 of Article V covers it.

CHANGE OF ADDRESS.

Bird, J. T., from Detroit, to State House of Correction, Ionia, Mich.
Brueker, C. M., from Tell City, Ind., to 294 Winona Ave., Pasadena, Cal.
Bell, W. H., from Oxford to Hargrove, Ala.
Cox, J. E., from Carson City, Nev., to Bodie, Cal.
Corbin, D. R., from Nashville, Tenn., to Idalia, Mo.
Churchill, A. H., from 1737 Wabash to 2722 South Park Ave., Chicago.
Dean, C. W., from 355 to 133 Prospect, Cleveland, Ohio.
Elmore, R. D., from Topeka, to Nortonville, Kan.
Eastman, J., from 197 to 331 N. Delaware, Indianapolis, Ind.
Gibson, G. G., from Oldebolt to Burnside, Iowa.
Galbraith, A., from 732 to 822 Congress Street, Chicago.
Herman, C, B., from Boyden, Iowa to Grand Rapids, Mich.
Harrison, C. F., from Perry, Ill., to Syracuse, Kan.
Hart, H. H., from 2325 Bush to 123 Ellis St., San Francisco, Cal.
Hering, E. R., from 246 Lincoln to 683 Van Buren St., Chicago.
Hasson, E., from 246 Lincoln to 683 Van Buren St., Chicago.
Matas, R., from 728 Rampart to 2256 St. Charles Ave., New Orleans, La.
Miller, M. L., from Lanesboro to Susquehanna, Pa.
Rietz, P. C., from 1019 Chestnut to Edgar and Illinois, Evansville Ind.
Simpson, W. B., from Galveston, to Red Oak, Tex.
Shevill, E. A., from Nashville, Tenn., to Cookes Point, Tex.
Thompson, G. N., from Keokuk, Iowa, to New Milford, Ill.
Webb, J. A., from Topeka, to Stafford, Kan.

The Public Service.

Movements of Navy Medical Officers.—Changes in the medical corps of the U.S. Navy for the week ending March 25, 1899.

Surgeon C. G. Herndon, detached from the "Richmond" and ordered to the "Prairie."

Surgeon C. T. Hibbett, orders of March 18 revoked; ordered to the "Baltimore" via steamer of April 12 from San Francisco.

Asst.-Surgeon G. F. Freeman, detached from the "Vermont" and ordered to the Washington naval hospital.

Marine-Hospital Changes.—Official List of Changes of Stations and Duties of Commissioned and Non-Commissioned Officers of the U.S. Marine-Hospital Service, for the fourteen days ended March 23, 1899.

Surgeon John Godfrey, to proceed to Port Huron, Mich., for special temporary duty.

Surgeon F. W. Mead, granted leave of absence for ten days from April 1, 1899.

Surgeon C. E. Banks, detailed as inspector of unserviceable property in the purveying division at Washington, D. C.

P. A. Surgeon L. L. Williams, relieved from duty at Washington, D. C., and directed to assume charge of the immigration inspection service at New York City.

P. A. Surgeon J. O. Cobb, to proceed to Savannah, Ga., for special temporary duty.

P. A. Surgeon A. C. Smith, to proceed to Savannah, Ga., for special temporary duty.

P. A. Surgeon J. M. Eager, relieved from duty at Washington, D. C., and directed to proceed to Cleveland, Ohio, and assume temporary command of Service.

Asst.-Surgeon H. W. Wickes, granted leave of absence for two days from April 3, 1899.

Asst.-Surgeon Hill Hastings, order of March 13, 1899, to proceed to Cleveland, Ohio, revoked, and directed to proceed to Seattle, Wash., and assume command of Service.

Asst.-Surgeon S. B. Grubbs, detailed as quarantine officer for the port of Cienfuegos, Cuba.

Asst.-Surgeon R. H. von Ezdorf, to report to medical officer in command, South Atlantic quarantine station, for temporary duty.

Asst.-Surgeon W. R. McAdam, to report to medical officer in command, Tortugas quarantine, for temporary duty,

P. A. Surgeon L. L. Williams, to report to Surgeon C. E. Banks, chairman board of examiners, Washington, D. C., for examination to determine fitness for promotion to the grade of surgeon.

P. A. Surgeon W. P. McIntosh, to report to Surgeon C. E. Banks, chairman board of examiners, Washington, D. C., to determine fitness for promotion to the grade of surgeon.

P. A. Surgeon J. C. Perry, to assume temporary command of Service at Port Townsend, Wash., during absence of P. A. Surgeon C. H. Gardner.

P. A. Surgeon C. H. Gardner, to proceed to Seattle, Wash., and assume temporary command of Service, relieving Acting Asst.-Surgeon J. B. Eagleson; upon being relieved by a regular officer of the Service, to rejoin station at Port Townsend.

Asst.-Surgeon A. R. Thomas, to report to Surgeon G. W. Stoner, chairman board of examiners, Stapleton, Staten Island, N. Y., for examination to determine fitness for promotion to the grade of P. A. Surgeon.

Asst.-Surgeon H. W. Wickes, to report to Surgeon G. W. Stoner, chairman board of examiners, Stapleton, Staten Island, N. Y., for examination to determine fitness for promotion to the grade of P. A. Surgeon.

Asst.-Surgeon H. S. Cumming, to report to Surgeon G. W. Stoner, chairman board of examiners, Stapleton, Staten Island, N. Y., for examination to determine fitness for promotion to the grade of P. A. Surgeon, Relieved from duty at Washington, D. C., to take effect March 31, 1899, and directed to rejoin station at New York City.

Asst.-Surgeon Hill Hastings, relieved from duty at Washington, D. C., to take effect March 31, 1899, and directed to proceed to Cleveland, Ohio, and assume temporary command of Service.

Asst.-Surgeon L. D. Fricks, assigned to duty as sanitary inspector on U. S. Transport "Sedgewick."

Asst.-Surgeon T. F. Richardson, to report by letter to Surgeon J. H. White for duty at the immigration depot, New York City.

Asst.-Surgeon W. W. King, to report to medical officer in command, Detroit, Mich., for temporary duty and assignment to quarters.

Asst.-Surgeon F. J. Thornbury, to report to medical officer in command, Stapleton, Staten Island, N, Y., for duty and assignment to quarters.

Asst.-Surgeon Carl Remus, to report to medical officer in command, Cape Charles quarantine, for duty and assignment to quarters.

Acting Asst.-Surgeon S. B. Foster, granted leave of absence for twenty days from March 10, 1899.

Hospital Steward E. S. Maguire, upon being relieved by Hospital Steward C. H. Miller, to proceed to Evansville, Ind., and report to medical officer in command for duty and assignment to quarters.

Hospital Steward Charles Miller, upon being relieved by Hospital Steward G. H. Brock, to report to medical officer in command, Detroit, Mich., for duty and assignment to quarters.

Hospital Steward W. Stearns, granted leave of absence for thirty days from April 12, 1899.

Hospital Steward W. W. Holb, upon being relieved by Hospital Steward P. H. Peck, to proceed to Norfolk, Va., and report to the medical officer in command for duty.

Hospital Steward F. H. Peck, upon being relieved by Hospital Steward C. G. Carlton, to proceed to Tortugas quarantine station, and report to the medical officer in command, for duty and assignment to quarters.

Hospital Steward C. G. Carlton, to proceed to Egmont Key Detention Camp, and report to the medical officer in command, for duty and assignment to quarters.

Hospital Steward J. E. Beck, to report to medical officer in command, New Orleans, La., for duty and assignment to quarters.

BOARD CONVENED.

Board convened to meet at the U. S. Marine Hospital, Stapleton, N. Y., Wednesday, April 5, 1899, for the examination of assistant-surgeons of the Service, to determine their fitness for promotion. Detail for the Board: Surgeon G. W. Stoner, chairman; P. A. Surgeon L. L. Williams and P. A. Surgeon W. P. McIntosh, recorder.

APPOINTMENTS.

Oliver Stewart of Michigan, appointed acting asst.-surgeon for duty at the port of Port Huron, Mich.

Julius E. Beck of Ohio, appointed junior hospital steward.

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Address.

VALUE OF A HEALTHY BODY TO A HEALTHY MIND.*

BY JOSEPH EASTMAN, MD., LL.D.
INDIANAPOLIS, IND.

One pleasant afternoon last August I found myself among the foot-hills of the Adirondack Mountains, in conversation with my old friend Ludwig Politsch. He offered to sell me the old farm of seventy-five acres for $500; much less than he had paid for it, in cash, brought from Germany forty-one years before, and I said to him: "Had you invested in prairie land in Illinois, or still better in the prairie borders of Indiana, you might have been a wealthy man now." He replied, "I have made some money. My daughter taught school here in the country till she believed it was her duty to stay home with us old folks, and help and comfort us in our declining years. I've got three sons as good men as there are in the county; everybody respects them. One of them has been township trustee[1] four terms. Your grandfather, when he was 90 years old, told me this was a good place to raise boys." And when I said: "Explain to me what advantages boys have here that they would not have elsewhere," he did so by saying that the seasons were so short they must work early and late to provide the wherewith to keep man and beast from starving during the long, cold winters; and when winter came with the thermometer frequently 30 degrees below zero, and the snow-drifts piling over the roofs of the houses, it required persistent activity, early and late, to keep oneself and loved ones from perishing with the cold. Here was compulsory education in all that develops the genius of industry and a courageous manhood and womanhood—supplied with health so essential to happiness, with happiness so essential to health. His maiden daughter could not walk eighteen miles to the railroad station to "giggle" at the brakeman on the passing train. The young men were so happy at the family hearthstone that they had no use for the poor man's club, the saloon, nor the rich man's saloon, the clubhouse.

While sitting on the little porch in the evening twilight, my friend's solution of the problem of health, happiness and education impressed me very forcibly; more, he had solved the problem of education as Webster has defined it: "Education is properly to draw forth, and implies not so much the communication of knowledge as the discipline of intellect, the establishment of the principles, and the regulation of the heart."

The mountainous elevations before me, which forty years before were covered with majestic pines, suggestive of strength and grandeur; the water dashing over the rocks of Stony Creek, so suggestive of pure blood coursing the arteries and veins of a healthy organization and so widely in contrast with the filthy sewers which drain our cities, and the filthy blood of some of our city citizens; the small but beautiful old meadow, its waving grasses fanned by the zephyr breeze, and attuned to the song of the robin and the meadow-lark, so suggestive of pure and healthful thoughts, were beauties of the created such as could but admonish the youth that there must be a Creator. The daily struggle for food in summer and fuel in winter could but draw forth and cultivate all the vital energies; such stern realities could but discipline the intellect and remind us that here was life near to nature, and that there is much in modern civilization that is not a natural manner of life.

From this mountainous spot I visited Saratoga, where the rich, with so much money they know not what to do with it, dash about the streets in gilded livery, with so little health they know not how to get more. However, it is the aristocracy of health not wealth, of intellect not indolence, which interests us.

It is a serious question whether the advancing civilization with its physical deterioration has added to or detracted from the sum total of human happiness. Only a few years ago the proportion of insane to the sane in the State was 1 to 1500. Dr. Rogers of the Logansport asylum, in a plea for enlarging the capacity of that institution, said that we must provide accommodations for one insane person out of every 650 inhabitants. Surely the time may come, predicted by Oliver Wendell Holmes, when the sane will have to occupy the asylums to protect themselves from the insane.

It is quite customary for parents to move to towns and cities to educate their children—educate them in what? and for what? and what is education anyhow? If it is to strengthen the mind and weaken the body, to stuff them with knowledge with no wisdom to apply it, I object; if to dicker off health for book knowledge, I protest. If it is to develop the physical as well as the mental, as is suggested by the modern gymnasium in connection with college; if it is to teach the simpler modes of eating, sleeping, and exercise of our ancestors, the art of living according to nature's laws; if it is to fill the mind with such principles as make the coming generation healthier and therefore happier, happier and therefore healthier, to develop brawn as well as brain, I approve.

A cultivation of that genius of industry which in the race of life comes out far ahead of every other type of genius is much to be desired. A healthy body is essential to a healthy mind. A healthy body without a healthy, pure and happy mind is unthinkable. Matthews, in his little book entitled, "Getting On in the World," remarks that in all professions, in all departments of business and trades, the race of life is being so hotly contested, that if one stops to tie his shoe-strings he will be run over.

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*A lecture delivered at Franklin College, Franklin, Ind.

[1] In New York the office is that of supervisor.

The men who fill the pulpits and draw handsome salaries, or even take in a sustenance for their families, must have strong healthy bodies to nourish and maintain healthy brains. There is such a continual tax upon their vital forces in reading, thinking, sifting out from the chaff the best thoughts of the best thinkers, with frequent interruptions to visit the sick and dying, and hear the tale of woe of many a poor unfortunate, that even with them it is a survival of the physically fittest. The men who talk to juries must delve deeply into the statutes and look up all the amended laws, and with the most profound research accumulate all possible evidence in favor of their client, and then perhaps speak for hours to convince the jury of the justice of their cause. With the doctor it is such a labor of love that he must not think of self. The merchant and the tradesman are no exception to this rule. The facts are that the laws made for the benefit of the laboring class are intended to catch votes, do not even favor the women, and do not touch a larger number of the toilers of earth—the real working classes. The eight-hour law for the few aids in making sixteen hours for the many.

The man who does manual labor is presumed to be physically strong. The young man who leaves the plow or the anvil for the store or the profession, thinking he will get an easier job by doing brain work, will realize his mistake sooner rather than later. Behold the heads of our great railroad systems, of our great manufacturing establishments, of our great educational institutions, the representatives of this republic's wealth and brain—they are toilers and regard it as one of their chief virtues to be numbered among earth's great laborers!

Labor is a pleasurable law in all that deserves the name of real pleasure, all that appeals to man's nobler feelings, and obtains the endorsement of his self-respect; all that adorns the brow of true manhood springs from the activity of human life. Man is so constituted that he attains the acme of pleasure, not in physical action alone, as in the brute creation, not in idleness and ease, but in mental activity, and the more intense the action the more intense the pleasure." Too much rest is rust. To the successful man rest is a species of restless desire to be doing something. The object of every one's existence should be to unfold and perfect his own individuality and to improve the race. A strong healthy organization is the first essential to success. Upon this healthy organization depend intelligence, beauty and amiability; indeed, there can be no strength of body or talent of mind that ill health will not undermine. Self-knowledge must include the body as well as the mind, whether we take the view of the theologian, and think of the heart and the soul as synonomous, or the idea of the physiologist, that the heart is a mere pump for the blood. In a body that is not well balanced the mind soon becomes feeble and is lost:

> Could I but own the universe, and with one hand
>   Hold Heaven in span:
> I'd still be measured by my soul. The mind's
>   The measure of the man.

Health is accord between all the organs and functions of the body and mind. Disease is discord between organs and functions.

The trinity of health may be summarized: 1. A proper quantity of well-digested and assimilated food to make good blood. The Bible has said, "The blood is the life thereof." 2. An ample amount of exercise (physical movements) to keep the blood in circulation. 3. Full and complete inspiration and expiration to supply oxygen and to carry off carbonic acid.

With regard to the first, it might be well to have in every restaurant and dining-room the motto, "Refreshments for Man and Beast." It was intended that man should be neither herbivorous nor carnivorous, but omnivorous, using a variety of food. The dispositions and propensities of man and beast can be determined to a certain extent by noting the kind of food on which they live. There are as many people to-day digging their graves with their teeth as there are drowning their souls in alcohol.

I was called to a neighboring city recently, and stopped at a new hotel, which I was told had cost $30,000, and that its owner had a hundred thousand more. I asked in what business the money had been made. The answer was, "Educating dogs and ponies." My curiosity was intensely aroused; why such a success? A little later I was asked to make an operation upon the brother of this king of canines, so I watched him with interest while his brother was on the operating-table, and more genuine and sincere evidence of kindness of heart I have never seen in the operating-room. Kindness is a great power over men as well as dogs.[2] Wishing to know still more of a character, I asked him to show me his "dog school," which contained seventy-eight dogs, some ponies and a few monkeys. While doing so, he explained to me that he could teach them very little until he broke them of the habit of eating meat; that they were sullen, irritable and vicious so long as their diet contained meat. Such food developed the brute, not the intelligence of the animals.

My consultation room has often been the scene of inquiries which reminded me of the dog trainer's art. The non-eliminated products of nitrogenous food undergoing crystallization cause disease of the blood-vessels and many a death from apoplexy. Indigestion is spoken of as an American disease. This disease may be attributed in a large measure to the food being swallowed too rapidly; the stomach not being given time to half do its work of digestion. With bad digestion all manner of poisonous ptomains are produced, the absorption of which not only impairs the blood-making process, but poisons the citadels of life, rendering the individual mentally and physically unfit for the duties a wise Creator had intended him to perform.

The Universities of Cambridge and Oxford, of Harvard, Yale and Princeton, have graduated many a one who did not even know what to eat or how to eat it. As a matter of fact it is more important to know what food to eat and how to eat it; how that food digests, is transformed into blood; how that blood flows; something of the molecular and atomic changes upon which secretion and excretion depend, and by which the phenomena of life are continued, than to be able to parse a Greek sentence, or know how to trace the constellations in the heavens or to find the whereabouts of an ursa major or an ursa minor.

Barring the possibilities of getting tuberculosis from tubercular cows, milk as an article of diet has two very strong recommendations: 1. It contains all the different constituent elements which go to make up each and every tissue of the body. It especially provides lecithin to feed the famishing nerve-cells. We all lived on it for a time when we first came to this country, and then we had dimpled cheeks and dimpled fingers. There is a good deal of jesting about the Bostonian and New Englander living on baked beans, but beans, next to milk, come nearest to nourishing each and every part of the entire human system, and no one part in particular more than another. The pills which have been taken to relieve conditions resulting from lack of proper diet and exercise, would, if showered from the skies, maintain a hailstorm over this country for days.

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[2] "There are so many Gods and so many creeds, and so many paths that wind and wind; the thing at last this sad world needs is the simple art of being kind."

We view with admiration the wonderful inventive genius displayed in the engine, as it faces a thousand miles of rails, with nerves of steel, with blood of steam, and breath of fire. The combustion of coal originates the propelling force. So the baked beans, mush and milk, "johnny-cake," hominy and apple-sauce in New England stomachs, producing healthy physical organizations, strong and inventive intellect, are in some degree to be credited with the continent being cobwebbed with railroads, running over bridges, tunneling mountains, and keeping up with enterprises, admired and applauded by the civilized world.

Healthy bodies and healthy minds can not exist without good sewerage. "If disease is bred from bad drainage and defective sewerage from without the body, how much more from bad drainage and defective sewerage from within the body. Excretions retained in the body ferment and decompose. The pestilential gases thus generated dissolve nerve-centers and paralyze the action of vital organs. Here cause and effect aid and abet each other." Regular and unconditional attention and obedience to nature's demands should be given with more fidelity than a business man heeds a notice that his paper is to be protested in the bank. For in the latter instance creditors near and far would rush in and destroy his financial hopes, whereas in the former case, a liver, a stomach, a heart, a pair of lungs, or other viscera, having labored long and faithfully to ward off the approach of disease, subsisting meantime on blood poor in albumin and red corpuscles, are compelled to go into pathologic bankruptcy when blood from which bile, gastric juice, and lymph are to be formed comes to their respective laboratories so loaded with poison absorbed from the excreta.

PHYSICAL MOVEMENTS TO CIRCULATE BLOOD.

Young men are too prone to succumb to that "tired feeling" often induced by that overindulgence in nitrogenous food, such as meats, and avoid every possible physical exertion which they so much need. They will ride when they should walk. Some will take more exercise sitting in a chair than others will walking, as in the latter there is no vim and vigor in their movements. Health must be earned; it can not be bought. I say this in contradiction to the wonderful promises made by the patent-medicine venders, whose disgusting advertisements in our daily press, setting forth in flaming flambeaus of felicitous fiction the testimony and portraits of distinguished people, who claim to have been benefited by wrapping themselves around a few doses of "Gripan's Gabules," "Giddy Stinkham's Vegetable Compound," Dr. Billiams' Pale Pills for Pink People," and "Nervy Eura's Greens for Green People," and other forms of "lalyke dope" *ad nauseam*.

If they ride a bicycle it does not give circulation equal to that which one could produce by a brisk walk. They ride through the country as fast as a coyote, over the prairie, and on returning, describe what beauties of nature they have seen about as well. The mind is so occupied in guiding the wheel, there is little mental relaxation. Examination of soldiers in New York disclosed the fact that bicycle riders had weak hearts, necessitating the rejection of a considerable percentage of applicants for enlistment. Frank Hamilton said, "The best thing for the inside of a man is the outside of a horse." The "tired feeling" which so many young men have, makes it seem too great an undertaking to even climb on a horse's back. Physicians will tell you that to cure an old, chronic case of dyspepsia, as a job, is no "walk-away." I insist, however, that some of the worst cases of indigestion can be "walked away." The increasing demand for treatment by massage, Swedish movements, physical culture, in our sanatoriums, suggests the thought that much of this might have been prevented had the individual kept his blood in proper circulation by muscular activity.

With regard to the third proposition, that the blood must be purified by free chest-expansion, let me say that any man's capacity for physical and mental endurance is in direct proportion to his chest capacity. The college student too often becomes full chested in the back, where his projecting shoulder-blades suggest the sprouting of angel wings, and a tendency toward the spirit land. The man who can go without several meals in succession, lose two or three nights' sleep, do two or three days' work in one, mental and physical, is the man who has swept the cobwebs out of the basements and garrets of his lungs with good full breathing. There are many young men in the cities who never draw a full breath from one year's end to the other; not even as much as a sigh when the bicycle dealer demands payment on that wheel, or the landlady insists that his board bill is overdue.

The nervous system must be renewed by sleep. Courage versus cowardice is on the bulletin-board of life. The heart to dare, the head and hand to do, are soon exhausted without nature's sweet restorer, balmy sleep. The Apostle Peter was cold, had lost sleep and lost courage when he denied his Master. Given Peter a night's rest, a good breakfast and a cup of good coffee, the cock might have been crowing on to this time, with Peter standing up and swearing that the lowly Nazarene was a friend and he would never go back on Him.

As I return from my professional outings over the State, I find the railroad station and the streets till after midnight thronged with young men. They are neither improving their bodies nor their minds. They are not fitting themselves for the responsible positions of life, in professions, business or trades. They are often teeming out of low theaters, where what little brains they have left is entangled in that flimsy spider-web, that fantasm of delusion which surrounds the ankles of the ballet-dancer. This, with the horrible yellow-backed literature, develops the sensual, impairs the physical and *dethrones* the *intellectual*. 'Twould seem well if the curfew law could be extended to include all under 21 years. They might secure a proper amount of sleep at a proper time of night, so that in the morning they might have energy, will power and courage to meet the world's responsibilities. They say they are not sleepy. Why should they be? They have partaken of a hearty supper containing an excess of meats, the brain stimulated with a cup of coffee, and still further stimulated and poisoned by smoking a cigarette or cigar. When I saw my friend, Professor Allen of Philadelphia, then past 50 years of age, smoking a cigar after his evening meal, knowing he was a great physiologist, I asked him why at that age he began smoking. He replied that up to 40 years of age the brain was developing and growing, that smoking during that time impaired its functional activity and stunted its growth; that after 50 years its soothing effect put on the brakes, so to speak, and lessened the functional activity of the brain. With this idea, what a sad spectacle it is to see young men so lacking in intellectual force that they are scarcely self-supporting still adding to their intellectual vagrancy with the poison of nicotin.

Our bodies contain thousands of nerve-cells, and each one is a citadel of life. The cell has an affinity by which it attracts from the passing blood-stream, and stores away within itself, a sufficient amount of nutrition to maintain accord between all the organs and functions of the healthy body. With every thought, emotion, and effort we expend a certain amount of vital force. Consequently, while awake we are constantly using up this energy, while asleep or in a passive state we are left to nature's own law of action, and it is a natural law. While in a normal condition the nerves attract and draw vital force and are constantly accumulating this vital energy around their nerve-centers, we are vitalized and refreshed during sleep, or in a passive state we are preserving what is already accumulated. Birth, development, maturity and death is the simple story of every animated thing. During the growth and development of the young man's body, at least eight hours' sleep is necessary, and it should be started at 9 p.m. The sleep train should be started promptly on time and have the right of way. Convince me what a young man eats and drink, how he spends his evenings and what books he reads, and I will convince you what music, if any, he will ultimately make in the grand orchestra of life. Holmes says the truest lives are those cut rose-diamond fashion, with many facets, answering to the many plain aspects of the world about them. Society is constantly trying to grind these diamonds to a common flat surface. It takes strong manhood to maintain originality and individuality, despite alluring fickle fancies of city life.

An absolutely healthy body can not exist without an absolutely healthful and happy mind. The possession of a healthy, happy mind will depend less upon the head you have on you, than the heart you have in you.

A happy mind is essential to a healthy body. Solomon says in his Book of Proverbs, "A merry heart doeth good like a medicine." It is easier for some people to be happy than it is for others. A good digestion is conducive to a happy mind. A happy mind is one of the most potent agents in a good digestion. Some one has said. "Whether life is worth living depends upon the liver." This is true of that organ under the ribs on the right side, with five lobes and five ligaments and five fissures, and weighing nearly five pounds; it is particularly true of the life of the liver. I picked up the other day a prescription for happiness, which reads as follows: "Do not keep the alabaster boxes of your love and tenderness sealed up until your friends are dead. Fill their lives with sweetness. Speak approving, cheering words while their ears can hear them, and while their hearts can be thrilled and made happier by them; the kind things you mean to say when they are gone, say before they go. The flowers you mean to send for their coffins send to brighten and sweeten their homes before they leave them. If my friends have alabaster boxes laid away, full of fragrant perfumes of sympathy and affection, which they intend to break over my dead body, I would rather they would bring them out in my weary and troubled hours, and open them, that I may be refreshed and cheered by them while I need them. I would rather have a plain coffin without a flower, a funeral without an eulogy, than a life without the sweetness of love and sympathy. Let us learn to anoint our friends beforehand for their burial. Postmortem kindness does not cheer the burdened spirit. Flowers on the coffin cast no fragrance backward over the weary way." Every life has its dark days and its darker hours. If we would have others to make and put sunshine into our hearts and lives, we must think of some one else whose lives we can make happier by word or deed. It is really the best source of happiness. Happiness consists in making others happy:

The microbe trembles, when he sees
A body cheerful and at ease.

I can never believe the man who sits on the fence and wants everything done some other way is healthy in body and mind. If you look for dirt you are sure to find it. Human life is by no means immaculate. But none the less the world is full of purity, of innocent childhood, glorious womanhood and noble manhood.

Who would have the orchestra of life made up entirely of piccolo or bass drums? Variety is life, monotony death, to the human soul. If you want the job of making everybody do as they ought, the job is open, with a placard on the door of the shop, "Help Wanted." If you would raise yourselves above the common level of mankind, you must seek for virtues and not for vices in your fellow men. If you would poison the mind and body, make yourselves miserable and all around you miserable, rake up the vices and shortcomings of all your associates and neighbors. As your life work molds your thinking, and as your thinking molds your countenance, by the time you are 40 you will wear the countenance of a pessimist, critic and hypocrite,[3] and be shunned by all those who love humanity, and are seeking by love to raise their fellow men to a higher and happier plane.

It is not only important that you do not become hypercritical of others, but that you do not allow your digestion to be disturbed or your usefulness in life impaired, by cringing like a weak and worthless puppy, because of the criticisms of others. Do not become cringing cowards, nor truckling sycophants. No man ever struck out to do something for himself, for humanity or for God, without having a pack of dogs barking at his heels, and the more he rose above the common level of his fellow men, the more their envy, jealousy, and malice made them snarl and whine. They had Grant "drunk," Sherman "crazy," and Lincoln "an idiot" for not dismissing them. See how time adjusts things and glorifies these names. No man's character can be essentially injured except by his own acts. You will at last get the reputation you merit, and reputation is the shadow of character.

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[3] The terms "hypercritical" and "hypocrite" sound much alike and are really synonymous.

Brave men and women are healthy, cowards are sickly. The coward whose mind is in a dungeon of fear and apprehension, suspicious of everybody, suffers death a thousand times. Heroes never taste death but once. The world at last admires the strong character, one who, tested in the crucible of truth, comes out a piece of crystallized manhood:

Fit for the highest or the lowliest lot,
Self-poised, imperial, yet of gentlest ways;
At home alike in palace or in cot;
True to his aim, though others blame or praise.

See how the world to-day applauds that combination of healthy mind and healthy body, that vigorous body, that human dynamo, Roosevelt. What a record to be proud of is being shown in the recent war, by General Miles, general-in-chief of the army, who left mercantile pursuits in Boston, joined the army in 1861, and at 25 years of age commanded 25,000 men. These men are good illustrations of what a combined healthy body and healthy mind can accomplish. However, future wars are to be too short to enable men to achieve much in fame, for the reason that to have the war long continued there must be Americans on both sides of the line of battle.

Some years ago I had the pleasure of going from Munich in Bavaria to the great passion play of Ober-Ammergau. It was necessary to go the day before in order to be there in the early morn at the beginning of the services. The thing which impresses every visitor is the absolute absence of the artificial modes of life of our cities. Though the village has been there for hundreds of years, the same simple modes of living have remained unchanged. On retiring for the night I climbed up a ladder to a nice clean bed in the attic of the little home. In the morning I sat at the table and noted the simple and healthful food. I sat all day and watched the play, the trial, the crucifixion and resurrection of the Savior; some forty young ladies upon the stage at one time, singing, their cheeks aglow with the banners of health and beauty; their voices pouring forth music which fairly echoed from the surrounding snow-covered Alpine peaks. When thinking of this simplicity of life I could not help marking the contrast with the deterioration of health and morals in the cities, London, Berlin, Vienna, and Munich, through which I had just passed. In this village they still cling to natural modes of living, to nature and to nature's God. On trees and fence-corners, along the winding way to the village, on the street-corners, and on the higher mountain-peaks, you can see their Roman crucifix. While, nominally, Bavaria has a King, and Germany an Emperor, the inhabitants of this village, in the simplicity and purity of their lives, believe that God is King of Kings and consequently their King.

We look with wonder and admiration upon the great monument in our circle. We see with absorbing interest how the sculptor's chisel has made the cold, inanimate marble almost to smile with animation. We sometimes grow envious of the painter's art, by which the dull canvas is made to glow with human life; but what high art can paint the beautiful pigment of the blood, as shown in the blush of beauty, in the crimson of shame, and the pallor of fear. The gorgeous hues of autumn, the golden glories which the Sun Queen gathers about her as she sinks to rest beneath the western horizon, give no tint of beauty comparable with the ruddy cheek and ruby lip of health.

Original Articles.

EPIDEMIC CEREBROSPINAL MENINGITIS.

BY W. J. CLASS, M.D.
MEDICAL INSPECTOR CHICAGO HEALTH DEPARTMENT.
CHICAGO.

(*Concluded from page 698*).

Case 27.—Male, aged 17, admitted June 7, 1898, had been sleeping in a room in which the sunlight never penetrated; was taken sick suddenly with nausea, vomiting, chill, severe headache, rise in temperature, pains in back and limbs, delirium; head retracted, tenderness along spine, herpes on lips; no paralysis; made a gradual recovery but his mental faculties have been disturbed, as he is dull and forgetful.

Case 28.—Female, aged 1 year, 6 months, admitted July 5, 1898; had an attack of pneumonia previous to admission to hospital, followed by cerebrospinal meningitis, the acute symptoms of which had abated at time of admission; extremely emaciated; temperature 95.4 F.; pulse 120; rigidity of spinal muscles; July 6 temperature rose to 100.8 F. early in morning; pulse weak and rapid; another slight rise in temperature on 7th; from this date to death, July 13, temperature not above normal; death apparently due to exhaustion and inanition.

Case 29.—Male, aged 3, admitted July 1, 1898; brother of Case 28. After the acute symptoms in his sister's case had subsided the patient was taken sick with typic symptoms of cerebrospinal fever; sudden onset, vomiting, headache, herpes, retraction of head, tenderness of spine, *taché cerebrale*; temperature 102 F.; pulse 96; gradually grew worse and died July 6; no paralytic symptoms until near death; no post-mortem.

Case 30.—Male, aged 38, admitted July 6, 1898. Two days before admission he was taken sick with headache and vomiting, no chill; headache became very severe and soon patient passed into a semicomatose state; unconscious on admission, pupils somewhat contracted, reflexes increased, tenderness over greater part of body; retraction of head; involuntary evacuations; no rash; pulse 62, temperature 99.2 F. on admission; died suddenly July 7; no post-mortem.

Case 31.—Male, aged 38, admitted June 30, 1898; present illness began June 28, following a spree; prodromal symptoms resembling those of delirium tremens, followed by a chill; dull pain in face and forehead, vomiting, gradual loss of consciousness, with trembling and twitching of limbs; on admission, unconscious, temperature 103 F., pulse 90; touching body or head seemed to cause pain; tongue coated; pupils contracted, very restless; spleen not enlarged; no rash; June 3, very restless, temperature 103.2 F.; June 12, very delirious, lumbar puncture made, fluid removed showed presence of meningococci; died July 16; respirations 54 and pulse 152 shortly before death.

Case 32.—Female, aged 17, admitted June 28; taken sick about two weeks previous with a chill, vomiting; severe headache, backache, herpes; brought to hospital delirious; retraction of head and neck; delirium continued for two weeks; temperature very irregular; Aug. 5, 1898, patient convalescent, but very weak; no lumbar puncture. This case ran a rather insidious course, patient at times being apparently much improved when graver symptoms would again become noticeable.

Case 33.—Female, aged 18, admitted June 29, 1898; illness began a week previous with headache, vomiting, diarrhea and general weakness; brought to hospital delirious; head markedly retracted; tenderness along spine; herpes; boat-shaped abdomen; slight strabismus of left eye, conjunctivitis; temperature 101 F.; pulse 114; reflexes slightly exaggerated; delirium lasted about three weeks; after a four-weeks course the symptoms gradually abated, leaving patient in a greatly emaciated condition; patient discharged recovered August 5.

Case 34.—Female, aged 46, admitted July 5, 1898; sick for some time before admission, symptoms resembling typhoid fever, with very severe headache; comatose; marked retraction of the head, neck rigid and tender; no eye symptoms; no eruption; contractures of muscles; temperature 101 F.; pulse 100; July 8, great difficulty in swallowing; died July 9.

Case 35.—Female, aged 31, admitted May 14, 1898; taken ill suddenly with severe headache, nausea and vomiting; on admission is suffering from severe headache and pains in chest, moans continuously, vomited, very restless and nervous; spleen enlarged; Widal's test shows partial reaction; hyperesthesia over greater part of body, greatest over spine; marked rigidity of neck; tongue coated and scaly; May 17, patient very restless, severe pain in head and neck; May 26, severe vomiting spell; May 27, patient delirious, moans continuously; May 30, better, not delirious; May 31, again delirious; June 4, great difficulty in swallowing, pupils dilate and contract from time to time;

June 5, pulse very weak, reflexes normal; June 11, trembles constantly; June 13, great difficulty in swallowing, which persisted up to time of death; June 30, right pupil dilated, left contracted; died July 1; ante-mortem rise in temperature to 109 F.

Case 36.—Female, aged eight months, admitted June 6, 1898; has been sick about two months; feverish and cried a good deal at first; semicomatose, at times rigid; head retracted, nystagmus; vomits frequently, abdomen tender: not improving, opisthotonos so that child could be lifted by the heels and head; June 15, same condition; June 16, had several convulsions last night, restless; June 24, condition about the same, no more convulsions; June 27, looks somewhat better, retention of urine since 4 P.M. yesterday; July 5, slight convulsions; July 8, marked contracture of muscles; boat-shaped abdomen; died July 12. In this case temporary strabismus had been noticed at times.

Case 37.—Female, aged 4, seen June 20, 1898; ill three weeks; taken sick suddenly with headache, vomiting, stiffness of neck and fever; semi-comatose, pupils dilated, muscles of neck rigid, spine tender, opisthotonos, great emaciation, no eruption; abdomen and chest negative; joints not swollen; temperature 101 F.; swallowing difficult; remained in very much the same condition, with the exception of occasional convulsions, until one week before death, when paralysis of the muscles of the eyeball set in; died July 10, 1898.

Case 38.—Female, age seven months, sister to Case 37, was taken sick with similar symptoms about three days after onset of the disease in her sister; ran a more chronic course, with only a slight rise in temperature; had frequent vomiting spells, scaphoid abdomen and marked retraction of head; circumference of the head considerably increased as shown by measurements; marked bulging of the fontanelles; died August 3.

SYMPTOMATOLOGY.

Although this subject has been exhaustively treated in descriptions of epidemics occurring elsewhere, yet as almost every epidemic offers some distinctive features, a closer consideration of the symptoms met with in these cases may be useful.

Pain.—This is predominant and, as a rule, the earliest symptom of epidemic cerebrospinal meningitis. It varies in severity from a moderately severe headache to an agonizing pain radiating apparently through the entire body. Headache was found present in all of the cases where a complete history could be obtained. As a rule it affected the entire head, being most severe in the occipital region. In one case the patient, at the onset of the disease, complained chiefly of severe pain in the limbs, while the head was not much affected, and in four cases severe backache was the symptom causing the greatest distress to the patient. In three instances abdominal pain was noted and in two there was hyperesthesia of the greater part of the body, so intense in one case that the slightest touch would throw the patient into convulsions. In one case the pain was chiefly referred to the chest, without there being any objective signs of a diseased condition in the thoracic viscera; another patient complained of boring pain in the bones, resembling that of osteomyelitis. Tenderness in the iliac and splenic areas was noticed in one case. The spine was generally sensitive, although in a varying degree, and in some cases the slightest touch would elicit pain, while in others deep pressure was necessary. Attempted flexion of the head usually caused pain, which in some cases was of an excruciating nature, causing the patient to cry out aloud. In some of the cases the headache and tenderness of the spine persisted after the patient had made an apparent recovery.

Chills.—As an initial symptom, chills occurred in seven out of the thirty-eight cases in the series. In two cases the patients had complained of a chilly sensation several days before the onset of the acute symptoms. In one case a chill lasting thirty minutes occurred on the third day of the disease. The majority of the cases beginning with a chill ended fatally.

Gastro-intestinal symptoms.—Vomiting is one of the most constant initial symptoms of cerebrospinal meningitis, having occurred in twenty-six cases at the onset, while in four it occurred during the first days of the disease. In the cases occurring in adults, true projectile vomiting was seldom met with at the onset, although it was later on noticed in several. In some, vomiting was almost continuous, and proved to be a very annoying symptom, medication being of little avail. It is generally regarded as being due to irritation of the vomiting center in the medulla. As a rule it was independent of the taking of food. The tongue was coated in the majority of cases, but showed nothing pathognomonic; in some of the cases it was coated thickly in the center, with clean edges; in others the edges were thickly coated and swollen, while the center was clean; of greater diagnostic value was the trembling of the tongue often noted on its being protruded. The condition of the bowels also varied greatly. In six cases diarrhea occurred, in two instances being of a rather intractable nature. Constipation was more frequent, occurring in nine of the cases.

There is one symptom to which the writer wishes to call especial attention, as it has to his knowledge not been dwelt upon to any extent in previous reports. This is difficulty in swallowing. It was noticed in six cases, each of which terminated fatally; it must therefore be considered as a grave omen in the prognosis. As a rule it was found late in the disease, when the patient had become semicomatose, but in one instance it occurred several weeks before death, while the patient was still perfectly conscious. Its causation is not clear, but it seems plausible that it is due to an accumulation of fluid in the fourth ventricle exerting pressure on the nerve-centers which control deglutition in its immediate vicinity. As lumbar puncture was not made in any of the cases where this symptom was present, the effect of the withdrawing of the fluid could not be ascertained.

Skin.—Herpes labialis was the most prominent skin lesion and was present in twelve cases, which is about the same percentage as found in the Boston statistics of Councilman, Mallory and Wright. One case showed a papular eruption; another a reddish-brown macular eruption. Petechial patches were noted once and *taché cerebralis* was found in a number of the cases.

Retraction of the head.—In thirty cases there was retraction of the head, varying in degree; in some so slight as only to be noticeable on close examination, or on attempting flexion, while in others marked opisthotonos was present. In one case the rigidity was so great that the child could be lifted by the head and heels, without any noticeable change in the degree of the opisthotonos.

Eyes.—The eyes were more or less affected in a large proportion of cases and form an item of interest in connection with diagnosis. The ocular manifestations varied from a simple congestion of the conjunctiva, which occurred in six cases, to trophoneurotic ulceration of the cornea and destruction of the eye in one. In two there was purulent conjunctivitis and one showed, on ophthalmoscopic examination, a cupped disc. The pupilary symptoms were not constant; in five cases the pupils were dilated, and in two of these the dilation was more marked in one eye than in the other; they were contracted in four, and dilated in one eye and contracted in the other in one case. In one they were seen to dilate and contract from time to time, without apparent cause. Nystagmus was observed five times, and paralysis of the muscles of the eyeball once, the eye remaining fixed. Strabismus occurred in four cases, in one instance being transitory, and paresis of the right external rectus was noted once. In one case there was absolute blindness extending over a considerable period of time, without any apparent lesion to account for it. Puffiness of the eyelids occurred twice, and diplopia once. Photophobia, which is generally described as one of the symptoms, was observed comparatively few times. Lesions of the fundus also did not form a prominent feature, although this may be partly due to the fact that an ophthalmoscopic examination was frequently omitted.

Sensorium.—In twenty cases the patients became delirious in the course of the disease, and the delirium in some cases, especially where the disease occurred in robust young men, was of a violent type. In some instances hallucinations were present resembling those of delirium tremens. The delirium in some of the cases appeared early, the patient being markedly delirious on the second or third day of the disease; in others it did not appear until the second or third week. The delirium in these cases did not seem to have any connection with the height of the temperature. In five of the cases the patients, though conscious, seemed to be perfectly apathetic in regard to their surroundings and conditions, while in others, again there was noted great irritability of temper, the slightest cause producing anger. Coma was observed five times and was as a rule absolute, it being impossible to arouse the patients, although in one or two cases the patient suddenly regained consciousness, but relapsed into his former state after a brief interval. In two cases the mental faculties were seriously impaired after recovery from the acute symptoms had taken place.

Motor disturbances, reflexes, etc.—The motor disturbances of the eye have already been considered under another heading, so we now take up those of the body in general. Paralysis of all the voluntary muscles of the body was observed in two cases shortly before death; paralysis of the facial muscles on the left side was also twice noted, and paralysis of the right hand once In two cases contractures of the muscles occurred, in three there was muscular twitching. chiefly in the extremities, and tremor of the hands was observed in two instances. Involuntary evacuations of urine and feces during the course of the disease were noted six times. This is not necessarily a fatal omen, as several of these cases recovered. Subsultus tendinum was found twice, and, as in typhoid, is a grave sign. Convulsions were rare in adults, but frequent at the onset in children. In several children convulsions occurred from time to time during the course of the disease; in one the slightest touch would bring on an attack. The state of the reflexes was not constant, but as a rule they were not perceptibly altered. In five instances the knee-jerk was exaggerated, and diminished in three, while in one it was entirely absent, and in another was absent on one side and increased on the other. The cremasteric reflex was absent in one case and increased tricipital reflex was noted in one. The causation of this variation in the reflex action has never been satisfactorily explained.

Abdomen.—In twelve cases there was retraction of the abdominal walls producing the condition described as "boat-shaped" abdomen. Tympanites was present in three cases, and in one of these the abdomen was markedly tender. Splenic enlargement was observed in four cases, but in none was the enlargement as great as it usually is in typhoid fever, The liver was found enlarged in two instances. Gurgling in the iliac fossæ was elicited in two examined for this, rather unreliable symptom.

Joints.— Joint affections were encountered five times, varying in severity from simple tenderness and pain on motion to a condition closely resembling acute articular rheumatism; in no instance, however, were these symptoms of long duration, and suppuration was not noticed. The joints chiefly affected were the wrists, and next the ankle-joints.

Blood.—A careful blood analysis was made only in a limited number of cases; in all instances leucocytosis was found to exist. In one pigmented leucocytes were found, together with a few extracorpuscular bodies containing pigment. Widal's test was generally negative, although in one or two instances a partial reaction was noted.

Urine.—In seven of the cases the urine was albuminous; in one sugar as well was present. An excess of earthy phosphates was noted once. In none of the cases where albumin was discovered were casts found. Cylindroids were found in one case; the urine being otherwise normal.

Thorax.—True lobar pneumonia as a coincident lesion was noted in two instances, in both, however, the symptoms of meningitis predominated. Other symptoms were found in five cases, chiefly diminished resonance, which could not be properly explained. This condition was found three times. A blowing systolic murmur at the apex-beat occurred twice, and Cheyne-Stokes respiration once during the course of the disease, and in several instances shortly before dissolution took place.

Pulse and temperature.—In regard to the pulse and temperature curves, which have been charted, the same variations and irregularities as those described by Wunderlich were found. As a rule the initial symptoms were accompanied by a rise in temperature which rarely exceeded 102 during the first forty-eight hours. In some of the cases this initial rise was followed by a period of three or four days, during which the temperature would remain normal, after which there would be another rise. The height of the initial fever afforded no criterion whatever as to the severity of the disease, as in a number of the cases which began with violent symptoms and a considerable increase in temperature the patient made a rapid recovery, while in others which began insidiously and in which the rise was very slight at the onset, the symptoms gradually increased in severity, the disease ending fatally. Often after a continued rise extending over two or three weeks there would be a sudden drop to normal, the temperature remaining low from three days to a week, followed by another rise which in some instances exceeded the primary one. One curious feature was that as a rule the drop was not attended by a corresponding amelioration of the other symptoms; while in other cases there would be considerable improvement for a certain period, notwithstanding the temperature remained high. The time of day seemed to exert little influence on the temperature; some cases showed a distinct morning remission, but this was not constant, as it frequently occurred that on the day following the one on which there had been a morning remission, the morning temperature would exceed that of the previous evening; the next day would perhaps again reverse the order. In some cases the disease ran almost an afebrile course; in fact, it may almost be said of this disease that the only regular feature of its temperature curve is its irregularity. An ante-mortem rise in temperature was noted in three cases; in one of these the axillary temperature was 109 F. There was no relation between the temperature and the pulse. It may be given as a rule that the characteristic feature of the pulse in epidemic cerebrospinal meningitis is its slowness, although this rule is not constant, as there are cases met with in which the heart's action is accelerated considerably beyond normal. In one instance in our series, where the patient had a temperature of 105 F., the pulse at the same time was only 80. Within a few hours previous to death there was, as a rule, a great increase in the frequency of the pulse, even in those cases where it had been slow during the course of the disease. In volume the pulse is usually full; a dicrotic pulse was seldom met with.

Special symptoms.—Among special symptoms, ear troubles, on which special stress has been laid by previous observers, were only noticed in a small number of cases. Some deafness was met with comparatively often, and in one or two instances suppurative middle ear disease, but aside from these there was an almost complete absence of aural complications. Lesions of the nasal and pharyngeal mucous membrane were also unfrequent in their severer forms, although redness or a slight catarrhal condition occurred in a number of the cases. Epistaxis was found once. Bulging of the fontanelles occurred as a rule in younger children, in one case the intracerebral accumulation of fluid causing a considerable increase in the circumference of the skull. In protracted cases convalescence usually found the patients greatly emaciated and exhausted, from which condition they recovered very slowly, some of the young children, in fact, succumbing from inanition after the acute symptoms had subsided.

General course of the disease.—As to the general course of the disease, the average duration of the Chicago cases with recovery was four weeks. Some ran a much shorter course, recovery taking place within two weeks, while in others it was delayed from six to eight weeks. Relapses were noted in several instances. It can not be said, however, that this is a disease prone to relapses. In the fatal cases death usually took place within two weeks. Cases such as have been described under the name of "meningitis siderans," in which death takes place within a few hours or days, were very rare during the epidemic. Of the thirty-eight cases described, twenty-five ended fatally, a mortality of 65 per cent.; this figure is far from correct when applied to the entire number of cases in the city, as cerebrospinal meningitis is not properly a hospital disease, comparatively few cases being sent to the hospitals, and these only where the disease was severe. This explains the apparently excessive mortality, as our cases were almost exclusively taken from the hospital records. The writer has the testimony of a number of physicians to the effect that mild cases not requiring hospital care were very frequent, and that if these were averaged up with the more severe cases, the mortality would probably not exceed 20 per cent.

Sanitary Aspect.—In considering those features of the disease which are of interest to the sanitarian, it becomes necessary to take up each feature separately, and afterward arrive at our conclusions from a study of the salient points of the whole. There are few diseases excepting leprosy about which so many different opinions have been expressed as to the mode of propagation as in epidemic cerebrospinal meningitis. As it is a disease which, the world over, is rather on the increase than on the decrease, and is, therefore, a constant menace to an unprotected populace, the study of the factors which enable it to spread and the means by which it can be prevented becomes one of considerable interest to the sanitarian.

Propagation by contagion.—A question such as this can only be decided by a careful weighing of the testimony. Those factors which speak against the disease being spread by direct contact, are: 1. Scarcely any of the epidemics have shown continuous extension, the disease often appearing simultaneously in widely separated communities, while the intervening country remained immune. In this respect it thus differs from most diseases classed as contagious, as smallpox or yellow fever. 2. The source of infection, as a rule, can not be discovered—in this respect also differing from the diseases mentioned. 3. During a number of epidemics it has almost been the rule that inmates of the same home where the disease occurred escape contagion, only isolated cases occurring. In a large number of instances isolated cases occurred in various sections of a city, the disease not being confined to any particular locality. 5. Persons in no way coming in contact with those having the disease are afflicted. 6. The nurses and physicians in attendance on cases of epidemic cerebrospinal meningitis rarely take the disease.

In favor of its contagious nature the following ing facts are quoted: 1. The disease quite frequently attacks members of the same family, as is shown by Brooks,[78] Kohlman,[80] Trevelyan[82] and others. 2. Persons nursing cases of cerebrospinal meningitis have taken the disease, as is stated by Erdman[81] and others. 3. Epidemics in hospitals and jails, nearly every inmate taking the disease; the disease sometimes being confined to one ward. Instances of this kind were reported by Lancereaux and Besancon[93]. 4. Cases occurring grouped in little foci, as in the epidemic at Lonacoming. 5. Evidence that in some instances the disease is carried from one person to another by a carrier who remains immune, as was shown by Peterson,[84] in a child 5 years of age; the brother-in-law, who was tax collector, and had to enter a house where the disease was prevailing, lived in the same rooms with the patient—the child mentioned taking the disease after a few days, while the brother-in law escaped. In this same epidemic, described by Peterson, the contagion could be traced in many instances. 6. In the French epidemics during the early '40s the disease extended with the movements of the troops.

In the Chicago epidemics there were a number of instances recorded in favor of the disease being contagious. In one instance there were three cases in one house, two being in the same family. These cases developed within about a week of each other; in four other instances which came to the writer's notice, two cases occurred in the same family. About one-half the cases mentioned in this report occurred within a territory about a square mile in extent, while the remainder were scattered over almost the entire city, the extreme south and west sides remaining immune.

It will be seen by studying the pros and cons mentioned above, that they are almost exactly contradictory, and therefore would have a tendency to neutralize each other, making the testimony worthless, either way; this is, however, not the case when the disease is considered in the light of recent research. The writer firmly believes that epidemic cerebrospinal meningitis *is* contagious, not like measles and scarlatina, but very closely resembling phthisis pulmonalis. Kiefer,[74] Ghon and others have almost conclusively proven that the specific germ exists in the buccal and nasal secretions; hence it stands to reason that where, through uncleanliness or neglect, these secretions are scattered broadcast, it is quite easy for the organisms to enter the nasal and buccal cavities of persons exposed, and, the proper conditions being present, for the disease to develop. The nature of the bacterium explains why the disease is apparently, in some instances, contagious, while it is not so in others. For instance, as is shown in the section on bacteriology, the germ will only grow for a limited length of time; this explains why persons, moving into rooms previously occupied by a person having the disease, do not contract cerebrospinal meningitis. The reason why the disease does not spread in the wards of hospitals is because the infective material is not scattered around. The disease is more prevalent during or following wet weather, because the germ retains its life longer in a moist medium than in a dry one. In fact, by a careful consideration of the mode of growth of this germ a majority of the apparent inconsistencies in the history of the spread of this disease will become clear.

The question whether cases should be isolated is of interest, both to the sanitarian and to the practitioner. By the medical officers of the great military establishments of Germany, Great Britain and France, cases are strictly isolated as a precautionary measure. This is done on account of the fact that epidemics of the disease in barracks have been by no means of rare occurrence. During the recent limited outbreak of cerebrospinal meningitis among the troops at Chickamauga Park, the cases were also isolated, with the apparent result of a stoppage of the spread of the disease. As a rule, in large city hospitals the cases were admitted into the general wards without any other inmates taking the disease. Cerebrospinal meningitis at the present time is not considered contagious by the health boards of our cities, and physicians are not required to report the cases occurring in their practice. The same state of affairs had existed until a short time ago in regard to phthisis pulmonalis, but recently some of the health authorities have, in view of the constant increase of pulmonary tuberculosis, taken measures that cases of this disease be investigated and controlled in a manner similar to that by which cases of the more generally acknowledged contagious disease have been controlled. Although epidemic cerebrospinal meningitis does not as a rule spread by direct contact, still it has been proven to do so in exceptional cases when the conditions for its propagation are favorable. These conditions are uncleanliness and a general unsanitary condition of the environment of the patient. It therefore seems probable that, although all harsh measures are to be deprecated, if a certain amount of control could be exerted by the public health authorities, over these cases, the spread of the disease could be limited to some extent. Isolation should be insisted upon whenever practicable and sanitary defects remedied. During an epidemic it might be advisable to caution those exposed to use a mild antiseptic nose-and-throat spray or wash, in accordance with the more generally accepted view that the specific germ gains entrance through these passages.

Influence of sanitary defects.—This disease is no exception to the rule that the spread of epidemic diseases is increased by unsanitary conditions. It has been stated that the disease occurred among all classes and conditions of people, but many instances which prove the relation between cerebrospinal meningitis and unsanitary conditions could be cited, and a few examples may not be out of place:

In his description of an epidemic in Norwich, N. Y., Brooks[78] states that the following conditions existed: Norwich lies in a valley about a mile wide, between high hills and practically surrounded by them; at the west side of the valley, at the foot of the hills, is a large creek, and at the foot of the eastern hills is a river of medium size. The creek referred to comes through a narrow valley and starts in the town of Plymouth where cases of cerebrospinal meningitis occurred coincident with the epidemic in Norwich. This creek empties into the Chenango River at the lower end of Norwich village. Eight miles below Norwich, on the same river and in the same valley, is Oxford, where twelve cases occurred. Eleven miles above Norwich, on the same river and in the same valley, is located Sherbourne, the location of a severe epidemic of cerebrospinal fever in 1860. North Norwich lies six miles above Norwich, in the same valley. Eighteen cases occurred here, where cases also occurred in 1860. The creek mentioned passes through the center of the town and makes the greater part of it into an island, it being low and swampy. The soil of the valley referred to is composed of a layer of loam, beneath which is a layer of sand and gravel, the whole being underlaid by a thick layer of blue clay. This clay is impenetrable and retains everything above it. There was no system of sewerage, drains and closets being made in the soil. A system of water-supply exists, the reservoir being three miles from the village, and for three years the extra material has been washed into the soil. The general direction of the water current is from the northwest toward the southeast. At the northwest end of the village was a slaughter-house and another at the northern part, both kept in a filthy condition and surrounded by large hog-yards. The northeast part of the village is most thickly settled and contains numerous stables, shops, a tannery, and an abandoned basin nearly a quarter of a mile in length, that has been used for cesspool purposes for several years without cleaning. The northwest and the southeastern portions were next in order of unsanitary conditions. The severe winter caused the ground to be frozen to an unusual depth which, together with the natural construction of the soil, caused an accumulation in the cesspools and vaults instead of draining off.

In the northeast section, with a population of 1599 inhabitants, there were 29 cases; in 17 of the houses where cases occurred the sanitary condition was very bad, in 5 fair, but not good, and in the remaining 7 there was no fault. In the northwest section, with a population of 1395, there were 18 cases, 11 of the houses were in a bad condition, 3 fair and 4 good; in the southeastern section, with a population of 1204, there were 13 cases, 9 of the houses were in a bad condition, 2 fair and 2 good, and in the southwestern section, with 780 inhabitants, there were 4 cases, 3 of the houses being unsanitary, while one was in a fair condition.

Brooks arrives at the conclusion that while unsanitary conditions do not produce the disease, they have much influence in localizing it when the proper causative condition exists. Very characteristic is also the description of the unsanitary condition of Lonaconing, by Flexner and Barker.[58] In this town a severe epidemic raged in 1893. Lonaconing is a mining town of 5000 inhabitants, located in a valley on the sides of steep hills, at whose bottom runs a muddy creek. Privies are above the houses and flat upon the ground. All refuse, etc., is washed down the mountain side by the houses and through the yards, after a rain or thaw, and down into the creek, which acts as a sewer. The drinking water is derived from surface wells and cisterns. In the valley the wells are situated but a few feet from the creek. The slaughter-house is in the heart of the town. Carcasses of horses are frequently floating in the stream or lying on the banks. There was great overcrowding, eight to eleven persons living in a house of four small rooms. In one house where a fatal case occurred, eleven persons slept in three bed-rooms. The houses often stand very close together, not leaving room for a footpath between them, and were themselves usually in a filthy condition.

During the Chicago epidemic fifty-one houses where cases of meningitis had occurred were inspected by the writer. In twenty-one of the houses or their surroundings unsanitary conditions were found which, in some instances, were very bad. In one house where a fatal case occurred, nine families were living in a ten-room house, which was littered with filth of every description. Defective plumbing was discovered in a number of instances, and remedied through the health department. In eighteen of the houses the sanitary condition was fair, while twelve were in a good condition. The majority of the cases occurred in the poorer quarters, inhabited chiefly by foreigners.

From a consideration of our present knowledge of epidemic cerebrospinal meningitis, the writer arrives at the following conclusions:

1. That epidemic cerebrospinal meningitis is to be classed among the contagious diseases, belonging in this respect to the same category as phthisis pulmonalis.

2. That unsanitary conditions exert great influence in affording a proper nidus for the growth of the germ of this disease.

3. That the health authorities should receive notice of the occurrence of a case of this disease in order that sanitary defects may be remedied.

4. Persons afflicted with this disease should, whenever possible, be isolated, and all evacuations rendered sterile by the use of antiseptics.

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CONTRIBUTION TO OUR KNOWLEDGE OF TUBERCULOSIS ANTITOXIN.

BY C. FISCH, Ph.D., M.D.
ST. LOUIS, MO.

(Concluded from page 709.)

It is very probable that in the future the serum of geese will prove to be a very efficient toxin-carrier. Injections (intraperitoneal) of high doses of TBET, etc. (from human tuberculosis) act in them, stimulating to a much higher degree; antitoxin is readily produced and accumulated. I shall report as to my experiments in this line, as well as a series of experiments with the serum of a number of immunized horses, in another paper. I will only mention here that I can fully substantiate my former conclusions by repeated investigations, although I must admit that a number of animals reported on in my previous paper afterward died; some of them succumbed to a very slow form of tuberculosis, while others died from intercurrent diseases, mostly intestinal adhesions and constrictions following the injections. Still, a great number have survived until today, and have repeatedly propagated and given life to several healthy generations of offspring. Since it is not my object in this paper to enter into details about the immunizing or curative properties of the antitoxins in animal experimentation, which would be only a repetition of things said before, I simply refer to a future publication. I will, however, say that the offspring of these cured guinea-pigs have not inherited any immunity against tuberculosis whatsoever; the phenomena observed in them after inoculation differ in no way from those seen in ordinary animals. I was enabled to make the same observation in the colt of one of my immunized horses; while the serum of the mother was antitoxic to a marked degree, the serum of the colt was absolutely devoid of any such quality.

There is one more point that I am anxious to correct in regard to an assertion made in my previous paper. Table 13 was intended to show the bactericidal action of such an antituberculous serum. However, the conclusions drawn from it were premature, since all four guinea-pigs (Nos. 5, 8, 12 and 24) died at a later period from typic, although protracted, tuberculosis. So far, I have been unable to arrive at any definite results as to the bactericidal action; all I dare say is that a certain degree of attenuating influence seems to be exerted by such a serum.

For several reasons I have so far continued using mainly horses for immunizing purposes, one of the reasons being that we are more intimately acquainted with the normal and pathologic physiology of this animal than with that of any other domestic animal, and that, therefore, their treatment can be carried on on the most intelligent plan. Furthermore they react very easily, as, altogether, the horse is quite susceptible to the infection with tubercle bacilli. Injection of living bacilli under the skin almost always sets up characteristic tuberculous lesions, the retrogressive changes of which under continued toxin treatment are very instructive and typic.

The quantities of toxin used for immunization have enormously increased since my first report. Some of my animals have repeatedly received doses containing 1,500,000 M, that means ten and more times more than the highest dose formerly reported. Most of them tolerate the treatment well, only one or two appearing to slowly develop a condition of cachexia. The serum of these two horses is weak in its antitoxic power and not utilized. The injections of the toxins are of late always made intravenously.

With the more accurate methods now at our command, the antitoxic potency of this serum, which I have called antiphthisic serum, is determined as shown in the following table. For the dilution normal salt solution was always used, and the mode of injection was the intracerebral one, as described. The toxins were the same as those, the toxic coefficient of which was given above. In order to facilitate comparisons the intracerebral doses are always calculated as subcutaneous doses (1 intracerebr. dose=180 subcutaneous fatal doses, death within 24 to 48 hours). M. means guinea-pig, the exponent attached to it designates the weight in grams, +M. is the fatal dose for one gram of guinea-pig, while —M. is the amount of antitoxin neutralizing the same numbers of +M., A. is antitoxin. H.t. stands for highest temperature. For measuring the quantity of fluids injected, an especial set of very accurate pipettes prepared by Lautenschläger in Berlin was used.

A. Serum from a horse under treatment for 6 months.

Highest dose injected=300,000+M (in form of TO and TBET.)

M 255 g. 1st day: 255+M (TBT 1)=182 mg.=0.001 toxin; 9 c.c. A.=0.05 antitoxin in 0.2 c.c.; 2d day: All right; 3d day: All right; 4th day: All right.

M 300 g. 1st day: 300+M (T B T 1)=214 mg.=0 0012 toxin; 4.5 c.c. A=0.025 antitoxin in 0 2 c.c. 2d day: All right; 3d day: All right; 4th day: All right.

M 280 g. 1st day: 280+M (TBT 1)=200 mg.=0.0011 toxin; 3.6 c.c. A=0.020 antitoxin in 0.2 c.c. 2d day: All right; 3d day: All right; 4th day: All right.

M 265 g. 1st day: 265+M (TBT 1)=190 mg.=0.00105 toxin; 2.7 cc A.=0.0015 antitoxin in 0.2 c.c. 2d day: Dead.

M 275 g. 1st day: 275+M (TBT 1)=196 mg.=0,00109 toxin; 2.7 c.c. A=0.015 antitoxin in 0.2 c.c. 2d day: Very sick (H. t. 41.2 deg. C.); 3d day: Dead.

These figures therefore mean that 1 c.c. of the serum was sufficient to neutralize almost exactly 78+M (1 c.c.=78—M), or 1 cc antitoxin+78+M=0., or 1 c.c. A.+0.200 g. TBT 1=78—M+78+M.

A^2. Serum of the same horse, tested with TD (8) (same bleeding).

M 260 g. 1st day: 0.045 g.=260+M (TD)=0.00025 g. toxin; 9 c.c. A=0.05 antitoxin in 0.2 c.c. 2d day: All right; 3d day: All right; 4th day: All right.

M. 280 g. 1st day: 0.0475 g, T D (280+M)=0.00026 toxin; 4.5 c.c. A.=0.025 antitoxin, in 0.2 c.c. 2d day: All right; 3d and 4th day: All right.

M. 290 g. 1st day: 0.05 g. TD (294.4+M)=0.00027 toxin; 3.6 c.c.=0.020 antitoxin, in 0.2 c.c. 2d, 3d and 4th day: All right.

M 255 g. 1st day: 0.044 g. TD (256+M)=0.00024 toxin; 2.7 c.c. A.=0.015 antitoxin, in 0.2 c.c. 2d day: Dead.

According to this determination we find 1 c.c. A.=80—M. The difference from the result of experiment A is so slight that the exactness of the method asserts itself very impressively.

B. Serum of a horse treated for 16 months.

Repeatedly doses of 1500000+M (in form of TBET and TD) have been injected.

M 255 g. 1st day: 182 mg. (TBT)=255+M=0.001 toxin, 2.7 c.c. A.=0.015 antitoxin, in 0.2 c.c. 2d, 3d and 4th days: All right.

M 270 g. 1st day: 193 mg.=270+M=0.0011 toxin; 1.80 c.c. A.=0.010 antitoxin, in 0.1 c.c. 2d, 3d and 4th days: All right.

M 285 g. 1st day: 203 mg.=285+M=0.0011 toxin; 0.9 c.c. A.=0.005 antitoxin, in 0.2 c.c. 2d day: Very sick. H. t. 42.0 C.; 3d day: Dead.

M 280 g. 1st day: 200 mg.=280+M=0.0011 toxin; 1.44 c.c. A.=0.008 antitoxin, in 0.2 c.c. 2d, 3d and 4th days: All right.

M 275 g. 1st day: 196 mg.=275+M=0.0011 toxin; 1.08 c.c. A.=0.006 antitoxin, in 0.2 c.c. 2d day: Dead.

M 290 g. 1st day: 207 mg.=291+M=0.0012 toxin; 1.26 c.c. A.=0.007 antitoxin, in 0.2 c.c. 2d day: Very sick. H. t. 41.6 deg. C.; 3d day: H. t. 39.4 deg. C.; 4th day: H. t. 38.8 deg. C. Remained alive.

M 285 g. 1st day: 203 mg.=285+M=0.0011 (5) toxin; 1.26 c.c. A.=0.007 antitoxin, in 0.2 c.c. 2d day: Very sick. H. t. 41.2 deg. C.; 3d day: Dead.

The limit of protection of this serum is given with 1.26 c.c. for 290 M. The antitoxic potency therefore is: 1 c.c.=230—M. A test made with TO gave the equation 1 c.c. A.=224—M. In order not to take up too much space I shall subjoin here a number of other determinations, giving only the final equations.

C. Horse (Queen): Date 12/15/98, 1 c.c. A.=180—M.
D. " (Lottie): " 12/27/98, 1 c.c. A.=196—M.
E. " (Houser): " 1/12/99, 1 c.c. A.=85—M.
F. " (Houser): " 11/10/98, 1 c.c. A.=54 M.
G. " (Ewing): " 1/17/99, 1 c.c. A.=220—M.
H. " (Queen): " 1/17/99, 1 c.c. A.=190—M.

That the relations of the neutralizations of toxins and antitoxins are the same as those obtaining for the toxins of diphtheria, tetanus and other bacteria is made very probable by the following experiment:

M 270 g. 1st day: 0.965 g. TBT subcutan.=1350+M (or 5+M pro 1 g). 5.85 c.c. A.=1350—M (or 5—M pro 1 g.) 2d day, 3d day and 4th day: All right.

M 275 g. 1st day: 0.998 TBT subcut.=1375+25+M (or 5.09+M pro 1 g.) 5.98 c.c. A.=1375—M (or 5—M pro 1 g.) 2d day: Slightly depressed. H. t. 38.9 deg. C.; 3d day: All right; 4th day: The same.

M 260 g. 1st day: 0.966 g. TBT subcut=1300+50+M (or 5.2+M pro 1 g.) 5.65 c.c. A.=1300—M (or 5—M pro 1 g.). 2d day: Quite sick. Does not eat. H. t. 39.0 deg. C.; 3d day:

Name, age, beginning of treatment.	Anamnesis.	Tuberculous lesions. (sputum.)	Injections.	Reaction.	Temperature.	Present condition of tubercl. lesions.	Increase of weight.	T.B. in sputum.	Tuberculin reaction.	Other treatment	General remarks.
1. J. W., male. 27 years; not married; Jan. 14, 1898.	No family history; no serious disease before; good physic; no fever; no sweats, little cough, scant expectoration.	Moderate dulness over right apex; retarded expiration; some moist râles over area of dulness; Gaffky No. 3.	From Jan. 15, 1898, to Nov. 20, daily 1 c.c.; from then till present time twice a week 1 c.c.	None whatever.	Normal; sometimes subnormal in morning (97.8 degrees).	Dull areas almost clear; no râles; in- and expiration normal; no cough, no sputum for several months.	16 lbs . .	No T.B. found from November 20 up to present.	No reaction on 0.1+M (about 1 mg. Old Tuberculin) on Dec. 14, 1898; no reaction on 0.5+M Jan. 14.	None . . .	Appearance strong and healthy; has been working hard all along.
2. S. S., female. 28 years; married, no children: Dec. 14, 1897.	Family history bad; croupous pneumonia; little cough, little sputum, G. 1; appearance good, no sweats; normal temperature.	Very slight dulness over right apex (posteriorly); no râles; left lung free; slight loss of weight.	From Dec. 20, 1897, to May 8, 1898, 1 c.c. daily: from then up to date 3 times a week 1 c.c.	In the beginning slight infiltrations later none.	Normal; morning temperature) became so toward Aug., 1898.	Right apex perfectly free.	7 lbs. . .	No sputum obtained since in May, '98, no T. B. then.	0.5+M on Nov. 10, 1898 without reaction.	None . . .	
3. J. C., male. 34 years; married; two healthy children; Sept. 12, 1897.	Fam. history good; always healthy before; no sweats, very little cough, little sputum, G. 3; loss of weight; broken down appearance.	Posteriorly under clavicle of right lung; small area of dulness; no râles; bronchial breathing not pronounced.	From Sept. 16, 1897, to Feb. 12, 1898, 1 c.c. daily; afterward twice weekly 1 c.c until May 8, 1898.	None . . .	Normal; morning temperature normal now.	Nothing found on examination; no sputum.	21 lbs . .	T.B. not found in many weeks.	Does not react on 0.5 to 0.75 +M.	None . . .	Went south, May, 1898, on business; returned in Oct., 1898; on injection of Old Tuberculin no reaction.
4. A. W., female, age 19 years; not married; Mar. 10, 1898.	Family history bad; no previous disease; disease starts after a severe cold; sweats, fever (100.5); expectoration g. 7.	Dulness anteriorly and posteriorly of upper lobe of right lung; bronchial breathing; mushy râles; left apex, anteriorly. slight duln's; no moist sounds.	From March 12, 1898, until present time 1 c.c. daily.	At times slight infiltration.	Became normal in May. 1898.	Left apex clear, on right side, anteriorly, still slight dulness; no moist sounds; hardly any sputum.	5 lbs. . .	Found T.B. for the last time Oct. 2, 1898.	. . . .	Small doses of creosote, short courses of 3 weeks.	
5. L. L., female, age 42 years; mother of 3 sickly, scrofulous children; Aug. 30, 1898.	Family history very bad; neurasthenic, asthmatic; very much run down; great loss of weight; cough, expectorates (g. 3): fever now and then; night sweats.	Right lung dull in upper and middle lobe, anteriorly and posteriorly; moist râles all over the affected areas: no cavities; left lung: cog-wheel breathing, anteriorly, upper lobe.	From Aug. 30, 1897, to May 2, 1898, 1 c.c. daily; from then to Sept. 20, 1898, three injections weekly.	None . . .	Normal since May, 1898.	Left lung entirely free; in right some dulness remaining; no moist sounds, no cough, no expectoration.	14 lbs . .	T.B. seen last on Sept. 30, 1898; no sputum obtained since.	No reaction with 2+M (33 mg).	Small doses of creosote and strychnia.	Since Sept., 1899, no subjective nor objective symptoms exist; active immunization with Old Tuberculin begun; patient's last dose, 2+M, without reaction; this treatment begun by inunc.
6. B. W., female, age 27 years; not married; Oct. 9, 1897.	No family history; slender; emaciated; sweats; cough; profuse expectoration; G. 7; very anemic; bad appearance; fever up to 101.	Right lung dull in its whole extent; moist râles all over the upper half; small cavity under clavicle anteriorly; bronchial breathing in upper half of left lung post.	From Oct. 9, 1897, to Oct. 30, 1898, daily 1 c.c.; from then till now 1 c.c. twice weekly.	None . . .	Normal since January, 1898.	Left lung clear; no moist sounds now for long time; dulness persisting but less; bronch. breath. not m'ked	17 lbs . .	T. B. seen for the last time in September, 1898.	. . . .	Some strychnia and iron.	
7. W. A., male, age 28 years; not married; July 25, 1897.	No family history: became sick 3 months ago: emaciated, night sweats, much cough, profuse expectoration, many t. b.; temperature 101 to 104.4 degrees.	Right lung dull post. and ant. over middle lobe; moist râles in upper and middle lobe; bronchial breathing all over; left lung free.	From July 25, 1897, May, 1898, daily, 1 c.c.	None . . .	Normal four weeks after beginning injections.	May, 1898, left lung normal; right slightly roughened breathing; some dulness; no râles.	23 lbs . .	To May, '98 T.B. missed during last two exams.	1+M without reaction.	None . . .	Left May, 1898, for the East; latest report Jan. 15, 1899; is perfectly well and strong; no symptoms.
8. J. M., male, age 32 years; married; no children; Nov. 26, 1867.	Bad family history; during the last year several hemorrhages; sweats, cough, expectoration, G. 11; temp. up to 102; emaciated.	Upper lobe dull post. and ant.; crackling râles over middle and lower lobe: mushy râles over upper lobe; left lung same; bronchial breathing in upper lobe.	From Nov. 27, 1897, till May 1898, 1 c.c. daily; till Dec. 1898, twice a week 1 c.c.	None . . .	Normal in two months.	Left lung free; rt., slight dulness under clavicle; no râles; breathing normal; no cough, no expectoration.	16 lbs . .	T. B. disappeared in March, 1898.	1+M without reaction, Dec. 10, 1898.	None . . .	Has been worki'g hard on a farm; appears perfectly healthy. Now and then a tuberculin injection is administered.
9. Ch. Fr., age 36 yrs.; married; no children; Dec. 5, 1897.	No family history; very much run down; sweats, cough, profuse expectoration; fever 100 to 102.2 degrees.; t. b. G. 10.	Moist râles over both lungs post.; no consolidation.	From Dec. 5, 1897, to July 30, 1898, daily 1 c.c.; twice a wk. 1 c.c. up to the end of 1898.	Now and then sl'ght indurative infiltrations.	Normal since March, 1898.	Lt. lung free; sli't dulness in infraclavicular region of rt: no râles, no cough, no sput'm; blowing resp.	11 lbs . .	T. B. found for the last time March 6.	Feb. 6, 1898, 1+M: rise 3 deg. May 2, 1898, 0.1+M; no reaction.	None . . .	All along hard work in hardware store. Left in July for Calif'rnia. Is doing well. Treatment continued since July 30, 1898.
10. F. Mg., age 32 years; not married; Oct. 13, 1897.	No family history; began coughing 6 weeks ago; no sweats; expectoration copious; t. b. G. 5; fever 100.5 to 101.	Distinct dulness over almost all upper lobe of right lung post.; not so extended ant.; bronchial breathing; now and then mushy râles.	From Sept. 13, 1897, to Jan 26, 1898, 1 c.c. daily; to Mar. 30 1 c.c. 3 times a week; later twice.	None . . .	Normal three months after first injection.	Slight duln'ss left; breath'g normal; no râles; chest expansion increas'd 2.5 c.c., no cough; little sputum.	12 lbs . .	No T. B. found after February 14. 1898.	No reaction on 0.1+M., Feb. 16, 1899.	Small doses of creosote (3 to 4 minims).	Performed his duties as usual all along. Looks strong and fine. Weight 167.

Name, age, beginning of treatment.	Anamnesis.	Tuberculous lesions. (sputum.)	Injections.	Reaction.	Temperature.	Present condition of tubercl. lesions.	Increase of weight.	T. B. in sputum.	Tuberculin reaction.	Other treatment.	General remarks.
11. N. L., female, age 28 years; not married. Oct. 6, 1897.	No fam. his.; has been delicate from childhood; very emaciated (78 lbs.); some cough; sweats; profuse expec.; T. B.; G. 8; mixed infection; fever 102 to 103.	Right lung entirely consolidated; mushy râles all over; large cavity in middle lobe; left lung: dulness over upper lobe anteriorly; râles; râles posteriorly.	From Oct. 6, 1897, till Jan. 27, 1898, 1 c.c. daily; afterward experiment with rectal injections.	Fever ind'rations; pain in j'ints,ev'n with dos's of 0.5 c.c.	Remained high all al'ng, only for some days abating to normal.	+ May 18, 1898.	. . . . . .	. . . . . .	. . . .	Creosote, cod-liver oil, hypophos., rectal alim'ntati'n.	
12. E. S. Sh., male, age 40 years; not married. Sept. 17, 1897.	No family history; emaciated; has been sickly for several yrs.; severe cough, expectoration, sweats, etc. T. B.; G. 12; fever 100–101.	Both lungs affected all over; mushy râles everywhere; sibilant râles; lower lobe of left lung comparatively in good condition; dyspnea.	From Sept. 17, 1897, till May, 1898, regular injections; from then at irregular intervals.	Very well borne.	Varying between normal to 102 degrees.	No improvement except lessening of moist sounds; died Aug. 2, 1898.	None . .	Always found.	. . . .	Same as Case 11.	It seemed that under the treatment attempts were made at fibroid changes in the diseased tissues.
13. Dr. M., male age 24 years; not married; Aug. 25, 1897.	Good family history; tuberculous habitus; pain in left lung; several small hemorrhages; little cough; sweats; expectoration T.B. G. 3.	Slight area of consolidation in lower region of upper lobe of left lung; some râles, right apex, with beginning catarrh; loss of weight slight.	From Aug. 28, 1897, to Dec. 20, 1897, regular daily injections; since, treatment at irregular intervals.	None . . .	Between 97 and 101.8; not influenced.	In longer intervals several hemorrhages; process seems to extend.	Incr'ases and decreases at different periods.	Never disappeared.	. . . .	Evr'ything available.	Left for Arizona during winter 1897–98. Does not seem to derive much benefit from either climate or treatment.
14. E. P., female, age 31 years; married; no children; Dec. 4. 1897.	Bad family history: hectic appearance; sick for several years, emaciated, much cough, profuse sputum; sweats; T.B. plentiful; fever 101–102.	Upper and middle lobe of right lung consolidated; large cavity in upper lobe; râles all over; left lung in catarrhal condition all over; laryngeal ulcers.	From Dec. 4 till beginning of May, 1898, daily 1 c.c.	None; at times indurations.	Not decidedly influenced.	Process steadily advancing: + in May, 1898.	Constant decrease.	Always present.	. . . .	Ev'rything available.	. . . .
15. E. Fr., female, age 34 years; married; 3 sickly children: Oct. 6, 1897.	Bad family history; some loss in weight; sick for 2 months; severe cough, much sputum; sweats; temp. 101–102; no mixed infection.	Upper lobe of left lung with moist râles all over; no consolidation; right apex slightly affected; T.B. G. 6.	From Oct. 6, 1897, to May 2, 1898, 1 c.c. daily; afterward 1 c.c. twice a week until Sept. 30, 1898.	None . . .	Down to normal since Jan. 10, 1898.	Right apex free; over upper lobe of left lung some blowing breathing: no râles; no dulness.	17 lbs . .	Disappeared since May, '98.	Nov. 10, 1898; 1+M (15 mg.) without reaction.	Some iron and strychnia	Of late now and then a tuberculin injection.
16. M. D., female, age 24 years; married; healthy baby; Sept. 7, 1897.	No family history; sick since birth of baby, four months ago; great loss of weight; sweats; cough; T.B. G. 5; temperature 101–102.5.	Both lungs affected; moist sounds all over; no decided consolidation; no cavities; low vitality.	From Sept. 10, 1897, to May 2, 1898, 1 c.c. daily injections; after that 1 c.c. twice a week.	At times severe pains in joints; no inflammation.	Influ'nced only for a period of some weeks.	Left lung clear but for some blowing breathing; no râles; rt. lung not improved; upper lobe cons'lidat'd; small cavity.	No gain..	Not decreased apparently in number.	. . . .	Creosote and cod-liver oil.	No improvement in right lung.
17. B. C., male, age 20 years; not married; Sept. 16, 1897.	Family history bad; sick since a cold 3 months ago; some loss of weight; hacking cough; sputum scanty, G. +6; fever up to 100.5 degrees.	Very small area of crackling noises in upper lobe of right lung, posteriorly; no dulness; no bronchial breathing; no râles; tuberculin reaction on 0.1+M (103).	From Sept. 20, 1897, to May 1, 1898, 1 c.c. daily; afterward 1 c.c. once a week till Oct. 15, 1898.	Complains sometimes of depression after treatment	Normal after five weeks; remained so.	Both lungs perfectly clear and sound.	24 lbs . .	Few found 11, 2, '98; never since.	Jan. 28, 1898; 2+M (30 mg.) without reaction.	None . . .	After Oct. 15, 1898, now and then tuberculin injections.
18. T. M., male, age 39 years; married; two healthy children; Nov. 2, 1897.	No family history; sick for two years with cough and night-sweats; very much run down; hectic appearance; T.B. plentiful; temperature 100.101.2.	Consolidation of lower part of upper lobe of left lung; râles; lungs otherwise healthy.	From Nov. 2, 1897, to March 10, 1898, daily 1 c.c.; afterward treatment irregular.	Complains often of nausea and joint pains.	Not decidedly influenced.	Cavity has formed in consolidated portion; process now involving the whole upper lobe of left lung.	No gain..	Still present in great number.	. . . .	Ev'rything available.	Case is certainly getting worse.
19. C. M., male, age 4 years; Dec. 2, 1897.	No family history; has been coughing for a long time; always high fever (102–103); sputum G. 4.	Right lung, anteriorly, consolidated; moist sounds scarce; bronchial breathing all over left lung.	From Dec. 2, 1897, to March 4, 1898, daily 1 c.c.	None . . .	Came down to normal within six weeks.	General health improved; lungs did not show decided changes; + May 28, 1898, from gastro-enteritis.	5 lbs. . .	. . . . . .	. . . .	Creosote, cod-liver oil mixture.	. . . .
20. L. C., male, age 38 years; married; 3 healthy children; Aug. 28, 1897.	Bad family history; sick for six months with cough, sweats, etc; emaciated T.B. G. 9; no fever; tuberculous habitus.	Right apex dull on percussion, anteriorly and posteriorly, down to third and fourth ribs respectively; occasional moist sounds; crackling noises in middle lobe.	From Sept. 1, 1897, to June 10, 1898, 1 c.c. daily; afterward 1 c.c. twice a week.	None . . .	was normal all along; sometimes subnormal in morning.	Right lung much improved; still now and then moist sounds are heard; middle lobe clear.	10 lbs . .	Still present in moderate number.	Reacts on 0.1+M (102.5).	None lately, creosote.	Case bids fair to continue improving,
21. W. F., female, age 25 years; not married; Jan. 10, 1898.	No family history; took sick two weeks ago; cough, expectoration; no sweats, no fever; T.B. G. 3; no loss of weight.	Small spot of dulness in right apex, anteriorly in supraclavicular region; moist râles; crackling noises, posteriorly, in upper lobe.	From Jan. 10 to July 20, 1898, 1 c.c. daily; since then 1 c.c. twice a week, but not regularly.	Only occasionally local irritation.	Normal all the time.	Rt. apex free post'ly; slight dulness in front; no râles, cough nor sputum.	7 lbs. . .	Oct. 17 no T. B. found; no sputum obtained since.	Dec. 20, 1898; no reaction on 0.5+M.	None . . .	Patient appears perfectly well.

Same. H. t. 40.1 deg. C.; 4th day: More lively. H. t. 38.4 deg. C.

M 280 g. 1st day: 1.054 g. TBT subcut 1400+75+M (or 5.27+M pro 1 g.) 6.10 c.c. A. 1400—M (or 5—M pro 1 g.) 2d day: Sick. H. t. 40.2 deg. C.: 3d, 4th and 5th days: H. t. resp. 39.6, 39.2, 39.2. Survives.

M 260 g. 1st day: 1.019 g. TBT subcut.—1300+125+M (or 5.5—M pro 1 g.) 5.65 c.c. A.—1300—M (or 5—M pro 1 g.) 2d day: Very sick, does not move, no appetite; trembles; H. t. 39.9 deg. C.; 3d day: The same. H. t. 39.6 deg. C.; 4th to 6th day: Recovers slowly.

M 290 g. 1st day: 1.163 g. TBT subcut.—1450+180+M (or 5.7+M pro 1 g.) 6.50 c.c. A.—1450—M (or 5—M pro 1 g.) 2d day: H. t. 41.3 deg. C. Infiltration; 3d to 10th day: Very sick. Loses 60 g. Recovery slow.

M 275 g. 1st day: 1.141 g. TBT subcut—1375+225+M (or 5.82+M pro 1 g.) 5.98 c.c. A.—1375—M (or 5—M pro 1 g.); 2d day: H. t. 41.2 deg. C.; 3d day: Large infiltration which persists for several weeks. Utter emaciation (weight after 12 days 190 g.) Dies 21 days after injection in perfectly cachectic condition. Autopsy: Large necrotic area around inoculation site. Very anemic. Pleuritic adhesions. Parench. nephritis. Pneumonic patches in lungs.

M 250 g. 1st day: 1.066 g. TBT subcut.—1250+240+M (or 5.96+M pro 1 g.) 5.45 c.c. A.—1250—M (or 5—M pro 1 g.) 2d day: Prostrated. H. t. 38.9; 3d day: Very slow respiration. Dies 52 hours after injection.

Written with Ehrlich's designations this experiment would have to expressed thus (reduced to M 275 g.):

$$\text{L o}\left\{\begin{array}{l}\text{1375+M (TBT).}\\ \text{1375—M.}\end{array}\right.$$

$$\text{L—}\left\{\begin{array}{l}\text{1400+M (TBT).}\\ \text{1375—M.}\end{array}\right.$$

$$\text{L--}\left\{\begin{array}{l}\text{1425+M (TBT).}\\ \text{1375—M.}\end{array}\right.$$

$$\text{L}\left\{\begin{array}{l}\text{1450+M (TBT).}\\ \text{1375—M.}\end{array}\right.$$

$$\text{L=}\left\{\begin{array}{l}\text{1500+M (TBT).}\\ \text{1375—M.}\end{array}\right.$$

$$\text{L=}\left\{\begin{array}{l}\text{1555+M (TBT).}\\ \text{1375—M.}\end{array}\right.$$

$$\text{L}\left\{\begin{array}{l}\text{1690+M (TBT).}\\ \text{1375—M.}\end{array}\right.$$

$$\text{L+}\left\{\begin{array}{l}\text{1615+M (TBT).}\\ \text{1375—M.}\end{array}\right.$$

Note.—Lo means the proportion of complete neutralization, while L—, L=, L≡ and L≣ mean toxin—antitoxin mixtures with a surplus of toxin causing successively greater pathologic effects, until L+ contains a surplus of toxin sufficient to kill the animal. This surplus theoretically ought to be equal to the single fatal dose.

The difference between L o and L+ is D=264+M, while correctly it ought to be 275+M. If we, however, consider first the natural range of errors, and secondly the fact that the last guinea-pig died fifty-two hours after injection (as standard is taken a time ranging from thirty to forty hours), the difference is so slight that the result is surprisingly good, not deviating much from the exactness achieved in tetanus and diphtheria experiments. I had not the time to carry out a second series in the same accurate way; from random tests, however, made at different periods of my investigations, I can say that other series would have given, on the whole, the same figures. It will take an immense amount of work to bring this subject to the same degree of exactness as that exhibited in the researches of Ehrlich and Behring.

After the facts given, there can be not the slightest doubt left about the antitoxic properties of the serum of animals treated with tuberculosis toxins. To enter into any discussion of the opinions expressed to the contrary would not only be useless, but it would moreover tend to retard the progress of scientific research. (Petruschky.)

A few concluding remarks shall be devoted to the question of the advisability of using the antiphthisic serum as it is now, for therapeutic purposes. It can be only a question of time to enhance its antitoxic properties to a considerable degree, so as to make it a par with other antitoxic serums. The experiments on birds especially permit of very bright hopes in this respect. In its present condition the serum not only neutralizes considerable amounts of specific toxin, but animal experimentation has proved that a transitory immunization by its means is possible, and that the established disease can be either cured by its administration, or at all events be arrested and made to run a very protracted course. Experiments with geese serum, soon to be published, will make this fact still more apparent. On the other side, it need not be pointed out that the intoxication symptoms are pre-eminently dominating the picture of human tuberculosis, and that no sound judgment would expect to see by serotherapy established lesions and destructions restituted *ad integrum*. The limits for its administration need no commentary.

That free tuberculin is present in the tissues and body juices of a tuberculous subject has repeatedly been shown directly by experiment. I refer to the literature quoted in my former paper. Why this toxin should not be likely to combine with artificially introduced antitoxin just as well as it combines continuously with the antitoxin produced in the diseased organism itself, can not be seen, although it must be admitted that, owing to the peculiar life history of the tubercle bacillus, this binding of toxin molecules will occur in a peculiar way. The amount of toxin present at one time in a tuberculous organism is not great and it would be absolutely absurd to think that by once neutralizing it, the disease could he stopped. Owing to the slow production of the toxin, it is impracticable to charge the organism with a great amount of antitoxin, since it would have disappeared long before being called upon to act. The serotherapeutic treatment of tuberculosis will always remain one extending over a longer period; for this very reason, I believe that small doses of antitoxins, administered in regular intervals, will always form the chief feature of the treatment. It is true the amount of antitoxin in my serum is comparatively small, but the fact that with our present means we are not able to largely increase it ought not to form a contraindication in its use. It is, beside the toxin immunization, the only specific treatment which rests on a scientific base, which does not mean that it is the only one that ought to be employed and that, with certain restrictions, hygienic and dietetic directions ought to be abandoned. It would be tedious to enter into a discussion of the relations of these methods to one another, as to an unprejudiced and cultured eye they offer themselves without being pointed out.

In addition to the foregoing remarks I am compelled to broach a point which has hitherto not entered into the consideration of any one who reported about his experience with tubercular serums. It is the toxic quality of the serum of even normal horses, which has, it is true, very little influence on a healthy organism, but for which tuberculous subjects are very susceptible. More exact investigations on the toxicity of blood serum have been undertaken only lately, and after the famous research of Mosso on the serum of eels, it is mainly the work of Brieger and Ulenhuth which has contributed to our knowledge on this subject. As a rule the serum of any animal has a toxic effect on specimens of another species; small doses of cow's serum (5 c.c.) are able to kill adult rabbits in a short time, or at least to produce very serious necrotic lesions. *Mutatis mutandis* this holds good in every instance, and it is too little known that some of the fatal side-effects of antidiphtheritic serum are simply due to the fact that the patients have been tuberculous, so being much more amenable to the toxic influence of the serum than are otherwise normal individuals.

In tuberculosis serotherapy this point is of the greatest importance, and accounts for so many of the so-called failures. As soon as it is noticed that a patient suffers under the injections (general depression, local infiltration and painful inflammation, sometimes localized necrosis), the treatment has to be abandoned. But it must be remembered that these occurrences have nothing to do with the antitoxic property of the serum. Fortunately a great number of tuberculous individuals are exempt from this additional susceptibility.

As yet it is hardly worth while to enter into a critic review of the different reports published. If we consider that any serum, prepared after a proper method, by the treatment with tuberculosis toxins of whatever form, is bound to have some antitoxic quality, and that the differences between the several serums used are merely quantitative and not qualitative (although I know of antitubercular serums for the preparation of which neither tuberculin nor anything else was used for a long series of months), it becomes annoying to read that with such and such a serum good results have been obtained, while another one has proved to be absolutely ineffective. Usually the serum offered in a commercial way is found to be worthless, while the value of those distributed free on the part of the Government, or from some other "unselfish" party, is extolled (Stubbert). Hypocrisy and trickery even enter the realms of scientific reports. After a while these shadows will pass away. I sum up my remarks in this sentence: All antitubercular serums, if properly prepared, are antitoxic. The potency of those must be highest in which the highest and most powerful doses of toxins have been used for immunizing purposes, and for which every scientific attainment has been made available.

As to the cases of which notes are given in the appended table, I do not want to draw any conclusions from them. I only selected these cases because I have been able to observe them for periods of twelve to eighteen months, or to attend to them until the *exitus*. All those cases that have been treated only temporarily or not regularly, or only for a short time, are excluded. The result so far is that of 21 cases, 13 derived considerable improvement. I even think that the next few years will show that they overcame the disease. One more case is doing so well that for him, too, a good prognosis may be allowed. Three cases seemingly derived no benefit, while 4 cases, which from the beginning were hopeless, died during the treatment. Decided improvement, therefore, has been brought about in 62 per cent.—it would be justifiable to exclude the 4 cases which died, and thus arrive at the figure of 77 per cent. Whether it was the serum or something else that did this, I do not want to discuss. I would especially call the attention to the tuberculin tests made. Everything will explain itself by a study of the table, in which I did not make any attempt at classifying the cases according to the so-called stages of the disease.

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THE BRAIN AND ITS FUNCTIONS.

A SUMMARY. PART I.

BY J. SANDERSON CHRISTISON, M.D.
CHICAGO.

The part of the brain which has been most studied is its gray-matter covering or cortex, which entirely surrounds its hemispheres except at their points of union. Owing to the peculiar formation of the brain into convolutions or gyri, which form more or less deep infolds or fissures, the deepest of which serve to divide the brain into lobes, only about one-third of the cortex appears externally. The thickness of the cortex varies at different locations and points, ranging from 1.5 to 4 mm. Toward the front of the brain, and especially at the summit of the pre-central convolution, in what are commonly known as the sensory-motor areas, the cortex is not only the thickest, but its cells are the largest, while in the visual areas at the back of the brain the cortex is the thinnest while it is also the densest.[1]

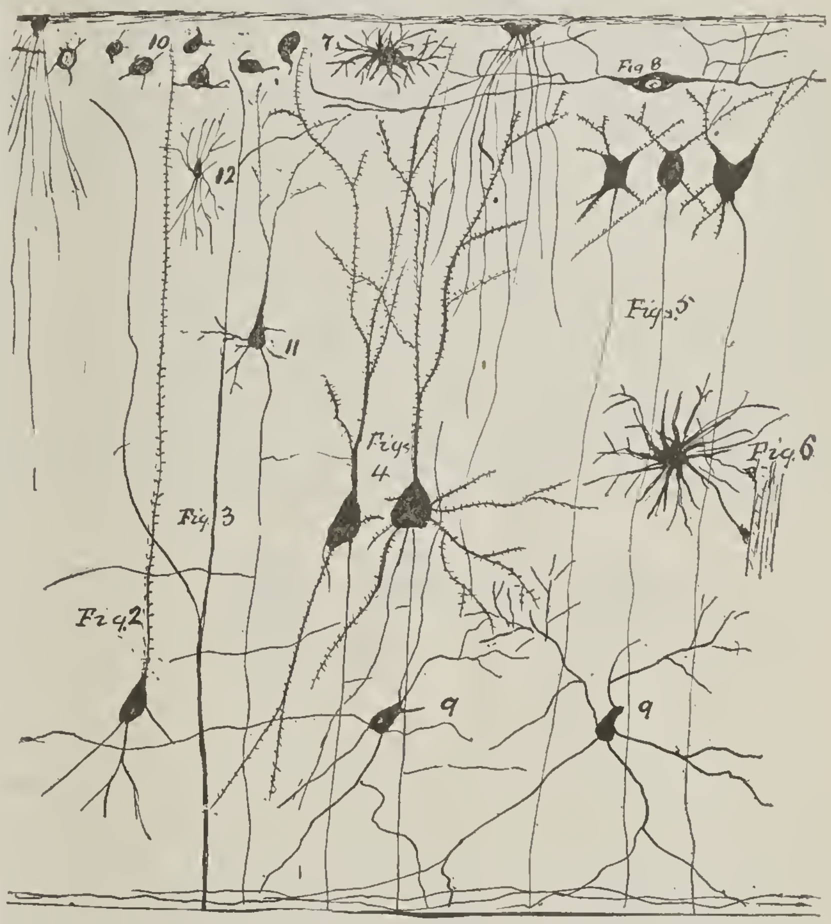

Fig. 1.—Showing the common forms of the cells in the cortex of the human brain. 1. Congenital nerve-fibers at the surface of the cortex. 2. Fusiform nerve-cell. 3. Nerve-fiber from white matter (supposed to be sensory). 4. Pyramidal nerve-cells (motor). 5. Forms of motor cells. 6. Protoplasmic neurogliar cell attached to an artery. 7. Glia cell of first layer. 8. Spindle cell. 9. Polymorphic cells. 10. Granular cells. 11. Small pyramidal cell. 12. Spider cell.

While minute but very elastic blood-vessels and lymphatic canals exist in great abundance within the cortex, its constituents of chief interest are the cells of various forms which are stationed in a more or less orderly arrangement of layers, the number of which is variously estimated at from three to eight, while five is the number usually imputed. While Golgi, Cajal, Goltz, Von Köelliker and most other investigators agree that parts of the cortex having different functions show throughout essentially the same structure, Flechsig asserts he has found a form of cell peculiar to one location, viz., the large spindle cell of Branca in the gyrus fornicatus.

A microscopic view of a cross-section of the cortex reveals what much resembles a forest of uprooted shrubs in winter bud, and associated with other forms of cells variously named, spindle, spider, neurogliar, molecular and granular, according to their forms.

The shrub-like cell, which is usually the largest, is called the pyramidal cell, owing to the commonest form of its cell-body or bulb, which is said to be sometimes visible to the naked eye.[2] As many as twenty processes or dendrons may grow from a single cell-body, the chief one growing in the direction of the surface. Some of these dendrons have many branches, which all grow at acute angles to the main stem. The tiny bud-like processes upon these tree-like branches are supposed to be the points of contact and communication with other cells, and to generate or receive energy or impulses from surrounding matter.

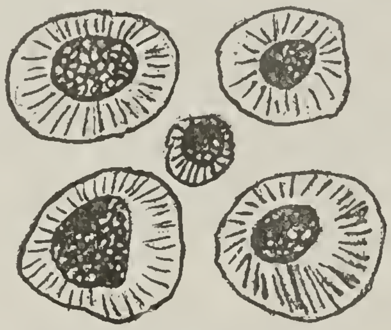

FIG. 2.—Section of nerve-fibers showing the tubular appearance of the fibrils of the axis-cylinder (after Schäfer).

From a point in the cell-body, usually opposite the main dendron, there projects at least one process or neuron which also gives off branches, but fewer and at right angles to the main stem, while the main stem passes into the white substance of the brain and onward to a near-by or remote point within the brain or spinal cord. These neurons are the first processes which develop from the cell-bodies. But, while the cell-body is parent to both dendron and neuron, it eventually sustains no more structural relationship to them than that of propinquity, for these two offshoots join ends to form what appears to be a cylindric rod, containing as many as fifty fibrils[3] which pass through the cell-body without interruption. Because of this structural development it is supposed that impulses do not originate in the cell-body, but in or at the buds of the dendrons. The cell-body, however, seems to remain the vital center. The cell in its completeness —bulb, neurons and dendrons—constitutes an isolated anatomic unit, which associates but does not fuse with other cells or fibers, although its dendrons may extend to the surface of the cortex, and its neurons as far as the lumbar region of the spinal cord.

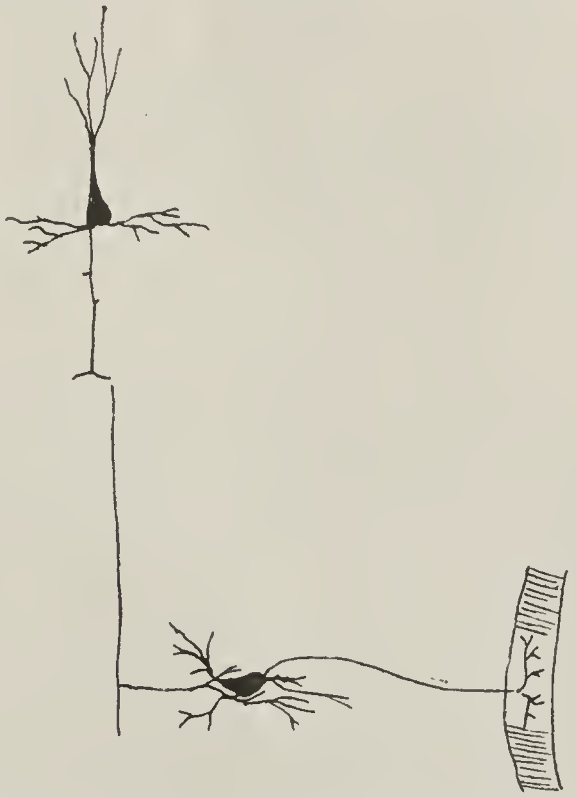

FIG. 3.—Motor nerve-cell connecting with muscle (after Edinger).

DEVELOPMENT OF THE CELL.

Within the first month of embryonic development, and while the brain resembles a distorted tube with here and there a bulge, the cortical cells have begun to appear as minute spheric objects, each of which develops a nucleus which contains one or two minuter bodies or nucleoli. These cells rapidly divide, one daughter cell remaining as the germinal cell, while the other migrates to become a fully fledged nerve-cell.[4] This process goes on for about two months, after which the cells seemingly cease to multiply, but gradually increase in size from .1 to 500 times.[5] They do not obtain their full growth until puberty or after, when the largest may measure at base 1/300 inch in diameter and four or five times more in length, while its neurons and dendrons have made proportional gains in length and thickness. Neurons which at birth measure in diameter from 1.2 or 2 μ to 7 or 8μ, become at maturity 10 to 15μ respectively for the largest. The number of cells in 0.1 cubic mm. varies from five or six to ninety, but generally from ten to twenty,[6] or more than three and a half billions in a brain, and constituting about one-tenth its total weight.[4]

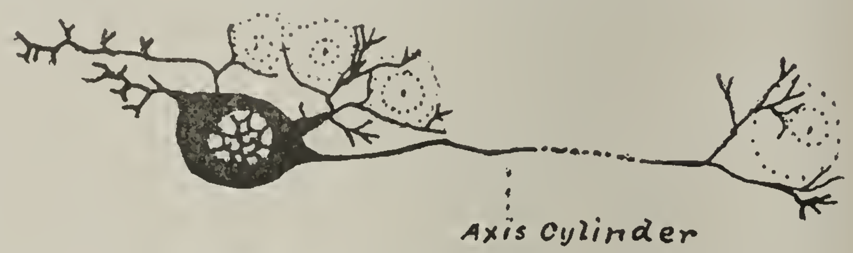

FIG. 4.—Diagram of sympathetic ganglion-cell (Ritzius).

The neurons and dendrons gradually become enveloped in a fine medullary sheath which is regarded as both insulating and nutritive in its functions. Only a small proportion of the nerve-fibers of the cerebrospinal system have no sheaths, while on the other hand very few of the fibers of the sympathetic system have any sheaths whatever. Some fibers of the sympathetic system do not functionate until they possess a sheath, and some do not have a sheath until late in middle life and many have none even then. But all sheathed fibers are exposed at their extremities.

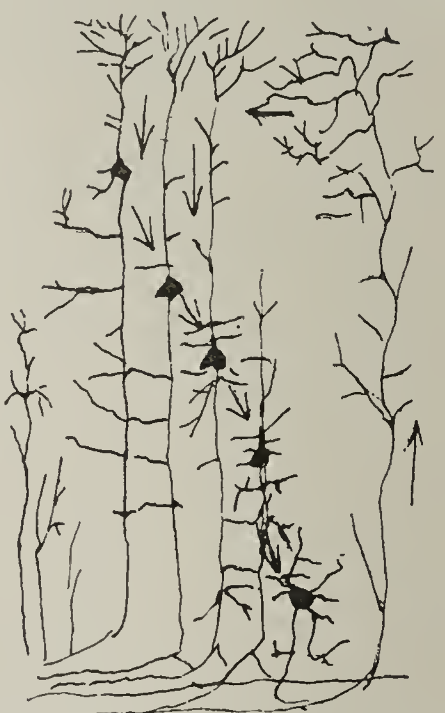

FIG. 5.—Sensory and motor brain-cells—showing their interrelation as afferent and efferent neurons to the cortex, according to the idea of Cajal.

Some cells seem never to develop beyond their first stage, while the lifetime of an individual cell may be co-extensive with the life of the person, for as

Virchow observes, "all cells destined for the highest animal functions prove sterile, or at least very hypothetically capable of proliferation."[7] However, proliferation of brain-cells has lately been observed in some mature lower animals,[8] while the "fungus" growths following injuries of the brain contain brain tissues,[9] thus showing either a rapid proliferation or a rapid maturing of undeveloped cells, for it is a recognized histologic, as well as a pathologic law that cells can only produce cells which are identic with them in constitution and function.[7]

The brain-cells are very elastic and resistant to pressure, requiring considerable force to destroy their contour and break their processes.[2] In their bulbs a small amount of yellow pigment is normally found, and which is supposed to represent bygone functional activity. This pigment is usually absent in idiots and imbeciles. The rest of the cell-body is composed of granular matter surrounding the nucleus. Brain-cells discharge impulses at the rate of ten per second,[10] with a speed, according to Hammond, of 100 to 120 feet per second for motor nerves and about 24 feet per second for visceral nerves.

VASCULAR SUPPLY OF THE CORTEX.

In its supply of blood-vessels the cortex is independent of the other parts of the brain, and it is said that it can maintain its functional activity even when three of its four arteries are obliterated. Autopsies upon cases of sudden death not infrequently disclose the fact that owing to obstructive organic disease of the heart, a greatly reduced circulation of blood has sufficed to maintain the requirements of the brain for ordinary purposes. In the case of a late prominent merchant and philanthropist of Chicago, who suddenly died amidst many interests, Professor Favill tells me that an aortic stenosis was found so great that the blood-current must have been reduced to about one-tenth the normal amount. Unlike other arteries of the body the arteries of the brain rarely fuse together. It has been thought that they were devoid of nerve-fibers, but that has been disproved by Oberstiner, Morison[11] and others. It has also been observed that when the other arteries of the body are calcified by disease the arteries of the brain remain soft and yielding.[12] The vast number of small blood-vessels and capillaries within the brain not only afford it a liberal supply of nutriment, but serve as an elastic padding to the cells and fibers, which are supported in position by an abundance of fine connective tissue, which, with the blood-vessels, constitute about one-fourth of the entire brain mass.[4]

BASAL GANGLIA.

As yet but little is known of the corpus striatum, the optic thalamus and the corpus quadrigeminum. Lesions of the corpus striatum produce paralysis of the opposite side of the body without mental symptoms; lesions of the optic thalamus produce loss or impaired sensation of the opposite side of the body.[13] Monokon believes every part of it is connected with some part of the cortex,[14] and according to the same authority it contains numerous cell bundles not found in the brains of lower animals. Lesions of the corpus quadrigeminum commonly produce blindness. Sterling and Landois regard it as a co-ordinating center. The cerebellum appears as functionally homogeneous. Lesions of it produce defects of muscular movement, while sensation remains intact, and instinct and intellect are unaffected. Each half controls mainly the muscles of its own side. The pons and medulla contain numerous gray-matter bodies regarded as internodules, some of which are peculiar to the human brain.

CHEMIC COMPOSITION.

From a chemic point of view, the ingredients of the brain are more numerous, more intricately constituted and more diversified than those of any other organ or system. It contains more than three hundred different chemic constituents, and those peculiar to the brain are endowed with great stability in a chemic sense and with great sensitiveness to reacting influences from without.[15]

In gray matter there is 85 per cent. water and 1 per cent. ash, while in white matter there is only 70 per cent. water and 1.7 per cent. ash. The average specific gravity for gray matter is 1034 and for white matter 1041.[16] In the insane the average (thirty cases all kinds[1]) is for white matter the same as normal, but for gray matter it is 1037, or a trifle heavier than in the sane.[1]

GROWTH AND DECLINE OF THE BRAIN.

At birth the brain weighs about 12 per cent. of the whole body or an average of 340 gm. for males and 330 gm. for females. It is, therefore, nearly one-fourth its size at maturity, when it weighs only about 2 per cent. of the whole body. During the first nine months after birth the brain gains about one-third its whole increase and by the eighth or ninth year it has attained nearly its full growth.[17] Dr. Robert Boyd found that the brains of boys between the ages of 4 and 7 weighed on an average 1214 gm., and about the same for girls; but boys between 7 and 14 years of age gave a brain weight of 1410 gm., while girls between the same years gave a brain weight of only 1265 gm. These children were from the poor of London.[21] According to Fuchs and Vulpius, the brain is not fully organized until 7 or 8 years of age, at which stage its growth makes a pause until puberty, when it again makes a rise. Donaldson has pointed out that the curve for brain weight ordinarily shows a rise until the age of 55 years, while in the case of eminent men it shows a rise until 65 years of age, when it begins to decline.[18] After birth the most active period of brain growth is during the first four years.

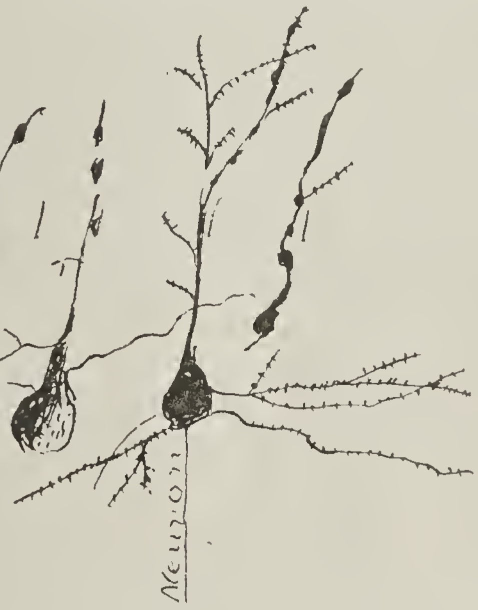

Fig. 6.—Alcoholic degeneration of the cortical nerve-cells—various stages.

The babe at birth is physiologically but little more than a "spinal thing," as Virchow long since termed it when its structure was less known than now. At this stage but little else than the spinal cord and medulla contain perfected nerve-fibers, which gradually extend upward to meet those developing from the cortex. According to Flechsig, those from the bodily-sense area of the cortex appear first and are followed by the appearance of fibers for the sense of smell. A month or so later the fibers for vision organize, and by about the third month after birth the fibers for the sense of hearing and volitional acts begin to mature.

In adults the increase of the brain is due to the growth of the cortical cells, the embryonic cells, and the other related structures. In old age the cells become heavily pigmented, while they atrophy, and many of the fibers are substituted by connective tissue. In senile dementia the spider cells increase in number. According to Althus, deaths from nervous diseases (excluding infant eclampsia) are only 7 per cent., and a large proportion of these are primarily due to diseases of the blood-vessels. Thus it is evident that while in health it suffers the least of all organs from a general starvation, it also suffers the least from disease. Its reparative and adaptive powers are greatest before the cells and fibers are fully formed, when broken fibers may unite and new fibers develop.

FUNCTIONING OF THE CELLS.

The brain requires regular sleep and food, but especially sleep. Dogs, which can live for twenty days without food, can not live more than five days without sleep.[19] Man's limit of endurance without sleep is estimated at ten days. Some persons, especially seamen, soldiers and nurses can, like Napoleon, sleep for a few minutes at a time and awaken at any irregular hour desired. Before a great event with great anxiety, sleep comes, and it has been known to be so intense that a foot has been burnt to a cinder without realization of the fact until afterward.[20] Sleep is thought to be due to a retraction of the dendron buds, thus breaking contact, and so interrupting or enfeebling the circuits of vitality between motor and sensory cells. That such an action is caused by an overloading of waste matter resulting from fatigue is quite unlikely, for in sound, normal sleep the circulation is greatly reduced in volume and force, indicating a corresponding reduction of metabolism and general functional activity. Normal sleep would rather seem to be due simply to the more or less exhaustion of the cells having an inherent demand for the restoration of their reacting power. The brain-cells can not be regarded as reservoirs of vital energy, but their power to react must correspond with their energizing efficiency, dependent upon nutrition as occasions demand, the demand being constant but fluctuating.

Defective functioning of the brain-cells is expressed by sensory, motor and intellectual irregularities or inefficiencies. As abnormal conditions of the cells connected with the special senses must necessarily deliver wrong impressions at their centric ends, and thus discharge a wrong suggestive influence on the mind, the result is a misinterpretation or hallucination, but which may be corrected if the brain-cells in general are not too inefficient to preclude the requisite amount of attention (reasoning) to secure the correction.

Delusions are due to a more or less general inefficiency of the brain-cells, reducing the vital energy below what is required for effective attention or the proper association of related ideas, while the character of the delusions, whether exalted or depressed, will depend not only upon the character and environment of the subject but also upon those particular bodily organs (especially the glands) most perverted in function. All bodily organs have their special suggestive influence upon the mind through their neural centers in the brain, for in this way they constantly influence our feelings so that by their normal and harmonious action the sense of well-being is experienced. Indeed, the treatment of insanity is as a rule chiefly a matter of glandular concern—of digestion, secretion and elimination. Idiopathic insanity or toxic insanities have no other pathology except in their final stages. Illusions have the particular factor of expectancy, conscious or subconscious, in reference to a particular external object.

The peculiar affections of memory, or rather of recollection, which are classsed as aphasias, sometimes seem to be due to localized affections of the sense centers or their connections, producing an uncompensated loss of an established and special physiologic correlate to a subtle mental process. Such localized affections, however, can only be causative through a peculiar suggestive influence which in a negative or subconscious way inhibits ideational associations along special lines. So subtle are some of the association principles of the mind that certain groups of memory signs closely allied to others may be temporarily forgotten, while the others are readily recalled, as a bird without its feathers. For example, a person may be able to speak or write numerals while at the same time unable to recall the letters of the alphabet. This is explained by the fact that numerals are associated by the stronger law, as they represent the simplest kind of natural relationship in order and space, whereas the alphabet represents an artificial association of differing qualities. Thus, as in the case of insanity proper, the most natural and earliest established habits persist the longest with the subject.

All mental defects whatever are correlative to abnormal or inefficient brain-cell reaction while, on the other hand, brain-cells can not in any way hold memory images or sensory impressions of any kind, as every new impression must destroy the preceding, even if there was not a constant chemic change going on within them. Certain toxic drugs, especially those belonging to the order of Atropaciæ can produce aphasias and insanity.

In accordance with the views here expressed, convulsions are due to inco-ordinate action of associated sensory and motor organs, but originating from a perversion somewhere beyond them in the sympathetic system. The exhaustion which follows a fit expresses a general loss of reactive power in the cells rather than the production of a "discharging lesion" of any particular area.

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CEREBELLAR ABSCESS OF OTITIC ORIGIN—AUTOPSY.[*]

BY A. D. McCONACHIE, M.D.

Assistant Surgeon to the Presbyterian Eye, Ear and Throat Charity Hospital; Ophthalmologist to Bay View Almshouse.

And C. W. HARTWIG, M.D.

BALTIMORE, MD.

The importance of prompt and early arrest of purulent conditions in the middle ear is becoming more and more firmly fixed in the mind of every physician. It is only within recent years that anything like success has been attained in the treatment of these conditions. The pathologic and etiologic factors in such cases are being more thoroughly studied and better understood. We are, to-day, better able than ever before to appreciate the extreme gravity of such conditions and now know that a chronic otorrhea—like a pocketful of dynamite—is a standing menace to life instead of, as formerly, being considered a mere inconvenience. We now regard the condition seriously and do not rest satisfied until the discharge is cured.

Nearly 20 per cent. of all ear cases belong to the class of otorrheas. Suppurative processes in the drum cavity readily lead to necrosis and destruction of the bony walls of the tympanum with involvement of mastoid antrum and cells, penetration of lateral sinus and involvement of meninges or brain itself, with abscess formation. Any one with an acute or chronic purulent process in the middle ear is liable to have, with slight warning, a most serious or even fatal illness. Youth being the most frequent age in which the prevailing etiologic conditions and diseases exist, it would be interesting to know the numbers who yearly die as a result of such conditions.

The knowledge of the causal relation which nasopharyngeal diseases bear to suppurative conditions in the middle ear is rendering the treatment much more effective. Hypertrophy of pharyngeal tonsil—adenoids—enlarged tonsils, deviated septum, spurs, enchondroses, polypi and hypertrophied turbinals are the primary causes of more otorrheas than all other causes combined, especially when present during an attack of the acute infectious diseases, as influenza, measles, scarlet fever, diphtheria, etc. The complete removal of these obstructive conditions to respiration, and proper ventilation of the tympanic cavity is often all the treatment that is necesssry if the case is seen early, before any necrotic process has taken place in the tympanic or neighboring structures. At present our German cousins have become extremists and adopt ultraradical measures in all chronic suppurations, by treating such conditions by the mastoid operation. When indicated, it undoubtedly should be done and done promptly, but other and more conservative measures should first be given a fair trial. I would not be understood to say that conservatism is synonymous with good sense at all times. There is a time when delay is dangerous and hesitancy may cost the life of the afflicted. For just such cases as these the radical surgical procedure—tympanomastoid—is necessitated. Radical treatment means the institution of active surgical measures—as much as and no more than is necessary, as against the delay, linger-and-wait methods of the ultraconservatives. My application of radical advances in such conditions begins with the use of surgical good sense at the right time. These surgical measures may begin with the removal of adenoids or other obstruction to free respiration or tympanic drainage. It may mean the incision of a drum at the right time for removal of purulent contents in the drum cavity; it may mean the removal of carious or necrotic ossicles or tissues therein; it may mean the thorough intratympanic washing by antiseptics, or it may (now restricted to this sphere) mean the opening of the mastoid antrum and cells and removal of other tissues, made necessary by involvement in the diseased process—as the tympanic structures, or opening into the cranial cavity for the purpose of evacuating an abscess formation. In spite of our best efforts—medical and surgical—many of these cases follow the course of the inevitable, as is illustrated by the following case, for my interest in and knowledge of which I am indebted to my friend, Dr. Hartwig:

Case 1.—On the evening of February 2 last, I was asked to see, in consultation with Dr. Hartwig, a boy 12 years of age, who had a history as follows: Right ear had been discharging for three years, following convalescence from typhoid fever. Before that time the boy was robust, always well and cheerful. The usual measures for the arrest of the otorrhea were employed by his family physician, with frequent cessation of discharge, to recur at intervals. The boy, since his recovery from typhoid, "has never been himself," as stated by his parents. His former cheerfulness and general good health had gone. Since the attack he became irritable, peevish and illy nourished. About a year ago he had a marked recurrence of his otorrhea, with certain cerebral manifestations, as vomiting, nausea and vertigo, followed by a cessation of the discharge with coma, and, as a consequence, the inevitable—death—was looked for and so thought by his attendant physician. These are the statements of his father. After being given up to die, he took a turn for the better, following an escape of an immense amount of pus from his ear, and in twenty-four hours was up and about—"the ear broke," and has continued well up to a week before I saw him, when Dr. Hartwig was asked to see him, the boy complaining of pain indefinitely located over right side of head, discharge from ear being slight. Dr. Hartwig instituted the usual antiphlogistic measures—washing ear, insufflation of antiseptic powders, sedatives, etc., but in spite of these the pain continued and when I saw him on the evening of February 2 his irritability and pain were marked.

A careful examination revealed a small perforation at the anterior inferior quadrant, low down, little discharge, posterior segment of drum whitish and sodden looking, canal free except for slight swelling and redness anterior inferiorly. There was no redness nor tenderness over mastoid antrum or tip; temperature 99, pulse 72. The advisability of opening his mastoid for the relief of the continued pain, which would yield to no therapeutic measures, was considered, but we concluded to wait and watch until the next day, in the meantime employing sedatives, aconite, and ice-packs to the mastoid. On the following day his pain still continued, with no sleep at night; no other symptoms were present; eye-grounds were normal; speech was unaltered, intellect clear, no motor or sensory paralysis, no inco-ordination, no nausea or vomiting, no vertigo. On the afternoon of February 3 we prepared the boy for opening of the mastoid antrum. The boy was chloroformed and prepared in the usual way for such operations. On chiseling into the mastoid we found it dense, the antrum (small) being reached at a depth of half an inch. A small amount of cholesteatomatous material was removed, the post superior wall of the meatus was partially knocked down and a curette passed into the tympanic cavity. Free communication was established between the external meatus and antrum, manifested by syringing through the antrum into tympanic cavity and out at external meatus, and vice versa. The wound was dressed and the boy put to bed, followed by a good night's rest and cessation of pain on the following day. His temperature was normal, pulse slightly subnormal, varying from 60 to 65; appetite fair; no other phenomena except apathy with an occasional restless and irritable spell.

Dr. Hartwig watched the case daily from February 3 until February 7; the boy not showing signs of improvement he asked me to look at him, which I did on the evening of February 7, and found him irritable, yawning frequently, pulse 66, temperature normal, pupils slightly dilated, light intolerant; no congestion of eye-ground; no muscular inco-ordination; in fact nothing alarming except that he apparently was going down hill, losing flesh and strength. The wound was dressed and looked healthy, with no pus formation. On the ninth day after operation he was eating plentifully and singing songs but still in bed, and Dr. Hartwig reported his condition favorable and asked me to go to see the case on the tenth day, as he (Dr-Hartwig) was ill and could not go. I did so, but found the boy semiconscious, marked retraction of head, pupils dilated, eye-ground normal, temperature normal, pulse 60, restless and apathetic. I suggested to the parent the serious character of the boy's condition and that his trouble was in the brain, suspecting either a cerebellar abscess or an extradural abscess—the absence of temperature, rigors and chills excluding sinus thrombosis and meningitis. I advised further operative intervention and consent was granted. On returning to Dr. Hartwig's office, he asked me to take the case, owing to his continued illness, and do what I thought best. The next day, in company with Drs. Harlan and Crouch, we attempted to reach the home of the sick boy, to explore, but the "blizzard" made it impossible and so we had to desist. The father reported that the boy had died—that is on the eleventh day after operation. An hour previous to death the boy was rational and ate a dinner consisting of soup, milk and eggs and passed away quietly without a convulsion.

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[*] Read before the Clinical Society of Maryland, March 17, 1899.

The parents consented to an autopsy, which was done two days later in company with Drs. Harlan and Crouch. We found, on opening the skull, the meninges and sinuses normal except a small area of meninges at outer border of cerebellar lobe where the meninges were necrotic, and a communication with a large pus cavity in the right lobe. I should say two ounces of pus escaped therefrom on removal of the brain from its cavity by the act of handling the abscess sac, being so fragile and readily ruptured. I regret that we did not secure a culture, as it might have thrown light upon the case, possibly revealing the nature of the infection, whether typhoid, Eberth's bacillus or ordinary pus cocci infection. On examining the skull we found the avenue of extension not via the mastoid antrum through the lateral sinus groove, but that the necrotic process had made an opening 2 mm. in diameter through the tympanic wall (postero-internal) anterior to and above the lateral sinus, thus invading the cerebellum, the lateral sinus escaping.

The abscess capsule was found very thick, giving evidence of different stages of inflammatory activity, thus explaining his miraculous recovery of a year ago. Doubtless at that time he had an encapsulated cerebellar abscess which emptied itself spontaneously through the carious opening into the middle ear, the pus draining through external auditory meatus and recovery ensued, the last attack being a reinfection of his cerebellum, possibly by occlusion of the opening, preventing free drainage.

The case is interesting in many particulars, as not only indicating the possible menace to life which a neglected otorrhea entails, but also the symptomatic variability in cerebral complications of the same. The typic picture of any disease in medicine is unusual. Certainly the classic picture of cerebellar abscess in this was absent. The full complex of symptoms necessary for a perfectly localized diagnosis was present at no time, except possibly a few hours before his death; the usual complete complex symptoms to be looked for in cerebral abscess, and especially in cerebellar abscesses, being irritability, pain—almost constant—nausea, vomiting, the discharge from the ear stops or is scanty, lowering of pulse-rate, temperature subnormal or slightly above normal (rare cases have been reported where the pulse-rate and temperature were above normal).

Aphasia in otitis media of left side and in a right-handed person would point to abscess in the temporosphenoidal lobe. Inflammation of the optic nerve may or may not be present. It is more frequent in cerebellar than temporosphenoidal abscess.

Our diagnosis then must be founded upon the complex of symptoms, viz.: severe headache, nausea, vomiting, vertigo, a staggering gait, facial paralysis, choked discs, with retinitis, slow pulse, temperature low, slowing of the respiration, Cheyne-Stokes respiration, yawning, slowness of cerebration and general apathy, irritability, intolerance of light, delirium, rigidity of the neck, motor or sensory paralysis. When complications exist, as sinus thromboses and leptomeningitis, other symptoms supervene to make the diagnosis difficult. In sinus thromboses, rigors and chills with high temperature and increased heart action are almost invariably present, with tenderness along the course of the jugular vein; in leptomeningitis the high temperature, rapid pulse, general irritability and marked acuteness of special senses. A cerebellar abscess usually terminates in death when operative procedures are not used. The abscess contents escape and a new inflammatory action is set up. Abscesses have become encapsulated and remained quiescent for years without giving rise to serious trouble, but such cases are rare. We should never anticipate such a result. Our duty is to operate early if a successful result is to be hoped for. The time to operate is when we have made our differential diagnosis—a deep problem and sometimes a very speculative one.

The percentage of recoveries from operation is not definitely known, but certain it is that unless we use surgical intervention all such cases will die sooner or later.

The uncertainties and difficulties in brain surgery are not so much those of technic or of bad after-effects, but occur at the outset, and with our present diagnostic and localizing methods may be impossible of improvement.

16 West Franklin Street.

THE DOCTOR AS A POLITICIAN.

BY CHAS. J. WHALEN, M.D., LL.B.
CHICAGO.

The doctor is virtually a political nonentity. In our legislative halls we are practically without representation, and the few that are engaged in politics are really not pursuing the practice of medicine. The rank and file of physicians are not, as a rule, particularly concerned in the solution of problems calculated to affect medicine politically. Is it to be wondered at, then, that we fail to gain for these numerous and all-important questions in which the profession is deeply interested that fair consideration which they desire?

There exists a class in the medical profession who believe medicine and politics entirely incompatible, and consider politics so corrupt that no honest man can have anything to do with it without being contaminated thereby, or that only the office-seeker is benefited by the elections which occur from time to time; therefore, he must take care of his own interests as best he can. It can not be denied as we approach the consideration of the proposition that politics is corrupt, that there are many things done under the guise of legislation that might better be left undone, and our executive officers far too often fail to do their duty. But because a few of our officials are corrupt, it does not excuse us from taking part in the elections. It is a mistaken idea that by absenting ourselves from the primaries and elections we can bring about needed reforms, and we may flatter ourselves that by staying at home we can escape the touch of politics. The truth is, if we do not touch politics, politics will touch us, and not always in a way that we may enjoy.

Our pursuit is one which can not be followed in a desert. The metaphysician may construct his web of sophistries; the logician may invent his syllogisms; the poet or novelist may weave his romance in the privacy of his chamber; even the theologian, like a modern St. Simeon Stylites, may sit on the pillar of his own dogmatism, far above the thoughts and efforts of his fellow mortals; but the medical man is at every turn brought into the closest contact with the life that surrounds him, and he may feel assured that if he attempts to keep apart from that life and its interest he will cease to exercise that influence, without which it will be impossible for him to gain for his opinions the weight which they deserve.

The condition of the people is daily brought before his eyes, and to solve some of its more urgent problems is often his immediate task. On the poor laws, on the regulation of board schools and the whole question of State education, he is peculiarly well fitted by his training and knowledge to form reliable and practical ideas. Apart from purely legal and politic technicalities, there are few of the pressing topics of the hour in regard to which he is not entitled to speak with the weight which judgment and experience should command. But is his real influence in the course of affairs at all commensurate with his claim to authority even in regard to matters more particularly within his own province, such as contagious diseases, and the domain of State medicine, which is rapidly being broadened, and upon which field the physician finds a wide range for employment in his scientific knowledge, in the prevention of disease and the curtailment of human suffering? It requires no great amount of reasoning to comprehend the fact that if pestilence and disease are to be driven from the community, the cause of these conditions must be removed, and it follows as the most natural result that if it is to be removed, the work must be inaugurated and prosecuted under the direction of those competent to discover the cause and perfect methods for its eradication. Men are guided by those who show themselves capable of entering into affairs in which they themselves are interested. Special legislation always requires interested and enthusiastic advocates to secure its passage, and the enactment of class laws takes place more frequently when representatives of that class of individuals are present personally to superintend the successful presentation of them.

Another question in which we should be deeply interested is: Is medical education, what it should be? The league of North American medical colleges did a noble work in raising the standard of medical education and increasing the length of time requisite for pursuing and obtaining medical education. Legislative restrictions would also help us materially in the matter, for we demand that none but educated, competent physicians shall be permitted to practice within our borders. The examination required by the State should be so rigid as to exclude all quacks, and only those who are conscious of being such ever refuse to submit to it. A singular fact in connection with the popular estimate of the "learned professions," is the fair conception formed of the province and power of both divinity and law, and the failure to at all appreciate the scope and limitations of medicine. The failings and foibles of a divine may be ridiculed or condemned, while critics never dream of charging his creed with the faults of the man, a lawyer lies, a judge is bribed, a witness perjured, but no one, therefore, impugns the majesty of the law. The doctor, on the contrary, seems to be taken en masse. He errs once or many times; he disagrees with one or more fellow practitioners, and forthwith we hear the cry, it is all guess-work, they do not, can not know.

The raising of the standard of entrance requirements by the leading educational institutions has made possible the establishment of schools in which the standards are less exacting. I am afraid the result will be that instead of a rise in medical education, there will actually be a decrease in the average attainments of the medical output of this country. The only remedy for this evil is an enactment of a law separating the diploma from a license to practice. There is a bill now before the Illinois legislature which proposes to place the licensing power in the hands of a State board of medical examiners. There can be no objection to such a law, and all first-class institutions should unite in support of this bill. In this day when diplomas can be bought for $10, any discerning person can see the crying need of a systematic and rigid examination of all applicants for license to practice medicine. Because of such laxness in making and enforcing laws, you can plainly discover how it is that in a great city like Chicago, we see so many abuses, so many obstacles in our path, so little protection to our interests, so many charlatans, quacks and empirics, and so few champions in our legislative bodies.

Quack doctors are a source of great evil and unpardonable mischief to an honest, but credulous public. The people at large do not realize what an important matter the suppression of quackery is. They regard their immunity from these destroyers as a matter of course, very much as they regard the fact that the streets are lighted at night. If in most instances they do not kill directly, they are none the less the cause of death of hundreds of individuals believing them to be physicians merely because they have placed on their door such a sign. The present mental trend of society is accented by a growing tendency to follow with an avidity, almost hysteric, the many forms of charlatanism in medicine that present nothing new, unless it is the readiness with which they are accepted. Osteopathy, "Christian Science" and faith-cure, are types of quacking that attract their following not from the uninformed, but from the misinformed, not from simple ignorance, but from perverted intelligence. The recent death of Harold Frederick of London, a victim of "Christian Science," illustrates the thought that some of the cultured few seem to be as prone to yield to the blandishment of the various forms of quackery as the unlettered many. Fear of the truth is strong and widespread. It must be a thing familiar in the experiences of all how this fear is manifested concerning the knowledge and treatment of disease. The average man does not want to know too much of the truth about his disease. There lingers in the stoutest hearts sometimes a little timidity of the truth, a little desire to feel that relief comes by some mysterious means. Oracles have always spoken from the clouds, and with obscure utterance. With all his efforts, with the splendid bravery of his advance, man has not yet reached the point where he is willing to dispense with mystery, to clear up obscurity, and to make the issues that touch the welfare of his soul and body things to be reasoned on and wrought out as he thinks and works in other fields of endeavor. Strong men, who bear their full share of the burdens of life like men, learn of some physical disability that assails them, and are yet afraid to know its extent, or to be told their actual condition. They illustrate the fund of fear on which fraud relies with confidence, and out of which charlatanism finds the substance of its prosperity.

The fallacy inherent in such reasoning is plain. There is "pain in truth" and, conversely, there is unfortunately a great deal of "truth in pain." But to a person who can set out with the principle that there is no reality in pain and disease, the treatment of them presents no difficulties whatever. He has only to assure the patient that he has been nourishing a delusion and, presto, the thing vanishes. Long before "Christian Science" was "discovered," a French dramatist parodied the character of a quack, who tries to impose on his patient that pain is imaginary. The patient turns the tables upon his doctor by administering to him a sound thrashing. When he cries out with pain, he is laughingly admonished that his pain is imaginary. The fantastic cults that now strut their brief hour are the revivals of ancient humbug, pseudo-religious or medicomystic doctrines in a garb and fashion adapted to the time. The osteopathist of to-day is but the bone-setter of old. There are myriads of inert medicines and multitudes of medicinal brands, each different from the other, but nearly all reaching their victims through some weak spot in the mental make-up. For example, it is certain that suggestion is an undoubted therapeutic factor in the treatment of many disturbances, a full recognition of this fact brings us face to face with the essential influence and power exercised by the various forms of charlatanism that operate under such names as osteopathy, "Christian Science," faith-cure, and their allies, but it is clearly proved that this psychotherapeutic factor is operative and effective only within narrow and well-defined limits. The error and abuse are manifest, therefore, when they try and make it of general and universal application, and seek to create of it a "school" of medicine or treatment.

The medical laws of various States have been so perverted by political influences as to give legislative sanction to these grotesque, ignorant and dangerous sects of pretenders and charlatans. To John R. Tanner, Governor of Illinois, the profession is under everlasting gratitude for vetoing the bill permitting that most outrageous aberration, so-called osteopathy, from becoming legally intrenched within our borders.

The promoters of patent medicine are wise in claiming, each for his special nostrum, a number of virtues. The man who is gunning for this kind of game describes symptoms that fit all real or imaginary ailments. The physical effect of swallowing it induces a state from which comes the certificate of cures. This lasts until the imaginary disease is displaced by a different one, or until a real disease produces conditions that no longer respond to the mental state, and so another remedy is tried. Once the patent medicine habit is acquired, the chances are it will never be broken. This habit leads to a useless expenditure of millions of dollars annually, and generally by those who are least able to afford it. Many clergymen certify to the wonderful effects of these cure-all medicines. The idea of appearing before the public so flatters many people that they are willing to allow their names and diseases to be paraded in newspapers and almanacs, and one of the greatest thorns in the flesh we medical men have to endure is the flaunting in our faces of certificates from lawyers, clergymen, and other well-known persons, recommending all kinds of patent nostrums. Every quack knows the value of a clergyman's name appended to his compound; therefore they make strenuous efforts to obtain it. It is true that if the general public was not so gullible there would be less need for doctors. But some one has said, "A fool is born every second." Certainly some remedies have found plenty of victims. Lawyers have an adage that the man who acts as his own attorney has a fool for a client. Physicians as a rule do not prescribe for their own families. Intelligent people will not presume to be better able to doctor themselves or their own families than physicians are to prescribe for theirs. Yet a large part of the people, when they feel a little ill, begin to dose themselves with patent medicines. It would be well for the public health if some restriction could be put upon the nature of the advertisements of remedies which could be sold to the public.

Our State has a law forbidding the sale of poisonous drugs and patent medicines. We condemn no discovery inadvisedly, but we do claim that we are trying to bring medical science as near perfection as possible; and we know from experience that these extraordinary discoveries of remedies that cure every disease under Heaven are glaring frauds, and reach the public only by systematic advertisements. It is a curious enigma, how a man wise in all else becomes a victim to shallow quackery or sophisticated pretensions.

In Kentucky, one of the osteopaths was charged with practicing medicine within the meaning of the act of the State. He endeavored to escape from his unpleasant position by asserting that he was merely manipulating with his hands. The judge, however, took a different view of the case, and held that the manipulator, in his ignorance of the fundamental principles of medicine and surgery, had subjected the patient—a child suffering from hip disease—to much cruel and unnecessary pain, injuring his health and necessitating the employment of a qualified medical man. The court ruled that "any person who for compensation professes to apply any science which relates to the prevention, cure, or alleviation of diseases of the human body, is practicing medicine within the meaning of the statute." It would be well, and in the best interests of the medical profession and the general public, if this State were to follow the lead of Kentucky in her broad interpretation of the laws regulating the practice of medicine. Strenuous efforts should be put forth by the profession in the different States to nip in the bud any attempt to legalize the practice of any form of quackery.

The counter-prescribing druggist is another sore that requires healing by legislative ointment, or by the application of legislative caustic. The midwife, too, who is profoundly unconscious of the anatomy and physiology of the pelvic organs, should be prohibited from propagating and disseminating puerperal septicemia.

Minnesota has a code of medical laws that reflects credit to the profession of that State. They have a board of examiners and no one is allowed to practice unless he can prove his competency and the desirability of his becoming an acquisition. The direct effect of this is that there are fewer physicians but better qualified. Illinois, with its lax medical laws, is overburdened with all sorts of medical riffraff. It is the dumping-ground for all the medical refuse and parasites to the profession. "The long-haired fraternity of pilgrims find in Illinois their Mecca, nondescript doctors, cancer doctors, faith-cure apostles, Christian-Science sharks, Indian medicine men, root-and-herb fiends, jag-cure fakes, lost-manhood-restored," and miscellaneous other kinds of sharpers and delusionists revel in pastures ever green and ply their mercenary practices with impunity and profit in the city of Chicago.

In the newspaper mind we are a secondary consideration, and to be only occasionally recognized. When, for instance, an epidemic of disease is threatened through the invasion of a contagion, the public prints are quick enough to appeal to medical science to ward off the threatened danger, but they willingly debase their columns with ignorant laudation of the vilest nostrums that human ingenuity has been able to devise, and rush to the rescue when the patent-medicine industry, which is more dangerous to the public than contagion, is threatened by sensible legal restrictions. The multiplication of the medical shams that are now preying upon the public attention presents a condition of serious import to the profession, and it is a matter of sincere regret that the lay press, which to-day performs so large a part in the popular instruction, should exhibit so remarkable an amount of ignorance in regard to scientific education, and such a studied indifference to the standard of scientific medicine. It is a peculiar fact, too, that very few States have taken steps for the protection of the people against the dishonesty of the charlatans that are multiplying throughout the country, and who migrate from one section to another according to the opportunities for the prosecution of their peculiar practices.

The legislature is not the only place where we should be represented, since county and municipal affairs likewise demand our attention. Preventive or State medicine and general hygienic considerations will probably in the future be more potent for good than any amount of individual therapeutics, however well selected and well applied. The vast importance of these questions of public health makes it imperative that those who have had a scientific training should alone be entitled to speak with authority. The doctor is more likely to do real good in the world by forcing sound opinions than by administering doubtful drugs.

The expense of political life is urged as a reason why doctors should abstain from participation in public life. But among the great army of medical men there are many eminent in the profession, who, at an age where their faculties are still vigorous, might be able to give to the State the benefit of their ripe experience without any serious sacrifice.

The office of coroner is an important one and should always be filled by a physician. If the medical fraternity do not dictate by their political strength, manipulators will fill these positions with men not chosen by their superiority, but for their pliability to their masters. The doctor in politics could be a power and could dictate legislation beneficial to his profession. When doctors see fit to become candidates for school inspector or representative, or seek a position on the board of education, it will show their interest in the vital questions affecting the profession. By taking an active part in municipal life, we could put ourselves in a position not only to deserve but to command respect. In these cases, too, the sacrifices of time or money or trouble would not be excessive, for if we wish to gain credit and influence for our work, we must interest ourselves in the struggles in which the people are interested.

At this stage it might be well to ask how these reforms may be accomplished. Concentrated effort on the part of the members of the medical fraternity is the only solution. See that a few physicians are elected to each city council and State legislature. To do this requires our united efforts to place on the several tickets men of the profession who, when elected, will be able to make themselves heard and felt. It is an injustice to the law-abiding and tax-paying citizen, to his family, as it is also to the honest and studious physician who has spent thousands of dollars and years of his life in obtaining a diploma, that they should not be protected by a law against a set of unscrupulous charlatans.

I wish at this time to avail myself of the opportunity to say a word regarding a condition which confronts us. I refer to proposed legislation in this State, and I assume it to be a fact that our medical law, as it is now administered, is entirely inefficient to protect either the profession or the laity. There is at the present time an organized lobby representing quacks and irregular practitioners of various breeds who are opposing the bill now before the legislature which has for its object the creation of a State board of medical examiners. It is my conviction that we must work as individuals, as a society and as a profession, for wholesome legislation. I am satisfied that our lawmakers will do nothing of their own accord for our relief. We should exercise our influence upon our representatives, to the end that they may be instructed to vote intelligently on questions affecting medical legislation.

To sum up our needs concisely, we require such laws as will suppress the sale of patent medicine, keep out of our borders quacks, and secure a more rigid enforcement of the law governing midwifery. Legislative interference should also be directed against quasi doctors of the drug store, and the medical profession should undertake to protect itself against proprietary remedies advertised to the general public, by bringing pressure to bear by the various State medical associations and upon the legislatures to pass a statute to regulate the sale of proprietary remedies, and requiring the formula to be printed upon each bottle or package.

The profession seems to think it useless to attempt legislation of any kind. True, it seems up-hill work, but if systematically persevered in, success will be the result. It may take years to do this, but by increasing energy on the part of the profession it can be accomplished. It certainly behooves the profession to enter politics far enough to get favorable legislation.

36 Washington Street.

Technic of Applying Thiersch Flaps.—O. Guelliot passed the Coryleur lightly over the surface of the skin, which enables the flap to be removed without pain. When the flaps are all in place he applies cross-bands of thin rubber tissue, which allow the escape of the secretions through the spaces, while preventing any sticking of the dressings to the skin, which has always been an inconvenience of the process. The Coryleur sprays the local anesthesia called "coryl," which is merely ethyl chlorid methylated until its boiling-point is reduced to zero C. *Presse Méd.*, February 22.

SCARLET FEVER.

TREATED WITH ANTISTREPTOCOCCIC SERUM; RECOVERY.

BY E. M. LANDIS, M.D.
CHICAGO.

On Feb. 2, 1899, I was called to see a two-year-old child who had been ill for four days, without medical attention, and found I had to deal with a grave case of scarlet fever. The temperature was 105 F.; there was a severe angina with the characteristic exudate in the pharynx, on the tonsils and soft palate, and the cervical glands were moderately enlarged. The subsequent course of the disease was severe. The pharyngeal exudate extended into the posterior nares and, finally, into the middle ear, with perforation of both tympani; accompanied by a profuse purulent discharge from the external auditory canals and from the nose. The rectal temperature was alone taken, and ranged from 104 to 105, and, Feb. 15, rose as high as 106.5.

The treatment consisted of frequently administered baths, each of fifteen minutes' duration, and gradually cooled from 100 to 90, or even 85 degrees, during the last five minutes, the patient being sustained with milk and whisky. Ammonium carbonate and phenacetin were prescribed, but no other special medication was employed. The nares, anterior and posterior, were flushed with a boric acid solution, by means of a No. 4 Nélaton catheter and a fountain syringe, followed by hydrogen peroxid. The auditory canals were cleansed with peroxid introduced by means of a dropper.

On the 15th, the temperature reached 106.5, the child became very drowsy and refused to take food. With the consent of the parents, I then decided to use antistreptococcic serum,[1] and injected, under strict aseptic conditions, 10 c.c., about 9:30 A.M. The results were surprising. At the time of my afternoon visit, at 3:30, I found that the temperature had fallen to 100 without any untoward symptoms. The discharge from the nose and ears had materially lessened, and the somnolence had disappeared; the child was bright and taking its food. In fact, the whole aspect of the case had changed for the better. Although the little patient passed a comfortable night, I found that the temperature had again risen to 104 by the following morning, and the ears were discharging quite freely, so I again injected 10 c.c. of the serum, with a result equally as gratifying as in the first instance. The temperature the same afternoon registered only 99.5, and remained at that point during the night and following day (February 17). The succeeding night was not so restful, and on the morning of February 18 I found a temperature of 102.5, with the ears again discharging freely, but the nose scarcely at all. I again injected 10 c.c., with the usual happy effect upon the aural discharge and the temperature. From this time on the latter did not rise above 100, finally reaching the normal on the morning of February 22.

The patient rapidly convalesced, gaining in strength, recovering the appetite, becoming bright and sprightly and resting well at night. The ear discharge is of a much thinner consistence and still continues, as might be expected in scarlatinal otitis media suppurativa. Frequent examinations of the urine during the height of the disease, and subsequently, failed to discover albuminuria. I was unable to learn of any unpleasant symptoms following the use of the serum, while I observed that the sites of the injections were not as tender as when antitoxin was used.

This is one case. But, in the past, having seen all remedial agents fail in similar cases, I can not refrain from relating my experience in this instance, especially since a severe form of scarlatina is now prevailing in Chicago.

Although no bacteriologic examination was made in this case there is no room for doubting the accuracy of the diagnosis, and I, therefore, consider that the result of the use of the antistreptococcic serum is convincing.

1115 N. Clark St.

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[1] Parke, Davis & Co.

BLASTODERMIC DERMATITIS.*

(ABSTRACT.)

BY ROBERT HESSLER, A.M., M.D.
PATHOLOGIST CENTRAL INDIANA HOSPITAL FOR INSANE.
INDIANAPOLIS, IND.

The paper states that the yeasts as disease-producers have recently gained some prominence, but that the literature is still limited, and that Dr. C. T. Gilchrist of Johns Hopkins Hospital was the first writer to report cases from this country.

A description of a case in the practice of the author is then given. A healthy man was slightly cut in the neck by a barber, while shaving. The wound healed in a few days, followed by the development of a small nodule which remained in a stationary condition for nearly three months, when it suppurated. The pus contained no bacteria, but yeast-cells were found and similar organisms developed in culture-tubes.

The yeast was obtained in pure culture from the beginning; it grows readily in all ordinary culture-media and without the formation of carbon dioxid. In the course of time and under certain conditions a higher development takes place — the characteristic fungus form appears. In the pus the yeast-cells were found chiefly in the interior of the corpuscles; they were in the budding stage. In size they are as large as a nucleus of a polynuclear leucocyte, from which they can readily be distinguished on appropriate staining. Experiments are being carried on to determine the exact botanic position of the organism and its pathogenesis.

The abscess, after discharging, healed over in a few days, leaving behind a large amount of scar tissue, large in proportion to the size of the abscess and in comparison to a similar inflammation due to the ordinary pus-formers.

Inflammations due to pathogenic yeasts seem to be characterized by their slow evolution and their chronicity.

Inoculations on animals are being carried on, but so far the results have been negative.

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* Presented to the Section on Cutaneous Medicine and Surgery, at the Forty-ninth Annual Meeting of the American Medical Association, held at Denver, Colo., June 7-10, 1898.

Habitual Luxation of Shoulder.—Dehner of Würzburg recently operated an obstinate case of this kind with remarkably satisfactory results by merely taking up a fold in the very loose capsule and stitching it through with four medium silk stitches. Incision in the deltoid, vertical, 15 cm. long, started at the posterior angle of the acromion. This disclosed the posterior wall of the capsule and showed that the tendons of the supraspinatus and infraspinatus had become detached from the capsule and retracted; no drainage.—*Vienna Klin. Rund.*, February 19.

Societies.

American Gastro-Enterological Association.—The second annual meeting will be held in Washington, D. C., May 2, 1899. The program includes the following papers:

President's Address, D. D. Stewart, Philadelphia.

Further Remarks on Erosions of the Stomach, Max Einhorn, New York.

Fate of the Digestive Ferments, John C. Hemmeter, Baltimore.

An Experimental Study of the Absorption of Strychnin in the Different Sections of the Alimentary Canal of Dogs, S. J. Meltzer, New York.

Abuse of Intragastric Diagnostic and Therapeutic Procedures, Morris Manges, New York.

A Case of Dilatation of the Stomach Due to Latent Ulcer at the Pylorus; Operation by Halsted, Exhibition of the Patient, Julius Friedenwald, Baltimore.

Experiments on Gastric Digestion, Fenton B. Turck, Chicago.

State of the Gastric Secretions in Organic Disease of the Heart, Frank H. Murdoch, Pittsburgh.

Gastric Ulcer Associated with Anacidity, Lewis Brinton, Philadelphia.

Some Remarks on Pylorospasm, J. Kaufmann, New York.

Simple Method in Administering Hydrochloric Acid, Charles D. Aaron, Detroit.

Sixth International Otological Congress, 1899.—This congress is to be held in London from August 8 to 12 (vide JOURNAL, p. 90), under the presidency of Dr. Urban Pritchard. The British organization committee, which numbers over seventy members from Great Britain and its colonies, has Mr. A. E. Cumberbatch for its treasurer and Mr. Cresswell Baber for secretary-general. The meeting will be held at the examination hall of the Royal College of Physicians of London, and Royal College of Surgeons of England, and the following details have been arranged: On Monday evening, August 7, a preliminary reception will be held by the president-elect. On August 7, 8, 9, 10 and 11, the congress will be in session, and will be followed on Saturday, August 12, by an excursion for members and their lady friends. The official languages of the congress are English, French, German and Italian. The subscription, to include a copy of the Transactions, is fixed at £1, to be paid to the treasurer, Mr. A. E. Cumberbatch, 80 Portland Place, London W., before the opening of the congress. The subject chosen for special discussion is "Indications for Opening the Mastoid in Chronic Suppurative Otitis Media," which will be opened by Prof. W. Macewen of Glasgow, Dr. H. Knapp of New York, Dr. Luc of Paris and Professor Politzer of Vienna. A museum of specimens and instruments relating to otology, shown by members, will be held during the meeting. Communications regarding the museum should be addressed to Mr. A. H. Cheatle, 117 Harley Street, London W. Intending members of the congress are requested to send their names to the secretary-general as soon as possible, and in any case not later than May 1, also titles of communications, together with a short abstract of the same by the same date. According to the regulations of the congress, no papers shall exceed fifteen minutes in reading, therefore all long communications should be read in abstract.

Detroit Medical and Library Association.—At the meeting of March 20, Dr. H. W. Longyear read a paper on "The Operation of Shortening the Round Ligaments for the Cure of Retrodisplacement and Prolapse of the Uterus." The Doctor called attention first to the history of the development of the so-called Alexander's operation, and then to the operation in its perfected state. "In its present status, the operation is surely a success. All that is necessary is to make an incision—an inch or less—through the roof of the inguinal canal, and through this draw out the ligament with a tenotomy hook. To Dr. J. H. Kellogg of Battle Creek, Mich., belongs the credit of devising this method of performing the operation." This operation fully described is as follows: An incision about an inch long is made parallel with and just above Poupart's ligament, its outer end being about half an inch inside the internal ring. The incision should pass down to the loose tissue overlying the tendon of the external oblique. The ring is found by the pulsation of the femoral artery which passes over it. The wound is then separated transversely by retractors. The loose tissue overlying the tendon of the external oblique is next cleared away by pulling it away from side to side with blunt hooks. The tendon is then punctured by a scalpel incision one-quarter inch long, just above Poupart's ligament and at the outer aspect of the cleared space. The blunt hook is inserted and passed downward close to the floor of the inguinal canal, then inward and upward, and the ligament, with its surrounding investment of fat, will be brought out through the opening. The ligament is isolated and pulled out, cutting any tendinous attachments which impede its freedom with scissors. Care should be taken not to cut the cuff-like prolongation of peritoneum which forms the infundibuliform process and the canal of Nuck. The cord is anchored by the use of silkworm gut sutures passed from the skin surface, as done by Dr. Kellogg, or by the use of buried kangaroo sutures, as employed by Dr. Longyear. The proximal portion of the ligament is made fast to the tendon by one suture passed through the aponeurosis and ligament. The loop of ligament is turned backward upon itself after being drawn through the aponeurosis and made fast. The wound is then closed. In conclusion the Doctor said he had operated a number of times according to Dr. Kellogg's method, enough to make him strongly enthusiastic in regard to it, and to endorse everything in its favor claimed by the author; that the operation, applied to properly selected cases and attended with other necessary repairs of the genitalia, will serve its destined purpose in a most satisfactory manner and that it will become one of the most popular of gynecologic operations.

Chicago Ophthalmological and Otological Society.

Regular Meeting, March 14, 1899.

Dr. WARE, the president of the society, occupied the chair.

MULTILOCULAR CYST IN FORNIX OF CONJUNCTIVA.

Dr. WILLIAM H. WILDER presented the case of a boy, 11 years of age, who had recently developed a multilocular cyst in the fornix of the left lower conjunctiva. This cyst contained serous contents, with degenerated epithelial and lymph cells. On everting the lid the little tumor rolled out like a sausage-shaped mass. The report of this case will appear in a subsequent number of the JOURNAL.

Dr. Wilder also presented a case of detachment of the retina in both eyes. That of the right was of the complete umbrella-shaped variety: vision of that eye was reduced to about perception of light. The detachment of the left eye was partial and involved the lower hemisphere. In both eyes evidences of degenerative changes of the vitreous could be seen. A complete report of this case will also be given later.

Dr. J. E. COLBURN—Some years ago, while everting the lid to instil atropin in the case of a young woman whom I was refracting, I noticed a tumor which presented very much the appearance described by Dr. Wilder, as existing in his case before he aspirated. I advised its removal. After opening the sac I discovered and removed a piece of pencil graphite a quarter of an inch in length. She did not know that this was in her eye until I had called her attention to the fact.

Dr. HENRY GRADLE—I have seen three instances of cysts of the bulbar conjunctiva, none of them traumatic. They were about the size of small shot. One of them had existed for months without annoyance or irritation, when it suddenly became inflamed, and its contents, previously clear, turned purulent. A second one may have been unnoticed for some time, but when the patient called it was surrounded by a zone of injection, like a phlyctenule on the bulbar conjunctiva, and was irritating. Yet its contents were perfectly transparent. The third case, a young girl, had had a clear pale cyst for an unknown length of time. I extirpated all these cysts and obtained prompt healing.

ORBITAL LIPOMA.

Dr. CASEY A. WOOD—Orbital lipoma is such an uncommon neoplasm that I consider it sufficiently interesting to present the history of a case for the purpose of obtaining the experience of other members of the society in this particular matter.

H. A. F., aged five months, a healthy child of perfectly healthy parents, was brought to me on the second of last November, with a yellowish-white growth, evidently subconjunctival, presenting at the outer canthus. The mother believed it to have appeared shortly after birth, and thought it had grown slowly and uniformly since that time. When the child cries the tumor becomes more prominent and its covering decidedly redder than the corresponding on the left one. It is not tender to the touch, is freely movable and may be pushed back into the orbit. With the exception of this growth the eyeball is entirely normal, and its excursions are not limited in any direction. On November 7 I removed the growth, under chloroform. It proved to be an incompletely encapsulated tumor lying on the anterior surface of the left external rectus muscle, and seemed to be attached to the sheath of the latter, and to Tenon's capsule in front, so that I was obliged to remove a few fibers.

of the muscle itself. In its fresh condition the small tumor formed an irregular oval about 4 cm. long by 2.5 wide.

Dr. Brougham, pathologist of the Passavant Memorial Hospital, kindly examined it and made several microscopic slides for me, one of which I show this evening. His report is as follows: Tumor removed on November 7, 1898, measures 4 by 2 cm. Its upper surface is irregular and the under side smooth. It is yellowish-white in color and evidently mostly composed of fatty tissue. Microscopically it is a pure lipoma, to the under surface of which are attached striped muscle-fibers.

It will be noticed that the tumor just described is somewhat larger than those commonly described in literature.

Dr. W. F. Coleman—About ten days ago a somewhat similar case to the one reported, came to my clinic and had been seen by one of my assistants two days before. He punctured the cyst and it contained serous fluid. It was situated more to the temporal side and just at the reflex fold, the cyst seeming to be continuous with the hypertrophied portion of what appeared to be the lachrymal gland. I ran a bipolar double needle electrode into it, and turned on eight milliampères of current for six minutes, and the following day it seemed to be decidedly contracted.

Dr. William H. Wilder—I think these are sometimes associated with dermoids. Some three years ago I had a case in which a lipoma sprang from the orbital tissue, apparently about the size of a large hazelnut, and associated with it in the same eye was a dermoid tumor affecting the limbus of the conjunctiva. They were both easily removed without any signs of recurrence. I agree with Dr. Wood that the cause of this detachment of the retina is the shrinkage of the vitreous, the contraction of cicatricial bands, and the formation of new connective tissue. The case is interesting in that it illustrates so well the theory of Nordenson.

Dr. Henry Gradle read a paper entitled "Diagnostic Significance of One Sided Amblyopia," which will be published in the Journal in full, with the discussion.

Dr. Casey A. Wood read extracts from his paper on "The Ocular Evidences of Hysteria," published in the *American Jour. of the Med. Sci.*, January, 1899.

Cincinnati Academy of Medicine.

Regular Meeting, March 27, 1899.

Dr. P. S. Connor presented two cases illustrative of the

VALUE OF CONSERVATIVE SURGERY

in operative procedures on the bones of the lower extremities. The first patient, an adult male, had been struck some months ago by the pilot of an engine, and a compound fracture of both bones of the leg at the lower end, with extensive laceration of the soft parts had ensued. So great was this laceration, that he thought that an amputation would surely be required, but determined to wait a few days. The ends of the fractured bones were wired together and a gradual union took place. The man has now good motion of the foot, sensation is in no way impaired, and there is shortening only to about the extent of an inch, which shortening is relieved by a thick-soled shoe.

The second patient was a boy who had had an attack of acute osteomyelitis involving principally the tarsus of the right foot. The attack had occurred just six months ago. The tarsus had been removed in its entirety. The result was all that could be desired. The blood and nervous supply had not been interfered with, and active motion of the foot was good. He reported the latter case on account of the rarity with which entire removal of the tarsus has been performed with success. As far as he knew it has been done but four times in this city, and some years ago, in collecting the literature on the subject, he had been able to find but forty cases.

Dr. Ricketts reported two cases of his own in which the entire tarsus had been removed successfully.

PROGRESSIVE BULBAR PARALYSIS.

Dr. W. E. Schenck presented a woman of from 45 to 50 years of age, who, according to her own statement, had been ill about a year. Her chief complaints were difficulty in articulation and in deglutition even of liquids. The course of the disease had been progressively downward. In pronouncing the various letters, she was able to call *l*, *n*, and *r* with considerable distinctness, but the attempt at *t* was a failure. She was also unable to whistle or to puff out her cheeks to any extent. He called attention to the blank expression of countenance, atrophy of the tongue and the pronounced fibrillar tremor of the latter. He regarded the condition as one of glosso-labio-laryngeal paralysis, or, as it is now known, progressive bulbar palsy. Since he had first seen her there had been some improvement in her condition, but she was very liable to have periods of exacerbation of her symptoms. The treatment had been nothing beyond an attempt to improve her general condition, as she had been very poorly nourished for the greater part of her life.

Dr. F. W. Langdon agreed in the diagnosis. Regarding the pathology, he thought that there was a premature senility of the motor neurons beginning in the medulla oblongata, just as in locomotor ataxia there is a premature senility of the sensory neurons beginning in the cord. In this case he noticed that the patellar reflexes were greatly increased and this he thought due to the removal of the inhibition of the cerebral cortex.

AORTA CUT BY POCKET KNIFE.

Dr. Arch I. Carson showed a specimen, the arch of the aorta and its branches, in which the innominate had been cut two-thirds through and from its under surface by no other weapon than an ordinary pocket knife. The knife had entered at the suprasternal notch and had inflicted a wound about an inch in length. The man had lived over an hour after the infliction of the injury.

FIBROID TUMOR.

Dr. Charles Bonnifield exhibited a specimen of fibroid tumor which, together with the uterus, had been removed from a woman in her fifty-seventh year. Contrary to the usual trend of these cases the tumor had been gradually increasing in size. On opening the abdomen the fibroid was found imbedded in the right broad ligament.

Dr. R. B. Hall exhibited two specimens of multinodular fibroid. The second case had been of considerable interest in that, on opening the abdomen, a large multinodular fibroid was found attached to the uterus by a comparatively small pedicle. He intended only removing this tumor and another very small one in the immediate vicinity, but on continuing his investigations found that the tubes and ovaries on both sides were extremely diseased. As the woman had been married six years, without conception, and as the non-removal of the appendages would necessitate another operation subsequently, he took away tumor, uterus and appendages.

PLACENTA IN BROAD LIGAMENT.

Dr. Ricketts reported a case of abdominal section in which this condition was found with a large adherent ulcer in the colon, and appendicitis. All these conditions were corrected, and the woman is in a fair way to recover, the operation having been performed four days ago.

Dr. Horace Whitacre illustrated his method of teaching pathology, by means of a projection microscope, which had been used in active service at the Ohio Medical College for over a year and with the best of results.

LICHEN RUBER VERRUCOSUS.

Dr. Meyer Heidingsfeld reported a case in a young man, the case being of a year's duration. It began over the forehead and spread to the upper extremities and trunk, and lastly affected the lower extremities. In the beginning it was the planus form of Wilson, consisting of small polygonal papules, waxy in appearance, showing a central depression, and coalescing to form larger plaques. Pruritus was marked. Over the lower extremities, the eruption assumed a warty character, and has almost entirely disappeared from the remainder of the body, leaving here and there sepia-brown pigmentations. In the beginning he gave Fowler's solution, which was not well tolerated and produced no alleviation of the symptoms. A 1 per cent. solution of sodium arsenate was subsequently given by means of deep injections in the buttocks, and promptly followed by alleviation of the pruritus and disappearance of the eruption.

The second case presented by Dr. Heidingsfeld was one of

ECZEMA SEBORRHOICUM UNNÆ,

involving the scalp, face, neck, chest and back in an individual who had been treated for syphilis. Diagnosis of syphilis was made on the appearance of an initial lesion, and constitutional treatment was instituted before the appearance of a roseola which has never since manifested itself. The eczema seborrhoicum was also diagnosed as a syphilitic lesion, and had been treated by local applications of blue ointment. The doctor recalled a similar case in private practice, in which a simple macular eruption, without an initial lesion or other corroborative symptoms being present, was diagnosed and treated for syphilis. He pointed out the liabilities to error in both cases, and made a plea for greater conservatism in the treatment of early cases of suspected syphilis.

Philadelphia Neurological Society.

Meeting March 27, 1899.

OPHTHALMOPLEGIA EXTERNA.

Dr. J. Hendrie Lloyd presented a patient, a woman of middle age, who complained of headache, situated for the most part in the nasal and supraorbital regions, thence radiating to the upper part of the forehead. This began in June, 1898, with pain in the right eye, the eye subsequently (in August) turning outward. A month later the left eye developed strabismus. The eyesight is now blurred. There is no history of vomiting or an epileptic attack. The right eye is ataxic, the pupil larger than on the left side and the ptosis is not so well marked; the vision is about one-half. On the left side the ptosis is more marked and the vision one-third of the normal. The visual fields are diminished.

The condition is one of almost total ophthalmoplegia, called by Jonathan Hutchinson, "ophthalmoplegia externa." Hutchinson ascribed the essential lesion as one involving the third nerve. He considered syphilis as the exciting cause. In this case there is no specific history. The condition should be looked upon as due to disease of the nuclei of the third, fourth and sixth nerves. There seems to be no involvement of the fifth or seventh cranial nerves and no involvement of the nerves which supply the arms and legs. The treatment has been antisyphilitic, consisting of inunctions of mercury, together with the internal administration of potassium and sodium iodid.

Dr. B. Sachs had seen probably a dozen cases similar to the one presented and concurred in the diagnosis as well as the opinion that the disease was one involving the nuclei of certain nerves. Whether the disease is due to specific infection he could not state definitely. Thompson had described a case of ophthalmoplegia due to infiltration of the nerve roots, but this should be considered rather unique.

Dr. William G. Spiller thought the condition one of vascular disease. Turner had reported a case due to hemorrhage.

ERYTHROMELALGIA AND ALLIED CONDITIONS.

Dr. B. Sachs of New York (by invitation) read a paper on this subject. He desired to know whether this was a disease *sui generi*, and should even be called a nervous disease. He said erythromelalgia had been very accurately described by Weir Mitchell in 1871, while in 1880 another writer had spoken of it, and at Berlin in 1892 three cases had been reported. Dayo, Auerbach, Winner and other writers had examined the arteries and nerves of supposed cases.

Case 1.—Mr. S., aged 36, Russian, tailor. He had been well until 1887, when pain developed in the calf of the left leg, shooting downward toward the foot, but when the foot was allowed to hang downward the pain would be quite severe, though when he lay in bed he felt tolerably comfortable. It became more pronounced in April, 1898, when the left leg became red, swollen and very painful. At this time pulsation of the arteries of the leg was observed. There was atrophy of the anterior group of muscles and the symptoms became progressively worse until Oct. 23, 1898, when an ulcer developed on the dorsum of the left foot, which suppurated slightly and in which a sinus finally formed. Tenderness existed in the region of the left sacrum. The reflexes might have been slightly increased. The temperature ranged from 100 to 102 F. The urine was normal. There were no evidences of anterior sclerosis. The heart was not enlarged. Shortly after the ulcer developed it became gangrenous, and subsequently involved the toes. Amputation was performed on Nov. 15, 1898. The question has been debated as to whether it was best to amputate below the knee or above, but the latter was finally decided upon. The patient was discharged, cured, on Jan. 4, 1899. Two weeks ago he continued to be free from pain, showing that the condition is not centric in origin.

Case 2 developed pain in the foot. Several months later an ulcer developed, finally becoming gangrenous. There was atrophy of the anterior muscles of the leg. An amputation was resorted to and the patient recovered. In describing the symptoms of erythromelalgia, Mitchell does not speak of development of gangrene.

In Case 1 Dr. Sachs had made a careful microscopic study of the anterior tibial artery and nerve, sciatic nerve, popliteal artery, certain veins of the leg, certain muscles and the bones of this region. The Van Gieson stain had been used. In this examination not a single normal artery had been found. The nerves showed degeneration, especially noticeable in anterior tibial and popliteal nerve. In certain instances the nerve fibers had been replaced by connective tissue. The veins all showed thickening of the walls. The bone structure seemed normal. The most marked changes had been in the arteries, less so in the case of the nerves. It is therefore probable that the arterial disease was primary and that it caused secondary disease of the nerves. These findings corroborated the theory of Mitchell and Spiller that the disease was peripheral in origin instead of central. From the fact that erythromelalgia affects the arterial tree to such a great extent, narcosis in these cases is unusually dangerous, as had been proven in certain instances.

Dr. Wharton Sinkler had observed several cases in which he had suspected erythromelalgia, but in which there had been no pain. From this fact one might be led to the belief that the disease was one of the arteries. There might, however, be a disease of the peripheral nerves and causing arterial changes.

Dr. J. Hendrie Lloyd thought that possibly a bacteriologic examination might have been interesting, since the intima of the blood-vessels had shown such marked changes.

Dr. Spiller agreed with Dr. Sachs in the diagnosis of the first case. From the fact that the changes in the blood vessels were as marked a long distance from the seat of the ulcerated spot as they were adjacent to it, he thought it was probably not of microbic origin. In his case he had found the intima more extensively involved than the media, and regarded obliterating endarteritis as a very essential part of the process. Neither he nor Mitchell had been able to decide which was the primary process, the arterial or the nervous. Erb had spoken of intermittent claudication as being present in erythromelalgia. Dr. Spiller also thought he had seen a case which had affected the hand, probably caused by pressure of a heavy basket.

Dr. Potts had seen a probable case at the University Hospital and one in which there had been ascending neuritis.

Dr. A. A. Eshner thought that certain conditions present in this disease might arise from a toxic substance having its origin within the body, leading to degeneration of the arteries and nerves.

New York County Medical Association.

Stated Meeting, March 20, 1899.

A LARGE UTERINE FIBROMA.

Dr. Frederick Holme Wiggin exhibited a patient, 41 years of age, from whom he had removed a fibroma weighing seventeen pounds, on Oct. 3, 1898, the uterus being amputated at the internal os and removed along with the tumor. Owing to the presence of a number of large, rigid sinuses with calcified walls, there was a profuse venous hemorrhage, which necessitated the rapid removal of the mass. While this was being done, the fundus of the bladder was accidentally laid open. It was carefully sutured with catgut, from the inside, and, as an additional protection, the line of sutures was covered with a flap of peritoneum. In spite of these precautions some urine began to escape after ten days, so a vesicovaginal fistula was established. The patient made a good recovery.

Dr. Thomas H. Manley commended the plan adopted in repairing the damage done to the bladder, and called attention to the great danger of injuring the ureters in cases in which a large fibroid obliterated the cervix.

A LARGE FIBROMYOMA.

Dr. Francis J. Quinlan exhibited this specimen, which he had recently removed from the pharynx of a young girl, by means of the snare. The tumor rested on the inner wall of the epiglottis, but its removal had been successfully performed under local anesthesia obtained by using first a 2 per cent. solution of suprarenal extract and then a solution of cocain.

A BLIGHTED OVUM.

Dr. Charles I. Proben exhibited this specimen, removed from a woman of 28 years, five months pregnant. Two months previously there had been a severe uterine hemorrhage, which had been controlled by rest in bed. After a time, a low form of anemia had developed, and the flooding had returned. After two days of pain and hemorrhage, the ovum had been expelled entire. Its walls were composed of dense coagulated fibrin. There was no history of syphilis.

Drs. S. F. Brothers and F. N. Nye reported somewhat similar cases.

NEW URETHROSCOPE.

Dr. Ferd. C. Valentine demonstrated the action of his modification of the Oberlander instrument. It is much more convenient to use than its prototype, there being no cooling device, and the direct illumination being furnished by a tiny electric lamp, the heat from which is so slight that the instrument may be used in the urethra continuously for half an hour at a time.

EXCISION OF A GASTRIC ULCER.

Dr. Hermann Grad reported a case in which he had successfully excised a gastric ulcer. He had adopted the original plan of introducing a subcutaneous suture around the proposed line of incision into the stomach in such a way as to leave a series of projecting loops. These loops were next secured around a circular wire frame, and with the stomach thus under good control it was incised and its interior explored. An ulcer about half an inch in diameter was discovered. By the introduction of a purse string suture the site of the ulcer was made prominent, and then the puckered-up mass, consisting of the serous, muscular and mucous coats, was excised. The duration of the operation was a little more than two hours, and at its close the patient was suffering considerably from shock. She revived, however, in the course of a few hours, and made a slow but complete recovery. The operation was done eight months ago, and the patient is now in good health.

Dr. Parker Syms said that while the vast majority of cases of simple ulcer of the stomach were amenable to medical treatment, operative interference seemed to be demanded in some instances. He considers the indications for such operation about as follows: 1, in cases which showed no decided benefit from the usual medical treatment after it had been tried for a reasonable length of time; 2, cases in which the hemorrhage was severe or so frequent as to endanger life; 3, cases in which a more or less pronounced localized peritonitis around the stomach pointed to impending perforation of the stomach, and 4, cases in which emaciation progressed in spite of the usual treatment, and it seemed impossible to properly nourish the patient without recourse to more radical measures. He thought closure after excision of the ulcer could be best done by the Maunsell method of suture.

PERFORATING ULCER OF THE DUODENUM.

Dr. John F. Erdmann, by way of contributing to the symptomatology of gastric ulcer, presented the specimens from two cases.

The first case was that of an Italian, 30 years of age, who had been suddenly seized with sharp abdominal pain, and had presented symptoms pointing to an appendicitis. At the time of the exploratory operation, thirty-six hours later, no blood or food was found in the peritoneal cavity, but a perforation was detected in the first portion of the duodenum. In the second case, the illness began with sudden and sharp pain referred to the tip of the xiphoid cartilage. At the time of operating, twenty hours afterward, the abdomen was much distended, and the patient was in a condition of shock and sepsis. On abdominal section, a perforation of the first portion of the duodenum was discovered. Both patients died within a few hours after the operation.

Dr. Manley said that if the operation for excision of a gastric ulcer had to be done on the posterior wall of the organ, near its cardiac opening, it would be found very difficult of performance. He objected to the wire support used by Dr. Grad, on the ground that it would not permit of thorough inspection of the interior of the stomach in an upward direction.

Dr. Farquhar Ferguson said that, in his work in the deadhouse, he had been struck with the fact that most of the gastric ulcers he had encountered had been situated between the middle of the stomach and the pylorus, or just at that part where most difficulty would be experienced in operating. Again, they were not infrequently situated in the pyloric ring or just beyond it in the duodenum. He referred to two cases of simple ulcer of the stomach in which, at the autopsy, from one to two pints of blood were found in the stomach.

DIAGNOSIS AND TREATMENT OF FLUID IN PLEURAL CAVITIES.

Dr. Louis Faugères Bishop presented a paper with this title, and said that while the classic signs of fluid in the pleural cavity were flatness on percussion, absence of vocal fremitus and absence of respiratory sounds, the very fact of so much being dependent upon the absence of sounds made the diagnosis difficult, for it was well known that it was next to impossible to persuade some patients to breathe properly. This probably explained why even experts in physical diagnosis found it necessary to so often resort to exploratory puncture. The procedure, if properly performed, was practically free from risk. He preferred to use a needle of small caliber and about three inches in length, attached to a syringe having a capacity of half an ounce. For removing collections of fluid from the pleural cavity he preferred the Dieulafoy aspirator to any of the simple and cheap substitutes. One of the greatest sources of error was the practice of resting content with a single negative puncture.

Dr. John Blake White spoke of the proneness of pleuritic effusion to follow mental worry, as well as the diseases which especially lower the vitality, e. g., phthisis, bronchitis measles and scarlet fever. The quality of the flatness obtained on percussion over an accumulation of fluid in the pleural cavity was quite characteristic, although not easily described to one who had never experienced it. He thought if diagnostic punctures were made with a fine hypodermic needle, the results would be disappointing in fully 80 per cent. of the cases; hence he made use of a needle of larger caliber.

Dr. George Tucker Harrison believes all cases of pleurisy with effusion are the result of infection with some micro-organism. Exploratory puncture should be free from danger, but the operation is so simple that many practitioners do not think it worth while to observe the usual aseptic precautions.

Dr. J. Emil Traub said that an important aid in the diagnosis was often to be found in the displacement of the apexbeat. If the effusion had remained in the pleural cavity for a considerable time, it rendered the prognosis much more grave, because of the great tendency of such cases to develop tuberculosis.

Dr. M. C. O'Brien said it was well to make it a rule in all cases in which the diagnosis was doubtful, to thoroughly explore the chest; the patient being in the sitting position and leaning slightly backward. When making exploratory punctures, it is his practice to leave a few drops of sterilized water in the syringe, so that in the event of a "dry tap" the needle can be readily cleared out by gentle pressure on the piston.

EFFECT OF ATMOSPHERIC CHANGES ON HEARING IN CHRONIC CATARRHAL OTITIS MEDIA.

Dr. Seymour Oppenheimer read a paper with this title, founded on observations made in 50 cases. Of this number, 11 presented a general atrophy of the tympanum, with decided impairment of audition; 32 complained that the nasal obstruction from which they suffered was worse in rainy weather. He said that the chief factors influencing the hearing were, humidity, barometric pressure and temperature. Changes in the atmospheric pressure cause hyperemia of the mucous membranes generally, with congestion, swelling and increased secretion. With clear weather and a rising barometer, capillary congestion does not take place.

Dr. Edward B. Dench was of the opinion that atmospheric changes invariably affected those suffering from hypertrophic inflammation of the middle ear, and that recurrent inflammations of the tympanum could always be referred to some pathologic state of the upper air-passages.

Dr. C. G. Coakley said that while it was certainly true that the hearing was distinctly affected by atmospheric changes, he thought the explanation was to be found chiefly in the fact that low temperature and moisture led to chilling of the body surface, and consequent congestion of the middle ear.

Dr. Edward Fridenberg remarked that in the advanced cases made a special study in the paper, one would hardly expect atmospheric changes to play a very important part.

Dr. Francis J. Quinlan said that many persons having more or less obstruction of the nose and throat had a realizing sense of the important influence exerted by meteorologic conditions.

Dr. Oppenheimer, in closing the discussion, expressed the belief that in about 95 per cent. of all cases of chronic catarrhal otitis there had been at some previous time a catarrhal state of the nose or pharynx; hence the great importance of early recognition and prompt eradication of such catarrhal states as soon as observed.

Chicago Medical Society.

Clinical Meeting, March 29, 1899.

Dr. Arthur D. Bevan, the president of the society, occupied the chair.

CHRONIC MASTOIDITIS.

Dr. William L. Ballenger reported a case of chronic mastoiditis. The points of especial interest in the case were: 1. It was a case of chronic suppurative disease of the middle ear, attended by slight symptoms of mastoid involvement. 2. The pus discharge was apparently scanty and intermittent. 3. The perforation was in the anterior superior quadrant, which is not as significant of necrosis as though it were in the postsuperior quadrant. 4. The operation was a radical one, whereby the middle ear cavity, attic and antrum were converted into one large cavity. 5. The malleus and incus were necrosed. 6. The roof of the attic and antrum were denuded and necrotic. 7. The posterior wall of the Eustachian tube, just over the jugular foramen, was slightly necrosed and covered with granulation tissue. 8. The lower or deeper portion of the skin or fleshy external meatus split and turned back into the antrum for the purpose of epidermizing the cavity remaining after the healing process was completed. 9. The external mastoid incision was at once entirely closed by sutures. 10. The dressing was left without interference for eight days. 11. At the end of this time the external wound was dry and healed by first intention, leaving no unsightly depression or scar. 12. The subsequent dressings were applied through the external meatus. 13. The hearing is slightly improved. 14. The neuritis of the facial nerve has largely disappeared.

Dr. O. J. Stein reported a case of displacement of the larynx from a goiter, causing dyspnea and aphonia, and exhibited the patient.

Dr. A. McDiarmid reported an interesting case of neurasthenia, and exhibited the patient.

THE MICRO-ORGANISM OF SCARLET FEVER.

Dr. W. J. Class read a short paper on this subject. He spoke of a micro-organism which he believes is the specific causative factor of this malady. Klein, in a large number of cases, isolated a streptococcus which he considered as the causative factor; this germ is also considered by a number of French observers to be the cause of scarlet fever. Crajkowski, in 1895, reported that he found, in fifteen cases in which he examined the blood of scarlet-fever patients, a diplococcus present in comparatively small numbers, seldom more than one or two in a microscopic field. This diplococcus does not stain by Gram's method, and in general stains feebly and quickly loses its color. Cultures were obtained in bouillon and upon solid media, but not on gelatin. The development is said to be slow, and the colonies resemble small drops of dew, not more than one-third to one-half of a millimeter in diameter. It is pathogenic for mice, but not for rabbits. Crajkowski does not claim that the etiologic relation of this diplococcus to scarlet fever has been demonstrated from the failure of the various careful scientists who took up this work to find a specific germ either in the scales or in the secretions from the throats of scarlet-fever patients. Dr. Class believes that the fault lay with the culture-media employed, as it is a well-known fact that some germs are very selective in this respect. In working on the subject, keeping this point in mind, he conducted his experiments accordingly. After numerous failures, he finally succeeded in finding a culture-medium on which he has been able to almost invariably obtain, both from the scales as well as from the throats of scarlet-fever patients, the growth of an organism which presents such characteristic features, both in its morphology as well as in its growth, that he has little hesitancy in stating that it is the specific germ of scarlet fever.

Morphology.—The diplococcus as ordinarily seen on slides made from fresh cultures resembles a very large gonococcus. This biscuit-shaped appearance is best seen in specimens that have been but lightly stained; in these there is also noted a transverse line running through each half of the organism, giving it the appearance of a tetrad. This appearance is, however, not constant, especially in older cultures, where the organism frequently presents itself as a diplococcus, both segments of which are perfectly globular. The size of the organism also presents a number of variations, but it is always considerably larger than the ordinary pus microbe. The lancet-shaped forms that occur in the pneumococcus are never met with. Usually, unless in spreading the culture on the slide it is rubbed very hard, these cocci occur in bunches of from ten to fifty, due to the large amount of glutinous intercellular substance by which they are united. Streptococcus forms are occasionally, though rarely, met with, as are also single cocci. They have no capsule and do not show any spores, have no flagellæ, and, examined by the hanging drop, do not show any independent motion.

Staining.—Specimens derived from pure cultures were stained with a number of the aniline stains. With a watery solution of methylene blue very pretty pictures were obtained, especially when only lightly stained; carbol fuchsin also stains it well, and brings out its characteristics. It also stains with Bismarck brown and with Pitfield's flagellæ stain, and does not stain very deeply, however, with any of the stains mentioned. It is destained by Gram's method, though not to the same extent as the gonococcus, the larger variety of the germ holding the stain somewhat better than the smaller.

Biologic characters.—The culture-medium on which this germ grows is prepared as follows: Glycerin agar-agar is made according to the method generally used; to this is added about 5 per cent. by weight of black garden earth, which has been rendered sterile by discontinuous heating. The garden earth is first dried thoroughly, then sifted through a very fine hair sieve until it is reduced to a fine powder, all particles of gravel, sand, etc., being removed; it is then mixed with sufficient bouillon to form a thin paste. This is boiled for an hour, enough sterile bouillon being added from time to time to replace that evaporated by boiling; it is then set in a warm place for a few days to allow the spores found in the earth to develop. It is then again boiled for an hour, after which it is again set aside for a few days. This procedure has to be repeated until no growth is developed. It is then added to the agar-agar, which mixture is also boiled for about thirty minutes, and then put aside for a few days to see if any germs develop. Should this be the case, the mixture is again boiled and tested as before. On this medium the scales of a scarlet-fever patient are placed, with a sterile platinum loop, and the tubes put in an incubator, the temperature of which is left at 35 C. Within forty-eight hours to one week small whitish-gray semitransparent colonies will appear along the track of inoculation, and around the scale. These colonies are isolated at first, but subsequently coalesce; their diameter varies somewhat, but in general is about 1 mm. On taking up some of the material of which the colony, is composed with a platinum needle, it is seen to be glutinous, being drawn out in threads like glue. If the culture-media is very dry, as when the colonies are old, they lose their viscidity and become grayer in color.

On agar-agar and glycerin agar-agar there is no growth. On gelatin the result is also negative. Bouillon is not clouded by the germs, and they apparently do not multiply in this media. On the blood serum furnished by the health department for the diagnosis of diphtheria there is a growth, but it is much more meager than on the culture-medium described by him. The reason the germ has not been noticed when examinations were made with blood serum is probably due to the fact that other germs which are always present on the scales grow so much more abundantly than the diplococcus that their presence is overshadowed, while in his medium the diplococcus grows almost to the exclusion of all other organisms. Milk does not appear to be affected by the diplococci, although they apparently multiply in it. On potato there was no growth.

Pathogenesis.—Rabbits and guinea-pigs were inoculated by subcutaneous injection of a pure culture, by scarification and inoculation of the wounds produced, and by injection into the abdominal cavity, without producing the slightest results. The negative result of the subcutaneous injection showed that the germ is no pus-producer, at least not in the species mentioned. Other animals are at present being experimented with by Dr. Class, and the results will be stated later.

The germ described has been cultivated from the scales of about thirty cases of typic scarlatina. It has also been found in the angina of scarlatina, and in cases of angina occurring in persons exposed to scarlet fever in whom no eruption showed, and, lastly, he has found it in the throats of children in a family where one member had typic scarlatina, the children being in a normal condition when the culture was made, but subsequently developing a typic rash in the scales, from which he also found the same germ.

Dr. G. W. McCaskey of Fort Wayne, Ind., presented a paper in which he reported a case of transient paraplegia and tetany of gastric origin.

Dr. Gustav Kolischer exhibited a trephine for performing craniotomy. He showed a pessary for use in cases of incontinence of urine and exhibited a syringe for injecting salves into the female urethra.

Dr. J. L. Miller spoke of the differentiation of the bacillus diphtheriæ, and demonstrated specimens.

Dr. J. C. Hoag exhibited specimens of congenital heart disease, and made some remarks on the so-called morbus ceruleus or blue disease.

Chicago Gynecological Society.

Regular Meeting, March 17, 1899.

(Concluded from p. 711.)

Dr. Gustave A. Kletzsch of Milwaukee read a paper on

REMOTE POST-OPERATIVE PELVIC CONDITIONS, AND THEIR SYMPTOMS, WITH REPORT OF CASES.

He said, in part, it is not at all infrequent that we are called upon to make examination of cases which have been subjected to serious operations, and find the pathologic condition in the pelvis puzzling and the symptoms complained of complex. We find these cases in our own practice, as well as in cases which come to us after having been disappointed elsewhere. The treatment is still more unsatisfactory, and a resort to a second operation is the usual result. The most difficult step was to make a correct diagnosis of the pelvic condition resulting after the first operation.

The cases which had come under observation were analyzed and not all the untoward results which can follow operations on the pelvic organs were considered. The indications for an operation were well founded in all the cases, as the histories of the patients will show. They, however, failed to get the relief sought for, and, on the contrary, developed further trouble, which could be anatomically and symptomatically located. The cases cited presented conditions which related to the position of the uterus, the condition of the stumps and adhesions which had formed. A second operation in three of the cases laid the pathologic condition of the pelvic contents plainly before us. A thorough discussion of the subject was sought for, in order to weigh the results obtained from operations on the pelvic organs. The first part of the paper was devoted to the consideration of remarks in general on intraperitoneal pelvic operations. An operation is undertaken to remove a condition which can not be successfully accomplished by any other mode of treatment. We are, however, not able to foresee the changes which may be wrought in the parts remaining in time to come.

In deciding to operate, the patient's physical, social and mental state should be taken into account. The next step is to make a correct diagnosis of the existing pelvic conditions. Upon this depends the indication for an operation and the course the operation is to pursue—whether to enter the pelvic cavity by way of the vagina or through the abdominal walls. It is but too often the case that the right diagnosis is first made after we have opened the peritoneal cavity. Next in importance to the operative procedure adopted, is the toilet during the operation. It influences the immediate as well as the remote results. The toilet is as scientific a procedure to-day as the operation is. In former times, the lack of definite methods in technic did more harm than the operation. We have since learned to respect the anatomic parts we come in contact with at our operations.

Conservatism is naturally called for wherever it can be applied, but whether we always do the best for the patient, is a question. The indications for operating are well defined in pathologic growths of the pelvic organs, but it is not so regarding inflammatory processes of the same. The indications are positive on the one hand, and nearly negative on the other.

The second part of the paper took up the consideration of the anatomic parts with which we come in contact in the course of our operations. The generative organs were first considered, and the pathologic state in which they were found gave the extent of the operation which was to be performed on them.

The bladder and the rectum should deserve our closest attention, for they are easily affected by the condition the pelvic tissues are left in, the one becoming irritable, the other acting sluggishly. The peritoneum is the most important membrane with which we have to deal. It is endowed with more properties than usually belong to a simple serous membrane. It has immense absorbing qualifications, as well as is able to throw out large transudations. Its bactericidal properties are well known, and no step in our technic must counteract these, for upon them depend immediate and remote results of operations. The regenerating power of the peritoneum takes care of any sterile bodies left in the cavity, and in encapsulating them makes them extraperitoneal.

The peritoneum should be exposed as little as possible during an operation, any injury to it should be avoided, and septic matter should be scrupulously kept away from it. Liquid blood may be reabsorbed, but clots should be removed from the peritoneal cavity. especially if extensive raw surfaces have been left on the visceral or parietal portions of the membrane.

It can be frequently observed that the omentum, through the formation of adhesions, protects the abdominal from the pelvic cavity, and thereby limits the disease to the latter place.

In the third part of the paper, the cases which came under observation were analyzed.

The first case had been under treatment for years. A tear in the cervix and of the perineum was repaired. It was impossible to keep a retroverted uterus in place. The ovaries and the tubes were large and sensitive and the uterus subinvoluted. As the patient was bedriden, removal of the adnexæ was decided upon, but the operation brought no relief. The uterus stubbornly remained large and compressed the rectum, and a new distinct pathologic condition developed in the stumps. On reopening the peritoneal cavity, it was found that from the stumps at the horns of the uterus projected numerous pedunculated fibrous growths. A supravaginal hysterectomy was done, and the patient made a good recovery, but remained an invalid.

The second case was a working woman who ran a sewing-machine. She was unmarried and the pelvic condition prevented her from earning a livelihood. The uterus was found retroverted and firmly fixed to the pelvic floor and to the rectum, and the ovaries were large and cystic and also firmly imbedded in adhesions. A laparotomy revealed hematomas of both ovaries, the tubes normal, and the uterus fastened to the rectum. The adnexæ were completely removed, the stumps being formed close to the uterine horns on both sides, and the uterus was suspended to the peritoneum of the anterior abdominal wall. The patient made a good recovery, the uterus remained attached forward, but a strong adhesion formed between the uterus and the rectum, which necessitated a second operation to give relief to the patient.

The third case was seen in consultation. A primary operation for removal of large and firmly adherent pus-tubes had been done over a year before. She was single, and a cause for the pelvic condition remained a mystery. The suppurating process was not eradicated at the first operation, although the adnexæ were closely cut away from the uterine horns. Six months after the operation a profuse leucorrhea set in, accompanied by evening rise of temperature. In the pelvis distinct fluctuating masses could be felt, but the correct relation they bore to the uterus could not be established. A second operation revealed the formation of two new pus-sacs, extending from the horns of the uterus to the walls of the pelvis on both sides.

The fourth case presented conditions similar to those of the third case, only that instead of pus-sacs, newly formed sacs resulted, which contained blood. The patient was married but never became pregnant. An Alexander's operation had been successfully performed to correct the position of the uterus, but this did not relieve the symptoms complained of and, as the ovaries were large and cystic, they were removed with the tubes close to the uterus, by laparotomy. Over a year following the operation for removal of the adnexæ, a hematoma developed in the stump of the right horn of the uterus. The pathologic conditions resulting in all four cases cited could not in justice be ascribed to any fault of the operator. The indications for operating were well founded in all of the cases, but the results anticipated did not materialize.

Dr. A. McDiarmid read an inaugural thesis, at a previous meeting, entitled

CESAREAN OPERATION, WITH REPORT OF TWO CASES.

At the outset, the essayist gave a historic account of the Cesarean operation, saying that the earliest performance of this operation of which we have an account was by Jacob Nufer of Switzerland, a butcher, and probably also a gelder and spayer, upon his own wife in 1498. The first one recorded by a regular practitioner was in 1610, by Trautmann of Wittenberg, Germany. It was probably, however, known and practiced in remote antiquity by various nations and primitive tribes.

Indications.—These are usually classed as absolute and realtive: absolute when there exists no method of delivery, and relaative when the conditions admit of some other method, but where Cesarean section may be considered to give the best result for mother and child. Absolute indications are furnished by extreme degrees of pelvic deformity and contraction, growths and tumors obstructing the pelvis, cancer of the cervix, and cicatricial contraction of the vagina. Symphysiotomy has somewhat narrowed the limits so that pelvic contraction is not considered to afford an absolute indication unless the conjugate diameter in a flat pelvis is 6.5 centimeters ($2\frac{5}{8}$ inches), or under. As to the outlet, it is held that 5.5 centimeters ($2.\frac{1}{5}$ inches) between the ischial tuberosities affords an absolute indication. Relative indications are more difficult to formulate. and should be determined by the conditions of the individual case, and in part, at least, by the wishes of the patient and her friends. Pelvic contraction less than to constitute an absolute indication, yet sufficient to make safe delivery by the natural passages doubtful, such as a conjugate diameter of 6.5 to 8 centimeters ($2\frac{5}{8}$ to $3\frac{1}{8}$ inches), and tumors of the pelvis or soft parts, causing a similar moderate contraction, are the commonest relative indications. The alternatives are symphysiotomy, forceps, version and craniotomy.

Time to operate.—Some consider it expedient to wait for labor to begin, fearing that otherwise uterine contraction will fail and hemorrhage occur, and that the undilated cervix will not afford sufficient drainage. Experience shows the former fear to be unfounded, while the cervix may be readily dilated from above. To operate before the onset of labor affords the great advantages of proper preparation and of good assistance and surroundings. Should labor be in progress, there should be no unwise delay nor injudicious attempts at delivery.

Dr. McDiarmid described the method employed in his own case, and afterward discussed the various modifications.

Case 1.—Mrs. G., aged 28 years, was married April 12, 1893. Five months after her marriage she aborted at the third month. On Aug. 16, 1894, at about 11:30 P.M., he saw her for the first time. She had been in labor since 6 P.M. of the previous day, now nearly thirty hours, her physician having been in attendance since 2 A.M. Earlier in the evening he had summoned Dr. Gray and later Dr. Gillies. With the patient under chloroform and lying on her back across the bed, each of these three gentlemen in turn had applied the forceps, and after vigorous and prolonged efforts, had abandoned this method.

He found the head still high above the pelvic brim, the abdomen peculiarly prominent, and the uterus in seemingly imminent danger of rupture from the excessive violence of the pains. With the other physicians, he discussed very briefly the possibilities of version, symphysiotomy, Cesarean section and craniotomy. Version was too hazardous of rupture and uncertain of success; symphysiotomy and Cesarean section were overruled by the unfavorable surroundings and the steady protracted efforts at delivery. It was decided that he should apply his forceps (Barnes), and failing delivery, should perforate the head with the forces *in situ*.

Placed again under chloroform and on her left side, he succeeded in delivering her in twenty minutes, but it was a feeble triumph, as the child was dead, the result of the too great traumatism. Those present attributed the delivery to the greater length of his forceps, but he ascribed it rather to the left lateral position, which he greatly preferred in all forceps cases. After delivery he again examined the pelvic cavity, and noted the excessive shortening of the conjugate diameter by an enormous sacral promontory. The patient was lame for three or four months, evidently from injury to the pelvic articulations. After Cesarean section it was erroneously stated that this woman had been once delivered without difficulty, hence the above details.

A few months later, finding herself again pregnant, she engaged his services. After examining her pelvis to confirm his previous opinion, he recommended the induction of premature labor, and later endeavored to obtain consent to a deliberate Cesarean section, within say a week of full term, but in both instances was unsuccessful. On Sep. 12, 1895, labor began at about 6 P.M., he saw her at 1 A.M. on September 13. She was suffering excrutiatingly, the head refusing to engage, and the uterus fairly standing upright at every pain. He advised her removal to the Winnipeg General Hospital for operation, but it was only on his sternly threatening to abandon the case, and with the agonizing cries and pleadings of his wife ringing in his ears that her husband reluctantly consented. Owing to failure of the electric light, the operation had to be postponed till 8:30 A.M., or fourteen and a half hours after the onset of labor. Meantime, for upward of four hours, she was kept under chloroform, sufficiently to prevent her suffering, and the abdomen and vagina were antiseptically prepared. The hospital staff was summoned, and at his request four or five members made aseptic examination per vaginam. One of these accidentally ruptured the membranes, but so little liquor amnii escaped that this proved of no consequence. One or two desired to see the forceps applied, but he was particularly pleased to note that Dr. Gray, who had, like himself, the advantage of having witnessed his previous labor, stated frankly and emphatically that a living child could not be brought through the pelvis. By digital measurement he estimated the obstetric conjugate diameter at 7 to 7.5 centimeters (2.8 to 3 inches). The other dimensions of the pelvis were practically normal; the outlet was not contracted, and there was no evidence of rachitis nor of osteomalacia. He refused to consent to a trial of forceps, which must prove futile and compromise her chances after section. Dr. Robert P. Harris of Philadelphia, says "the possibility of delivering a living fetus in a case of pelvic obstruction ought to be determined by the touch and pelvimeter, and never by experimental trials of the forceps, and by attempts at version, because success in the Cesarean operation depends very much on the strength of the patient at the time it is commenced." He desires to emphasize this statement, and to observe that this applies not merely to the pelvic measurements, but also to the estimation of the relative size of the fetal head, and its degree of ossification.

Assisted by Drs. Carscallen, Gray, and McKay, he opened the abdomen by an incision extending from one inch above the umbilicus and passing it on the left side to near the pubes. Commencing the uterine incision at the level of the Fallopian tubes, the author made an opening sufficient to admit two fingers, and with these as a guide, rapidly extended his incision downward, severing both the uterine wall and the ovisac. Seizing an arm, he tried to bring up the head, but this not proving easy, he immediately relinquished it for the knee, and readily extracted the child, which cried lustily, and the cord was immediately cut between two artery forceps. The uterus promptly contracted, and his assistant turned it out through the incision, meanwhile compressing the abdominal walls behind it and passing his thumbs behind, grasped the lower uterine segment and controlled the hemorrhage. The placenta was almost wholly and immediately separated by the uterine contraction, and Dr. McDiarmid had merely to strip the membranes from the uterine wall, He swabbed the interior of the uterus with gauze wrung out of warm bichlorid solution, 1-1000, but placed no gauze packing inside the uterus, even temporarily. He now closed the uterus with ten or twelve deep interrupted sutures of silk placed half an inch apart, each entering the serous surface about half an inch from the margin of the incision, and emerging on the cut surface close to, but not penetrating the mucosa, then similarly penetrating the opposite side in the reverse order. The peritoneum was then welted in by a continuous suture, using the Lembert stitch, and before pulling the needle through, placing the thread outside (beneath) its point, thus forming the "button-hole" stitch, and causing the stitches to lie transversely across the incision. The abdomen was closed in three layers, the peritoneum with a continuous silk suture, the aponeurosis in the same manner, and the skin and subcutaneous tissue with interrupted silk-worm gut sutures. Not a single hemostatic forceps was required during the operation, and the opinion was expressed by medical gentlemen present that she lost no more blood than the average quantity in normal labor. Nine and a half minutes were occupied from the first incision till the delivery of the placenta and membranes (this could be vastly reduced in future operations), and the entire time was about thirty-five minutes. He considered the proposal to render her sterile, but not having had her consent, he refrained from doing so. Her recovery was quite uneventful, the temperature never reaching 100 F. after the third day, and being practically afebrile. It is of interest that there was not the slightest vomiting during or subsequent to the operation, notwithstanding the long-continued use of chloroform. This would seem to indicate a special immunity of the parturient woman, and accords with his universal experience with the drug in labor cases.

She was given daily vaginal douches of carbolic solution, but none intrauterine. The majority of the abdominal stitches were removed on the eighth day, the remainder on the twelfth, and she left the hospital on the twentieth day. She nursed her baby at the breast during her recovery, and continued to do so. She has not complained of any abdominal or pelvic discomfort.

The child (male) weighed ten pounds when stripped. The sub-occipito-bregmatic circumference was fourteen inches (diam. 4.456 in.), the occipitofrontal circumference fifteen inches (diam. 4.77 in.) These relatively large measurements he partly accounted for by the fact that the head had not entered the pelvis and undergone the usual molding and elongation. Incidentally, this was the first successful case of Cesarean section in Canada, west of Lake Superior.

Practical Notes.

Aseptic Catheterization.—L. Wolff of Carlsruhe warmly recommends a solution of one per thousand sublimate in equal parts by weight of water and glycerin, as a fluid in which to keep catheters all the time when not in use, as it completely disinfects them, keeps them aseptic and lubricates them ready to insert when needed. He keeps the catheter in a small glass or celluloid tube containing the fluid, bent into a horseshoe for convenience in carrying in the pocket, the catheter fastened to the stopper. He reports a number of tests showing the complete disinfection secured in six hours, and advises a second catheter and holder when the instrument has to be used oftener than four times in the twenty-four hours.—*Deutsche Med. Woch.*, March 2.

Inconveniences of Orthoform.—W. Asam of Murnau writes to the *Munich Med. Woch.* of February 21 describing a peculiar necrotic process appearing in the course of three to fourteen days after the application of orthoform to tumors, ulcerations, wounds, etc., and retrogressing as the orthoform was suspended. The first inflammatory stage of the process produced metastases in six cases, by reflex action or by the circulation, terminating in the necrotic stage. In the nine cases reported the orthoform at first produced its usual favorable effect. In the numerous other cases in which Asam has applied it, internally and externally, there have been no inconveniences.

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SATURDAY, APRIL 8, 1899.

THE ARMY EMERGENCY RATION.

Three years ago boards of military officers, on which the medical department was represented, considered and reported on the subject of an emergency ration to be carried by troops on occasions of special service which separated them from the immediate care of the subsistence department. The ration adopted Dec. 5, 1896, by authority of the Secretary of War, consisted of specified quantities of the articles always kept on hand at the subsistence depots: hard bread, bacon, pea-meal, coffee or tea, salt, pepper and tobacco. In May of the following year a practical test of the efficiency of this ration was made by Deputy Surgeon-General Smart who, with forty-six cavalrymen, undertook an expeditionary march of ten days' duration in Oklahoma, each member of the command carrying and cooking his own rations and having no addition to them from any source. Each day's allowance of the staples consisted of 8 ounces of hard bread, 5 of bacon and 2 of pea-meal, giving the system 146 grains of nitrogen, 3159 of carbon, and furnishing a force value of 2055 calories. The loss of weight on this dietary averaged three pounds per man, but every man was in excellent condition at the end of the march, and indeed stronger, as shown by dynamometric tests, than before starting out. This settled the question for the time being.

There has always, however, been an undercurrent of expectation on the part of many persons that a something might be compounded or discovered which would sustain the system under great exertion for days at a time, although taken only in comparatively minute quantities. The Kola nut had a short-lived reputation, engendered by advertisements and kept up by enthusiastic bicyclers, who made long and exhausting rides to prove its virtues. Again, during the recent war and during the newspaper discussions of the projected relief expedition to Alaska, which preceded the war, many communications relating to articles of food, which were claimed to have a high nutritive value in a small bulk, were received by the War Department. Probably as a result of pressure exercised on the department by manufacturers, a board was recently organized to examine, test and report upon the various articles of food-supply submitted to it and to compare them with the authorized emergency ration of the army. The board, which consisted of Col. Charles A. Woodruff, assistant-commissary general of subsistence, Lieut.-Col. Charles Smart, deputy surgeon-general, and Major Louis A. Craig, assistant adjutant-general, has finished its work and submitted its report. General articles were presented which were intended rather as a nutritious diet for invalids than as rations for healthy and strong men. Many specimens of evaporated and granulated or ground vegetables were examined, some of which were of excellent quality, but were not regarded as essential to an emergency ration. A deprivation of vegetables for the short time of the emergency would not develop scurvy in the ordinarily well-fed soldier of the United States. The vegetable components of the field and regular rations have preserved the army from scurvy for many years, so that the disease has practically become extinct. Most of the other articles presented were pea or bean flour, with more or less animal extractives and fats, put up in cakes, cartridges, tins, etc. It is said of these that many made excellent soups. In a few there was so much fat that rancidity would certainly become developed on keeping; but even if they kept well it was, in the opinion of the board, exceedingly doubtful whether the soup made from them would be as satisfactory to the soldier as that which he made himself from the components of the present ration. Besides, the latter are always on hand and ready for issue to meet an emergency, while a special tablet might not be available when required. A limited approval was given to one sample put up by a New Jersey firm. It had been used in certain of the camps during the past summer and was recommended by a number of officers, but the board was decided in its opinion that no large body of troops could subsist on it for ten days at a time. The board invited the attention of the subsistence department to a method of putting up roasted and ground coffee in compressed cakes, as being particularly suitable for emergency purposes. The results of the whole investigation are summarized as follows:

The board does not feel warranted in suggesting any change in the authorized emergency ration for troops in campaign. Its components are known to fulfil all the requirements of the system for a period of ten days. The articles, being separate, can be prepared in various ways so as to relieve the monotony in the soldier's diet, and as he is perfectly familiar with each of them he has no feeling against the ration except on account of being for the time on a short allowance. The board further considers that the present emergency ration will answer as well for Cuba, Porto Rico and the Philippines as for the United States. It is true that when one is on full diet, fat should be lessened and the starches and sugars increased in tropic climates; but when the soldier is on short allowance, as when out for ten days on the emergency rations, the food which has the highest food value should be provided, even in hot climates, as it will certainly be assimilated, and this food is that which is now provided in the authorized ration.

RECENT PROGRESS IN THE STUDY OF MALARIA IN ITALY.

It is well known that our knowledge of malaria, a most important disease, has received some of the most significant contributions from Italy. In order to facilitate a further study of malaria a number of Italian physicians organized themselves into an association known as the Italian Society for the Study of Malaria. In the first annual report (for 1898) read by Professor Celli at a meeting of the society, the results of the more important recent investigations made by members of the society are mentioned.[1]

In spite of our in some respects quite complete knowledge of malaria, there are still two problems which remain unsolved, namely, the existence of the parasites outside of the animal organism, and the manner in which they infect man and animals. These two problems have formed the principal object for investigation by the Italian scientists during the last year or so.

Celli first calls attention to the most important rôle which certain insects, which collectively may be classed as mosquitoes, play in the infection of cattle with malaria, as was emphasized by the American investigators, Smith and Kilbourne, and recently substantiated by Koch. The mosquito theory of human malaria has long been discussed and has received due attention in America at the hands of King (vide Journal, xxxii, pp. 386, 443) and others.

Without going into details, brief reference may be made to the results of certain experiments recently made in Rome as outlined by Celli. Two patients, who had lived in the Hospital San Spirito for some years and who had never suffered from malarial fever, were isolated in a suitable room. In the same room were liberated mosquitoes which had been collected in malarial regions or which had developed from larvæ collected in the Campagna. Several experiments resulted negatively. In one experiment the patient was exposed to the mosquitoes for nearly four weeks, with the result that a severe malarial fever developed, which was fully cured by means of quinin. In the blood were found parasites of the estivo-autumnal type. These experiments, which were made under the most accurate observation and with all possible precautions, seem to furnish the first direct experimental proof that malaria may result from the sting of certain mosquitoes.

The Italians have also found that only certain forms of mosquitoes act as carriers of the malarial organisms. Bastinelli and others have succeeded in showing that the crescents of human malaria multiply in the body of that variety of mosquito (*Anapheles claviger*) which seems to be the principal vehicle for the malarial organism. Grassi found that the mosquitoes employed in the Hospital San Spirito in the experiments which terminated negatively do not ordinarily harbor the organism, and he is therefore inclined to believe that the host of the parasite of estivo-autumnal fever has been demonstrated, and that this mosquito (*Anapheles claviger*) must therefore be regarded as a most dangerous enemy to man. Based upon these results Fermi at once began experiments with certain substances which would drive mosquitoes away. He has found that there are at least two substances which possess the qualities necessary for practical use by the common laboring people for this purpose, and further prophylactic experiments in this direction are already under way on a larger scale.

During the last year Celli has made extensive efforts to hinder the development of malaria among cattle. The herds of one large possession where malaria had previously caused great devastation, were kept constantly in the stables and protected as far as possible from mosquitoes; at the same time they were given arsenic regularly. The result was that not a single animal developed malaria, whereas in a neighboring large establishment, where no prophylactic measures were taken and where the herds were driven out into the fields, all the cattle took sick with malaria and 54 per cent. died. The financial importance of such investigations is self-evident, especially in Italy, where malaria has caused such great injury to the dairy interests.

As regards immunity to malaria, it may be said that there is as yet no clear evidence to the effect that immunity to malaria develops in the same way as in case of bacterial diseases. Celli and Santori have found that the injection of serum from animals which are entirely immune to all forms of malaria prolongs the incubation period of artificial malaria very much, but it has been quite clearly shown that the serum of patients recovering from an attack of malaria does not possess any immunizing powers, either for the patient himself or for others, and that it does not exercise any healing influence whatsoever. The serum from animals which have suffered from malaria and from horses which have been treated for a long time with increasing doses of quinin has not been found to possess either preventive or curative powers in man or animals. On the other hand, it does seem that there may be a congenital immunity to infection with malaria, and also that chronic malaria produces a certain degree of immunity, though less than the inherited. It is therefore indicated that this kind of immunity should be studied theoretically in animals that stand near to man. Fortunately for this purpose, Dionisi has recently found parasites which resemble those of malaria in certain forms of bats.

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[1] Centralbl. für Bakt, etc., 1899, Bd. 25.

In closing his report, Professor Celli pleads for active financial support for the work of the society. He refers to the great liberality with which England, Germany, and Belgium are furthering similar investigations. He calls attention to the fact that in Italy an enormous tract of land remains a barren waste on account of the presence of malaria; that the disease every year attacks about two million of the inhabitants of Italy; and that about 15,000 of this number die as a consequence of malaria.

SCROFULOSIS.

Virchow defines scrofulosis as a nutritive disturbance, consisting in a defective metabolism, in consequence of which there results deficient utilization of nutritive substances sent to the tissues through the blood, and deficient development of the tissues. To this disturbance are attributed the abnormal sensitiveness of scrofulous individuals to external irritants and the great tendency to inflammatory processes of peculiar type, as well as the chronic course and the frequent recurrences and slight tendency to normal tissue formation and recovery. An organism thus affected withstands infectious diseases badly and readily succumbs to tuberculosis.

Three stages of the condition are recognized. In the first occur those disorders that depend upon defective histologic organization of the tissues, as well as upon the defective metabolism, and their sequels, including flabby musculature, scanty deposit of fat, a torpid and erethetic condition of the skin, abnormal delicacy of the skeleton, anemia, cardiac weakness, slight tumefaction of the lymphatic glands, derangement of respiration and digestion. The second stage of scrofulosis comprises those disorders that are dependent upon the abnormal behavior of the tissues with regard to external influences, including inflammatory conditions of the skin, the mucous membranes and the periosteum, which are characterized by a slight tendency to recovery. The third stage includes those disorders dependent upon the invasion of lymph-glands, skin, bone and joints by the tubercle bacillus.

As a result of a statistic study covering 57,535 cases of scrofulosis observed among 610,332 patients seen at the Vienna Polyclinic between the years 1873 and 1891, Monti (*Archives für Kinderheilkunde*, 1899, 26 B. S, iii and iv Heft, p. 161) concludes that the distinction between scrofulosis and tuberculosis must be maintained, although applicable only to the first two stages of the former, when tuberculous processes have not yet set in. The frequency of scrofulosis was 9.42 per cent. among all patients that came under observation. This disease was observed, though seldom as early as the first year of life, but most frequently between the ages of one and five years, and it continued to be common and pretty equably so in succeeding years. Of all the cases, 10 per cent. were in the first stage, 68 in the second and 22 in the third. The possibility of recovery varied with the stage of the disease. Among the cases in the first stage, recovery ensued in 87 per cent.; of those in the second stage, in 85 per cent. (according to the localization, in from 80 to 91 per cent.); and of those in the third stage, in 60 per cent. (according to localization, in from 32 to 82 per cent.). The mortality was as follows: in the first stage 1 per cent.; in the second stage 3 per cent.; and in the third stage 8 per cent. The causes of death in the first stage were principally tuberculosis of internal organs, especially the lungs, and other intercurrent infectious diseases; in the second stage, principally tuberculosis of the lungs and the bowels; in the third stage, especially tuberculous meningitis and amyloid degeneration of internal organs, and in a large proportion of cases chronic sepsis.

"CHRISTIAN SCIENCE" AND DOWIEISM.

Dr. W. H. DeWitt, in a communication to the *Lancet-Clinic* of March 11, on "The Proper Attitude of the Profession Toward Christian Science and Dowieism," suggests that instead of attacking these doctrines we should treat them with contemptuous neglect. There is much in this point of view. These vagaries thrive by advertising, and active opposition is thus taken advantage of by their advocates. Their medical interest is chiefly pathologic, as phases of the fact upon which the great Barnum built his fortune; as regards controversy with them, as Dr. De Witt says, "silence is golden."

CONSCIENTIOUS OBJECTORS.

Indiana appears to be at present the most active focus of the antivaccination agitation in this country, and one W. B. Clarke publishes in the *Indianapolis Sentinel* of March 12 a long communication, mostly made up of alleged quotations from medical men, against vaccination. The majority of those quoted are persons of whom few have ever heard and whose dicta carry no special weight. A few are prominent, more from the eccentricity of their opinion on this subject than for anything else, and a number of isolated statements are quoted from noted physicians, but separated from their context so as to make them express opinions contrary to the general tone of their published writings and their real sentiments. By taking such liberties as these with any work, any cause can be supported. The Bible can thus be made to advocate the commission of every offense in the decalogue. Thoroughly dishonest as it is, it is a characteristic and favorite method of unscrupulous cranks. What kind of a conscience have these "conscientious objectors" anyhow?

DEGENERACY OF PITCAIRN ISLANDERS.

One of the principal examples quoted in favor of the innocuousness of consanguineous marriages has been the little community of Pitcairn islanders, descendants of a few surviving mutineers of the British ship *Bounty*, and a dozen or so Tahitian women. Notwithstanding the fact that their original stock could hardly be called good, that they were all closely related, and that intermarriage must therefore have been very close among them, they have been always described as splendid specimens of the race, physically, morally and mentally. Quite recently, however, a totally different account of this isolated community has been given. Mr. Hamilton Hunter, who visited the islands in the official capacity of commissioner, on the British ship of war *Comus*, reports that he found the islanders "lax in morals, weak in intellect, lazy and rapidly degenerating," and this, it is said, is also the verdict of the British naval officers who accompanied him. Pitcairn Island is well off the ordinary ocean routes and is only rarely visited, even by whalers and traders. It has no harbor and its residents have little chance of corruption by outsiders; its degeneracy, therefore, may be presumed to be inherent or self-caused. The fact that it exists spoils a neat illustration and argument against the evil effects of close interbreeding in the human species.

ANTIPROPRIETARY DRUG LEGISLATION.

During the past winter bills have been introduced in at least two State legislatures—Michigan and Washington—prohibiting the sale of proprietary or patent medicines without a publication of their composition or formula. It is doubtful whether these bills will pass, if they have not already failed, but the objections offered are perhaps worth noting. In part the influence of the manufacturing firms may have its effect, but the principal opposition comes from the retailers in the rural districts. In the smaller towns, and to some extent in the larger ones, the drug stores depend largely for their receipts upon the sale of proprietary medicines, and country stores also keep them in stock and derive profit from their sale, by a sort of counter prescribing. The local newspapers, which derive a large revenue from advertisements of these preparations, also throw their influence against such legislation, and this is an element that is likely to have its effect on the minds and acts of legislators. Many of the best known manufacturers of drugs will not be affected by such measures, but others will, and it is only natural that they should exert some opposition. The medical reasons for the proposed legislation are obvious, and it is unfortunate for the public that it has not a better prospect of success.

INDICTMENT OF HEALTH OFFICIALS.

The indictment of Drs. Souchon and Kohnke, of the Louisiana State and New Orleans boards of health, for manslaughter (vide Journal, p. 621) appears to have been the result of one of those periodic fits of insanity that now and then seize the lay public or officials in regard to health matters. It may be estimated as about on a par with the murderous shotgun quarantines that public panic and cowardice sometimes institute in certain regions. How far political or personal spite may or may not have influenced the evidence is of little moment; an intelligent grand jury ought never to have seriously considered it. That it did so does not speak well for its insight, since the crime charged was two weeks old when one of the accused first took the official position by virtue of which he was made responsible for it. If absurd charges like this are to embarrass health officials, the public interest is likely to suffer, for responsible and respectable men will not care to give their time and labor, often gratuitously, and be rewarded with capital indictments. We have been informed by the secretary of the Louisiana State Board of Health that the arrest was the result of malice, and that the action of the grand jury was repudiated by the best elements of the community in which this action was taken and that the instigator of the indictment has been expelled from the Orleans Parish Medical Society. The husband of the lady whose death from yellow fever was the basis of this indictment has since come out with a card stating that her attending physicians held that she died from flux and that he has had no reason to question their diagnosis, and personally disclaiming any part in the instigation of the proceedings.

UNJUSTIFIABLE EXPERIMENTS.

A play recently put on the stage in Paris has in its plot the experiment of an ambitious physician who inoculated an apparently hopeless consumptive with cancer. The patient goes to the country and returns later with a well-developed cancer, but is recovering from her tuberculosis. The remorse of the physician who has thus inflicted a fatal ailment on one who might otherwise have had a long and happy life has its part in the climax and motive of the play. The *Semaine Médicale*, commenting on this performance, notices at length some experiments of Neisser not *in corpore vili*, that have caused some stir in the Prussian Parliament, and also some similar ones of Welander and Finger, which have also excited some unfavorable comment in the medical and lay press. It might have referred also to those of Krafft-Ebing, of the inoculation of paretics with syphilis, that called out much condemnatory comment a year or two ago. All these experiments, however interesting and important in their results, can not but be deprecated, and while their intent may not be absolutely criminal, they show a recklessness and lack of appreciation of the proper limits of pathologic experimentation that brings their perpetrators, however illustrious and scientific they may be, under the condemnation of the professional world. As the French journal says, the rule of conduct in this matter is for the physician to put himself in the patient's place with all his natural feelings and desires. Even consent on the part of the subject can not justify an experiment that needlessly puts his health or life in peril, or diminish the responsibility of the one who performs or permits it. "Nothing that has not a direct relation to the cure of the patient and which is capable of injuring his condition or his health should be attempted, either with or without his consent." It is not probable that criminal prosecution will follow in the instances mentioned any more than has been the case in earlier experiments of this kind, but their general condemnation, both by the profession and the public, ought to have a healthy restraining influence and may even lead to stricter legal regulations and to new provisions in the criminal code.

TROPIC ACCLIMATIZATION.

The distinguished scientist, A. R. Wallace, claims, from twelve years' experience within ten degrees of the equator, that the common notion that white men can not live and work in the tropics is an error; on the contrary, work is a condition of healthy existence there as in temperate climates. Yellow fever, he says, is a product of the slave trade; where that has not existed yellow fever is absent. Other diseases, such as plague, are due to unsanitary conditions, and even malaria and jungle fever are not altogether due to the climate. Tropic swamps in a state of nature are, he claims, healthy localities. In even cultivated tropic regions malaria is no worse than it was in England 200 years ago. In the Dutch East Indies, white men have lived for many generations without deterioration, and in Queensland, an intensely torrid region, white men work and thrive and "the contention that white European labor could not stand the field work is blown into thin air by the experience of thousands," as is said by Dr. Blackman of Yale University, who writes in a similar tone to that of Wallace. In Hawaii the white race certainly has not degenerated to any extent in the last sixty years, though this is a more limited experiment. Dr. Wallace's views on this subject, based as they are on long personal observation and experience, are worthy of consideration, whatever we may think of his vaccination vagaries. It will be a boon to the overcrowded populations of Europe if these things are so, and the Powers will be wise in time in staking out claims for posterity in the tropic regions of the globe.

ASEPTIC TONSORIAL INSTRUMENTS.

The barbers of Cincinnati, it is reported, are to be compelled to sterilize their instruments. That there is a possible need of such a regulation does not require much argument. The style of literature lying around the average barber shop at least suggests contamination, if it is to be taken as an index of the tastes of a large class of the patrons. Dr. A. Walter Suiter, ex-president of the New York State Medical Society, has very forcibly called attention to the possibility of infection in barber shops, and a general dissemination of his statement would do no harm, and might in time lead to a movement that would force the barbers to be more careful than they can be said to be at present. The effectiveness of any State or municipal regulation is however a question, as nothing but the most rigid inspection could enforce it, and that is hardly practicable. So long as they are expected to serve every one who comes in, it is hardly to be expected that the chance of contagion from this source will be utterly abolished. The danger is greatest in the larger towns and cities, but is not altogether absent even in country villages. The practice of having individual cups and brushes, and if possible razors, is perhaps the most available security. Public bath-houses, which are an excellent thing in many respects, and are coming more and more in vogue, have also their perils and should be under some regulations or inspection. The overhead spray or douche bath is nearly the only form that should be used, and individual towels are a self-evident necessity.

IMMUNIZING AND ANTITOXIC ENZYMES.

The actual nature of immunizing and antitoxic substances is still somewhat open to question, and a recent research, a brief account of which is published in *Science* of March 10, is therefore of interest as throwing a possible side light on the problem. It appears that two investigators, Emmerich and Loew, have been engaged during the past year at Munich, in studying the relations of enzymes to infectious diseases. It had been suggested by Nencki and Pfeiffer, it appears, that the substances causing immunity and recovery might belong to the enzymes, and Pfeiffer believed that these enzymes were prepared by the animal and not by the bacteria themselves. De Schweinitz, however, has found an enzyme in the hog-cholera germ, immunizing guinea-pigs, but poisonous in a slightly higher dose, and now Emmerich and Loew claim to have found that certain bacteria, e.g., bacillus pyocyaneus, produce enzymes fatal to themselves and also to other germs, among them those of cholera, typhoid fever, anthrax, diphtheria, black plague, staphylococci, and possibly also gonococci. The action of this product has been observed *in vitro* as well as in breaking up the anthrax bacilli in the spleen of infected rabbits. By combination with animal protein this enzyme can be transformed into an immunizing product, and it is stated that both substances have been obtained by the investigators in a durable solid form. It would appear, as the reporter of these facts in *Science* hints, that there is here a possibility of a decided advance in organic therapy in certain diseases, by the introduction of simpler, and it may be cheaper, methods.

PHYSICIANS AND MUNICIPAL AFFAIRS.

Municipal affairs in Cleveland, Ohio, like those of so many other American cities, have been going from bad to worse for some years until they have become a public scandal to all who believe in honest government. Many organizations have been formed to fight the corruption which prevails, but so far without great success. This has led the physicians of the city to take a step which is nearly if not quite unique in the annals of medicine, and on March 20, there was formed the Physicians' Municipal League. The movement bids fair to be the means of securing greatly reformed municipal conditions to that city. That a movement of this character should include the leading men in the profession will indicate the seriousness of the conditions which confronted the friends of popular government. Following is the statement of principles which binds the organization together:

We, members of the medical profession of the city of Cleveland, believing that municipal affairs have no proper or natural connection with State or National politics, and believing further that the duties of citizenship are higher and more binding than the claims of party, and that no political organization, while conducted in the interests of selfish and ambitious men as against the general welfare, can justly claim the support of good citizens, do organize ourselves into a permanent association for the following purposes:

To use our best endeavors to promote the election of honest and competent persons to office in the city government, and to secure the appointment to subordinate positions of those of like qualifications. To oppose, to the best of our ability, the use of official powers to advance personal as against municipal interests. In short, to do what we can to aid in securing to this city clean, honest, broadminded and businesslike administration of municipal affairs, regardless of the pretended interests of parties, factions, cliques or individuals.

And we hold that our attitude and action toward municipal government is in nowise inconsistent with membership in our respective political organizations for State and National purposes.

DIAGNOSIS OF TUMOR OF THE BRAIN.

The recognition of a new growth in the cranial cavity may be either extremely difficult or exceedingly easy. The diagnosis, however, should always be made with some reserve, as the symptoms to which the condition gives rise may be reproduced by other disorders. Even when it has been decided that a tumor is present, its situation and its pathologic nature may be practically indeterminable. Finally, intracranial neoplasm has been found after death in a number of cases in which there were no suggestive symptoms during life. The difficulties in diagnosis are thus considerable and obvious, and they must seriously embarrass any decision with regard to treatment, and especially surgical intervention. In an interesting discussion on this subject, Reynolds (*British Med. Jour.*, Feb. 11, 1899, p. 333) names the following disorders as capable of simulating brain tumors: chlorosis, uremia, chronic lead poisoning, hysteria, so-called reflex epilepsy, syphilis, meningitis, polioencephalitis and a number of disorders of undetermined nature. On the other hand, error in diagnosis may be made by attributing symptoms of brain tumor, hysteria, reflex epilepsy, hydrophobia, senile dementia, vascular and circulatory changes and ear diseases. The uncertainty in localization and with regard to the nature of the new growth is only too well known to all who have had experience in these matters. A careful study of the symptoms, however, and of their mode of onset and their progress, will lead to a correct conclusion in, we think we may safely say, a majority of cases. Categorically stated, the most constant and the most important of these symptoms are constant headache, with exacerbations; optic neuritis, with consecutive atrophy; mental derangements; vomiting, without nausea, pain or retching, and not necessarily related to the taking of food; vertigo; alteration in speech; motor weakness, unilateral or bilateral; contractures; convulsive seizures, major, minor, general or focal; impairment of common or of special sensibility; infrequency of pulse; Cheyne-Stokes breathing; insomnia or somnolence. It is, however, the conjunction, the association and the succession of symptoms, rather than their individual presence, that will lead to a correct diagnosis.

TRAINED NURSES AND ADVENTURESSES.

The correspondent who, under the name Marquise de Fontenoy, furnishes the Chicago *Tribune* readers with the gossip about European aristocracy, in one of her later papers tells the story of an English millionaire who has left his immense fortune, country seats and estates to his sick-nurse, and alludes to two or three prominent instances where these attendants have inveigled their titled charges into marriage, stating that scores of similar instances might be adduced.

The writer states that the instance she related "has served to bring the entire sick-nurse question upon the tapis," and goes on to say: "It is a question that is more than ever important in consequence of the quantity of girls of every walk of life—but for the most part educated—who, possessing no means of livelihood or sufficient dowry to tempt a man to marriage in the ordinary way, resort to sick nursing as a means of maintenance, rather than to enter domestic service or to become a saleswoman in a shop. In addition to these there are many adventuresses who secure positions as sick nurses, since, except in Germany, no government diploma or even first-class medical certificate is needed to follow the calling. All that is required is a forged testimony or two and a nurse's dress cut and fashioned according to the fancy of the wearer.

"Unfortunately sick nurses are engaged in a somewhat haphazard fashion and without adequate inquiry into their antecedents, and once engaged, the most blind and unquestioning confidence is reposed in their honesty, conscientiousness, and discretion. The patient, save for the occasional visit of the doctor, is left entirely in her hands, and providing she fulfills the orders of the physician nothing else is asked of her by him. The patient, his intellectual and moral faculties being affected by his malady, soon becomes altogether a slave to her thraldom. Either she terrorizes him, or else she wins his love and his infatuation by means of the care and tenderness which she lavishes on him, and the consequence is that by the time he has recovered his health he find himself entangled in her toils, either as a willing or an unwilling victim, to such a degree that there is no issue therefrom save marriage, or else she induces him, as in the case of Miss Amelia Edwards, to bequeath his fortunes to her at the expense of his lawful heirs."

The possibilities of undue influence being exercised by the nurse and of evil and unprincipled adventuresses acting in this capacity are, of course, obvious, but this is the first instance of their realization that has come under our notice. The lack of precaution as in regard to the antecedent above indicated as existing in England, if correctly reported, would seem to favor such occurrences, and they show the necessity of this adjunct of the healing art being under due control. It is to the credit of trained nurses in this country that, so far as we are aware, no charges of this kind have been raised against them.

Medical News.

Dr. William Osler, who delivers the Cavendish lecture in London this year, leaves for Europe May 29.

The Charity Hospital of the Louisiana Alumni Association will hold its annual meeting in New Orleans, May 15.

There have been reported in New Orleans to March 31, inclusive, 148 cases of variola, with 1 death; 100 are still under treatment.

Dr. J. C. Culbertson, editor of the *Cincinnati Lancet-Clinic*, who was injured several weeks ago by being thrown from an electric car, has entirely recovered.

Among Cincinnati physicians who will leave for Europe in the early part of April are Drs. Charles Seth Evans, Derrick T. Vail, Charles Minor and Paul Gillespie.

Drs. Jelks and Holland, editors of the *Hot Springs Medical Journal*, have opened a sanatorium at Hot Springs, Ark. Their building is four stories high and equipped with every facility.

The records of the Cincinnati Hospital show that since its reorganization in 1861, 132,413 patients have been treated by its staff; of these, 5970 have occupied the private wards. There have been during this time, 6274 births and 12,724 deaths.

The Government has directed Dr. Stevenson, of the Marine-Hospital Service of Cincinnati, to investigate the cases of alleged epidemic cerebrospinal meningitis in that vicinity, of which about a dozen have been reported in the last three months.

The province of S. Paulo, Brazil, is rejoicing in the completion of a model asylum for the insane, with an accessory agricultural department on the cottage plan. There are already eight cottages, arranged for twenty patients, and all occupied.

Dr. Djemil-pasha recently made a laparotomy on the sister of the Sultan for stenosis of the pylorus, and the success of the operation is proving quite a force in breaking down the barriers against the treatment of Mussulman women by physicians.

The Senate of New York has passed a bill which permits surgeons who served in the recent war with Spain to practice medicine in the State without being obliged to pass the examination by the State board of medical examiners, now prescribed by the law.

A memorial urging the passage of a bill entitled "An act to improve the public health of the city of New York by the cultivation of trees and vegetation in the streets thereof," has been sent to the Legislature by the Medical Society of the County of New York.

The commencement exercises of the Louisville Medical College were held in the college building, the afternoon of March 27, with a graduating class of nine. Addresses were made by the Rev. J. P. McFerrin and the dean, Dr. C. W. Kelly, besides the class addresses.

According to the *Bulletin de la Presse*, Dr. Schenk is to be officially reprimanded by the Vienna Academy of Sciences on account of the fact that he communicated to the daily press his discovery of the "creation of the sexes" before he had announced it in any medical publication.

A large number of Iowa physicians are planning to make a trip to the Paris Exposition next year in a body. The secretary of the State medical society has, it is said, the promises of 200 physicians to make the trip, and will promptly bring the matter prominently before the next meeting in May.

An examination for certificates to practice medicine in Kentucky, for applicants who are graduates from three-year schools, will be held at the University of Louisville, Louisville, April 25, 26 and 27. The examination will be in writing, with no fee charged, and a grade of 70 will be required to pass.

The Collier Bill, which had for its object the repeal of the section of the charter of the Greater New York permitting the health department to dispose by sale of its surplus stock of antitoxin and vaccin virus, was defeated in the lower house of the Legislature on March 30, by the decisive vote of 82 to 47.

Muraschko reports a case of hydrophobia developing without the subject having been bitten. A young woman examined and handled a hen that had been bitten by a rabid dog, and soon afterward exhibited all the symptoms of hydrophobia, dying in one of the seizures, although no lesion for the entrance of the virus could be discovered.

An application has been made, it is said, by a North Dakota packing company for permission from the New York Board of Health to sell horse meat in that city. The claim is made and supported by statistics that equine flesh is wholesome, and it is also claimed by the company that more care is exercised in the slaughtering, etc., than is usual in the preparation of beef.

The French Minister of War has appointed a committee consisting of Professor Brouardel, Kelsch, Dujardin-Beaumetz and Vaillard, three members of the Institute, Boussou "pharmacist-major," two members of the commissary department and two colonels, to investigate causes of accidents occurring in consequence of the ingestion of canned meats, and take measures to prevent them.

That vegetarian orphan asylum refused by the city of Berlin has been accepted by the city of Breslau. As mentioned in the JOURNAL (xxxi. p. 872), the late Professor Baron bequeathed nearly half a million marks to the city of Berlin to found an asylum for children, under certain conditions, among them the restriction of the food to a vegetable diet, and the exclusion of physicians.

AT WATERVILLE, Maine, and at the neighboring hamlet of Winslow, there have been cases of variola, pronounced to be such by the president and secretary of the State board of health. The disease was brought to Waterville by a private who served in the volunteer army during the war with Spain, but there was a disagreement among physicians as to its exact nature until the board was called upon.

DRS. FELIX A. LARNE of New Orleans and T. G. Ford of Shreveport, La., have been appointed by Governor Foster to fill the vacancies in the Louisiana State Board of Medical Examiners. The personnel of the board is as follows: President, Dr. H. S. Cocrain; vice-president, Dr. A. Feltus Barrow; secretary and treasurer, Dr. Felix A. Larne; Drs. T. G. Ford and J. D. Trahan are the remaining members. The next examination will be held May 1 and 2.

THE ARKANSAS LEGISLATURE was recently panic-stricken by the diagnosis of smallpox in one of its members, and after half an hour's debate voted to have all the members vaccinated. It would be, perhaps, a good thing if smallpox could attack some other deliberative and judicial bodies. This remark may sound a little inhuman, but the probable good to humanity from such an occurrence warrants it.

A STATE school of health is suggested in connection with the New York University, to furnish free instruction to properly accredited members of town and village boards of health, to give instruction in all matters of public sanitation, the methods of prevention of disease, to investigate cause and nature of infectious diseases, water, milk, food supplies, etc. This idea appears to be a combination of a State laboratory and a school of instruction.

THE TWENTY-FIFTH anniversary of their professorship has recently been celebrated by Professors Albert of Vienna, Eldenburg of Berlin, Pick of Prague, and Heger of Brussels. These jubilee celebrations arranged by the students and friends, are a pleasant feature of university life abroad. In this country we usually wait until a man is dead before we review his achievements and express our appreciation of his character, as if we wanted to make sure that we would have no occasion to reverse our verdict.

THE ANNUAL commencement of the Medical Department of the University of Louisville (Ky.) was held March 27, the graduating class numbering thirteen. The exercises were held in Library Hall. The alumni address was delivered by Dr. Thomas B. Greenly of the class of 1846, of the University. The faculty valedictory was delivered by Dr. H. A. Cottell, on the life and writings of the late Dr. David W. Yandell, who was professor of surgery in the University and was associated with Dr. Cottell as editor of the *American Practitioner and News*.

THE SANITATION that has been practiced at Santiago by General Wood is said to have played havoc with the regular business of those "natural scavengers, the vultures." General Wood has so completely cleaned up the sources of filth and decay that these Cuban birds have been driven to the verge of starvation, since they have been injured in their traditional perquisites in the exact proportion that the newly-introduced methods of civic cleansing have reduced the death-rate among human beings and have improved the general health of the Santiago public.

PLANS are being consummated for the erection of a memorial tower at the University of Pennsylvania, in commemoration of the services of the men from this institution who fell in battle during the late war with Spain. It is hoped to lay the corner-stone of the building during commencement week. Those who lost their lives were Dr. John Blair Gibbs, class of '81, assistant-surgeon U. S. N.; Dr. Lawrence Savery Smith, class of '88, surgeon of the Pennsylvania Volunteers, U. S. A.; Harrison G. Kimball, Lieut. John B. Scott and George Elliott. The tower will cost $60,000.

ACCORDING to the *Gazette Méd. de Paris*, March 11, the illness of the Pope proved to be due to a suppurative hematic cyst in the left lumbar region, which had developed in consequence of a fall twenty-five years previously, but had only recently caused trouble. The cyst was the size of an orange, requiring an incision of twelve centimeters. Local anesthesia was alone employed and the operation was completed in twelve minutes. The patient observed to Dr. Mazzoni, the operator, when the cyst was shown him at his request: "You had a great deal of courage to operate on a man 90 years old." He refused to allow the wound to be sutured, so it was closed without.

THE BILL which recently passed the New York Legislature, placing the dispensaries under the control of the State board of charities, provides that the board may inspect all dispensaries, and for cause may revoke a license by an order signed by the president of the board. The board is authorized to apply to the supreme court to revoke the license and annul the incorporation of any dispensary legally incorporated or conducted in connection with an incorporation, for wilful violation of regulations prescribed by the board. No dispensary can be organized or operated in the State until it has received a formal license from the board.

THE SECRETARY of the Illinois State Board of Health has called attention to an editorial error in the JOURNAL (vide p. 673) in accepting the statement that he is in favor of asking the infliction of a fine of $10 for not reporting deaths and births on the part of the physician. There is, it appears, such a statutory penalty already on the statute books, but it has been found impossible to enforce it, and the regulation has fallen into innocuous desuetude. The board and its secretary believe that there should be a remuneration to physicians and midwives for reporting births. As regards the proper registration of deaths, it is unfortunate that there is at present no effective law. It would not seem difficult to so frame a law as to secure such efficient registration, by requiring the certificate in every case of legal burial. The number of unauthorized burials would be, at most, insignificant, especially if even ordinary vigilance was exercised by the authorities. It is to be hoped that it may not even yet be too late for some enforceable law to be enacted for this purpose by the legislature now in session.

Correspondence.

Medical and Surgical Treatment of Appendicitis.

Winterset, Iowa, March 14, 1899.

To the Editor:—An article published in the Journal of Dec. 18, 1897, written by me was later very favorably commented upon and sustained throughout by a more lengthy article from the pen of Dr. Haughton of Richmond, Ind., in the Journal. One great, and I trust general, good has been accomplished through the controversy elicited by the article mentioned, however, and that is the expression of the profession as a whole, as well as the medical press of this country, sustaining conservatism and common sense against radicalism and the lack of it. The constant aim of every member of the medical profession should be the welfare of humanity at large, and the greatest good to the greatest number.

Taking into consideration the fact that autopsies held for the purpose "have demonstrated the existence of some pathologic condition of the appendix in over 30 per cent. of the number examined, although no trouble had ever been experienced therefrom during life," "it would therefore smack of insanity to submit every case of appendix disease to the uncertainties of an operation" (Ewald). "It is also shown by statistics that from 90 to 91 per cent. of all the diseases of the appendix, taken in their broadest sense, recover without operation" (Ewald).

In the "American Text-Book of Surgery" (p. 747), considering "appendicitis obliterans" and "chronic recurrent appendicitis," the following may be found: "Even these cases do not invariably require operation. Treves, who originally proposed the operation in 1877, has thought it necessary to call attention to the fact that it has been performed recently without proper discrimination," and adds, "The circumstances which would justify an operation in these cases must be precisely defined, and it can not be too emphatically stated that, in a fair proportion of instances in which the trouble has relapsed, no surgical interference is called for, I am aware of many cases in which a patient has had three or more attacks of typhlitis and has then ceased to be troubled with any further outbreaks. In some examples of the relapsing form much can be done by medical means, by diet, by attention to the bowels, and by placing the patient under conditions more favorable to a state of peace with the abdomen," and again (same page): "In the recurrent type, if operation is to be considered at all, it might be well to take the risk of waiting for another attack, which may never come. In the chronic relapsing cases, however, if the surgeon, in deciding upon operation, limits himself to the following indications, formulated by Treves, he had far better take advantage of the interval. Operation is indicated when: 1. The attacks have been very numerous. 2. The attacks are increasing in frequency and severity. 3. The last attack has been so severe as to place the patient's life in considerable danger. 4. The constant relapses have reduced the patient to the condition of a chronic invalid and have rendered him unfit to follow any occupation. 5. Owing to the persistence of certain local symptoms during the quiescent period there is a probability that a collection of pus exists in, or about the appendix."

Thus from all other true and eminent sources of authority, such as these, comes the warning note of conservatism in behalf of judgment and common sense, against the promiscuous and indiscriminate use of the knife, when it is entirely unnecessary and many times strictly contraindicated, as stated in the article above mentioned.

It should also be borne in mind that the class of cases usually operated upon by such men as Deaver, Murphy and Senn, are almost invariably of the chronic catarrhal form, or of the recurrent type, consequently as a rule can not be cited to advise nor sustain operation in acute non-suppurative cases where judicious medical treatment has saved many, many lives, when an operation at the time would have meant almost certain, immediate death.

In the article referred to appears also for the first time in medical literature the substitution of the term "surgical intervention," for "surgical interference," so favorably referred to lately by a writer in the *Louisville Medical Monthly*. The distinction therein drawn between surgical intervention and surgical interference is sharply and unmistakably defined, to include in the former those cases where surgery is demanded, after medical means have failed, in order to save life; while the latter term refers to it as an interference with successful medical treatment, and a trend toward the re-establishment of normal physiology, function and health. Both are necessary and useful terms in this arbitrary age, and neither should be discarded nor substituted for the other. The diagnosis of appendicitis absolutely assured, I consider thirty-six to forty-eight hours without evidences of success, the limit for medical treatment, and surgical intervention immediately demanded; I cite two recent cases to sustain this view:

Case 1.—Mrs. Y., aged 23 years, came limping into my office on the morning of February 7, complaining of a severe pain in the region of the appendix. She sank into a chair and I obtained the following macroscopic and clinical history: Occupation, dining-room girl; temperature, 99; pulse, very slightly accelerated but full and bounding; gynecologic history good; had not been feeling well for several days; bowels constipated; tongue coated; sclera and skin icteric; countenance pinched; expression exhausted and careworn, and pain depicted in every line.

On examination I found tympanites marked in the right inguinal region, and a sharp lancinating pain immediately over the region of the appendix, radiating and shooting toward the back and umbilicus. During the progress of the examination she experienced a marked exacerbation of the pain and other symptoms, demanding the immediate administration of two hypodermic injections of ¼ grain of morphia and 1/120 atropia each, which, however, only afforded partial and temporary relief, until a conveyance was ordered and she was taken to her home four blocks distant, where I had her disrobed and put to bed. I ordered hot turpentin stupes applied to the seat of pain and changed every five minutes, after which I prescribed the following:

℞	Chloroformi	ʒi	3	90
	Mur. cocain sat. sol. (4 per cent.)	ʒss	1	95
	Oleum caryophyl	gtts xii		55
	Acid sulph. arom	ʒss	1	95
	Aquæ puræ q.s. ad	℥ss	15	50

M. Sig. gtts x in teaspoonful of hot water every twenty minutes until nausea ceases.

I followed this, as soon as the stomach would retain it, with a half ounce of effervescent sulphate of magnesia[1] in a wineglass of water every two hours, combined with one ounce of Epsom salts in a quart of very warm water by enema every two hours. At the expiration of ten hours of this treatment, continuing the stupes changed every time they were cooling off, the bowels started with a scanty watery movement, followed within two hours by two other movements of more consistence, and these in turn by inspissated fecal masses, until the next morning she had apparently a normal and healthy action. I now discontinued the stupes and gave her the following combination, since her appearance denoted only too plainly the need of a cholagogue and peristaltic stimulant and tonic.

Leptandrin			
Euonymin āā	gr. iii		20
Aloin			
Belladonnæ ex āā	gr. iv		26
Strych. arseniat	gr. ¼		016
Sodi sulphocarbolas	gr. xxiv	1	50

M. ft. cap. No. xxiv, S. One capsule every three hours.

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[1] Warner's.

The patient continued progressively to an uninterrupted and apparently permanent recovery, and at present appears better and looks better than for months past.

Case 2.—Early in the afternoon of February 9, a man came hurriedly into my office and requested me to go immediately, seven miles in the country, to see a patient who he said was "all doubled up" with the cramps. Suspecting a repetition of the symptoms above described, I took my own Davidson syringe and rectal tube with me, together with the gastric sedative already mentioned (for he said the man was vomiting), and drove in great haste to the scene of the trouble.

I found the patient to be a strong, robust man of 29 years, temperature 104.4, pulse 114, strong and full, and no intermittence. Previous history: He had had these spells frequently during the past three years, but never so severe as the present, and had never before called a physician, though he supposed he had had over a dozen attacks during the interval stated; he had learned from some one, however, that moist heat was excellent, and already had the pain partly subdued by the constant application of flannel cloths wrung out of very hot water and frequently changed. I informed him beforehand that I thought I could put my index finger on the spot, and the moment I touched McBurney's point the story was told by his countenance and the excruciating agony depicted there. Tenderness was more typic and more localized than in case 1, and tympanites also more general and advanced.

I controlled the nausea and vomiting as before, and gave an enema at once, leaving instructions that it be repeated every two hours, combined with oral dosage as in the other case. Returning the next morning, I found the bowels had moved after the sixth repetition of this double treatment, and were continuing to move as well as could be desired. I followed this up with a cholagogue and strict and strong internal antisepsis and rigidly enforced diet, consisting of raw seasoned white of egg, egg-nog, soups, broths, soft boiled or poached eggs, pasteurized milk and boiled ice-water, until he seemed entirely out of danger and apparently recovered, and at this writing his condition is perfectly satisfactory and no further trouble is apprehended, though six weeks have elapsed since the last outbreak. Respectfully yours,

Wilbur F. Sterman, M.D.

For Whose Benefit Do You Write?

Oran, Mo., March 23, 1899.

To the Editor:—I received a booklet last week containing "Six reprints on important topics, from recent issues of medical journals." Glancing over this booklet, I noticed that each of these six eminent men had something special to say of a certain compound, and I asked myself: Were these articles written for my benefit? Did these authors have the good of the profession in mind when they penned these lines, or were they writing for the benefit of the proprietor of this special compound? I see so much of this kind of literature that I am almost forced to the conclusion that there is a "nigger in the wood-pile," and whether this colored "gent" can be ousted or not, is a debatable question.

If writers would adopt the course of writers of twenty years ago, this gentleman would soon have no hiding-place. We realize that it is pleasant to be considered an author, but we also realize that there are authors and authors. Almanac literature is written by authors. We, as medical men, do not care for the notoriety last mentioned; but when we write up a given mixture telling of the good results which followed its use, and recommend it as a specific, we need not be surprised if we find ourselves pictured in some metropolitan sheet and our signature written under a wonderful puff to some nostrum; we witness something similar to this every day—some compound which the doctors thought was put up solely for their benefit is lauded, first in our journals, then it finds its way into the newspapers and is published broadcast, all because we have lost sight of our professional duty, and have given our influence to men who are doing us harm.

When the profession as a whole is injured—lowered—each member suffers the consequence. The manufacturer is enthroned and backed by the lever that moves the business world, "money." His position is secure, so far as any individual is concerned in trying to dethrone him. He, by the liberal use of money, has muzzled those whose influence could injure him. He, after having gulled all he could, has set out to buy the rest. I have made several efforts to show him up, but editors are to some extent dependent on his bounty. They say that they can not afford to incur his displeasure; it cuts off supplies; and that self-preservation is the first law of nature, etc. They have been absorbed by the combine, lost their individualism, have given up principle for bread and butter, and the few who do not feel disposed to do the same are not "in it."

W. P. Howle, M.D.

Initiation of Obstetrics in Massachusetts.

New York, March 22, 1899.

To the Editor:—Apropos of an item under this heading, in a recent Journal, my father, Benjamin Cutter, M.D., Woburn, Mass. (obit. March 9, 1864), told me that in the last century women died so frequently in childbirth in Massachusetts that the men arose in wrath and compelled the physicians to practice midwifery and replace the midwives who were so unskiful; also that "John Brooks, M.A., Yale, 1781, and Harv., 1787, M.D., Harv., 1810, LL.D., Harv., 1817, president of the Massachusetts Medical Society, governor of Massachusetts," a noted military surgeon and friend of Washington, first responded to the imperative call and used his influence in its behalf. Soon unnecessary deaths ceased to devastate the homes of the "Old Bay State" of their glories (I Cor. ii, 7) and of their Queens of Motherhood.

Ephraim Cutter, M.D.

Excision of Tonsils: A Correction.

Lafayette, Ind., March 15, 1899.

To the Editor:—In my article on the "Excision of Tonsils" (vide Journal March 11, p. 532), I misspelled the name of Dr. Andrew T. Veeder of Pittsburg, Pa. I am deluged with letters of inquiry concerning the instrument. It is not patented and I have no financial interest in it, but I will cheerfully answer every letter personally. The tips suggested by Dr. Veeder were too good for me to modify them, hence I adopted them under his name.

W. H. Peters, M.D.

Erratum Extra-Ordinarium.

Philadelphia, Pa., March 27, 1899.

To the Editor:—In the report furnished you of the regular meeting of the Philadelphia County Medical Society, held March 8, I am reported as saying "that a wrong spirit pervaded this teaching when in so short a time the names of Gross, Pancoast and Agnew were almost forgotten." The discussion was upon the proper method of teaching anatomy, and what I said was that anatomy dealt with the work of the Infinite, was eternal and unchangeable, and will be the same a century hence that it was a century ago—that if the elder Pancoast were to return he could take up the anatomy of hernia or the lecture of to-morrow and no one would notice any staleness or discordance between his teaching and that of the most modern lecturer—but not so in the subject of surgery. Surgery is man's work and is progressive. The tomes of the elder Gross are now out of print, and there is no call for Agnew's monumental work. I never said, nor can any one truthfully say, that "the names of Gross, Pancoast and Agnew were almost forgotten." There are thousands of medical men now living, scattered throughout our country, who still feel the presence of those eminent men, who still practice the precepts they taught, and who will transmit to posterity the worthy principles of the noblest men of our noble profession. Gross–Pancoast–Agnew! What generation, what single city, has furnished three such names? When shall we see their like again?

Oscar H. Allis, M.D.

Current Medical Literature.

AMERICAN.

Titles marked with * are noted below.

Philadelphia Medical Journal, April 1.

1.—Liberty in Medical Education. Franklin P. Mall.
2.-*Acute Pancreatitis; Disseminated Fat Necrosis of Omentum and Peritoneum; Laparotomy; Recovery. Morris Manges.
3.—Local Flushing and Morbid Blushing; Vasomotor Paresis. F. Savary Pearce.
4.—Elephantiasis of Vulva. Wm. Finder, Jr.
5.-*Prostatectomy. John S. Pyle.
6.—Multiple Sypilitic Epiphysitis Mistaken for Infantile Scurvy. Francis Huber.
7.—New Rectal Speculum. W. Duff Bullard.
8.—Instrument for Measuring Knee-Jerk. W. H. Haynes.

New York Medical Journal, April 1.

9.-*Treatment of Eczema in Infants and Children. Charles W. Allen.
10.-*Prevention of Deformity After Excision of Knee in Children. Wisner R. Townsend.
11.-*Further Report on "Antiphthisic Serum T. R." (continued). A. Mansfield Holmes.
12.—Powder Blower for the Stomach. Max Einhorn.
13.-*Hydrotherapy in Chronic Diseases. Simon Baruch.

Medical News (N. Y.), April 1.

14.-*Further Study into Frequency and Nature of Cancer. Roswell Park.
15.-*Nasal Catarrh in Children; Cause and Treatment. Clarence C. Rice.

Boston Medical and Surgical Journal, March 30.

16.—Murder of John Dean—A Medicolegal Review. E. G. Hoitt.
17.-*Medical Expert Testimony. John C. Irish.
18.—Case of Double Homicide; Its Mystery? O. J. Brown.
19.-*Simple Method of Locating Some Foreign Bodies by Fluorescent Screen. Francis H. Williams.

Medical Record (N. Y.), April 1.

20.*-Some Points in the Treatment of Appendicitis when Pus is Present. George Woolsey.
21.-*Nephritis Complicating Acute or Subacute Gastroenteritis of Infants and Children. Its Symptomatology, Prognosis and Treatment. Henry Koplik.
22.-*Prolonged Chloral Sleep in the Treatment of Chorea. Louis Lichtschein.
23.-*Use of the Urine Segragators in the Diagnosis of Diseases of the Urinary Tract. M. L. Harris.
24.—Texas Climate in the Trans-Pecos Region. R. W. Knox.

Cincinnati Lancet Clinic, April 1.

25.-*Investigation into "Husa," an Asserted Plant Preparation to Cure Opium Habit. John Uri Lloyd.
26.—Some Thoughts on Medicine and Medical Men. T. L. Woodruff.

Medical Review (St. Louis), April 1.

27.—Some Neglected Symptoms in Gynecologic Examinations. John A. Hale.
28.—Foreign Bodies in the Rectum. Willis E. Lingle.

Maryland Medical Journal, April 1.

29.—Dr. Christopher Todd. William J. Todd.
30.-*Use and Abuse of Atropin in Ocular Therapeutics. A. D. McConachie.
31.-*Case of Hemochromatosis. Eugene L. Opie.

American Journal of the Medical Sciences, April.

32.-*Peripheral Nerve Transplantation. Reuben Peterson.
33.-*Abscess of the Cerebellum from Infection through the Labyrinth. J. Orne Green.
34.-*Further Considerations of the Mechanism of Ear Vertigo and Its Relief by Removal of the Incus. Charles H. Burnett.
35.-*Case of Isolated Urticaria of the Tongue, Associated with Achlorhydria. J. L. Goodale and H. F. Hewes.
36.-*Enteroplastic Operation to Overcome or Prevent Stenosis, with Especial Reference to the Spur in Preternatural Anus. Christian Fenger.
37.-*Critic Summary of Recent Literature on the Treatment of Abscess of the Brain. Joseph Collins.

Philadelphia Monthly Medical Journal, March.

38.-*Shape and Position of the Stomach. Henry Wald Bettman. First prize essay, department of medicine, in contest of Phila. Med. Jour.
39.—Skiascopy of the Respiratory Organs. A. W. Crane. Second prize essay, department of medicine, in contest of Phila. Med. Jour.
40.-*Appendicitis during Pregnancy, Technic Considerations Influencing the Surgical Treatment of. Arpad G. Gerster.
41.—Solar Rays, Therapeutic Value of. Albert Abrams.

Medicine, April.

42.-*Infectious Jaundice. W. H. Washburn.
43.-*Two Cases of Protracted Erysipelas. Augustus A. Eshner.
44.-*An Exceptional Case of Hematuria. Jacob Frank.
45.-*Chronic Postnasal Catarrh. G. F. Hawley.
46.—Posterior Colpotomy: A Conservative Surgical Procedure. A. J. Puls.
47.-*Proper Operation for Cancer of the Rectum. Joseph M. Matthews.
48.-*An Experimental Study of the Transformation of Epithelium to Connective Tissue. Leo Loeb.
49.—Microscopic Diagnosis of Trachoma. E. F. Snydacker.

American Practitioner and News, March 1.

50.-*Abdominal Surgery. Some Postoperative Effects of, Viewed from a Medical Standpoint. Thomas Hunt Stuckey.
51.-*Suprapubic Cystotomy for Disease of Prostate. J. E. Kempf.
52.-*Removal of Tonsils, Sudden Death Following. J. A. Stuckey.

Pennsylvania Medical Journal, March.

53.—Some Thoughts in Regard to Proprietary Remedies and Ready-Made Prescriptions. Wray Grayson.
54.—Intestinal Antisepsis. J. A. Richey.

Cleveland Medical Gazette, March.

55.-*Caisson Disease. Charles J. Aldrich.
56.-*The Pupil in Health and Disease. F. G. Stueber.

Dunglison's College and Clinical Record, March 15.

57.-*Hot Springs of Arkansas and Their Medicinal Value. James T. Jelks.

Chicago Clinic, March.

58.-*Effects of Tobacco on the Eye. Allen T. Haight.
59.-*Lessons in Neurology. H. N. Moyer.
60.-*Congenital Dislocations of the Hip (Clinical Lecture). A. C. Wiener.
61.-*Diseases of Rectum as Cause of Autoinfection. J. R. Pennington.
62.-*Epilepsy and Traumatism (Clinical Lecture). F. E. Sherwood.
63.-*Lectures on Practice of Medicine. William E. Quine.

Toledo Medical and Surgical Reporter, April.

64.—Serofibrinous Pleurisy. William A. Dickey.
65.-*Electricity as a Therapeutic Agent. H. L. Hall.
66.—Tubercular and Inflammatory Phthisis. Heneage Gibbes.

Merck's Archives, March.

67.-*The Newer Substitutes for Morphin. Horatio C. Wood, Jr.
68.—The Therapeutics of Diabetes Mellitus. Leon L. Solomon.
69.—Formaldehyde: Its Nature, Properties and Uses. F. E. Stewart.

Post Graduate (N. Y.), March.

70.—Corpulence and the Fatty Heart, with Cases. Thos. E. Satterthwaite.
71.—Pana's Operation for Strabismus. D. B. St. John Roosa.

Medical Age (Detroit), March.

72.—Recent Progress in Curetting the Uterus and in Operating for Laceration of the Cervix Uteri. William H. Wathen.
73.—Myxedema with Spontaneous Dislocation of Hip-Joint, Course and Treatment of; Report of a Case. A. H. Schenk.

Medical and Surgical Bulletin (Nashville), March.

74.—Hysteria. E. G. Wood.
75.—Treatment of Internal Hemorrhoids. A. B. Cooke.

St. Louis Medical and Surgical Journal, April.

76.—The Prodromata and Early Symptoms of Typhoid Fever. A. Habermaas.

Hot Springs Medical Journal, March.

77.—Treatment for la Grippe and Its Leading Complications. P. L. Barray.

Canadian Journal of Medicine and Surgery, April.

78.-*Treatment of Pulmonary and Laryngeal Tuberculosis by the New Antiphthisic Serum T.R. W. Freudenthal.
79.—Pulmonary Tuberculosis. J. Hunter.
80.—Prairie Chicken Shooting at Minnedosa. A. J. Harrington.
81.—Applicability of Tesla's System of Molecular Exercise to the Cure of Disease. A. S. Ashmead.

2.—Manges reports a rare case of acute pancreatitis in a young female occurring six weeks after parturition. After five days' observation and with the diagnosis resting between perforation-peritonitis and empyema of the gall-bladder, an abdominal incision was made disclosing a large nodular mass behind the stomach, with several nodules both above and below this mass. The great omentum and parietal peritoneum were studded with numerous small, whitish plaque-like spots. Operation was concluded with the removal of a portion of the involved omentum. Microscopic examination proved disseminated areas of fat necrosis. The recovery was uneventful, although she still has occasional attacks of abdominal pain following errors in diet. The urine was negative, showing on one examination only a trace of albumin, a subsequent examination showed absence of albumin, indican and sugar; the stools were regular, and did not contain fat. The absence of glycosuria and fatty stools agree with the reports of nearly all cases of acute pancreatitis. Hence he concludes that while the presence of these signs is confirmatory, yet their absence may be disregarded.

3.—Pearce considers blushing always emotional and physiologic. When, however, it produces hypersensitiveness and actual distress, it is to be considered a morbid state; the distribution of the vasomotor nerves supplying the epidermal, the sexual, and the subcutaneous layers, may explain in part absence of undue sweating in some cases of flushing; the nerve twigs passing to the sweat-glands are not probably sufficiently stimulated. Cold sweats of pallor, of fear, or shock, would suggest a possible central stimulation of the vasomotor fibers to the sweat-glands mainly. He considers it impossible to assume any demonstrable pathologic lesion exists in morbid flushing, conceding, however, the protoplasm of the central neurons must be enfeebled in some undeterminable way.

5.—Pyle advocates enucleation in uncomplicated prostatic hypertrophies, claiming for his method simplicity, low mortality and bloodlessness. Beginning incision at a point over the middle of one tuber ischii, it circles anteriorly in front of the sphincters and behind the transversus perineus muscles, to a corresponding point on the opposite side. The dissection continues until the levator ani is exposed, following this muscle to a point just behind the urethra, where, being divided transversely, the space between the rectum and membranous urethra is entered. The fascia covering the underlying prostate is brought into view. Seizing the offending lobe of the corresponding side, the fascia is divided, and with the finger, beginning at the upper and outer border, the lobe is loosened and peeled from the side and base of the bladder, without injury to the viscus, if care is taken. Both sides are treated at one operation.

9.—Allen gives certain general principles of treatment, which remain the same regardless of the etiology, and also apply to dermatitis; superintendence of clothing, especially that next the body; regulation of the bath, of nursing, and examination of the mother's milk; prevention of intestinal derangements of infant and mother; protection of infant's cutaneous structure from irritations due to soap, water, heat, cold, etc. He considers treatment at length.

10.—Townsend reports cases and cites opinions from the literature. He says that not a single patient in whom the excision was done before puberty has presented himself two years after the excision without showing some deformity. The deformities that may occur are: flexion, knock-knee, bow-legs, and genu recurvatum, flexion being most common, and sure to result if at the time of operation the leg is not put up perfectly straight. His conclusions are that excision of the knee should rarely be performed before puberty; erosion, arthrectomy, or partial operations are to be preferred; shortening will usually follow, and depends on the amount of bone removed and the age; protection should be given the knee for a long time after operation; always put up the leg straight; in severe septic cases amputation is preferable to excision.

11.—Vide Journal, April 1, p. 724, paragraph numbered 10.

13.—Baruch discusses the methodic and judicious use of hydrotherapy. His experience extends over a period of ten years and covers more than "100,000 recorded procedures in neurasthenia, hysteria, some of the psychoses, phthisis, gout, rheumatism, dyspepsia, cardiac diseases, sciatica and other neuralgias, obesity, and neuritis." He emphasizes the fact that this method must remain in the hands of the medical men entirely, its theory and technic taught in the medical schools and demonstrated in the hospitals.

14.—Park follows up the subject previously studied by him, the frequency and nature of cancer, and calls attention to the alarming fact of the increasing death-rate from this disease. In 1887 there were in New York State 2363 deaths from cancer and 11,609 from consumption; in 1898 the figures were respectively 4456 and 12,552. At this relative rate of increase, in 1909 there will be more deaths from cancer in New York than from consumption, smallpox and typhoid fever combined. Next he takes up the question of the nature of the disease, maintaining that it is parasitic and contagious, and his argument along this line is particularly full and convincing. He quotes a large number of facts from various sources that seem to point to this directly, and in closing his paper he refers to the work carried on under a small State appropriation by Dr. H. R. Gaylord, which, while a detailed report of results would be yet premature, has nevertheless developed startling facts that promise much for our knowledge in the future.

15.—Rice, concluding his article, the first part of which was noticed last week, holds that 90 per cent. of all cases of so-called chronic catarrhal rhinitis are due to enlargement of postnasal lymphatic tissue and resulting nasal obstructions. The pharyngeal tonsil is the primary location of the trouble in most cases, the original cause being neglected coryzas, etc. Enlargement of this tonsil is sufficient to cause congestion, thickening and catarrhal discharge of the entire mucous surface, from the nose to the smaller bronchial tubes. The latter portion of his paper is devoted to the treatment, particularly the removal of adenoid growths, etc. The methods are described and figures given of the instruments to be employed.

17.—Irish discusses the subject of medical expert testimony, holding that there is less to correct than is often stated. Medical experts are, he believes, generally conscientious, the differences between them are not of fact but of opinion, and there is no remedy for that. The only improvement possible will be found in the advancement of medical science so as to render less possible such differences.

19.—Williams recommends, in locating foreign bodies by the X-ray, the use of the fluorescent screen instead of photographs. He takes two views at right angles to each other and marks on both sides of the trunk or limb (under the fluoroscope and opposite near Crookes' tube) the place where the object seems to be; the point of intersection will be its real locality. He has used this method in nearly all portions of the body, limbs, trunk, neck, etc., and usually with prompt success.

20.—The main part of Woolsey's paper is taken up with the discussion on the cause and prevention of ventral hernia, a trouble which he claims more often follows the operation made during an acute attack, and believes that it would not result when done during the quiescent state, if McBurney's muscle-splitting method were used. Various methods are discussed referring to the prevention of this trouble, and in the end the writer draws the following conclusions: 1. In operations for appendicitis, when pus is present, the first consideration is the life of the patient, the second the avoidance of disagreeable sequelæ, of which ventral hernia is the most common and hence the most serious. 2. Post-operative ventral hernia may be largely avoided in spite of the necessary use of drainage, *a*, by the use of McBurney muscle splitting incision; *b*, by suturing most of the wound and 1, the use of provisional or secondary sutures in the part left open for drainage, or 2, the early removal of the gauze drain, facilitated by the use of a rubber tissue collar where it passes through the wound, allowing the walls of the cavity and sinus to become approximated, thus avoiding the necessity of filling up by granulations. 3. By the latter method complete and firm wound union has been obtained in fifteen and one-half days on the average, and in all ordinary cases inside of three weeks. To this end the appendix should be removed if possible. 4. The relative frequency of hernia following pus cases with drainage is another argument for early operation in appendicitis. It is also an answer to the charge that surgeons are too eager to operate for appendicitis, not infrequently expressed by physicians who would defer operation until the chance of success is diminished and the danger of post-operative hernia is increased.

21.—Koplik calls attention to the complication of nephritis in gastro enteritis of infants, and believes that it is much more often to be met with than is generally realized. The symptoms of nephritis complicating gastro enteritis can be grouped into two sets, the first being general and in a sense inseparable from the primary disease, the second being traceable to the infection of the kidney. The patient, in the severe form of nephritis, is constantly restless, and this restlessness might be directly traced to the disturbance of the functions of the kidney. One symptom of which he makes a special point is vomiting, which, in the milder forms of gastro-enteritis, is checked by one or at most two irrigations of the stomach, which is not so in the severe forms of the infection. While most authors refer the continuance of vomiting to a general toxemia, he believes that it is the result of the disturbance of the functions of the kidney. Another symptom of the kidney complication is a form of edema of the skin and subcutaneous structures. He does not refer to any form of hydremia or scleroma which may precede death in exhaustive disease, but an edema which disappears as the infant improves. There are few signs to be found in the urine, and it is only by careful examination that he finds a trace of albumin. In the severe cases the most important symptom is the almost complete suppression of urine. One condition is that, although concentrated, the urine may contain casts of all kinds, but the amount of albumin not be great. The nature of this nephritis is yet little understood. The treatment and management of these cases is practically the management of all severe forms of gastro-enteritis, but opium in any form, mercury, coal-tar products, etc., are considered ruinous. Stomach lavage should be daily employed, and also rectal irrigations. For the latter he employs Cantani's physiologic solution, which consists of sterilized water, 1000; natrium chloratum, 4.00; natrium carbonicum, 3.00; at a temperature of 38 to 40 C. In regard to diet, milk should be suspended, and the child given albumin water or beef juice mixed with sterilized barley water. Twenty-five cases are given to illustrate the characters of the cases.

22.—Lichtschein, having noticed the good effect of chloral in the treatment of neurasthenic patients, advocates this in the treatment of chorea. Small doses of this drug (grains v to x every three or four hours) had no effect in diminishing the restlessness in the neurasthenic cases, and he had to resort to two or three times as large as the largest dose indicated, as this class of patients seems to require more chloral than others. Caution, however, is recommended. It is good to give one single dose, say 10 to 15 grains first, and if sleep is produced, to determine from the depth and duration of the sleep the dose of the drug and the time at which it is to be repeated. The sleep should be superficial enough to allow patients to respond when loudly spoken to, but still be sufficiently deep to keep them quiet. To avoid the objection to chloral as a heart depressor, he combines it with small doses of strychnin and watches the pulse and respiration. He has treated three cases of chronic chorea with this prolonged sleep with excellent results, and gives a history of them.

23.—Harris elaborates and gives his late views and experience and the experiences of others in the use of his instrument (vide Journal, vol. xxx, p. 236).

25.—Husa, an alleged undescribed Florida plant, has been advocated as an antidote to the morphin habit, by writers in one or two medical journals. Lloyd has investigated its claims and finds that the so-called tincture sold at $10 for packages of thirty fluid ounces, consists of a solution of morphin and salicylic acid in diluted alcohol and glycerin. He defines "husa" as "a solution of morphin to be administered under the name 'husa' and only by physicians. It is sold to physicians at the rate of $10 for about 234 grains of morphin. . . . Until I am furnished with a new plant containing morphin to the extent found in these experiments, I shall accept that husa is a concoction."

30.—This article is largely a protest against the too indiscriminate use of atropin in all forms of eye trouble. McConachie points out its action, its uses, and its dangers, the latter being chiefly in the fact that it obliterates Fontana's spaces and thus increases tension by preventing the normal escape of the aqueous humor, sometimes bringing on an attack of acute glaucoma. In people of middle age an past, this danger is considerable, especially if the drug is in the hands of those whose experience and judgment in eye disorders is not great.

31.—Opie reports a case of typhoid with marked skin pigmentation. The autopsy showed that this condition existed in various organs, the liver, pancreas, breast and gastro intestinal tract, associated with cirrhosis of the liver and chronic intestinal pancreatitis. The pigment existed in two forms, one giving the Berlin blue reaction of iron, the other not. He did not attempt to account for the pigmentation, in this case, there being no obvious blood-destroying factors, and seemed to suggest that it might be a primary condition or disease of hemochromatosis.

32.—Peterson reports, very fully, a successful case of nerve transplantation in which, owing to subsequent frost-bite, portions of the area involved in the original operation were amputated, affording an opportunity for further examination. The microscopic work is by Prof. Carl Huber of the University of Michigan. The case is very thoroughly gone over and a very complete discussion of the rather limited literature of the subject is given, with a tabulated list of the cases. The author's general conclusions are: 1. Transplantation of a peripheral nerve segment to bridge over a gap between the two ends of the resected nerve is a legitimate surgical procedure. 2. Under favorable conditions at least partial, and at times complete, restoration of sensation and motion may be expected to follow the operation. 3. Regeneration of the degenerated peripheral end is due to down-growths from the axis-cylinders of the central end. 4. From the slowness of process, the longer the time after operation, the more favorable will be the results. 5. Sensation may return very early after operation, and, as a rule, precedes return of motion. 6. This rapid return of sensation is not due to down-growth of axis-cylinders or to conductivity of the transplanted fragment, but must be explained by collateral nerve-supply. 7. In many cases, very early return of motion after transplantation may be due to vicarious movements of other muscles than those formerly paralyzed, and not to a regeneration of the latter's nerve-supply.

33.—Green presents four cases in detail, in one the abscess from infection through the meatus internus, in another through the aqueductus vestibuli, in the third through the whole labyrinth, while in the fourth there was no brain disease. He analyzes the symptoms presented by these cases.

34.—Burnett reports his second case of chronic ear vertigo consecutive to mumps, he having previously reported a case in the same journal. He points out that while "Ménière's disease" is ear vertigo, the latter is not always "Ménière's disease." Ear vertigo may be due to external, middle or internal ear disease, and the "term 'Ménière's disease,'" if it means anything, means internal-ear vertigo, due to apoplectiform lesion of the labyrinth of the internal ear. "Middle-ear vertigo, or tympanic vertigo, is due primarily to chronic catarrhal disease in the tympanic cavity and the consequently altered condition and mechanism of the ossicles of hearing," while external-ear vertigo is due to disease in the external ear.

35.—Goodale and Hewes state that an isolated occurrence of urticaria on the oral mucous membrane has apparently not hitherto been observed, and report a case in detail.

36.—Fenger says the principle of overcoming stenosis of a canal by transverse union of a longitudinal incision, as applied by Heinecke-Mikulicz on the pylorus, and by Fenger on the ureter, is applicable in any portion of the intestinal tract below the duodenum, mechanic conditions permitting. He makes the longitudinal incision through the middle of the convex surface, i. e., equidistant from the two sides of the mesentery. In an organ so free and movable as the small intestine, he sees no reason why one can not make union of the convex surface for four or five inches, if desirable. Tension in the united wound and lack of free fecal passage at the place of operation are, when the sutures are correctly applied, the main causes of non-success, i. e., the spontaneous reopening of the sutured intestine.

37.—Collins considers that the more important literature on brain abscess for the past year shows a deplorable mortality, the most potent factor contributing to this mortality being the failure to recognize existence of brain abscess before it has produced either septic complications or profound exhaustion. This rate will drop just in proportion to early recognition. Abscess of the brain secondary to middle-ear disease is located either in the temporal lobe or cerebellar hemisphere of the same side, in the vast majority of cases, and when one is reasonably sure of its existence, he should not hesitate to explore one of these regions, and if not found there, the other.

38.—Studying seventy-two autopsies, Bettman has pointed out the greater frequency of displacements of the stomach in females than in males. In the female, prolapse was found to be as common in nulliparæ as in multiparæ, and in all cases was found more frequently in emaciated subjects. Gastroptosis is present in from 5 per cent. of men in health to 30 per cent. at time of death; in woman in from 50 to 90 per cent. of all cases. Reviewing the etiologic factors producing the condition of gastroptosis, the most common cause is improper dressing, the tight-fitting corset and skirts fastened about the waist, as also marked emaciation, pregnancy, wasting diseases and other conditions producing weakness of the abdominal walls, hepatic enlargements, overdistension of stomach and bowels and intrathoracic states, which tend to lower the position of the diaphragm. In discussing the symtomatology, exception is taken to Meinert's view to the effect that all cases of chlorosis are dependent upon gastroptosis. He says: "The causes which lead to chlorosis can act only in those cases predisposed to chlorosis by gastroptosis. This predisposition consists of an increased irritability of the ganglion centers, which innervate the stomach, viz., the celiac plexus. In cases of chlorosis, epigastric tenderness is due to the sensitiveness of the plexus. The celiac plexus contains fibers which innervate the spleen, controlling the formation of hemoglobin, others which supply the abdominal viscera with sensitive filaments, and others which are branches of the vagus. Irritation of the celiac plexus, the result of dragging by the prolapsed stomach, may therefore produce in the one case chlorosis, in another visceral neuralgia or vagus reflexus. The tension on the solar plexus does not of itself lead to chlorosis, but without it chlorosis can not develop. Gastroptosis is the underlying cause of chlorosis, chlorosis is a secondary anemia, being an expression of enteroptosis."

40.—In discussing the technic considerations influencing the surgical treatment of pregnancy, Gerster concludes the certainty of a favorable prognosis depends in direct ratio upon the earliness of the diagnosis and the promptness and thoroughness of the surgeon. The operation for the earlier stages of appendicitis presents no important difficulty or serious risk in early or advanced pregnancy; the life of the mother and child is better insured by such timely interference. As a rule the earlier stages of pregnancy will not be interrupted, and if the operation occurs at about the end of term, adequate measures can be taken to insure a safe delivery. Where perforation and abscess formation has occurred the condition is always grave, the abscess wall being frequently in part formed by the gravid uterus. Should labor begin, existing adhesions are ruptured and infection spreads. In such cases he recommends a low-reaching free incision, careful examination for secondary abscesses, and to obviate the danger of displacement of the gauze drain by uterine contractions, it may be attached by a catgut suture to the peritoneum covering the uterus. Hernia and visceral expulsion during parturition are to be guarded against by careful suturing, dressings, etc., but cases requiring free drainage, and labor imminent, it is suggested that after the gauze drain is in place and brought through the abdominal wound, an iodoform compress or pad be slipped in all around between the parietal peritoneum and intestines, carefully spread out as a diaphragm, the edges being brought up and stitched to the abdominal walls; this secures perfect drainage and a resisting abdominal wall.

41.—Abrams, emphasizing the fact that no agents can be superior to pure air and sunshine in the treatment of tuberculosis, directs attention to the influence of solar-heated atmosphere upon cultures of the tubercle bacilli, and shows that while the effect is not bactericidal, it is positively inhibitory. He believes that the ultra-violet rays of the solar spectrum penetrate the body in like manner to the X-rays, and in this way effect much of the improvement observed in sanitarium patients. Not only can moderately concentrated solar rays be made to penetrate the living tissues, but such rays are capable of exercising their bactericidal action almost to their point of penetration. He further urges that concentrated solar rays as a therapeutic agent have a wide range for application, and reviews a number of tubercular cases of the mucous membranes of the larynx and pharynx, and the cutaneous surfaces treated successfully by heliotheraphy. The rays are never used sufficiently concentrated to produce an uncomfortable degree of heat. The dry skin is most resistant to the rays. The penetrability is assisted by inunctions of lanolin and keeping the surfaces in a moist condition during application.

42.—Washburn, after a brief but clear statement of the functions of the liver, reports five cases of jaundice of infectious origin, and calls attention to the peculiarities of the type. In all but one the icterus was in slight or moderate degree, but the accompanying constitutional symptoms were severe, both features contrasting with those met with in the obstructive form of jaundice. Evidently only a portion of the bile was absorbed by the blood, and there was little bile pigment in the urine. The cause in most cases is intestinal disturbances, though in one here reported the uterus was primarily infected. In one fatal case, without autopsy, the source could not be ascertained. The pathogenesis is explained by assuming an angio- or periangio-colitis excited by the passage of infectious material through the liver, obstructing the caliber of the ducts and rendering the bile viscid, causing some degree of absorption. The process is similar in many respects to that in the kidneys in certain infectious diseases, such as scarlatina, etc.

43.—Eshner reports two cases, one briefly and one in full, of a protracted and chronic form of erysipelas, one lasting three and the other ten months. Both cases yielded to pilocarpin hydrochlorate, given in doses of 1/12 grain in the mouth and 1/6 grain hypodermically.

44.—Frank gives an account of a prolonged and obstinate case of hematuria, giving rise to a diagnosis of ulceration of the bladder with vascular erosion. In order to verify the diagnosis an examination was made with Grünfeld's straight-window cystoscope and revealed the mucosa studded with uric acid crystals, the sharp points of which were imbedded in the walls, the intervening surface red and congested. It was clear that the irrigation previously used had been ineffective, and recourse was had to Bigelow's evacuator, used under anesthesia till all the crystals had been dislodged and wasted away. The treatment was successful and the patient rapidly recovered. He can find no exactly similar case in medical literature.

45.—Hawley gives an account of postnasal catarrh, its causes, symptoms and treatment, and describes a special atomizer devised by him for spraying the postnasal space, which he thinks overcomes many of the difficulties of local treatment of the disorder.

47.—Mathews considers the Kraske operation for rectal disease as not advisable or necessary, as better results can be obtained by less difficult and dangerous methods. When it is time to extirpate the whole rectum by this operation, the time for any intervention has passed. While at first he was not inclined to believe in the successful extirpation of malignant rectal growths by curettement, later experience has improved his opinion of this method. There has not been as yet, he admits, sufficient time to enable him to state the ultimate results, but he is inclined to agree with those who advocate it, and suggests that it may yet supersede the more formidable operation.

48.—Loeb finds from his experiments on the transformation of tissue that transplanted epithelium is transformed into connective tissue, and gives a detailed account of his observations of this fact. He also notices and answers several possible objections, such as assumed error in carrying epithelium into the connective tissue in the section cutting, the possible interpretation of the facts, as connective tissue being changed to epithelium or being mingled with it by upward growth. His paper is rather lengthy and not easily abstracted in its entirety. He hopes to carry on his experiments and observations and to report fuller results.

49.—T. H. Stuckey writes of the after-effects of abdominal operations, calling attention particularly to the fact, as he observed it, that adhesions follow disturbance of the normal relations of the peritoneum, their degree and extent not depending upon the amount of surgical interference. He reports several cases of autopsies of patients in whom such adhesions were found after laparotomies, and also calls attention to digestive neurasthenia and mental disturbances, apparently from the same cause, and according to his observations these latter are as fully, if not more, frequent and marked, in males as in females, after pelvic operations, the great majority of post-operative nervous derangements falling under the head of neurasthenia or confusional insanity. He says: "Deducing from a limited experience of seventy-six of whom I have a record: 1. There are nervous cases that seem to originate reflexly from pelvic affections, which are not relieved by removing the uterus or its appendages. 2. Often after operation these cases prove more obstinate to treatment, due probably to absence of ovarian function. 3. The operation often breaks the harmony of the essential organs and disturbs nutrition, which are the two most common factors in causing the condition called neurasthenia. 4. The operation for removal should be performed in pathologic conditions only."

51.—Kempff details the operation and indications for suprapubic cystotomy for prostatic disease. His paper is illustrated, showing some details of the technic of the operations.

52.—J. A. Stucky reports a case of a boy, 15 years old, who died nine hours after a tonsillotomy which he had apparently undergone successfully and reacted from successfully. Stucky attributes the fatal result to the general pre-existing septic condition of the patient.

55.—Aldrich describes caisson disease and discusses its pathology and treatment. The paper gives nothing particularly new, but in the discussion following its reading before the Cleveland Medico Legal Society, which was shared by several lawyers, the medicolegal bearing of the question whether it was to be considered a disease or an accident was brought up in relation to employers' liability and at the close of the meeting a resolution was adopted that a committee be appointed to draft a law for the protection of workers under high atmospheric pressure. The fatalities and disablements from the disorder are liable to make the subject one of some importance.

56.—Stueber summarizes the physiology of the pupil, its reactions, etc., according to the generally accepted ideas, and briefly gives some data as to its symptomatology.

57.—Jelks gives the history of the connection of the government with these springs, there now being about a thousand acres which it is beautifying with funds from privileges sold. Sixty-seven springs flow about a million gallons daily, the water being from 90 to 157 degrees. For the use of the poorer classes, the government runs two bath-houses free and used by as many as 900 daily. There are twenty bath-houses under individual control.

58.—Haight considers the early history of tobacco, touches on the chemic constituents of tobacco leaves and tobacco smoke, and further takes up the action of tobacco on the eye, its effect on the optic nerve-fibers, especially those supplying the macular region, this condition being known as retrobulbar neuritis or tobacco amblyopia, and due to the continued introduction of nicotin into the system. He considers the symptoms, prognosis and treatment, the latter consisting of total abstinence from tobacco and administration of strychnin, hypodermically, in increasing doses of from 1/30 to 1/3 grain daily, combined with iodid of potassium, 15 to 60 grains, t. i. d.

59.—Moyer discusses neuralgia of the scalp, his paper being the first of a series on various neurologic topics, to appear in the *Clinic* under the head "Saturday Lessons in Neurology."

60.—Wiener considers the affection most frequent among congenital malformations, and occurring about once in 10,000 surgical cases. He divides all congenital dislocations of the hip into three classes: 1, those caused by retarded development of the acetabulum; 2, cases in which dislocation has occurred in the later period of fetal life and the acetabulum has from disuse ceased growing; 3, dislocation occurring during the expulsion of the fetus from the uterus, and not strictly congenital.

61.—Pennington's paper is an amplification of a former paper on the subject, and he considers these ailments much more common than is generally supposed, while the victim must sooner or later become self-infected, if not relieved. He deals especially with infection caused by absorption of toxic substances generated within the alimentary canal by chemic, putrefactive or fermentative changes or bacterial devevelopment, aided and influenced by the pathologic condition of the rectum, etc.

62.—Sherwood details a case and considers the several varieties of epilepsy from the surgeon's standpoint.

63.—Quine's paper is the first of a series and gives a general treatment of the subjects: natural history of diseases, liability to certain types, age, sex, habit, vocation, exciting causes, etc.

65.—Hall classifies the therapeutic effects of electricity as stimulant or electrotonic, sedative, electrolytic and cataphoric, and discusses these several actions, as also cautery action.

67.—Wood notices three synthetic compounds that have been introduced as possible substitutes for morphin in some of its uses. The oldest of these, peronin, is chemically the hydrochlorate of benzylmorphin, and appears from Mayor's researches to decrease the irritability of the mucous membrane of the respiratory tract. The action of heroin, the second compound, which is the diacetic ester of morphin is, according to Dreser and Strube, also chiefly on the respiratory function, and Von Mering finds that the third, dionin, has a somewhat stronger and more prolonged action than codein. The therapeutic properties of the three are, therefore, rather alike; they have chiefly been used thus far to alleviate cough, and the reports have been altogether favorable, as they rarely fail and are nearly free from unpleasant after-effects. Herbin has been recommended for dyspnea, but Wood suggests caution in its use on account of its benumbing the respiratory center. The doses are, respectively: peronin (soluble in 133 parts of water), ⅙ to ⅔ grain; dionin (soluble in 7 parts of water), ⅙ to ½ grain, heroin (very slightly soluble), 1/12 to ⅓ grain.

78.—Freudenthal argues for the catarrhal origin of the infection of tuberculosis, the local inflammation from the various cocci preparing the way for the tubercle bacillus. He considers the adenoid growths in the vault of the pharynx as simply evidence of the reactionary inflammation against the invasion of the tubercle germ. The opinion of Dr. E. F. Ingals, that catarrh is antagonistic to tuberculosis, he rejects absolutely, as he finds that consumptives suffer as much and more than others from throat troubles. The route of tuberculous infection is, he holds, rather through the retropharynx to the lymph-channels than directly to the lungs. He reports four cases of phthisis treated with Fisch's antiphthisic serum, which he thinks deserves more extensive trial. His cases are impartially reported, and in only one, or possibly two, does it appear that the treatment was followed by any appreciable improvement.

FOREIGN.

British Medical Journal, March 18 and 25.

Lumleian Lectures on Bronchitis, Pulmonary Emphysema and Asthma. Samuel Gee.—The writer reviews the causes, symptoms and forms of bronchitis. After enumerating the principal irritative causes, organic and inorganic, we find the greater number of cases still unexplained. We have to look to infections of a special kind, and in evidence of the existence of this we have such facts as those of the St. Kilda cold and others of like nature. Chill and exposure have something to do with catching cold, but they alone are insufficient, and we have to fall back upon infection as the essential factor. The most important symptom is the catarrh, and he notices the pituitous catarrh of Laennec, characterized by a transparent, stringy sputum, and which, whether acute or chronic, is a very serious condition, the acute form sometimes leading to death by suffocation within a day or two. The chronic form is serious because of its obstinacy. Another peculiar form of bronchial catarrh noticed is one attended with excessive fetor appearing as early as forty-eight hours from the first symptoms. He considers this form, which seems to be often rapidly fatal, as a specific type spreading rapidly, like erysipelas. Dyspnea in bronchitis is often expiratory rather than inspiratory, though inspiratory dyspnea is common enough, and in some forms peculiar to obstructive bronchitis. Lividity is not as marked a symptom of bronchitis as of some other diseases, and suffocative catarrh with this symptom is generally attended with what we can more properly call pneumonia. Chronic bronchitis is not confined to the aged, and Gee has seen it in a child that had suffered from it since its second year. It is often hereditary, and alcohol is frequently a powerful assistant factor. Autopsies show that it is seldom unaccompanied with other disorders, chronic nephritis, arteriosclerosis, pericarditis, etc. The gouty or arthritic tendency is also a frequent association. He calls particular attention to one type that closely resembles pulmonary tuberculosis in its clinical features, and in the prebacterial times led to mistakes in diagnosis even by such observers as Sir Thomas Watson. The lecture closes with a plea for better ventilation as a prophylactic measure. Dr. Gee's second lecture deals with the subject of emphysema, acute and chronic. The results of his discussion he sets up as follows: That forced emphysema is due chiefly to forced inspiration and to a small extent to forced expiration. The distension of the lungs, so far as it is due to inspiration, is secondary to the distension of the chest. Forced inspiration is due to a feeling of dyspnea. The dyspnea which occurs at the beginning of inspiration, and causes it, is due to obstruction of the air passages. In chronic progressive emphysema this obstruction depends upon bronchitis, either humid or dry; emphysema once set up, dyspnea and the need of forced inspiration are increased by a natural defect in expiratory power of the lungs and certain parts of the chest; the degeneration and atrophy of lung tissue are usually dependent upon preceding overdistension, though possibly pulmonary atrophy may be primary to some extent. The third lecture is a discussion of the nature of asthma in its various forms and the hypotheses that have been advanced to account for it. He discredits the theory of special neurotic or convulsive asthma, from its similarity to certain other diseases resembling it, such as acute, dry, pulmonary catarrh, spasmodic croup, paroxysmal coryza, paroxysmal bronchial flux and hay-fever. He comes to the conclusion that all asthma is essentially only a special peculiar form of bronchitis.

Lancet, March 25.

Contribution to Study of Aphasia. James S. Collier.—He recites in detail one of those exceptional cases in which complete destruction of Broca's convolution causes no aphasia, in a right-handed individual. The exact nature of the neoplasm is not mentioned, but it involved the inferior margin of the left second frontal, the whole posterior part of the left third frontal convolution, and the posterior part of the orbital lobule and to some extent the anterior gyrus of the island of Reil. He suggests in explanation that in this patient the right third frontal convolution had always probably exercised the function of special control and that the existence of the tumor in the contralateral region was simply a coincidence.

Organisms Isolated from Cancer and Their Pathogenic Effect on Animals. H. G. Plimmer.—This is a preliminary note on an organism apparently a fungus, saccharomyces. The experiments reported, nine in number, were upon rabbits and guinea-pigs, and in five of them new growths were produced. He decides that in certain cancers certain bodies are produced which have been isolated and cultivated outside the body, which when introduced into certain other animals may cause death with the production of tumors, with one exception of endothelial origin, and that pure cultures made from these growths inoculated into suitable animals will produce the same effects.

Case of Cheyne-Stokes Respiration with Other Rhythmic Phenomena. W. K. Hunter.—After death a careful examination of the supposed rhythmic respiration center in the medulla showed no special change. This case favors the view that Cheyne-Stokes breathing, with its attendant rhythmic phenomena, is a further instance of the common tendency toward pulsatile or rhythmic activity shown by all living matter.

Diastolic Murmur of Mitral Stenosis. Bertram Hunt.—He has studied the murmur of mitral stenosis and finds that the murmur in an early compensated case is always presystolic. On the other hand, when cardiac failure has appeared, and dropsy, cyanosis and other symptoms appear, it is often heard in the first half of diastole, although even then it is not so common as the presystolic murmur. A presystolic murmur may or may not be accompanied by a systolic bruit and an early diastolic murmur is almost always preceded by a systolic murmur. A single early diastolic murmur at the apex is very rare and strongly suggests aortic regurgitation, even if the murmur is heard at the base. A presystolic murmur frequently changes into a diastolic, and vice versa, in a short time, and the period of diastole occupied may even vary in the erect and recumbent positions. The difference in the cause of these murmurs is therefore not likely to be found in the structural condition of the valves, but rather in the way the heart works at different times. The explanation of these facts is discussed and it is suggested that this early diastolic murmur is always associated with mitral regurgitation.

La Presse Medicale (Paris), March 15.

Early Surgical Intervention as Treatment of Cancer of Stomach. Prof. L. Landouzy.—Twenty cases are on record in which there has been no recurrence after extirpation of a cancer in the stomach during the four to eight years since, and Landouzy describes another convincing observation (resection of three-fifths of the stomach and jejunostomy), claiming that we can not only insure the patient a successful operation and relief from all the distressing symptoms by intervention, but hope for an absolute cure if performed early enough.

Appendicitis. Prof. Dieulafoy.—The writer establishes the rule that the maximum delay for surgical intervention in appendicitis with grave manifestations is twenty-four hours, and thirty-six the maximum with slight manifestations. He reaffirms "there *is* no medical treatment for appendicitis. . . . With an assured diagnosis, and an operation at the proper moment, well performed, no one ought ever to die of appendicitis."

Revue de Chirurgie (Paris), March 10.

Experimental Study of Fractures of Astragalus. J. Bastian.—Fifty-six experiments with fractures produced on preparations and cadavers demonstrated that the astragalus is usually fractured in one of three ways: 1. By compression between flat surfaces, when the fracture is toward the front and characterized by the maximum of diastasis on the side opposite the injury. 2. By compression between wedge-shaped surfaces, which produces an oblique horizontal fracture with the maximum diastasis on the side toward the injury. These two forms of violence may occur simultaneously, when T-, Y- or star shaped fractures are produced. 3. The ligaments may wrench out a portion of the bone when the foot is forced into certain positions, usually occurring in the posterior apophysis. The apophysis may also be fractured by a process similar to the first, allowing for the difference in the bones.

Treatment of Hydatid Cysts. A. Posadas.—Forty-six cases are tabulated in detail to emphasize the absolute benignity and success of an operation limited to extirpating the "germinative membrane" with the immediate reunion of the operative wound without drainage, in all non-suppurated cases. Posadas disapproves of Delbet's "capitonnage" (buried sutures of the pericystic pocket), as the walls of the pericyst contract spontaneously and suturing is dangerous and superfluous. Bobroff has also rejected it.

Present Status of Surgical Intervention in the Posterior Mediastinum. P. I. Stoyanov.—The mediastinum has been entered fifteen times, with three deaths and six cures. In twelve cases the intervention was on account of phlegmons or lesions of the vertebræ. Milton divided the sternum on the median line in a case of mediastinal tuberculosis, which allowed an opening of 5 to 6 centimeters into the mediastinum. Recovery. The operation suggested by I. Nassilov for intervention on the esophagus—entering the posterior mediastinum through a rectangular flap incision close to the spine, resecting the third to sixth ribs on the left to reach the upper half of the esophagus, and lower ribs on the right for the lower portion—has been performed only twice, and in both cases too late, although the operation was proved practicable (Rehn, German Congress of Surgery, 1898). The article is mainly a plea for the more general adoption of this intervention, which would save many persons now doomed to a certain death.

Semaine Medicale (Paris), March 12.

Forms of Cancer Amenable to Arsenic Applications.—S. Cerny and C. Trunecek.—The treatment of epithelial cancer with daily applications of a mixture of arsenious acid, 1 gram; ethyl alcohol and distilled water, each 75 grams, reducing later to 50 and 40 (vide Journal, xxx, p. 1116), first dehydrates the cancer-cells by the action of the alcohol. The protoplasm of the cells is then coagulated by the arsenic. The cells of the cancerous connective tissue degenerate and a serous exudation is induced, which in turn affects the cancer-cells already mummified by the arsenic. A demarcation inflammation then ensues on the sound parts, followed by the elimination of the neoplasm as a foreign body, without hemorrhage. The forms amenable to this treatment are those without indurated ganglia in which local treatment is possible. Its chief advantage over surgery is that it destroys every cancer-cell without injuring the sound tissue. An analgesic can be added to the solution if the applications are very painful; morphin may be necessary for the severe pain that occasionally follows, an hour later, especially in case of carcinoma. The writers urge the general adoption of this harmless, effective cure. Three or four weeks are sufficient in the early stages. Extensive lesions may require a few months.

Centralblatt fur Chirurgie (Leipsic), March 18.

Beard as Agent of Infection in Aseptic Operations. W. Hubener.—After referring to tests which proved the presence of pathogenic bacteria on beards and the constant menace of their dissemination, Hübener describes and illustrates the mask and extension made of fine batiste, worn over the lower part of the face at the clinic, covering the beard completely, the lower part drawn up and tied behind. The mask extends above the tip of the nose, sloping away below the ears. It is supported and held a little distance away from the face, by wires over the ears, like the hooks of a pair of spectacles.

New Method of Drainage of Bladder after Sectio Alta to Prevent Infiltration of Urine. C. Kaczkowski.—A rubber balloon like an irregularly shaped dumb bell is inserted in the wound and inflated, and presses the walls of the bladder and abdomen together, closes the prevesical space into which the urine is so apt to filter, and promotes exact adhesion and normal granulation, as no urine comes in contact with the wound. A large, stiff catheter passes through the balloon and extends into the bladder, the tip curving below to about the center of the swell of the dumb-bell. The distal end is connected with a tube in the stopper of a glass jar. A second tube in the stopper is connected with a Bunsen aspirator, which ensures the aspiration of the urine as it accumulates in the bladder. The bandages are always dry with this contrivance. It can also be used for permanent irrigation of the organ.

Deutsche Medicinische Wochenschrift (Berlin), March 16.

Treatment of Leucorrhea with Yeast Fungus: Local Antagonistic Bacterio-Therapy. Prof. H. Landau.—He has been applying the local antagonistic bacterio therapy to the treatment of forty cases of chronic leucorrhea during the last six months, with "surprising success." The majority were probably of gonorrheal origin. In more than half of the cases the discharge ceased completely and permanently after one or two injections. It later reappeared in some of the others, possibly from reinfection, but promptly subsided after another injection or two. Most of the rest were objectively and all subjectively much improved. He uses brewer's yeast, fresh every third day, thinned with beer to a thick fluid. Ten to twenty cubic centimeters are injected into the posterior portion of the vagina through a tube, if the hymen is intact, and a tampon inserted and removed in twenty-four hours, repeating the injection in two or three days. No inconveniences of any kind were noticed. He does not venture to decide whether the effect is due to the mechanic crowding out of the germs causing the catarrh, or to the using up of certain substances which they require for their growth, or to the metabolic products of the yeast organisms. He is now engaged in attempts to isolate the active principle of the yeast, end experimenting with kefir and cultures of various non-pathogenic micro-organisms.

Chorioepithelioma Malignum, Formerly Called Deciduoma Malignum. E. Fraenkel.—Deciduoma malignum differs in its structure and histogenesis from any neoplasm hitherto known and has been attracting much attention in the last four years. Fraenkel reviews the German publications on the subject, which do not present much beyond the points noted in the Journal (xxxviii, pp. 504 and 1156): that it affects women still young, is usually connected with childbirth, miscarriage, etc. The origin in the outer layer of the villi of the chorion is now established and also its syncytial structure, the tendency to necrotic processes and its detached smaller elements with the characteristics of simple or giant cells. But until embryologists determine the origin of the outer layer of the villi we are unable to assert positively that the neoplasm originated in the fetal tissues and thence invades the material.

Mittheilungen aus den Grenzgebieten der Med. und Chir., 1898, Bd iii.

Symmetric Enlargement of Lachrymal and Salivary Glands. C. Hirsch.—He describes a case which presented the typic appearance of the peculiar symmetric enlargement of the salivary and lachrymal glands, more thoroughly depicted by Mikulicz and Kümmel, and described by Osler in the United States. The enlargements were at first hard and elastic, becoming slowly smaller and firmer. Syphilis and tuberculosis were readily excluded. Microscopic examination of a submaxillary gland excised for that purpose showed a high degree of round-cell infiltration with transformation into connective tissue and also an independent and marked degeneration of the glandular parenchyma with the formation of giant cells due to coalescence of the degenerating glandular cells.

The author likens his findings to those of hypertrophic cirrhosis of the liver and designates the process as a cirrhosis of the lachrymal and salivary glands.

Muenchener Medicinische Wochenschrift, March 15.

Trauma and Tuberculosis. Urban.—The extreme rarity of tuberculous infection of large wounds of the soft parts is emphasized in this article, and the frequency of the origin of tuberculous and other infection in some small, possibly microscopic abrasion or fissure in the skin, which is probably the etiology of lupus. The fact that a tuberculous process can be encapsulated and remain latent for years or all through life, also explains the connection between trauma without solution of continuity and tuberculosis, as even a slight injury may be sufficient to release the imprisoned germs and after a period varying with the locality, produce tuberculous inflammation. He mentions observations which demonstrate that a small focus in a bone, for instance, may be aroused to activity by some very trivial traumatism, and that months may elapse before the lesion perforates the bone, with no symptoms during the interim except pain, spontaneous and on pressure, but once perforated, the tuberculous inflammation proceeds with rapid strides.

Wiener Klinische Wochenschrift, March 16.

Anatomy of Atrophy of Optic Nerve in Diseases of Central Nervous System. A. Elschnig.—The primary inflammatory nature of sclerotic foci in the central nervous system is becoming more generally recognized, and Elschnig shows that the accompanying atrophy of the optic nerve is a process identic with the fundamental affection of which it is merely a special localization; first a peculiar, acute interstitial inflammation leading secondarily to the disappearance of the nerve-fibers and the thickening of the connective tissue.

Association News.

Section on Diseases of Children.—The Journal is asked to announce that the list of the papers for this Section, for the Columbus meeting of the Association, is now closed.

Section on Materia Medica, Pharmacy and Therapeutics.—Those who desire to read papers in this Section, at the Columbus meeting of the Association, are asked to send their names and the titles of their papers, at once, to the secretary, Leon L. Solomon, M D., 323 W. Walnut St., Louisville, Ky., who is now making up the final program.

Columbus Meeting.—The Committee of Arrangements for the general meeting of the American Medical Association, which consists of the general chairman, Dr. Starling Loving, and the chairmen of the various sub-committees, at its last regular meeting passed on a number of matters in connection with the approaching meeting, and the plans are progressing at a rate which justifies us in saying that when the Association assembles, satisfactory arrangements for the pleasure and convenience of the visitors will have been made in every direction. The Great Southern Hotel has been chosen as headquarters for the general officers of the Association. The State officials have generously given the use of the capitol rotunda as a place for registration and the location for the bureau of information. The Committee on Exhibits has arranged for the erection of a structure on the east front of the capitol, so that it will be in immediate connection with the registration headquarters and in the most central place for the convenience of visitors and exhibitors, the various places of meeting for the general Association, and the several Sections being in buildings facing the capitol square. The general sessions will be held in the Grand Opera House, on the south side of the capitol square, and the various Sections will be housed in the numerous smaller assembly rooms which are to be found near by.

The Section dinners, which will occur Tuesday evening, have been assigned as follows: Medicine, Great Southern Hotel; Surgery, Neil Hotel; Gynecology, Chittenden Hotel; Ophthalmology, Chittenden Hotel; Otology, Chittenden Hotel; Neurology, Great Southern Hotel; Pediatrics, Goodale Hotel; Cutaneous Medicine and Surgery, Smith's Hotel; Materia Medica and Therapeutics, Neil Hotel; Dietetics and Hygiene, Emerson Hotel. These assignments are subject to revision, and it is probable that in one or two instances changes will be made, the transfer being probably to the Columbus Club.

The headquarters for the Academy of Medicine, which meets the Saturday and Monday preceding the Association, will be at Hotel Chittenden, and the academy dinner will be given there Saturday evening.

The meeting of the American Medical Editors' Association will occur Monday, the sessions being held in the rooms of the State Board of Medical Registration and Examination, and the association dinner being given in the evening, probably at the Columbus Club.

Our Hotel-keeper's Association have announced that they can easily accommodate twenty-four hundred visitors during the meeting of the Association. They also agree to reserve rooms of any price on their scale, thus doing away with the claim which has been made against hotels in other places, that they were willing to reserve in advance only their highest priced rooms.

The design for a souvenir button has been accepted, and this little feature of the meeting will possess unusual beauty.

The Committee on Exhibits reported that space in the exhibit hall is selling at a satisfactory rate, and it is expected that all space will be sold in good time. Parties contemplating making exhibits at the meeting, who have not yet secured space, should address the sub-committee on exhibits.—*Columbus Med. Jour.*, March 21.

Public Health.

Detroit Health Report.—For the week ending April 1, the births were: male 41, female 36; deaths 97, under 5 years 31. Contagious diseases: diphtheria, last report 8, new cases 1, recovered 6, 1 dead, 2 now sick; scarlet fever, last report 22, new cases 13, recovered 11, none dead, 24 now sick.

Protection of Feeble-Minded Children.—A national league for the protection of feeble-minded children has been organized in Italy, largely owing to the efforts of Professor Baccelli, minister of public instruction. Its chief aim is the creation of a medico pedagogic institution in each province, for the training of these unfortunates.

A Hospital Ship for Manila.—The War Department has cabled General Otis that as the hospital ship *Relief* has only reached the Red Sea on her way to Manila, he is authorized to use one of the transports at that port for the accommodation of our wounded soldiers. It is stated that any of the transports at Manila would serve excellently as a hospital ship. They are comfortable and well ventilated, and the patients on board would have the benefit of the fresh sea-breeze.

Importance of Tuberculin Test for Man.—Max Beck, of Koch's Institute for Infective Diseases, at Berlin, urges the extreme importance of the tuberculin test as a means of diagnosing tuberculosis in its earliest and most curable stage. "Treatment is begun too late in most cases treated at sanatoria, and the disease tranquilly resumes its course when the patient returns to his former environment." The test is particularly valuable for persons in close contact with notoriously tuberculous subjects. He states that 2508 out of the 4254 patients received between 1891 and 1897 were injected with tuberculin, and no inconvenience nor after-effects were observed. Subjects who react positively must be treated, warned and followed. Some cases recover spontaneously, and when the great value of the tuberculin test is more generally recognized, the disease will be arrested in its incipiency, and the severer, incurable forms become less and less frequent. His detailed report is published in the *Deutsche Med. Woch.* of March 2.

Two Months on a Transport.—On Jan. 1, 1899, the Fifty-first Regiment of Iowa Volunteers had been on the transport *Pennsylvania* fifty-nine consecutive days, en route to Manila and in the harbor of Iloilo. Ventilation by fans and windsails was insufficient to create a free circulation of air in the vessel. Every attention was paid to cleanliness; personal baggage was brought to the upper deck from time to time, to be aired, and every man was required to take a shower bath daily. The ship's galley did not afford proper facilities for cooking the meals of the command. The fresh water in the tanks became exhausted, Dec. 9, 1898, and after that date condensed water was used, the capacity of the condenser being 2400 gallons daily. The use of this water was followed by an unusual freedom from intestinal disorders. There was no death during this long period of confinement and discomfort, nor even a case of serious sickness. Writing Feb. 1, 1899, from Cavite harbor, the surgeon, D. J. Fairchild, Jr., stated that the regiment continued in excellent condition.

Vaccination Compulsory in Porto Rico.—The following circular was issued by the commanding general of the department of Porto Rico, March 18, 1899:

> The alcaldes of the several jurisdictions of the vaccination divisions of the department are required to use all their authority to secure prompt compliance on the part of the people with the order of these headquarters requiring all the inhabitants to present themselves for vaccination when notified. Any persons failing to so present themselves, either for vaccination or examination afterward, as directed, will be punished.
>
> No person who can not present a duly attested official certificate of vaccination after the date when the official vaccination in his or her barrio or district is completed, shall be admitted

> to any school, public or private, shall travel by any public conveyance, visit any theater or any place of public resort, engage in any occupation related to the public, or receive employment.
>
> All school-teachers, managers, employers and others affected by this order, will govern themselves accordingly under penalty.

Duty to Public Health.—The court of appeals of New York says, In re Taxpayers and Freeholders of the Village of Plattsburgh, that the charter of that village contains no provision authorizing the trustees thereof to raise money or to contract debts for the purpose of suppressing disease or preserving the public health. But, it continues, the general laws of the State make it their duty to comply with the orders of the local board of health in this respect. Therefore, when that board incurs expense in the performance of its duty in guarding against the introduction into the village of contagious or infectious diseases, or in the isolation of persons or things infected with or exposed to such diseases, or in providing suitable places for the treatment and care of the sick who can not otherwise be provided for, the court holds, it becomes the duty of the municipal authorities to comply with the order, whether there is any provision to that effect in the charter or not. And it expressly declares that a stricter view than this, taken by the courts below, with reference to the powers of the trustees of the village in this respect, was erroneous.

Sickness Among Troops from Climatic Conditions.—The cold of climatic conditions in the United States is sometimes as dangerous to the soldier as the hot, humid and malarious atmosphere of Cuba. During the week ending Feb. 15, 1899, a battalion of the 3rd U. S. Vol. Engineers suffered severely from the extremely cold weather experienced in camp at Macon, Ga., when the thermometer dropped to 6 degrees below zero. The men were permitted to sleep in the mess-halls, which were warmed; but they suffered much, notwithstanding this and other efforts to protect them. Camp was broken up during this cold weather, and the companies, while en route to Cuba, were much exposed. For several months prior to this there had been no death in the battalion; but on February 12 one man died in the division hospital from pneumonia and next day a second died from the same disease sequent to measles. A man who became sick on the train between Macon, Ga., and Charleston, S. C., February 16, was transferred to a hospital at the latter place, where he died four days later from pneumonia. Five men were transferred to the Sisters' Infirmary at Charleston suffering from acute rheumatism, measles and pneumonia. On the train from Havana to Pinar del Rio, another man became sick February 21, and died five days later from pneumonia. Since its arrival at Pinar del Rio the health of this command has been excellent.

Vaccination in Porto Rico.—Major J. Van R. Hoff, chief surgeon, Department of Porto Rico, has submitted to the commanding general of the department a report on the necessity for vaccinating the inhabitants of the island, the means to be employed and the estimated cost of the undertaking. Since the organization of the military department in October, 1898, and the receipt of reports on vital statistics from thirty or more military stations and their immediately surrounding civil communities, the records of the chief surgeon's office permit a fair idea to be formed of the wide dissemination of smallpox in Porto Rico. It is not, however, believed that the disease is any more prevalent at the present time than heretofore; but the fact that the military government insists upon reports and gets them through its military officers brings the number of cases more closely to the attention of the authorities. Between Dec. 15, 1898, and Feb. 11, 1899, 554 cases of smallpox were reported from sixteen different towns and villages. The disease exists in every direction, and is a constant menace to the people and to the material interests of the island. A quarantine of fifteen days has already been declared against Ponce by the neighboring islands. The cost to Porto Rico, by reason of any well-grounded suspicion of her sanitary integrity, would be represented by hundreds of thousands of dollars, while the cost of making the community safe against smallpox would be but a small percentage of that sum. Five grand vaccinating divisions have been established, each under a medical officer of the army, whose duty it is to see that the 200,000 people, more or less, in his division, are effectually protected. In the Division of Ponce, where a vaccin farm has been established, Dr. Azel Ames is director; in Guayama, Major P. R. Egan, surgeon, Vols; in San Juan, captain F. P. Reynolds, asst.-surgeon, U. S. A.; in Arecibo, Major G. G. Groff, surgeon, Vols., and in Mayaguez, Capt. Charles Willcox, asst.-surgeon, U. S. A. It is proposed that the actual work of operating be done by Porto Rican physicians where these can be obtained, for it is considered that they would be more acceptable to the people, and if so employed their interest in the undertaking would be stimulated. The expense of vaccination is estimated at about $15,000, with $5000 for the production of vaccin on the farm.

Yellow Fever and Causes of Disease in Volunteer Camps.—The commanding general of the army, General Miles, in his report to the Secretary of War for the year 1898, states that he was opposed to putting an army into Cuba at a time when a large number of the men must die from the diseases that have prevailed in that country, according to all statistics, for the last hundred years. For this reason he addressed a letter to the Secretary on April 18, 1898, as follows:

> Referring to my former letters concerning healthful camps for the troops and the uncertainty of Congress requiring an army to move to Cuba at this season of the year, I would respectfully call attention to the letter of the surgeon-general of the army, dated Washington, March 25, of this year, as to the danger of putting an army in Cuba during what is known as the "rainy" or "sickly season." That opinion is also confirmed by reports of Dr. J. Guitéras of Philadelphia, a well-known authority on yellow fever, and others.
>
> In my opinion it is extremely hazardous, and I think it would be injudicious to put an army on that island at this season of the year, as it would undoubtedly be decimated by the deadly disease, to say nothing of having to cope with some 80,000 troops, the remnant of 214,000, that have become acclimated, and that are equipped with 183 guns. . . .

The rapid spread of fever among the troops after the attack on Santiago and the thorough breakdown of the whole command notwithstanding its rapid and successfully effected removal from the unhealthy climate of the island to the fresh and wholesome air of Montauk Point, showed that both the surgeon general and the commanding general were correct in their anticipations of what would occur among troops in active service in Cuba during the sickly season. Concerning the spread of disease in the various camps in the United States, General Miles says:

> Congregating tens of thousands of men, many of whom were not uniformed, and scarcely any properly equipped, in great camps away from their States, rendered it difficult for them to be properly supplied with food, cooking utensils, camp equipage, blankets, tentage, medical supplies, transportation, etc., and was to a great extent the cause, in my judgment, of the debilitating effect upon the health and strength of the men, who were otherwise in good physical condition. The material necessary to clothe and equip large armies was not even manufactured at that time, and the consequent condition of the troops for weeks and months was injurious to the commands in many ways.

Sanitary Conditions in Santa Clara Province, Cuba.—Major Lewis Balch, brigade surgeon vols., sanitary inspector of the Department of Santa Clara, has visited all the points of interest in the province and reported concerning their condition. The towns in this province or department garrisoned by United States troops are Sagua la Grande and Calbarien in the north, Cienfuegos and Trinidad in the south and Santa Clara, Sancti Spiritus and Palacetas in the interior, but there are many others that are not garrisoned. At most places Dr. Balch found great destitution, much sickness and a high death rate. He learned that at the close of the Ten Years' War the destitution was not so great as now, as the loss of cattle and the destruction of food products had not been so general, but now neither was to be had in sufficient quantity to relieve or support the people, who in consequence are enfeebled and become ready victims to disease. Enteric troubles are prevalent, but there is no typhus fever and typhoid fever is rare. The Cuban doctors informed him that, ordinarily, paludic diseases are not so prevalent as they are this year. They ascribe the present prevalence to the destitute condition of the people, for those who are able to obtain proper and sufficient food have suffered but little, if at all. As the towns are now in financial straits, it is not possible to carry out any radical sanitary reforms. The most that can be done is a superficial cleaning and to have more regard paid to the condition of the privy vaults. If troops are to be kept stationed in the towns, it would be a good investment for the Government to put in a proper system of sewers, bringing a systematic water supply from approved sources. Artesian wells are suggested. Dr. Balch considers that troops may be sheltered in tents without much danger during the dry season. The use of floored hospital tents for the various commands is safer than had the common wall tent been supplied to them, but even the former are invaded by the dampness after nightfall. He therefore urges the construction of barracks before the rainy season comes on. He believes, and has several times been told by medical men and officers who had served in the Cuban army, that if our men are kept in tents in the rainy season the result will be disastrous. In Trinidad and some other places the barracks formerly used by the Spaniards could be made perfectly safe for occupancy. These are of brick, with tile roofs, and could easily be cleaned, disinfected and relined. He criticises the clothing issued to the men, claiming that the woolen shirts are too heavy and should be disused, if only because they occasioned so much irritation from prickly heat. The campaign hat is too heavy. The helmet used by British troops in tropic climates is lighter and cooler. Had the helmet not proved the best head-gear for soldiers serving under a tropic sun, Dr. Balch thinks the British would have discarded it long ago.

Health Reports.—The following cases of smallpox, yellow fever, cholera and plague, have been reported to the Surgeon-General of the U. S. Marine-Hospital Service during the week ended April 1, 1899:

SMALLPOX—UNITED STATES.

California: Los Angeles, March 11–18, 2 cases, 1 death.

Colorado: Denver, March 4–18, 4 cases, 1 death.

District of Columbia: Washington, March 25–28, 5 cases.

Florida: Jacksonville, March 23, 12 cases to date.

Louisiana: New Orleans, March 11–18, 5 cases.

Maryland: Baltimore, March 25, 1 case.

Michigan: Kalamazoo, March 11–18, 1 case.

New York: Buffalo, March 15–21, 1 case; Elmira, March 18–25, 1 case.

Ohio: Cincinnati, March 11–18, 2 cases.

Pennsylvania: Pottstown, February 4–11, 1 case.

Virginia: Norfolk, March 30, 1 case, seaman on S. S. *Newport News*; Petersburg, March 4–11, 1 case; Portsmouth, March 22–25, 51 cases.

Washington: Spokane, March 11–18, 2 cases.

SMALLPOX—FOREIGN.

Argentina: Buenos Ayres, Dec. 1–30, 1898, 5 deaths.

Brazil: Bahia, February 25 to March 4, 3 cases; Rio de Janeiro, February 10–17, 5 cases, 1 death.

Egypt: Cairo: February 18 to March 4, 2 deaths.

England: London, February 25 to March 11, 4 cases.

India: Bombay, February 14–21, 4 deaths; Calcutta, February 4–11, 1 death; Madras, February 11–17, 1 death.

Japan: Nagasaki, February 11–24, 1 death.

Mexico: Mexico, March 5–17, 14 cases, 5 deaths.

Russia: Moscow, February 19–26, 10 cases, 1 death; Odessa, March 4–11, 1 death; Warsaw, February 25 to March 11, 6. deaths; St. Petersburg, February 25 to March 11, 5 cases

YELLOW FEVER.

Brazil: Rio de Janeiro, February 10–17, 57 cases, 37 deaths.

Colombia: Barranquilla, February 18 to March 4, 3 cases, 3 deaths.

Mexico: Vera Cruz, March 16–23, 2 deaths.

CHOLERA—FOREIGN.

India: Bombay, February 25 to March 4, 4 deaths; Calcutta, February 4–11, 46 deaths; Madras, February 18–24, 1 death.

PLAGUE.

India: Bombay, February 25 to March 4, 732 deaths officially reported, probably 1400; Calcutta, February 4–11, 7 deaths.

Book Notices.

American Text-Book of Diseases of the Eye, Ear, Nose and Throat. Edited by G. E. de Schweinitz, A.M., M.D., Professor of Ophthalmology, Jefferson Medical College, etc., and B. Alex. Randall, M.A., M.D., Ph.D., Clinical Professor of Diseases of the Ear, University of Pennsylvania, etc. Pp. 1251. Illustrated. Price: cloth, $7 net; sheep or half morocco, $8 net. Philadelphia: W. B. Saunders. 1899.

This volume of the "American Text Book" series presents its subject-matter under three heads: Part 1, "The Eye;" Part 2, "The Ear;" Part 3, "The Nose and Throat."

In Part 1 the following topics are considered, each by a different author: "Embryology, Anatomy and Histology of the Eye;" "General Physiology of Vision;" "General Optical Principles;" "Examination of Patient and External Examination of Eye;" "Ophthalmoscope and its Uses;" "Methods of Determining Refraction," etc.; "Normal and Abnormal Refraction;" "Spectacles and their Adjustment;" diseases of the eyelids, of lachrymal apparatus, of conjunctiva, of cornea and sclera, of iris, etc.; "Injuries of Eye and Appendages;" "Glaucoma;" diseases of crystalline lens, of vitreous, of retina, of optic nerve; "Amblyopia, Amaurosis and Disturbances of Vision without Ophthalmoscopic Change;" "Amblyopia of the Visual Field, Scotomas and Hemianopia;" "Intraocular Growths;" "Movements of Eyeballs and their Anomalies;" "Injuries and Diseases of the Orbit;" "Operations."

Part 2 comprises thirteen sections, covering the anatomy embryology, histology of the ear; physiology; ear affections; examinations and needed instruments; therapeutics; affections of external ear; drum-head injuries and diseases; Eustachian and tympanic cavity affections; middle-ear affections; tympanic inflammatory complications; "Diseases of the Sound-Perceiving Apparatus," and operations.

In Part 3 nineteen authors treat as many phases of the nose and throat. The work contains 766 engravings, 59 in colors, and is not only a text book, but as are the others of the series, a handy reference work presenting, and by authorities, the matters discussed, and practical phases of the questions. The volume is up to the high standard established by preceding volumes in the series.

International Clinics. Vol. iv, Eighth Series, January, 1899. Philadelphia: J. B. Lippincott & Co. 1899.

This latest volume of the well known serial, "International Clinics," appears to hold its own with its predecessors in practical medical and surgical value. It opens with a vivid paper on "Glonoinism," the substance of which was recently editorially summarized in the Journal. The lectures that follow are of the usual grade of excellence and give, generally in a brief space, a very large amount of useful facts that will be of service to the practitioner.

Surgical Nursing. By Bertha M. Voswinkel, Graduate of Episcopal Hospital, Philadelphia, etc. Second edition, revised and enlarged, with 112 illustrations. Price $1.00. Philadelphia: P. Blakiston's Son & Co. 1899.

This is an excellent little work which ought to be in the hands of every nurse who attempts to take care of surgical cases. It is well illustrated and is full of good common-sense instruction. If any criticism is called for, it is that it goes into the subject of treatment in some instances a little more fully than is necessary.

Transactions of the Rhode Island Medical Society. Vol v, Part v. Providence: Snow and Farnham, 1899.

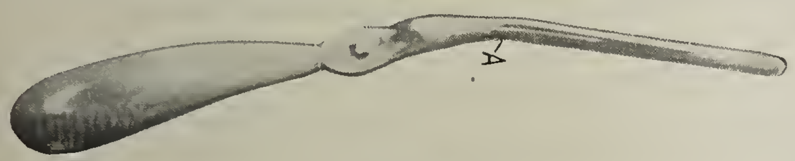
This volume covers the proceedings of the society for 1898, and includes the quarterly meetings as well as the annual. It contains the president's address, eleven original papers and the reports of the officers of the society.

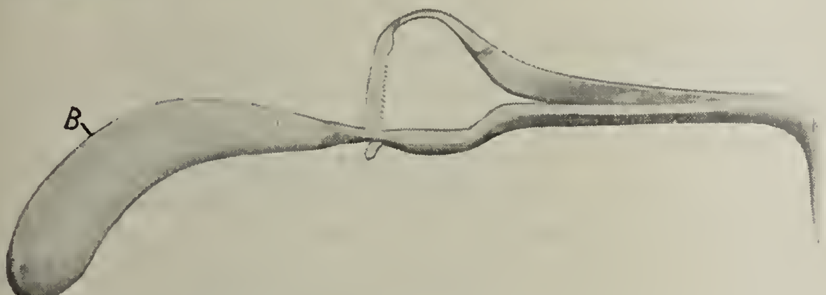
New Instruments.

A NEW INTUBATOR.

BY WARWICK M. COWGILL, Ph.D., M.D.
PADUCAH, KY.

This instrument is a modification of the "French" intubator. The modification consists of the angle put in the instrument. The angle at A in the shaft of the instrument brings the handle to the right and throws the hand of the operator out of his line of vision. The pistol handle B, which is turned downward and to the right, gives the operator an easy grasp of the instrument. The "French" instrument with its straight shaft and handle throws the operator's hand into a very awkward position directly in front of him, and at the crucial moment, when the tube is about to enter the larynx, the operator's wrist, elbow and shoulder-joints are locked, giving the hand and arm a rigidity not conducive to easy and accurate work. In the instrument here presented these awkward positions are overcome, and make the operation of intubation easier.





415 Broadway.

Necrology.

R. Gale, M.D., McKinney, Texas, died March 20, aged 88 years. He was born in Virginia and graduated from Baltimore Medical College in 1835. He served at various times before the war as surgeon in the United States Army. In 1849 he made the long journey with the California gold seekers to the Pacific coast, drifting back South, where he was inspector of drugs at New Orleans about the time of the breaking out of the Civil War. Later he served as post surgeon in the United States Army at various points, and settled in McKinney about twenty years ago.

J. M. Young, M.D., Bloomfield, Iowa, died March 17. Dr. Young had been for many months the victim of kidney disease. He was a member of the Western Surgical and Gynecological Association, the American Medical Association, and had been president of the Des Moines Valley Medical Association. He was born in 1841, in Indiana.

James Blakeley Herron, M.D., Allegheny, Pa., died March 17. He was 76 years of age. Immediately after graduation from the Western University of Pennsylvania, in 1845, he took up the study of medicine and surgery in the University of the City of New York, graduating from that institution with honors in the class of 1845. After taking his degree he went to the University of Dublin (Ireland), where he took a post-graduate course in medicine and surgery.

Edward Hilborne Ashwin, M.D., L. I. Coll. Hospital, New York, 1882, died at his home in Brooklyn, N. Y., March 28, in his 55th year.

William Vissman, M.D., died March 29, in Morristown, N. J., aged 66 years. He was born in Louisville, Ky., was graduated at the Louisville Medical College, and in 1892 received a degree from the University of Berlin, Germany. For a while he was a resident of New York and a member of several medical societies of that city.

Alfred W. Carey, M.D., born Jan. 9, 1853, at Euphemia, Ontario, Canada, died March 23, 1899, at Wild Rose, Wis. He was graduated from the Michigan College of Medicine in 1881.

Wright Rives, M.D., assistant surgeon at the Garfield Memorial Hospital, Washington, D. C., died April 1, aged 26 years.

J. T. Coleman, M.D., Henderson, Ga., March 21, aged 78 years. . P. M. Duvall, M.D., Farmington, Ill., March 17. . . J. H. Fitzgerald, M.D., Chicago, March 29. . . Charlotte Lavinia Merrick, M.D., Utica, N. Y., aged 49 years. . . P. H. Pendleton, M.D., Pine Bluff, Ark., March 26, aged 45 years. . . W. H. Roane, M.D., Holly Springs, La., March 15. . . John Schruber, M.D., Joliet, Ill., March 20, aged 57 years. . . C. F. Smolt, M.D., Newton, Kan., March 14. . . John J. Sullivan, M.D., Univ. of N. Y., 1886, died in New York City March 26, aged 42 years. . . Gray Taggart, M.D., Galesburg, Ill., April 2, of acute pneumonia, aged 33. . . Martin L. Unruh, M.D., College of Physicians and Surgeons, Baltimore, died in Philadelphia, March 16, aged 40 years.

Miscellany.

Poison Label not Required.—The supreme court of Tennessee holds, in the case of Wise vs. Morgan, that the statute of that State, requiring druggists to label all poisonous substances, does not apply to medicines compounded by druggists upon the prescriptions of physicians.

Vaccin Bodies.—A. Huckel concludes that the peculiar bodies noted after inoculation of vaccin in the cornea of rabbits, etc., are not parasitic protozoa, as some have surmised, but proceed directly from the cell protoplasm. Certain portions of the cell-bodies in the epithelium degenerate from the first in a very peculiar manner, and the vaccin bodies are the results of this degeneration.—*Vienna Klin. Runds.*, March 2.

Post-mortem Birth.—Professor Langerhans relates that the cadaver of a young woman who had died sixty hours before, of phthisis, pregnancy not suspected, was placed on the table ready for the necropsy. Half an hour later it was noticed that the head of a fetus, corresponding to about the thirty second week, had emerged from the vulva. The expulsion was not caused by putrefaction gases in this case, as there was no trace of decomposition.—*Viertelj. f. Ger. Med.*, xvii, 1.

Salt Solution.—R. Quinton attributes the effects of salt solution to the fact that all living beings are descended from species originally living in sea water. Sponges, etc., have no other circulating fluid than the water, and as we rise in the scale and the organism becomes a closed cavity, the circulating medium still presents the characteristics of sea water; the same salts, the same substances, and in the same order of importance. The white corpuscle lives in sea water, the only medium in which it survives. "An organism is a mass of sea water in which the cells that compose it live in aquatic conditions." He draws the practical conclusion that the isotony of saline injections should not be determined by the amount of concentration of the total serum, but merely of the exclusively mineral (marine) part of the serum.—*Presse Méd.*, March 15.

Hospitals.—The new hospital at Winona, Minn., erected and furnished at a cost of $40,000, has just been completed . . . The Mary Thompson Hospital for Women and Children, Chicago, is the recipient of $8700 from the heirs of the Carter H. Harrison estate. The money is to be held in trust, and the interest applied to the maintenance of a room to be known as the Carter H. Harrison room . . . The late Elizabeth H. Gates has willed the Buffalo (N. Y.) General Hospital $50,000, with the additional sum of $1000 for the continued maintenance of the room in the hospital which she has heretofore had in charge. She also gives to the Children's Hospital $1000, and to the University of Buffalo, for the use of the medical department, $5000.

Restriction of Sale of Liquor in Porto Rico.—General Guy V. Henry, commanding the department of Porto Rico, in an order issued March 8, says: It having been brought to the attention of the department commander that liquor is sold to children, to the detriment of their health and morals, the sale or giving of liquor of any kind, by any person, to any child under 14 years of age, is strictly prohibited, under penalty; if convicted of violation of this order, to imprisonment for sixty days and a fine of $60 for each offense. The civil authorities, police and others, are enjoined to see to the proper execution of this order, and to do everything possible to rescue the young from reported conditions which, if continued, are certain to ruin them morally and physically, and to impair their future usefulness. All the orders published by General Henry are issued as a double sheet, printed in English on the one leaf and in Spanish on the other.

May be Cross-Examined as to Compensation.—With the imperfections that are conceded to exist in expert testimony, the second appellate division of the supreme court of New York thinks that the plainest dictates of justice require that the opposing party should have every opportunity to inquire into the fairness and interest of the expert, as well as into his scientific skill and knowledge. Plainly, it says, the size of a fee a witness is to receive for his testimony may, in the case of a weak character, bias his judgment, and the parties and the jury are entitled to know just what compensation an expert witness has received or is to receive. Here, in the personal injury case of Zimmer vs. Third Avenue Railroad Company, was an expert witness who assumed to be disinterested, save that he was called and employed by one of the parties. If, in fact, his interest was greater, either because he had received an exorbitant fee or because the fee that he was to receive, whether exorbitant or not, was contingent on the result of the litigation, the court insists that the parties and the jury had a right to know it. And, for these reasons, the court holds that it was a reversible error to sustain an objection to the cross-examination of the witness as to the compensation he was to receive for his services in giving testimony.

Military Posts in Porto Rico.—Ten military posts in the District of Ponce have recently been abandoned and the troops aggregated at the chief town. There yet remain in this district nine posts each garrisoned by one company, except Ponce, which has a battalion of the 19th U. S. Infantry, a troop of the 5th Cavalry and a battery of the 7th Artillery, and Yanco, which has three companies of the 19th Infantry. The District of San Juan has ten garrisons, each consisting of one company or troop, except the capital, which has the whole of the 11th Infantry and three batteries of the 5th Artillery. The general hospital of this district is in charge of Major Charles S. Mason, brigade surgeon, Vols. The building which was formerly the Spanish military hospital is now in excellent condition. The hospital corps company is well equipped and the training-school in full operation. Very favorable reports have been received as to the condition of this hospital, which is said to require only an ice plant and an electric-light plant to make it perfect. The general hospital at Ponce is under the care of Capt. George Wells, assistant-surgeon, U. S. A. The ward buildings of this hospital are said to be in good condition and to have been recently improved in their bathrooms and water-closets. The hospital-corps company is quartered in tents which are floored and not overcrowded.

No Way to Prove Bill.—The statute prohibiting the disclosure of information acquired in the line of professional duty, Judge McAdam suggests, at a trial term of the supreme court of New York, in the case of McGillicuddy vs. Farmers' Loan and Trust Company, was passed to throw the mantle of charity over the sick and unfortunate, and at the same time elevate the medical practitioner to the high plane with the clergy and good Samaritan, leaving him to protect his fees according to professional ethics, so long as he does not infringe the humanitarian sentiment embraced in this statute. He also holds that, while the failure of a licensed physician to register his license may subject him to the penalties imposed by the registration act, and may perhaps deprive him of all right to recover compensation for services, it in no manner alters the fact that he has been licensed to practice physic, and, therefore, excluded from disclosing information acquired in the line of professional duty —even to aid another physician, who has attended the same case, to prove his bill, which bill, in this case, amounted to nearly $24,000.

Urine Examinations in Insanity.—Dr. Edwin G. Klein of Willard State Hospital publishes (*N. Y. Med. Jour.*, March 18) the summary of the results of urine examinations in 202 cases of insanity, with comparisons of authorities on this point. The following are the chief results of his examinations: The average total amount of urine was, for males, 1125 c.c., for females, 1020 c.c.; average specific gravity, 1019, minimum, 1005, maximum, 1035. Urea varied with specific gravity, but was on the whole rather decreased. Phosphates were decreased in the excited patients, but the reverse in the depressed cases. Oxalates were in excess in six of the depressed cases, and in two, treatment directed to this symptom was followed by complete or approximate recovery. Chlorids were increased after epileptic attacks in three out of four cases examined, also in one case of paresis after a convulsive attack. Uric acid in excess was common in dementia and was observed several times in paresis. Urates, when in excess, were generally associated with dyspepsia. Peptone was found twice in twelve cases of paresis, the tests, however, were not implicitly trusted, and it might possibly have been more frequent. Albumin was found four times only in 202 cases, in one of these only transient. Yet in the majority of autopsies of the insane, chronic kidney disease is found to exist. Dr. Klein thinks that if often enough sought for albumin would be more generally found. In six cases glucose was discovered, not as large a proportion as others have reported, but the tests seem to have been thorough. The report is only a preliminary one, and the author hopes in the future to investigate many of the points more thoroughly. It is, however, of interest as far as it goes.

Insanity Through Exposure and Hardship.—An insurance suit in New York was brought to prove the voidance of a fire policy by reason of want of due care on the part of the master of a brig that was lost at sea. The answer, after denying the allegation, averred that at the time of the wreck Captain Hays was unconscious of his acts and unfit to navigate because of his illness. It was claimed that he was insane from the stress of anxiety and loss of rest which was the result of three days and nights of duty in the storm, the last forty-eight hours having been passed on deck. The trial court held, while admitting these facts, that the insanity of the defendant furnished no defense. It appeared that he dosed himself heavily with quinin during this exposure. The decision on the trial was affirmed by the late General Term, but the court of appeals has ordered a reversal, holding, in an opinion by Judge Haight, that such a view was carrying the law of negligence to a point which was unreasonable and prior to a case unheard of, and was establishing a doctrine abhorrent to all principles of equity and justice. "The man is not yet born," Justice Haight said, "in whom there is not a limit to his physical and mental endurance, and when that limit has been passed he must yield to laws over which man has no control. When the case was here before it was said that the defendant was bound to exercise such reasonable care and prudence as a careful and prudent man would ordinarily give to his own vessel. What careful and prudent man could do more than to care for his vessel until overcome by physical exhaustion? To do more was impossible. And yet we are told that he must be responsible." As to whether the mate should be chargeable with negligence was a question, the court said, which had not as yet been determined. Whether the condition of the captain was so apparent at the time as to charge the mate with negligence in not resorting to strong measures was held to be a question of fact for the determination of the jury.

Parasite of Cancer.—A number of observers have noted a parasitic fungus in cancers, in the shape of spherules and cylindric cells, but they have been variously interpreted. Bra now asserts that they are probably actinomycetes, and that he has found them constantly in the blood or sections of the cancer in six personal observations, which increases the total to twenty-two cases of cancer of the uterus, mammæ, ovary or rectum, or with epithelioma of the tongue or cervix, in which these parasites have been noted in the blood. He further makes the important announcement that by injecting animals with cultures of this fungus derived from human cancer, he has produced tumors with the typic structure of fibrosarcoma and carcinoma, also that cultures derived from these experimental tumors constantly proved to be cultures of the parasite in question, the cultures from the human tumors. The best culture-medium was from bouillon made from cows' udders kept at 30 to 35 C., with 2 per thousand sea salt. The aerobic cultures appear the fifth day with a thin whitish-gray film on the surface and at the bottom of the tube. They also flourish well on the usual media. When the spores are expelled the cultures turn pink as the spores are red. The *Presse Méd.* of February 22 contains Bra's detailed account with cuts.

Pneumonia and the Doctors.—One of the New York daily papers has gotten itself into somewhat of a hornet's nest by an editorial article headed, "Pneumonia and the Doctors," in which it is claimed that the successful result in the case of Mr. Kipling has set a new standard in the management of this disease. The gist of the article may be inferred from the following paragraphs: "Now that Mr. Kipling has been saved, we hope the doctors understand that hereafter none of their patients will be content to die of pneumonia. . . . Hereafter, when a physician loses a pneumonia patient of good constitution and under forty, what excuse can he hope to give that will satisfy the friends of the deceased? We do not see that he can give any. They will be prone to believe that what has been done can be done again." Naturally, this diatribe called forth an inundation of replies, going into various phases of the question at issue, and perhaps the most telling of these was one from a correspondent who maintained that a competent practitioner who should have a failure and be worsted in his efforts to save a patient, need fear no open or covert criticism of the family based upon the recovery of Mr. Kipling. "Let him," said the writer, "recall to their minds the fact that while the father recovered, the daughter died of pneumonia, although she was under the care ot the same eminent physician, with trained nurses and every aid that wealth and modern science could bring to her relief. One was taken and the other left." It is almost surprising that the critic editor could not himself have seen this very obvious fact and spared his deductions accordingly.

The Troops at Pinar del Rio, Cuba.—A report by Major William F. de Niedman, brigade surgeon, volunteers, to the chief surgeon, Department of Pinar del Pio, gives a satisfactory view of the conditions affecting the troops stationed near the chief town of this military department. The command at this place consists of a battalion of the Third Vol. Engineers, four troops of the Seventh U. S. Cavalry, the First U. S. Infantry and a company of the Signal Corps. The camp is situated one and a half miles northwest of the town of Pinar del Rio, on a knoll at the base of the foothills. The ground is high and well drained and has a palm grove on the east. The tents are old hospital tents that have been disinfected and cleaned by boiling. Six men are assigned to each tent. They have excellent cots, but no wooden flooring. The sinks are on the opposite flank from the kitchens and mess tents and are distant fifty meters from the nearest living tents. Each deposit is immediately covered and quicklime is used three times a day. Garbage is burned. The hospital of this command was formerly the hospital of the Third Division of the Second Army Corps, organized at Camp Meade, Pa., and subsequently moved to Athens, Ga., and thence to its present station, via Savannah, Ga., and Havana, Cuba. The tents are new hospital tents of brown duck, giving space for ninety five beds. One ward is used for venereal cases only, and one for the isolation of contagious diseases, at present for measles, which is the prevailing disease. There are at present forty three men sick in the hospital. The hospital corps company consists of three hospital stewards, eleven acting hospital stewards and 116 private soldiers, of whom sixty are recruits who, under daily instruction and drills, are showing marked improvement in their training. The water-supply, from a mountain stream, is filtered through Maignen and Berkfeld filters. Milk is scarce and, in fact, all special articles of food for hospital use are either not to be obtained at all or are purchased at exorbitant prices from local dealers in the town. The subsistence department is urged to keep on hand certain of these articles, so that they may be purchased for the hospital diet-kitchen at reasonable rates.

Fees for Attending Inquest.—When a physician or surgeon has been subpenaed and ordered by the county coroner, under the provisions of section 8379 of the Revised Statutes of Idaho, to inspect the body of a deceased person, and to give to the coroner's jury his professional opinion as to the cause of death, the supreme court of Idaho holds that a reasonable value of his services in making the inspection is a charge against the county. By the use of the word "inspect" in the foregoing cited section, the court holds that it was contemplated that the physician or surgeon must make such an inspection of the body as would enable him to form and give a professional opinion as to the cause of death. If an autopsy is absolutely required for that purpose, then the inspection must go that far. The inquest is held for the purpose of ascertaining the cause of death, and to hold that the law is not broad enough for that purpose, when more than ocular inspection is required to prove that fact, the court declares, would be most technic and absurd. The coroner is supposed to do his duty, and not to require an autopsy, unless there is some evidence tending to show that the death was caused by criminal means. In the case of death by accident or disease, the county should not be put to the expense of an autopsy. In the matter of compensation, the court holds that, if an autopsy is necessary to ascertain the cause of death, and such autopsy is made by the physician, under the provisions of the statute, he is entitled to recover from the county the reasonable value of his services in making such post-mortem examination. But, the court says, a physician is not entitled to the compensation aforesaid on the ground that he is an expert witness, but for the work and labor necessary in an examination of the body in order to prepare himself to give an intelligent opinion to the jury of the cause of the death of the deceased. Last of all, the court holds, case of Fairchild vs. Ada County, that the coroner is not authorized to make a contract as to the sum the county shall pay in such cases, and that the board of county commissioners should allow only reasonable value of such services.

Not Privileged Communications.—The contestants of a will offered the testimony of two physicians, partners, one of whom had been the attending physician of the deceased, and to whom her son-in-law applied to make an examination of her mental condition about four months before the date of the will, to ascertain as to her mental competency to care for her own property, with a view to applying to the county court for release from guardianship, under which she had been placed with her own consent. She submitted herself to the examination for this purpose. The circuit court, after ascertaining that the knowledge of these physicians was thus obtained, excluded their testimony as privileged. But the supreme court of Wisconsin holds, In re Bruendl's Will, that this was error. The supreme court says that the seal placed on the lips of the physician by the statute of that State, relates only to "information necessary to enable him to prescribe for such patient as a physician." In construing this, the court holds that the purpose to cure or alleviate is an essential element in the meaning of the words "to prescribe as a physician," and that the prohibition against disclosing information applies only when such purpose is present. Advice, if any, was sought in this case, not with reference to treatment of any disease, but as to whether to make an application to the court. Consequently, the supreme court holds that the information obtained by the physicians was not necessary, and was not obtained for the purpose of enabling them to prescribe for the testatrix as physicians, and that therefore they were not incompetent to give testimony thereof. It may be contended, not without force, says the court, that there is the same reason for confidence when the examination is only to ascertain whether a certain disease exists, without any purpose that the physician shall attempt any prescription or advice for cure; but the legislature has not seen fit to so declare, and such a case is as it was before the statute.

Latest Mail News from Manila.—At the office of the surgeon-general of the army, the latest report from Manila is on sanitary matters, dated February 15, 1899, from the Second Brigade, First Division of the Eighth Army Corps, Major George H. Penrose, brigade surgeon. This brigade is composed of eight companies of the Fourteenth U. S. Infantry, six companies of the First North Dakota Infantry, two troops of the Fourth U. S. Cavalry and four mountain guns manned by detachments of the Sixth U. S. Artillery. At the date of writing these troops were established in the town of Pasay, three miles south of Manila, their lines extending from the sea eastward about 3½ miles. Those in the town were housed in an old convent and native huts, those on the lines in wickiups. Sinks had been dug for the command, but the Chinese residents persist in the use of the open fields. Well water was used for drinking and bathing, that for the former purpose being previously boiled. Most of the food supplied to the men was prepared in Manila by the company cooks and sent out three times a day. On February 7, on the outposts on the San Pedro Macati Road, a case of smallpox was discovered in the person of a native child. The child and the family were moved south of the lines and the hut destroyed by fire. On the 15th, the date of the report, another case was discovered in a Chinaman living in the south end of the town. This was at once reported to Major Bourne, sanitary officer of Manila, who replied by telegraph that he would have the case removed at once. This report is considered to be as interesting from what it does not say as from the information which it conveys explicitly. Had there been any unusual sickness in the command the fact would have been stated. No medical report of the campaign now in progress nor list of battle casualties has yet been received from Manila.

A Sham Battle at Chickamauga.—According to records now in the office of the surgeon-general of the army, a battle was fought, July 30, 1898, near the Alexander Bridge Road, Chickamauga Park, Ga. The United States forces engaged were the volunteer regiments composing the three brigades of the 3rd Division of the 1st Army Corps. It does not appear from the reports who or what constituted "the enemy" nor what were his casualties, but from the movements of our troops and the advance of some sections of our ambulance corps, it is evident that he was driven from his position after a stubborn resistance and that he must have suffered severely. That the engagement was quite a serious one is manifest from the lists of casualties sent in by regimental medical officers after the fight. The killed and wounded of the division are represented as numbering close upon 500 men. This engagement with an unmentioned enemy was undertaken for the special behoof of the ambulance and hospital corps of the division field hospital. Certain men of each regiment were detailed to fall out as killed or wounded as the advance was made on the enemy's line. These were aggregated at collecting stations in the rear of the regimental line where the nature of the ground afforded some protection from infantry fire. Here first aid was given and each wounded man was tagged with a description of his suppositious wound for needful action to be taken in his case by the litter bearers and the surgeons at the division hospital. At the time of the engagement the hospital-corps company was short handed, on account of the failure of Congress to provide a hospital corps for the volunteer troops and the disinclination of suitable men to transfer from the line of the volunteers into a corps of the regular army. The hospital-corps company of the Division, after providing the necessary men for the service of the hospital, was able to furnish only one litter squad for duty in the rear of each regiment. This number was utterly inadequate to carry the severely wounded to the ambulance stations so that many sufferers had to be left on the field. It would seem that none of the troops had been furnished with first aid packets, as there is no reference to their use in any of the reports. After the battle, casualty lists, as required by army regulations were forwarded by regimental surgeons, and reports were made to the chief surgeon of the division, Major J. D. Griffith, by each of the brigade surgeons, by the commanding officer of the ambulance company and the surgeon in charge of the field-hospital. Every regimental surgeon complained of the inadequacy of the litter squads. The surgeon of the 3rd brigade stated that "the engagement at the Alexander Bridge Road, July 30, 1898, demonstrated the utter inability of the litter corps to properly care for the wounded." The other brigade surgeons gave detailed reports of the number brought off by the litter bearers and of those that had to be left on the field. The chief of the ambulance corps, Major Frank C. Armstrong, stated his strength as 6 officers and 61 men, 18 ambulances and 8 wagons. He specified the work done by his command and illustrated it with a sketch of the country, the line of battle and the locations of the ambulance stations and of the field-hospital. Great difficulty, he said, was experienced "on account of insufficient number of litter-bearers for carrying the men from the line." The surgeon in charge of the field-hospital, Major Thomas C. Clark, reported the strength of his command in medical officers and hospital-corps men, regretting that he had so few to send to the front as litter-bearers. He described the establishment of the hospital, the arrival of those slightly wounded and able to walk, and the delivery of 143 cases by the ambulance company. He considered that if these had been real cases he would have been short-handed. The evident inadequacy of the litter-bearers for the work before them should have led the division surgeon to ask the commanding general for a detail from some of the regiments which had suffered least to aid in bringing the wounded to the ambulance stations. But perhaps he did this and was refused on the ground that not a man could be spared from the line of battle. We can not tell, as unfortunately the division surgeon failed to make a report on the fight. Notwithstanding the unassuaged suffering of the wounded left on the field, the results of this engagement must have proved very instructive to the medical officers of the division.

Physicians' Municipal League.—This league, organized at Cleveland, Ohio, and referred to on page 772, has been eminently successful in attaining the objects which prompted its organization. A meeting was held March 23, at which addresses were delivered by four speakers interested in the movement to divorce municipal affairs from politics. The meeting was enthusiastic, over 200 members of the best of the Cleveland profession being in attendance. All classes of citizens have agreed that the action of the league delivered the hardest blow to machine politics that has ever been witnessed in this city, because on the face of it the movement was entirely disinterested and not to be discounted by the machine politician. The league was the means of arousing the apathy of the good citizens so that following its action the newspapers began to take a decided stand and public mass-meetings of citizens were held. It having been the means of arousing the public conscience, success in throwing off the shackles of boss rule from the city was assured. At the election on April 3, the self sacrifice of the physicians was amply rewarded. While the nominal republican candidate for mayor, against whom the fight was made, was defeated by nearly 3,000 votes, the rest of that party's ticket was elected by majorities ranging up to 9361. A more direct and stinging rebuke to "machine" methods, or a more gratifying triumph of the good elements of society, could not be asked. Further, on all sides was heard the comment that the action of the medical profession was what carried conviction of municipal corruption home to the mass of voters.

Gleanings.—Indications of mercurial intoxication in kidneys of fetus, showing transmission of mercury from the mother. . . Case of acute rebellious mercurialism cured with subcutaneous injection of salt solution, and massage. . Another case of successful suture of the right ventricle with prompt recovery after stab wound of the heart, Ramoni. . . Another severe case of tetanus cured with Bacelli's method (vide Journal, xxx, p. 1236). . . Coincidence of Parkinson's disease and myxedema (*Gaz. degli Osp.*, February 26) . . Alcoholism simulating meningitis in infant nursed by alcoholic (*Echo Méd.*, February 26). . . Electrolysis recommended as cure for stenosis and palliative for cancer of esophagus (*St. Petersburg Med. Woch.*, February 18). . . Forgotten pessary removed after thirty-two years (*Jour. de Méd.*). . . Hartwig states that the reaction to Bremer's test is constant in diabetes mellitus. . . Frontal sinusitis diagnosed from diplopia alone, which disappeared after curettement of the sinus. . . Politzer's new clinic of otology officially inaugurated at Vienna. . . Typic lesions of intestinal anthrax and abdominal typhus noted at necropsy (*Med. Obosrenje*, January, 1899. . . A number of unfavorable experiences with Flechsig's opium-bromid treatment of epilepsy have recently been reported in the foreign exchanges. . . Grawitz has noted several cases of intestinal ulcerations caused directly by uremia (*Deutsche Med. Woch.*, No. 20). . . L. Hektoen's assertion that the giant cells of tuberculous processes are not necrosed elements, but elements of cure which may become transformed into small living cells, is attracting much attention at home and abroad (*Jour. Exp. Med.*, iii, 6). . . Three cases reported of fetus developing outside of the membranes; placenta enormous; constant discharges of water after fifth month. . . Jordan has noted erythema in the throat in one-third of 675 cases of syphilis (*Med. Obos.*, November, 1898). . . Much unnecessary pain avoided if the constricting bandage for Oberst's regional anesthesia is only drawn tight enough to compress the blood-vessels effectively. Compression beyond this point is not required (*Munich Med. Woch.*, February 21). . . Tetany after partial strumectomy; fourth case on record. . . A traumatic origin for tabes is indicated when the phenomena first appear and are most intense in the injured member. Trömmer reports two cases.

Philadelphia.

Mortality Statistics.—The number of deaths during the week ending March 25 were 530, an increase of 10 over the previous week. The principal causes were: Apoplexy, 17; cancer, 13; tuberculosis, 66; diabetes, 2; heart disease, 55; nephritis, 26; septicemia, 8; suicide, 4; appendicitis, 2.

Coroner's Physician.—Dr. William S. Wadsworth has been appointed physician to the coroner, in place of Dr. H. W. Cattell, resigned. Dr. Wadsworth is a graduate of the University of Pennsylvania, secretary of the Philadelphia Alumni of the Medical Department of the University, and resident pathologist of the Presbyterian Hospital. Dr. H. W. Cattell has been appointed pathologist to the Pennsylvania Hospital and will shortly take a trip to Europe for the purpose of study.

Text of the Bill.—The text of the bill abolishing the board of health of this city (vide Journal, p. 570), creating in its place a bureau of health, after directing that the mayor shall at once organize the said bureau of health, and shall supervise and control all the subordinate officers and employes therein, reads: "Be it enacted by the Senate and House of Representatives of the Commonwealth of Pennsylvania in General Assembly met, and it is hereby enacted by the authority of the same, that the law vested in the board of health for cities of the first class shall be exercised and performed by a bureau of the Department of Public Safety of the same cities to be known as the Bureau of Public Health. The mayor shall at once organize the said bureau of health and shall supervise and control all the subordinate officers and employes therein. Nothing herein contained shall be construed to alter, abridge or repeal the honors, duties or emoluments of the health officer of the city of Philadelphia." The board of health had been in existence within a few days of 100 years.

Questions and Answers.

TOXIC ACTION OF CHEMICALLY PURE WATER.

Janesville, Wis., March 27, 1899.

To the Editor:—The enclosed article I copied from a late daily newspaper and as the subject is one of vital interest to me, I take the liberty to ask your opinion, so that all doubts may be set at rest in my mind. Basing my opinion entirely upon my own experience, I should say that Dr. Koeppe is mistaken in his conclusions. However, I should very much like to know the unbiased opinion of a man of science. Please reply by letter or through the Journal.

A. V. Lyle.

Answer.—Our correspondent sends us a clipping which refers to the toxic qualities of pure water. It surprises him, as it may surprise others, to know that absolutely pure water is a poison. Hans Koeppe, in the *Deutsche Medicinische Wochenschrift* of September 29, discusses the subject fully. It has been noticed that quenching one's thirst with ice or snow, in the very high altitudes, has been disastrous, and this it is claimed is because the ice when dissolved is pure water. Absolutely pure water contains no salts. Koeppe tells us that the water from dissolved ice in high altitudes is purer than distilled water. The poisonous character of perfectly pure water comes from its property of extracting salts from animal tissues, and causing them to swell up by inhibition. Koeppe mentions a spring at Gastein which has always been known as a poison spring, the water of which on analysis is proved to be absolutely pure, more so than distilled water. But if these claims are true, and they probably are to some extent, there is no cause for worry, as absolutely pure water is a thing which is not likely to cause us trouble. The practice recommended by some, of washing out the stomach with distilled water, or drinking it. might be injurious, although the latter, if taken with meals, would not do harm, since the salts eaten would supply the deficiency.

MÜNCHENER MEDICINISCHE WOCHENSCHRIFT.

Los Angeles, Cal., March 31, 1899.

To the Editor:—Can you furnish me with the German medical journal, the *Munchener Medicinische Wochenschrift*? If not, please inform me where I can obtain it, and the price. Yours truly,

J. E. Wheat.

Answer.—The Journal can not furnish the periodical referred to, but it can be subscribed for directly with J. F. Lehmann, Heustrasse 20, Munich, Germany, or through any German bookseller in this country. Its subscription price, outside of Germany and Austria, is given as 7.5 M. quarterly, a mark being about 25 cents.

LEGALITY OF EXAMINING BOARDS.

West Superior, Wis., March 24, 1899.

To the Editor:—Can you give me information in regard to the laws of the States requiring all physicians to pass an examination before the State Board of Examiners to obtain a license? Is that law constitutional and under such a law can the Board of Examiners refuse legally to issue licenses to regular graduates who can exhibit diplomas from colleges in good standing, or to licentiates from other States? I am informed, although from doubtful sources, that this law has been tested in court and decided unconstitutional. I understand that it has been so decided in Minnesota. Is my information correct? Truly yours,

Joseph J Fortier, M.D.

Answer:—Such laws have, we believe, never been declared unconstitutional, and boards of examiners can therefore refuse to grant licenses to those who hold diplomas, unless they submit to, and pass, the required examination.

The Public Service.

Movements of Army Medical Officers under orders from the Adjutant-General's Office to March 30, 1899.

Jas. F. Archer, acting asst.-surgeon, from Ft. Caswell, N. C., to Havana. for assignment in the Division of Cuba.

Wm. P. Banta, acting asst.-surgeon, from the 2d Army Corps at Augusta, Ga., to Washington, D. C., reporting to the surgeon-general.

Edmund Barry, acting asst.-surgeon, from Camp Mackenzie, Augusta, Ga., to Washington, D. C., reporting to the surgeon-general

Peter W. Beckman, acting asst.-surgeon, from Anniston, Ala., to Ft. Porter, N. Y., to accompany the 13th U.S. Inf. to Manila, P. I.

Jas. L. Bevans, acting asst.-surgeon, from Ft. Thomas, Ky., to recruiting duty at St. Louis, Mo.

Thos. S. Bratton, lieutenant and asst.-surgeon U.S.A., to report at Washington, D. C., for examination for promotion.

Chas, D. Camp, acting asst.-surgeon, to proceed to Chicago, Ill., reporting by letter to the surgeon-general.

Henry R. Carter, Jr., acting asst.-surgeon, from Jackson Bks., New Orleans, La., to Seattle, Wash., for duty with the expedition for Alaska.

Geo. E. Chamberlain, acting asst.-surgeon, from the 2d division hospital. Havana, Cuba, to the hospital ship "Missouri."

Wm. A. Chapman, lieutenant and asst.-surgeon 3d U.S.V. Inf., sick leave granted.

Marshall M. Cloud, lieutenant and asst.-surgeon U.S.A., leave of absence granted from Camp Shipp, Anniston, Ala.

H. M. Cohen, acting asst.-surgeon, from Washington, D. C., to Willet's Point, N. Y., for post duty.

Basil H. Dutcher, lieutenant and asst.-surgeon U.S.A., leave of absence granted.

Guy L. Edie, major and brigade surgeon Vols. (captain and asst.-surgeon U.S.A.), orders discharging him from volunteer service revoked; to proceed from San Francisco, Cal., to Manila, and report for assignment to the military governor, Philippine Islands.

Alfred C. Girard, lieut.-col. and chief surgeon Vols., to Vancouver Bks., Wash., as chief surgeon Dept. of the Columbia, when his services are no longer required with the 2d Army Corps.

J. N. Goltra, acting asst.-surgeon, former orders revoked; he will report at Ft. Niagara, N. Y., for post duty.

Chas. R. Greenleaf, colonel and assistant surgeon-general U.S.A., to Ft. Monroe and Newport News, Va., Savannah and Atlanta, Ga., and Greenville, S. C., to inspect the medical department at these stations.

Lewis T. Griffith, acting asst.-surgeon, from Ft. Ontario, N. Y., to Ft. Preble, Maine.

Wm. R. Hall, major and surgeon U.S.A., to Camp Meade, Middletown, Pa., on business pertaining to providing hospital accommodation, returning thereafter to his station in Washington, D. C.

Harry M. Hallock, captain and asst.-surgeon U.S.A., from the Josiah mpson Hospital, Ft. Monroe, Va., to duty at Ft. McPherson, Ga.

Henry S. T. Harris, major and brigade surgeon, leave of absence extended.

T. G. Holmes, acting asst.-surgeon, from Ft. Wayne, Detroit, Mich., to New Ft. Spokane, Wash.

Deane C. Howard, captain and asst.-surgeon U.S.A., to temporary duty as attending surgeon, New York City.

Evan P. Howell, lieutenant and asst.-surgeon 5th U.S.V. Inf., honorable discharge, to take effect April 1, 1899.

L. W. Hyde, acting asst.-surgeon, from Augusta, Ga., to report to the surgeon-general, Washington, D. C.

Arthur R. Jarrett, acting asst.-surgeon, from Ft. Slocum, N. Y., to recruiting duty at Providence, R. I.

Robt. Fleming Jones, acting asst.-surgeon, from Washington, D. C., to Ft. Adams, R. I., to accompany battery B, 4th U.S. Art., to Manila.

Wm. J. Kernochan, major and brigade surgeon Vols., orders granting honorable discharge amended to take effect April 30, 1899.

Henry H. Lee, acting asst.-surgeon, from Well's River, Vt., to Willet's Point, N. Y., for temporary duty.

Matthew Leepere, acting asst.-surgeon, to recruiting duty at St. Louis, Mo.

Cyrus D. Lloyd, acting asst.-surgeon, from Ft. Leavenworth, Kan., to accompany the 16th U.S. Inf. to Manila, P. I.

Clarence J. Manley, lieutenant and asst.-surgeon U.S.A., from duty with the 2d U.S. Art. at Havana, Cuba, to the hospital ship "Missouri."

John C. Martin, major and brigade surgeon Vols., orders granting honorable discharge amended to take effect May 4, 1899.

Chas. B. Mittelstaedt, acting asst.-surgeon, from Josiah Simpson Hospital to Governor's Island, N. Y., to accompany the 13th U.S. Inf. to Manila.

Wm. F. de Niedeman, major and brigade surgeon Vols., orders of March 13, 1899, discharging from service, revoked.

George W. Pattison, acting asst.-surgeon, from the hospital at Ft. Myer, Va., to Camp Meade, Middletown, Pa.

Elbert E. Persons, acting asst.-surgeon, from Camp Mackenzie, Augusta, Ga., to report to the surgeon-general at Washington, D. C.

James E. Pilcher, captain and asst.-surgeon U.S.A.. sick leave granted.

Adrian S. Polhemus, captain and asst.-surgeon U.S.A., leave of absence extended.

Otway W. Rash, acting asst.-surgeon, from Henderson, Ky., to post duty at Ft. Ethan Allen, Vt.

Henry I. Raymond, major and brigade surgeon, Vols., to proceed at once to Ft. Porter, N. Y., to accompany the 13th U.S. Inf. to Manila.

Joseph C Reifsnyder, acting asst.-surgeon, leave of absence extended.

Ernest F. Robinson, acting asst.-surgeon, from Ft. Preble, Me., to Ft. Hamilton, N. Y., to accompany Battery F. 5th U.S. Art. to Manila.

Edward R. Schreiner, lieutenant and asst.-surgeon U.S.A., leave of absence granted.

Edward O. Shakespeare, major and brigade surgeon, Vols., member of a board investigating typhoid fever, assigned for two months in Washington, D.C., to complete report.

M. A. W. Shockley, acting asst.-surgeon, from Ft. Leavenworth, Kans., to Havana for assignment in the Division of Cuba.

E. J. Shores, acting asst.-surgeon, from Anniston, Ala., to Ft. Caswell, N. C.

Henry D. Snyder, captain and asst.-surgeon U.S.A., from Ft. Ethan Allen, Vt., to take charge of the medical supply depot at Savannah, Ga.

Clarence M. Spalding, acting asst.-surgeon, to Rochester, N.Y., reporting by letter to the surgeon-general.

John W. Thomas, acting asst.-surgeon, to New Orleans, La., reporting by letter to the surgeon-general.

S. S. Turner, acting asst.-surgeon, from the 2nd Army Corps, Augusta, Ga., to Chicago, for recruiting duty.

Victor C. Vaughan, major and division surgeon, Vols., member of a board investigating typhoid fever in the army, assigned for two months in Washington, D. C., to complete report.

Philip G. Wales, captain and asst.-surgeon U.S A. (brigade surgeon, Vols.), member of a board at Augusta, Ga., to determine fitness of certain officers for promotion.

Daniel D. Wells, acting asst.-surgeon, now on leave in Washington, D. C., is relieved from duty in the Department of Santiago, Cuba, and will proceed to Havana for duty on the hospital ship "Missouri."

Timothy E. Wilcox, major and surgeon U.S A., honorable discharge from service as lieut.-col. and chief surgeon, Vols., to take effect May 12, instead of April 12, 1899.

Roy A. Wilson, acting asst.-surgeon, leave of absence granted.

William H. Wilson, captain and asst.-surgeon U.S.A., from leave of absence to the Josiah Simpson Hospital, Ft. Monroe, Va., to New York City, reporting to the chief mustering officer for the State of New York, relieving Major Ezra Woodruff, surgeon U.S.A.

James S. Wilson, lieutenant and asst.-surgeon U S A., to turn over the medical supplies for which he is responsible to Major Marlborough C. Wyeth, brigade surgeon, Vols., and report to the commanding officer, hospital ship "Missouri" for duty.

Halsey L. Wood, acting asst.-surgeon, now in New York City, to report to the medical superintendent of army transports for duty on the "Ingalls."

Ezra Woodruff, major and surgeon U.S A., to his station at Ft. Trumbull, Conn., when relieved by Lieut.-Col. Wilcox.

Robert S. Woodson, captain and asst.-surgeon U.S.A., leave of absence from the Department of Santiago extended.

CHANGE OF ADDRESS.

Bell, S., from Newberry to 1011 Trumbull Ave., Detroit, Mich.
Bardon, F., from Quincy to Lyons, Ill.
Blackburn, J. H., from Nashville, Tenn. to Woodburn, Ky.
Berry, W. T., from Nashville, Tenn. to Chalifaux Bldg., Birmingham, Ala.
Croftan, A. C., from Chicago, Ill. to Pasadena, Cal.
Childers, R. A., from Nashville, Tenn. to Gainesville, Tex.
Cashin, J. E., from 129 W. Chestnut to 1103 W. Broadway Street, Louisville, Ky.
Cassidy, W. W., from Chicago, Ill. to Wabasha, Minn.
Cole, R. K., from Nashville, Tenn. to 398 Ross Ave., Dallas, Tex.
Degnaw, S. B., from New Buffalo, Mich. to 6833 Waldemar Ave., St. Louis, Mo.
Erwin, J. H., from Nashville, Tenn. to Kaufman, Tex.
Floyd, F. F., from Augusta to Arlen, Ga.
Grivelly, H. I., from Young America to Norwood, Minn.
Heilig, G. N., from St. Louis, Mo. to Mill Creek, Ill.
Hannan, J. C., from Port Chester to Hoosac Falls, N. Y.
Johnson, J. G., from Nashville, Tenn. to Newberg, S. C.
James, J. M., from Charleston to Cheraw, S. C.
Le Count, E. R., from 120 Warren to 398 So. Marshfield Ave., Chicago.
Lester, E. S., from Nashville, Tenn. to Dominion, Va.
McCaffrey, P. J., from Nashville, Tenn. to Ashland, Pa.
Marquast, P. C., from Yellow Springs to Greenville, Ohio.
Norris, W. L., from National Union Bldg. to 133 W. Woodruff Ave., Toledo, Ohio.
Pray, S. R., from 191 S. 9th to 139 S. 9th St., Brooklyn, NY.
Straley, S. B., from Cocoa, Fla. to Andover, N. J.
Stearns, W. G., from Hospital, Ill. to 103 State St., Chicago.
Snoddy, T. B., from 1217 K St. N. W. to Box 166, Washington, D. C.
Schwartz, H., from Nashville, Tenn. to 265 Mulleny St., Newark, N. J.
Wright, J. R., from Nashville, Tenn. to Honeapath, S. C.
Wellner, H., from 118 E. 110th St. to 183 E. 117th St., New York.
White, H. B., from Nashville, Tenn. to Abbeville, La.
Walton, F., from Nashville, Tenn. to Blossburg, Ala.
Wallers, G. D., from Nashville, Tenn. to Bessemer, Ala.
Youmans, J. R., from Augusta to Stillmore, Ga.

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Original Articles.

SURGICAL ANATOMY OF HERNIA.*

OBSERVATIONS THEREON, WITH RESULTS OF FIFTY DISSECTIONS.

BY RAYMOND CUSTER TURCK, M.D.
Professor of Anatomy and Operative Surgery in the Post-Graduate Medical School and Hospital.
CHICAGO.

In the course of numerous operations for the relief of oblique inguinal hernia, Dr. Alexander Hugh Ferguson of this city has observed: 1, that with but few exceptions there was a marked deficiency in the origin of the internal oblique and the transversalis muscles from Poupart's ligament; 2, that these muscles arising only from the outer portion of Poupart's ligament, with their lower fibers deficient in number and strength, afforded but poor protection, if any, to the internal abdominal ring; 3, that a strong barrier being thus removed, the descent of the hernia through the internal ring and downward along the inguinal canal was greatly facilitated.

Nearly every writer on hernia makes the statement that the hernia in its descent pushes the arched fibers of the internal oblique and the transversalis muscles out of its way, displacing them outward and upward. Dr. Ferguson, while granting that the muscles are to a greater or lesser degree thus displaced, asserts that this displacement would not be possible, providing always that no congenital defect in the internal ring existed, were there not an abnormally short attachment of the muscles to Poupart's ligament; that the fact that the internal oblique, by reason of this deficiency in the origin of the muscle fibers and their consequent abnormal upward arching, fails to adequately cover and protect the internal ring and assist in the support of the abdominal viscera at that point is not altogether an effect of hernia, but rather a cause. He further asserts that in a fair percentage of cases of indirect hernia, a congenital—not an acquired—deficiency in the origin of the internal oblique had been present, and had formed in the individual a predisposition to the hernia, and that the hernia had been then occasioned by the gradual "giving way" of the peritoneum and of the transversalis fascia, or by a more immediate "exciting" cause.

Arguing upon this hypothesis. Dr. Ferguson concludes that in an individual of well-developed internal oblique and transversalis muscles having a firm, normal attachment well down along Poupart's ligament, these muscles—especially the internal oblique—by closely covering and protecting the internal ring, offer strong resistance to pressure from within, and thus render the liability to hernia very small.

The lower fibers of the internal oblique, leaving Poupart's ligament and passing inward to the conjoined tendon, normally form, with the ligament, an acute angle. This we have taken the liberty to call the "Ferguson angle." The lowest point of the muscular origin in its relation—external or internal—to the internal ring, considered together with the degree of the Ferguson angle, goes far to show the relative strength or weakness of the resistance offered by the muscle at the internal ring, and hence should not be overlooked in the study of the causation of hernia.

Acting upon Dr. Ferguson's suggestion, dissections were undertaken with a view of determining in the normal cadaver: 1, the average length of the attachment of the internal oblique muscle to Poupart's ligament; 2, the position of the external and internal abdominal rings; 3, the length of the inguinal canal; 4, to estimate the amount of protection afforded the internal ring, and, 5, to note other points of interest in this connection which might come under observation in the course of the work. There were in all 50 cadavers dissected, of which 27 were of adult males and 9 of adult females, whose ages it was impossible to obtain, 1 of male and 2 of female children with given ages, and 11 of fetuses of both sexes, with ages varying from seven months to full term. In regard to the latter, they were either still-born, or had died shortly after birth, for in all cases the divided funis was present.

In each dissection the subject was placed flatly upon the table, with the thighs in a line with the long axis of the body, and without rotation outward or inward. The integument and superficial structures were reflected from the inguinal region, and the external oblique aponeurosis exposed. The anterior superior iliac spine and the spine of the pubes were then accurately located, and the distance between them noted; this distance is given in the tables as the length of Poupart's ligament. The error induced by the downward curve of the ligament, present in a majority of the subjects, was so slight, and so largely dependent upon the position of the thigh, that it was not considered necessary to note any difference. The intercolumnar fibers and fasciæ were then removed, clearly defining the pillars of the external ring, and measurements were taken of the distance between the pubic spine and the outer angle of the ring, i. e., the most external point of complete separation of the fibers of the external oblique aponeurosis. A superficial slit, or divergence, in the aponeurotic fibers is continued outward for a variable distance, and though the intercolumnar fibers are strong at this point, this may account, in part, for the ready enlargement of the ring in hernia. This partial separation was not, however, regarded as being a part of the true ring, and was not included in the measurement. The aponeurosis was then divided parallel to Poupart's ligament, and the lowest point of the internal oblique origin ascertained. To insure against possible mistake, the lower border of the muscle passing from Poupart's ligament to the conjointed tendon was carefully exhibited, and the cremasteric fibers differentiated. The length of origin of the internal oblique given, then, is the distance between the anterior superior spine and the lowest point on Poupart's ligament, from which well-marked internal oblique fibers pass over to the conjoined tendon. The spermatic cord, or round ligament, was then followed upward along the inguinal canal to the internal ring, the fibers of the internal oblique being thus divided in the direction of the canal. The infundibuliform process of transversalis fascia was then removed, and the margins of the internal ring defined. A needle or probe was placed as exactly as possible in the center of the ring, and from the center the following measurements were taken: the distance to the anterior superior spine of the ilium; the distance to the spine of the pubes, and to Poupart's ligament. For the length of the canal the distance was taken between the center of the internal ring and the outer angle of the external aperture.

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*Read before the Chicago Academy of Medicine, March 10, 1899.

The average length of Poupart's ligament was found to be 11.2 cm. (four and three-eighths inches) in the male adult (25 subjects, dissections 40 and 43 not being counted in the averages), and 12.5 cm. (four and fifteen-sixteenths inches) in the female adult (9 subjects). The average distance of the apex of the external ring from the pubic spine was 2.1 cm. (thirteen-sixteenths inch) in the male, and in the female 1 57 cm. (five-eighths inch). These measurements present no points of particular interest or importance other than those given by obstetricians and anatomists regarding the greater width of the female pelvis, and the smaller size of the ring in woman than in man. In a majority of the male subjects, however, I found the length of the external ring to be less than an inch (2 5 cm.), the distance usually given, in several but half an inch (1.3 cm.), in one three-eighths of an inch (1 cm.). As shown by the tables, in these dissections the size of the female ring averaged a little less than three-fourths that of the male.

The average length of the origin of the internal oblique muscle in the male was found to be 8 cm (three and one-eighth inches). Upon comparing this with the average length of Poupart's ligament, it will be seen that the muscular attachment averages a little more than two-thirds the length of the latter. Gray, Morris, and others state that the internal oblique takes origin from the outer half; Quain, that it arises "from the outer half or two-thirds of the deep surface of Poupart's ligament" The results obtained here do not bear out the text-book statements, the internal oblique being attached in a majority of the normal cadavers to rather more than the outer two-thirds of the ligament. This fact is important, bearing as it does directly upon Dr. Ferguson's assertion that the internal ring derives its greatest protection from the internal oblique muscle. For it is well known that the lower (innermost) fibers of the muscle are the weaker, therefore the longer the ligamentous origin, the farther the weak fibers pass below and internal to the internal ring, the greater is the protection afforded the ring by the strong outer muscular fibers which pass over it.

The average length of the origin of the internal oblique in the female (9.9 cm.), when compared with the average length of the female ligament, shows that the muscle arises, on the average, from the outer four-fifths (approximately) of the ligament, demonstrating that the length of muscular origin (outer four-fifths) is relatively greater than that of the male (outer two-thirds). The fact that the spermatic cord is larger than the round ligament may account, in part, for this difference; but I believe the true explanation to be that the processus funiculo-vaginalis (or the testicle) in its descent has carried with it some lower fibers of the internal oblique which ultimately become

Adults.	Length, Poupart's ligament; cm.	Distance, outer angle, ext. ring from pubic spine; cm.	Length, origin int. oblique along Poupart's lig. from ant. sup. spine; cm.	Distance, int. ring from pubic spine; cm.	Distance, int. ring from ant. sup. spine; cm.	Distance, int. ring above Poupart's lig.; cm.	Length inguinal canal; cm.
1 Male	11.4	3.2	7.9	5.7	6.	1.2	2.5
2 Male	10.1	1.2	7.6	4.1	6 3	1.6	2.9
3 Male	10.8	2.5	7.8	7.	5.	2.8	4.4
4 Male	11.4	2.2	9.2	5.7	6.3	1.9	3.5
5 Female	12.7	1.9	10.3	7.6	6.4	2.9	5.7
6 Male	10.7	2.3	8.2	6.3	5.4	2.2	4.1
7 Male	11.3	1 8	8.3	6.4	5.7	1.9	3.2
8 Male	10.2	2.5	7.3	5.7	5	1 9	3.4
9 Male	11.4	2.5	8.5	6.4	5.7	2.	3.8
10 Male	10.	1.3	8.2	6.3	4.4	2.	5.
11 Male	11.3	2.5	8.5	7.6	5.1	2.5	5.
12 Male	10.7	2.5	7.2	6.4	5.	1.9	3.8
13 Male	11.4	1.	9.5	6 5	5.7	1.6	5.4
14 Male	11.5	2.5	8.8	6.5	6.5	3.	3.8
15 Male	12.	1.6	9.2	6.5	7.	2 8	5.4
16 Female	12.7	1.3	10.7	7.	6.5	2.2	5.7
17 Male	10.1	1.5	7.	5.4	6.	2.5	3.2
18 Male	9.8	1.3	7.5	5.5	5.	2.7	4.1
25 Female	12.3	1.5	10.1	8.	5.3	2.5	6 6
31 Male	12.	2.2	8.3	6.6	5.9	2.	4.5
33 Male	11.1	2.4	7 3	6.5	5.1	2 5	4.4
34 Female	12.	1.3	9.2	7.9	5.7	3.2	6.7
35 Male	10.4	2.2	7.	6.	5.2	2.2	4.1
38 Male	12.	2 8	7.1	7.9	5.1	2 5	5.2
39 Male	12.1	1.9	8.2	6.6	6.3	2.2	4.9
40 Male[1]	15.2	1.3	11.4	8.5	7 6	2 6	7.3
41 Male	13.	2.	8 8	6.5	7.	2.	4.6
42 Male	11.8	2.4	8.5	8.1	5.	2 7	5.7
43 Male.[2] left	12.3	5.7	5.	6.1	6.5	1.5	. .
44 Male, right	12.3	2.	8.1	7.5	5.5	2.1	5.5
45 Female	13.3	1 4	10.	8.4	5.9	2.4	7.3
46 Female	12.5	1.6	9.8	8.	5.3	2.3	6.4
47 Male	11.3	2.1	6.2	6 8	5.	2.	4.8
48 Female	13.	1.8	8 9	8.	5.6	2 2	6.5
49 Female	12.4	1.4	9.5	7.2	6.2	2.5	6.
50 Female	12.	1.	9.7	7.	6.	2.6	6.1

[1] Dissection, No. 43 not included in average.

[2] Dissection No. 40 also not included in average because of abnormally high pelvic brim; rachitic deformity.

GENERAL AVERAGES.

Adults.	Male.	Female.
Poupart's ligament	11 2	12.5
External ring	2.5	1.57
Length, internal oblique origin	8	9.8
Int. ring from pubic spine	6.4	7.67
Int. ring from ant. sup. spine	5.8	5 8
Int. ring from Poupart's ligament	2.2	2.56
Length, canal	4 3	6.3

Age and sex.	Length, Poupart's ligament; cm.	Distance, outer angle, ext. ring from pubic spine; cm.	Length, origin int. oblique along Poupart's lig. from ant. sup. spine; cm.	Distance, int. ring from pubic spine; cm.	Distance, int. ring from ant. sup. spine: cm.	Distance, int. ring above Poupart's lig.; cm.	Length inguinal canal; cm.
19 Female, 8-mo. fetus	3.8	.3	3.1	2.5	1.9	1.1	2.2
20 Male, 7-mo. fetus	2.8	over	2.2	2.1	1.2	.9	1.6
21 Male, 9-mo. fetus	4.7	1.	2.8	4.1	1.3	1.	3.
22 Male, 8–9-mo. fetus	3.2	over	2.5	2.2	1.6	1.1	2.2
23 Male, 9-mo. fetus	4.1	.6	2.4	3.5	2.2	1.3	1.9
24 Female, 5 years	7.	.7	5.7	4 4	3.	1.3	3.7
26 Female, 7-mo. fetus	3.2	over	2.7	1.9	1.6	1.	2.
27 Male, 9-mo. fetus	4.4	.4	3.5	3.5	1.6	1 3	3 2
28 Male. 9-mo. fetus	4.1	.5	3.6	2.8	1.6	.8	2.4
29 Male, 9 mo., left side	3.5	.8	1.3	1.8	2	.9	1.2
30 9 mo., rt. side (No. 29)	3.5	.5	2.8	2.5	1.9	1.4	2.1
32 Female, 4-years	6.3	.8	5.	4.	3.3	1.8	3.2
36 Male, 9-mo. fetus	4	.4	3 1	2.8	1.7	1.2	2.7
37 Male, 6–7 years	7.3	1.	5.4	4.4	3.5	1.6	3.7
Average fetus	3.78	.37	2.87	2.79	1 66	1.11	2.33

Dissections 24, 29, 32 and 37 not included in averages.

the cremasteric loops. The fact that the length of origin in the female is relatively greater than in the male is thus a strong argument in favor of the theory that the cremaster muscle is, in part, derived from the internal oblique, a point which has been questioned by some anatomists.

It may be noted that in the two cases (17 and 47) presenting the shortest internal oblique attachments there were well-marked cremasteric fibers behind, as well as in front of the spermatic cord. To account for the presence of the cremaster posteriorly, the explanation has been given that the processus vaginalis (or the testicle) in its descent has passed through the lower portion of the internal oblique, separating the fibers instead of passing beneath them, the usual occurrence; that the lower fibers of the internal oblique, being displaced behind the cord, form the posterior loops of the cremaster, while the muscle proper, i. e., the portion investing the anterior surface of the cord, is derived from those fibers of the internal oblique which have been displaced anteriorly. Conceding this point, it is evident that the true cremaster in those cases has taken origin from the internal oblique fibers much higher up than is usual, thereby accounting for the shorter attachment of the latter muscle to Poupart's ligament, and adding another argument in favor of the above-mentioned theory of cremasteric origin.

COMPARISON OF THE AVERAGES OF MEASUREMENTS IN MALE AND FEMALE.

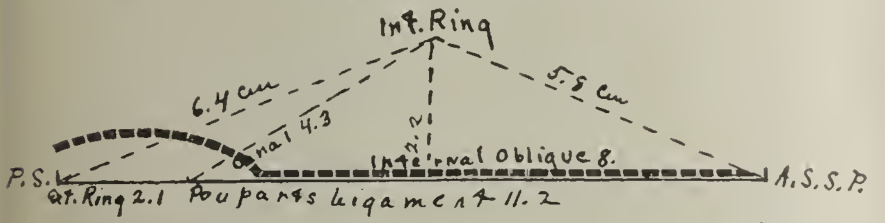


Diagram 1.—General average in male—twenty-five dissections.

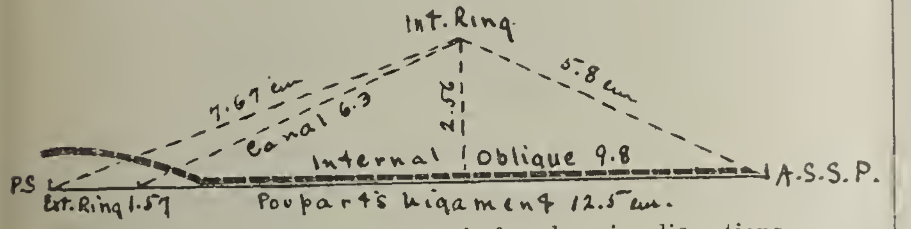


Diagram 2.—General average in female—nine dissections.

The average distance of the internal ring from the pubic spine, in the male, was found to be 6.4 cm., and from the anterior superior spinous process, 5 8 cm., showing that in a majority of the subjects the ring was situated above the outer half, rather than above the center of Poupart's ligament, as usually described. In this position the ring is afforded a greater protection by the internal oblique, and that this is so is shown more definitely when comparing from the tables of measurements the distance of the ring from the anterior superior spine. and the length of the internal oblique origin from Poupart's ligament, in the individual cases. It was further observed that the average distance of the ring from Poupart's ligament was approximately 2.2 cm., in some cases being as much as one and one-eighth inches (2.8 cm.) above. This, too, is important with reference to the amount of protection afforded the ring, for the nearer the ring to the anterior superior spine, and the further it lies from Poupart's ligament, the more firmly will it be covered by the internal oblique, whose fibers increase in size and strength in a direction upward and outward from the lowest point of origin. Hence the further the ring from this point, the greater is the resistance to hernia, made by the protecting muscle.

The internal ring lies, in the female relatively farther from Poupart's ligament and nearer the anterior superior spine than in the male. In the female the average distance of the ring from Poupart's ligament is 2.56 cm.; the distance from the anterior superior spine, 5.8 cm., and from the spine to the pubes, 7.67 cm. It will be seen that the female ring, in addition to being more firmly covered by the internal oblique muscle, due to the greater length of the origin of that muscle in the female, has from its higher (rather deeper than higher) and more external position, a still greater protection, by reason of the stronger fibers of the internal oblique in that locality.

The comparison of the male and female averages is not an altogether satisfactory one, because of the greater number of male dissections, yet that the length of the internal oblique origin is greater and that the position of the internal ring is farther from Poupart's ligament and more external in the female may be accepted as established.

Diagrams 1 and 2, which are life-size, drawn from the general averages, show the relative position of the rings and the length of internal oblique origin in the male and female. The difference between the sexes is even more strikingly shown in a comparison of individual cases. For this reason, Diagrams 3 and 4, representing dissections 8 and 24, are presented.

COMPARISON OF INGUINAL REGIONS OF MALE AND FEMALE.

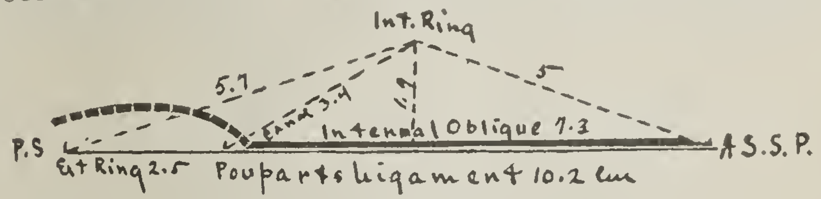
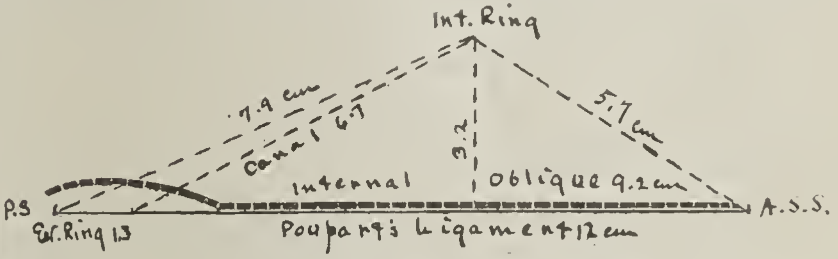


Diagram 3.—Dissection 8—Male.



Digram 4.—Dissection 34—Female.

The dissections of the fetus were made with a view to comparing the position of the structures in the hernial region, in the child and adult, and to ascertain, if possible, the relative changes, if any, taking place during the development and growth. As stated, eleven fetal dissections were made, of which two were of females and nine of males, of ages varying from seven months to full term. The variation in the positions of the parts under discussion bore, in the fetus as compared with the adult cadaver, no such marked relation to the sex. The later differences are seemingly due to conditions arising during the growth of the child. The averages given, therefore, are from all the fetal dissections, both male and female.

The external ring in the fetus averaged but .37 cm. in length. When compared with the length of Poupart's ligament (average 3.78 cm.), it will be seen that it is proportionately smaller than in the (male) adult in three cases, Nos. 20, 22 and 26, Poupart's ligament did not enter into the formation of the ring, the divergence of the external oblique aponeurosis taking place just over, or slightly internal to the pubic spine, the cord (20–22) and round ligament (26) passing down over the crest of the pubic bone. A variable increase in the size of the external ring in proportion to the size of the other parts must, therefore, take place during the course of postpartum development.

The ligamentous origin of the internal oblique in the fetus is proportionately greater than that of the adult (male), averaging 2.86 cm., approximately four-fifths the length of Poupart's ligament, while, as shown, the attachment in the (male) adult averages two-thirds of the length of the ligament. (In several cases the origin of the muscle extended to within .7 cm. of the pubic spine, the fibers arching inward immediately under and closely attached by fascia to the margin of the external ring.)

The fact that there is a proportionate decrease in the length of the internal oblique origin, as age advances, may be easily explained if the theory of cremasteric origin from the internal oblique be accepted. For, as the development of the cremaster goes on, it is perfectly reasonable to suppose that the lower fibers of the internal oblique cease to be such, by developing as a part of the cremaster. On the other hand, the fact that this proportionate decrease takes place, and that it is evident in the male and not in the female, adds another argument to show that the cremaster really arises from the internal oblique.

The most striking difference is, however, seen in the position of the internal ring, it being in proportion situated much more externally in the full-term fetus than in the adult, male or female. In all cases in the fetus it was much nearer the anterior superior spine than the spine of the pubes, and several cases show this variation to an exaggerated degree. (In dissection 21, vide diagram 5, the ring was situated but 1.3 cm. from the iliac spine and was 4.1 cm. distant from the spine of the pubes.) There seems to be in this a sort of natural compensation, inasmuch as the child's muscles are weak and but illy developed (especially true concerning the lower border of the internal oblique), and therefore unable to withstand much pressure from within, nature has seen fit to place the internal ring as far outward as possible, thereby gaining the point of greatest protection.

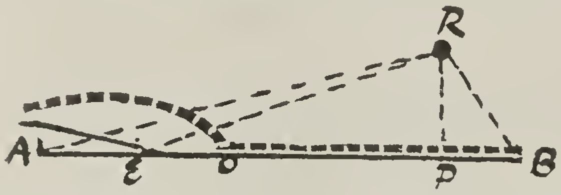


Diagram 5.—Dissection 21 (life size). A, B, Poupart's ligament, 4.7 cm. A, E, Ext. ring from pubic spine, 1 cm. O, B, Origin int. oblique, 2.8 cm. A, R, Int. ring from pubic spine, 4.1 cm. B, R, Int. ring from ant. sup. spine, 1.3 cm. P, R, Int. ring above Poupart's ligament, 1 cm. E, R, Inguinal canal, 3 cm.

The statement has been made that in early fetal life no inguinal canal exists as such, that the rings lie close together to facilitate the descent of the testicle, and that an ascent of the internal ring takes place after the testicle is in the scrotum. The first portions of the above statement I believe to be substantially correct. That an ascent of the internal ring takes place during the later weeks of intrauterine life seems not unreasonable, in view of the fact that the rings in the fetus at times lie relatively farther apart than in the adult. However, I do not believe that any ascent of the internal ring occurs during the course of postpartum development, but that there is a descent of the ring during extrauterine growth. It is true that the rings are close together in the child, but I believe it is due to the fact that the child is smaller than the man, and not that the proportionate distance between the rings is smaller. In view of the fact that the internal ring is subject to downward traction, acting, as it does, as a pulley over which the spermatic cord and round ligament pass, thus being made to assist in the support of the testicle or uterus, it seems improbable that the ring should ascend, but rather that these conditions should cause it to descend. It is, therefore, possible that any pathologic condition which tends, by reason of placing abnormal traction on the spermatic cord or round ligament, to increase the descent of the internal ring, forms another predisposing element in the causation of inguinal hernia. The greater descent of the ring in the male is undoubtedly due to the fact that the testicle exerts a greater downward pull upon the ring than does the uterus in the female.

Dissections 29 and 30, respectively of the left and right side of a full-term male fetus, are particularly interesting, inasmuch as there was present in this case a left congenital hernia with retained testicle. The first dissection was of interest from the beginning, because, being unable to find the spermatic cord at the external ring or the testicle in the scrotum, I was anxious to note the position of the undescended testicle, and to compare the position of the internal ring with that of the other fetal dissections. Upon reflecting the external oblique aponeurosis, a marked deficiency in the origin of the internal oblique was at once apparent, as also was a large increase in the degree of the Ferguson angle. The lower fibers of the internal oblique, instead of forming an acute angle with Poupart's ligament, formed with the ligament an angle of about 90 degrees. There was, however, no apparent protrusion either in the canal, or at the internal ring. The funicular process was extremely well shown. It extended from the internal ring well down into the scrotum, and seemed abnormally large. A finger was easily pushed through the ring. Suspecting a complication by a congenital hernia, pressure was applied upon the upper and middle abdomen, and a distinct descent of viscera through the internal ring was obtained. In this procedure, the descending viscera pushed the already abnormally arched fibers of the internal oblique still farther upward, demonstrating very prettily the condition obtaining in a hernial descent in the living body. The internal oblique was retracted upward, and the funicular process opened, a loop of gut presented through the internal ring. Upon pulling the intestine downward the testicle was seen lying above, and included in the loop, adherent to it. Measurements were taken which

SHOWING THE RELATIVE LENGTH OF ORIGIN OF THE INTERNAL OBLIQUE, AND POSITIONS OF THE INTERNAL RINGS IN DISSECTIONS 29 AND 30.

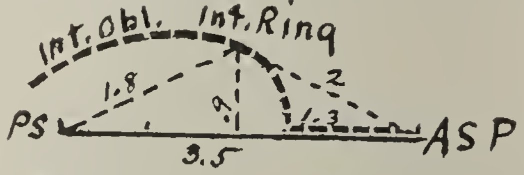


Diagram 6.—Left side—Congenital hernia.

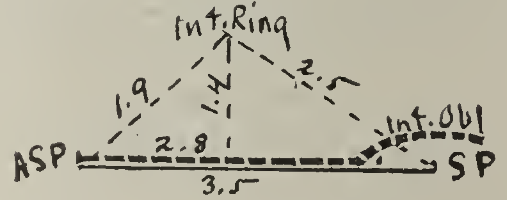


Diagram 7.—Right side—Normal.

showed the length of Poupart's ligament to be 3.5 cm., the distance of the center of the internal ring from Poupart's ligament .9 cm., the distance from the anterior superior spine 2 cm., and from the spine of the pubes 1.8 cm. The length of the origin of the internal oblique muscle was found to be but 1.3 cm, about one-third the length of the ligament. It will be seen from these measurements, taking into consideration the 90 degrees of the Ferguson angle, that the internal ring derived but little, if any, protection from the internal oblique. The fact that the 90 degrees of the Ferguson angle persisted when no hernial protrusion was present, and that the angle was further increased when the descent occurred, would seem to indicate that the abnormal upward arching (and weak origin) of the internal oblique was not altogether due to the hernia, but that it was a congenital defect, and as such, a contributing cause to the escape of the gut. The relations of the parts are shown in Plate 1, which Dr. Walter Fitzpatrick has kindly prepared from a sketch taken at the time of dissection. (The gubernaculum testis was not present; this may serve to explain the condition of cryptorchismus.)

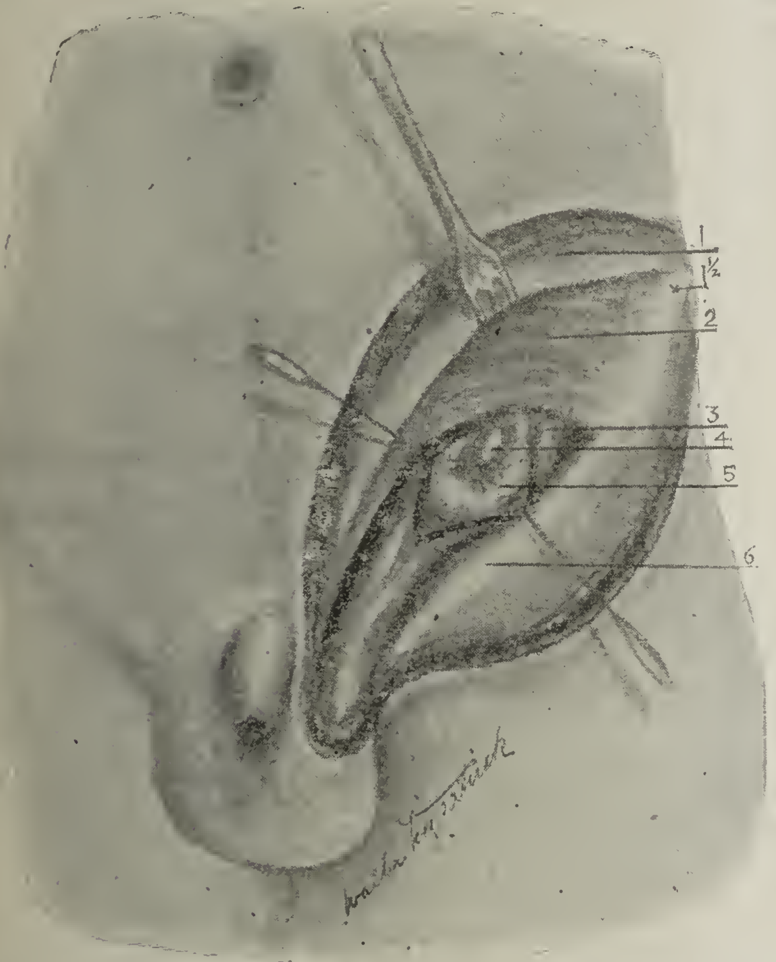


Plate I.—Congenital hernia with retained testicle. 1. External oblique. 1½. A. S. S. P. 2. External oblique and transversalis. 3. Sac. 4. Testicle. 5. Knuckle of bowel. 6. Poupart's ligament.

The testicle was freed from its adhesions to the bowel, but could not be pulled down easily. further than the external ring. Greater traction placed too strong tension upon the spermatic cord. In an operative case of this kind surgeons advise either the replacement of the testicle in the abdominal cavity (extra or intraperitoneally) or its removal, for the reason that if pulled downward, from continued tension, pain, inflammation, with possible gangrene, etc., might result. Another important reason why the testicle should not be forcibly dragged down into the scrotum is that the cord, by its traction upon the internal ring, would tend to pull the ring downward and place it beyond the point of firm protection by the internal oblique, as growth went on, and so predispose to an easy return of the hernia.

Experimentally, the gut being replaced in the abdomen, the processus funiculo-vaginalis was cut off flush with the internal ring, the testicle placed between the peritoneum and transversalis fascia well to the outer side of the ring, and the ring closed by interrupted sutures through peritoneum and transversalis fascia. The internal oblique and transversalis muscles were then sutured to Poupart's ligament well down toward the pubic spine, after Dr. Ferguson's method of operation. Strong pressure was then made upon the abdomen, forcing the viscera downward into the pelvis and against the lower abdominal wall, especially at the internal ring—the same procedure which had caused the hernial descent before the normal relations of the parts were restored—but no protrusion through the internal ring was obtainable.

For comparison, dissections were conducted upon the right side of the same fetus, and the measurements revealed a radical difference in the position of the parts when compared with those of the left side. Diagrams 6 and 7 show the position of the parts on the right and left sides. They represent exactly the measurements given in the tables, and when compared demonstrate clearly the greater amount of muscular protection which the right internal ring received. That this child, or man—providing development had gone forward normally—would have had a right oblique inguinal hernia is altogether improbable.

SHOWING LENGTH OF ORIGIN OF INTERNAL OBLIQUE AND POSITION OF THE INTERNAL RINGS IN DISSECTIONS 43 AND 44—MALE ADULT.

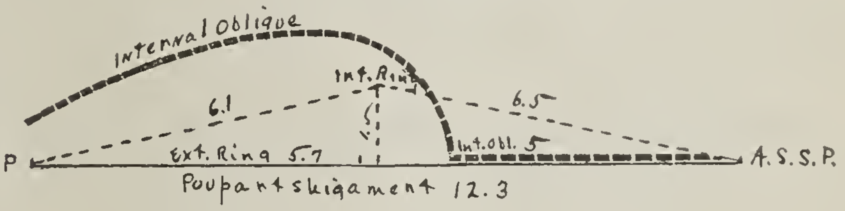


Diagram 8.—Left side—Oblique inguinal hernia.

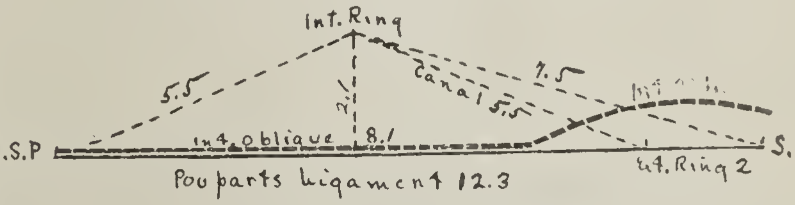


Diagram 9.—Right side—Normal.

After dividing the internal oblique fibers upward to the internal ring, the ring was enlarged to the size of the internal ring on the left side before the latter had been restored, and downward pressure again applied upon the abdomen. The intestine descended easily through the ring. The gut being returned, the cut edges of the internal oblique were united by interrupted suture, without, however, in any way reducing the size of the internal ring, and pressure once more applied to the abdomen. No amount of force, however, produced a protrusion of the abdominal contents, demonstrating clearly the valve-like action of the internal oblique.

Dissections 43 and 44, respectively of the left and right side of the cadaver of a male adult, are represented in diagrams 8 and 9. In this subject there was present on the left side an oblique inguinal hernia. The exceptionally enlarged external ring, the downward and inward displacement of the internal ring, and the marked deficiency in the origin of the internal oblique, together with the largely increased degree of the Ferguson angle—in this case about 90 degrees—are, when compared with the normal relations of the parts shown on the right side, clearly exhibited. That the internal oblique muscle, because of its deficient origin and the pathologic arching of its fibers, failed to protect the left internal ring is self-evident. That this defect in the muscle was altogether induced, or we may say, artificially produced, by the hernia, is improbable, especially when the length of origin on the right side (8.1 cm.) is considered. It seems likely that this subject illustrates exactly one of Dr. Ferguson's points, namely, that a congenital defect in the muscle had predisposed the subject to the hernia.

The facts as shown, then, indicate that in the enumeration of the predisposing causes of oblique inguinal hernia, in addition to those of age, sex, occupation, inheritance, elongated mesentery and weakening of the abdominal walls from traumatism, obesity, gradual atrophy, or stretching of the muscles, there should be added weakening of the abdominal walls from: 1, congenital deficiency in the origin of the internal oblique; 2, increase in the degree of the Ferguson angle, or from both.

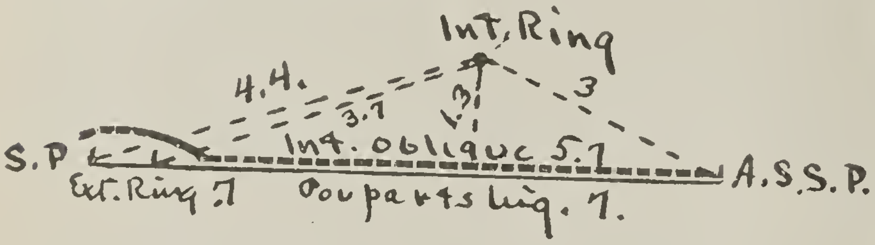


Diagram 10.—Dissection 24—Female, 5 years.

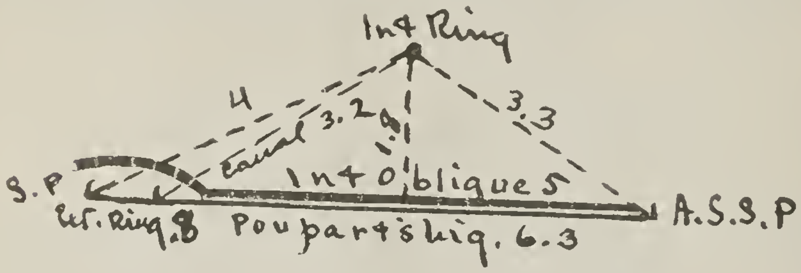
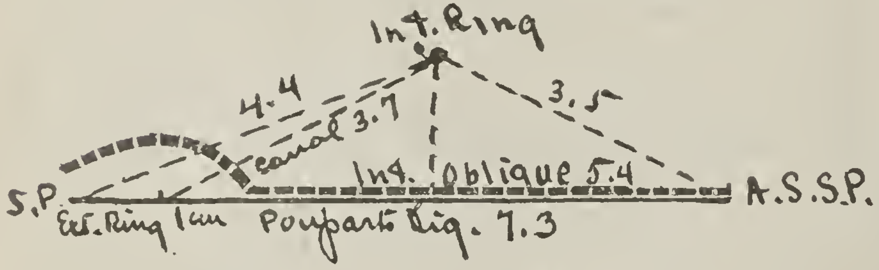


Diagram 11.—Dissection 32—Female, 4 years.



Digram 12.—Dissection 37—Male, 7 years.

Jacobsen, in his section in Morris' "Anatomy," makes the statement that inguinal hernia occurs more often in man than in woman because of the smaller size of the female canal and rings. He also states that an inguinal hernia in the female is always congenital, i. e., that it has descended into an unobliterated canal of Nuck, and that "any fibers of the internal oblique which may be present are but illy developed." It is a fact that in cases of inguinal hernia in the female, the internal oblique is but illy developed and possessed of an abnormally short origin; that this defect is congenital, when the normal origin of the muscle is taken into consideration, is very probable, and this more than probability, this truth, warrants the statement that the muscular deficiency rather than the element of size of ring or canal, or presence of an unobliterated processus vaginalis had formed the greatest predisposition to the hernia.

As has been stated before, I do not believe that the smaller size of the female rings is responsible for the comparatively greater number of male hernias, but that it is due to the greater protection to the internal ring in woman than in man. In any case the value of the greater or smaller size of the rings in regard to the restraint of hernia, when compared to the value of the protection given by the internal oblique muscle, is, in my judgment, immaterial. The internal ring is, in reality, but the beginning of a prolongation of the transversalis fascia along the spermatic cord. It is practically covered only by peritoneum; it derives its only real strength from its admittedly rather indefinite margins of transversalis fascia, and in view of the fact of its ready enlargement in case of hernia, it offers but small resistance to the descent of the gut. Again, I repeat that it is not the size of the ring, but the amount of protection afforded that ring, which forms predisposition to hernia. That an artificial hernia can be produced, can be demonstrated on any cadaver of firm tissues, by enlarging the internal ring, and dividing or cutting away the internal oblique to the level of the internal ring. By firmly suturing the internal oblique to Poupart's ligament, no amount of force will cause the intestine to descend.

The degree of the Ferguson angle is very important with reference to the protection from hernia. Given a case in which the internal oblique arises only from the outer half of Poupart's ligament, if the muscle passes inward without much upward arching, it will be noted that the strength of the muscle fibers covering the internal ring is as great, if not greater, than that of a case in which the muscle arises from two-thirds of the ligament, but where the degree of the Ferguson angle is large.

I believe that the cremaster has a twofold use. Besides assisting in the support of the testicle, it serves, because of its origin from both the internal oblique and Poupart's ligament, to so bind down the lower border of the internal oblique as to prevent an increase in the degree of the angle of Ferguson. Deficiency in size and strength of the cremaster might well be considered when enumerating the causes which predispose to hernia.

Macready has shown that 25 per cent. of all persons with hernia give a family history of the same trouble. Without doubt heredity plays a large part in predisposition to rupture. What is more reasonable—the parents, one or both, having a deficiency in the internal oblique muscle—than that they should transmit this defect to their offspring? It would seem that the fact of a congenital muscular deficiency existing in some cases explains the manner in which predisposition to hernia is inherited.

The purpose of operation for the radical cure of oblique inguinal hernia should be: 1, to restore the internal ring to its normal size and position, and, 2, to so suture the internal oblique and transversalis muscles (the latter adds additional protection) to Poupart's ligament as to render firm protection to the restored ring. The spermatic cord should not be disturbed. Dragging it out of its bed and placing it in an unnatural position by suturing the internal oblique beneath it, causes a divergence in the internal oblique fibers immediately in front of the internal ring, and in reality serves to weaken the muscle where it should be strongest. Why this has been done, and is being done every day, has yet to be satisfactorily explained.

4812 Woodlawn Avenue.

DISCUSSION.

Dr. E. W. Andrews—As to the relative frequency of the congenital and acquired varieties of hernia, there is great diversity of opinion, the extremists telling us that nearly all so-called acquired hernias are really congenital. But the moment we undertake an operation for inguinal hernia, in disposing of the hernial sac we find out whether or not we are dealing with congenital hernia, one which has no independent sac. The essayist laid great emphasis upon the structures in the posterior wall of the inguinal canal, particularly the conjoined tendon, and the internal oblique. A large number of herniæ are due to congenital deficiency, even if not congenital; the internal abdominal ring is an opening through the structure known as the transversalis fascia rather than through anything else. The transversalis fascia is dense in the inguinal region. The conjoined tendon, as a tendon or aponeurosis, does not appear in operations for hernia, the part we meet being muscular. In the more modern type of operations the internal ring is the site where we do practically all plastic work on the posterior wall in order to "restore the obliquity of the canal," which means that we narrow the internal ring by our suture work. Dr. Turck was fortunate in demonstrating by comparative measurements (hernia on one side, and normal anatomy on the other) that the internal ring is sometimes nearly absent. From the fibers of the obliquus internus springing upward and inward there may be no muscular or even aponeurotic tissue as far as the outer margin of the rectus, leaving a large deficiency. When we begin to perform such an operation as the Bassini, which calls for suturing of the conjoined tendon and transversalis fascia down to Poupart's ligament, we will immediately meet with serious mechanic difficulty; in such cases Poupart's ligament must be dragged up high, and the upper margin of the muscle must be dragged down a long distance, both of them are put under extreme tension, the ligament being drawn upward and the margin above being drawn downward.

Bassini ought to be given credit for having led us into the open operation, by which I mean splitting open the canal.

This paper has clearly shown me the real cause of deficiency in so many herniæ. Different operators remedy the defect differently. Dr. Ferguson performs practically the Halsted operation; places all the layers, both the external oblique and internal oblique, firmly together, then places the cord in the exposed position outside the aponeurosis.

Dr. A. E. Halstead—I wish to call attention to a point not mentioned by the author, one which I consider has a direct bearing upon the subject under consideration, that is, the failure of development of the transversalis as an etiologic factor in the causation of hernia. In many cases the conjoined tendon, especially that part derived from the transversalis, is wholly or partially deficient. In others this tendon covers the whole breadth of the triangle, reaching outward along the deep femoral arch as far as the outer limits of the internal abdominal ring, thus supporting the ring and inguinal canal. In a few cases, the outer part attached to Poupart's ligament is detached from the inner portion and forms a separate band which has been designated the ligament of Hesselbach, while the inner part is known as the ligament of Henle. The interval between these muscular bands, when of any considerable width, necessarily constitutes a weak place in the abdominal wall and predisposes to herniæ. The importance of defective development of the abdominal muscles, particularly of the transversalis and internal oblique in relation to the causation of herniæ has been ably discussed by Kenneth Douglas. (*Journal of Anatomy* Vol. xxiv.)

As to the causation of inguinal herniæ in general, I do not believe that defective development of the abdominal muscles is to be regarded as the sole cause. In most cases such a defect may be present, but there are many other factors equally as important. Among these may be mentioned gradual weakening of the abdominal parietes, from any cause; malposition of the abdominal viscera, particularly low insertion of the mesentery, or abnormal length of the mesentery, either congenital or acquired. Any considerable increase in intra-abdominal pressure, with gradual weakening of the abdominal wall from any cause, will be sufficient to cause a hernia, even though the muscles have their usual extent of attachment.

Dr. Alexander Hugh Ferguson—I picked out two men in this city for the purpose of taking measurements of fifty cadavers, Dr. Turck and Dr. Borland. It was the study of the return of hernia after operation for the radical cure, that led me to take an interest in the work. I had returns of the hernia after the radical operation, no difference what method was adopted. When we sutured beneath the cord, as in the Halsted-Bassini operation, or utilized the sac after the method of Macewen, relapses would occasionally occur at the upper and outer angle of the wound. This has been the observation of other surgeons. In dealing with these cases I always noticed there was a very short origin of the internal oblique muscle at Poupart's ligament; then it occurred to me that we must dissect our hernial operations with more care, and, instead of making an incision directly down over the hernial protrusion and thereby at once encountering all the adhesions that had taken place, we must raise a flap from the hernial region. Almost invariably, in chronic cases, we found the aponeurosis of the external oblique, the internal oblique muscle, often the transversalis and the sac adherent together; consequently when cutting straight down over the hernia we could not always make our demonstrations very clear. It is better to make a semilunar incision, commencing at Poupart's ligament, one and a half inches below the anterior superior spine, running inward and then downward over the conjoined tendon, cutting down to the aponeurosis of the external oblique, raising a flap right off the whole hernial protrusion, and thereby enabling us to completely study the condition of the hernial region. Since I commenced to do this, that is, since Dr. Andrews saw me operate, I have done but two or three operations by what I called the combined method, which I published nearly five years ago.

For the last eighteen months I have discarded this method and other known operations. I have noticed that in hernia the internal oblique very seldom comes over the internal ring, observing it only in one of fifty cases, and in this case there was a fatty degeneration of the origin of the internal oblique which partially severed it from its normal attachments to Poupart's ligament, and which accounted to some extent for the hernia. Dragging the cord out of its bed is not surgical. By making a new internal ring, and suturing the internal oblique down where it ought to be, to Poupart's ligament, thereby covering over the internal ring at the upper two-thirds of the canal, we get protection which is not afforded in any other way. Then, the external oblique is always sutured over that. It simplifies the operation and leaves the structures in the position in which they are found, in a normal person. Therefore, I call this method the typic operation for hernia, because it leaves the abdominal wall as it ought to be. The atypic operations are those where we have to utilize the sac to strengthen a weak position, whether that be Poupart's ligament or the conjoined tendon where it is thin and pushed out or the upper and outer angle of the wound; or where we utilize the Sartorius muscle and bring it up and make an additional wall; or resort to the method of Dr. Bloodgood, in vogue at Johns Hopkins Hospital, of utilizing the sheath of the rectus muscle. I classify these as atypic operations for the radical cure of hernia. They, are plastic operations.

Dr. Turck had been very fortunate in getting the cadaver, which had a hernia on one side, and no hernia on the other, and the experiments which he carried out in connection therewith are very valuable. He has made accurate measurements.

He has given us a new observation with regard to the descent of the internal ring, which I think can be borne out by the surgery in connection with non descended testicles. The raising of the cord out of its bed and placing it in this angle described to-night fills the angle to a certain extent. In that lies the good results from Bassini's operation. Halsted, instead of leaving the cord at this angle, splits the internal oblique muscle and internal ring, before raising the cord.

Dr. Andrews makes his flap in this manner (illustrating), raises it outward, raises the cord, then sutures all structures until he nearly closes the angle described by the essayist, and then he brings the flap over the cord. Raising the cord out of its bed to fill in this angle should be discarded altogether, because: 1, it is unnecessary; 2, it does not leave the abdominal wall as it ought to be; 3, of injury to the cord and loss of some testicles thereby and, 4, because relapses occur at this angle. Every surgeon of considerable experience has doubtless had a plastic inflammation of the testicle following dragging the cord out of its bed and subsequent atrophy of the testicle. This is a very unpleasant thing to happen in connection with our surgical work.

Dr. Turck's work will be of value to me in the preparation of my paper on "Typic and Atypic Operations for the Radical Cure of Hernia."

Dr. Turck (closing the discussion)—I have not attempted to go into the surgical phases of hernia, but have dealt only with some of the important anatomic points bearing on the subject. As to the internal ring, it does not exist as such normally. It is a result of dissection, a potential opening, which is a true ring only during the descent of the testicle in fetal life, and in case of a hernia later. The margins of the internal ring are entirely indefinite, and measurements of its size depend largely upon the judgment and ideas of the dissector. For this reason I did not attempt to give the size of the artificially produced opening, but rather to find the center of the weak point in the abdominal wall caused by the prolongation of transversalis fascia along the cord. As Dr. Andrews has stated, the transversalis fascia is strongest a variable distance about the potential opening, forming the so-called margins of the ring, but I do not believe that the fascia is sufficiently strong to withstand the pressure from within without aid from the muscle. This is further brought out by the fact that the ring is readily enlarged in cases of hernia, when a deficiency in the internal oblique is found; a lack of protection from a deficient muscle allows the gut to force its way through the fascia; on the other hand, it is not likely that a hernia emerging through a deficient ring would cause a very marked deficiency in the muscle origin.

As to the gap between the lower border of the internal oblique and Poupart's ligament, I have offered the suggestion that is normally filled by the cremaster, the latter muscle serving to bend down the otherwise practically free border of the internal oblique.

Dr. Halstead mentions deficiency in the transversalis in its relation to hernia. The transversalis has, I think, no influence in regard to protection from oblique inguinal hernia—the muscle arches above the internal ring—does not cover it at all. It is important, however, with regard to direct inguinal hernia in its relation to the relative strength or weakness of the conjoined tendon.

As to the disposal of the cord in an operation for hernia, bringing the cord out through the muscle by suturing a part of the internal oblique beneath it I do not believe to be a justifiable procedure. It is not altogether the obliquity of the inguinal canal, nor the size of the internal ring, or its position, or the strength of the fascia which forms it, which protects from hernia, but rather the strength of the muscular valve which covers the ring. If that is so, when a divergence in the muscle fibers is created, immediately over the ring, the muscle is weakened where it should be strongest.

LEAD ILEUS MISTAKEN FOR APPENDICITIS.

BY JOHN PRENTISS LORD, M.D.
OMAHA, NEB.

At about 11 P. M., Nov. 25, 1898, I was called to St. Joseph's Hospital to see a case of appendicitis. The physician in attendance said that the patient had been delirious most of the day, was vomiting continuously, and the bowels had been constipated during his present illness of five days duration. There was marked pain and tenderness over the right lower quadrant of the abdomen, his temperature being 101.5 and his pulse from 130 to 140. He had had a previous attack last June. The man was now becoming progressively weaker, and the doctor thought he should be operated on that night, if at all.

Both the patient and myself arrived at the hospital about midnight, and I found him to be a man 28 years of age, quite a corpulent subject, with a very prominent fat abdomen, he being a bartender by occupation. The man was very pale and weak, wore a pinched expression, pulse 140, and complained chiefly of tenderness somewhat internal to McBurney's point. The patient being quite somnolent and delirious, his statements were not considered reliable. There was tenderness and rigidity over the whole abdomen, and the muscles had a board-like quality, which would have been right-sided in appendicitis, unless diffused by general peritonitis. There was general tympanites except over an area about the size of the palm, just over and internal to the normal location of the appendix, where there was an indistinct doughy mass, suggestive of a ruptured abscess. This tumor (?) was more distinctly outlined by percussion, which elicited a flat note over the area described. The case did not seem to me typic of appendicitis, but the recognition of a serious obstructive factor caused me to recommend immediate operative intervention. This was expected, and readily consented to by the patient's relatives.

Under an anesthetic the rigidity of the muscles was little changed because of a great tolerance for chloroform, enough of which could not safely be given to relax the abdominal muscles. The tumor (?), however, and the area of flatness had changed perceptibly, and occupied a median position below the umbilicus. This was commented upon, and the knife was drawn to make a median incision, because an operation for obstruction was the pervading thought, when, recalling the history of a previous alleged attack, I resolved upon the McBurney incision as the most likely to uncover the primary cause of the mischief. A long appendix, free from adhesions, was, with some difficulty, lifted from its postcecal position, its short mesentery ligated, and cut step by step, to allow the appendix to be extracted from its deep location. The stump and cuff were secured by the Barker method, to economize time. The organ was disgustingly healthy, in view of expectations, though it was thickened and contained two small hard concretions of fecal matter, which were about the size of small grains of wheat. These, together with a lumen almost obliterated, and walls thickened and hardened, were evidence sufficient to show that there had been inflammation from which resolution had not wholly taken place; therefore, the attack in June was probably appendicitis. But what had caused the present obstruction and illness?

The intestines were entirely free from adhesions. The cecum and ileum presenting were congested and so distended as to interfere with manipulations. Exploration toward the median line quickly revealed a mass of ileum and jejunum markedly contracted, their approximate size having been about that of the little finger; indeed, they were mere tape-like cords. A large proportion of the small intestines were brought outside the abdomen and were meanwhile protected by hot towels. Concluding that there was no advantage, and possibly considerable disadvantage, in this examination, the process of evisceration was discontinued, and bowels were returned. To facilitate the closure of the wound, the cecum was punctured by a trocar and the gas allowed to escape through the canula, through which eight ounces of saturated solution of Rochelle salts were injected to insure early bowel movements. The abdominal wound was closed by layer catgut and retention worm-gut sutures, with perfect results.

The operation was well borne, considering the precarious condition, and it was necessary to sustain the patient by hypodermics of strychnia, nitroglycerin and whisky. There was stupor and delirium until the bowels began moving at 10 A. M. of the same day, when he was much improved in all respects, though the convalescence was slow, and at times interrupted by a return of the somnolence and delirium. This was always improved by salines and stimulants. There was some fever during his entire stay of less than four weeks in the hospital. He has since been doing well.

When the operation was over I remarked that the only similar case which I had ever seen was in a man in whom lead poisoning had been discovered subsequent to operation, when I was told by one of my assistants that the man was a plumber, which fact had not been elicited by me. Further inquiry revealed that this was true, but that he had not worked at this trade for four years, though examination revealed well-marked evidence of plumbism in his gums, so that there was no doubt in my mind as to the character of his ailment.

When our patient was sufficiently recovered, he was asked about the amount of lead pipe used in drawing the beer, whereupon he answered: ten or twelve feet, that the ice-box was in the basement, and the beer was drawn through the pipe to the floor above; and the circumstance that he slept in the saloon and took beer early and warm, English style, left nothing to be desired as regards causation.

The other case of lead ileus above referred to, and reported because of its manifest interest in this connection, was in an engineer and janitor, who had suffered for a number of weeks with pain in the left hypochondriac region, constipation, loss of appetite, general debility, etc. The pain was at times so severe that it required repeated hypodermics of half a grain or more of morphia, which often failed to relieve. In fact medication brought so little relief that the man begged for relief by operation, he insisting that the contents of his bowels were arrested at the painful point, i. e., at the splenic flexure of the colon. Repeated examinations were negative, though it was thought that there was something there, but it could not be defined. There was difficulty in moving the bowels, but they could be moved. The case was obscure and the patient, tiring of failure to secure relief, insisted on an exploratory operation, which was done by my associate, Dr. Galbraith, May 19, 1898. The only abnormality found was a constriction of the colon, for about ten inches, at the splenic flexure; the gut at this portion having been reduced in circumference to that of an average-sized finger, the contraction of the circular muscles so condensing and thickening the walls as to render the intestine of a firm, solid consistency; the lumen must have been nearly obliterated. The cause of this condition was not understood at the time, and nothing was done, though in the after-treatment vigilance was maintained to keep the bowels moving, and a good recovery followed. The true character of the trouble was discovered in the second week after the operation, the blue line, together with the history, establishing the diagnosis without peradventure.

Literature is for the most part mute upon this part of the pathology, and the only references to this condition which I find in the text-books are the following: The "Reference Handbook of Medical Sciences" states that there is a spasmodic contraction of the intestine, producing constipation in man and diarrhea in animals. Tyson's "Practice of Medicine" (1896 edition) says: It (the colic) is probably due to powerful contractions of the muscular walls of the intestine. Unlike flatulent colic, the abdomen is not distended but flat, and may even be contracted, sometimes so much so that it is said that the vertebræ may be discerned through the abdominal walls. Still, distension of the abdomen is occasionally present. Eulenberg's "Realencyclopädie der Gesammte Medicine," Dritte Aufläge, Band ii, contributes definite and valuable information on the subject. Dr. Thomas Oliver, F.R.C.P., in an exhaustive article upon lead in a "System of Medicine," edited by Allbutt, recently published in London, states that "in animals that have died from plumbism he has found the small intestine irregularly contracted; at places so extreme was the spasm that the intestine felt like a piece of cord, its caliber being obliterated. Was the contraction of the intestine in these cases due to the direct action of lead upon the muscular fiber, or had the arteries become primarily contracted, and thus, by shutting off the blood-supply, caused nervous excitation and muscular contraction? Clearly the pain is due to extreme spasm of a portion of the intestine and pressure upon sensitive nerves, and the recurrent pain would be explained by the effort of the dilated segments of the intestine to pass their contents on into the constricted portions below. Spasm and arterial ischemia, by cutting off the supply of liquid, would aggravate constipation. It is probable that the nerve ganglia are first affected."

In response to a letter of inquiry, Dr. J. B. Murphy kindly sent me a reprint from an article of his on "Ileus" (vide Journal, Jan. 4 and 11, 1896), and, because of its great interest and importance, I reproduce the report of a case of lead ileus detailed by this distinguished surgeon.

> Male, aged 40 years; admitted to the Alexian Brothers' Hospital June 10, 1894, and referred to me by the attending physician for operation. The patient gave the following history: Five days previous was attacked with pain of a spasmodic character in the abdomen, followed by vomiting and inability to move the bowels. The abdomen became greatly distended and the symptoms continued up to the time of admission. All efforts to move the bowels by cathartics, stomach and intestinal irrigation were futile. The physician in charge, who had before treated him through a number of attacks of lead colic, believed this attack differed materially from the others, particularly in its duration, which was five days, and the degree of depression. The physical signs showed the abdomen decidedly tympanitic, and an enlarged coil of intestine could be recognized leading up to the right hypochondriac region, where it suddenly terminated. The patient located the pain at this point. It was decided that a laparotomy would be less dangerous than to allow the patient to remain longer with a possible mechanic obstruction. Median incision was made, the omentum withdrawn, and the hand passed up to the right hypochondriac region; the enlarged coil of the intestine was grasped and drawn into the wound; with it came eight inches of a contracted portion, which resembled a solid cord three-eighths of an inch in diameter and was as stiff as a rope of that size.
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> At first I believed it to be an organic stricture. The intestine above it measured over two and one half inches in diameter, and was distended with gas and fluid feces. Below, the intestine was empty, soft and pliable. After ten minutes' exposure to the air the spasm at the proximal end began to subside and dilatation gradually advanced to the distal. After twenty minutes the intestine had expanded to about one inch in diameter, was returned and the abdomen closed. The bowels moved within three hours. The patient did not have an unpleasant symptom and left the hospital in ten days. The theory of lead colic advanced has been that it was due to a tonic contraction of the muscle of the bowel; but from superficial review of the literature on the subject, I can not find a case recorded where this theory was verified by observation and examination of the contracted portion, as I have noted in this case. Dr. Murphy also states that this contraction is also produced by tyrotoxicon, etc.

Dr. J. S. Foote, pathologist to the Creighton Medical College, thus explains the effects of lead in producing these phenomena: "The presence of lead in the tissues of the body seems to declare itself either by a resulting paralysis or in varying degrees of smooth muscle contraction. Its method of operation is one of arrest or modification of cell oxidation. We know that an oxygen income and a CO_2 outgo are necessary conditions of cell metabolism, and whenever these are upset. metabolic failure or excess is the result. If the former, paralysis would follow, if the latter, irritation, with the former "drop wrist" or extensor paralysis, with the latter an irritation equivalent to inflammation. This occurs as a peripheral neuritis with the sympathetic ganglia involved in the gastro-enteric region and a tonic contraction of the smooth part of the small intestine and upper colon. The impulse which travels down the efferent nerves to the muscle of the intestinal wall meets with an unusual resistance at or near the final distribution of the nerves to the muscle, on account of the modified cell metabolism, and the result is a gathering intensity of nervous energy at its natural point of escape, and an excessive irritation of both nerves and muscle. Muscle only knows how to contract and relax. If the irritation is continued for a long time, some degeneration may follow, with relaxation or paralysis."

It will be observed that none of these cases reported was typic of lead colic, the pain in each having been more localized than in the typic cases, and the retraction usually seen was absent.

It is probable in Case 1 that there was also a contracted segment low in the colon, which would account for the extreme distension of the lower ileum and colon, producing the tympanites. The larger mass of contracted small intestine simulated an inflammatory tumor, until its changed location admitted doubt. The running pulse, with absence of dicrotism, so characteristic of advanced general peritoneal infection was closely simulated. All things considered, the writer feels that his error was only that of fallible man; but is now confident that he will not be again led into the same error after this experience, which having now become yours may help to create greater precision in diagnosis and be of value. It is probable that in cases with tympanitis there are one or more localized constrictions in the bowel, most probably the colon. The more universal understanding by the profession of the pathology of lead ileus, may improve its treatment. The experience of Murphy in getting relaxation of the intestinal spasm by exposure to air, and the injection into the intestine of a solution of salts, as practiced by me, securing prompt bowel movements, suggests possibilities for relief by celiotomy in cases apparently hopeless under the usual methods of medical treatment.

TREATMENT OF SUDDEN SEVERE POSTPARTUM HEMORRHAGE.*

BY JOSEPH B. DELEE, M.D.
Professor of Obstetrics, Northwestern University Medical School, Obstetrician to Mercy and Wesley Hospitals, and Chief Obstetrician to the Chicago Lying-in Hospital Dispensary.
CHICAGO.

Entirely appropriate to the hemorrhage that sometimes occurs after labor is the popular term "flooding." Such furious bleeding as may occur after a labor it is the lot of the general surgeon but very rarely to meet. Postpartum hemorrhage is *the* obstetric emergency, for here more depends on quick perception, rapid judgment and swift action than in any other condition incident to pregnancy. Even placenta previa and eclampsia, the other two furies of obstetric practice, do not demand such preparedness for complications as does postpartum hemorrhage. Reference is had only to those rare cases where during or after the placental stage, blood gushes from the genitals in a manner which is appalling and places in a few moments the life of the woman in acute jeopardy.

Some authors say that these cases are preventable, that they are due to improper care of the third stage, that a man who has many cases of postpartum hemorrhage has himself to blame (Spiegelberg), but they all recommend drastic measures for stopping hemorrhage and speak with a positiveness that comes only from experience.[1] Michaelis[2] reports a case where, after each of three labors, blood "rushed out like from a barrel with the bottom knocked out," and in the next two labors he removed the placenta at once. It is said that in Prussia a woman dies of postpartum hemorrhage every day,[3] and fatal cases that have occurred in skillful hands are well known. No doubt a large number of cases of bleeding in the third stage can be prevented by proper attention and conduct throughout labor, and there is no doubt that a woman ought almost never to die under such circumstances, but sometimes pathologic conditions exist that defeat every effort of the physician, and the woman bleeds to death under his hands, than which no catastrophe is more terrible.

Investigation of the causes of these hemorrhages bears directly on the physiology of the third stage, the study of the natural mechanism of hemostasis after the birth of the child.

The vessels of the placental sites are simply spaces between the muscular lamellæ, lined with a layer of endothelium, the vessels leading to and from these sinuses quickly losing their coats. Toward the end of pregnancy, according to Leopold, some of these vessels become thrombosed. Immediately after the birth of the child, sometimes even as the child is leaving the uterus, the placenta becomes wholly or partly detached, the sinuses passing from the uterine wall through the serotine decidua to the intervillous spaces of the placenta are cut squarely off, and may be seen on the placenta as open vessels, and felt on the placental site, being filled with clotted blood. Hemorrhage occurs from these sinuses, more or less with every labor, but nature has a very efficient and instantaneous method of controlling it. As the uterus contracts down on its lessened contents, the muscular lamellæ and bundles become superimposed on each other, they are felted together, the various layers slide in many directions on each other, also obliquely from without inward so that the wall thickens. The blood-spaces lying between these shifting layers are compressed, bent and twisted, and mechanically occluded as if ligatured. Some of them are surrounded by circles of muscle, so that the term "living ligatures" is quite apt. The efficiency of this mechanism of hemostasis depends on the vigor of the contraction of the uterine muscle and on the amount of its retraction or muscle elasticity.

Another factor in securing hemostasis is the thrombosis in the vessels themselves. Nature provides for hemorrhage during labor by increasing the total amount of the blood and augmenting its clotting power. This factor is of secondary importance and is relied on by the accoucheur only when absolutely necessary. In the study of the causes of hemorrhage, postpartum, failure of one or other function will be noted, to which must be added another cause, accidental, i. e., lacerations.

Failure or insufficient clotting of the blood can not give rise to the hemorrhages under consideration. Cases of persistent oozing of blood during which the patient's life slowly drains away may be due to this. Hemophila rarely causes death in women, or the class would soon be extinct, as the tendency is transmitted through the female. The writer believes that syphilis

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* Read before the Chicago Medical Society, March 22, 1899.

[1] Dohrn: Die Behandlung des Nachgeburtzeitraumes, Jena, 1898.
[2] Michaelis: Neue Zeitschrift für Geburtskunde, Band iv.
[3] Siepen: Deutsche Med. Woch., 1893, No. 21.

can cause a temporary hemophilia by altering the blood and the walls of the fine vessels.

Atony of the uterine muscle, lacerations of the parturient canal, or as often happens, both together, give rise to the severest postpartum hemorrhage. Among the causes of uterine inertia in the third stage may be mentioned primary uterine inertia manifested in the first and second stages, either in uteri congenitally malformed or infantile or poorly innervated or weak from general asthenia; too rapid delivery—the uterus has not time to adapt itself to its diminished contents, and fatal bleeding may occur before it can gather itself together; irregular separation or retention of the placenta or part of it, or clots, interfering with the contraction and retraction of the uterus; habit, depending usually on a chronic endometritis or a myometritis.[4]

The lacerations that may cause dangerous hemorrhage after labor are tears of the cervix involving the circular artery, and especially lacerations of the lower uterine segment when the placenta is situated there. This is what makes rapid extraction in placenta previa so dangerous. The other injuries bleed freely, but they do not render the woman's life so quickly precarious. These lacerations are never due to a normal labor, and, unless the uterus ruptures spontaneously, are always the result of operative interference. A combination of atony with laceration, as is likely to occur when the placenta is inserted low in the uterus, bringing the placental site within the area that may be injured in delivery, gives the most profuse bleeding, as occurred in one of the cases to be reported, where the blood gushed out as from a hydrant, with a rushing noise.

Hemorrhages like these, which if not checked at once lead quickly to a fatal termination, are fortunately rare. The writer, in a practice that is mostly pathologic and operative, has met with only four cases in seven years. In the service of the Chicago Lying-in Hospital Dispensary, where 750 labors are handled each year, by young physicians, postpartum hemorrhage is not infrequently met with, sometimes quite severe cases, but there has always been time to get assistance and we have lost no woman from this accident in over 2000 labors.

The treatment of all cases of postpartum hemorrhage begins with the prophylaxis, and also with the preparedness to meet it when it occurs.

When the first and second stages of labor are characterized by weakness of the uterine contractions, flooding is likely, the inertia being carried over to the third stage. When any of the causes mentioned previously is present, the attendant should be ready for trouble in the third stage, especially if the woman gives a history of previous "floodings." When the labor has been terminated by forceps or version and extraction, especially in placenta previa, or if cervix incisions have been made, severe bleeding may be anticipated. Forewarned is forearmed.

Every labor should be conducted with a view to prevent complications, this one in particular. The patient should not be allowed to become exhausted by long labor. Food, usually liquid, should be administered at not too long intervals, and the same may be said of chloral and morphin, to secure rest and recuperation during a prolonged stage of dilatation. In cases where the conditions for forceps are fulfilled, the instrument should be applied before the powers of the woman are completely exhausted. The tendency to hemorrhage is greater after the use of chloroform, and the uterus must therefore be more carefully guarded.

In normal delivery the expulsion of the trunk should not be hastened, the child should not be dragged out of the uterus, and this warning applies with especial force to operative deliveries. Ergot should not be given during labor; its tendency to imprison the placenta is now generally admitted. As the child emerges, a hand should follow down the uterus, and if it does not retract promptly, it should, by gentle massage, be stimulated to contract. Brisk manipulation should be avoided, as it interferes with the normal mechanism of the third stage. After a careful trial of the purely expectant plan of treatment of the placental stage, the writer can not recommend it for all cases. In labors that are perfectly normal, in women of good constitution where the uterus has shown itself worthy of confidence, the expectant method advocated so strongly by Ahlfeld is in place.[5] It has its strongest advocates and gives it good results in foreign maternities where the cases are healthy peasant women. For the women of the higher classes, especially those who have enjoyed several years of refined inactivity, the uterus requires close guarding. The modern trend toward athletics for women will therefore please the accoucheurs.

The uterus should be given time to accomplish the complete separation of the placenta, when the latter can be expressed by the gentlest pressure on the fundus. Thirty minutes have usually been found sufficient, and unless there is hemorrhage, internal or external, the third stage should not last less than this. The last stage of labor requires more care than the other two. The uterus must not be allowed to fill up with blood, as it may contain enough to lose the woman. The hands should be kept aseptic, so that internal interference may not be delayed when needed. As to the value of strychnin, quinin, viburnum, etc., in preventing hemorrhage, the writer has had little experience.

Half of the battle is won if the accoucheur is prepared for all emergencies. A physician has not the moral right to assume charge of a case of labor unless he has at his fingers' ends the various means of controlling hemorrhage, both surgical and obstetric, and unless he has prepared himself in advance for accidents of this kind. The preparation for every labor should preview hemorrhage. There should be at hand at least five yards of sterilized or antiseptic gauze for packing the uterus, sterilized vinegar, a sterile douche-bag, and the kettle should be full and boiling. The obstetric outfit should contain two pairs of double vulsellum forceps, long uterine packing forceps, a broad perineal retractor, not too long, in addition to full-curved round needles and a long needle-holder, for sewing up lacerations. These instruments should always be boiled with the forceps, or in preparation for other operative deliveries. An apparatus for the injection of saline solution under the skin should never be wanting in the obstetric bag, and the hypodermic syringe should be in working order. The feeling that he is prepared for all emergencies gives the accoucheur a confidence that is soon reflected in his work, and in the patient, and repays many times the trouble necessary to carry out these details. Forearmed is forewarned.

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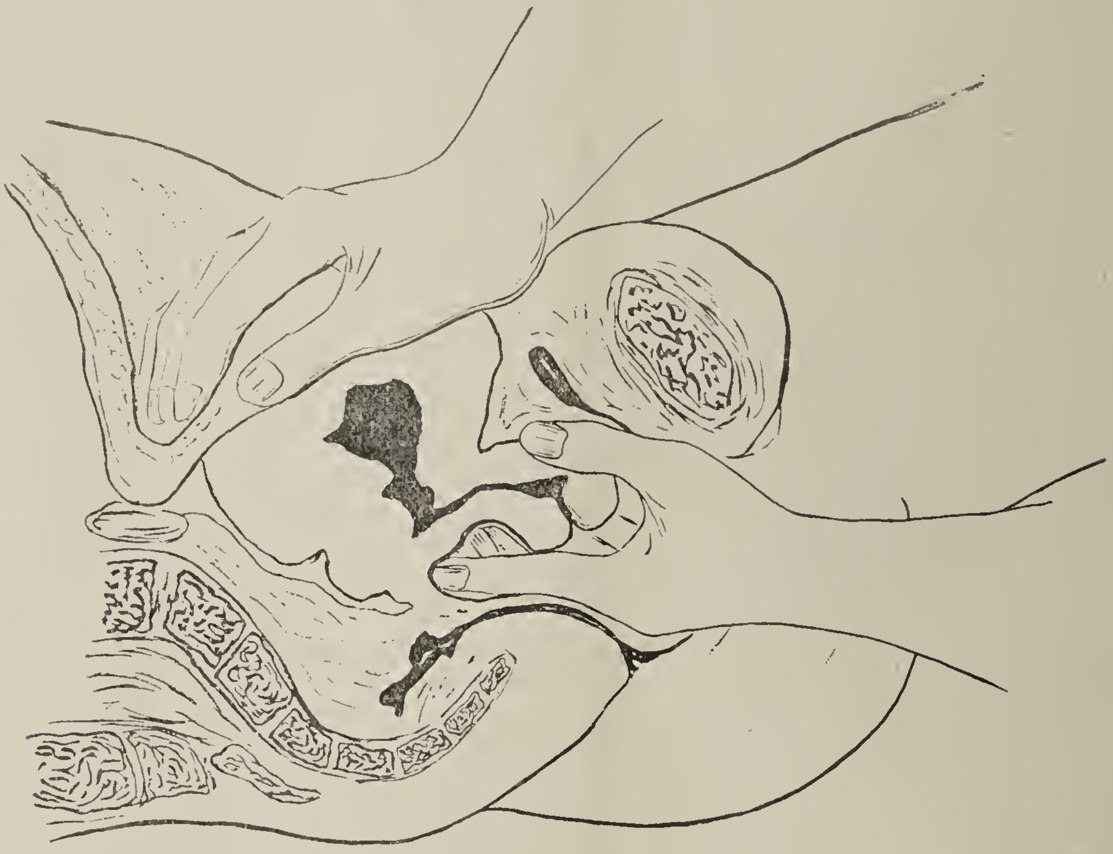
[4] v. Weiss; Archiv. für Gynäkologie, Bd. 46, Heft 2.

[5] Ahlfeld: Lehrbuch der Geburtshilfe, 1898. Seite 161.

The treatment should be quick and decisive, because the suddenness of the loss of blood has a great deal to do with the amount of shock attending it. Patients often rally from severe hemorrhage with surprising quickness, which is due to recovery from the shock. The recovery from a dangerous loss of blood is less rapid. Women that have suffered continual or small losses of blood throughout several weeks stand hemorrhage during labor poorly, as is exemplified in cases of placenta previa.

If the placenta has not been delivered, it should be removed at once; vigorous massage till the uterus hardens, then a strong Credé expression. If unsuccessful, it should be removed manually. The severity of the bleeding may indicate the latter procedure at the start.

If the flooding occurs after the third stage, the most successful remedy is the compression of the uterus. One hand gathers the cervix together and holds it tight, the outside hand forces the fundus down on the inside hand, at the same time massaging it vigorously. The uterus is bent like the letter V and its walls crowded together. The effect, especially if there is atony of the uterus, is immediate; if there is laceration it is not so good.



Compression of the aorta is valuable in these cases. If unprepared to enter the uterus, the hand may press the aorta against the spine, giving time, as the late J. H. Etheridge said, to "collect your wits." All the blood is not shut off from the uterus as the spermatics are given off above the point of compression, but that the procedure does check the hemorrhage the writer can testify.

Another method that may sometimes be employed is pulling down the cervix by means of the vulsella, to the outlet or even farther. The vessels are put on the stretch and, being spirally wound, their lumen is thus cut off. Preparatory to sewing up the cervix this method may be useful, but it may be used alone and for atony in appropriate cases. In one case a physician in the country thus held a hemorrhage in abeyance for two hours, till aid could be gotten from a neighboring town.

The sovereign remedy against hemorrhages that come from atony of the uterus, as well as those that come from lacerations involving the large vessels, is the tamponade of the uterovaginal tract. The writer must express gratitude to Dührssen[6] for having placed in our hands this effective method for meeting a painful emergency. The method may be used when the foregoing ones have not stopped the bleeding definitely, or when the gush of blood is so great that a few moments will jeopardize the patient, and it should be employed in all cases before the woman is exsanguinated; not as a last resort. It is important to save the woman as much blood as possible, because the convalescence is not so tedious, and complications in the puerperium, as heart clot, embolism, fever, not so common. Women often carry the effects of a great loss of blood for years.

The method is simple. The anterior lip of the cervix is grasped with a vulsellum forceps and given to an assistant, the posterior lip being likewise held by the operator. With a long uterine packing forceps, the uterus is packed tightly from the fundus down, with gauze from a jar held near the vulva, or from a roll held in the same hand that holds the posterior lip, in the absence of some one to hold the jar. Three to five yards one yard wide may be used, sterilized, borated, or washed out in iodoform, as preferred. The writer uses plain or borated gauze wrung out of lysol solution.

After packing the uterus the vagina is packed also, using cotton, and tightly. The uterus does not expand and fill up with blood. In two cases, however, a slight oozing took place through the tampon, which, though not dangerous, seemed undesirable and to be avoided if possible, so the writer, acting on a suggestion received somewhere in Vienna, did the following: After packing as much gauze into the uterus as it would hold—three to five yards—the two lips of the cervix were brought together over the tampon, by the vulsella, and sewed together tightly, completely closing up the uterus. In two cases in which this was done the effect was immediate, but as an additional precaution the vagina was also packed. In twenty-four to thirty-six hours the vaginal packing was removed, likewise the stitches in the cervix. The uterine tampon was left for another twenty-four hours or two days, when it also was drawn out gently, a little at a time. This is the first time to my knowledge that this operation has been published in this country, and it certainly deserves further trial.

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[6] Dührssen; Die Utero-Vaginal Tamponade mit Iodoformgaze bei Postpartum Blutungen. Berliner Klinik, Heft 75.

Thus far but little has been said about finding out what causes the hemorrhage, atony or laceration. In the kind of hemorrhages under consideration there is no time for this; to stop the bleeding is the first duty of the attendant. He may at once see where the flow comes from and direct his energies there. If assured that uterine action is deficient, massage, compression of the uterus, a hot, 120F. douche, the use of vinegar, the tampon, may be employed in order, or as may be governed by the urgency of the case, always remembering not to wait with the most efficient means of all—the tamponade—till it is too late.

A cervical laceration should be sewed up, if there is time; if not, one should tampon the whole parturient canal. Ergot is given in all cases, but one should not wait for it or trust to it.

Success in stopping the hemorrhage is defeated if the patient dies of the loss of blood, so that together with the above treatment one must employ measures to combat the anemia. The remedy here is par excellence, .6 per cent. salt solution, either under the skin or injected into a vein; 116 ounces, nearly a gallon, have been injected in a few hours, with the most happy effect. Among the hypodermic stimulants, camphorated oil and strychnin are most worthy of confidence. Ether should be injected only to tide the patient over a dangerous syncope. The foot of the bed should be raised as soon as the patient may be left alone, the body being inclined at an angle of 25 degrees. She should be kept warm by means of external heat and by not being exposed more than is absolutely necessary. Hot coffee, water and wine should be given by mouth, and saline solution per rectum; if the patient is tamponed the bowel will hold two quarts, and it is absorbed with surprising quickness.

By these measures the total amount of the blood can be rapidly brought nearly up to the normal, but if the woman has lost more than one-half of her oxygen carriers, the red blood-corpuscles, she will usually die. It takes weeks and months to replace these. It has often occurred to the writer that human blood ought to be injected into these women, and since the inevitable clotting has heretofore prevented this, why not mix it with saline solution and inject the mixture? Professor Hall of the Northwestern University Medical School, is now experimenting on this suggestion, and as soon as the results on dogs justify it the procedure will be tried on the human. Thus far the experiments have had little success.

In conclusion, the writer desires to briefly report five cases of postpartum hemorrhage exemplifying these modes of treatment:

Case 1.—Mrs. X., observed at the Cook County Hospital, IXpara, O. L. A., in labor 48 hours. In the absence of any disproportion between the head and the pelvis, after complete dilatation, because of weak pains, head not engaged, axis traction forceps were applied. Delivery was accomplished easily, the child living, but immediately after, with the expulsion of the placenta, a great rush of blood almost arterial in color occurred. Prompt, firm compression of the aorta by Dr. A. R. Edwards, assisting, checked the hemorrhage at once, till a hot douche could be prepared, which, combined with external and internal massage, produced uterine contraction. The compression was kept up for about ten minutes without damage, certainly to the benefit of the patient. The uterus even then did not contract well but filled up with clots, which were expelled on the next day, over a pint in amount. The patient recovered slowly from her anemia.

Case 2.—Mrs. S., Italian, observed in the service of the Chicago Lying-in Hospital Dispensary, October, 1896, Xpara, aged 38 years, has had difficult deliveries, the last being operative by the writer, pendulous abdomen, breech extraction. This labor has lasted three days, pains weak, head movable in the inlet, no disproportion between the child and the pelvis, cervix completely dilated but hangs down like a cuff, loosely. Axis traction forceps applied, easy delivery; child slightly asphyxiated but recovered. While attending to this a furious hemorrhage occurred and blood poured out as from a pitcher. The left hand immediately grasped the cervix, the fingers closing it from all sides, while the assistants, Drs. Shanks and Bluhm, forced the uterus sharply down on the hand. While doing this the child was resuscitated by the other hand and soon the uterus gathered itself together into a firm contraction which effectually stopped the hemorrhage. It was only the promptest action that saved this woman's life. A hemorrhage of such severity could not last over thirty seconds and the patient survive.

Case 3.—Miss X., Ipara, aged 21 years, was observed in consultation with Dr. Mattheson, July, 1897; albuminuria, general anasarca, probably a chronic nephritis; O.D.P., slow, tedious, exhausting labor, head rotated to transverse diameter; easy forceps delivery; living child; slight perineal laceration; profuse hemorrhage; placenta expressed by a hard Credé. Hemorrhage continued severe, coming from the uterus, from a deeply lacerated cervix—the cervix had retracted over the head—and from the perineal tear. Two vulsellum forceps were put on the cervix and it was drawn to the vulva, which checked the hemorrhage slightly; then a large perineal retractor was placed in position. Owing to the field being constantly filled with blood it was impossible to see anything, and the blood could not be sponged up quickly enough to see where to pass sutures. Something had to be done quickly. The cervix was pulled down, and then pressed against the large perineal retractor by means of a gauze packing pushed well into the anterior fornix. It was left thus for fifteen minutes, the uterus being closely guarded the while, and then the gauze and vulsella gently removed, great care being taken not to disturb the parts. The bleeding had ceased. The perineum was then repaired and the patient made a slow but good recovery.

Case 4.—Wife of Dr. K., Ipara, aged 22 years; three weeks over time; great abdominal distension; marked panniculus adiposus; labor, December, 1898, lasting thirty-six hours; pains irregular and weak; pelvis normal; child very large; O. L. P., arrest in the transverse diameter, cervix effaced, os size of the palm. An urgent indication for the termination of labor being present, on the part of the mother, the cervix was stretched with the fingers, but, as it tore, it was incised three-quarters of an inch on each side; hemorrhage moderate; forceps, rotation prompt and not forced, cervix retracting easily and gently above the head, which was delivered without difficulty; shoulders gave great trouble; episiotomy; child living, weighing 11¼ pounds; slight bleeding during the third stage, and when the placenta came, eight minutes later, there was quite a gush of blood.

While threading needles for the perineum a furious hemorrhage occurred; blood poured out in a thick stream as from a faucet, and with a rushing noise audible to the bystanders. The cervix was immediately grasped in the manner described and the uterus was massaged and compressed from above, by Dr. Todd; no appreciable effect; two vulsella on the cervix and downward traction; no effect, blood welled out from the cervix in a deep red lake. One bleeding artery could be caught in the anterior lip of the cervix, but the body of the blood came from the uterus, probably from laceration of some large blood-vessel, but there was no time to hunt for it, so the uterus was packed with gauze, three and one half yards one yard wide being used. Blood still flowed briskly along the tampon in spite of its tightness, so the cervix was sewed together over the gauze, closing the uterus up completely. Now the vagina was perfectly dry, but as an additional precaution, it was also packed lightly.

The patient was severely shocked but recovered after vigorous stimulation. The packing of the uterus and the sewing of the cervix were apparent to all present—life-saving. The gauze and sutures were removed at the end of twenty-four hours; no hemorrhage. The patient had a peculiar run of fever, the diplococcus of pneumonia being found in the lochia, but recovered.

Case 5.—From the service of the Chicago Lying-in Hospital

Dispensary, February, 1899; Xpara, flat, rachitic pelvis, always difficult labors; general state of health poor; shoulder presentation, hemorrhage, partial premature detachment of the placenta: version, extraction, laceration of the lower uterine segment, severe postpartum hemorrhage, which came from the uterine atony as well as from the laceration; manual removal of the placenta, laceration and vagina packed; patient's condition critic, writer summoned; patient still oozing, pulse thready, 80, extreme anemia and shock; gave two quarts of salt solution under the breasts, and after reaction had been partly established the packing was removed. This started a violent arterial hemorrhage from a deep lower uterine segment laceration, which did not stop with any of the means employed till both the uterus and cervix were tightly plugged with gauze. Then there was a slight oozing through the tampon, so the cervix was sewn over the tampon as in the last case, and the vagina also packed tightly, six square yards of gauze being used.

The woman almost died on the table. Nearly two quarts more of salt solution were injected under the skin, the vessels absorbing it greedily. Two quarts were given per rectum and the patient carefully stimulated. She was in a critic condition for four days. At the end of thirty-six hours the vaginal packing was removed, also the sutures in the cervix. The bleeding started up again when the gauze in the uterus was disturbed so this was left till the next day, when it came without trouble. The patient had no fever and is just getting up. Her convalescence will be tedious.

The removal of the gauze is an important matter, and one should be well prepared to pack and sew again if necessary. In New York a patient was lost at the time of the removal of the gauze in a case quite similar to the above.

3634 Prairie Ave.

EXTRAUTERINE (TUBAL) PREGNANCY.

WITH RUPTURE OF SAC; REPEATED HEMORRHAGE; LAPAROTOMY; CONVALESCENCE COMPLICATED BY SECONDARY ABSCESS OF THE LIVER; TRANSPLEURAL HEPATOTOMY; RECOVERY.

BY RUDOLPH MATAS, M.D.
NEW ORLEANS, LA.

The reports of cases of ectopic pregnancy that have been successfully treated by direct surgical intervention while in the grave collapse that accompanies the rupture of the sac have been so frequent of recent years that they have lost even the merit of novelty. In fact, the literature of the subject is so saturated with clinical and pathologic reports, which bring into relief every phase of this condition, that it is not surprising that the instruction to be derived from the record of individual cases is well-nigh exhausted. Nevertheless, it is not improbable that the mere record of results in operated cases has some value from a statistic and collective point of view, even if only to illumine the prognosis and encourage the surgeon in interfering and hoping for recovery when confronted by the most desperate and apparently hopeless conditions. The present instance, however, is contributed more especially to direct attention to a complication of very exceptional occurrence—judging at least by the universal silence of recent authors and operators—and yet of such gravity and importance as to justify its consideration as a possible, if rare, factor in the clinical history of the subject.

The complication referred to is an acute circumscribed suppurative hepatitis, apparently the result of portal infection starting in the intestinal walls or, possibly, though not probably, in the peritoneum itself. It is evident that this complication is not peculiar to the convalescence or clinical history of ectopic pregnancy, but may occur in any form of septic peritoneal traumatism associated with intestinal paresis, and more particularly, as in this case, when a septic enterocolitis with putrid stools occurred following immediately after the intestinal stasis of peritonitis.

On Dec. 19, 1897, I was called by Dr. M. Herman to examine Mrs. P., an employe of a well-known tobacco factory in this city. I obtained the following facts preliminary to my examination: The patient, a married woman, white, about 30 years of age, a native of this city and of German parentage, has always enjoyed good health and has been married several years. Her husband is a healthy man of about her own age. She has been pregnant three times before the present conception. The first child is living and well; the second died two months after birth, from some obscure nervous trouble. She had a miscarriage subsequently. Her present trouble dates with the suppression of menstruation, which took place about twelve weeks previous to this visit. The patient believes that she is pregnant. Apart from the suppression of the menses she noticed no change in her health and attended to her usual duties at the factory until two weeks ago, when, in the evening, while walking in the street, from the factory to her home, she was taken suddenly ill with an acute abdominal pain in the hypogastrium. This pain was accompanied by great prostration, dizziness, a sinking feeling, faintness, cold sweat and a deathly pallor which was noticed by those who accompanied her. She was in a state of collapse when picked up by her friends, who put her in a cab and took her home. At home, she was attended by a neighboring physician, who administered morphia, atropia and restoratives. She finally rallied, but regained strength very slowly, always complaining of pain and tenderness in the lower abdominal region. She had discharged her medical attendant and was preparing to return to her post in the factory, when (December 18) she was again seized with violent abdominal pains and great prostration.

It was then that Dr. Herman, the physician of the factory, was called to attend her, and found her in a collapsed condition, with cold, clammy skin, subnormal temperature, weak, thready pulse, widely dilated pupils and a colorless and exsanguinated appearance. The abdomen was considerably distended, especially in the hypogastric region, with great tenderness over the swollen area. Vaginal examination was unsatisfactory; the uterus was displaced downward and to the right, fixed and immovable; the posterior cul-de-sac was distended by a semifluctuating mass that filled the pelvis. Dr. Herman was convinced that he was dealing with a ruptured ectopic pregnancy. The next day, December 19—two weeks after the first signs of rupture—I examined the patient and found her condition improved. There were signs of a general peritoneal reaction. Abdominal tenderness and distension was more marked, but there was no acute pain, no vomiting; temperature was 99.8, pulse 120, very compressible, but evidently responding to the digitalin and strychnin given since the previous day. A vaginal examination confirmed the results obtained by the attending physician. There was evidently a semisolid mass which jammed the uterus downward toward the pelvic outlet and filled the pelvic cavity, projecting to the level of the iliac crest on the left side. The general appearance of the patient was that of a profound anemia; the skin was colorless, the conjunctivæ were exsanguinated, the lips were blanched and the hands waxy. We feared that she could scarcely stand removal to a sanitarium, but finally concluded to take the risk, in view of her exceedingly unfavorable surroundings for operative treatment.

The patient was admitted to the N. O. Sanitarium December 20. She was so weak and exhausted that we feared that she would never be able to survive an operation. She was at once warmed up in bed, after which ice-bags were applied to the lower abdomen. Strychnin was given hypodermically, and the bed was tilted high up at the foot to diminish pelvic engorgement as well as favor the cerebral circulation. She was constantly watched by the nurse in charge, who administered frequent but small doses of peptonized milk, panopepton and hot tea, at frequent intervals. The nurse was soon able to report that the pulse had improved.

The next day, after thorough preparation, an exploratory puncture into the swelling was made through the posterior vaginal wall and a syringeful of pure blood was quickly aspirated. This examination also showed that the tumor had not increased. Diagnosis of pelvic hematocele, caused by ruptured tubal pregnancy, was confirmed, and we decided to operate, but not immediately, preferring to wait a little longer for further improvement in the patient's condition. The peril of delay was thoroughly appreciated, but the risk of operating in so deplorable a condition appeared to us still greater, and we temporized. We were also encouraged in this course by the evident arrest of bleeding.

On December 21, while a hot douche was being administered, the patient passed a complete cast of the uterine cavity, evidently the decidual membrane. The expulsion of this membrane was attended by colicky pain and some bleeding. The picture of abortion was complete except that no embryo had been expelled. The patient herself believed she had aborted, and expressed herself as being much relieved by the occurrence. She also explained that her first attack of abdominal pain and prostration coincided with the usual date of her menstruation.

From December 20 to 24, nothing was done except to observe and strengthen the patient. The urine, which was normal, was kept diluted by drinking large quantities of pure water; the bowels were moved regularly by enemata and saline aperient draughts; the amount of putrid material in the intestinal canal was reduced to a minimum by a careful laparotomy diet, consisting largely of milk, cereals and cooked fruits. Strychnin in 1/40-grain doses was kept up steadily every six hours. Under these conditions her strength and spirits improved decidedly. The temperature remained at 100 F., pulse 117, and pains were being subdued, when, on December 24, the whole aspect of the case again changed for the worse. The pulse became suddenly more rapid, the pallor more marked and the tumor above the pelvic brim rose higher. The tension in Douglas' cul-de-sac became greater than ever before, and the pains in the hypogastrium grew intolerably acute. It was evident that the time to act had come, and we decided to operate that evening.

After thorough irrigation the uterus was curetted and packed with iodoform gauze. The right arm was also prepared for intravenous saline infusion, the median basilic vein being exposed so that no time would be lost in injecting the saline solution which we had every reason to believe would be required in the course of the operation. A preliminary hypodermic of 1/40 gr. strychnin and 1/100 digitalin, was also given before beginning with the anesthetic. A few drops of chloroform were first given in an Esmarch inhaler, after which the anesthesia was continued with ether.[1] The patient was placed in the Trendelenburg position. A median incision four inches in length was made and subsequently enlarged to five inches. The peritoneum, which was very tense, bulged into the wound.

Upon dividing the serosa, a dark membranous mass which resembled a cyst appeared. The mass was adherent on all sides, but was well defined above where it was attached to the omentum. Not knowing exactly what it was, I decided, before attempting further manipulations, to tap it with a trocar, but only a little blood came. An effort was then made to detach it by inserting the hand into the wound, but the adhesions were so intimate with the abdominal wall that I had to incise it by cautiously cutting into it in the median line. After penetrating through a thick cortex of exudates and fibrinous layers—for this they turned out to be—a large quantity of clotted and liquid blood gushed out. The hand was now introduced into the cavity of the pseudo-cyst and its true nature was at once clearly recognized. It was simply a vast hematocele which filled the pelvis, forming an irregular ovoid, the center of which was occupied by the uterus and left Fallopian tube, or at least what remained of it. Its upper boundaries were formed by the intestinal mass, which had been displaced upward to the level of the umbilicus, where a wall of soft and recent adhesions with the omentum and exudates excluded the general peritoneal cavity. After scooping out by handfuls over three pounds of fresh clot and blood, the remnants of the left Fallopian tube were clearly recognized. A large mass of thick membrane was now felt and peeled off, with an attached layer of dense fibrinous exudate, from the center of the left broad ligament, in which it appeared to be fixed and buried. The Fallopian tube, as stated, existed only in fragments; its central part had evidently been distended, and was continuous with the corresponding broad ligament, with which it formed the irregular torn wall of a large cavity filled with blood and exudates. The appearance of the parts plainly indicated that a primary hematocele had existed in the tube, and that this had ruptured secondarily into the broad ligament, the third rupture taking place in the posterior surface of the broad ligament through a large ragged aperture from which the blood and ovum had ultimately escaped into the general pelvic cavity. The walls of the cavity thus formed by the broad ligament and adherent tube were very edematous and friable. The uterine pedicle of the tube was very soft, and so friable that it was cut through completely whenever a ligature or traction was applied to it. For this reason a ligature was applied directly to the uterine cornu itself. Another ligature was applied to the ovarian end of the tube. The left ovary was recognized with some difficulty, and enucleated out of a bed of dense adhesions and thick exudates which formed part of the adventitious sac to which the ovum and its membranes had been attached. There was no recognizable embryo, only a pseudo-placental mass which was peeled off from the interior of the sac formed by the left broad ligament. The walls of the large adventitious sac were adherent to the sacrum, rectum and small intestine posteriorly, and pieces of membrane had to be left attached to these parts for fear of perforating the bowel while attempting to remove them.

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[1] Drs. Larue, Gessner and Delaup rendered most valuable assistance in the operation; the sanitarium corps of nurses also gave very effective aid, and it is due, in a great measure, to their constant care and unfailing vigilance in the after-treatment that the patient finally recovered.

The upper limits of the hematoma, or rather of the exudates that encapsulated it, were attached to the abdominal walls and bladder anteriorly, reaching as high as the umbilicus; posteriorly, the promontory of the sacrum marked the upper boundary. The uterus, which was enlarged to the size of a three-months gestation, projected in the center of the hematocele and was covered with fibrinous deposits and pseudomembranes. The right broad ligament was very much distended and its corresponding tube was displaced upward by an intraligamentous cyst as large as a cocoanut. This cyst also contributed to displacing the uterus upward and forward. A ligature was also applied to the right cornu of the uterus and another at the ovarian pedicle, after which the right tube was excised. The cyst in the broad ligament, which contained a clear, straw-colored fluid, was tapped, then excised freely and packed with iodoform gauze. A great deal of blood serum and blood oozed out of the cavity in the left broad ligament, compelling a very thorough packing with iodoform gauze on the Mikulicz plan.

In the meantime, the patient showed signs of great exhaustion; respiration very rapid, the pulse rose to 160 and became almost imperceptible at the wrist. Ether was stopped, ammonia applied to the nose and the pelvis was thoroughly flushed with hot saline solution poured in with a pitcher and used as a restorative as well as for the purpose of washing out fragments of clot and tissues. Simultaneously, 50 ounces of decinormal saline solution were injected into the basilic vein. Immediate improvement followed the intravenous infusion and the pulse fell to 112, when it was discontinued. All provisional gauze packs were now removed from the abdominal cavity and the Mikulicz tampon, very systematically applied, was resorted to instead. The peritoneum was closed with continuous catgut suture, leaving space for the drain. The patient was put to bed at 4 P.M., one hour and a half after the abdominal section had begun.

The first record after the patient reached her room shows a pulse of 130–140, but of fair quality.

December 25: Temperature 101, pulse 144, fairly good quality; very free drainage from wound, requiring complete change of dressings; nausea and occasional vomiting. The following rectal enema was given every four hours: beef juice ʒi, whisky ʒss, tinct. digitalis ♏x, decinormal saline solution ʒvi, every four hours. Hypodermically: strychnia nitrate 1/40 gr., digitalin 1/100 gr., every four hours; chopped ice occasionally, alternating with sips of hot water every hour to assuage thirst.

December 27: Temperature was 102, pulse 128; considerable tympanites; no bowel movements, but some gas passed after repeated turpentin enemata.

December 28: Calomel and soda triturates, āā 1 gr., were given by mouth every hour, with small drinks of dilute champagne, iced; after ten of these had been taken a small movement of the bowels was obtained, with some relief of the tympanites.

December 29 (fifth day): Mikulicz drain removed; copious enemas of turpentin, repeated frequently, to expel gas and relieve abdominal tension; temperature 101, pulse 114.

December 29 to January 8: Diarrhea with some tenesmus took the place of the constipation, the patient having as many as five and six movements daily. The stools were copious, watery, pale and fetid. The temperature oscillated from 101 to 102.8, but the pulse showed a tendency to become slower, 108–106; respiration 28.

January 7 (thirteenth day after operation): Abdominal wound doing well; all sutures had been removed, small gauze drain left in wound, but patient complains of *dull pain in right hypochondrium*. Temperature 102.4, pulse 106; bowel movements checked by bismuth subnitrate, but during the night profuse perspiration followed by fall in temperature to 100. The patient now nourishes fairly well; liquid and semisolid food retained.

January 7 to 12: Hectic fever was marked, the temperature rising to 102.8, pulse 120 and respirations 48, followed by profuse sweating and remission at night; pain in hypochondrium continues, area of hepatic dulness increases and it is decided that suppurative hepatitis from bowel infection exists. Diarrhea is now checked, but stools continue fetid. In the meantime the right side of chest and hepatic region has been kept covered with ice-bags, which apparently give relief to pain, but do not perceptibly diminish the size of the liver, which projects about three inches below the costal arch in right hypochondrium.

January 12 (nineteenth day after laparotomy): Aspirated (Potain's aspirator) over two pints of a watery, serous pus, herring-sauce color, odorless. The needle was introduced in the eighth interspace and penetrated 3½ inches before reaching pus. A specimen was preserved in culture-tubes and submitted to Dr. Pothier, pathologist of the Charity Hospital, who, in a few days, reported that he had been able to obtain pure cultures of a long chain coccus. In this way the streptococcal nature of the hepatic infection was established. Hectic ceased after this aspiration; all symptoms were much relieved. Temperature fell to 99.6, pulse 100, respirations 26; ice bags continued to chest and hypochondrium. The improvement was maintained for several days; patient was out of her room in rolling chair and in good spirits; nourished much better.

By January 25 (thirteenth day after aspiration) the temperature had gradually risen again to 101, pulse 100, respirations 30, and the liver area again increased in size.

January 25: The needle of the aspirator was introduced in the ninth interspace, in the anterior axillary line and one pint of yellow, creamy pus was aspirated. The ice-bags to right chest and hypochondrium had been kept up, with no other effect than to relieve pain. The bowel movements were controlled; abdominal wound nearly healed except at small drainage point, where a sinus remained.

February 1 (nineteenth day after first aspiration of liver): In view of persisting temperature with returning tendency to nocturnal sweats, decided to open liver freely. Under Schleich local anesthetic mixture (Formula No. 2), 3½ inches of the ninth rib were excised; the right pleural cul-de-sac was found obliterated and the abscess in the liver opened freely, the incision through the cortex of the liver, corresponding in length to the external incision. The liver was adherent to the diaphragm. The cortex of the liver, which held the abscess cavity, was nearly two inches thick. Over one pint of thick pus and slough flakes were removed through the incision, after which the liver was firmly anchored to the intercostal spaces and skin by deep sutures passed into the cavity of the abscess with the Reverdin needle. The abscess cavity was swabbed with large gauze packs soaked in hydrogen peroxid, to remove loose sloughs. The cavity was then packed systematically with large strips of iodoform gauze, over which was applied an abundant iodoform gauze and plain sterile dressing. The temperature rose to 102.8, pulse 126, respiration 36, the next day, but after this steadily declined little by little, until January 13, when it became normal, with pulse 86 and respiration 20. The tampon in the liver was not removed until the thirteenth day after the evacuation of the abscess, as it had remained sweet; odorless up to this time. Only the outside dressings were changed. When the tampon was removed the cavity of the liver was found clean, presenting a healthy granular appearance and necessitating only a comparatively small drain. The patient continued to improve and left the sanitarium Feb. 28, 1898, sixty-six days after laparotomy and twenty-eight days after hepatotomy.

Synopsis.—The patient had missed menstruation six weeks before first intraperitoneal hemorrhage, which took place Dec. 5, 1897; second hemorrhage Dec. 19, 1897; laparotomy with extirpation of ovum and tube, December 24 (or nineteen days after first rupture); Jan. 12, 1898, first aspiration of pus from liver; January 25 (thirteenth day after), second aspiration of liver; February 1, hepatotomy; February 28, patient left sanitarium convalescent, i. e., sixty-six days after laparotomy for ectopic pregnancy, twenty-eight days after hepatotomy for abscess of liver, and eighty-five days after first signs of intraperitoneal hemorrhage.

Conclusions.—The history of the case and the anatomic conditions revealed by operation lead to the following conclusions:

1. That ectopic pregnancy reaching nearly up to the third month of gestation existed in the left Fallopian tube.
2. That some time after the second month the tube ruptured into the corresponding broad ligament, forming an intraligamentous hematocele.
3. That the hematocele continued to increase until it also ruptured into the general peritoneal cavity, where the hemorrhage became partially encysted, forming a large intraperitoneal hematocele.
4. Coincidently or prior to the ectopic pregnancy an intraligamentous cyst formed in the opposite broad ligament.
5. The value of intravenous saline infusion was demonstrated in tiding over the dangerous crisis caused by shock and hemorrhage during the laparotomy required to extirpate the sac, evacuate the blood collection and secure the vessels.
6. Septic bowel infection following the intestinal paresis of a moderate (limited) postoperative peritonitis.
7. Septic infarct of liver through portal vein as a consequence.
8. Aspiration of liver and removal of typic streptococcal pus.
9. Free hepatotomy after resection of ribs, followed by final and complete recovery.

NAPHTHALIN IN TYPHOID FEVER.

A REMEDY IN PREVENTING INTESTINAL PUTREFACTION AND TYMPANITES.

BY ALBERT WOLDERT, Ph.G., M.D.
Assistant Physician Out-Patient Department of Howard Hospital; Physician to Out-Patient Department for Diseases of Children, St. Joseph's Hospital.
PHILADELPHIA, PA.

At the present time, when the cold-bath treatment of typhoid fever has proven to be of such inestimable value in reducing the death-rate of this scourge of humanity from that of former days, it seems almost unnecessary to speak of any other agent than cold water in controlling the clinical manifestations of enteric fever. Since we have become able for the most part to hold in check the chief disturbing factors, such as fever, nervous exhaustion, and overpowering of the circulatory system by this medium, it is customary to lay but little stress upon any other agent in restoring health to those who suffer from this disease.

If one considers the most important symptoms or complications which require remedial measures, besides those above enumerated, it may be stated that they are meteorism or tympanites, diarrhea, hemorrhage from the bowel and peritonitis. A small excess of gas in the bowel, over that of the normal, is necessarily an accompaniment of a disease located for the most part in this region, and existing to such an extent in this disorder that in a series of 112 cases of typhoid fever at the Hospital of the University of Pennsylvania, Tyson met with the condition in 85 per cent. of the number treated. Under ordinary circumstances slight tympanitic distension of the abdomen calls for no direct medication, usually depending upon undigested food which, upon being corrected, induces relief of the symptom.

No one can safely deny at the present time that the tendency is to give few drugs in cases of typhoid fever, nor can it be denied that overdrugging does harm. For instance, J. C. Wilson has recently treated a series of 147 cases of typhoid fever at the German Hospital, Philadelphia, by the cold-bath treatment, a liquid diet and few drugs, with a mortality of 3.4 per cent. At the Hospital of the University of Pennsylvania, under the same plan of treatment, Tyson's mortality in a series of 112 cases was 4.5 per cent.; and at the St. Agnes Hospital, Stahl reports a death-rate of 2.8 per cent. out of 144 cases. In most of these cases the complications were few and required no medicinal agents for their relief, yet it would be unfair to cast aside the records of other hospitals in which the mortality was greater than the figures above quoted. Taking the city as a whole, the mortality for the past five months has reached a fraction above 9 per cent.

In private practice the facilities found in well-equipped hospitals can not always be had, and tympanites with diarrhea is a not uncommon occurrence. In many instances there may be found deep ulcerations in the bowel, and any kind of food may undergo fermentation and putrefaction, giving rise to distension of the parts to such a degree that diarrhea, hemorrhage from the bowel, or perforation may ensue. If excessive tympanites exists, not only are these dangers imminent, but the respiratory and circulatory functions may also become embarrassed.

It has been more than once demonstrated that it is absolutely impossible to sterilize the intestinal tract in the human species, and it must be admitted that at the present time there is no ideal intestinal antiseptic. Those which have been used with more or less favor are well known. The trouble with a great many of them is that they are too soluble and, being so, become absorbed or chemically changed long before they reach the focus of disease. If we had a reliable intestinal antiseptic that would limit the number of pathogenic micro-organisms in the smaller intestines, the natural defenders of the body—polynuclear leucocytes with their contained nuclein, fixed endothelial cells, the epithelial cells, the mucous membranes, glandular secretions, the power of neutralization and a certain amount of reserve force—would, no doubt, in the majority of instances, decide favorably the combat against those few micro-organisms which have already gained entrance into the circulatory system.

In order to eliminate all the fallacies which might occur in presenting evidence regarding the beneficial treatment of the disease, Stengel has quoted from a statistician who stated that from a mathematic calculation a series of 8000 cases should be presented before any irrefragable conclusion could be deduced.

While not extolling the virtues, nor decrying the evils, of other remedies that have been given for the purpose of limiting the amount of putrefaction in the intestinal tract during the course of typhoid fever, I desire to report that in eight unselected cases of this disease treated during different years, and to which cases naphthalin had been given, there was but slight distension of the bowel in any case, and hemorrhage occurred in none. In at least one case gaseous distension seemed to be relieved by the use of naphthalin. In all these cases fractional doses of calomel were given at the onset, and cold baths, when possible, every time the temperature rose above 102.4 F. A liquid diet and use of the bedpan were of course strictly enjoined.

As a rule, naphthalin was begun within the first day, or from the time the patient was first seen, and was repeated one or more times throughout the course of the disease. It was given in powder or capsule, in doses of from 5 to 10 grains (according to age), and repeated every three hours if the patient was awake, day and night for two days. (In some cases it was continued for three days.) In the case of adults, doses less than 10 grains did not appear to do much good. In no case did the drug seem to act as a cardiac depressant, the pulse generally being somewhat slow, regular, and of good volume; nor did any troublesome complication ensue from its use. In the majority of instances, at the expiration of two days from its first administration, baths did not seem to be required as frequently as in many cases which I have treated without the use of this remedy.

The fact that the temperature does not seem to be controlled by the drug is an indication that it does not act upon the thermogenic centers. Frequently gaseous eructations occurred, but it did not appear to disturb the digestive functions, and, judging from the condition of the tongue, it seemed rather to be improved under the administration of naphthalin. Vomiting occurred twice in one of the cases, the first time doubtless being caused by taking the medicine with milk, the second time from taking the drug shortly after the milk had been given. One should be careful to select only the purest form of the drug, as the impure product causes burning at the neck of the bladder, supposed to be caused by naphthosulphurous acid (Wolff). In all cases the urine was turned quite dark in appearance after its administration, but the amount of the urine did not seem to be diminished. No symptoms of nephritis ever developed.

Naphthalin (naphthalinum, naphthalene) is described in the "United States Dispensatory" (seventeenth edition) as follows: "Naphthalin is a hydrocarbon having the chemic formula $C_{10}H_8$. It is a white, shining crystalline substance soluble in chloroform, carbon disulphid, ether, naphtha and the oils, but insoluble in water. A good test for the purity of naphthalin is to warm a little of it in a test-tube with sulphuric acid. As little as 1 per cent. impurity will be indicated by its imparting a pinkish tint to the sulphuric acid; the depth of the color indicates the degree of impurity." Its medical properties are given as follows: "Naphthalin is possessed of antiseptic properties, and is poisonous to most fungi and probably most insects. First employed by Rossbach of Jena, in intestinal catarrh, it has been largely used in all forms of intestinal inflammation and in typhoid fever."

In all the cases of typhoid fever and other diseases for which it has been given by others, I believe one death has been ascribed to the use of naphthalin. As a great many cases of typhoid fever need no medicine of any kind after the first few days, it seems that the drug is specially indicated at the onset of tympanites; when paralysis of the bowel occurs from overdistension, it could do no good. Bouchard states that after its administration he has found in the urine a body for the most part composed of sulphur resulting from the combination of naphthol and sulphur, a naphthosulphurous acid, which may be classed as a naphthosulphite of soda. This could only have occurred by sulphur having been borrowed from the organism, i. e., by destroying albumin or nitrogenous matter. In all cases in which naphthalin is given in moderate-sized doses, its odor can be easily detected in the urine and feces. I paid particular attention to the condition of the urine in two cases of typhoid fever, throughout the course of the disease, for the purpose of ascertaining whether or not any irritation of the kidneys ensued from the use of the remedy, and the following facts were noted:

Case 1.—A. F., white, male, aged 9 years, had suffered from scarlet fever in 1893, measles a year later, and whooping-cough three years ago. The patient began to lose appetite and lounge about the house on November 15, and complained of headache, loss of appetite, nausea and chilly sensations. The bowels had moved once daily. There had been no epistaxis. On November 17 the cheeks became flushed, and the patient was first seen on November 18, at which time the temperature was 103.6 F. He was given calomel in fractional doses, and in addition 5 grains of naphthalin every three hours, the latter being continued until the evening of November 25. On November 28 a specimen of blood from the lobe of the ear yielded a positive Widal reaction. November 29, the bowels had moved several times by epsom salts November 25 and 26, and by an enema on November 28. The urine had been clear (?) for several days and the patient passed about 1000 c.c. of urine daily.

November 29 the urine was examined. The amount was about 1000 c.c., amber in color—slightly tinted darkish from naphthalin—reaction highly acid, specific gravity 1018, no albumin, but there was a slight reddish zone at the point of contact with the nitric acid, and a moderate amount of indican. The nitroprussid test detected no indol. The sediment contained abundant urates, uric acid, granular débris, and a few leucocytes. There were no casts, nor red blood corpuscles, when examined by 1/12 oil-immersion lens and No. 4 oc. (Leitz).

While the following method for the estimation of indol is not recommended as furnishing exact results, it was employed for the purpose of obtaining an index to the relative amount of this product. About 4 grams of a hard particle of the feces was selected and agitated thoroughly with about 24 c.c. of hot water and filtered, about 12 c.c. of filtrate resulting, having a straw color and characteristic fecal odor. The sodium nitroprussid test for indol proved unreliable, as the following results show: Filtrate (as above prepared), 3 c.c.; solution sodium nitroprussid (2 grams to 4 c.c. of water), 0.3 c.c.; solution of soda, 0.2 c.c.; acetic acid, 0.7 c.c. Upon the addition of the sodium nitroprussid to the filtrate a brownish tint was given to the fluid (probably due to the nitroprussid itself), and upon the addition of acetic acid it turned still darker in color, but did *not turn violet nor blue*. A specimen of normal feces similarly prepared failed to yield the violet or blue color, as did also a freshly prepared alcoholic filtrate from normal feces. The reaction was not tried with a distilled product.

November 30, 5 grains of naphthalin were given at 5 p.m., and repeated three hours later, and on December 1, and to the evening of December 2, 5 grains were given every three hours as far as possible. day and night. Thus 130 grains had been taken at the time the urine and feces were selected. The urine amounted to about 1000 c.c., was blackish in color, of the odor of naphthalin, highly acid, specific gravity 1020, and showed indican greatly *decreased* over that of November 29. There was no albumin, glucose nor acetone, and no casts.

The bowels had moved on December 1, and were again moved by enema on December 3, a portion of which was obtained for examination. As the nitroprussid test without distillation had proven unsatisfactory, the following method was tried and gave approximate results. After obtaining the filtrate from the feces, in the same manner as in the first method above, the following test was made: nitrous acid 0.7 c.c.; nitric acid (C.P.) 2 c.c. To 4 c.c. of the filtrate in a test tube there was added 0.5 c.c. of the acid solution. On adding two or three drops, quite slowly, a turbidity or cloudiness was produced; gradually adding the acid solution until 0.5 c.c. had been used, the filtrate immediately assumed a light reddish tint most marked at the bottom of the test-tube. On standing five or ten minutes the fluid assumed a deeper reddish color, which I notice at the end of three months has remained permanent. At the end of twenty-four hours a faint blue or grayish sediment was deposited.

The following test also gave the color reaction for indol. A filtrate was prepared from feces in the same manner as above outlined, and to 4 c.c. of the warmed filtrate were added 0.7 c.c. dilute sulphuric acid and 1.4 c.c. of the following solution: amyl nitrite (one glass bead containing 0.3 c.c.); alcohol 30 c.c. On adding the nitrite solution a light reddish color was immediately produced, but became more brownish on standing five or ten minutes. A filtrate produced with alcohol yielded a darker or mahogany-red color with the amyl nitrite test. Comparing the results with that obtained from an examination of normal feces made at the same time, there seemed to be a *lessened* amount of indol in the stool from the typhoid patient. However, it must be added that in another comparative test made in the same manner, the results did not differ the one from the other, so that it does not always follow that indol is diminished in the feces after the administration of naphthalin.

In order to show the effects of naphthalin on urine from day to day, as well as to study the effects produced by its administration during an attack of diarrhea occurring during the course of typhoid fever, reference to the following case may be interesting. (A due allowance must be made for paregoric and bismuth subnitrate in controlling the diarrhea while the naphthalin was being administered, and it is admitted that many fallacies are possible from the intermixture of effects of the drugs.)

Case 2.—W. H., male, American, aged 17 years, had suffered from pneumonia eight years previously; was otherwise healthy until the onset of this attack. He had been feeling unwell for several days previous to Saturday, December 31, but on that day symptoms gradually increased in severity, manifested by headache, which continued for several days. The bowels had moved once daily. On January 3 the patient began to suffer from headache again accompanied by pain in the back and limbs. At this time slight fever was present and the bowels became loose, moving two or three times during the day, and the patient ceased work on January 4. The bowels continued to be loose, with from two to three stools daily. Epistaxis and pains in the abdominal region came on, and on January 5 he suffered from nosebleeding again, with bowels still loose. The patient's mother had noticed that for the previous several days his face had become flushed toward the afternoon and it was thought there had been fever present.

The patient was first seen on January 8, and the following symptoms noted: The abdomen was flat, with no pain on pressure. The pupils were normal, facial expression dull and listless, tongue moist and slightly coated, whitish in certain areas. A faint systolic murmur was heard in the fifth interspace, corresponding to the apex-beat, and sibilant râles anteriorly. The pulse was full and strong. He was given fractional doses of calomel, which acted four times during the day. January 9, a specimen of blood obtained from the lobe of the ear gave the positive Widal reaction. January 10, the patient complained of having been restless during the previous night, remaining awake until 4 A.M.; suffered from considerable pain in abdominal region; tongue becoming heavily coated, the edges being normal in color; patient appeared very dull and was hardly able to retain the thermometer between the teeth. The spleen did not seem to be enlarged. The peripheral circulation appeared sluggish. The urine, on January 10, was dark, amber color, odor normal, sp.gr. 1022, acid reaction, no albumin, no glucose, and *not a trace of indican;* urea was 1 per cent. and taking 1200 c.c. as the amount passed in twenty-four hours, equaled 11 grams (164 grains) in the daily output. The sediment was composed of urates, uric acid crystals and granular débris. There were no casts. The patient had not taken any medicine of any kind since the calomel purge two days previously, except .33 grams of phenacetin on that day—the temperature being subsequently controlled by cold baths. A milk diet and use of the bedpan were strictly enjoined and upright posture during the taking of nourishment was forbidden. The pulse was full and strong, 86 per minute; bowels had moved five or six times during the day, but there had been no blood in the feces, He had taken about sixty-four ounces of milk and possibly sixteen ounces of strained soup during the day.

On account of the diarrhea, 8 c.c. of camphorated tincture of opium was advised every three hours, beginning at 7:30 P.M.

January 10: The patient had slept about six hours during the night; bowels had not acted since the previous day; spleen slightly enlarged, but not tender; toward afternoon the bowels became loose, moving four times, and camphorated tincture of opium (8 c.c.) with bismuth subnitrate (0.8 grams) was given every three hours until four doses had been taken.

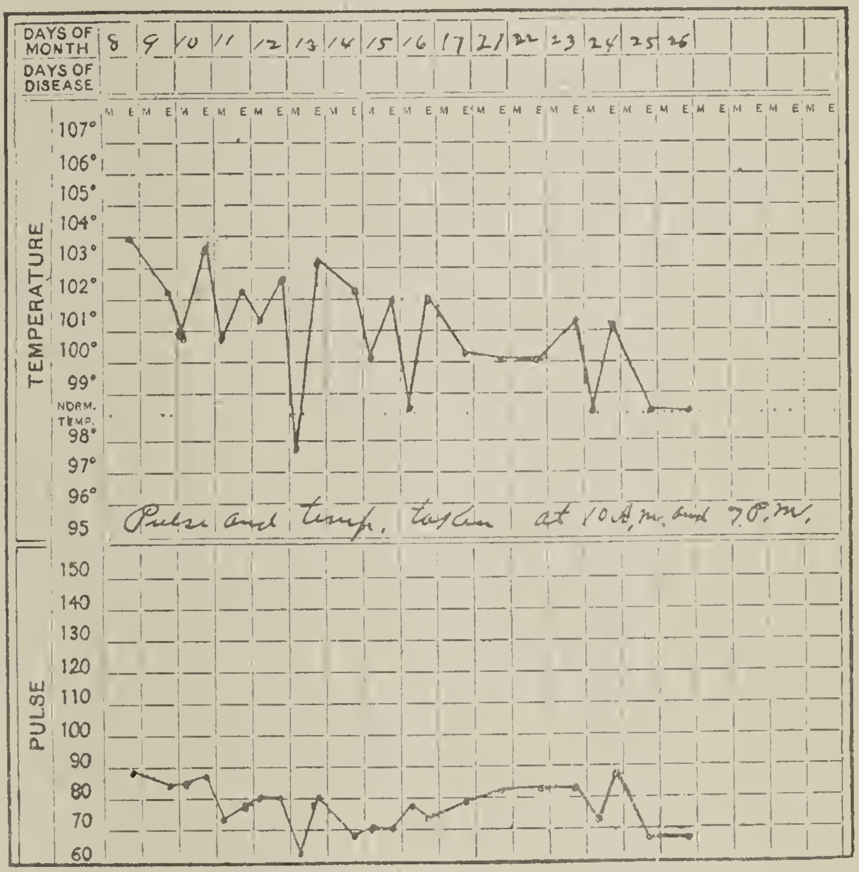
At 11 A.M. he began to take naphthalin, 0.7 grams every three hours day and night, the paregoric and bismuth also being continued.

January 12: The patient did not sleep well during the night and complained of colicky pains in the lower abdominal and lumbar regions. The bowels acted at 3 and 5 A.M. Paregoric, bismuth and naphthalin were continued.

On inquiry it was learned that the milk had been given when quite cold, for which warmer milk was substituted, containing a small amount of lime-water. The urine, which had been amber-colored until January 11, at 8 P.M., began to turn dark from the naphthalin. It was examined and showed a specific gravity of 1026, and *indican still absent*—in order to confirm the absence of indican both sodium hypochlorite and calcium hypochlorite were used. The urine had the odor of naphthalin and was very dark in color. A slight burning pain was complained of in the region of the neck of the bladder. The pulse was regular and full. In one stool particles of undigested milk were found. Owing to neglect, sordes had been allowed to collect about the teeth and gums, but which were subsequently kept clean by means of a weak solution of glycerin and persistent use of a tooth-brush.

January 13: The patient slept about five hours during the night, entirely free from pain, except slight pain on micturition. After 3 A.M. the bowels had moved three times. At 10 A.M. the pulse was 60, regular and full, and the temperature registered 97.8 degrees. At 6 P.M. the pulse was 80; temperature 103.4. Naphthalin was continued until January 22, the patient having taken 160 grains since January 10. The bowels did not move any more during the day, subsequent to the morning action, and the paregoric and bismuth were discontinued. Boiled milk was now given, after which there was no more trouble with the bowels throughout the course of disease.

January 14: At 6 P.M. a bath was given, it being the only one necessary during the day. The mother stated that the patient had passed a good day. Free perspiration had occurred in the morning hours. The tongue was moist and had begun to clear off about the edges; bowels moved once. At 5 P.M. the urine was collected, was dark in color and contained no albumin nor indican. The urea was 0.9 per cent. and estimating that 1200 c.c. had been passed during the twenty-four hours, equaled 156 grains excreted during this period. One waxy cast was found, but a careful search failed to reveal any more. There was no blood. The heart murmur had now disappeared.



From January 22, naphthalin 0.7 grams (gr. x) was given every three hours, and the urine collected January 24, after 80 grains of naphtalin had been given. The results of examination were: Amount, 1200 c.c. (36 ounces); color blackish; odor of naphtalin; sp. gr. 1015; acid reaction; no albumin; no glucose. In the sediment were found a few crystals of uric acid and amorphous urates. There were no red blood-cells, no leucocytes, and no casts. The urea equaled 1 per cent. or 15 grams (164 grains) by one apparatus, and 9 grams (131 grains) by another, showing the variability of instruments used for the purpose of estimating this constituent of the urine.

From a study of these two cases it does not appear that naphtalin causes irritation of the kidneys.

None of these eight patients to which naphtalin had been given required any stimulant, such as alcohol, digitalis, or strychnia, throughout the course of the disease, and each made a good recovery.

Note.—The tests for indol were modified from von Jaksch. In making the test containing the nitrite of amyl, care must be exercised in breaking the glass bead, especially if the graduate contains alcohol, for the nitrite is liberated with such force as to throw particles of glass quite a distance, thus endangering the eyesight.

Dr. Joseph Thomas of Quakerstown, Pa., was recently elected president of the State Asylum for the Insane at Norristown.

JOHANNES EVANGELISTE PURKINJE.

BY RUSSELL BURTON OPITZ, M.D.
THE UNIVERSITY OF BRESLAU.

From the turret of a magnificent building belonging to the Medical School of the University of Breslau, the "black and white" of Prussia, fluttering in the breeze, announces to the world that a new home has been completed for the alma mater of all physiologic institutions. The old "Universitas Vratislaviæ" looks back with pride upon its history from the summit of its high place among the institutions for higher education. Breslau ought to be especially proud of the part which it has played in the advance of physiologic science. As early as 1811, there existed at its University a chair of physiology—certainly the first in Germany; In 1839, while Purkinje was professor, the first physiologic laboratory was founded, and the work accomplised in this scene of his early labors, will always hold a high place in the history of physiologic research.

In the early years of this century physiology had not attained any important place among the sciences. It was considered a mere department of anatomy, and as such received little attention in the German universities. Only now and then were to be found men like Albrecht von Haller, who gave special attention to the science. The methods used in investigating the phenomena of life were entirely wanting in completeness and accuracy. Physiologic research was little more than aimless vivisection. Neither chemistry nor physics could come to its aid; the former, because it had itself only just been placed upon a scientific basis, the latter, because it was only beginning to acquire some knowledge of galvanism, while electromagnetic forces, diffusion and other later discoveries were as yet entirely unknown. Physiologic research was not yet thought of. While the anatomist accompanied his lectures with demonstrations, while the chemist illustrated his facts with frequent experiments, the physiologist remained content with mere theoretic discussion. Lectures in physiology consisted, for the most part, in the dictation of a few pieces of research. Anatomy, pathology and physiology were taught by the same professor in all universities outside Breslau. Not until 1831 did a second German university, following the example of Breslau, make physiology an independent department.

From 1811 to 1821 von Bartels occupied the chair of physiology at Breslau. On his leaving to accept a call to the University of Maxburg, two candidates aspired to the vacant chair. Of them, one was an unknown Bohemian man of science, the subject of this memoir—Johannes Evangeliste Purkinje. The fact that he was supported in his candidature by Humboldt, Goethe and Rust is sufficient evidence that Purkinje, even in those early days, was already marked out for an illustrious career. Goethe, especially, seems to have been deeply impressed by Purkinje's originality. In 1822, he writes: "Mr. Purkinje visited us to-day and gave decided evidence of the possession of remarkable gifts joined with a devotedness and a capacity for effort almost unique." How fortunate the choice made by the University of Breslau, in appointing Purkinje, later years showed. In less than twenty years after his appointment Purkinje had attained a foremost place among men of science. His influence in the advance of physiologic science it is difficult to estimate, but the nature of the work can not be too highly praised. If his name, to-day, shines with a somewhat diminished luster it is because, at a time so fruitful in scientific research, little attention is paid to historic considerations.

In the hut of a poor Bohemian peasant at the village of Libochowitz, Purkinje first saw the light. In 1797, John being then but 10 years old, his father died, and he was given into the care of some monks. As he grew up, the stillness of monastic life gave him an excellent opportunity of acquiring a thorough knowledge of the German language. German philosophy passed before his view, and Fichte especially seems to have gained a decided influence over Purkinje. At any rate we find him at the age of 21 studying philosophy at the University of Prag. A short time afterward he began the study of medicine, being then older than the average student. His college career was exceptionally brilliant. His dissertation for the degree of doctor, "*Beiträge zur Kenntniss des Schens in subjectiver Hinsight*" (1819), introduced him to the most prominent men of the day and led to his appointment as lecturer in anatomy at Prag. This position he held until 1822, when he received a call to the chair of physiology at the University of Breslau. In accepting this post Purkinje made another step on the path to fame. Yet he found nothing attractive or inviting in Germany. The science of physiology was in a neglected condition, and despite the fact that his candidature had been supported by the great names already mentioned, the medical faculty at Breslau met their new colleague in a manner far from friendly, because their wishes in the matter of the appointment had been ignored. Shortly after Purkinje had commenced his duties at Breslau a petition for his removal was set on foot by his colleagues, who alleged as a ground for this step his utter inability to deliver a lecture. It can not be denied that Purkinje had little idea how to make an attractive presentation of the subject. At first his lectures, which consisted in a speculative discussion of physiologic problems, were well attended, but the number of his students gradually grew smaller, till at last he lectured to empty benches.

In his early letters Purkinje deeply regrets the theoretic, the speculative character of the physiology of the day. He considers the position of lecturer merely as a mechanism by means of which the theories of the old masters are repeated again and again. In 1824, therefore, he decided to supplement his lectures by experimental demonstrations, in order that physiology might become the more interesting to the student. The money necessary for this purpose he took out of his own pocket, diminishing in this way an already scanty salary. Thus it frequently happened that his funds were exhausted long before his salary was due to him. At length, after much discussion, an allowance of $35 yearly was granted by the State to cover the expenses of the practical course. The demonstrations were held in a small room attached to the department of anatomy.

Thus, in 1824, was originated at Breslau the first experimental course in physiology. This year is also memorable by the fact that Liebig founded at Giessen the first chemic laboratory. How important was this step now taken by Purkinje can only be correctly estimated by those who have the later development of the experimental sciences in view. Upon experimental physiology Traube and Virchow based experimental pathology. Later, arose out of the early work of Purkinje pharmacology and practical hygiene. Indeed, one may say that the present superiority of German medical science originated with the lectures in experimental physiology instituted by Purkinje in 1824. Little did the great physiologist dream that the seed sown by him in Breslau would become within a measurable period the vital and complex tree of to-day.

The long-existing enmity between him and the professor of anatomy compelled Purkinje to seek a lecture room in the physical laboratory, yet even here, many difficulties beset the life of the youthful experimental science. In 1831, Purkinje asked the authorities to erect a special building for physiology. With this petition begins the history of the physiologic laboratory.

That physiology would cease to be merely speculative and would become an experimental science, Purkinje was convinced. He had also no intention that it should idly await the results of chemic and physical investigations. It was to be entirely independent, should stand upon its own merits and gather fruits of its own. For a time, however, the answer of the University authorities to his requisition shattered all his fair hopes. He was advised to be moderate in his demands. His brilliant ideas as to the future of the science were considered an idle dream. Utterly discouraged, Purkinje gathered up his instruments and appliances and departed with them to his own home. He had lost several members of his family by cholera. A child which needed the care and protection of a tender father was taken under his care. There was no room in his house which was not filled with glasses, instruments and organic substances. The health of his family became thereby endangered. It is with the deepest admiration that we look back upon the life of a man who gave, not only all that he possessed, but his whole self to the interests of his beloved science. Such sacrifices as these deserved to be crowned with success.

In his own home, under most unfavorable conditions, Purkinje thus laid the foundation of modern physiology. Long before the time of Schwann, he and his disciples originated microscopic anatomy. Although the compound microscope had been in existence for nearly a century, Purkinje was not the fortunate possessor of such an instrument. It is curious that all the important discoveries of Purkinje up to 1830 were made by means of simple lenses. In that year he asked the University to furnish him with a compound microscope at a cost of fifty dollars. They refused to expend so large a sum for the benefit of one professor, and Purkinje purchased it himself with the assistance of his friends. This microscope, now grown famous, is still to be seen in the laboratory at Breslau. It bears the marks of constant use, but its lenses are still as clear and powerful as on the day when, by its means, Purkinje first beheld the cells of the cerebellum which bear his name.

In spite of all drawbacks, Purkinje opened up new paths for science. The number of his students increased year by year, and his lectures were well attended. At length, as a slight recognition of his services, his salary was increased to $200 a year and an allowance of $150 a year was made for experimental work. In acknowledgement of this generosity on the part of the authorities, Purkinje sent a communication consisting of some twenty pages, in which he dwelt at length upon the needs of the department. His voice was heard, and his life-dream realized. In 1839, Purkinje became the principal of the first physiologic laboratory. Although the building was anything but perfect, Purkinje was more than content, his great wish being to see his science housed in a separate building.

It is a curious fact to note that from this time forward Purkinje's work ceased to be of the first importance. All his great discoveries had been made in his own home, and in the days of adversity. The hour of prosperity and the more favorable conditions are unmarked by any great discovery. The blossoming time of his genius, his *annus mirabilis*, lay in the past. To the future he bequeathed his spirit. It was not without regret that he marked his decline, that he saw his sun had passed its zenith. In 1844 he writes: "Since I have attained the goal of my wishes, all my physical and mental power has become exhausted, yet many promising investigations await the time when I shall have regained my lost love for work." In 1850, he was appointed professor of physiology at Prag. The Austrian government built a splendid laboratory, gave him an able assistant and a large salary. Yet, Purkinje never regained his earlier powers as a scientific discoverer.

What, it may be asked, were the reasons for this decline? One cause at least, may be assigned. About 1850, Purkinje began to take part in Slavic national movements. He was penetrated with the idea of Slavic greatness. He had become a patriot, a dreamer. More and more he lost sight of his science. After his return to Prag, he took an active part in politics, was elected member of the Bohemian Landtag, and became the leader of the Slavic party.

Purkinje died in 1869, at the age of 62. The last period of life has little interest for the German. Gladly, however, does Germany look back to the time when her aspiring sons surrounded Purkinje and aided him in the creation of a new science. Nor did the Slavs forget their countryman. The Slavic nation also laid on his grave the patriot's laurel-wreath. By his death Germany lost a man who during the best years of his life had dignified and ennobled German science.

The works of Purkinje admit of a twofold division. The first includes his contributions on psychologic subjects, the second, his morphologic works. In the first series his chief work is: "*Uber das schen in subjectiver Hinsicht.*" With remarkable clearness and exactness Purkinje then describes the phenomena produced by electric and mechanic stimulation of the eye, also the well-known scientific fact which now goes under the name of "Purkinje's Phenomena."

Purkinje was aware that the rays from an object in space are focused upon the retina. The formation of images depends upon the accommodation of the refractive media of the eye. He entered upon the task of measuring the curvatures of the lens and cornea, employing, in their determination, a microscope. The images produced by a flame, when held before the eye, are correctly reproduced in this work. Yet, fourteen years later, Sanson of Paris received the credit of this discovery, while still later Helmholtz made this investigation the foundation of his epoch-making discoveries in physiologic optics. The ophthalmoscope is only the completion of an idea long ago expressed by Purkinje. Great attention has been paid to this invention, yet no one mentions in connection with it the name of Purkinje.

His studies on "Dizziness" were followed in 1823 by a paper entitled: "*Commentatio de examine physiologico organi visus et systematis cutanei.*" In this work he gives an atomic disquisition upon the eye, which is intended to show the manner in which a physician ought to proceed in attempting to ascertain the normal or abnormal condition of an organ.

Purkinje's work on morphology is of still greater importance. He busied himself constantly with the preparation and preservation of histologic specimens. The first microtome was employed in this work, and Canada balsam was first introduced by him as a means of preserving sections of tissues. Another method constantly practiced in his laboratory consisted in the presentation of microscopic sections upon a white background with the aid of the Drummond calcium light.

The beginning of his fruitful career as an investigator was made by the discovery of the sperm-cell in the egg of the hen (1825). A short time after, a paper of his upon a botanic subject was highly praised at Paris. Aided by his famous microscope, he made a number of useful discoveries which laid the foundation of histology ten years before the time of Theodore Schwann. Among other things he described the structure of bone, cartilage, and blood-vessels, the glands of the stomach, and the ducts of the sweat-glands. The pinnacle of his fame was reached in 1837 at Prag. There, at a meeting of naturalists, he astonished his audience by the announcement of his discovery of the axis-cylinder of nerve-cells and by the demonstration of cells in different regions of the central nervous system. Purkinje expressed also at this meeting the opinion that the interior of many organs is composed of cells and nuclei, a fact borne out by Schwann's later investigations: "*Uber die Ubereinstimmung in der Struktur und dem Wachshum der Thiere und Pflanzen.*" Schwann became famous by this discovery, while Purkinje's name was not even mentioned.

Many a time has Purkinje pointed the way to a discovery, when time did not allow of his pursuing the subject exhaustively. There was no one better qualified to stimulate thought and to point out ways and means for the solution of scientific problems. Naturally modest, he cared little for the attention which his work attracted, and his inability to make the best capital out of his discoveries has caused his reputation to suffer somewhat in consequence. Already in 1850 his name seems to have fallen into undeserved obscurity. That these slights cast upon his work are in part intentional is shown by the fact that many of his methods and discoveries find their way into contemporary literature under "modern" names. To help in a slight way to restore the luster of a reputation undeservedly tarnished is the object of this appreciation, "*Ehre wem Ehre gebühret.*" Purkinje's name must always remain honored in the history of the scientific progress of this century.

Treatment of Pelvic Neuralgia by Autorectal Dilation.—Prof. Poncet of Lyons has found that mere dilation of the anus and rectum will cure the pains and tenesmus of pelvic neuralgia, not only when they proceed from inflammatory lesions of the adnexa, but also from certain forms of painful prostatism and when they are due to an inoperable cancer of the uterus. He proceeds under chloroform, as for fissure of the anus, extending the dilation to include the rectum—finger or speculum. All the patients were relieved, but as only a few months have passed, the permanency of the cure remains to be established. —*Semaine Méd.*, February 22.

SOME UNUSUAL SYMPTOMS IN A CASE OF MYXEDEMA.*

BY ARNOLD JOLLY, M.D.
HAMBURG, IOWA.

I wish to present a report of a case of myxedema with some unusual symptoms:

Mrs. R., aged 26 years, blonde. She never had any sickness save the ordinary diseases of childhood; has been married six years and has one child, about 5 years old. The beginning of this trouble was in June or July, 1897, when after accompanying her husband (who is a traveling salesman) through the mountains of the West, she apparently began to take on flesh rapidly. With the advent of the increase of flesh came a general indisposition, irritability, languor and exophthalmos. She seemed content to sit quiet and do nothing as compared to her former habits, although she was always up and around the house and entertained company. Her menses stopped in July, and soon after she applied to her physician for treatment for that trouble and for the unnatural flesh she had so rapidly taken on.

In April, 1898, she slipped on the sidewalk, fell and struck her back and side, which gave her more or less pain, of which she complained constantly. Early in May, 1898, she was suddenly seized with a violent pain in the back, in the region of the lower dorsal vertebræ, near where she had been injured by the fall. This pain was so severe that when she moved she would scream with agony, but she would remain perfectly easy as long as she kept quiet and did not move. This "catch in her back" was so severe that she could not be induced to get out of bed again, and kept it until she died. I do not know how much real or how much imaginary this pain was. The harshness of the skin and hair began to show as soon as the disease made itself known. The hair soon began falling out, to be replaced by much darker hair than the original, and the cheeks and the chin were well covered by a growth of hair.

She was treated, up to this time, by various physicians, for suppression of menses, dropsy, pregnancy, rheumatism, neuralgia, etc. She was at this time (about July, 1898, one year after her trouble began and which had not improved) taken in hand by the osteopaths, who at once proceeded to find several ribs, vertebræ and muscles dislocated, and instituted a course of hot sponge-baths and a massage treatment which she and her family thought did her good, and I presume it did make her feel more comfortable. After four months of this treatment she was but little better, and in November, 1898, fell into my hands, and I found her in the following condition: Enormous swelling of the face, neck and the entire body, anteriorly, extending down to the lower limbs, but no pitting whatever on pressure. The swelling was so great that the skin in numerous places was so stretched that great furrows seemed to be torn in the areolar tissue, which left in the flabby tissue that followed the treatment great bluish-red streaks or scars, such as occur in a pregnant woman whose abdomen is greatly distended. Her temperature was normal, and I never found it elevated. The pulse ranged from 140 to 160 per minute and never was lower than 120 at any time until about one or two weeks prior to her death. Her respiration was hurried and sometimes labored. The heart never showed any evidence of organic disease, although I feared its continuous, excessive action would cause, if it had not already done so, a dilation of the organ, which was indicated by an increase in dulness of the cardiac area. The thick, dense and harsh appearance of the tissue was very prominent, and the surface was covered with little pimples such as are seen in boys who have acne. The cheeks and chin were covered with an extra growth of hair. She complained of great pain in her back, hips and limbs. There was a wasting away of the flesh on the lower limbs and back. The greater and lesser sciatic nerves seemed to be the seat of all her pain, and whenever she moved she would scream out with severe pain. She seemed content to remain in bed in one position forever, and had always to be forced to move. There was a marked contracture of the knee-joint tendons and she could not be induced to even try to straighten them out. Her appetite was good and she slept quite well most of the time. There was an absence or atrophy of the thyroid gland, well-marked exophthalmos present, and while she had a slight moisture at this time, she had had profuse sweating at times, making a change of clothing necessary every day.

I recognized in the summary of the symptoms that I had an anomalous case to deal with, yet after careful consideration I could not help but feel that it was myxedema, and at once put her upon the thyroid extract, gradually increasing the dose to 18 grains a day. Her symptoms began to improve some, and the swelling gradually subsided. The exophthalmos gradually grew less prominent, the tachycardia improved slightly and the pulse gradually dropped to 120. Her symptoms now remained about the same for some time, when I added to this treatment tincture of digitalis and tincture cactus grandiflora, to control the heart's action. I also put her upon ten minims of belladonna combined with bromid of sodium, to control the nervousness and insomnia which occasionally occurred. I applied the ice-bags to the precordium, but nothing seemed to improve the symptoms from this point. The neuralgic aches and flitting pains which she would have by spells were treated symptomatically. She was put upon strychnin sulphate, three times a day, during the time she was taking the thyroid extract. About two weeks before her death she was taken with nausea and vomiting, and fearing that the thyroid extract might have something to do with it, I discontinued its use and instituted the ordinary remedies for nausea, which was controlled in a few days and she began to eat. The pulse all this time remained unaffected by the nausea and was as full, regular and as strong as usual. It now began to get slower and gradually fell to 80 per minute and remained there until a few hours before her death—which occurred about a week later—when it gradually grew slower and slower until it quit beating altogether. The night before her death, she began to complain of not being able to talk and grew hysteric. After 1/8 grain of morphia, hypodermically, she dropped off into a restless sleep, which soon deepened into unconsciousness, and death relieved her at 1 o'clock the next day.

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* Read before the Medical Society of the Missouri Valley, St. Joseph, Mo., March 16, 1899.

To recapitulate: Her symptoms at the time I saw her were: Great thickness of skin, apparent edema, slight pigmentation of forehead, neck, extensor surfaces of arms and legs; an extreme thickening of tissue at the external corner of the eyebrow and lips, giving an expressionless appearance to the face, similar to that in dementia; in fact, the entire anterior part of the body was very much increased in thickness. There was a very slight sweating, instead of a dryness and harshness of skin. There was a sensation of coldness complained of. The action of the kidneys was sometimes excessive and sometimes diminished. Analysis showed specific gravity to be 1018 to 1022, reaction slightly acid, the solids about normal, with a very slightly diminished percentage of urea, with a few hyalin casts; a suspension of the menstrual flow. There was a very slight deviation from the normal mental condition, but a lack of quickness of perception of things about her, a slowness in ordinary train of thought, an absence of the usual demented and melancholy symptoms generally seen in myxedema. There was insomnia at times. The hair was harsh, coarse, and had all fallen out and been replaced by a much darker hair than the former. The face was covered with pimples similar to acne and had quite a growth of hair on the cheeks and chin, which was also darker than the hair formerly on her head. The pulse, however, instead of being normal, or slower, was very rapid indeed, ranging from 140 to 160. There was a perceptible atrophy or absence of the thyroid gland. Exophthalmos was well marked, great nervousness and irritability. Her breathing at times was fast and difficult and she had a dry cough, which was aggravated whenever there was any excitement which caused the heart to act more rapidly. She also had spastic contraction of the feet and calves of the legs at night. Her mother positively stated to me that she had had profuse sweating daily for a long time, which did not exist at the time I saw her.

The symptoms just enumerated naturally bring us to the consideration of the much-mooted question, "The Cause of Myxedema and Graves' Disease." One is said to be the antithesis of the other. Whatever may be the nature of the predisposing cause, in discussing the pathogenesis of myxedema our entire attention may be focused on one organ alone—the thyroid gland. There is hardly any need to recount the evidence going to show that upon the absence of this organ or upon some disturbances in its function, the whole pathologic superstructure rests secure. In cases of congenital cretinism the gland is not developed or is atrophied, and in many cases of myxedema the thyroid tissue has been found absent. Still the gland may be present, but its presence by no means indicates that its secretion is healthy. Any change, therefore, in the thyroid secretion which produces an alteration quantitatively, in the sense of diminution, or qualitatively, in the sense of departure from the normal physiologic standard—probably in the direction of lowered potency—is apt to be followed by conditions of which cretinism is one expression and myxedema another.

Our knowledge soon finds a barrier beyond which at present we can not pass, when we attempt to account for the marvelous influence of this little body upon the human economy. Of its real or absolute function, many theories have been proffered, but I doubt if anything positive is yet known. However, I firmly believe that from past experiments, the fact has been established that an alteration in the potency of the physiologic properties of the active principle of the juice, the ablation, atrophy of, or congenital absence of the gland will produce myxedema. Mendel thinks it may be the function of the gland to secrete a substance which, when present, prevents the formation of, or neutralizes, if formed, certain toxic substances in the body. If the thyroid material be wanting, these hypothetic toxins accumulate and excite the conditions already named.

It is from the set of symptoms which supervene when thyroid extract is given to a healthy individual, that the term "thyroidism" and the thyroid theory of exophthalmic goiter originated, as the group of symptoms are similar Briefly named, they are: insomnia, restlessness, warmth of skin, tendency to perspiration, accelerated heart action, mental excitability, quickened intellection, muscular twitchings, etc.

This picture presents many features common to the physiognomy of that very enigmatic affection—Graves' disease. Graves' disease, when it merits the name, is said to be accompanied by some change in the thyroid gland. Because of this constant implication of the thyroid gland, and because of the marked resemblance between thyroidism and the symptoms of exophthalmic goiter, as well as of certain evidence of a histologic and pathologic nature, a most interesting theory has been advanced. This theory, to maintain the two distinct diseases, may be brought into direct pathogenic relationship with changes in the thyroid gland. If the gland is atrophied or absent, or the secretion has suffered diminution in any sense, we have learned to expect myxedema; but if the gland is hypertrophied and the amount of thyroid material poured into the blood be in excess, or if not in excess, if such alteration in quality has occurred as shall be equivalent to an increase in functional activity, then we are taught to expect exophthalmic goiter.

Moebius, one of the most ardent advocates of the thyroid theory, thus contrasts Graves' disease with myxedema: "In one case we have enlargement, in the other diminution, in the size of the thyroid: here the pulse is rapid, there slow; the skin soft and fine, warmer than usual, and inclined to sweat, instead of thick, cold and dry; on the one hand excitability, increased mental irritability, irritable weakness, on the other hand, slowness and dulness of mind."

At this point I wish again to call your attention to the double set of symptoms in the case as quoted above. On the one hand she had the great thickening of the skin, falling of hair, pimpled face, extra growth of hair, all of darker color than normal, absence of atrophy of the thyroid gland, peculiar to myxedema, while on the other there was a very quick pulse, rapid and difficult breathing, exophthalmos, a slight sweating peculiar to Graves' disease. While I admit that there are symptoms of each disease wanting, which go to make up a typic case of either disease, yet there are leading symptoms of both diseases present in this case. If the thyroid theory of myxedema and Graves' disease be true, then I would like an explanation of the symptoms of both diseases occurring in this case.

The pathogenesis of myxedema, I consider from all evidence well established; yet I do not consider myself thoroughly converted to the thyroid theory of exophthalmic goiter. This seems to me to be the deathblow to that theory. I perhaps can not offer you a theory which can carry any weight with it, but it does seem to me that the nervous theory of some toxic influence produced through the diseased gland to the sympathetic nervous system is nearer correct than any other. As Huxley has said: "As science has shown that all modifications in material things are due to motion and change in particles, so the time will come when more delicate means of investigation will prove that so-called psychic conditions are due to change of state in things which are to us, now, non-material." So I believe in a lesion in continuity in all disorders, let it be what is known as functional, or what is known as organic. Time and investigation will probable reveal the means by which this may be demonstrated. The pathology of this disease is that which mostly interests us as scientific men. We can only hope for an intelligent solution of the subject, which I feel must soon come, then the application of intelligent therapy will follow when once the cause and the conditions produced by the cause are explained.

SUGGESTIONS AS TO TREATMENT OF ALCOHOLISM.*

BY DANIEL R. BROWER, A.M., M.D., LL.D.

Professor of Mental Diseases, Materia Medica and Therapeutics, Rush Medical College, in affiliation with the University of Chicago;
Professor of Nervous Diseases, Northwestern University
Woman's Medical School, Chicago; Diplomat of
the Society of Neurology and Mental
Science, Moscow, etc.
CHICAGO.

The more thorough pharmacologic studies that have been made of ethyl alcohol in the last few years have placed it in the class of anesthetics with chloroform and ether, and displaced it from its former association as a stimulant with strychnia and digitalis. This most important fact must be borne in mind in considering the therapy of its poisonous effects. We may recognize three forms of alcoholism from a therapeutic standpoint: 1, acute alcoholic intoxication; 2, acute alcoholic delirium or alcoholic mania, and, 3, chronic alcoholism. These types of poisoning each alike demand for their successful treatment the immediate withdrawal of the alcohol. In my earlier experience with alcoholism, thirty years ago, I withdrew the alcohol gradually, under the impression that it was a stimulant, and that danger would follow any other course, but in later years a more abundant clinical experience has satisfied me that this plan was an error. It, being an anesthetic and a poison, should no longer be added to the body already overburdened with its combined effects.

Acute alcoholic intoxication.—In robust subjects the most rapid results are obtained by putting them to bed and administering a hypodermic of apomorphia hydrochloras, 1/10 to 1/5 grain (0.006–0.012); after emesis the patient will usually go to sleep without further medication, and will awaken sober, but feeble. I then direct a combination of tinctura capsici, 5 minims (0.30), tinctura nucis vomicæ, 5 minims (0.30), tinctura cinchonæ composita, ʒi (4.00), every three or four hours, with koumiss, milk, beef-juice or raw eggs ad libitum. The bowels should be relieved as speedily as possible, and for this purpose I usually direct massa hydrargyri, 5 gr. (0.30), followed by a saline laxative. If the patient is too feeble for emesis, I order liquor ammonii acetatis, ʒiv (16.0), every two hours, and a wet pack; following this treatment the acute effects of the alcohol speedily disappear. This is to be followed by the tonic course above outlined. For insomnia following acute alcoholism I usually prescribe a combination of sodii bromidum, 15 gr. (1.00), chloral hydras, 15 gr. (1.00), tinctura hyoscyami, 15 minins (1.00), to be repeated in one hour if necessary.

Acute alcoholic delirium and acute alcoholic mania.—Although differing from each other clinically these are therapeutically much the same. The patient should be put to bed in a quiet dark room and carefully watched by adequate attendants. If competent attendants can not be obtained, the patient should be strapped to the bed. The indications for treatment are to procure sleep as soon as possible, and to support the strength. Sleep may be obtained by using the combination above mentioned, or by a combination of chloralamid, 15 gr. (1.00), with hyoscin hydrobromas, 1/100 gr. (0.0006). In the aged and infirm, ammonii bromidum and liquor ammonii acetatis will often produce sleep. These sleep-producing agents should be supplemented by the wet pack; the strength should be sustained by forced feeding with predigested food, malted milk, peptonized milk, somatose, koumiss, etc., and the administration of strychnia sulphas. I fail to see any advantage in using the strychnia hypodermically, except in some emergencies, as all its constitutional effects are obtained by administration per os. After the excitement has subsided, the treatment should be of the same tonic character as that used after acute intoxication.

Chronic alcoholism.—The treatment of chronic alcoholic poisoning can not be successful without power to seclude. Occasionally this may be voluntary, or otherwise compulsory, and one year of treatment under this condition is the least that should be thought of. If this international congress can secure such legislation as will make possible the involuntary commitment of inebriates in various countries, such as is now the case in the Canton of St. Gall, Switzerland, and in the State of New York, U. S. A., making the term one year, with the power of extending, as the physical and mental condition of the patient may demand, the treatment of chronic alcoholism will soon be efficient. It should consist of mild alteratives as well as tonics. The histologic changes which have taken place in the neuron, in its cell body, in its dendrons and in its neuraxon require the prolonged action of both these therapeutic agents, the terms being used in their broadest sense. As an alterative, I have a special preference for the chlorid of gold and sodium. A somewhat extended study of this neglected drug causes me to emphasize the statement made by Neumeyer as to its alterative value in depressed conditions of the nervous system. It should be given before meals, and care should be exercised in combining it with drugs that will not decompose it. I prefer as a vehicle, as well as a synergist, the resin of guaiac. As tonics, nux vomica, cinchona and iron are the most valuable. Massage, electricity and a Turkish bath are all important agents, combining as they do both alterative and tonic properties. For the insomnia of these patients hyoscin hydrobromas, trional and chloralamid alone or in combination are the best drugs. The digestive organs, usually much impaired, require much consideration. Lavage is usually necessary, and the most easily digestible foods, even predigested food, in the largest possible quantities. Elimination by the bowels, skin and kidneys will usually demand attention. Autointoxication is an active factor in many cases, and colonic flushing, mild laxatives, diuretics and diaphoretics are usually indicated. During this prolonged seclusion a sufficient amount of useful occupation and rational amusement should be provided.

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*Read before the Seventh International Congress on the Abuse of Alcohol, at Paris, April 4, 1899.

CHRONIC CATARRHAL OTITIS.*

TREATMENT BY OTO-MASSAGE.

BY CLARENCE R. DUFOUR, Phar.D., M.D.
Physician in Charge of Eye Department, Eastern Dispensary; Ophthalmologist and Otologist to Sibley Memorial Hospital; Assistant in Eye and Ear Department of Central Dispensary and Emergency Hospital, and Instructor in Ophthalmology and Otology, Georgetown Medical College;
Chief of Eye and Ear Clinic, Georgetown University Hospital.
WASHINGTON, D. C.

There are two forms of this disease—the hypertrophic and the hyperplastic, or sclerotic. The former consists of a swelling of the mucous membrane lining the tympanum or middle ear and the Eustachian tube, due first to venous congestion which is followed by tissue hypertrophy, the air in the middle ear is absorbed, and no more can get there on account of the closure of the Eustachian tube. The pressure of the atmosphere from without forces the drum membrane inward, until its further displacement is prevented by contact with the inner wall of the tympanum. The membrani tympani is thickened and frequently there is a deposit of lime salts in the fibrous layer. The movement of the drum membrane inward and its retention in this position is favored by the action of the tensor tympani muscle, which draws the membrane inward, when it contracts; this muscle by nonuse will become shortened. The intratympanic ligaments are more or less affected in this disease. The ossicular chain becomes ankylosed by the newly deposited connective tissue becoming changed into dense fibrous tissue and this increases the tension of the chain of bones by contraction; then again, the catarrhal exudate becomes plastic and cements the articulation of the ear bones. All these conditions interfere with free vibration of both the tympanic membrane and ossicles. To be brief, I would state that the hyperplastic form of this disease is just a step further, an increase in the fibrous tissue, that of the lining of the tympanum and tympanic membrane. The latter becoming entirely sclerosed, the adhesions form between the ossicles and the internal wall of the middle ear. These changes are very marked around the oval window, binding the stapes down firmly so that it is not movable; it is an almost total change of the connective tissue and mucous membranes of the ear into fibrous tissue. The subjective sensations are various kinds of noises in the ear and impairment of hearing, which comes on very gradually, so that when the patients present themselves for treatment we often find that much damage has been done to the ear.

The treatment of this disease consists in restoring the mucous membrane to its normal condition before any change in it may occur. This can be done, in the hypertrophic form, usually by inflating the ear by means of the Politzer air-bag, or the Eustachian catheter, passing menthol or iodin vapor into the middle ear through the catheter; also by spraying a 1 per cent. solution of menthol and camphor in liquid albolene through the catheter into the tympanic cavity. The nostrils and nasopharynx should be cleaned by an antiseptic spray, mild and alkaline in character. Dobell's solution (a solution of borax, bicarbonate of sodium and carbolic acid in glycerin and water) I have found beneficial. This spraying should be done two or three times daily by the patients at home, using the precaution not to blow the nose for ten or fifteen minutes after using it. By observing this precaution any of the secretion will be prevented from being blown into the Eustachian tube and from thence into the middle ear where it is liable to cause an inflammation which may result in an acute suppurative otitis. The physician should perform the inflation at his office, and only after the nostril has been freed by the patient from any secretion that might be present; this to be followed by spraying nostrils and throat with the menthol and camphor oily spray. The inflation and medical treatment by the physician should be done two or three times a week, as the conditions indicate. I think treatment every other day is frequent enough for any case.

As indigestion and constipation are liable to affect the mucous membrane of the throat and nasopharynx, attention should be directed toward relieving these conditions. I usually direct my patient to drink a cup of hot water half an hour before breakfast, giving them one of the artificial digestive agents, such as essence of pepsin, pancreatin, extract of malt, caroid, etc., as the case may indicate, governing the administration as to whether it be stomachic or intestinal, starchy or nitrogenous indigestion. A glass of Hunyadi water before breakfast will generally relieve the constipation. Persons who work in a dusty atmosphere suffer more from catarrhal condition of the mucous membrane. I sometimes direct these to put a piece of absorbent cotton lightly in the nostrils. This prevents the particles from entering the nose and keeping up an irritation which will eventually affect the ears.

The treatment I have briefly outlined is the accepted routine treatment, and a good one as far as it goes, but with oto-massage we can go a little farther, i. e., get more cures and improvements. There are several forms of oto-massage, as mechanic massage as advised by Lucæ and others, by means of probes placed against the membrana tympani and manipulated by hand. This process is clumsy and painful and my experience has been that many patients will not long submit to a treatment that is painful. By Lucæ's method there is danger of forcing the stapes in the oval window and thereby increasing the pressure in the labyrinth, causing vascular turgescence, augmenting the inflammation which is already present and causing dizziness and unsteady movements of the patients when on their feet. The method of Otard and others, of massaging the tympanic membrane by means of sound, is of some benefit, especially if nonmusical sounds are used; the telephone and graphophone are of no benefit whatever. I have a device, upon which I am working, for the production of nonmusical sounds for massaging the membrana tympani and ossicles, which I hope to demonstrate in the near future, which, together with my apparatus for pneumomassage, has given very good results.

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* Read before the Therapeutic Society of Washington, D. C., March 11, 1899.

The method of oto-massage by means of a column of air mechanically applied through the external auditory meatus is the best plan to date and gives better results. The Seigel speculum is used by many otologists and they claim to get good results from it, but it does not have the advantages that a mechanic masseur has, when it is constructed upon proper principles and can be regulated as to speed. The Delstanche masseur is liable to cause pain and congestion as it is usually manipulated too violently. Carefully and gently used it gives good results, but not to be compared to the mechanic masseur, as the latter is painless, safe and beneficial in its action. The apparatus I have been using for several years is a small air-pump, operated by a small electric motor. The speed is regulated so that a very slow motion may be obtained, or one as rapid as it is prudent to use. I always start it on the exhaust stroke, which draws the membrana tympani outward and then pushes it gently inward. Becoming convinced that the inward pressure should be overcome, I thought out a plan which I gave to a firm in Pittsburg for making an instrument, not yet finished. The valves of this instrument are arranged so that the membrana tympani is drawn forward and the air escapes on the return stroke of the piston, which allows the membrana tympani to go back of its own accord, thus entirely obviating compression. The energy of the stroke, as well as the speed, can be absolutely controlled.

Now as to the value of massage in the ear, the rigidity of the chain of ossicles is subjected to passive motion, a stimulation of the circulation and a revitalizing of the mucous membrane of the ear occurs. I have found from three years' experience in the treatment of this disease, by this method, that from 60 to 65 per cent. of benefits have occurred, such as causing a cessation of the tinnitus and improving the hearing by increasing the vibratory power of both membrana tympani and ossicles. The results obtained by the surgeon in passive movement of an anchylosed limb is practically the same result obtained in treating the ear by oto-massage. We get more cures or benefits in the hypertrophic form than in the hyperplastic, though in the latter we often get improvements and cures. In some cases it arrests the process of a slowly advancing deafness, which is of considerable advantage to the patient, though the hearing may not be restored. As this disease advances very slowly and insidiously, the benefit or cure must be equally slow. We can not expect to cure a process that has been present for years and one in which such changes occur in the ear as in catarrhal otitis, in a month or so, although some cures I have caused in that time and some were only benefited. I usually say to my patients that it will extend over several months, and often regulate my fee so that if they must practice economy, they will feel able to undergo the treatment. Twice a week is sufficiently often for seeing the patient, though some cases will require a sitting every other day.

All these cases of catarrhal otitis have a beginning, and the general physician is often the one to whom the symptoms are explained and from whom advice is sought by the patient. So I would enter a plea that when a patient complains of buzzing, roaring in the ear or a little bell tinkles or rings, the ears feel stuffy, as if something were in them, when the hearing is a little impaired, do not pass it by, but look into the ear and into the symptoms, so that you can intelligently refer them to the otologist, when not doing such work yourself, and before the usual changes occur. It must not be concluded that the middle-aged or old are the only ones who suffer or are affected by this disease; on the contrary, the young are also affected, especially with the hypertrophic form, caused by enlarged pharyngeal and faucial tonsils and other causes, which must be removed or reduced before oto-massage will be of benefit.

Note.—Since the above was in type I have received my electric pneumomasseur and have been using it for a short time. It has fulfilled my expectations in every respect. I also find it of great value in withdrawing pus from attic and middle ear through the membrana tympani, a safer plan than by inflation.

1016 Fourteenth Street.

Societies.

COMING MEETINGS.

Alabama, Medical Ass'n of the State of, Mobile, April 18.
California, Med. Soc. of the State of, Monterey, April 18.
Florida State Ass'n of Railway Surgeons, Jacksonville, April 18.
Florida State Med. Soc., Jacksonville, April 19.
Georgia, Med. Ass'n of, Macon, April 19.
Hartford County Med. Ass'n, Hartford, Conn., April 19.
Louisiana State Med. Soc., New Orleans, April 25–27.
Maryland Medical and Chirurgical Faculty, Baltimore, Md., April 25.
Tennessee State Med. Soc., Nashville, April.
Texas State Med. Ass'n, San Antonio, April 25.

Balneological Congress.—The next balneological congress will be held in Frankfort A. M., March, 1900.

Third District Branch, N. Y. State Medical Association.—The next meeting of this association will be held at Elmira, N. Y., June 1, 1899.

Salt Lake County Medical Society.—At the last bimonthly session of this society, Dr. W. Y. Croxall was elected secretary to succeed Dr. S. Erving, resigned.

Johnson County Medical Association.—At the recent meeting, the following officers were chosen for the ensuing year: President, T. N. Self; vice-president, A. R. Kuykendall; secretary, R. H. Roark.

Boone County Medical Society.—At the meeting of this society, held at Lebanon, Ind., April 4, election of officers resulted in: President, P. B. Little; vice-president, E. G. Bounell; treasurer; Jessie S. Reagan; secretary, Mary Van Nuys.

Genesee County Medical Society.—The physicians of Genesee County, Mich., gave a dinner in honor of Dr. James C. Willson at Flint, March 30, upon the anniversary of the Doctor's fortieth year in the practice of medicine in the county. The meeting was made the occasion for the starting of the Genesee County Medical Society.

Polk County Medical Society.—The annual meeting of this society was held at Des Moines, Iowa, April 4, and the following officers elected for the year: President, M. N. Voldeng; vice-president, Dr. Emery of Norwalk; secretary, W. W. Pearsons; treasurer, N. T. Schiltz.

North Central Ohio Medical Society.—The eighteenth annual meeting of this society was held recently, at Mansfield, Ohio, and election of officers resulted as follows: President, A. F. Hyde of Shelby; vice presidents, Dr. Trimble of Crestline, J. S. Hedges of Mansfield; secretary, J. Lillian McBride; treasurer, A. H. McCullough. The society will meet in quarterly session at Bucyrus, June 30.

German Society of Public Hygiene.—Drs. Rubner and Leyden (Berlin) are the initiators in the organization of a German Society of Public Hygiene whose aim is: 1, to diffuse the knowledge of hygiene and the results of hygienic research; 2, to take active part in all social questions which pertain to public health; and 3, to encourage and assist all such practical undertakings which purport to further public health.

Hartford County Medical Association.—The 107th annual meeting of this association will be held at Hartford, Conn., April 19. Dr. Erastus P. Swasey will present a dissertation on "Three Cases of Femoral Hernia." The county report will be made by Dr. Frederick T. Simpson, on "Cerebrospinal Meningitis." Dr. A. E. Abrams will read a paper on "Pneumonia," and Dr. E. K. Root one on "Differential Diagnosis of Cardiovesicular Murmurs." Relation of cases will be made by Dr. E. J. McKnight and Dr. J. E. Root, the latter presenting a case of fracture of the cervical vertebra with recovery. Obituaries on Dr. Roswell Fox and Dr. E. K. G. Fox will also be presented.

Washington (D. C.) Obstetrical and Gynecological Society.—The 296th meeting of the society was held at the residence of Dr. Deale. Dr. G. N. Acker read an interesting paper on "Parotitis Complicated with Orchitis and Bright's Disease in Young Children." He cited several cases, giving the history in full, calling special attention to the age of the patients. He believes the disease to be an acute, infectious disease, and the complications the result of the general specific infection. An interesting discussion followed, participated in by Drs. Winter, Adams, Kelly, Bowen and others. Dr. Acker presented a very interesting specimen of blighted ovum and gave the history of the case. An interesting discussion followed.

Washington (D. C.) Medical Society.—At the recent meeting of the society Dr. J. H. Bryan reported cases of chronic pemphigus of the larynx. Dr. Lamb presented cases of cerebral hemorrhage, cerebrospinal meningitis and renal cyst. Dr. D. P. Hickling reported a case of fused kidney and presented the specimen; the two kidneys were intimately united, but two ureters were present. Dr. Mary A. Parsons read an essay entitled "Has Mankind a Rudimentary Sixth Sense in Process of Evolution"? Dr. W. W. Johnston presented the specimen and gave the history of a case of carcinoma of the gall-bladder. Dr. John D. Thomas read a paper on "Some of the Complications of Typhoid Fever, with report of Cases seen in Soldiers During the late War."

Washington (D. C.) Medical Association.—The stated meeting of the association was held April 4, for the annual elections, which resulted as follows: Drs. D. Webster Prentiss, president; Thomas N. McLaughlin and A. E. Balloch, vice-presidents; John R. Wellington, secretary: Frank Leech, treasurer; Drs. G. N. Acker, W. P. Carr, R. T. Holden, H. L. E. Johnson, D. Olin Leech, Clifton Mayfield, John S. McLain, G. C. Ober and R. T. Stone, counsellors; Wm. C. Woodward (health officer), G. Wythe Cooke and Larkin W. Glazebrook (deputy coroner), censors. The following were elected delegates to the next meeting of the Am. Med. Ass'n: Drs. Ida J. Heiberger, H. H. Barker, McLaughlin, G. N. Acker, Robert Reyburn, H. L. E. Johnson, Geo. M. Loehboehler, Geo. M. Koeber, L. Elliott, N. P. Barnes, T. C. Smith, A. E. Balloch, J. D. Morgan, J. S. McLane, C. H. A. Kleinschmidt, G. Wythe Cook, S. Stone, W. D. Hughes, C. L. Allen, J. W. Bovee, D. W. Prentiss, C. W. Franzoni, Clifton Mayfield, C. M. Hammett, A. Berhend, G. L. Magruder, J. D. Thomas, S. S. Adams, P. C. Hunt, W. C. Woodward, P. G. Poole, F. Leach, M. G. Motter, J. R. Wellington, T. A. Claytor, J. H. Mundell, A. L. Stavely, H. B. Deale and H. D. Fry. The secretary, Dr. Frank Leach, reported that the $250 pledged by the association for the Rush Monument Fund had been duly forwarded to Dr. Henry D. Holton of Vermont.

Centennial of Maryland Medical and Chirurgical Faculty.—According to the program of this anniversary celebration (vide Journal, pp. 267, 632), April 25-28, Professor Chew's presidential address, the evening of the first day, will be followed by a reception by the faculty. Luncheon will be served daily at the gymnasium of the Johns Hopkins University. The annual dinner, which will be quite attractive, especially in the features of post-prandial addresses, will be on the evening of the third day. All the papers to be read except the presidential address will be by physicians from other cities, as follows: Dr. Herman Knapp, New York, "Some Landmarks in the History of Ophthalmology;" Dr. E. H. Bradford, Boston, "A Study of the Human Gait;" Dr. George Ben. Johnston, Richmond, "How Far Myomectomy is to Supplant Hysterectomy;', Dr. W. W. Johnston, Washington, "J. Hughes Bennett; His Services to Medicine;" Dr. Samuel Alexander, New York, "The Management of Vesical Calculus in Prostatics;" Dr. W. W. Keen, Philadelphia, "The Debt of the Public to the Profession;" Dr. A. Jacobi, New York, "European Medicine About 1799;" Dr. E. G. Janeway, New York, "Clinical Observations on Some Forms of Heart Disease;" Dr. H. C. Wood, Philadelphia, "Nostrums; the Profession; the Law;" Dr. Roswell Park, Buffalo, "Cancer as a Parasitic Disease;" Dr. J. C. Edgar, New York, "Obsolete Teaching." The exhibit of portraits promises to be large and interesting, over 100 portraits of the most eminent of deceased physicians of Maryland being already promised, including works of such artists as Rembrandt, Peale, Sully, Gilbert Stuart and others.

Wayne County Medical Society.—At the regular meeting, April 6, Dr. W. J. Cree read a paper on "What Shall We Prescribe?" directed chiefly against the practice of reputable physicians prescribing nostrums and pharmaceutic preparations where they know nothing of the exact formulæ. He called attention to the tricks of the medical advertisement sharper, who has two methods of procedure. The first is to advertise his nostrum to the lay public and secure a wide-spread patronage, then to reveal the formula of the preparation, and, through avaricious medical journals, advertise it to the medical profession. The other plan is the reverse of this. When the advertiser has secured the acceptance and endorsement of his drug by the medical profession, he advertises it to the people, and quotes the endorsements of the medical men who have found it useful. An evil of prescribing such preparations, the author stated, is that most persons read their prescriptions and soon learn the names of the secret nostrums prescribed. They can thus learn to call for the special preparation needed at any future period, and so in a sense prescribe for themselves. The Doctor had asked several druggists to note the people asking for secret remedies for la grippe, and was informed by the majority of them that 30 per cent. was a safe estimate. To the question, What shall we prescribe? the Doctor said, "My answer is to order only such remedies as are known to be legitimate preparations, and ignore entirely all secret remedies. I believe better results would be obtained and we would treat our patients on a more scientific basis."

American Laryngological, Rhinological and Otological Society (Western Branch).

Annual Meeting, San Francisco, Cal., March 31, 1899.

Dr. H. L. Wagner, the vice-president, delivered the address of welcome.

Dr. Wm. A. Martin of San Francisco opened the regular scientific portion of the business by the presentation of two short papers:

I. HEMORRHAGES FOLLOWING ADENOID OPERATIONS.

Dr. Martin stated that there is much more danger in adenoid operations than we are accustomed to believe. He had had no trouble for some years, but afterward found that his early experience was nothing more than good luck. Illustrative of the sort of complication referred to he cited three cases occurring during the past year.

II. A CASE OF EMPYEMA OF SINUS FRONTALIS.

Dr. Martin saw this case first in May, 1898, when there was a large swelling at the inner angle of the orbit of the left eye; the root of the nose on that side was also swollen. Some polypi had been removed. The orbital trouble had been increasing for some time; the man had been afflicted with the disease for several years. The anterior portion of the left middle turbinate was snared away and the natural sinus probed, but without beneficial result. The collection of pus over the orbit was producing so much discomfort that this was first removed by making an incision into the pus sac just below the orbital ridge. About two ounces of pus discharged. Three days later the frontal sinus was opened by means of a bone flap just to the left of the inner angle. The frontal sinus was found to be greatly involved; this was curetted carefully; ethmoidal cells were involved somewhat; drainage-tube was introduced and retained for three months; wound then closed. Shortly afterward pus was found to have again gathered and the wound was reopened; it was now washed and irrigated and a solution of iodoform in absolute alcohol injected. The patient made an eventually good recovery with not very marked deformity.

EMPYEMA OF THE SINUS FRONTALIS.

Dr. Frederick Fehleisen of San Francisco read a paper on this subject, and said he had operated on some thirty cases, some acute, with fever, etc., but most were old chronic cases which had persisted for years. He used to trephine just above the eyebrow, near the nose, and clean out the sinus as well as he could through this small opening. That method he found not satisfactory and now performed a more radical operation. In the old method all the diseased tissue was not generally removed, and as a result there was long-continued discharge from the sinus and poor healing of the wound. Now he removes the entire interior of the sinuses, scraping out not only the mucous membrane, but also the diseased bone which he finds to be present in nearly all old cases. The anterior table over the entire affected region is removed and no diseased tissue allowed to remain. The wounds heal readily and the trouble is cured. He presented two cases.

In Dr. Fehleisen's opinion, it is not enough to simply remove the mucous membrane, but the softened bone, and where there is a fistula, the floor of the sinus should be removed. The cases were exhibited, and though the disease was undoubtedly cured, the resulting scars were very unsightly. As the anterior wall had been removed, there was a marked depression over the eyes, of irregular outline and ragged appearance.

Dr. Kaspar Pischel said that in both cases the eyes had been pushed down and out; there was hypophoria and esophoria, but there was no binocular vision. In both cases the vision was very good. Transillumination had been tried on these cases, but it was of but little value in affections of the frontal sinus. He thought it useless to try syringing in these cases, as there was always a much degenerated mucous membrane, and often much granular tissue, which must be removed before suppuration will cease and the wound heal. A more radical operation is much to be preferred. In most cases there is no direct effect of the sight due to optic nerve involvement, but this does occasionally occur. He cited a case on which he had recently operated, in which the optic nerve had become involved through spread of the inflammatory condition. The disease was caused by repeated severe colds following an attack of the grip. He could nearly, but not quite, probe the frontal sinus through the natural opening, and found the customary pain when the probe came near to the inner angle of the orbit. Operation relieved the trouble with the sinus, but not the nerve affection.

Dr. F. B. Eaton thought it rather too heroic to make such a radical operation as was done in the cases presented by Dr. Fehleisen. The disfigurement was very great. He thought it much more advisable to treat by packing through the sinus or a small opening, and most if not all cases could be cured. The treatment is tedious but efficacious. He called attention to the method advocated by Gulovien, in which hot steam is injected into the cavity through a small tube first introduced either through the fistula, if such be present, through the natural opening, if it be possible, or through a small incision.

Dr. Sampson Trask said the cases presented by Dr. Fehleisen were instructive as to the results of the more radical operation, but he himself was more conservative, thinking that simpler means, though they consumed more time, yielded cures and did not leave unsightly scars. He called attention to the normal opening into the frontal sinus, which he thought might be more extensively used. Removal of the anterior portion of the middle turbinate generally made it possible to probe the sinus in this manner.

Dr. Adolph Barkan considered the operation for removal of adenoids a very serious one. The pharyngeal tonsil was the one of the three most liable to give trouble, and he makes it a rule never to operate on the three at once, and always insists on having the patient in the hospital for at least twenty-four hours, for adenoid operations. He will not operate if they will not go to the hospital. As a routine procedure, he first introduces a silk thread through a soft catheter, leaving it in place through the nose and mouth till several hours have passed and no trouble is evident. It is easier to pass the thread before the operation, when the patient is quiet, than in the face of a severe hemorrhage when the patient is excited and weakened by severe bleeding.

Dr. Fehleisen was much interested in the proposed use of hot steam for dealing with these affections, but had not yet been able to make use of it. He thought that if there had been, for some time, a fistula in the floor of the frontal sinus only, the removal of the diseased bone would effect a cure.

Dr. Martin thought the specialist took more thought to the ultimate cosmetic result of an operation than did the general surgeon. Specialists were therefore rather loath to undertake the extremely radical operation of removing the anterior table over the frontal sinuses, and were willing to spend more time in the slower method of treatment when there was any chance of its being eventually successful. He had quite cured one very severe case by the injection, through a canula introduced by means of the natural passages, of a solution of iodoform and absolute alcohol. The treatment covered a period of one and a half years, but the patient was more than willing to put up with the long treatment rather than be disfigured by the radical operation.

Dr. Sampson Trask, in discussing hemorrhage after adenoid operations, said there was always to be remembered the danger of hemorrhage following operations on the throat. Especially is this true after operations on the third tonsil. He considered it unwise to operate on these affections during the existence of any acute inflammatory process.

Dr. Martin said that undoubtedly a hospital was the best place in which to operate for the removal of adenoid growths, but unfortunately all patients had not the necessary means to go to a hospital and also pay for the operation. The placing of a silk thread before the operation, as suggested by Dr. Barkan, was also an excellent idea; but in two of the three cases which he had just reported, the thread would have been removed even by Dr. Barkan, long before the hemorrhage occurred. In one there was no hemorrhage to amount to anything within twenty-four hours, and no considerable hemorrhage till the fifth day. In the last case, the alarming hemorrhage did not appear till the ninth day after the operation. He had made use of extract of suprarenal capsule in two or three cases, and so far thought well of it. In one case in which he had operated to divide a band between the middle turbinate and the septum, he met with excessive hemorrhage after the first cut, in spite of the fact that he had made liberal use of the solution of the suprarenal gland. What it would really be worth remained to be seen.

UNILATERAL HYPERTROPHY.

Dr. Douglass W. Montgomery of San Francisco made a further report of a case of unilateral hypertrophy of the face, with unilateral hypertrophy of the hard palate and gums. The history of this exceedingly rare condition, which was so unusually well marked in the case exhibited, was as follows: The patient, a man of about 45, had been under observation by the doctor since 1893. His parents were German, and so far as could be ascertained, perfectly normal. The man's birth and life, up to the fifth year certainly, were also normal. A photograph taken at the fifth year shows no peculiarity. A photograph taken at the tenth year, on the contrary, shows the condition commencing. A slight enlargement of the left side of the face could be noticed in the photograph taken when the patient was ten years old. The hypertrophy was very well marked and was absolutely unilateral, the median line very exactly marking the line of hypertrophy. Along the head and forehead was a large roll of bone; the malar was very prominently enlarged; the skin as well as the bones on that side of the face was the seat of hypertrophic changes. Indeed, in 1893, a very large roll of skin had been removed by operation, from just beneath the left eye, where it acted mechanically in disturbing the man's vision. This had not returned since the time of operation. The lips, gums and hard palate were greatly enlarged, and a cast of the mouth, which was shown, exhibited this peculiar condition most strikingly. The skin on the left side of the face was markedly red, but Dr. Montgomery stated that it was not so red as it had been three years ago; he thought the condition was receding to a certain extent. Certainly it seems to be at a standstill. There was no enlargement of any other portion of the body, either on that side or the other. There was no enlargement of the hypophysis and the case was surely not one of acromegaly. The doctor called attention to the excessive rarity of the condition, and mentioned all the cases thus far reported, the first being by Beck, in 1836. Almost all of the cases reported were, however, congenital; this case was not, but a clear case of acquired, progressive unilateral hypertrophy of the face. No explanation of the phenomenon was attempted.

OTOLOGIC EXPERIENCES DURING THE NAVAL BATTLE OF SANTIAGO, ON BOARD THE IOWA.

Dr. M. H. Simons, U. S. N., first considered the two kinds of powder used on board, the brown prismatic and the so-called smokeless powders. In the brown, some of the grains are unburned, and by the explosion are finely powdered. This dust is often blown back on to the decks of the ship and is somewhat irritating to the mucous membranes. It causes slight congestion, which passes rapidly away. The smokeless powder does produce some slight amount of smoke, or rather haziness in the air, after a discharge of a large amount. Carbonic oxid gas forms in the breech, and when the latter is opened, is changed to carbon dioxid; no ill effects were noted from this gas. After a number of discharges the decks become hazy with the fumes from this powder, and there is noticed a slight, though decided acid smell. It is extremely irritating to all mucous membranes, though no serious trouble results. When the decks are washed down after the firing has ceased, this all passes away. After the battle of Santiago there were several cases of nasal, tonsillar and eye inflammations; these were simple and yielded at once to simple treatment. A few were deaf, some for from two to four days, but they all recovered by the use of inhalations and politzerizing. Only two cases were observed in which there was rupture of the tympanum. Here there was no pain, but the patients complained of tinnitus. The Doctor stated that he was himself slightly deaf as a result of that engagement. When a gun is fired, there is a feeling of a sudden blow, something like the blow from a bar of iron. With the small guns this is quite sharp, but with the large guns it is more heavy. Some complained of general muscular soreness after the battle. The two cases of perforation occurred in the vicinity of the eight-inch gun. In his opinion the deafness was the result of the irritation of the throat, primarily, this producing a closure of the Eustachian tube; a subsequent heavy discharge would force in the tympanum, thus forcing out a small amount of air which could not return and hence the drum would be somewhat retracted and slight deafness result.

Dr. **Wm. A. Martin** had seen some cases of rupture of the drum membrane from explosions and thought the explanation was not that suggested by Dr. Simons, but more in the nature of an outward thrust of the air in the middle ear, occurring at the time when the wave of rarefaction, or partial vacuum, struck the ear; in other words, that the rupture is due to pressure from within.

Dr. **F. B. Eaton** agreed with Dr. Simons, and artillerymen had told him to keep his mouth open when near a large gun about to be fired, saying that this prevented the injury to the ear. He thought the impact of the wave could do more damage than the pressure from within.

Dr. **Simons** had not noticed any cases of deafness until the guns had been firing for at least fifteen minutes, during which time the gases had accumulated and produced their irritating effect. He spoke of the difference which relative position had in the effect, but said that one could not choose his attitude, for guns were going off above, below and on all sides. The irritation of the fumes was much like the irritation produced by holding the head over a vessel of weak formalin solution.

Chicago Academy of Medicine.

Regular Meeting March 10, 1899.

Dr. **Harold N. Moyer** officiated as chairman of the meeting.

THE ORIGIN OF CONNECTIVE TISSUE FROM EPITHELIAL CELLS.

Dr. **Leo Loeb** read a paper on the above subject. He reported some observations of transitional stages between epithelium and connective tissue. These observations were made in connection with experiments on the transplantation of skin. In one series of experiments the skin was transplanted on superficial wounds, in another it was transplanted in the deeper layers of the ear of the guinea pig. The transplanted skin was examined in many stages of its healing process. In many places one gets an impression as if the nuclei of the deeper epithelial cells were transformed into the nuclei of the connective tissue. The nuclei of the deepest epithelial cells may sometimes have a different morphologic character. In such cases the nuclei of the underlying connective tissue frequently have forms corresponding to those of the nuclei of the epithelial cells. Not infrequently the nuclei of the deepest epithelial cells have no longer their usual vesicular structure, but have a structure more like that of the connective tissue, being more or less rod-like in character.

Secondly, at certain places beneath the epithelium one notices the fading away of the epithelial cells, so that only their dim outlines may be visible. The regenerating epithelial cells are often closely connected by protoplasmic bridges with the underlying tissue. Especially in the hair follicles beneath the transplanted tissue, there appears gradual transition of the character of epithelial cells to the character of the connective-tissue cells. Under certain conditions the epithelium presents the appearance of the "upper protoplasmic layer." The latter is characterized by its homogeneous transparent protoplasm and its lack of visible cell limits. It possesses nuclei which do not have the ordinary vesicular appearance of epithelial nuclei.

Microscopic sections obtained from three experiments were described more in detail. They showed at different places appearances of gradual transition of epithelial cells to connective-tissue cells. The nearer the cells were to the epithelium, the more closely did they have the character of epithelial cells. Farther away they showed the typic character of connective-tissue cells. In a former paper the author had reported an observation of the epithelial tissue breaking through cartilage. Here the epithelial cells take a spindle form, being much drawn out, so that they could be easily taken for connective-tissue cells.

To these cases of transition the epithelial cells and connective tissue cells have the same direction. It must be stated that at many places there is a sharp line of demarcation between the epithelium and the underlying tissue, but frequently there is a direct connection, no such line of demarcation being present.

The papillæ in the regenerating or in the transplanted skin do not have the regular form as seen in the normal skin, but have the most irregular and grotesque forms. They may form an overhanging protuberance, the basal portion of which is separated from the epithelium by a straight line. This curious formation can be explained on the supposition that the papillæ are formed by the gradual breaking down of the epithelium.

Along the margins of the papillæ one sometimes observes the dim outlines of the original epithelial cells and nuclei which have the character of the connective tissue; yet nuclei resembling the nuclei of the epithelial cells are situated in the direction of the nuclei of the epithelial cells. In a former contribution the author had described how in certain cases the epithelium penetrated into the blood, but in such cases no connective tissue could be detected. Further experiments are in progress to study the action of different tissues on substances like agar, blood serum, etc., in order to observe the regeneration under these conditions and, if possible, to get means to isolate different tissues in this way.

Beneath the regenerating epithelium one very often finds a layer of fibrous tissue so closely attached to it that it appears to have been derived from the epithelium. This layer has the character of a connective-tissue lamella and branches out beneath into the connective tissue.

The theory that epithelium can change to connective tissue would explain them. The pictures described above are not brought about by the epithelium being dragged into the connective tissue by the microtome knife. These microscopic appearances can not be explained by the hypothesis that connective tissue changes to epithelium, because epithelium regenerates only in connection with epithelium. They might be partially explained by the supposition that connective tissue from beneath grows upward and forms a connection with the overlying epithelium. But in a number of cases we observe that the cells near the epithelium are much more like epithelial cells than the cells far away. This fact must be explained. And in addition the peculiar forms of the papillæ can not be produced by the destruction of the epithelium through connective-tissue cells. If that were the case we should expect to much more frequently see that cells of one character, namely, connective-tissue cells, penetrate into and mingle with cells of another character, namely, epithelial cells. Embryologic facts do not preclude the possibility of the above-given interpretation. A closer analysis of the term "germ layer," as has been given in a paper of Braem, shows us that the term has by no means such a fixed meaning as was formerly believed.

Dr. **Gustav Fütterer**—What I have to say will refer only to the specimens of Dr. Loeb. In dealing with a question like this we must not be influenced by the views which are generally held at present or have been held in the past, but we should simply carefully observe the specimens, state what we can see, and draw our conclusions afterward. If I do that, I must say that I am fully in accord with Dr. Leob that his microscopic specimens are quite convincing. The papillæ from which such connective-tissue cells form acquire a ragged appearance. The epithelial cells become loosened, and the line of demarcation referred to by the Doctor almost disappears. The proliferating cells growing into the subcutaneous tissue seem to acquire more and more the character of connective-tissue cells. Such cells proliferate deep into the subcutaneous layer. Whenever we find these transformed cells in the deeper layers, we generally find them also beneath the epithelial layer. We can not expect to find them in every section, but, as a rule, it has been proven in the specimens exhibited, and I am convinced that the epithelial cells growing downward into the subcutaneous tissue there acquire the forms of the cells of this layer.

Dr. Edwin Klebs—It is difficult to venture an opinion upon so important a subject without first examining the slides presented by Dr. Loeb, and one can not give a positive opinion in a moment, when Dr. Loeb assures us that he has seen the transformation of epithelial cells into the connective-tissue cells. When I began the study of pathology and kindred subjects, I did so under the direction and influence of Virchow, who held that the epithelial cells in carcinoma and in the interior of the organs were a heterologous production of this tissue. But embryologists and pathologists now believe there is quite a distinct offspring for the tissues of the ectoblasts and endoblasts against the tissues of the mesoblast. It is believed by some that the tissues of the mesoblast have their origin first in endoblastic tissue. Virchow believes that if we find epithelial tissue in mesoblastic tissue, then it is very important for the diagnosis of malignant growth. It is a question if epithelial tissues can form connective tissue, although there are some observations which speak in favor of this, while embryologic observations speak against it. If we have a large ulcer of the leg which remains for years in the same condition we sometimes see the formation of granulation tissue, at other times nothing, no reaction.

But in other cases epithelial cells will grow in the center of the ulceration, proliferate, and finally penetrate into the bones and produce carcinoma. In many other cases of carcinoma it is very difficult to detect the primary affection, but modern pathology has shown that such a place can be detected, and that it is always situated in pre existing epithelial formations. If pathology thus shows the legitimate development of epithelium from epithelium only, it seems very improbable that, on the contrary, epithelial cells should anywhere produce mesoblastic or connective-tissue cells. But competent observers, as Koelliker, in 1879, have given out statements favorable to this opinion. Modern embryology pretends that the first formation of the mesoblast is derived from the ectoblast. Hajek claims to have observed the division of ectoblastic and entoblastic cells in an anteroposterior direction, the internal elements forming the cells of the mesoblast. The opinion of Beard is quite new (*Lancet*, Jan. 21, 1899), that the thymus produces only the mesoblastic elements. If this be true, one may accept also the idea that in later life, under certain conditions, connective-tissue cells can be formed from epithelial cells; but it will be very difficult to demonstrate in microscopic preparations, from a contiguity, the *post hoc, ergo propter hoc*.

Some inquiries after the methods used by Dr. Loeb in his researches can not be followed on this occasion, and so I must decline to give a definite opinion.

Dr. Gustav Fütterer—Dr. Loeb has labored under a great disadvantage to-night, because it is very hard to demonstrate such specimens as these with such imperfect light. Daylight is absolutely essential to show what he wants to show. The first specimen, without doubt, shows the growth of epithelial cells and transplanted tissue into the underlying tissue. The second specimen seems to show a transformation into connective tissue cells. If we follow the layers deeper and deeper we will find that the cells become more and more spindle-shaped; that the nuclei become more and more like the nuclei of spindle cells. They commence to show a fragile appearance, and their protoplasm begins to appear like that of connective-tissue cells. One slide shows the cells in direct connection with the papilla, but they may also be seen in the lower layers of the subcutaneous tissue. Dr. Loeb is not here to make a sensational statement; he is after the truth, and nothing but the truth. He expects sharp criticism and wants it. He wants to be convinced if he is wrong, and if I am wrong in corroborating his statements I too want to be convinced. The only way to give perfect satisfaction is to invite the members of the academy to inspect these specimens in daylight, and then discuss them after such inspection.

Dr. F. Robert Zeit—I have examined some of the specimens of Dr. Loeb, and I think that under the circumstances it would almost seem an injustice to him to utter any criticism. To establish a difficult problem like this there should be a large number of microscopes at disposal and the very best source of light to show the different points. However, he has done very well under the circumstances, and I agree fully with what Dr. Fütterer has said, in one respect. I have been able to convince myself that epithelial cells proliferate into the deeper structures and there gradually change into spindle-shaped cells. Where we have atypic epithelial-cell proliferation, such as we see in carcinoma, the margins of the cell-nests are always well marked, sharp and distinct. In Dr. Loeb's specimens, however, I have been able to see a few places where epithelial cells proliferated into the deeper structures and gradually became spindle-shaped, very much resembling connective-tissue cells. The sharply defined border line of basement membrane or germinal layer of epithelial cells of the stratum Malpighii is lost. Notwithstanding the views held of epiblast, mesoblast and hypoblast, there are places here which certainly look like epithelial cells, which take on the form of connective-tissue cells. That brings me to another point which every laboratory worker has experienced in the diagnosis of some tumors, and that is, the difficulty to positively say as to whether in certain cases the growth is of epiblastic, hypoblastic or mesoblastic origin. Knowing the title of Dr. Loeb's paper, I brought down with me this evening a specimen of a tumor of the mamma which illustrates the great difficulty attending the diagnosis of certain tumors in this respect. Furthermore, I need only to remind you of certain tumors of the ovary, combining sarcoma and epithelial new formations, such as carcinò-sarcomas. Whether or not we have here such a conversion of one tissue into another is a very great question, and Dr. Loeb's work certainly opens a wide field for research in this direction. He is justly entitled to great credit for his laborious efforts in this direction.

Dr. James G. Kiernan—In embryology there is one question that has always been a little puzzling to me. An attempt to explain this by certain theories of evolution has been made, but even these, used as a working hypothesis, do not serve as a clear explanation. There is a large class of organisms—even among those that are above the plants—in which reproduction is not bisexual. It is obvious that the embryologic laws laid down as to the epiblast and mesoblast can not apply to these organisms. It is a safe rule to assume that a condition which occurs frequently in any of the lower animals may occur exceptionally in man. For these reasons the argument which was advanced against the position of Dr. Loeb from the standpoint of embryology did not strike me as entirely conclusive, since there could occur under these conditions an embryologic return to the conditions which practically obtain in the zoöphite, where structures and new organisms develop purely from budding. Dr. Loeb's researches impress me as peculiarly valuable and suggestive, viewed from this standpoint.

Dr. Loeb (closing the discussion)—I have begun my investigation regarding this question irrespective of any opinion that may be held. The principal objection to the conclusions drawn by me does not arise from the examination of the slides, but is based on theoretic reasoning. Professor Klebs said that if epithelium could form connective tissue we should expect to find it in the epithelium. So far as I know, there is no epithelial structure that is not accompanied by connective tissue. The fact that metastases of carcinomata contain connective tissue has been much discussed. That would be explained if a part of the epithelial tissue carried away by the lymph or the blood could form connective tissue. There are certain embryologic notions that seem to speak against the possibility of epithelial cells producing connective tissue. By studying this question more closely, however, I think we shall come to the conclusion that the embryologic facts do not exclude this possibility. Embryology teaches us that under ordinary circumstances a certain number of cells are derived from a single cell, which will be found at a certain typic place. From these cells certain organs are formed. But organs of similar morphologic and physiologic character may be derived from cells whose position differs in various animals, or which belong to different germ layers. But this observation does not yet prove that under other than ordinary circumstances one cell must be derived from a certain typic cell. Driesch, J. Loeb and others have proven that any of the first blastomeres or any part of an egg may form a whole embryo. Moreover, the facts of heteromorphosis show that under altered external conditions in invertebrates, one organ can be substituted by or transformed into an organ of different morphologic and physiologic character. Miss Birkford investigated these phenomena microscopically. In certain invertebrates the gemmation of whole animals with all their various tissues seems to take place from cells derived from one germ layer. The latest experiments in that line have been made by Miss Byrnes. She showed that the regeneration of legs in embryos of certain amphibia takes place from a few cells which can not very well represent cells from all the germ layers.

Spontaneous cure of lupus of the face after extirpation of tubo-ovarian and peri-rectal abscesses.—*Cbl. f. Gyn.*, Jan. 28.

California Academy of Medicine.

March Meeting.

OBSCURE ABDOMINAL INVOLVEMENT.

Dr. F. Dudley Tait presented a case with the following history: The patient, a farmer, 40 years of age, gave no hereditary or personal history of any taint; no syphilis, alcoholism, malarial infection nor history of intestinal disease could be elicited. He was quite well up to July, 1898, at which time he complained of pain in the left lower limb, followed very soon by edema, which has varied somewhat in degree, but has persisted since that time, becoming more marked. An ulcer appeared on the left leg, thought to be varicose, and shortly after this there was slight dyspnea. The urine was repeatedly and carefully examined, no albumin being found at any time. A few red blood-cells, together with a few bloody shreds, were found in the urine at first, but have not been noticed since the early weeks of the trouble. In September, 1898, the man entered the City and County Hospital, complaining of the edema of the left leg and the consequent inability to work, and remained in the hospital for two months; was discharged and told to try working again. At the time of discharge the left leg was still swollen. He attempted to work, but was unable to do much of anything, the edema increasing all the time. In January of the present year the right leg became somewhat edematous, and shortly after, in February, there were cramps, together with some swelling of the lower part of the abdomen. Early in March the upper portion of the abdomen commenced to swell, and at present the entire abdomen is greatly distended. At present nothing is to be detected in the urine nor in any of the secretions. The blood shows no increase of leucocytes.

The patient was exhibited and presented a most peculiar appearance. The entire abdomen was greatly distended, the swelling commencing about three inches below the nipples, rather abruptly, and extending to the groin. The scrotum was slightly edematous. In either inguinal region were scars of former buboes. On percussion the lateral aspects of the abdomen were found to be very flat, the masses of the liver and spleen being with some difficulty mapped out. Both seemed to be greatly enlarged, although regular in outline. The presence of a very small amount of fluid could be detected. The mass was very evidently a more or less solid one. Aside from the mechanic effect of the large mass in the abdomen and the edema of the leg, there were no symptoms of any kind that would tend to throw any light on the condition. He had lost but fifteen pounds in weight since July and was in apparently pretty good condition.

No diagnosis had been made, but the possibilities were indicated by Dr. Tait, who suggested that the trouble might be a neoplasm of the left kidney with metastatic growths in the spleen, liver and retroperitoneal glands; or it might be a case of cirrhosis of the liver, of the hypertrophic type. Dr. Tait urged this case as an illustration of the great value of the exploratory incision in affections of the abdomen with ascites, where the diagnosis was not easily made.

Dr. Harry M. Sherman said that he could not exactly see how either of the diagnoses suggested by Dr. Tait could entirely fulfil the conditions. He had thought of the neoplasm of the kidney, but that theory would not explain the edema of the leg. He was of the opinion that the ulcer of the leg was something wholly aside from the general disease, for he could detect no varices of the leg and did not think there could be any deep varices without some superficial varicose veins being in evidence.

Dr. Tait and Dr. Douglas W. Montgomery were of the opinion that varices of the deep veins did occur independently, and that in the present case the ulcer might have been caused by such a varicose lesion without there being any marked superficial varices. Dr. Tait suggested that there may have been but one limited area in which the veins had been effected and that at that point the ulcer had occurred.

In the discussion, the trend of opinion was that the history of the symptoms seemed to indicate that some sort of growth had commenced on the left side and, through pressure on the left iliac vein, had produced edema of the left leg. Then this growth had enlarged until it made pressure on the right iliac vein, producing the slight amount of edema which had appeared as a recent symptom. The general abdominal distension would be accounted for by the growth itself and the enlargement of the retroperitoneal glands. There was a difference of opinion as to the significance of the varicose ulcer. It was also suggested that the whole condition might be caused by the involvement of the retroperitoneal glands alone, thus thrusting the liver and spleen forward and producing the evident distortion.

SKENE'S ELECTROHEMOSTATIC FORCEPS.

Dr. F. Dudley Tait said: "The hemostatic forceps of Skene is intended, as doubtless you all know, to close the vessels by cooking rather than burning the tissues. The particular forceps shown is constructed to operate with an electric supply of 4½ volts and 8 ampères, with which current it is supposed to be raised to a temperature of between 180 and 190, and is to be left *in situ* for two or three minutes. It does not burn the tissues, but combines, with pressure, a certain cooking action upon the enclosed mass, which is supposed to entirely check hemorrhage." He has tried the instrument on but one case and it was not entirely satisfactory. The case was one of very easy vaginal hysterectomy. The broad ligaments could be readily brought down under the finger and on account of that fact he thought it a particularly promising case for trial of the new forceps. He had previously experimented upon muscular tissue in order to ascertain the proper temperature required to secure the effect desired. In the operation, he applied the electrohemostatic forceps twice, both from above and from below. Nevertheless, he left small clamps on three corners of the broad ligaments, leaving the fourth unclamped. The tubes and ovaries were not removed. Three hours later the pulse was 140 and there was hemorrhage. The bleeding ovarian artery was found, with some difficulty, and a clamp applied. The patient was kept on the operating table for about an hour, waiting for some sign of improvement. This did not occur, however, and the abdomen was opened, under cocain anesthesia, but no further bleeding could be found. The patient made a slow recovery. There was no pain from the clamps, as is so generally the case, the patient not even complaining of discomfort.

His objections to the use of the forceps are: The degree of heat is difficult to estimate, and to control. The proper current is supposed to heat the instrument to a temperature of from 180 to 190 degrees, but as a matter of fact the actual temperature of the instrument during the time it is applied, for two or three minutes, will vary with the thickness and nature of the tissue enclosed between the blades of the forceps. If the tissue is thick and watery, they will cool off more rapidly than if the tissue is thin and dry, and consequently there will be less cooking in the first case than in the second. A further objection lies in the fact that it is impossible to control the amount of tissue affected by the heat. The heat radiated from the hot blades is sufficient to affect the tissue to some distance on either side of the instrument itself. As to the intrument as a means of ligating the umbilic vessels in obstetric cases, he does not see the special advantage of this device for the purpose.

Dr. Harold Brunn—I did not know the instrument exhibited is recommended by Dr. Skene in cases of vaginal hysterectomy, but should think it not satisfactory in these cases, as there is but little room in which to work and it is not easy to see just what is being done, so a good ligature well tied would be much better. Clamps do cause a good deal of pain, but they are certain, and you know you will not have hemorrhage. On account of the necessary apparatus required to operate this instrument, it can not always be used, and consequently one must have two methods of performing the same operation. He should have a good deal more confidence after the application of clamps or ligatures than after using this forceps.

Dr. Tait, in reply to Dr. Brunn, thought the instrument not a good one in the majority of vaginal hysterectomies, but his case was a particularly easy one, and the tissues well cooked before the clamps were applied. This had doubtless something to do with the absence of pain.

INSTRUMENTS FOR MEASURING MONOCULAR FIELD OF FIXATION.

Dr. F. B. Eaton presented and demonstrated two new instruments, one being his own and the other the joint invention of Mr. F. M. Graham and himself. The former is based on trigonometric measurement of the angles of reflection, and hence the prominence of the nose, cheek or brow is no obstacle to its use, while the latter is so constructed that two similar arcs are accurately centered with each eye simultaneously. With these instruments Dr. Eaton had been able to measure the amplitude of rotation of the eyes with an exactness and uniformity of results which he believes has not heretofore been possible by any other means. One of the chief defects of the perimeter and other similar apparatus has been removed by fixing the new instruments to the head, so that no movements of the latter can alter its relation to the arcs. Another important feature is that the instruments are adjusted and centered for each eye simultaneously, so that under all circumstances the relative rotations of the eyes are absolutely ascertained to within half a degree in every direction, and in a series of cases it has been possible to make repeated measurements on successive days without any variations in the results.

The practical application of the apparatus is to enable the surgeon in cases of strabismus or lesser deviations of the lines of vision, to determine which muscle or muscles are at fault, and their relative strength or weakness, so that, in the event of operation these alone shall be interfered with. In view of the reproach brought upon eye-muscle operations through ignorance of these principles, an accurate estimation of the fields of fixation is now recognized by competent authorities to be essential to a rational and successful treatment of many cases of eye strain.

UNUSUAL HEMORRHAGE FROM NOSE.

Dr. Geo. H. Powers reported a case following removal of a polypoid growth. The case was referred by a practitioner in the country, who had removed a polyp from the young man's nose, but there was another one present, somewhat far back on the middle turbinated body of the left side. It was removed without incident, save that the snare seemed to come away with some difficulty, and that a small piece of bone was removed, which is an occasional occurrence. Immediately after the withdrawal of the snare and the polyp, a very severe hemorrhage followed. The blood simply poured from the nose in a continuous stream. He attempted to plug the nostril, but the plug was at once washed away. He then hastily called Dr. McKee, with whose assistance he succeeded in plugging the posterior and anterior nares.

By this time the man was very weak from loss of blood. He kept him in the office for some hours until he had gained strength and then sent him to the Waldeck Hospital. During this time he told me what he had not mentioned before, that when my friend in the country had removed the polyp on the previous occasion, the operation had been followed by a similar profuse hemorrhage which had alarmed him very much. I could not determine that the man was a bleeder, for he did not seem to have any recollection of any unusual hemorrhage upon cutting himself, etc. The patient was removed to the Waldeck on Monday afternoon and the plugs were not removed till Thursday. The anterior plug was slowly pushed out, though whether this was due to hemorrhage behind or from retained secretions, I could not say. From time to time a small piece of the plug would be snipped off, as it protruded. By Thursday the secretions had become very foul, the man was somewhat feverish, and I was afraid of sepsis, so I decided to remove the plugs. The anterior plug was very slowly removed, but little force being exerted, but nevertheless, its removal was at once followed by the excessive hemorrhage which had followed the original operation. I again plugged the nostril and had almost left the building when I was called hastily to the patient's room. The blood was oozing through the plug. I called Dr. E. E. Kelly, and with his aid again plugged the nostril, both anteriorly and posteriorly, using gauze saturated with iron. For two days there was oozing through the other nostril, and the plug was saturated with blood, but this eventually stopped. On the following Thursday the plug came away from the posterior nares, and its removal, or rather discharge, was not followed by any hemorrhage. On Monday the patient was allowed to leave, though the plug in the anterior nares had not been entirely removed. It came away very slowly and with much difficulty, so no force was employed. I instructed the patient to take plenty of time in allowing the plug to come out. I can not account for the excessive and dangerous hemorrhage in this case, except by the hypothesis that an anomalous branch of some considerable vessel had been caught in the snare and cut. What vessel it could have been I am at a loss to say, nor can I ascertain from any one of several anatomists whom I have consulted. I do not think the man was a bleeder. I think the vessel was cut off at the bone surface and so did not have any opportunity of closing."

Dr. F. B. Eaton saw this case with Dr. Powers, and was sure it was a case in which nothing short of long-retained plugs, making pressure on the bleeding vessel, would have been of any benefit. He too, did not consider the man a bleeder, and agreed with Dr. Powers that the vessel was severed at the bone surface and so could not close. He does not think the iron in the gauze, used at the time of the third plugging, was of any benefit. The pressure was the only thing that could do any good.

Orleans Parish Medical Society.

Meeting of March 25, 1899.

RESECTION OF THORACIC WALL FOR MALIGNANT TUMOR.

Dr. F. D. Parham detailed two cases of his own, referring to others found in literature.

Statistics show the immediate mortality to be, for the intrathoracic operations (52 cases), 30.8 per cent. ; for the extrathoracic (23 cases), 28 per cent. The remote results are more favorable to the intrathoracic operations, after which recurrence is less frequent, probably on account of their more complete character. Among the causes of death in the cases found in literature are sepsis, antisepsis (in the early Listerian period), hemorrhage, shock, pneumothorax. The influence of the latter, causing at times grave symptoms, at others none of consequence, is modified by adhesions, by the character of the respiration before the pleura is ruptured (whence chloroform should be given the preference over ether), the condition of the lung itself (edematous, hepatized, sclerosed), and of its fellow (accustomed to doing vicarious work), and by reflex irritation, which is greater in proportion to the size of the opening. Many plans have been suggested for preventing this condition, the bugbear of all contemplating operations of the kind under consideration. Early operation is urged as of great importance ; the formation of preliminary adhesions has been found by experimentation on the lower animals to be impossible without infection. The substitution of hydro- for pneumothorax, as suggested by Witzel, who used boric acid solution for the purpose, has been objected to as exciting reflex irritation.

A method worthy of some consideration is Lanson's of injecting sterilized air, comparable with Murphy's injection of nitrogen, by either of which plans the patient may be gradually accustomed to the cutting off of a large respiratory area, the other lung learning to bear the burden.

A means which has stood the crucial test of practical clinical application is the Fell–O'Dwyer apparatus for artificial inflation of the lung through a laryngeal tube, for the suggestion of which, in this connection, Dr. Parham gives the credit to Dr. Rudolph Matas. With the aid of this instrument the plan of Beyer, of stitching the lung to the thoracic opening, may be carried out successfully.

As to drainage, probably the best plan is to apply sutures not too closely, leaving gaps through which drainage may take place.

Dr. Rudolph Matas had, as to Dr. Witzel's suggestion, in a case of stabwound of the chest involving the internal mammary artery, the pericardium and the pleura, filled the left pleural cavity with hot saline solution after making an osteoplastic fenestrum. Pneumothorax was not controlled by this, nor indeed by subsequent complete sealing of the chest opening, finally causing, in association with shock, a fatal termination of the case. It is likely that the use of the Fell–O'Dwyer apparatus, followed by suture of the lung to the chest wall, would have been the means of saving the patient. This method of insufflation of the lungs intralaryngeally by means of the bellows is ideal, accomplishing its purpose well ; it permits free exploration and thorough attention to the organs involved, while maintaining the respiration. It thus opens to surgeons a wide field, making it possible to open and explore the pleural cavity with something like the freedom with which its anatomic similar, the peritoneal, is invaded. In cases of chronic empyema with thoracic fistula, Delorme's plan of liberating the imprisoned lung from its adhesion-fetters could be carried out with the support of insufflation, and the procedure completed by suture of the viscus to the chest wall. How superior this method promises to be to the classic operations of Estlander, Schede and others, which not only mutilate the chest but fail to restore the lung function ! Other indications are offered by mediastinal tumors, foreign bodies in the thoracic esophagus, suppurative mediastinitis, in all of which the new method is destined to play a great life saving rôle.

Dr. Parham, referring to the extension of the field of thoracic surgery, mentioned Helferich's case, in which the middle and inferior lobes of a lung had been removed ; true, the patient died of shock within twenty-four hours, but hemorrhage had been controlled by two large clamps applied at the root of the lung. Many surgeons have stopped heretofore when the lung and diaphragm were involved, but the conspicuous success of others encourages us to move on in this line.

EUNUCHOID VOICE.

Dr. A. W. de Roaldes presented, for Dr. Gordon King, detained by illness, a patient with the so called eunuchoid voice: O. C., white, male, aged 19 years, employed as a laborer in an oil-mill, and of robust general health ; gives a good history, denying venereal disease. As a child he was well and active up to the age of 6 or 7 years, when he suffered with a dropsy which disappeared before long, leaving him emaciated ; in the course of a year his health was completely restored. At the age of 15 years, after a severe attack of measles, his voice became irregular in tone, occasionally assuming a high falsetto character. This voice, the character of which was attributed to puberty, has been kept to the present time. He is sometimes aphonic for two or three minutes, regaining his voice after clearing his throat. At other times his voice changes to a lower register; at such times momentary aphonia sometimes appears. He is of a timid nature; has been much teased on account of his peculiarity. The genitals are normal and well developed. The larynx is normal, but rather overgrown for his age and physique; its mucous membrane presents no congestion worthy of mention. The trachea is large. In phonation, approximation of the vocal cords is good; when the lower notes are produced the cords become shortened. This voice is not the true eunuchoid, which is due to undeveloped larynx; it is more properly called the falsetto voice. The larynx in this case is fully developed, that of a basso, with long cords. It is probable that the attack of measles which occurred at the time of puberty occasioned a severe congestion of the larynx and that the patient acquired the habit of using the falsetto voice, which gave him ease in speaking. He will be trained by a system of vocal gymnastics and again presented to the society.

Denver and Arapahoe Medical Society.

Regular Meeting, March 28, 1899.

CLINICAL VALUE OF OBJECTIVE METHODS OF MEASURING REFRACTION OF THE EYE.

Dr. E. W. Stevens read a paper on this subject and said: Most ophthalmologists rely strictly upon the subjective methods of measuring refraction by means of the test card and trial lenses, the radiating lines, the stenopaic slit, and perhaps the occasional use of one of the various optometers, resorting to one or more of the objective methods, as in the case of children who have not learned their letters, and in amblyopic eyes. This practice is probably owing, in a large measure, to failure to rightly appreciate the true practical value of objective methods of refraction and how to apply them.

These objective tests include the use of the ophthalmoscope and the ophthalmometer and the employment of the shadow test. The ophthalmoscope is invaluable, as our only means of studying the various media and the details of the deeper structures of the eye, but the instrument should never be relied upon for the estimation of refraction. Even in the hands of the most accomplished expert it is never more than a rough estimation both as to the kind and degree of error. Several years ago, I began, at the suggestion of Dr. de Schweinitz, a comparison of the results obtained by the measurement of the astigmatism by the ophthalmometer, with the subsequent refraction of the eye under complete mydriasis. One thousand eyes were thus examined and the results in 400 cases are given in the article upon "The Use of the Ophthalmometer," in de Schweinitz' book on "Diseases of the Eye." In many cases the astigmatism under a mydriatic differed but little from the corneal astigmatism as measured by the ophthalmometer. In some cases the difference between the two methods amounted to 2D. For these reasons it is not possible to lay down any empiric rule, as some have attempted to do, by means of which we can calculate with any degree of accuracy the total astigmatism by using the ophthalmometer.

The shadow-test surpasses in accuracy all other objective methods. For the elaborating of the test, and placing it on a sound scientific basis, the profession is indebted to our fellow member, Dr. Edward Jackson. The chief advantage of the test is the accurate refraction obtained independent of the patient's answers. For this reason it is invaluable in a large group of cases representing children who have not learned their letters, wilful spoiled children of older years, illiterates, feeble-minded, malingerers and cases of amblyopia, nystagmus and facial spasm, and the ophthalmologist who ventures to prescribe glasses in these cases without the shadow test stands on the same plane with the refracting optician.

The most conspicuous point in the etiology of convergent strabismus is the early age at which it usually begins. The shadow test enables us to prescribe glasses correctly, even for young children, and to then begin treatment at an age when the strabismus is most easily cured.

In cases of irregular astigmatism, the shadow test enables us to study the refraction of different areas of the pupil and to find which of these areas is most likely to be of service for useful vision and to measure the refraction in it. No other test, subjective or objective, serves these purposes.

Moreover, the visual zone in certain eyes, as Dr. Jackson has pointed out, is confined to a very small area, often one-tenth of the pupil, and regular astigmatism may be overlooked with the trial case and the test types as usually employed, though readily detected by the shadow test.

A certain number of cases are met with in which spheric aberration, beginning near the center of the pupil may be a cause of error in selecting lenses by the trial case and test card. It is easily recognized by the shadow, and can then be considered in the prescription of glasses.

Dr. Edward Jackson—The ophthalmoscope is of service in measuring approximately the amount of swelling of the optic disc in cases of papillitis. A swelling of 1 mm. would be represented by a + 3D lens. In these cases accuracy of measurement is not so important as in the prescription of glasses. Even under the most favorable circumstances, with a mydriatic and in the dark-room, the ophthalmoscope is a very inferior means of estimating refraction. I have lately seen a case in which an ophthalmologist had given the opinion that glasses were not required, basing this opinion on an examination with the ophthalmoscope. I found in this case, that the patient, who had attacks of petit mal, had a refractive error of 1.50 with astigmatism of 3D. Since wearing this glass his epileptic attacks have greatly decreased and he has been promoted in school. The astigmatism which the ophthalmometer shows, in a certain number of cases, represents the total astigmatism of the eyes, but the exceptions to this are so many that no rule can be given for determining astigmatism by this instrument. With the shadow test we have the pupil spread before us as a map, and can study the refraction in any area. A good working knowledge of this test is often acquired in a month's practice, but cases will always be met with in which its application is extremely difficult. The shadow test equals in accuracy at least the subjective test by the trial case and test letters, and has the advantage of not depending upon the patient's co-operation.

ABDOMINAL CASES FOR 1898.

Dr. I. B. Perkins presented a report of cases operated on between Jan. 1 and Dec. 12, 1898. Chloroform anesthesia was used exclusively in thirty-one cases, ether in two, and in twenty-three cases anesthesia was begun with chloroform and ether was used after the first stage. The operations comprised ventrofixations, hernias, ovarian cystomas, tubal and ovarian abscesses, appendicitis, extrauterine pregnancy and closure of ureter.

In considering these with other cases previously operated on, he reached the following conclusions:

1. Chloroform is the best anesthetic for abdominal work, at least in this altitude.
2. An obstruction of the bowel may cause pain in a remote part of the abdomen.
3. Old and enfeebled patients may bear operation well, if taken early in the onset of the disease and action is prompt.
4. Ventrofixation is to be preferred in the majority of cases where operation for retroversion is necessary.
5. Small cysts of the ovary may and often do cause more aggravated nervous symptoms than many other conditions which are more serious as to the life of the patient.
6. Where possible to do so, the ovaries should be left—if not in whole, in part—as a small portion of healthy ovarian tissue is sufficient to keep up the menstrual flow and prevent the distressing nervous symptoms accompanying forced menopause.
7. Sponges should always be counted, and gauze left in, as a drain should have a ligature attached to each piece and left external so as to facilitate and make certain its removal.
8. Small abscesses in the tubes and ovaries may be opened from the vagina by the aid of an abdominal exploratory incision.
9. Abdominal drainage increases shock, and should be avoided when possible.
10. In appendicitis the best results are to be gotten from early operation and that where, for some reason, the operation was not performed at the time of the attack, it should be performed in the interval.
11. Abdominal hysterectomy for carcinoma of the cervix is preferable to the vaginal route.

Dr. Wetherill considers retroversion to be one of a group of conditions; when there are no other pathologic conditions, retroversion does not give rise to any abnormal symptoms. He can not concur with the conclusion of Dr. Perkins as to the use of chloroform, but considers ether the safer and better anesthetic. His rule is to give ether in all cases, except in cases of pulmonary or renal disease, and in children. He can not see the connection between the use of drainage and the occurrence of shock.

Dr. Rogers agreed with Dr. Wetherill in reference to ether. In hernia, the radical operation should be used more frequently than it is. He advises all his hernia cases to undergo an operation and he has never had any reason to regret the course. He uses catgut with caution. However well sterilized, there is always some danger of infection.

Dr. Leonard Freeman would not operate on cases of appendicitis too early and when the attack is mild. Cases operated between the attacks show a mortality of 2 per cent. and therefore no one can recommend an operation with certainty of recovery. Post-operative hernia is also to be borne in mind. When a case has not shown alarming symptoms for forty-eight hours, no operation should be undertaken before the fifth day. He agreed with Dr. Rogers in advising all hernia patients to undergo an operation. He wished to emphasize the point that uremia is a frequent result of appendicitis. It would be desirable to investigate the assertion that movable kidney or some disease of the kidney is present in all cases of appendicitis. He could suggest that the thread attached to sponges, recommended by Dr. Perkins, be colored, so as to distinguish it from ligatures. If fewer fingers could be used it would certainly be of advantage, but he can not see the advantage of using fewer instruments.

Cleveland Medical Society.

Regular Meeting, March 24, 1899.

MONOPLEGIA OF ARM FOLLOWING CLAVICLE FRACTURE.

Dr. George W. Crile presented a rare case that involved the brachial plexus by pressure on it of the lower fragment. There was complete motor and sensory paralysis and also vasomotor disturbance. Union of the fracture had been faulty and when the pressure was relieved the symptoms began at once to ameliorate.

OBSERVATIONS ON SURGERY OF THE BRAIN.

He then read a paper on this subject based on clinical and experimental evidence.

In a series of experiments upon dogs, in which the brain was subjected to an increased pressure, the respiratory centers were affected earlier than the cardiac. The same was observed, regardless as to the manner or place of application of the pressure; that is to say, whether the pressure was introduced into the ventricular system, upon the cortex or within the cerebral tissue. The same was observed in blows on the head in producing compound fractures, and in gunshot wounds. It was further observed that when an animal's brain had been subjected to an increased pressure the administration of an anesthetic produced respiratory failure, alteration or arrest, proportionate to the amount of such increased tension. In experiments in which the cortical centers were stimulated it was found that cooling and drying very rapidly rendered the cortex non-excitable.

Investigating the different methods of opening the skull experimentally, it was found that in using the trephine there was but little or no change in the respiration or the heart's action. The same was observed in using a sharp chisel set at a proper angle and using the mallet in light gentle taps. The skull could be opened with the mallet and chisel with as much safety and with as little effect upon respiration and upon the heart as with the trephine.

Applying these experimental data—and all of them were data which were obtained by graphic records upon smoked drums, according to the methods in vogue in experimental physiology—the author found that in operations on cases in which there was an increased intracranial pressure as occurs in tumors, abscesses, or in hemorrhage, it is necessary to carefully guard the anesthetic, and until the stage of surgical anesthesia is reached, an assistant is detailed to keep up artificial respiration if necessary, and in cases of respiratory failure instead of abandoning the operation, the skull is opened as quickly as possible and sufficient bone is cut away to relieve the intracranial pressure, after which respirations are apt to resume their natural rhythm. Attention was called to the slow full pulse indicating increased intracranial tension.

In treating septic leptomeningitis, he recommended cutting away the skull as extensively as the disease demands, regardless of the amount of destruction this necessitates, as it is apparent that the disease must be checked or life will be lost, and after the skull has been cut away the brain will bulge and so continue until the infection is arrested. The further treatment is best done by the application of 1 to 10,000 warm moist bichlorid dressings rather taking the risk of superficial irritation than the spread of infection, which, if unchecked, must in a very short time destroy the patient.

In arresting the hemorrhage in the diploe, 10 per cent. olive-oil added to beeswax and the mixture sterilized, will at once arrest the hemorrhage when pressed upon the bleeding surface.

The mallet and chisel were used for opening the skull in almost every instance, because of the greater adaptibility of this method and its harmlessness when sharp chisels placed at correct angles are employed. It requires less time, is more adaptable and is susceptible of increasing possibilities with the increase of skill in its use.

Dr. Aldrich said that respiration in brain cases failed before the heart, because the latter is largely automatic while the former is not. Late pathologic studies show that in cerebral concussion there are minute hemorrhages in the brain, and their size and location determine the gravity of the symptoms in any given case.

Dr. Wenner suggested that a preliminary lumbar puncture would relieve the intracranial pressure and so render the administration of the anesthetic much more safe.

Dr. Perrier wished to know why if, as is generally understood, anesthetics diminish intracranial pressure, their use should add danger in a case of increased intracranial pressure?

Dr. Crile, in closing, said he had only meant to state the fact of respiration failing before circulation. In cerebral concussion from falls the portion of the brain lacerated or filled with punctate hemorrhages is not that necessary to vital function as a rule, but the frontal lobe. This is because the frontal and temporosphenoidal lobes lie in contact with the floor of the skull, while the posterior lobes with the vital centers are protected from the floor of the skull by a water-bed of cerebrospinal fluid. In every case of head injury where there is the characteristic vagal pulse, that in itself is sufficient reason for opening the skull and relieving pressure. The lumbar puncture will not succeed because, before pressure symptoms appear, the cerebrospinal fluid at the base of the skull has already been driven out. He, five years ago, operated on a case of tubercular meningitis with symptoms of cerebral pressure which were promptly relieved, and the child is living to-day with no return of the disease. In septic meningitis the intracranial pressure must soon force infection along the meninges so that such cases must be operated on early if success is to be attained. Anesthetics are cerebral irritants, as is pressure, and the lowering of function they produce, added to that already existing from the disease, produces collapse, which is not due to the effect of the anesthetic upon the circulation, but upon the nerve-centers.

Philadelphia Obstetrical Society.

Meeting held April 6, 1899.

CLINICAL SIGNIFICANCE OF PEPTONURIA IN PELVIC ABSCESS.

Dr. Frank Haehnlen contributed a paper with the above title, with report of illustrative cases, and referred to the scanty literature on the subject. Substances frequently found in the urine, and called peptone, have doubtless been albumoses. More recently peptonuria has been looked upon as indicating disintegration of either leucocytes or pus cells. Von Jaksch found peptonuria present in phthisis, pneumonia, purulent meningitis, scurvy, syphilis, and phosphorus poisoning. It has been found in the urine of pregnancy. In pneumonia its presence probably indicates the stage of resolution or a time of rapid disintegration on the part of the leucocytes.

In sepsis (occulta) peptonuria is of great clinical significance. Its presence is, however, not always proof positive of suppuration somewhere in the system, but it should confirm other signs and symptoms in determining the diagnosis. One examination of the urine may give inaccurate results, because the peptone may be absent at one time and present the next, so that frequent examinations should be made. When abscesses break down peptone finds its way into the blood, to be subsequently excreted by the kidneys. It should be also remembered that in cases of sepsis there is a marked leucocytosis which also accounts for peptonuria. He reported cases on which the paper was based and stated that peptonuria had been present in every case where pus had been found.

Dr. John C. Dacosta had found peptonuria present in certain cases of nephritis examined.

Dr. McKelway, while regarding the test as one having some importance, thought the diagnosis was in most instances made without reference to peptonuria.

Dr. J. M. Baldy regarded the test as having considerable importance, especially in differentiating between extrauterine pregnancy and abscess.

Dr. Haehnlen stated that he did not claim that peptone in the urine always meant suppuration, but that it was a valuable diagnostic aid in doubtful cases.

PERINEAL LACERATION AND IMMEDIATE REPAIR.

Dr. F. C. Hammond, in a paper on this subject, said that laceration during parturition resulted as a rule from precipitate labor or the use of forceps. One of the best safeguards of prevention is to exert forcible pressure upward during descent of the head, allowing it to recede time and again. In case of tear it is always best to resort to immediate repair of small lacerations. In certain instances in which there is a complete tear the operation might be postponed for a period of twelve hours.

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SATURDAY, APRIL 15, 1899.

SPREAD OF TUBERCULOSIS BY MEANS OF SPUTUM AND FINE DROPLETS EXPELLED DURING COUGHING.

About a year and a half ago Flügge[1] of Breslau called attention to the fact that our knowledge concerning the dangers of infection connected with the sputum of tuberculous patients needed many additions. In the first place, it could not be said that it was definitely established that dried sputum can cause tuberculosis from inhalation of the resulting dust. Secondly, he had shown that the fine droplets which are expelled during coughing by tuberculous patients play a certain rôle in the spread of the disease.

Recently a number of experimental studies bearing upon the manner in which tuberculosis is spread have been published from Flügge's laboratory.[2] Flügge himself gives a short summary of the principal facts which these experimental studies have established. Some of these studies deal with the dangers of the dried tuberculous sputum, and after having considered all the facts in the case, Flügge concludes that an infection with dried sputum ground up into a fine dust is undoubtedly possible; actually this must be reregarded as a relatively rare mode of infection, because the formation of such fine dust particles as are easily transported in air-currents can only be produced when sputum is dried so completely as would seem to be but very rarely the case in the actual conditions in modern life. He is therefore inclined to reduce somewhat the danger of infection through dried phthisic sputum. He agrees fully with Cornet, whose investigations into the rôle of the sputum in the spread of tuberculosis are well known, that only the dried sputum is dangerous, and that those tuberculous patients who regularly and constantly expectorate in suitable vessels, so that drying and pulverization are hindered, constitute no danger whatsoever to their fellow beings on that score.

Other experiments show, however, the truth of what Flügge previously claimed in regard to another mode of infection with tuberculosis, namely, that the expulsion of fine drops of saliva and mucus, containing bacilli, during coughing by tuberculous patients, constitutes a great danger to those who come in contact with these patients. Koch and others long ago showed that spraying of tuberculous sputum into small rooms where guinea-pigs are confined produces tuberculosis with great certainty. It would seem that this result depends in a measure upon the fact that the spraying of sputum results in the formation of much finer drops and particles than takes place for instance during the pulverization of dried sputum masses.

In one of the experiments made in Flügge's laboratory, the finely divided sprayed sputum was carried upward by air-currents of known strength, and then caught in a filter. In these experiments it was very easy to demonstrate the presence of tubercle bacilli upon the filter when air-currents of only 3 mm. per second were used, the particles being carried a distance of one meter. This shows that a feeble spray is able to so finely subdivide undiluted phthisic sputum that a relatively large number of very fine droplets are formed and are transportable by feeble air-currents.

When suspensions of the bacillus prodigiosus are taken into the mouth, then it is easy to obtain cultures of the prodigiosus upon agar plates held a certain distance from the mouth during coughing, talking or sneezing. There seems no doubt that the bacteria present in the fluids of the mouth are scattered, some during talking, more during coughing, and still more during sneezing. Of thirty-five tuberculous patients, fourteen, i. e., 40 per cent., deposited droplets of mucinous sputum containing tubercle bacilli upon a slide held a half meter away from the mouth. The size of these droplets containing bacilli reaches as much as 30 mm. in diameter. The bacilli were found mostly in groups in the mucinous central part of the droplet. Greater spraying or spreading of the sputum occurred when the sputum was relatively fine or mixed with much saliva. The intensity of the cough is of considerable influence; the stronger patients who were walking about threw a spray of sputum with tubercle bacilli farthest. Short, violent coughs, while the mouth is partly closed and the lips somewhat puckered up, cause the droplets to go farther. Similar experiments with like results have also been made by others (Engelman, Weismayr,

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[1] Deutsche Med. Woch., 1897.

[2] Ztft. für Hygiene u. Infektionskr., 1899, xxx. 107.

B. Fraenkel). It is interesting to note, in connection with this, that Schaeffer found that leprous patients expel a remarkably large number of lepra bacilli during coughing.

Flügge then proceeded to demonstrate that the bacilli in the expelled droplets were virulent. A tuberculous patient was taken and his face and hands disinfected; he was then placed for several hours in a large glass box in which were saucers containing some salt solution. This salt solution was subsequently injected into guinea-pigs. Of nine such experiments four of the animals died of tuberculosis of the peritoneum. The crucial demonstration of the liability of tuberculous infection occurring in this manner is furnished by another set of experiments in which Flügge succeeded in infecting guinea-pigs directly by the coughing of tuberculous patients. The guinea-pigs were placed in a disinfected room and put into a specially constructed box so their heads were turned toward the coughing patient, the distance between the latter and the heads of the guinea-pigs varying from 20 to 45 cm. The animals were exposed every second day for about three hours for from several weeks to months. The result was, that of twenty-five guinea-pigs which did not die from other causes, six developed symptoms of an inhalation tuberculosis. Thus the liability of infection through the expulsion of particles of tuberculous matter by means of coughing seems fully demonstrated from all points of view.

The practical results of these experiments so imperfectly outlined here would be that a person in the neighborhood of a coughing consumptive may inhale tuberculous droplets which are expelled from the consumptive during efforts at coughing, sneezing, or talking. It is to be remembered that not all consumptives cough; that there is a varying number of bacilli in the sputum in different patients, at different times of the day, etc. It is also to be borne in mind that the distance between the coughing patient and the exposed person plays an important rôle. At a distance of 1.5 meters the slides exposed were without exception found free from bacilli. Furthermore, the length of exposure may be an important factor.

Flügge formulates the following conclusions: Rooms in which tuberculous sputum becomes dried upon the floor or other articles, and in which the air contains visible particles of dust, either caused by dry dusting of the room or by currents of air or other means, offer danger of tuberculous infection. The occasional collection by tuberculous patients of the sputum in their handkerchiefs does not increase the danger of infection materially. Intimate association with coughing consumptives, especially when one frequently approaches the consumptive nearer than one meter, is dangerous. This applies especially to nurses and to workers in factories and other places where the room between the individual workers is small. Both these sources of infection may be completely neutralized or their danger at least greatly reduced through simple prophylactic measures.

Infection through dried-sputum dust may be avoided by collecting all the sputum in suitable vessels or cloths, which are carefully disinfected after being used, as first emphasized by Cornet. Rooms in which consumptives live should not be dusted with dry cloths, as is often done. They should not be occupied by healthy persons as long as the air contains visible particles of dust.

Infection by way of coughing is easily preventable by the patient holding a cloth, such as the handkerchief, or at least the hand, before the mouth during the coughing. One should not approach coughing consumptives nearer than one meter during coughing spells, especially when the handkerchief is not held before the mouth. In offices and factories the distance between the heads of the occupants should at least be one meter. Special rooms or hospital wards in which there may seem to have taken place a marked deposition of tuberculous sputum, may be thoroughly disinfected with formaldehyde or by other known reliable methods.

PRESENT STATUS OF WIDAL REACTION.

Since the discovery of this test for detecting the presence of typhoid fever, several years ago, all sorts of statements enthusiastically praising or severely condemning the reaction have appeared. On the whole, medical opinion, particularly in this country, has been very favorable. Nevertheless, we have been waiting with considerable impatience for a large statistic report from some recognized authority, that would decide the question with a reasonable degree of certainty. Such a report has just been published by Cabot (vide Journal April 1, p. 731), than whom no one is more competent. He has apparently exhausted the literature on the subject and his tables have been compiled from the writings of over a hundred observers. These observers represent all parts of Europe and America, and illustrate the three methods of testing, as well as numerous varieties in technic, for almost every observer has some variations which he believes, or pretends to believe, of material advantage. To show the authoritative nature of Cabot's tables, one need but mention a few of the prominent workers quoted: Johnston, Widal, Cabot, Shattuck, Abbott, Thompson, Musser, Frænkel, Loomis, Whittaker, DaCosta. In all, 5978 cases of typhoid have been collected, of which 97.2 per cent. have given a positive reaction. This statement must surely speak for itself, and in a most flattering manner. We must remember that a very large percentage of these cases were diagnosed clinically as typhoid, and that this diagnosis could only be verified on the post-mortem table in a comparatively small number of cases.

It is more than possible that some of the cases clinically diagnosed typhoid, and giving the negative reaction, might have been instances of other diseases, particularly those sometimes clinically resembling typhoid, as estivo-autumnal malaria and influenza. This same argument might be used on the other side: that cases not typhoid, but clinically diagnosed as such, gave a positive reaction.

Another more important point is as to what is actually meant by a "reaction": what dilution is used and what is the limit of time. Some observers might designate as a reaction what others would not. For instance, if with a proper control, paralysis of motion ensued almost immediately, but without agglutination, as has been occasionally seen by the writer in unmistakable cases of typhoid fever, one observer might call this a reaction while the next would insist that agglutination was absolutely necessary. Again, clumps of considerable size may have formed, but around the margins and between the clumps some motion of the bacilli was in evidence, the full time limit having expired. The personal equation must necessarily enter into this study as in no other bacteriologic condition. Whatever plan is used and whatever be the technic, the observer should cling to that method alone and become proficient in that, so that any of the many little sources of error may be eliminated, as it were, intuitively. To do this it were best, as in the experience of the writer, to use the first fifty or more cases for study and improvement in technic, and in no way to attempt to make them of statistic value. By this time one will have acquired a proficiency and intuition that can alone guide him to proper conclusions.

There is another matter upon which little or no emphasis has been laid by writers upon this subject, but which is of the greatest importance: The patients themselves should not be examined physically by the conductor of the Widal reaction, not at least until he has given or decided upon his opinion as to the positive or negative character of the test. This can only be done in hospitals and other large institutions where there are assistants whose work does not necessarily bring them into personal contact with the patients. The reason for this precaution is obvious. No matter how conscientious a man may be in his endeavor to work out the truth in this—or similar questions—his mind will undoubtedly be influenced by the appearance of the patient, and the physical examination and inspection of the temperature-chart. If all are characteristic of typhoid, he will be unconsciously swayed toward a positive reaction where, had he not seen the patient, he would have at least entertained a reasonable doubt, and vice versa. It must be confessed that since this rule has been inaugurated, the results of the Widal reaction have more closely coincided, if not with the clinical diagnosis, at least with the post-mortem findings. For instance, several cases clinically diagnosed as typhoid fever and in which attempts at the reaction were persistently negative, on the post-mortem table showed the characteristic lesions of acute miliary tuberculosis, to the honor of the Widal test and the chagrin of the clinician. In view of the difficulty so often presented in a differential diagnosis between acute miliary tuberculosis and typhoid fever, this reaction may well be looked upon as one of the most important diagnostic points; for choroidal tubercles are exceptionally present even were the practitioner satisfied with his own powers of ophthalmoscopic examination, and the Widal reaction is far easier to make than a leucocyte count.

The amount of dilution and the time limit within which the positive or negative character of the reaction may be assured, are best treated of together; for within certain limits the greater the dilution the longer must be the time allowed. To illustrate: A dilution of 1 to 10 should give a reaction within fifteen minutes; in other words, if with a mixture of one part serum and ten parts culture, agglutination takes place within fifteen minutes, we are justified in feeling that we have a positive reaction. Similarly, a 1 to 40 dilution allows a time limit of one hour. Probably the 1 to 20 dilution with a time limit of half an hour is most generally in use and is very satisfactory. Having once chosen a dilution and technic, it is most wise to cling to it.

In addition to the many cases of typhoid collected by Cabot, he has also collected an almost equal number of instances of other diseases, in which the reaction had been tried for purposes of control. Out of this number, 5668, but 5 per cent. gave the reaction. Even this percentage will be somewhat lowered when we remember that the agglutinative power of the serum of a patient once afflicted may remain in the blood of that patient, according to some observers, for years after the original attack. It is not improbable to suppose that out of this large number of cases quite a considerable number may have previously suffered from typhoid. To sum up the points already mentioned: The large number of typhoid and control cases collected; the gathering of statistics from so many and such varied sources; the varieties of method and technic used; the positive reaction occurring in so large a percentage of genuine typhoid cases; the negative character of the reaction in so large a percentage in cases not typhoid, all tend to place the reaction upon a most firm foundation, and certainly afford us one of our most reliable points in the diagnosis of typhoid fever.

There is yet another discovery that must be placed to the credit of the Widal reaction, and that is the unity of so-called "mountain fever," accounts of which have been present for years in our text-books, with typhoid. This discovery is due to the faithful work of Dr. C. E. Woodruff, who found, in an epidemic of "mountain fever," that all the cases of this disease in which the test was tried gave positive reactions, with but one exception.

During the late war with Spain we were all greatly exercised over the havoc made among our soldiers by the more or less tropic diseases, dysentery, pernicious malaria and yellow fever. The experiences of CABOT himself in Cuba and Porto Rico are of the greatest value in clearing up some of the obscurities of diagnosis undoubtedly existing at these points. At the general hospital at Ponce he found over two hundred sick soldiers indiscriminately dosed with quinin. In about 90 per cent. of those tested, the Widal reaction was quickly and unmistakably demonstrable, and the prompt restriction in diet that followed undoubtedly saved many lives. In Cuba, on the other hand, the malarial fevers proved to be more prevalent than typhoid, and again are we indebted to systematic and scientific blood work for this knowledge. In a tropic country where yellow fever is rampant, cases of typhoid fever with jaundice might be easily mistaken for the former disease. Out of four suspected cases of yellow fever at Ponce, CABOT was able to get positive typhoid reactions in three. From these points one can readily conceive that the reaction will eventually be even more in demand in tropic than in the more temperate zones. It is not strange that in the summary of the discussion of this reaction, the committee of the Section on Medicine of the AMERICAN MEDICAL ASSOCIATION should say, "it must certainly be regarded as the most constant and reliable sign of typhoid fever, if not an absolute test."

TOXIC ACTION OF PARASITIC WORMS.

G. H. F. NUTTALL (*Am. Nat.*, March) discusses the subject of the poisons given out by parasitic worms in man and animals. He refers to PIPER of Griefswald, who has recently been gathering up scattered facts, and decides that these creatures do actually secrete poisons in the organs, a more serious fact than would be otherwise the case. The convulsions of children with ascarides are mentioned as evidence, and he quotes MERAM and VON LINSTOW, who reported having personally experienced marked symptoms (conjunctivitis, swelling of fingers, etc.) from handling them, and RAILLET, ARTHUS and CHANSON, who had similar experience. The latter experimenters found that 2 c.c. of fluid from an ascaris would kill a rabbit. Tapeworm also has a bad effect sometimes; epilepsy has been known to disappear on its expulsion. It is also remarked as a curious fact that so many of its harborers suffer with their eyes. GRASSI noticed, in five out of fourteen cases with the species *Tenia nana*, serious symptoms resembling epilepsy. Bothriocephalus has been known to cause severe anemia; the anchylostoma is credited with being toxic by LUSSANA, and this has been recently confirmed by experiments on dogs, by LOOSS of Cairo. Finally, the hydatid cyst fluid has been shown by DEBOVE and HUMPHREY to be toxic to man and animals, and this may explain the occasional serious results of its rupture, and trichinæ may also probably be included in the poisonous parasites. The paper is suggestive, and the idea may be of value as affording a hint for future study of cases that come under observation.

DENTAL DISPENSARIES.

A new movement that has been inaugurated in Chicago is perhaps worthy of a passing comment. Dispensary physicians are familiar with the fact that a very large proportion of those who depend on these institutions for medical treatment are in bad shape as regards their dental apparatus, and that this is true of the young as well as the older dispensary patrons. Dr. CARL T. GRAMM (*Dental Review*, February) has called attention to these facts and made the proposition to establish dental dispensaries in the poorer districts of the city, where the class who at present are totally neglected from a dental point of view can be treated. Largely through his exertions the proposition has been carried into effect, and one or more of these dispensaries are already in operation. It is needless to say that the amount of good that can be done by a systematized effort in this direction is almost beyond calculation, and as it covers a class that at present pay no attention whatever to dental hygiene, it can not seriously injure the practice of the dental profession, certainly not if carried out according to the plan laid down by Dr. GRAMM. Recognizing the abuses in the medical dispensaries, he proposes to guard against them and to charge at least nominal fees and utilize all the aid of the Bureau of Associated Charities in distinguishing the worthy from the unworthy. Some impostors will be served, but the advantages from educating the poorer classes to care for their teeth will more than offset any loss the dental profession may suffer through them; and as Dr. GRAMM says, the medical profession owes and performs its duty to the poor, and the dental profession should also do its duty within the bounds of its special sphere.

BICYCLE RIDING AS A CURATIVE FACTOR IN DIABETES.

BOUCHARDT, TROUSSEAU, KÜLTZ, FRERICHS, ZIMMER, STOKVIS and V. MERING have warmly recommended bodily exercise in all forms of diabetes. They have drawn their conclusions from observation and experience. PENTZOLDT and V. NOORDEN were the first to report a series of carefully conducted experiments upon diabetic patients with reference to the influence of muscular work upon the quantity of sugar in the urine. They have established the fact that not only is bodily exercise not detrimental to the patients, but, on the contrary, they markedly improve in health, and that the quantity of sugar in the urine steadily diminishes, and, what is of the greatest importance, such patients tolerate a carbohydrate diet. This led Dr. ALB. ALLEN to undertake the study of the influence of bicycle riding upon the quantity of sugar voided. His results (*Berlin Klin. Woch.*, Nos. 11 and 12,

1899) have demonstrated that not only is a carbohydrate diet tolerated by patients riding the bicycle daily for an hour or two, and that the quantity of sugar in the urine is decreased to a minimum, but that the improvement is due solely to the carbohydrate diet. Repeated experiments upon a patient kept on an exclusive proteid diet showed an increase of sugar after bicycle riding. His observations are in accord with the latest teachings of physiology. Proteids are "tissue builders," and carbohydrates are "force producers." The blood flowing to a muscle at work is richer in carbohydrates than the blood flowing away from it. Glycogen is the carbohydrate of the muscle, and during work is converted into sugar, $C_6H_{12}O_6$, which in its turn is broken up into carbonic acid and water. It has been further demonstrated that the sugar circulating in the blood is destroyed when the muscle is at work. It is, therefore, evident that the more the muscle works, the more carbohydrate is used up, and consequently the more sugar is destroyed.

CREMATION IN ENGLAND.

The twenty-fifth annual meeting of the English Cremation Society has just been held, and its distinguished president, Sir **Henry Thompson**, gave an interesting sketch of its history, which is that of the cremation movement in England. Whether we entirely sympathize with the crusade against that "relic of barbarism, earth burial," or not, our uppermost feeling in reading this record can only be one of astonishment. One would certainly have thought that cremation, whether esthetically or economically desirable or not, was certainly rational and unobjectionable enough to be well within the private liberty of individual choice, but bumbledom thinks far otherwise. And, unfortunately, what bumbledom says on this subject, "goes" without appeal. The society spent two years in finding a cemetery which was willing to permit bodies to be cremated upon its premises at the society's expense. A furnace was built and all arrangements completed, when the bishop of the diocese unfortunately forbade it at once, as "sacrilege." After another year's delay the society bought ground of its own at Woking, the great suburban "city of the majority" in London, and erected a complete plant, but the bishops, while they had no direct jurisdiction, then appealed to the Home Secretary, who sent down a notice to the effect that in the opinion of the circumlocution office, cremation was so expeditious a process as to be illegal; and under this embargo the beautiful buildings lay idle for nine years, until, in 1884, a private individual had the audacity to defy the Home Office and cremate the body of a relative, who had left strict instructions to that effect—and a snug fortune conditional thereupon. The rite was carried out privately, in a furnace built for the purpose, upon the estate of the legatee; he was prosecuted at once, but as soon as the question was fairly stated before an unprejudiced authority the suit collapsed and the judge declared cremation to be perfectly legal, providing it was carried out in such a manner as to give rise to no offensive fumes or any other technic "nuisance" to the public. Upon the strength of this ruling the society in 1885 cremated its first body at Woking; two others followed the same year, five the year following, and so on, steadily increasing every year until, in 1898, 240 bodies were incinerated, making a total of 1283 in the fourteen years.

ACTION OF STREPTOCOCCI AND THEIR TOXINS UPON NERVES AND SPINAL CORD.

Homén and **Laitinen**[1] injected virulent streptococci as well as their toxins into peripheral nerves and other parts of the nervous system, and carefully studied the resulting changes. They found that the first action of the bacteria and their toxins is a local one at the site of injection, consisting in a granular disintegration of the nerve-fibers, together with leucocytic emigration, and proliferation of the cells in the nerve-sheaths and the endoneurium. This process then progresses from the periphery toward the center, the bacteria being generally found at the border of the changed and relatively intact parts. When they are injected into the sciatic nerve, for instance, they sooner or later reach the spinal ganglia, where there is produced disintegration of the ganglionic cells or solution of their chromatophilic elements. At the same time there is a round-cell infiltration into the subdural sheaths and into the nerve-roots. In the spinal cord changes are also produced by the cocci, which extend to the cord from the nerves, and spread throughout the cord in about the same way as when they were injected directly into its substance. The same is also true as regards the toxins. The changes in the cord, first of a degenerative nature, soon assume the aspect of inflammatory and sclerotic processes. In one case there developed, after the injection of a small quantity of bacteria, a localized abscess in the lumbar part of the cord. The slight differences between the histologic changes and their extent after the injection of bacteria and of toxins indicate that the principal changes as well as their localization are all the same in both cases, and that the bacteria act principally through their toxins. These investigations offer a certain amount of evidence in favor of the view that many processes in the spinal cord, both those of degenerative as well as those of inflammatory nature, are of infectious or toxic origin. The experiments furnish an anatomic basis for the theory of ascending neuritis.

NERVE TRANSPLANTATION.

An interesting article in the *American Journal of the Medical Sciences*, already noticed in the **Journal** (p. 780) reviews in a very thorough manner the subject of nerve transplantation, an operation often experimentally performed, but one that, as Dr. **Peterson** shows, has had as yet but a limited utilization in the human subject. While other methods, such as the **Letievant** flap or the insertion of catgut, may suffice in most cases where direct approximation is impracticable, there will be cases where, with proper facilities, nerve transplantation will be an advisable operation, and the microscopic examination of Huber tends to show that actual nerve tissue furnishes a better route for the downgrowth of new axis-cylinders than any other foreign material. Nerve-flaps involve mutilation of healthy nerve and might, in case of very extensive removal of nerve-fiber, require dissection that would possibly have some inconvenience or danger. It is true that in the tabulated cases given by Dr. Peterson the success with very long implantations was poor, but the number of cases is yet too slight to justify any unfavorable conclusion as to the future possibilities with improved technic and experience. It is to be noted also in this connection that the case in which the most favorable results, almost a perfect cure, occurred, was that of Mayo Robson, where two inches of nerve were transplanted. In his earlier case, successful as far as regards restoration of sensation, some two and a half inches were resected. The old idea, still held by Kennedy, of direct reunion of the nerve or that of upward as well as downward growth of nerve-fibers, finds no support in these latest researches. The transplanted nerve simply serves as a convenient route for the regeneration from the central to the peripheral portion of the divided nerve, and the same purpose is served to a certain extent by the catgut bridge. It is not, however, altogether unreasonable to suppose that an identic tissue would have some advantage and might actually serve a purpose in the earlier restoration of function. The subject is one that has yet to be more studied before we can consider its surgical importance or even its physiologic bearings to be completely established. Dr. Peterson's article, besides being itself a valuable original contribution, adding to our knowledge of the subject, has the merit of presenting a very complete summary of the facts, so far as known, from all available sources.

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[1] Die Wirkung der Streptokokken und ihrer toxine auf verschiedene Organe des Körpers, Zeigler's Beiträge, 1899, Bd. 25.

CANCER OF THE BREAST.

W. Watson Cheyne publishes, in the *Lancet* of March 18, a very important paper which possesses a special interest in view of the theories of the infectious nature of cancer that are just now so prominently before the profession. It is also important as showing the effect of measures based on the conviction of the infectiousness of the disease in modifying the prognosis, that is, thorough excision well into the healthy tissue and careful avoidance of any possible contamination of the latter by instruments or diseased tissue. His paper gives first the latest facts in regard to the patients reported by him three years ago (*Lancet*, Feb. 15 and 22, and March 14, 1896) as operated upon for cancer of the breast. These numbered 61, and 21 had had no recurrence for three years after operation, though it occurred later in nine. There were therefore 12 of the 21 remaining, who had been well over three years, and, at the present date, 11 of them are still well, six to nine years after operation, while one is reported as having died of intestinal cancer. Of the 40 who, at the date of his former paper, had been operated upon less than three years, ten were already showing signs of fresh recurrences, one had died and two had been lost sight of. Of the remaining 27, 18 are still alive and well (three to five years after operation), and one died without recurrence of the growth. One could not be traced. The three-years limit would seem to be a fair one as regards recovery, since of the original 11, only one died of cancer and it is doubtful whether that had any connection with the earlier disease. Even after one year, the chances of recurrence are not great. Cheyne next gives a tabulated statement of 38 additional cases operated on in 1896-97, and attributes success to thoroughness of excision and avoidance of all possible contamination of healthy tissue with the cancerous growth, free removal of the skin being especially important. The deep fascia and all diseased glands in the axilla are also to be thoroughly excised. He does not quite agree with Halsted, that operation is advisable when the cervical glands are also generally infected. If only those in the posterior portion of the posterior triangle are involved, he would operate, provided the patient was in proper condition, but if they are enlarged at the base of the neck in front of or beneath the sternomastoid, he does not advise submitting the patient to such a radical operation. He estimates: 1, that in the average run of cases 50 per cent. of the patients will remain well if the operation is carried out on the lines laid down by Heidenhain and Stiles; 2, that recurrence is delayed when it does occur and the repeated operations formerly in vogue are rendered less necessary. The patient's chance is in the first operation; if this fail, a repetition is rarely successful. Hence the importance of thoroughness the first time.

A QUESTION OF PRIORITY.

American medical literature, especially that in the periodic form is, we regret to say, largely a neglected quantity by European investigators. We would not pretend to specify any nationality as particularly guilty in this respect but for the fact that now and then a slighting reference has left an unpleasant recollection, and—we say it with all good feeling—some German writers are the ones that have offended most. Such remarks as that made by a German professor, that medical science in America is only just out of its "kinderschule," are not pleasant and are indeed the more annoying as we desire to have due respect for German thoroughness and industry and the great service it has done to science. The fact that it is not true and was uttered only to account for German neglect of an important fact first noted in this country, does not entirely relieve it of its sting. Superciliousness on one side is apt to lead to reprisals in kind, and the truth that science should have no boundaries is apt to be ignored. These remarks are suggested partly by a recent New York letter in the *Deutsche Med. Woch.* of March 23 and partly by a rather noticeable oversight on the part of a German author that has lately been called to our notice. In the *Neurologisches Centralblatt*, No. 4, February 15, Dr. A. Westphal publishes an article entitled "Ueber ein bisher nicht beschreibenenes Pupillenphænomenon (a hitherto undescribed pupilary phenomenon). It consists in the fact that a contraction of the pupil takes place after a forcible effort to close the lids is made. The subject, with eyelids held apart by the observer, is told to shut the eyes tightly, when the pupils will be noticed to contract perceptibly. If Dr. Westphal had consulted ophthalmologic literature, he might have found in Knapp and Schweigger's *Archives of Ophthal.*, 1895, xxiv., p. 402, his pupil reaction already fully described and discussed by Dr. H. Gifford, of Omaha, under the title of "An Orbicularis Pupilary Reaction." Dr. Gifford leaves little to be asked in regard to the phenomenon in its ophthalmologic aspects in the light of our present knowledge, and it is the more remarkable that so thorough and scholarly a paper should have been overlooked. Are we to account for it by assuming that it was not considered worth while to investigate anything of American origin even though published under German auspices? However it may have occurred, it is well to show that priority in the observation belongs to Dr. Gifford and to suggest that other instances of this kind will be likely to occur in case American literature is neglected by foreign investigators in the future as it has been in the past. That such omissions have been more frequent than they should be is sufficiently shown by the fact that this is the second correction of the kind in the Journal during the present year (see communication of Dr. Carl Beck in the issue of February 4). There is certainly room for improvement in German literary research as regards American publications.

HUMANE OR INHUMANE PROJECTILES IN WAR.

The criticisms of the English Dum-Dum bullet and the Mark IV or Woolwich military bullet, especially those of Professor von Bruns of Tubingen, have stirred up some feeling and naturally have called out some replies. The *British Medical Journal* of March 25 contains the latest of these, a total of over five pages of critic review of the whole subject by Mr. Alexander Ogston. He gives the history of the British soft-point bullet and the reason for its adoption and the later substitution of the Woolwich hollow-pointed projectile, and calls attention to the fact that the success against the fanatic dervishes at Omdurman was probably due to the greater disabling effect of these weapons, while, had the full-mantled bullet been employed, disaster instead of victory might have been the outcome. He then quotes quite fully the criticisms of Professors von Bruns and Esmarch and those of the French critics, and also quotes at length from an anonymous French writer whose views and experiments seem, like those of Beyer in this country, to throw doubt on the lesser destructive action of the fully mantled projectile, thus, by implication at least, lessening the blame attached to the soft or hollow-pointed bullets. Dr. Ogston makes a very good point when he says that the original purpose of the mantle or steel coating of the modern military projectile was not humanity, but simply to compensate for its increased velocity by preventing stripping in the rifle grooves. The idea of increasing the velocity, in fact, was to make the weapon more destructive by enabling it to carry farther and penetrate better; to, in short, increase its range of effectiveness in every way, and the hard mantle is simply a necessary condition of this increased velocity. Under certain conditions the modern steel-cased bullet inflicts what can hardly be called a humane wound, and is itself open to objections on this score. Another point worthy of consideration is the difference between warfare with civilized and uncivilized peoples. It is one thing to have to do with a civilized enemy and another with one that gives no quarter, especially if the latter is made up of fanatics whose rushes can not be stopped by anything but disabling wounds or death. It would be unfair to insist on the same rules in dealing with these as with civilized troops who are under the regulations, so far as they exist, of civilized warfare. If the subject is to be made a matter of international regulation, it will be found not a perfectly simple one, and no rule can be made effective in any war that does not equally bind both combatants. Any international convention to settle this matter will have to consider. not only the metallic mantle, but also its composition, quality and thickness, especially at the point, and also the question of high velocities in general, and beyond these details, the broader subject of the conditions of warfare with the uncivilized and those who are not bound by the conventions. The humanizing of warfare, which is itself essentially inhuman, will be a complicated and difficult task.

THE CEREBROSPINAL FLUID.

An interesting triple communication was presented at the meeting of the Royal Society (England) on February 16, and reported in *Nature* (March 9). Dr. St. Clair Thomson gave an account of a patient of his, who, without any history of injury, had a continuous discharge (dripping) of cerebrospinal fluid from one nostril. Other cases are on record that Dr. Thomson thinks must have been similar, though the true nature of the discharge was not recognized. Some of these died from inflammatory disease of the brain, probably from infection by way of the nostril. The fluid was clear and watery, of low specific gravity, containing only a small amount of proteids. The presence of a substance, not dextrose, reducing Fehling's solution, was detected and it is supposed to be possibly related to pyrocatechin. There was a strong contrast between this fluid and the ordinary mucin-containing discharge of ordinary nasal hydrorrhea. It was found to be more watery in the evening than in the morning on account of the lesser quantity of organic solids. This agrees with results of experiments on dogs by Cavazzani, and is what might be expected, as the decreased capillary pressure assumed to exist during rest would lessen the watery exudations

Dr. Leonard Hill had utilized this case to confirm a theory he had advanced that the rate of secretion of the cerebrospinal fluid when the cranio-vertebral cavity is opened depends directly upon the difference between the atmospheric pressure and that in the cerebral capillaries, while the cerebral capillary pressure varies directly and absolutely with the vena cava pressure. On the other hand, cerebral capillary pressure varies directly, but only proportionately with aortic pressure, as between the aortic and the capillaries is the peripheral resistance. Experimenting with Dr. Thomson's case, Hill found that capillary pressure was raised by several methods, all likewise acting in increasing vena cava pressure: 1, by compression of the abdomen; 2, by the horizontal posture (the normal fall of arterial pressure may compensate for this, and undoubtedly does so during sleep); 3, by straining, or expiratory movements with the glottis closed. All these caused increased flow with diminution of solid matter in the fluid. Dr. W. D. Haliburton, the third collaborator in the investigation, experimented with the cerebrospinal fluid from patients suffering from brain atrophy, and especially from paretics. He found that it contains a toxic substance, cholin, probably produced by disintegration of lecithin in the brain. Injection of such fluid into the jugular vein of anesthetized animals caused marked lowering of the blood-pressure, partly of cardiac origin, but principally due to the action of the poison on the neuromuscular apparatus of the peripheral vessels, especially in the splanchnic area. Control experiments with the cerebrospinal fluid from Dr. Thomson's case gave altogether negative results, though as much as 7 to 10 c.c. were injected, a dose sufficient to produce very marked effects of the cholin-containing fluid.

Medical News.

The sum of $100,000 has been appropriated by the New York Legislature, for the Craig colony of epileptics.

The commencement exercises of the medical department of Tulane University of Louisiana will take place May 3.

Dr. J. B. Bonney has been selected by the Louisiana State Board of Health to take charge of the Rigolets Quarantine Station.

Dr. C. A. L. Reed, Cincinnati, Ohio, has resigned his office as a member of the Ohio State Board of Medical Examination and Registration.

Dr. Franklin Stahl, class of '87, has been elected by the trustees of the University of Pennsylvania to lecture in the medical department, on dietetics.

The casualties in the Philippine Islands from Feb. 4 to April 4, 1899, as reported by the adjutant-general of the army, amount to 1160: killed, 184; wounded, 976.

Dr. Jos. Clement Clark, first assistant at Springgrove Asylum, Md., has been appointed successor to the late Dr. Rohé, as superintendent of State Insane Asylum No. 2.

Dr. Hermann Snellen, professor of ophthalmology at the University of Utrecht, will at the end of this semester resign his chair. Heinrich Snellen, his son, will succeed him.

Prof. Leopold of Dresden, was elected honorary president by the Spanish Gynecological Society of Madrid, and made honorary member of the Italian Obstetrical and Gynecological Society.

By the will of the late Dr. Sigismund Waterman, just admitted to probate, his medical library is bequeathed to Yale University, from which institution Dr. Waterman received his degree of M.D.

In order to stimulate a better display of surgical instruments and apparatus in the State Fair, to be held in New Orleans, La., in May, the Orleans Parish Medical Society will give a gold medal for the best exhibit.

The Board of Trustees of Cooper Hospital, Camden, N. J., has appointed Dr. E. A. T. Schellinger assistant physician and surgeon on the hospital staff. Dr. S. formerly acted as resident physician to the hospital.

There is a movement on foot in Russia to establish sanatoria for consumptives, in the numerous monasteries, the majority of which are situated in healthy regions, have spacious rooms and are able to supply fresh milk, eggs, etc.

The bubonic plague recently appeared at the village in Annam where Yersin's plague serum laboratory is located, and was at first supposed to be another case of laboratory contagion, but later investigations traced it to a village on the coast where the Chinese junks land.

Fifty-one men from the second division hospital corps, stationed at Greenville, S. C., have been ordered to general hospital work in the Philippines. The War Department has also ordered twenty-five men from the hospital corps of Ft. Leavenworth, Kan., to proceed to Manila.

Dr. J. Chalmers DaCosta, surgeon of the firemens' pension fund, Philadelphia, has been presented with a handsome gold badge on behalf of the members of several fire companies of that city. In design the badge is similar to that presented to Miss Gould by the New York fire department.

According to the *Medical Review*, the Missouri Medical College and the St. Louis Medical College are proposing to amalgamate. The union of these two oldest schools in St. Louis ought to result in good for the profession in our sister city, if such union can be accomplished, as now seems quite probable.

The first international congress of physicians connected with life insurance companies will be held at Brussels, Belgium, Sept. 25 to 30, 1899. Europe and the United States will be represented at this congress, which proposes to establish universal formulæ for the examination of persons desiring to be insured.

The district commissioners have, in accordance with the law in regard to contagious disease, enlarged the powers of the health officer of the District of Columbia, enabling him to have full control as regards inspection and cleaning whatever premises are the source of danger, without regard to actual present infection.

Yellow-fever experts have been appointed by the Louisiana State Board of Health, as follows: Drs. T. S. Kennedy, E. S. Lewis, F. Loeber, R. Matas, F. W. Parkham and L. F. Salmon—a board of experts on yellow fever to whom cases are to be referred for-diagnosis in the unlikely event of the recurrence of that disease.

From the press dispatches from Springfield, Ill., a member of the legislature recently introduced a bill to compel physicians to attend all sick persons when called, whether fees are guaranteed or not, with a penalty of $50 for the first refusal and $100 for subsequent refusal.

Joseph A. Steinmetz, a member of the executive committee of the Red Cross Society of Philadelphia, together with several employes, has gone to Havana to formulate plans for the establishment of a childrens' hospital to accommodate 150 patients. The hospital will be under the control of the National Red Cross Society.

The formal opening of the new buildings of the German Hospital, Philadelphia, and their presentation to the trustees of that institution, occurred on April 5. The buildings were given to the institution by Mr. John D. Lankenau and included the middle building of the hospital, laundry, hydropathic institute, and mortuary.

It has been determined by the New York County Medical Association, to revive the old "Medical Register of New York, New Jersey and Connecticut," which for many years was published annually under the auspices of the New York Medico-Historical Society, but which has of late been discontinued for lack of adequate patronage.

Students of the Jefferson Medical College, Philadelphia, Pa., have started a magazine, to be known as the *Jeffersonian*, the first number appearing April 10. The editors are anxious to obtain the addresses of all Jefferson alumni, and graduates of the school are requested to send their addresses to the editors of the *Jeffersonian*, care of the Jefferson Medical College.

Recently, representatives from the University of Pennsylvania visited Sea Isle City for the purpose of determining the best available position for the establishment of the laboratory of the biologic and botanic department of the university. It is proposed to erect the building in some region where it may remain open for instruction throughout the entire year.

A regulation against spitting in public buildings, churches, theaters, markets, railway stations, and cars, has been made by the Boston Board of Health. It is hoped that the courts will not nullify this, as has been done elsewhere with a similar regulation in at least one of our large cities. The "spitting boy," as the public expectorator seems to be called in the Boston papers, certainly ought to be restricted.

Salt Lake City is said by the local papers to be in a deplorable sanitary condition and a general cleaning imperative. The *rus in urbe* plan of the Mormon founders of the city, it would seem, ought to somewhat embarrass the sanitarium as population becomes dense and the ten-acre blocks become more closely built upon. The prophet's prophetic powers were not fully applied in his sanitary conception of the City of the Saints.

Dr. William Pepper has presented to the University of Pennsylvania library, a collection of 500 medical books from the library of his father, the late Dr. William Pepper. The collection contains works of reference, treatises on special subjects and transactions of medical societies. Through Dr. James Tyson, a gift has also been made to the library, by H. Vail, consisting of climatologic observations taken at Santa Barbara, Cal., from 1888 to 1898, inclusive.

A committee from the University of Pennsylvania, consisting of Prof. Hermon V. Hilprecht, Dr. Stewart Culin and Mrs. Cornelius Stevenson, has been appointed to arrange for a representation of the University of Pennsylvania at the Paris Exposition in 1900. This committee will work in conjunction with those of Harvard, Yale and other American representatives. The University of Pennsylvania will prepare the exhibition on anthropologic and ethnologic specimens.

According to press despatches from Washington, D. C., the president has signed an order transferring to the surgeon-general of the marine-hospital service about 10,000 acres, with the present buildings, at the old Fort Stanton military reservation in Lincoln County, N. M., fifty miles east of Laguna station on the Santa Fé railroad, for the establishment of a hospital for consumptives in the army, navy, or marine corps, revenue marine and other branches of the service.

According to Cornet (*Bul. Klin. Wochenschr.*) the mortality from tuberculosis has declined in Prussia from between 30.8 and 32.5 per 10,000, with an average of 31.4, to 21.5 in 1897. In other words, about 184,000 fewer persons have died from tuberculosis in Prussia between the years 1889 and 1897 than in the preceding ten years. This result is attributed largely to the efforts made to prevent drying and careless and indiscriminate dissemination of the sputum of tuberculous subjects.

Morestine entitles a case he describes in *Wratsch* (No. 25, 1898), "Martyrology of a Patient." The adnexæ were removed from a young woman, in 1894, and during the years since she has returned to the hospital a number of times with a succession of phlegmons and fistulæ in thigh, abdomen and vagina. She at last returned in perfect health, bringing with her a hemostatic forceps 12 cm. in length, which had been spontaneously evacuated per anum after a sojourn of four years in her abdomen.

To demonstrate what might be done toward developing the latent faculties of the insane, Dr. Daniel E. Hughes of Philadelphia gave a program on Easter in which inmates of the insane department of the Philadelphia Hospital took the leading part in the rendition of sacred music. The total number of patients who led and were under control was 800. The hymns were of difficult performance, but under the careful training given, the program was completed with much satisfaction to all present.

Dr. C. P. Wilkinson, State quarantine officer of Louisiana, has just completed a tour of inspection of the seaboard quarantines, a mission on which he was sent by the State board of health, with a view to obtaining uniform quarantine regulations and thus minimizing the danger of importation of yellow fever from Cuba. Dr. Wilkinson made a favorable report, particularly on his conferences with the marine-hospital and New York health officials, who promised to co-operate with the board of health in maintaining an efficient quarantine.

At the meeting of the board of trustees of the Cincinnati Hospital, April 5, Dr. Charles E. Caldwell was elected orthopedic surgeon in place of Dr. Charles Castle, resigned. The board elected Dr. Nat Graham of the Ohio Medical College to fill the place of interne made vacant by the continued sojourn of Dr. Morrison in the Philippines. Dr. Morrison is acting as surgeon to a Montana regiment. Dr. C. S. Evans, dermatologist to the Cincinnati Hospital, was granted leave of absence for the summer. Dr. Evans will spend the summer in Europe.

A Dresden gynecologist, Dr. Ihle, has recently operated on a young woman, intending merely to curette for endometritis, but found, after narcosis, such extensive lesions in the ovaries that he removed them and postponed the curettement. The patient expressed her gratitude for his prompt action in deciding and operating without waiting her consent, but when he presented his bill for 1540 marks, she changed her mind and refused to pay it. The courts decided that the operator deserved censure, as he should have waited and postponed his intervention until he had secured the patient's consent, as nothing indicated that the operation was urgent.

A pamphlet on the "Bertillon Classification of Causes of Death," has been sent out by the American Public Health Association, which asks for suggestions from sanitarians, pathologists and others, to be utilized in the first revision, which will be made in Paris next year. It is hoped that its adoption will be general, or rather, universal, so that with the next century there will be begun a universal system of mortality statistics throughout the world. Any physician desiring information or willing to offer suggestions can obtain a copy of the pamphlet gratis by applying to the secretary of the association, Dr. Cressy L. Wilbur, Lansing, Mich.

A committee of over forty physicians, representing sixteen different medical societies of the city of New York, and including representatives of both medical schools, has been formed for the purpose of doing honor to the memory of Dr. Joseph O'Dwyer. The report of the committee on scope and plan has been adopted and now only awaits final action of a meeting of the full committee. The memorial will probably take an educational form, as the plan now outlined proposes to raise a fund of $30,000, the interest of which shall support two O'Dwyer Fellowships in Pediatrics, open to competition by physicians who graduate in the United States, and to be held by the successful competitors for a period of two years.

A Quaint old book, the memoirs of Louise Bourgeois, the midwife who assisted at the birth of the children of "Henry of Navarre," about 1600, contains the first description of the treatment of placenta previa, as she describes her practice of interfering whenever the hemorrhage threatens a fatal termination, the uterus gaping without pains, from the relaxation of extreme weakness, "watching the woman as a cat watches a mouse, and fighting for her with eye and finger"—"breaking into the uterus as one would into a house on fire." She mentions a child "born without a seat," but healthy, the feces being discharged through the vagina. She advised against an operation, as she "was sure her friend the lamented Monsieur Paré would not have operated in this case," observing that ' women who seek to entice married men from the path of virtue were built this way, many wives would be happier than they are now."

The recent graduating class from the College of Physicians and Surgeons, Kansas City, Kan., numbered eleven.—The annual commencement of the Atlanta (Ga.) College of Physicians and Surgeons was held April 2.—Seven received the degree of M.D. from Birmingham (Ala.) Medical College at the recent annual commencement.—Graduates of the Medical Department of the University of Tennessee, Nashville, recently, numbered fifty-five.—The ninth annual commencement of the Kansas Medical College, was held at Topeka, Kan., recently, with a class of twenty-four.—Fifty-five young men were graduated at the recent commencement of the University Medical College, Kansas City, Mo.—The first class under the four-years course, numbered nine, at the Medical College of Indiana, Indianapolis, at the twenty-ninth annual commencement.—The graduates from the Keokuk (Iowa) Medical College, at the recent commencement, numbered five. This institution recently acquired the College of Physicians and Surgeons of that city, said to be the oldest medical college west of the Mississippi.—The Fort Worth (Texas) College of Medicine graduated a class of twenty April 6.—The eighteenth annual commencement of the Baltimore (Md.) Medical College was held April 6.

Correspondence.

For Whose Benefit Do We Write?

Chicago, April 8, 1899.

To the Editor:—In your issue of to-day (vide Journal, p. 777) a correspondent asks: "For whose benefit do we write?" The accompanying letter shows for whom we are sometimes asked to write.

Charlotte, N. C., March 24, 1899.

Dr. E. F. Wells, Chicago, Ill.

My Dear Doctor:—A medical friend of mine recently mentioned in a complimentary way an article you lately read before the Chicago Society of Internal Medicine, entitled "Pulmonary Tuberculosis."

I am desirous of securing a scientific clinical report on paper on the therapeutic use of ——. This preparation is, as you all know, ethic and scientific, and has been used extensively in phthisis. I would like an article of about a thousand words, and am willing to pay you for your careful observation and report. Of course I want the privilege of publishing the paper in the medical press. If you have the time and inclination to do this work for me, and need literature and samples, I will take pleasure in sending them to you. Thanking you in advance for an early reply, I am, very truly yours, ———.

Sincerely,

Edward F. Wells, M.D.

Consolidation of Medical Societies.

Milton, Ky., April 4, 1899.

To the Editor:—Your plea for consolidation of medical societies (vide Journal, p. 717) is timely and good. I trust that a movement looking to this end will be started at our next meeting, and would suggest that State societies have semi-annual meetings instead of annual as at present; also that the village doctor be put on active duty. Yours truly,

S. E. Hampton, M.D.

The sale of liquor at Stockholm has fallen from over four millions liters a year to a little over a million and a half, since the introduction of the Gothenburg system.

Current Medical Literature.

AMERICAN.

Titles marked with an asterisk (*) are noted below.

New York Medical Journal, April 8.

1.-*Errors I have made in 228 Consecutive Cases Diagnosticated as Appendicitis. Robert T. Morris.
2.-*Signs of Inherited Syphilis. Robert H. M. Dawbarn.
3.-*Differential Diagnosis of Syphilitic Eruptions and Signs in the Skin of Former Syphilis. George Henry Fox.
4. *Treatment of Secoudary Syphilis. R. W. Taylor.
5-.*Treatment of Syphilis. L. Bolton Bangs.
6.-*Further Report on the Use of "Antiphthisic Serum, T. R." (Fisch), in Tuberculosis. A. Mansfield Holmes.
7.-Thoracoplasty for Sarcoma of the Chest Wall. Frank Hartley.
8.-Study of Presentations and Positions of the Fetus. Eliza H. Root.

Boston Medical and Surgical Journal, April 6.

9.-*Classification of Epileptics. W. N. Bullard.
10.-*Justus' Test for the Diagnosis of Syphilis. Richard C. Cabot and P. S. Mertius.
11.-Starch Digestion in the Stomach. A. E. Austin.

Maryland Medical Journal, April 8.

12.-*Antiperiodic Treatment of Insanity. Edward Anderson.
13.-Technic of Radiography. Alex. L. Hodgdon.
14.-Report of Progress in Dermatology. T. Caspar Gilchrist.
15.-Report of Progress in Diseases of Eye and Ear. Hiram Woods.

Philadelphia Medical Journal, April 8.

16.-*Clinical and Scientific Contributions upon the Value of the Widal Reaction, Based upon the Study of 230 Cases. James M. Auders, and James McFarland.
17.-*Two Unusual Cases of Myxedema. Sidney Kuh.
18.-*Clinical Study of 287 Cases of Hyperphoria. Wm. Campbell Posey.
19.-Typhoid Fever and Water-Borne Diarrhea. John S. Fulton and William R. Stokes.
20.-Simple and Convenient Apparatus for the Home Modification of Milk. J. P. Crozer Griffith.
21.-*Note on Frequeucy of Enlargement of Epitrochlear Glands in Diseases Other than Syphilis. Richard C. Cabot.

Medical Record (N. Y.), April 8.

22.-*Importance of Ureteral Catheterization in Gynecology. Theodore Landau.
23.-*Term "Conservative Surgery" as it Has Been Proposed to Apply It to the Uterus and its Appendages. Lawson Tait.
24.-*Constipation—Its Treatment by Mechanic Measures. H. Illoway.
25.-*Infection of Gunshot Wound of Leg with Bacillus Aerogenes Capsulatus—Amputation—Recovery. W. J. Love. With Bacteriologic Report by G. A. Cary.

Medical News (N. Y.), April 8.

26.-*Stypticin (Cotarnin Hydrochlorate) in Uterine Hemorrhage. H. J. Boldt.
27.-The Present Status of Pharmacy and its Possible Improvement. Eli H. Long.
28.-*Some Observations upon Erysipelas and Its Treatment.—Based upon a New Series of 100 Cases. Charles W. Allen.

Cincinnati Lancet Clinic, April 8.

29.-*Pityriasis Rubra Pilaris. A. Ravogli.

Medical Review (St. Louis), April 8.

30.-*Results of Treatment in 1129 Cases of Acute Alcoholism. Death-rate 1.5 per cent. J. K. Bauduy.

Virginia Medical Semi-Monthly, March 24.

31.-Surgical Diseases of Liver. I. S. Stone.
32.-*Typhoid Perforation—Operation—Recovery. Hugh M. Taylor.
33.-*Chronology of Methods of Atmospheric Inflatiou for Inspection of Rectum and Sigmoid Flexure. Thos. Chas. Martin.
34.-Anterior Poliomyelitis, or Infantile Paralysis. Chas A. Labenberg.

Columbus Medical Journal, March 21.

35.-Acute Parenchymatous Nephritis. George Murray Waters.
36.-Etiology and Pathology of Chronic Nephritis. J. J. H. Upham.
37.-Treatment of Chronic Iuterstitial Nephritis. Edwin F. Wilson.

Pediatrics, April.

38.-*Analysis of Forty Cases of Infantile Cerebral Palsy Associated with Epilepsy. L. Pierce Clark and E. A. Sharp.
39.-Diagnosis of Some Common Eruptive Fevers. Frank W. Wright.
40.-*Uncomplicated Epidemic Influenza as it Affects Very Young Children. Charles O'Donovan.
41.-*Note on Treatment of Pertussis. J. Madison Taylor.
42.-Diseases of Children in Porto Rico. George G. Groff.
43.-Case of Old Dislocation of Elbow-joiut in a Child—Operation—Recovery. Charles Greene Cumston.

Annals of Surgery, April.

44.-*Management of Acute Traumatic Pneumothorax. Rudolph Matas.
45.-Cholecystitis; A Clinical Review of Twenty-one Cases. Lucius W. Hotchkiss.
46.-*Modification in Operative Method for Iuveterate and Relapsed Cases of Talipes Equinovarus. August Frederick Jonas.
47.-*Contribution to Surgery of Empyema of Thorax in Children. John Bion Bogart.
48.-*Surgical Treatment of Acute Infective Arthritis and Cellulitis (Acute Articular Rheumatism). John O'Connor.
49.-Report of Case in which Halsted's Hammer was Used as an Aid to Suture of Common Bile-duct. J. J. Buchanan.

Yale Medical Journal, April.

50.-*Acute Inflammation of Gall-Bladder. M. H. Richardson.
51.-Case of Acromegaly. O. T. Osborne.
52.-*Malarial Disease Mistaken for an Affection of the Ear. D. B. St. John Roosa.
53.-Case of Pyopneumothorax Treated by Estlander's Operatiou. J. P. Kimball.
54.-*Sprains and their Treatment. C. A. Allen.

Medical Standard, April.

55.-*Therapeutics of Diseases of the Respiratory System. George F. Butler.
56.-*Universal Torsion as a Hemostatic Compared with Ligature, Electricity and Acupressure. J. D. Justice.
57.-Treatment of Typhoid Fever. Wm. E. Quine.

Brooklyn Medical Journal, April.

58.-*Separation of Epiphysis of the Lower Extremity of Humerus: Report of Case in which Epiphysis was Displaced Forward. Russel S. Fowler.
59.-*Some Unlooked-for Occurrences in Practice of Medicine. R. E. Coughlin.
60.-*Kidney and Pregnancy. J. L. Kortright.

The Medical Fortnightly, April 1.

61.-Tonsillitis of Influenza. Seth Scott Bishop.
62.-Seasickness—A Personal Experience. Ernest B. Sangree.
63.-Skepticism and Serum Therapy. H. Schoenfeld.

St. Paul Medical Journal, April.

64.-*Explanation of Causes which have Led to Decrease of Leprosy in Norway. G. Armauer Hansen.
65.-Thoughts on Expert Medical Testimony from Standpoint of Country Practitioner. A. Babcock.
66.-*Wheat Jelly iu Infant Feeding. L. Duncan Bulkley.

Memphis Lancet, April.

67.-*Erysipelas. Augustus A. Eshner.
68.-*Adenoid Vegetations. Carle Lee Felt.
69.-*Tumors of Breast. Wm. L. Rodman.
70.-*Color-Blindness in Railway Employes. Dudley S. Reyuolds.
71.-*Treatment of Urethral Stricture. E. A. Neely.

Memphis Medical Monthly, April.

72.-Chronic Hypertrophy of Pharyngeal Tonsil (Adenoids) in Children. Richmond McKinney.
73.-When to Asepticize in Midwifery. E. E. Haynes.
74.-*Remarks upon Treatment of Hernia, Straugulated and Reducible. F. D. Smythe.
75.-Abscess of Spleen—Report of Two Cases. B. S. Haliburton.
76.-*Uses of Marsden's Paste in Epithelioma. Robert W. Tate.
77.-Stop Generating Disease. Adele E. Shaw.

Texas Medical News, March.

78.-Placenta Previa, with Report of a Case. Matthew M. Smith.
79.-Acute Enterocolitis of Children. W. E. Holtzclaw.
80.-Diagnosis of Smallpox. Frank W. Wright.

Kansas City Medical Record, March.

81.-Creosote in Phthisis Pulmonalis. L. H. Warner.
82.-Importance of More Thorough Teaching of the Priuciples of Food and Dietetics in our Medical Colleges. J. W. Kyger.

American Practitioner and News, March 15.

83.-Analysis of Earliest Manifestations of Tuberculosis. F. C. Wilson.
84.-Traumatic Neurosis. T. B. Greenley.
85.-Varicocele. Oscar E. Bloch.

Kansas City Medical Index, March.

86.-*Treatment of Migraine. Joseph Collins.
87.-Disposal of the Dead, from a Bacteriologic Standpoint. I. J. Wolf.
88.-Cases from Practice; Fibroadenoma, etc. D. L. Eastman.
89.-Fracture of Patella; Gunshot Wound; Hernia; Sarcoma of the Cheek; Hip-Joint Disease. Charles McBurney.
90.-Nostalgia. David R. Porter.
91.-Case of Torticollis and its Latest Treatment. S. Grover Burnett.

Southwestern Medical Record, March.

92.-*Pernicious Malarial Fever. W. P. Gilstrap.
93.-Gunshot Wounds. Sofie Herzog.

Canadian Practitioner and Review, April.

94.-The Soldier and the Surgeon. J. Sterling Ryerson.

Medical Dial (Minneapolis, Minn.), April.

95.-Paranoia—Notes from a Lecture before the Senior Class of Hamline University. C. K. Bartlett.
96.-Uterine Displacements. A. E. Benjamin.
97.-Value of Urinary Analyses. Robert A. Campbell.

Indiana Medical Journal, April.

98.-Investigation of Digestive Activity of the Stomach. Alois B. Graham.
99.-Triplets—One Single Child aud a Thoracogastrodidymus. G. W. Thompson.

Sanatarian, April.

100.-*Sand Filtration of Public Water-Supplies. R. S. Lea.

1.—Diagnosis of Appendicitis.—Morris discusses the question of the diagnosis of appendicitis in 228 cases of consecutive operation for this trouble. He found only seven clear errors in his diagnosis of the disorder and asks what other disease gives so small an opportunity to go wrong. It seems to him that appendicitis is one of the most readily diagnosticated of all diseases.

2.—Inherited Syphilis.—Dawbarn's article is an enumeration of the signs of inherited syphilis, twenty-seven in number. Many of these are the characteristic lesions of the disease and condition of the patient. Others are, like Hutchinson's teeth, snuffles, claw nails, etc., well known as symptoms. A few others are of value in combination with other signs. None of these are here mentioned for the first time, but one has been rarely mentioned, i. e., the extreme thickness of the umbilic cord at birth, which may be due to a partial endophlebitis obliterans, involving the umbilic veins.

3.—Diagnosis of Syphilis.—Fox, in speaking of the diagnosis of syphilis and the lack of characteristic signs in many cases, as well as of the history of infection, says that it is extremely difficult to get a definite history of the disease, though the patient may be perfectly honest. The common statement that lying is a pathognomonic symptom may be a good joke, but in his experience, it is seldom true. Pigmentary indications of previous syphilis are rarely of much service. Scars often form a permanent record. There is nothing characteristic in a single scar, but a number of them and their arrangement on the skin are often characteristic. If found arranged in a semicircle or in groups, the diagnosis of former syphilis is justifiable.

4 and 5.—**Treatment of Syphilis.**—Taylor advises the putting off of active treatment of syphilis until the secondary manifestations of the disease begin to show themselves—early treatment may simply retard matters and embarrass later methods. There is also an advantage in the patient having enough the matter with him to recognize that he needs treatment. It must be persistent and long continued. He begins with one-half-grain doses of tannate or protoiodid of mercury three times a day and gives attention to the stomach and intestinal canal and the mouth and throat. He then begins inunctions of mercurial ointment, and later a more effective treatment with this method, discontinuing the pills. While the patient is undergoing the mercurial treatment he should have one or two vapor baths a week on retiring, and when practical, Turkish baths without the plunge, and after them perspire freely. Cold salt-water baths are often beneficial, at the seaside, and an occasional hot salt-water bath, followed by packing and a sweat. The physician should be familiar with the technic of hypodermic injection of bichlorid of mercury and use them as a reserve. He should also bear in mind that mercurial vapor baths have a limited but important place in the treatment of secondary syphilis. Bangs, on the other hand, is inclined to commence treatment early, and favors the excision of the initial lesion whenever its situation permits. He also uses early mercurial treatment, internal and external. The duration of the treatment depends upon the individual, but he thinks it should be continued to some extent for at least three years, if not longer.

6.—Holmes completes his report on the use of antiphthisic serum (vide JOURNAL, April 1, p. 724 and April 8, p. 779.)

9.—**Classification of Epileptics.**—Bullard divides epileptics into four classes: traumatic; toxic, including alcoholic, absinthe, lead, etc.; organic, from brain diseases; and syphilitic. As a symptomatic classification, he suggests: 1, that in which grand mal is the prominent feature; 2, that in which petit mal prevails; and 3, that in which automatic action forms the chief symptom. These may be subdivided according to the pleasure of the observer. Other classifications which he suggests are those based on violence, dangerous tendencies, etc.; and, among the mildly insane, according to the degree of dementia and ability to do light or regular work.

10.—**Test for Diagnosis of Syphilis.**—Cabot and Mertins find that Justus' test, which consists in the behavior of red blood-corpuscles under the influence of mercury, the hemoglobin being rapidly reduced under its influence from 10 to 20 per cent., is confirmed by their experiments. The results of these experiments were as follows: positive reaction in seven cases of syphilis, negative reaction in thirty-two control cases of other diseases, and a positive reaction in one case of chlorosis.

12.—**Antiperiodic Treatment of Insanity.**—Anderson calls attention to malaria as one of the most common causes of insanity, and maintains that there are many cases in institutions which can be relieved by antiperiodic treatment.

16.—**Widal Test.**—In summarizing the results of the Widal test as applied to 230 cases of typhoid fever, Anders and McFarland found that a positive reaction was obtained in the majority (128) of cases prior to the appearance of the rose spots, or before the eighth day of the disease; 36 cases showed a reaction during the second week, 45 between the seventeenth and the twenty-first day, 8 on the twenty-fifth day, 2 as late as the twenty-eighth day, while the remaining 11 cases were negative. It was observed that when a positive reaction had been obtained early in the couse of the disease, re examination at a subsequent period invariably gave a similar result, emphasizing the diagnostic importance of applying the test even late in doubtful cases in which an opportunity for earlier examination had not been afforded.

17.—**Myxedema.**—S. Kuh reports two cases of myxedema, the infiltration in each case appearing first in the cervical region, hard and resisting in one case, while in the other the infiltration would vanish completely after a short existence, to reappear again in spite of treatment. These cases differed from the ordinary cases of myxedema in the mental symptoms observed, the first presenting well-marked hypochondria. The second gave a history of some acute mental disturbance, accompanied by hallucinations early in the disease. In the later stage an aboulia without any other psychic disturbance was observed.

18.—**Hyperphoria.**—From a clinical study based upon 287 cases of hyperphoria found in examining 2300 cases of refraction, Posey concludes: 1. Hyperphoria of one degree or more will be found to exist in about 13 per cent. of all cases of refration. 2. Although hyperphoria usually bears a close relationship to the degree of esophoria and exophoria existing in any case, the existence of a high degree of esophoria or of exophoria does not necessarily imply the presence of hyperphoria. 3. High degrees of ametropia need not be accompanied by hyperphoria. 4. In anisometropia hyperphoria is present in all cases in which the difference in refraction between the eyes is at all marked, even when associated with a moderate degree of esophoria or exophoria. 5. Strabismus, both convergent and divergent, is invariably accompanied by hyperphoria, of which at least one quarter is latent. 6. Latent hyperphoria is of frequent occurrence, is independent of the states of the lateral muscles, showing, however, a greater disposition to occur when associated with exophoria (2 per cent.) than with esophoria (1.67 per cent.) or with lateral orthophoria (1.12 per cent.). 7. Latent hyperphoria develops quite independent of age; is equally as liable to develop in myopia as in hypermetropia. 8. Correction of refractive errors is not as a rule sufficient to overcome the existing hyperphoria. 9. Headache is the most frequent symptom, and is commonly of the supraorbital type. In the treatment of hyperphoria the use of the vertical prism is suggested as most satisfactory. Tenotomy is best resorted to only in cases of high degree of vertical insufficiency, and for those rare cases of low degree when emmetropia is present in both eyes.

21.—**Enlargement of Epitrochlear Glands.**—Epitrochlear glandular enlargements Cabot has found to be absent in a considerable number of syphilitic cases, while hyperplasia of these glands was frequently observed in cases presenting no specific history; he considers epitrochlear adenitis of no importance in the differential diagnosis of syphilis.

22.—**Ureteral Catheterization.**—Landau discusses the importance of ureteral catheterization and notes seven conditions in which it is of value: 1, in cases of obstruction to the ureter from scar contractions of surrounding tissue contracting its caliber; 2, in reuniting the peripheral and central portions of the ureter in operation; 3, the diagnosis of kidney trouble in cases of vaginal operation and in this instance the catheterization was by the vagina; 4, the value of ureteral catheterization in operations for uterine carcinoma; 5, a condition somewhat similar; as in cases of hysteromyomectomy, the introduction of the ureteral catheter in the ureter in this case is a precautionary measure; 6, ureterovaginal fistula, in which the instrument is introduced by the vaginal route; 7, when there is danger of ligating the ureters bound down by adhesion. Here the damage can be detected by ureteral catheterization.

23.—**Surgery of Uterus and Appendages.**—Lawson Tait's article is not easily abstracted fully. It is largely a plea for the complete removal of organs which some more conservative surgeons think should be spared if possible. The special effects claimed by some to follow the removal of the ovary are ridiculed by him. The article is written in a very lively style, and is, perhaps, itself subject to criticism as to taste and temper.

24.—**Massage in Constipation.**—Illoway pleads for the value of massage in the treatment of constipation, and reports five cases in which it was used to advantage. He thinks mechanic methods are the most promising for the cure of this condition.

25.—**Edema Following Gunshot Wound..**—W. J. Love reports a case of malignant edema following gunshot wound in the leg, and requiring amputation. The microscopic and bacteriologic examination was made by Prof. C. A. Carey of Auburn, Ala., and a bacillus, apparently the bacillus aerogenes capsulatus, was detected. The microbe, however, in Dr. Carey's examination differed from the type in regard to its motility and in the fact that after several cultures it becomes aerobic and nonpathogenic.

26.—**Stypticin in Uterine Hemorrhage.**—Boldt discusses the literature of stypticin (cotarnin hydrochlorate) and briefly reports a number of cases in which it has been employed for uterine hemorrhage from various conditions, generally with favorable results. It was administered by the mouth in doses of ¾ grain, and hypodermically in as much as 1½ grains. He concludes his paper witn a general therapeutic review of the published experiences of other physicians. His own conclusion is that in certain forms of uterine hemorrhage it is almost a specific and he finds no unpleasant symptoms, even when given in large doses. He does not find it to be at all hypnotic, as stated by Gottschalk,

28.—**Erysipelas and Treatment.**—Allen's paper largely favors the use of ichthyol as the principal remedy in erysipelas, applied locally in a 25 or 50 per cent. watery solution. Aside from ichthyol prescriptions in pill form to correct some gastrointestinal disturbances, or something to relieve headache, no internal medication was used. For several years he has not given a single dose of tincture of iron in this disease.

29.—**Pityriasis Rubra Pilaris.**—Ravogli's article is a full and elaborate discussion, and describes the symptoms, pathology and etiology, so far as known. As regards treatment, he does not give much encouragement except as to temporary amelioration of the symptoms. He finds good results in improving the digestion, and attention to the excretions, local application of naphthalin in vaselin, also from tincture of tar.

30. **Acute Alcoholism.**—Bauduy, recapitulating, asserts that practical observation upon the treatment, proves that: 1. Acute alcoholism is a self-limiting affection. 2. Acute alcoholism results not from sudden withdrawal, but from excess and abuse of alcoholic, so-called "stimulants," better called sedatives and narcotics in the doses in which they are taken. 3. The expectant plan of treatment is the most rational. 4. Opiates are dangerous because they additionally derange digestion, and, acting as powerful cardiac sedatives, tend to paralyze the heart, and, finally, because they check elimination, interfere with the normal secretions and digestion. 5. Sleep is never to be attained at risk or hazard to the patient, but is to be expected as one of the harbingers of a convalescence not to be forced. 6. In acute alcoholism, as in many other acute diseases, the vis medicatrix is fully adequate in most cases to produce the happiest results.

32.—**Typhoid Perforation.**—Taylor adds one more to the still limited number of cases of successful operation in typhoid perforation of the bowels. His case is of interest, since the operation was performed fifteen hours after the accident, but the symptoms were not as severe or the leakage from the bowels as great as in some cases. Convalescence was uneventful. Statistics should now read, sixty-one operations, fourteen recoveries.

33.—**Inflation of Rectum.**—Martin reviews the literature of atmospheric inflation of the rectum, which he calls proctoscopy. He relates also four cases showing the advantage of this method, and advises it as a routine practice in suitable cases of rectal dsease.

38.—**Infantile Cerebral Palsy and Epilepsy.**—Clark and Sharp find the causes of infantile cerebral palsy obscure and testimony on this point unreliable. Prolonged labor appears to be as potent a one as any. In most cases there are neurotic heredity and degenerative stigmata. The symptoms of the onset in their forty cases were generally the same, vomiting, prostration, and convulsions of the side later paralyzed. In but three were there general convulsions. In about one-third of the cases the remaining paralysis was very slight and only to be discovered on the closest examination. The authors suggest that many so-called idiopathic epilepsies may have this origin or accompaniment, and call attention to the futility of treatment in these organic cases. What is to be done must be mostly along pedagogic lines.

40.—**Epidemic Influenza.**—O'Donovan describes influenza in young children as observed in a recent epidemic of la grippe in Baltimore. There was generally a short initial stage of excitement, followed by vomiting and high fever, rapid weak pulse, bowels slightly costive, general prostration. Except calomel to move the bowels, drug treatment seemed useless; little food was given and the patient was kept quiet in bed, in a well-ventilated room. The disease, if uncomplicated, was of short duration and recovery was rapid; there was none of the prolonged convalescence so often noted in adults in this disease.

41.—**Pertussis.**—The chief point in Dr. Taylor's short article is the therapeutic value of vaccination in the cure of pertussis. He refers to eleven cases thus treated by Dr. W. B. Taylor of McKeesport, Pa., nine of which were thus cured in two weeks, and two passed out of sight but were presumably relieved. He also calls attention to the following prescription: amyl nitrite, ʒss; spts. chloroformi, ʒiii; ether sulph., ʒv. Misc. A few drops on a handkerchief applied to the child's nose has, he thinks, been of value in relieving the paroxysms.

44.—**Traumatic Pneumothorax.**—Matas very thoroughly reviews the surgical history of acute traumatic pneumothorax, the danger from collapse of the lung, and the methods that have been employed to prevent it. The best promise of overcoming the difficulties, he points out, is in the Fell O'Dwyer apparatus for artificial respiration, the value of which has already been proven in various other ways. While this American apparatus for inflation of the lungs had shown its usefulness long prior to any foreign invention, he says that it is only just to note that a similar method has been independently devised abroad for this particular purpose of lung inflation in pneumothorax, by Dr. Doyen, apparently following the suggestions of Tuffier and Quenu, who had experimentally demonstrated the possibility of lung inflation.

46.—**Talipes Equinovarus.**—Jonas proposes the making of a triangular flap to fill the wound in the talipes equinovarus operation, and describes his method in detail (a modified Phelps' operation). Its advantages are the better nutrition from the broad base and less danger of sloughing, the better filling of the wound and the avoidance of an extensive granulating wound with its contracted scars. In his operation he divides the plantar fascia diagonally from before backward, leaving no dead space between the ends of the severed fascia, which still touch and can be sutured if necessary. By dividing the neck of the astragalus, the need of opening the astragalo-scaphoid joint is avoided, thus preventing the separation of the joint surfaces, which tends to cause a relapse.

47.—**Empyema.**—Bogart analyzes twenty-three cases of empyema of the thorax in children, and points out its diagnostic points and the indications and special features of the operation for its relief.

48.—**Acute Articular Rheumatism.**—O'Conor claims that, since his former publication (*Glasgow Med. Jour.*, October, 1897), further experience has fully confirmed his opinion then expressed, that arthrotomy and free incision are a specific cure for what is called acute articular rheumatism. He is also convinced that it is an infective disease due to germs that enter the body through the tonsil or other microbial trap-door. He claims a joint can be opened and drained for weeks without risk of septic contamination or loss of function, and reports ten cases where one or more joints were thus opened with excellent results. In seven of the cases, one or both knees were opened, and in several a number of joints—ankles, wrists, knees and elbows—were operated on. He claims it is difficult to infect an open drainage joint, and as evidence gives a brief account of an additional case where a man with an open, freely discharging knee-joint, kept at his work of dock digging without protection. . . "Four months exposure to mud-shifting, trousers, and a Saturday night lather failed to infect this patient's knee-joint."

50.—**Inflammation of Gall bladder.**—This thorough discussion of gall-bladder inflammation and its management is based, as stated, chiefly upon cases published last June (*Am. Jour. of the Med. Sci.*). Here, however, Richardson publishes a new series of thirteen new cases and also an interesting report of one case of pyonephrosis that was taken for a cholecystitis, showing some of the difficulties of diagnosis. In several of the cases bacteriologic examination revealed the source of infection. The organisms found were the colon and typhoid bacilli and, in one case, the pneumococcus. Neither typhoid nor pneumococcus infection had revealed itself elsewhere.

52.—**Malarial Disease and Ear.**—Roosa remarks on aural diseases simulated by malaria, and reports the auto-history of one of his patients, a physician, in whom the malarial disorder was mistaken by the attending physician for acute aural disease, and calls attention to this possible error in diagnosis. He does not think the distinction difficult if the physician is on the alert, and deprecates the tendency to operate in every case of high temperature with ear symptoms. "It is not difficult," he says, "to distinguish a septic rise of temperature, with its irregular, vacillating curve, from that of pronounced, intermittent fever, which rapidly reaches its height, and as rapidly descends."

54.—**Sprains.**—Allen expatiates on the value of massage in the treatment of sprains, and reports a case showing its advantages.

55.—**Respiratory Diseases.**—Butler discusses the treatment of pleurisy. The chief indication is to relieve pain, which is done by local external methods and physiologic rest for the chest, but the administration of anodyne drugs such as opiates is necessary, with some of the coal-tar antipyretics. The diet is one of the chief factors in the treatment, and should be light and nutritious. Saline diuretics and purgatives should be employed, and if there should be exudation, special remedies that are supposed to have some effect upon it, changing its character from fibrinous to serous, may be given. The operation of thoracentesis is a last resort.

56.—**Torsion as Hemostatic.**—Justice suggests the more general use of torsion for the stoppage of hemorrhage in the arteries in operations, preferring it, in many cases, at least, to a ligature. He has witnessed a large number of amputations involving the larger vessels, in which this method was used without any disastrous consequences, in the practice of Dr. Otis Johnston, and Dr. Johnston himself claims, according to Justice, that in more than one thousand operations he has never had a secondary hemorrhage. He has not used ligatures for the stoppage of hemorrhage except in the abdominal cavity, and he had lately begun also to use torsion there. His method is to twist the artery until the middle and internal coats can be felt to yield and then withdraw the forceps. He claims that when the timidity of surgeons as to this method has been overcome, the ligature will become largely obsolete.

58.—**Epiphyseal Separation.**—Fowler reviews the literature on separation of the lower humeral epiphysis, and adds two new cases. The subjects of diagnosis, complications, treatment, etc., are discussed. Supracondyloid fracture, with which it is most likely to be confounded, is recognized by its usual higher position and less transverse direction, the character of the crepitus and the age of the patient affording a presumption of separation. The most serious complications are swelling and interference with nerves by callus. Probably less than 50 per cent. recover with perfect joints. Flexion is the best position in treatment. Pressure over the elbow should be avoided. Massage and passive motion should not be tried until the third week.

59.—**Poisoning.**—Coughlin reports several cases in which the unexpected happened, among them one of poisoning by 1/500 grain of hyoscin hydrobromate and several that suggest caution in the use of chloral and bromids, one of eclampsia apparently from strangulated hemorrhoids, and one of the survival and subsequent healthy growth of an apparently five-months child.

60.—Kortright calls special attention to prophylactic measures in cases of pregnancy complicated with kidney disorder.

64.—**Leprosy in Norway.**—Hansen's article is in reply to the charge that Norway rids itself of leprosy by emigration. He shows that the decrease is due to the policy of isolation adopted and, as regards Scandinavian leprosy in America, he states that he found but one case that possibly had acquired the disease in this country by contagion, and that the disease had nowhere spread among the immigrants. This he attributes to better habits of cleanliness learned by them. The greatest danger to this country is, in his opinion, the importation via the Pacific ports.

66.—**Wheat Jelly.**—Bulkley calls attention to wheat jelly as an article for infant feeding. A teacupful of cracked wheat is put in a pint of cold water in the evening and allowed to cook slowly for two hours in a rice boiler, and is then set aside over night. In the morning it is somewhat jellified. More water is added and it is slowly cooked for two hours more. Then it is passed through a fine sieve, removing the hard parts, and is ready for use, representing all the nutritive properties of the wheat. It should be prepared fresh every day. It is in children who can not nurse and whose nutrition suffers, as shown by frequent eczemas, etc., that this preparation is most useful. He gives it in doses of a teaspoonful with each feeding in very young infants: older ones will stand a tablespoonful.

67.—**Erysipelas.**—Eshner recommends pilocarpin in the young and robust with no cardiac disease; in the other class, including the aged and debilitated, quinin and iron in combination. Attention to the excretions is required and, for local application, he recommends equal parts of ichthyol and lanolin.

68.—**Adenoids.**—Felt says that when the symptoms of adenoids are mild and the child approaching adolescence, the hypertrophy moderate and of the soft springy variety, alkaline washes and instillations, twice daily, of a 1 per cent. solution of menthol may suffice for treatment, but if no improvement is noted in three or four weeks more active measures are needed. In other cases with more marked symptoms, operation is advisable or even imperative.

69.—**Breast Tumors.**—Rodman claims for American surgeons the merit of having done better work in cancer of the breast than any others. Thoroughness of the operation, including also the axilla, is essential. No one can tell that glands are not enlarged until this is done. He does not follow Halsted, however, in considering it always essential to remove the pectoral muscle or to follow up the cervical glands in all cases.

70.—**Color-Blindness.**—Reynolds dilates on the importance of color-blindness, calling attention to the acquired as well as the congenital forms. He thinks Holmgren's test imperfect as not giving all the deficiencies. For those engaged in night work the lantern test is better.

71. **Urethral Stricture.**—According to Neely, the main indication in the treatment of stricture is drainage of the bladder. It is the symptoms due to imperfection in this regard that affect the general health and call for treatment. He illustrates an instrument he has devised, consisting of a soft catheter attached to a plain glass p. p. syringe. The patient is directed to introduce the catheter about four inches and throw a weak astringent wash (very weak solution of zinc sulphate) through it. This, used daily by the patient, with the introduction of a sound by the physician about twice a week, has been satisfactory in most cases. In "small" or "inorganic" permeable stricture, he prefers treatment by dilatation, and for impermeable and deeply seated, tortuous strictures, the external rather than the internal urethrotomy is safer and more satisfactory.

74.—**Hernia.**—Smythe's paper is a plea for the radical operation in reducible hernia, especially in those younger patients whose business or residence requires them to be out of reach of immediate surgical assistance. The operation—Halsted's is the one he prefers—is simple and safe, and successful in 80 per cent. of cases when performed by a skilful surgeon. It is only contraindicated in obese patients and those of middle or advanced age.

76.—**Marsden's Paste in Epithelioma.**—Tate advocates the use of arsenic paste in epithelial growths and reports three cases briefly. The first application should be made by the physician, the later applications (two or three or more) may be only under his general supervision. The formula he gives is that of Dr. J. A. Wyeth: arsenious acid, ʒii; pulv. gum acacia, ʒi; cocain, gr. xviii; aqua, q. s. ft. paste.

86.—**Migraine.**—Collins says the treatment of migraine may be considered under two heads: treatment of the patient for the disease, and treatment of the attack. The treatment of the patient should be begun before the patient is born. The principal features are hygienic exercise, suitable diet, attention to excretions, etc. A careful examination should be made for any abnormalities of the eyes, ears or any other organs that may have any bearing on the disorder. The immediate antecedents of the attacks must be carefully studied to remove the causes. Such physical methods as massage, gymnastics and electricity are useful in a general way, but have no specific effect as is popularly supposed. Drugs are simply to be used as general tonics, when required. The attack requires some anodyne, especially in severe cases. Morphin is rarely required. Phenacetin, antipyrin, salicylates, etc., will usually suffice if judiciously administered. While he does not accept the intoxication theory to the same extent as some, he yet believes that gastro-intestinal intoxication exists to a certain degree and measures should be adopted to relieve it.

92.—**Pernicious Malarial Fever.**—Gilstrap describes pernicious malarial fever, its different types, the gastro-intestinal, esthenic, algid, comatose; the diagnosis from cholera, yellow fever, meningitis, and dysentery, and the treatment. The latter is prophylactic, if possible. At the onset give a brisk purgative, followed by quinin up to cinchonization, this to be maintained till the danger of a second paroxysm is past. If the blood, however, has become acid, as shown by a pale, white tongue, sallow, dusky skin, enlarged and tender liver and spleen, first correct this condition with hyposulphite of soda four times a day and then give quinin. The general indications are to tide the patient through the pending paroxysm and ward off the coming one. Aside from the quinin the treatment is symptomatic, hot applications and stimulants in the cold stage, morphin hypodermically for vomiting, cramps and diarrhea. Cinchonism need not be feared, quinin does not kill, and more persons have died from timidity in giving it than from overdosing. After the first stage is over and danger of collapse has passed, give a mercurial purgative, to act upon the secretions, but withhold all depleting agents till reaction is well established. In the second stage, if fever is high, and in cases of fast bounding pulse with headache and nervous spleen, bleeding or veratrum viride may be indicated. Cold water is the advised antipyretic; use it freely. In the convulsive form, with active hyperemia of the skin, with pigment obstruction of arterioles and capillaries, stimulating rubifacients are of great value. Sometimes blisters over the stomach and occipital regions are of benefit.

100.—**Sand Filtration.**—The article by Professor Lea is a lengthy and copiously illustrated one on sand-filters, describing the principal designs and explaining the efficacy. There is appended a series of statistics of typhoid fever in the principal cities of the world, classified according to the mortality rates. The article will be convenient for reference on this subject.

FOREIGN.

Lancet, April 1.

Strangulated Hernia. Mansell Moullin.—In this clinical lecture is described a case which appears to Moullin to be unique, of a man 40 years of age who was received in the London Hospital, December 2, having been suffering from pain of a griping character in the epigastrium, with vomiting. He had had four previous attacks of a similar character. The abdomen was moderately distended, sensitive but not tender, and a fairly well-defined swelling could be felt. Pain in McBurney's spot was not noticeable. A soft bulging mass was found in front of the rectum on the right side. The diagnosis was epityphlitis. On December 4 the patient was sick three times and the vomit was distinctly offensive. He, however, had no pain and wished to go out. The abdomen became more distended and an operation was performed. The patient died shortly after the operation, and at the post-mortem examination a loop of the ileum was found lying in a sac behind the cecum, communicating with the general abdominal cavity by an opening a little over an inch in diameter. The ileum was ulcerated through and there was general septic peritonitis. He discusses the condition of the formation of this pouch, which was greatly exaggerated on account of the swelling and enlargement of the intestines in this case.

Blackwater Fever. W. H. Crosse.—This concludes a paper begun in a preceding number on this subject. Having stated the symptoms the author gives illustrated cases and describes the general course of the disease. He discusses the theories that it is due to quinin, that it is a distinctive entity, that of Sambon, that it is paroxysmal hemoglobinuria, which is overthrown by the fact that parasites are found in the blood, and lastly, the theory that it is not a distinctive disease but is merely a complication of malaria, which he thinks is on the whole supported by evidence. He thinks the hemoglobinuric complication is analogous to chlorate of potash poisoning and paroxysmal hemoglobinuria. It is simply the result of the preceding hemoglobinemia. In the treatment three distinct features are presented: 1, the attack of malaria; 2, chronic malaria, toxemia predisposing the patient to the attack, and 3, the sudden loss of hemoglobin, which is in effect similar to that of a severe hemorrhage. He believes in the hypodermic use of quinin when it can not be otherwise easily administered for the malaria. As regards the other two factors, the main indications are to keep up free excretion to get rid of the toxins, avoiding overpurgation. Opium should be given to produce rest. Nutrition must be maintained by rectal feeding if necessary. A change of climate is advisable.

Laminectomy in Cerebrospinal Meningitis. H. D. Rolleston and H. W. Allingham.—This case of cerebrospinal meningitis was treated by laminectomy and incision of the dura mater in the dorsal region and the authors call attention to the good effects of the latter in relieving increased tension, and claim that this was more perfectly effected by laminectomy and incision than by the slighter operation of repeated lumbar puncture. There is, however, a danger of oversecretion of cerebrospinal fluid.

Phenomena of Chorea. J. W. Russell.—A paper by Mitchell and Rhein, in which they divided cases of chorea into groups, according to the handwriting is alluded to. His own autographs in this line were reproduced before he had knowledge of their paper. He describes five different types: 1, one in which the choreic movements affect the writing more or less decidedly; 2, one in which, while the chorea may be severe, the patient is able to control the movements and write comparatively well; 3, with slight chorea, the writing is greatly interfered with; 4, one of which he has only known one example, where there was almost inability to write at all, although control of their movements is fairly good for a time; 5, group containing cases of which the inability to write is of psychic origin, writing is impossible, and much central defect.

British Medical Journal, April 1.

Typhoid Without Lesion of Intestine. J. H. Bryant.—The writer publishes a case of typhoid fever in which, from personal observations during life, the clinical features of the disease were markedly present. The Widal reaction was clear, yet at the autopsy no lesion was found in the intestines, but the typhoid bacillus was found in abundance in the enlarged mesenteric glands. He notes that such cases are not unknown, but are especially mentioned by Osler in his last edition of "Practice of Medicine." He reviews some fifteen cases in which this form of typhoid without intestinal lesion occurred in patients of nearly all ages, and which shows clearly the possible widespread distribution of the typhoid bacillus in the body.

Gas Poisoning. J. Lorrain Smith.—Five cases of gas poisoning are reported and he discusses the pathology of the condition. The most important feature is the saturation of the hemoglobin with carbonic oxid, which is equivalent to depriving a person of oxygen in the air breathed. The after-effects are noted in the fall of the body temperature, inability of patients to move, or exert themselves, increased excitability of the nervous system, mobility of the heart, and sometimes pathogenic germs cause death from other diseases at an earlier or later period after the accident.

Calmette's Antivenomous Serum. D. Semple and G. Lamb.—These authors conclude that we have in this serum a remedy which, if properly employed, is efficacious in all cases of bites by poisonous snakes. Assuming that .045 gram can be injected by a cobra, the amount of serum required to save life would be the amount which is able to neutralize that amount, less .030, the maximum non lethal dose (.045−.030−.015). Assuming that 1 c.c. can neutralize .001 of a gram of cobra poison, thus to neutralize the extreme dose of .045, 15 c.c. of the serum would be required to save life.

British Gynecological Journal (London) Part lvi.

Gynecology Among the Insane in Private Practice. Ernest Hall.—Hall's paper is a plea for more thorough inquiry into insane cases among women, and he reports a case in detail, one among others upon whom he operated. Briefly, the woman had enjoyed good health until at 35 years of age considerable sickness and trouble in the family brought on intermittent melancholia, from which she suffered for eight months. At this time pronounced insanity developed, with suicidal tendency. She was then committed to an asylum where she remained for nearly three years. During this time she was at times very violent, and her case was considered hopeless. Hall, having obtained permission, examined the patient under anesthesia and found that the right ligament was thickened, left ovary prolapsed, uterus fixed and perineum partially ruptured. An operation was decided upon, upon making which, the left ovary was found adherent in the cul-de-sac, and the fimbriated extremity closed; the appendages were removed and uterus curetted. The mental condition remained unchanged until the fourteenth day after operation when she became calm and recognized her mother. She greatly improved both mentally and physically, and left the asylum thirty-five days after operation, and has since managed her household duties with all the energy and reason of her former self. The writer makes a plea for more thorough inquiry into insane cases among women, and urges upon all physicians the necessity for making a thorough pelvic examination under anesthesia in every case before signing papers of committment.

Vaginal Hysterectomy for Malignant Disease of Uterus.—Frederic Bowerman Jessett.—Jessett submits the result of seven years' work in this operation. He emphasizes the necessity of early diagnosis and urges thorough examination when there is hemorrhage, discharge or pain, especially during the menopause. It is his practice to be guided as to whether or not to operate, by the mobility of the uterus; if this if freely movable, no matter if the vaginal walls are encroached upon, he advises an operation. If the uterus is fixed, or the broad ligament much invaded, he does not advise an operation. If, on examining a patient with a discharge from the uterine cavity, at or past the menopause, the discharge being colored or offensive, and the introduction of the sound causes bleeding, he would feel that he had to do with a carcinoma and would operate. If he had doubts, he would dilate the cervix, curette, have the débris examined microscopically, and if the report were unfavorable, he would remove the uterus. He does not believe that the iliac glands are affected till late in the disease—not as long as the disease is limited to the uterine tissue proper, hence this is not to be considered as an early diagnostic point. In his operations he uses the ligature because he thinks the patient does not afterward suffer as much pain. There is also less fear from sloughing than if the forceps are used. So too there is danger from hemorrhage when the forceps, but not when the ligatures, are removed. He would operate in some cases, even though a cure could not be expected, as it would result in stopping a foul-smelling and painful disease, so that while life might not be prolonged it would be made bearable. He reports 107 cases of which 9 resulted fatally, 3 from shock, 1 from intestinal obstruction, and 4 from peritonitis. He gives the final statistics, but he lost trace of so many of the cases that his statistics are of no benefit.

Saline Irrigation in Abdominal Operations. George A. Hawkins-Ambler.—The writer believes that hot-water irrigation in abdominal operations is used for all sorts of reasons and for no reasons at all, and with this belief discusses the value of, and objections to, the practice. Incidentally he objects to a combination of irrigation and drainage, and believes that when thorough irrigation has been done, there is not only no need for drainage but the drainage-tube is a source of danger in that it is an open door for sepsis, and a cause of weakness in abdominal scars, and is not now considered a necessary adjunct of irrigation as it used to be. The first object of irrigation is to cleanse the cavity. It is the best method for washing out blood-clots as it reaches holes and corners that the sponge can not reach. It cleanses the peritoneum, omentum, etc., without undue exposure or handling. To irrigate the abdominal cavity with a copious flow of hot water insures the escape of particles of clot and filth, and prevents improper pressure and injury to the diaphragm and intra-abdominal viscera. It is the best means of insuring the peritoneal cavity to be free from threatening materials. At the same time no better and no worse system of cleansing the peritoneal cavity exists. He proceeds to give its advantages, and besides those already mentioned claims that it cleanses the cavity quicker, with less damage to the abdominal organs, etc. But it is different when there is pus and septic matter. To irrigate an abdomen which contains septic matter invites disaster, as the material is washed into more distant regions and insures infection of a wider area. Irrigation can not be too heartily condemned as the means of removing septic matter. He does not believe that irrigation is of much use in acute diffuse peritonitis, elaborate sponging of the affected area being best for this. Nor does he believe in the use of irrigation with hot water to check hemorrhage, since he thinks that the peritoneum will be injured with a temperature higher than 104 degrees and this will have but little if any beneficial effect as a hemostatic. While Keetly suggests the use of water at a high temperature, as high as 124 degrees, and Tait 120, the writer thinks these temperatures are not safe. For bile, feces, urine, tumor contents, and similar irritating fluids, he advises irrigation. He prefers normal saline solution to pure water. The absorptive capacity of the peritoneum, the loss of plasma and other phases of the question are also considered.

Medical Press and Circular (London) March 15.

Vanishing Tumors.—D'Arcy Powers.—The writer notes a class of swellings to which he gives the name of "vanishing tumors," that disappear after such slight surgical operations as incision, puncture, or even exposure. They are not to be confounded with phantom tumors, as they are very red, and while generally innocent, may be even malignant in their character. One of his six cases was of this character, microscopic examination showing it to be a fibrosarcoma. The patient came six months after an injury to the head, and had multiple tumors of the head which mostly disappeared after reaching the size of a pigeon's egg. One continued to grow, and was removed, the microscopic examination giving the result stated above. Apropos to this case Dr. Powers alludes to carcinomatous growths having been known to heal, at least superficially, and scirrhus absolutely, sometimes atrophying, in aged and spare people. He also referred to cases of cancer vanishing after removal of an ovary, hypertrophied prostate after castration, etc.

Otitis and Influenza.—Macleod Yeardsley.—The different forms of otitis from influenza are described. The acute form occurs in two types, that appearing with the primary disease and that occurring seven to ten days later. The symptoms are substantially the same, only that the first are more intermittent and severe, the deafness less durable and the general prostration more marked. The difference between an ordinary and an influenzal otitis is the suddenness of onset and greater severity of the latter, the more distinct intermittence, more frequent and longer nocturnal paroxysms. Perforation of the membrane does not give much relief to pain, the deafness comes on gradually and lasts three or four weeks or longer, the prostration is greater and insomnia marked. There is intense congestion and swelling of the membrana tympani, frequently with ecchymosis, punctate or diffuse. The discharge after perforation is rarely abundant and purulent, and may be serosanguinolent during its whole continuance. There are three types of this suppuration in influenzal otitis: 1, that above described; 2, a primary mastoiditis due apparently to direct infection and not to extension; 3, rapid caries and necrosis of the ossicles and mastoid, probably all directly due to Pfeiffer's bacillus. The second type is important as needing prompt treatment to prevent cranial or sinus complications, and pain or tenderness over the mastoid, whether following discharge or not, is a danger signal calling for immediate careful examination. Its tendency is to work inward rather than externally, hence the greater danger. The third form of suppurative disease is an advanced condition of the obstructive process in the ear and in the mastoid when that is involved. The treatment is actively antiphlogistic, leeches applied early, hot antiseptic fomentations, prompt paracentesis when required, followed by antiseptic treatment. Insomnia calls for hypnotics: sulphonal, trional and paraldehyde are recommended. If the mastoid is attacked and antiphlogistic treatment fails, operation should be promptly resorted to. Bulging of the posterior meatal wall, nystagmus, retinal changes and facial paralysis are bad symptoms. If the abscess is found confined in the superficial mastoid cells, Politzer insists that no communication be made between them and the antrum.

Bulletin de l'Academie de Medecine (Paris), March 14-21.

Extrauterine Pregnancy Diagnosed at Sixth Month and Successfully Operated at Term. A. Pinard.—This is the second healthy child that Pinard has exhibited to the Academy, born in this way. After the diagnosis was established he instituted a special course of hygiene, and at approximate term, opened the sac by a simple incision in the abdomen and fetal cyst. After extraction of the fetus the walls of the cyst were sutured to the skin; the placenta was eliminated piecemeal, concluded in three months. The child weighed nine pounds at three months, nearly twice its weight at birth.

Dangers of Chilling Infants. P. Budin.—The evil consequences of allowing new-born infants to become chilled is emphasized by Budin, who states that out of 103 infants weighing three pounds, brought to the Maternity, with a rectal temperature of 89.5 degrees F., only two survived; only one out of 39 weighing four pounds, and that death was almost certain at this temperature for even the better developed infants. The necropsy showed a fatty degeneration of the tissues. He advocates transporting weakly infants in incubators, mentioning an instance in which a prematurely-born infant had been sent from Nice to Paris in its incubator, without injury.

Osteomalacia in a Man. P. Berger.—Berger describes a case of osteomalacia affecting a young man with no hereditary or personal antecedents to explain its etiology. The spine was the only part of the skeleton unaffected. Interstitial nephritis also threatened an early fatal termination. The respiratory quotient was very much increased, also the proportion of oxygen absorbed by the tissues, while the assimilation of the "ternary substances" was decreased. These facts are not reconcilable with any of the theories yet advanced to explain the etiology of osteomalacia. They also suggest that the treatment of osteomalacia should aim to improve the utilization of the "ternary substances," to stimulate the action of the organs that digest these substances, to favor their oxidation, promote the digestion also of nitrogenous substances, and to retain the lime salts in the economy and diminish their destruction.

Semaine Medicale (Paris), March 29.

Water Diet for Gastro-Intestinal Infection in Infants. Professor Marfan.—A case of sudden hyperthermia in an infant with incessant vomiting, butyric odor of the breath, very slight diarrhea and choleriform feces, treated exclusively by suspension of all food and medication, and supplying the same amount of boiled water as the infant is accustomed to drink milk, was the lecture by Marfan, in which he extolled the extreme efficacy of this hydric treatment of gastro-intestinal disorders, as he has determined in a number of cases. Nothing but pure water must be given for ten to forty-eight hours.

Centralblatt fur Chirurgie (Leipsic), March 25.

Removable Buried Sutures in Radical Operations for Hernia. I. Link.—A curved needle carrying a double silk thread is inserted below and about three centimeters to the right of the lower angle of the wound, brought up through the wound and the thread tightened after a roll of gauze has been placed under the knot. The edges of the muscle and Poupart's ligament are then laced together from below upward, the needle inserted underneath, three stitches on each side, and emerging finally through the skin above and several centimeters to the left of the upper angle of the wound, where the thread is tied over a roll. The spermatic cord is then replaced and stretched taut from the testes by an assistant. The edges of the obliquus aponeurosis are then laced together in the same way, but commencing below at the left of the wound and emerging at the right above. The skin is then sutured. By cutting the knots, each of the buried double threads can be pulled out when desired. Link removes them the tenth day and paints the superficial suture line with iodoform collodium.

Success of Stretching the Nerve in Chronic Nerve Diseases. H. Schüssler.—He reports remarkable benefit from stretching the ischiadicus or other nerves, especially in tabes dorsalis. He exposes the nerve in the gluteal fold, lifting it out of the sheath, and pulls it from the periphery, "until the foot and toes move." Traction is then exerted in the opposite direction, and if the nerve does not feel elastic, success is impossible, unless it is stretched until it regains its elasticity. In some cases he even lifted the patient by the ischiadicus—three times in one case. One of his twenty-five cases of tabes died five days later from "acute paralysis of the heart." The rest were all benefited to a remarkable extent, and more or less permanently according to the stage of their disease. He recommends it warmly, particularly for desperate cases.

Deutsche Medicinische Wochenschrift (Berlin), March 23.

Roentgen Rays in Cutaneous Affections.—Albers presented at the meeting of the Hamburg Medical Association, November 29, a number of patients with lupus, chronic eczema, favus and psoriasis, cured or in various stages of treatment with the rays, one case of lupus cured for a year, and another in which an incipient recurrence was promptly aborted. The first effect noted in lupus is a diffuse redness and heat in the part, usually after five to six exposures, followed by increasing prominence of the nodules, falling of the scabs and cleaning up of the ulcerations, while the much swollen regions, nose, lips, etc., gradually subside to normal. The epidermis is gradually cast off, leaving after weeks of treatment a smooth, delicate skin, very sensitive, but absolutely free from lupus. Chronic eczema requires only ten to twelve exposures at most. In one case of chronic impetiginous eczema of the head in a child of eleven months, the hair returned normally in a few months after the cure of the eczema.

Munchener Medicinische Wochenschrift, March 21.

Experiences with Amyloform and Iodoformogen. A. Heddæus.—Several months' experience at Czerny's clinic, with these proposed substitutes for iodoform, confirms the favorable results announced by others. Amyloform (Professor Classen of Aix) proved an absolutely unirritating, antiseptic dry dressing, promoting the cleansing of suppurative wounds, with no after-effects of any kind, nor symptoms of intoxication following extensive applications. Iodoformogen (Knoll; Ludwigshafen) closely resembles iodoform in its effects, while it is practically odorless and is to be preferred to iodoform in the majority of cases, on account of its relative harmlessness.

St. Petersburger Medicinische Wochenschrift, March 18.

Improved Vaginal Ichthyol Tampons. H. Pohl.—The author recommends these tampons, as they introduce the required amount of ichthyol, distend the vagina by the size of the cotton kernel and can be inserted easily without assistance, melting in five to ten minutes. An oval tampon is shaped out of 4.0 sublimate cotton (1/1000), and tied around with a sublimate silk thread. This tampon is dipped in a warm 10 per cent. solution of ichthyol, glycerin and gelatin several times, until it has become as large as a walnut, when it is placed in a mold and left to cool. It is then coated with a layer of 0.5 per cent. salicylic acid gelatin, and half a dozen, with the silk threads hanging, are packed in a box, with cotton to close the entrance to the vagina. The subject dips the tampon into a warm solution of boric acid and inserts it as she retires, withdrawing it in eight to ten hours, when she rinses out the vagina with the boric acid solution.

Hemorrhage after Swallowing a Blood-Sucker. Rosen.—He relates that a lad came to him with a history of having drunk a blood-sucker from a pitcher, and it had been causing hemorrhages from the pharynx and nasal cavities. The tail could be seen in the throat, but all attempts to seize the slippery creature were in vain. It finally was expelled lifeless, after an hour's persistent gargling with a thousandth solution of potassium permanganate.

Wiener Klinische Wochenschrift, March 25.

Glycosuria and Alimentary Glycosuria in Pregnancy. H. Ludwig.—A hundred healthy woman were examined during the last eleven weeks of pregnancy, at the Chrobak Clinic, to determine the frequency of glycosuria. Eighteen were submitted to alimentary tests with dextrose and an abundant carbohydrate diet, which demonstrated that the organism of a healthy pregnant woman is affected by the ingestion of the polysaccharoses the same as a healthy non pregnant women; large amounts can be perfectly assimilated. Of the other 82, 26 or 31 per cent., never showed a trace of sugar during the tests, averaging seven days; 10, or 12 per cent. eliminated traces or a considerable amount of sugar fermentable by yeast, one to three times; 38, or 46 per cent., eliminated traces or a considerable amount of sugar non fermentable by yeast, one to three times; 8, or 10 per cent., eliminated alternately and in various amounts, fermentable and non-fermentable sugar. The sugars were tested by polarization, crystalization, the phenyl hydrazin reaction, fermentation directly to alcohol by compressed yeast and the Fehling, Trommer and Almen-Nylander reduction tests.

Isolated Unilateral Traumatic Paralysis of the Trochlearis. S. Klein.—A healthy child of 10 fell on the back of her head, on the ice, producing no disturbances of any kind except "seeing double" in one eye. This was undoubtedly the result of some slight hemorrhage affecting only the nuclear region of the trochlearis on the floor of the Sylvii. The case throws some light on the pathogenesis of strabismus, as a paralysis of this kind, resulting from some bump in infancy or early childhood, might lead to the muscular contraction.

Gazetta degli Ospedale e delle Cliniche (Milan), March 26.

Leptothrix in Chronic Enteritis and Progressive Pernicious Anemia. P. Demateis.—Numbers of spindle-shaped bacteria, evidently belonging to the leptothrix family, found in the feces of a case of combined enteritis and anemia, lead Demateis to the conclusions that the leptothrix may invade the intestines and form part of the intestinal flora. This invasion is not without importance, as it may alter the intestinal mucosa, and injure the epithelium, thus determining the lesions of intestinal catarrh and in time the passage from chronic enteritis into progressive pernicious anemia.

Operative Intervention in Penetrating Wounds of Thorax and Abdomen. Magliari.—He asserts, as the result of much experimental research, that the contents of the stomach escaping into the peritoneal cavity begin to be dangerous at a proportion of 1 to 1.40 c.c. per kilogram of the animal. The contents of the duodenum are harmless only below $\frac{1}{8}$ c.c. per kilogram; of the small intestine, below $\frac{1}{32}$ per kilogram and the bile at 1 c.c. These facts emphasize the importance of prompt intervention when there is danger of an abdominal viscus having been injured. It is only justifiable in the thorax to arrest severe hemorrhage or remove a foreign body. In wounds of the liver, if suture is impossible, hemostasis can be secured with the thermocautery or galvanic loop.

Association News.

Rates for the Columbus Meeting.—Some changes have been made concerning rates for the coming meeting of the Association. The most recent action of the Central Passenger Association regarding the rates is as follows: "One first class fare for the round trip, tickets of Central Passenger Association Form 1 to be sold on June 5 and 6; good for continuous going passage only upon date of sale, as indicated by stamp of selling agent; good for continuous return passage, leaving Columbus, to and including June 10, 1899." This one-fare rate does not apply from points from which the fare to Columbus is less than $1; the rate in such instances being one and one third fare. It is probable that the sale of tickets will also be June 3 and 4. The territory covered by the Central Passenger Association is practically that bounded on the east by a line drawn from Toronto through Buffalo and Pittsburg; on the south by the Ohio River, including towns on both sides of the river; on the west by a line from Chicago to Burlington, Iowa, and the Mississippi River between Burlington, St. Louis and Cairo. The rates from points east of the Central Passenger Association territory are now being considered by the Trunk Line Association and the rates from points west of the territory, by the Western Passenger Association, this latter association expecting to come to a final conclusion within a few days.

Public Health.

Detroit Health Report.—For the week ending April 8: Births, male 39, female 45; deaths, 102, under 5 years, 30; contagious, diphtheria, last report 3, new cases 4, recovered 2, died none, now sick 4; scarlet fever, last report 24, new cases 3, recovered 4, died none, now sick 23.

Difficulties of Recently Created Health Bureau.—The bill recently passed by the Legislature of Pennsylvania suffers from defects which have already brought more confusion in that department, and City Solicitor Kinney (Philadelphia) is quoted as saying that in order to prevent considerable difficulty it might be necessary to repeal both the recent acts for the purpose of reinstating the former board of health until a measure could be drafted which would be free from the defects now contained in this new bill. It is thought that the new bill is illegal and unconstitutional. Another bill is being prepared, which it is hoped will be beneficial as well as free from errors.

Protection from Yellow Fever in Cuban Municipalities.—The chief surgeon of the Military Division of Cuba, Lieut.-Col. R. M. O'Reilly, U. S. V., issued a circular letter, March 30, 1899, to medical officers in his command in which he urges that, in addition to the measures of municipal sanitation now being taken by them, they should act energetically in attempting to prevent the spread of yellow fever among civilians. He says: "What chance of success there may be in this will depend on your securing early and exact information of the locality where any case originated. If this is known, the disinfection of clothing, bedding, premises, etc., and the segregation, isolation, or observation of non-immunes exposed to the infection will probably enable you to keep the disease within limits, if not to eradicate it. In case the local laws or usages prevent your acting freely in the matter, you are to apply to the department commander for any power needed to enable you to accomplish this essential object. In exercising such powers you are recommended to secure the good-will and co-operation of the local physicians, who are not to be constrained unless in case of culpable ignorance or neglect."

Illinois Medical Legislation.—The Illinois Medical Practice Act, which passed the Senate March 28, and has now passed second reading in the house, provides, as amended, that all candidates for the practice of medicine, except graduates of legally chartered medical colleges of good standing in Illinois, shall be examined by the State board of health. It also provides for partial examination for special departments or systems, but only those licensed fully in medicine and surgery shall have the right to call or advertise themselves physicians or doctors, and licentiates of other systems can not use drugs or perform surgical operations, or those in midwifery attend other than labor cases. The State board of health can refuse certificates for conviction of criminal abortion or to those who have made fraudulent representations or been guilty of other dishonorable or unprofessional conduct, and can revoke them for the same reasons after hearing before the board. Itinerant venders of nostrums, etc., shall pay a State license fee of $100 per month. The usual exceptions of those already licensed, medical officers of the army or navy or marine-hospital service are made, and there is also a special exception of those who treat the sick by mental or spiritual means without drugs or material remedy. This excepts Christian Scientists and Dowieists, but whether it legalizes them fully may yet be a question. Penalties are provided for infraction of the law. Another bill of medical interest, now on second reading in the house, having passed the Senate, is one amending the law of corporations, which requires the secretary of state, on recommendation of the attorney-general, to revoke the charters of fraudulent diploma-mills. Still another bill before the House is one to establish an epileptic colony, and making a preliminary appropriation for selecting a site for the same.

Medical Practice in Colorado.—The Colorado Medical Practice Bill, which session after session has been tabled, pigeon-holed and otherwise maltreated, has finally passed both houses of the Twelfth General Assembly, and will become the law of the State as soon as Governor Thomas affixes his signature. The osteopaths, spiritualists, divine healers and their ilk, have put on sackcloth and ashes, and mourn their defeat. The following are some of the leading features of the bill: There is created a medical council consisting of the secretary of state, the attorney general, the president of the regents of the University of Colorado, the State superintendent of public instruction and three members of the board of medical examiners, who shall supervise the examinations and issue license to practice medicine. The governor shall also appoint nine physicians of recognized ability and standing, three from each of the State medical societies, regular, homeopathic, and eclectic, from lists of names nominated by said societies, who shall examine applicants to practice. License to practice shall depend upon graduation from a legally chartered medical college in good standing, of good moral character, etc., and recommendation by the State board of medical examiners. If not thus recommended, an examination must be passed. No person who is not a graduate of a legally chartered medical college in good standing shall be admitted to examination. Penalties are provided for illegal practice or assumption of the title of "Dr.," "Surgeon," "M.D." or "M.B."

Financial Value of Sanitary Improvements.—In his second inaugural address, April 10, the recently re-elected mayor of Chicago took occasion to point out the financial results, based on the money value of human life, which will accrue from the expenditure of a couple of million dollars in the construction of an intercepting-sewer system, by which all sewage will be diverted from Lake Michigan, the city's water-supply, into the sanitary waterway of the drainage district. The first section of this work was completed last summer, at a cost of less than $200,000, and consists of the diversion of two main sewers from the lake into the south branch of the river. These drain a thickly-settled area of about 150,000 population, and, until the diversion was made, their foul drainage was emptied directly into the lake, affecting the sanitary quality of the water of the four-mile tunnel, which, from the distance of its intake from shore, should be the purest.

At the end of February last the health department tabulated the results of its daily examinations of the water of the four tunnels through which the public supply is drawn from the lake. These tabulations were made for two equal periods—one before, the other after, the sewer's diversion referred to, and they show that, before the diversion, the four-mile tunnel water was 13 per cent. inferior to the Lake View supply, taken two miles from shore; while since the diversion it has been 66 per cent. better than the Lake View, or a total improvement of nearly 80 per cent.—the four-mile supply now ranking, as it should do, the highest in sanitary quality. They show also an improvement of nearly 50 per cent. in the quality of the Chicago Avenue tunnel supply, which was likewise frequently affected by the discharge of these sewers.

The results upon the public health are seen in the following figures: Total deaths from the impure-water diseases, Jan. 1 to March 31, 1898, 540; for the corresponding period this year, 327—a saving of 213 lives in the first three months of 1899, as compared with the corresponding period before the sewer's diversion. At the value of human life fixed by the State Legislature, namely, $5000, this is a first instalment of $1,065,000 to be placed to the credit of the intercepting sewer system.

In this connection Mayor Harrison paid the following deserved tribute to the city health department:

"The tabulations and deductions indicate, among other things, the unceasing vigilance of the health department in all matters affecting the public health. In many respects it now stands among the very foremost of similar establishments in the world. It was the first to use the glycerinated vaccin, which has done more to popularize vaccination than anything in this connection since Jenner's day. Its work in the treatment of diphtheria, by which the mortality of the disease in this city has been reduced from more than 35 to less than 7 in every hundred cases treated by its medical inspectors; its investigations of the germ of influenza and the resulting improvement in the methods of dealing with this disease; and, still more recently, its identification of the organism of scarlet fever, which makes it possible that this scourge of the nursery shall be handled as successfully as diphtheria now is—are attracting the attention of sanitarians both in this country and abroad. They have been characterized by the highest authorities as 'remarkable,' 'brilliant,' 'nothing short of marvelous,' and the *British Medical Journal* has editorially commended to the attention of the local government board of London the 'sanitary machinery of Chicago in dealing not only with smallpox, but with diphtheria and other dangerous infectious diseases.'

"Chicago has reason to be proud of its department of health."

The Health Reports.—The following cases of smallpox, yellow fever cholera and plague, have been reported to the Surgeon-General of the United States Marine-Hospital Service for the week ended April 6, 1898:

SMALLPOX—UNITED STATES.

Alabama: Mobile, March 24–26, 3 cases.

District of Columbia: Washington, March 31 to April 5, 6 cases.

Florida: Jacksonville, March 25 to April 1, 1 case; Key West, March 24–29, 3 cases.

Illinois: Chicago, March 24–31, 3 cases.

Louisiana: Alexandria, March 29, 9 cases; New Orleans, March 25 to April 1, 65 cases, 2 deaths.

Maryland: Baltimore, January 18 to April 1, 12 cases, 1 death.

Pennsylvania: Beaver County, March 12–30, 1 case; Bedford County, 1 case; Fayette County, 15 cases; Somerset County, 1 case.

Virginia: Alexandria, March 31 to April 2, 1 case; Newport News, March 27 to April 1, 20 cases; Norfolk, March 25–31, 33 cases; Portsmouth, March 25–31, 27 cases, 1 death.

Washington: Spokane, from first appearance to March 28, 4 deaths. Infection from Los Angeles, Cal.

SMALLPOX—FOREIGN.

Brazil, Bahia, March 4-11, 2 cases; Rio de Janeiro, Februry 17-24, 1 case, 1 death.

China: Hongkong, February 4-18, 5 cases, 2 deaths.

Korea: Seoul, February 25. Endemic. Many cases and many deaths.

Egypt: Cairo, February 8 to March 11, 3 deaths.

England: Liverpool, March 11-18, 1 case; London, 1 case.

France: Paris, March 11-18, 1 death.

Greece: Athens, March 11-18, 7 cases, 3 deaths.

India: Calcutta, February 18-25, 1 death; Madras, Februry 24 to March 3, 2 deaths.

Mexico, Mexico, March 19-26, 8 cases, 3 deaths.

Japan: Nagasaki, February 27 to March 6, 1 case.

Russia; Moscow, March 4-11, 18 cases, 2 deaths; Odessa, March 11-18, 3 cases; St. Petersburg, 5 cases, 1 death.

Turkey: Constantinople, February 27 to March 13, 29 deaths; Smyrna, February 26 to March 5, 1 death; Yambo, March 20, smallpox raging.

YELLOW FEVER.

Brazil: Bahia, March 4-11, 4 cases, 2 deaths; Rio de Janeiro, February 17-24, 65 cases, 41 deaths.

Mexico: Vera Cruz, March 23-30, 2 deaths.

CHOLERA.

India: Calcutta, February 18-25, 25 deaths.

PLAGUE.

India: Calcutta, February 18-25, 12 deaths.

Necrology.

Robert Rutherford, M.D., health officer of Houston, Texas, died March 31, after a lingering illness. He was a native of Georgia and 65 years old.

H. F. Evans, M.D., Burlington, Iowa, died March 31. He was born in Manlius, N.Y., in 1830, was graduated from Hamilton College in 1850 and from the Castleton Medical School of Vermont in 1853.

D. W. Bland, M.D., Pottsville, Pa., dropped dead at his residence, March 28. He was 66 years of age, and during the Civil War was surgeon with the Ninety-sixth Pennsylvania Vol. Inf., ranking as major.

George F. Entler, M.D., Jefferson, 1879, died at his home in Oneonta, N. Y., April 3, aged 49. For twenty-five years he had been surgeon for the Delaware and Hudson R'y.

William Nelson, M.D., Danville, Va., died April 5 from blood poisoning following a surgical operation on a patient. He was a native of Hanover County, Va., and along with his brother figured in "The Two Little Confederates"—a story written by Thomas Nelson Page.

Wright Rives, M.D., Washington D.C., whose death was noted last week, was resident physician of the Garfield Memorial Hospital, and died at that institution on April 2, of pneumonia. The disease was contracted from exposure in connection with medical duties at the hospital. Dr. Rives was born in Maryland twenty-four years ago, and is a son of Col. Wright Rives, U.S.A., retired. He was a graduate from the Columbian Medical School.

Alfred F. Beneteau, M.D., Detroit, Mich., Detroit College of Medicine, 1895, dropped dead April 3 . . . F. H. Bloodworth, M.D., Savannah, Ga., March 28 . . . F. N. Chase, M.D., Kalamazoo, Mich., March 31, aged 80 years. . . . G. W. Enlow, M.D., Liberty, Ill., April 1, aged 48 years . . . Edward Frank, M.D., Chicago, April 5, aged 65 years . . . S. O. Gleason, M.D., Elmira, N. Y., April 4 . . . E. J. Martin, M.D., Gilmore City, Iowa, March 28, aged 42 years . . . Oliver P. Robinson, M.D., Janesville, Wis., March 30, aged 67 years . . . Henry A. M. Smith, M.D., Gloucester City, Pa., March 29, aged 59 years. . . . Emory Stansbury, M.D., Appleton, Wis., April 3, aged 60 years . . . S. A. Stone, M.D., Fairmont, W. Va., March 30, aged 40 years . . . Daniel J. Tittle, M.D., Pecatonica, Ill., April 7, aged 73 years.

Miscellany.

The Paris Exposition.—Paris will soon be the attraction for Americans, and parties are already being made up to visit the exposition to be held there next year. For the benefit of those who desire to make use of it, a "pension" is to be established where the recognized language will be straight American. It will be under the care of Prof. Arthur Wisner and his wife, who, though natives of France, have for some years been resident in New York. They have secured a mansion in the neighborhood of the Bois de Boulogne, and will have it fitted up as a comfortable home for their guests. The professor has already made arrangements for accommodating a number of prospective visitors, and he would be pleased to hear from others before he leaves for Paris, as he intends doing shortly. For the present he may be addressed at 605 Madison Ave., New York City.

Baltimore.

Health Report.—The annual report of the Maryland State Board of Health has been published. The law now requires the registration of midwives and notification of infectious diseases throughout the State. The secretary urges the importance of at once beginning the fight against tuberculosis, by isolating consumptives in prisons, asylums and other public institutions. Tuberculous persons should be excluded from certain occupations. No consumptive should be employed as milker in a dairy. The School Board of Baltimore has already started the ball rolling by requiring all applicants for employment as teachers to furnish a certificate from a physician that they are free from tuberculosis. "One of the blesings disguised under the appalling sacrifice of human life in the military camps is the great popular awakening to the prominence of typhoid fever as a cause of untimely death in the United States."

College of Physicians and Surgeons.—Extensive improvements are to be made at this college, to cost $100,000. The contract has already been given and work will be commenced as soon as the session closes.

Public Baths.—A movement is on foot, under the auspices of the State Health Association to raise a fund to be used for public baths and to do honor to the name of the late Dr. George H. Rohé by associating his name with it.

Saline Injection in Hemorrhage and Eclampsia.—Jardine, *Glasgow Med. Jour.*, March, advises the use of intercellular injection of saline solution (teaspoonful of salt to one pint of boiled water) into the cellular tissue in the axillæ or below the breasts. He reports this method of direct transfusion in veins as easier, requiring no cutting and leaving no wound, and avoiding the risk of introducing air into the circulation. Besides this, he holds that as the absorption takes place through the lymphatics, the fluid is in better condition to mix with the blood than when injected directly into the blood. He reports five cases of hemorrhage in which this method was employed with great advantage. In cases of great emergency, when instantaneous relief is demanded, it certainly can not do as well as instantaneous injection, the slowness of absorption, which the author admits, being against it. He also reports five cases of eclampsia in which it was used, in four of them apparently with advantage; the other was moribund when it was tried.

Washington, D. C.

Central Dispensary and Emergency Hospital.—At the recent meeting of the attending staff, Dr. Burnett, chairman of the Liomel Laboratory, presented the following report: Since January 1, last, 82 examinations with the X-ray have been made, 49 for fractures, 15 locating bullets and 18 were for injuries or abnormal conditions. The X ray is used in all cases of fracture, in some cases at the time of the reduction, before a cast is put on, and in others one or two days after the setting to determine the position of the fragments. When adjustmen is correct, the case is permitted to remain, but when defects in adjustments are noted, the bones are reset. This method has been followed in the treatment of fractures, with good results. All cases of doubtful fracture have been similarly examined. Bullets have been located in the head, thorax, abdomen, leg and arm accurately by the system of triangulation in vogue at the hospital and have been subsequently removed with little difficulty. He cited a case where a man shot through the breast near the nipple line, where perforation was supposed to have occurred, was saved from laparotomy by locating the bullet above the injury, buried in the muscles. A tin whistle was located in the cardiac opening of the stomach and removed by operation. A stone in the bladder was also located; extent of tubercular ostetitis determined before operation and a thoracic aneurysm looked for but not found. The skiagraph and X-ray are being used in connection with medical cases, and an interesting report is shortly looked for.

Physician Appointed.—On the recommendation of Health Officer Woodward, the Commissioners have appointed Dr. Wm. B. French a special sanitary inspector to investigate the cause, pathology, etc., of cerebrospinal meningitis in the district.

Public Health Committee.—A Committee on Public Health was appointed at the recent meeting of the Business Men's Association. The committee consists of thirteen members of the association.

Health of the District.—The report of Health Officer Woodward for the week ended April 1, shows the total number of deaths to have been 118, of which 67 were white and 51 colored. At the close of the last report there were 15 cases of smallpox, 29 of diphtheria and 78 of scarlet fever under treatment. During the past week there were 9 cases of cerebrospinal meningitis reported.

The Public Service.

Movements of Army Medical Officers under orders from the Adjutant-General's Office to April 6, 1899.

William Alden, acting asst.-surgeon, leave of absence granted.

Aaron H. Appel, major and surgeon, U. S. A., from Jackson Bks., New Orleans, La., to Galveston, Tex., for temporary duty connected with the mustering out of the 1st Tex. Vol. Inf.

Dallas Bache, colonel and assistant surgeon-general, U. S. A., member of a board in Washington, D. C., to examine persons designated for appointment as paymasters in the army.

William P. Banta, acting asst.-surgeon, from Washington, D. C., to New Orleans, La., to accompany Battery A, 6th U. S. Art., to Honolulu, H. I., and then proceed by the first government transport to Manila, P. I., for assignment.

Charles Norton Barney, acting asst.-surgeon, from Greenville, S. C., to San Francisco, Cal., for duty in the Department of California.

Thomas S. Bratton, lieutenant and asst.-surgeon, U. S. A., from Camp Graham, Tybee Island, Ga., to Savannah, Ga., for temporary service in connection with the mustering out of troops.

Charles A. Cattermole, acting asst.-surgeon, from Camp Columbia, Havana, Cuba, to Lansing, Mich., reporting thence by letter to the surgeon-general.

Paul Clendenin, major and chief surgeon, Vols., former orders discharging him from the volunteer service revoked; relieved from duty as chief surgeon 2nd Division, 7th Army Corps, to proceed to Santiago, Cuba, for assignment as commanding officer of the general hospital at that place.

Harold L. Coffin, acting asst.-surgeon, from Washington, D. C., to Jefferson Bks., Mo., to accompany Battery E., 1st U. S. Art., to Manila, P. I.

William Dolz, major and brigade surgeon, Vols., honorably discharged to take effect April 5, 1899.

C. M. Drake, acting asst.-surgeon, from Macon, Ga., to Jefferson Bks., Mo., to accompany Battery E., 1st U. S. Art., to Manila, P. I.

Alfred C. Girard, lieut.-col. and chief surgeon, Vols., former orders to Vancouver Bks., Wash., revoked; to report at San Francisco, Cal., for duty as commanding officer of the new general hospital of the Presidio of San Francisco.

Philip F. Harvey, major and surgeon, U. S. A., member of an examining board convened at St. Paul, Minn., vice Lieut.-Col. Henry R. Tilton, deputy surgeon-general, U. S. A., relieved.

Dean C. Howard, captain and asst.-surgeon, U. S. A., from New York City to Savannah, Ga., for duty connected with the mustering out of volunteer troops.

L. W. Hyde, acting asst.-surgeon, from Washington, D. C., to Hartford, Conn., on recruiting duty.

Cyrus D. Lloyd, acting asst.-surgeon, member of an examining board convened at Fort Leavenworth, Kans., vice Major George H. Torney, surgeon, U. S. A., relieved.

Sidney L. Meyers, acting asst.-surgeon, from Camp Columbia, Havana, Cuba, to Louisville, Ky., to report by letter to the surgeon-general.

Frederick Pearl, acting asst.-surgeon, from Boston, Mass., to San Francisco, Cal., for duty in the Department of California.

Elbert E. Person, acting asst.-surgeon, from Washington, D. C., to Governor's Island, N. Y., to accompany Batteries L and M, 6th U. S. A., to Manila, P. I.

Walter Reed, major and surgeon, U. S. A., member of a board in Washington, D. C., to examine persons designated for appointment as paymaster in the army.

George V. Sims, acting asst.-surgeon, former orders amended so as to direct him to accompany a battalion of the 6th U. S. A., to Honolulu, H. I.

H. Eugene Stafford, acting asst.-surgeon, from New York City to Governor's Island, N. Y., to accompany the 13th U. S. Inf., to Manila, P. I.

Ralph L. Taylor, acting asst.-surgeon, from duty in Pinar del Rio, Cuba, to report to the superintendent of the medical transport service, New York City for assignment.

Movements of Navy Medical Officers.—Changes in the medical corps of the U.S. Navy for the week ending April 8, 1899.

Surgeon J. R. Waggener, ordered to the "Glacier" for duty in connection with marine battalion, and on arrival at Manila ordered to duty in charge of the naval hospital, Cavite, P. I.

Surgeon J. D. Gatewood, detached from the Havana naval station and ordered home to wait orders.

Surgeon L. B. Baldwin, ordered to the Key West naval station.

Asst.-Surgeon R. O. Marcour, detached from the Key West naval station and ordered to the Havana naval station.

Medical Director G. A. Bright, detached from the naval hospital, Washington, D. C., April 8, and ordered home to wait orders.

Medical Inspector D. Dickinson, ordered to the Washington navy yard, April 8, for duty at naval hospital temporarily.

Medical Inspector R. C. Persons, detached from the naval hospital, Cavite, P. I., and ordered to the "Olympia."

Medical Inspector A. F. Price, detached from the "Olympia" and ordered home to wait orders.

Asst.-Surgeon H. D. Averill, discharged April 5.

Marine-Hospital Changes.—Official List of Changes of Stations and Duties of Commissioned and Non-Commissioned Officers of the U.S. Marine-Hospital Service, for the fourteen days ended April 6, 1899.

Surgeon John Godfrey, bureau order of March 21, 1899, directing him to proceed to Port Huron, Mich., for special duty, revoked.

Surgeon C. E. Banks, detailed as inspector of unserviceable property in the hygienic laboratory, Washington, D. C.

Surgeon C. T. Peckham, to proceed to New Orleans, La., for special temporary duty.

Surgeon J. H. White, relieved from duty at the immigration bureau, New York City, and directed to report at Washington, D. C., for duty.

P. A. Surgeon W. P. McIntosh, relieved from duty in hygienic laboratory, Washington, D. C., and upon completion of duties as recorder of the board of examiners at New York City, to rejoin station at Louisville, Ky.

P. A. Surgeon G. M. Magruder, to proceed without delay to Port Tampa, Fla., and await orders.

P. A. Surgeon C. P. Wertenbaker, to report at bureau for special duty.

P. A. Surgeon J. A. Nydegger, to proceed to Wilmington, N. C., for special temporary duty.

Asst.-Surgeon A. R. Thomas, upon completion of examination to determine fitness for promotion, to proceed to the Tortugas quarantine station and assume command of Service.

Asst.-Surgeon H. S. Cumming, upon completion of examination to determine fitness for promotion, to proceed to the Cape Charles quarantine, and report to the medical officer in command for duty.

Asst.-Surgeon R. H. von Ezdorf, to inspect unserviceable property a the South Atlantic quarantine station.

Asst.-Surgeon J. F. Anderson, granted leave of absence for thirty days on account of sickness.

Asst.-Surgeon G. M. Corput, to proceed to Mullet Key, Fla., for specia temporary duty.

Sanitary Inspector D. E. Dudley, to report to medical officer in temporary charge of the Tortugas quarantine station for special temporary duty.

Hospital Steward E. B, Scott, to proceed to Savannah, Ga., for specia temporary duty.

PROMOTION.

P. A. Surgeon L. L. Williams, commissioned as surgeon March 30, 1899

APPOINTMENT.

S. C. de Krafft, reappointed acting asst.-surgeon M.-H. S., for duty a the port of Cambridge, Md., April 1, 1899.

APPOINTMENT REVOKED.

Department letter of March 11, 1899, appointing Oliver Stewart actin asst.-surgeon at Port Huron, Mich., revoked April 4, 1899.

RESIGNATION.

Acting Asst.-Surgeon Myron Northrup, resigned to take effect March 31, 1899.

CHANGE OF ADDRESS.

Andrews, W. F., from 1959 3rd St. N. W. to The Victoria, Washington D. C.
Batten, J. M., from Pittsburg to Downington, Pa.
Ballenger, W. E., from Nashville, Tenn. to Rover, Ark.
Burns, C. S., from Nashville, Tenn. to Harrison, Ark.
Burns, S. L., from Nashville, Tenn. to Harrison, Ark.
Campbell, A. L. D., from Chicago, Ill. to Piqua, Ohio.
Campbell, from Willow Springs to Wood Will, So. Dak.
Faulds, R. C., from Pound to Swing, Wis.
Freeman, C., from 602 Broad to 1227 Ellis St., Augusta, Ga.
Fausett, G. R. C., from Olmsted Falls to Geneva, Ohio.
Hughes, L., from St. Louis, Mo. to Jabez, Ky.
Kimble, Z. E., from Liberty, Pa. to Williamsport. Pa.
Kinne, E., from Gayton to Lock Box 50, Elkhorn, Wis.
Kreissl, F., from Schiller to Stewart Bldg., Chicago, Ill.
Lofton, L., from Emporia to 230 Park Ave., Norfolk, Va.
Lagerstrom, F. G., from Topeka to Randolph, Kans.
Little, W. J., from Madison to Shelton, Neb.
Moody, H. A., from Mobile to Bailey Springs, Ala.
Newhall, M. N., from Minneapolis to Markville, Tenn.
Orth, W. S., from 383 Wells to 573 Orchard St., Chicago.
Pendergrass, W. C., from Nashville, Tenn. to Visolia, Calif.
Parsons, S. T., from Chicago, Ill. to Breda, Ia.
Stewart, R. A., from Olathe to Dorrance, Kans.
Stone, R. E., from Nashville, Tenn. to 171 Bird Ave., Buffalo, N. Y.
Shannon, L. W., from 611 Congress to 715 Harrison St., Chicago.
Strohecker, S. M., from 692 Adams to 168 Dearborn Ave., Chicago.
Volding, M. N., from 1221 Capitol Ave. to 226 K. P. Blk. Des Moines, I
Woodruff, T. A., from 100 State to 103 Adams St., Chicago.
Wright, H. J., from Des Moines to Marshalltown, Ia.

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Original Articles.

WHERE SHALL WE SEND OUR TUBERCULAR PATIENTS?*

THE HEALTH RESORTS OF THE WEST AND SOUTHWEST.

BY FRANK E. WAXHAM, M.D.
CHICAGO.

Where to send patients suffering from pulmonary tuberculosis, with the best hope of recovery, is a most important question and one that too frequently is of vital importance to the physician himself. The great tablelands of the Rocky Mountain region are becoming justly celebrated in the climatic treatment of tuberculosis Where we shall send our patients will depend upon many circumstances. We must take into consideration various conditions. It will depend upon the season of the year, the stage of the disease, the strength, the vitality, the temperament and the financial condition of the patient.

We look upon altitude, sunshine, dryness of the atmosphere, uniformity of temperature as essential attributes of any climate in the treatment of pulmonary tuberculosis. In addition to these conditions, however, we must have contentment of mind, and the comforts of life. There is no climate that is absolutely perfect, and none that will overcome this dread disease in the face of discontent, homesickness, anxiety and want. When a patient leaves home in search of health he must find the same comforts, the same advantages that he has at home or an improvement upon them, in addition to improved climatic conditions. Whether a patient should be sent to a distant region in search of health will depend in no small measure upon his financial condition. There is nothing so pitiful as a man or woman, a stranger, in a strange land, sick and without means. I have always claimed that if a patient's financial condition is such as not to permit his having every comfort until recovery has occurred, or until convalesence has so far advanced that he can engage in business, it is a cruelty to send him adrift, and the more advanced the disease the greater the culpability of him who so advises.

Too many invalids are impressed with the idea that they will recover at once in some magic way upon reaching some far-famed resort. Their disappointment is great when they find no immediate improvement and that instead of a few weeks it will be months or even years before the disease will become eradicated. The rapidity of recovery will depend upon the stage of the disease; the more incipient, the more rapid and marked will be the improvement. Incipient cases do well in a high altitude and will frequently bear well the cold and changeable weather of winter. More advanced cases, while they bear high altitude well during the summer and autumn, will find it entirely unsuitable for them during the colder part of the year.

Then again, there are many in the later stages who can not endure high altitude at any season of the year; their condition is made worse and their suffering increased. These are the cases with dyspnea, weak and rapid heart action, night-sweats and emaciation. It is a question whether these patients should be sent away from home at all; but if so, they should be sent to a warm climate with little altitude, with abundance of sunshine and with plenty of means. I would recommend Las Cruces, N.M., as especially suitable for such cases.

The regions to which I would especially call your attention are Colorado, New Mexico, southwestern Texas and Arizona. That we may more successfully adapt our patients to a suitable climate we will study these climates separately.

The greater part of Colorado is a great tableland ranging from 4000 to 6000 feet elevation. Upon this great elevated plain are to be found a number of cities offering the best of advantages for suitable cases. Among these cities may be mentioned Denver, Greeley, Fort Collins, Loveland, Canon City, Pueblo and Trinidad. Another region will include the foot-hills and valleys at an elevation of from 6000 to 7000 feet. In this region we will find Boulder, Palmer Lake, Idaho Springs and Colorado Springs. At a still greater altitude—from 7000 to 10,000 feet—we will find the natural parks, as the South Park, Middle Park, North Park, San Luis Park, Estes, Antelope and Manitou Parks. Accommodations can be found in most of these parks, but patients should not be sent to these elevated regions excepting for a few weeks during the hot days of summer, and then only on the advice of a local physician, who can be the only judge as to the safety of such a course.

The rainy season in Colorado is in June, July and August. During this season frequent showers are common. One who has been deluged in a Colorado cloudburst will conclude that it is the wettest region on this earth, and yet the annual rainfall is but fifteen inches—less than one-half what it is here in Chicago. Another interesting feature of Colorado climate, and indeed of all elevated countries, is the difference of temperature between the sunshine and shade and between day and night.

Many people entertain the belief that the winds of Colorado are a very unpleasant and detrimental feature of the climate. It is true that wind-storms occasionally occur, and yet they are usually of short duration. On account of the extreme dryness of the climate, these wind-storms are accompanied with great clouds of dust, which render them especially unpleasant. These wind-storms are quite characteristic of the West and Southwest, and yet the statistics from the U. S. Weather Bureau prove that the wind movement is much less than in Chicago. Here the mean, hourly wind velocity is seventeen miles, while in Colorado it is only seven miles.

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*Thesis presented to the Chicago Society of Internal Medicine, Feb. 23, 1899.

The essential characteristics of the climate of Colorado[1] are: diminished barometric pressure due to high altitude, dryness of the atmosphere, clearness of the atmosphere, almost complete absence of fog, great amount of sunshine, attenuated atmosphere, moderate wind movement and a large amount of electricity.

Leaving Colorado and entering New Mexico we find pre-eminently a land of sunshine and sand. New Mexico has, within the past ten years, gained a most enviable reputation as a health resort for consumptives. In this arid region there is no name or word in the native language to express the disease, and the natives have never been known to have suffered from it.[2] So pure and dry and free from germs is the atmosphere that meat hung up in the air will not decompose. Indeed, it is not an unusual sight to see quantities of meat cut in thin strips and hung out to be cured for future use.

New Mexico is a great tableland with an average elevation of 5000 feet. We enter the State at Raton, at an elevation of 7600 feet. At Las Vegas we find an altitude of 6500; at Santa Fé, 7000 feet. This great tableland slopes gently to the southward, and at Albuquerque we find an altitude of 5000 feet, the Pecos Valley, 3500, and the southern border about the same. The rainfall for the whole State, including the mountainous regions, is but thirteen inches, and in the southern part 40 per cent. of this precipitation is in July and August. The wind movement is somewhat less than in Colorado, although in the latter part of February and in March great sand-storms will occasionally sweep the country. In the northern part of the State the climate corresponds with that of Colorado, the conditions at Las Vegas and Santa Fé being about the same as at Denver. The difference in latitude is offset by the increased altitude. Farther south, however, the climate is much milder. The winter climate from Albuquerque south is superb, but during the summer it is too warm for the comfort of most patients. They should migrate, if possible, during the warm season, to the North. The arid region of New Mexico is not an especially pleasant place in which to live, on account of the monotony of sunshine and sand and absence of large cities of interest, but it is the place in which to recover from tuberculosis, if not too far advanced. People with means can here find the comforts of life and, indeed, many of its luxuries. If I may be allowed to digress, I would like to suggest to the committee of physicians chosen for the purpose of considering the best means of preventing and curing tuberculosis, that they consider the feasibility of establishing a colony for consumptives, not here in Chicago, where most of them will die after having been a burden on the community for a longer or shorter period, but upon the plains of New Mexico, where they can be made self-supporting, and where the great majority of them will recover. I believe this would be the greatest philanthropy that could be possibly undertaken. A dozen years ago a committee from the Societé Medicale of Paris, after visiting various parts of Europe, Asia and Africa, as well as of America, in search of the best climate for consumptives, unanimously reported upon the Rio Grande region of New Mexico as the most suitable, the second choice being a place in Africa, near Algiers.[3]

The climatic conditions of Southwestern Texas are practically the same as the adjoining territory of New Mexico and need not be considered separately.

Arizona is generally divided into three regions. The first or plain is a great desert embracing about one-third the area of the whole State. This great plain is below 3000 feet in elevation and, excepting the valleys that are irrigated and exceptionally fertile, is a vast desert. This region is noted for its mild winters, intensely hot summers and small amount of precipitation. The total amount of yearly rainfall is only from two to six inches. The second region is called the pro-plateau and ranges from 3000 to 5000 feet in elevation and has an annual rainfall of ten inches. The third region, called the plateau, is a great mesa comprising about one-half the State and has an altitude of 5000 feet and upward. The annual rainfall for this region is from ten to twenty inches. Arizona has two rainy seasons, one in July, August and September, and the other in December, January and February. Notwithstanding this fact the annual rainfall is about the same as in New Mexico.

In order to carefully consider and compare the advantages of the various health resorts of the West and Southwest, I have arranged the following table, and that you may more clearly appreciate their advantages, I have included in the same table the climatic conditions of Chicago for comparison.

	Altitude—ft.	Days of sunshine.	Wind velocity—miles.	Mean temperature—deg.	Rainfall—in.	Population.
Chicago	700	189	17	48.2	34.42	1,500,000
Denver	5,300	315	7	50	14.5	150,000
Colorado Springs	6,000	308	9.1	47	14.4	25,000
Pueblo	4,700	312	7.4	52	. . .	40,000
Cañon City	5,300	. .	. . .	53	11.38	4,000
Glenwood	5,200	. .	. . .	48	15.96	5,000
Las Vegas	6,500	320	. . .	. . .	20	6,000
Santa Fé	7,000	317	6.4	49	12.8	10,000
San Antonio	650	273	7	69	30	40,000
Albuquerque	5,000	340	. . .	55	8	10,000
El Paso	3,700	326	5.5	64	9	10,000
Silver City	5,800	328	. . .	54	14.5	5,000
Las Cruces	3,800	345	5.5	. . .	7	3,000
Phœnix	1,100	. .	2⅓	69	7	10.000
Tucson	2,400	. .	. . .	69	12.21	5,000
Oracle	4,500	. .	. . .	. . .	. . .	25

One of the most attractive cities of the West is Denver, "The Queen City of the Plains." It is also known as a city of beautiful homes. Denver is the destination of many invalids and the large number of active, useful, and wealthy business and professional men to be found there who have entirely recovered, constitute one of the strongest recommendations as to the curative value of Colorado climate. Consumptives are attracted to Denver on account of its beauty and healthfulness as a city, on account of the high standard of its schools and churches, as well as the splendid accommodations that can there be obtained. The best of hotels, both public and private, are numerous, and good boarding-houses are plentiful. At the hotels the usual rates prevail. Board, at the best private boarding-houses, ranges from $8 to $10 per week. Board can be had as low as $5, but should not be recommended. Speaking of accommodation at Denver for tubercular people, we should not fail to mention the Oakes' Home. Notwithstanding the prejudice of many to the gathering of a large number of tubercular patients under one roof, yet it has its advantages. This undoubtedly is the best place in Denver to send our patients. Cleanliness, heating, ventilation and disinfection are perfectly carried out and there is much less danger of healthy persons contracting the disease than in ordinary boarding-houses where absolutely no attention is given to disinfection from one year to another. The rates at this institution are from $9 a week upward, according to the rooms occupied. This does not include medical attendance or nursing. Many people rent furnished houses either in the city or suburbs and live better and more economically than in most hotels or boarding houses. I believe that only incipient cases and those who have greatly improved or recovered should spend the winter and early spring in Denver. All others should go farther South during this season. This statement applies to all other places in Colorado. Outside of Denver there are many small towns where people can live more cheaply than in the city. Among them may be mentioned Littleton, ten miles out, Loveland, forty miles, Fort Collins, fifty, and Greeley, sixty miles.

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[1] Solly: Medical Climatology.

[2] E. A. Long: New Mexico Resources.

[3] Elias A. Long: New Mexico Resources.

One of the most delightful little towns in the vicinity of Denver is Boulder, thirty miles distant. It has an altitude of 6000 feet and a population of 6000. Located just at the foot-hills and at the entrance of some of the finest canons of Colorado the scenery is unsurpassed and the invalid can find much of interest. It is the seat of the State university and like all college towns has an air of refinement and culture not always found in small places. Good board in private families can be had at from $6 to $8 a week. Here is located the Colorado Sanitarium, a branch of the Battle Creek institution. We can get the best of accommodations here at rates ranging from $7 to $26 a week, not however including nursing or medical attendance.

Forty miles from Denver and up the Clear Creek canon we find the little city of Idaho Springs, where many go for a few weeks during the summer. It has a population of 3000 and an altitude of 7700 feet. Good board can be obtained at from $7 to $9 per week. The hotels might be greatly improved. The little city is beautifully located and there are here some fine natural soda springs that have gained quite a reputation. The invalid or the tourist can find much to attract them.

Going south from Denver, our first stopping-place will be Palmer Lake. This is a most delightful summer resort at an altitude of about 7000 feet, and easily and quickly reached either from Denver or Colorado Springs. There is one very excellent hotel and numerous boarding-houses, all of which are only open for a few weeks during the summer season. Here the air is pure and bracing, the nights always cool and the scenery grand and picturesque. This is a paradise for the botanist or the lover of nature and a few weeks can be spent very pleasantly and profitably.

An hour's ride from Palmer Lake and we are at Colorado Springs, which needs no introduction. Its glorious summer and autumn climate, its proximity to some of the grandest canons of the world and greatest and grandest scenery, are all well known. If Denver is the "Queen City," Colorado Springs is the "City Beautiful." Its altitude is 6000 feet and its population 25,000. The best of accommodations can be obtained either in hotels or private boarding-houses. Rates range from $8 to $25 a week. Time and space will not permit me to speak of the many advantages and pleasant features of this most delighful of all health resorts.

Near Colorado Springs are many mountain resorts that are only open during the summer and where invalids can go with much benefit for short outings, if able to endure the increased altitude and if properly advised by the local physician. Among the most noted of these may be mentioned Manitou—"The Picturesque." Manitou has a population of 3000 and an altitude of 6300 feet. It is situated at the foot of Pike's Peak and in a deep and narrow canon. Here we find the famous Manitou Springs, known the world over. These springs were famous even before the coming of the white man, for the Indians brought their sick from far and near to drink, to bathe and to be healed. Manitou is only five miles from Colorado Springs, but on account of its location summer showers are frequent and the hours of sunshine short. It is not the place for invalids excepting for a few weeks during the height of summer. Excellent summer hotels are to be found at the usual rates, as well as summer boarding-houses.

Going up Ute Pass, either by team or railroad, we find still other resorts that are much frequented. Among them may be briefly named Cascade, Green Mountain Falls, Manitou Park and Woodland Park. Leaving Colorado Springs, we reach Pueblo after two hours' ride, a city of 40,000 with an altitude of 4700 feet. Many people go to Pueblo on account of the opportunities for employment, but I believe it is a less desirable place of residence than either Denver or Colorado Springs, on account of the heat of summer and the smoke and fumes from numerous smelters. Notwithstanding these drawbacks, it is a great improvement over eastern climates.

Forty miles from Pueblo, at an altitude of 5300 feet and nestled close to the mountains and at the entrance of the Grand Canon of the Arkansas, we find Cañon City. The summers here are very warm and the winters much milder than at Denver or Colorado Springs. Hotels are fair and private board can be obtained at from $6 to $9 a week.

Going westward and passing through the Grand Canon, known as one of the greatest and grandest canons of the world, and up, ever upward, until we reach Leadville, at an altitude of 10,000 feet, and then downward toward the Pacific slope, we finally reach Glenwood Springs, at an altitude of 5200 feet. Here is to be found one of the finest and most comfortable hotels in the whole West. Glenwood is noted for its springs, which are unrivaled in this or any other country: hot springs, cold springs, iron, sulphur and soda springs—you can take your choice.

Going southward from Pueblo, and not stopping at Trinidad in our haste to reach the warmer South country, we pass through a long tunnel and emerge at Raton, but we will not stop even here, for we are on our way to Las Vegas, still farther to the south. Arriving at this place, at an altitude of 6500 feet, we find a thrifty and inviting little city of 6000 people. Five miles from Las Vegas are the hot springs, where there is a good sanitarium. We will not tarry long here, as, on account of the altitude, the winter climate is still too much like that of Colorado. The summer climate, however, is excellent.

We now leave the main road and take a trip to Santa Fe. Here we find a quaint old city, one of the oldest in the United States and still half Mexican. The altitude is 7000 feet, too great for most invalids. The summers are most delightful and the air is pure, dry and exhilarating. As a summer retreat from the hot plains of New Mexico it is an ideal place, but as a winter resort for advanced cases, with large lung involvement, rapid pulse, high fever, dyspnea and sensitive skin, it is entirely unsuitable. The usual boarding-houses are to be found, good, bad and indifferent, but there is a Sisters' hospital where the best of accommodations can be obtained. The prices of room and board are $45, $50 and $60 a month, according to location and size of room.

Taking the road again, we soon arrive at Albuquerque, which is twenty-four hours from Denver. Here we find a city of 10,000, one-half Mexican. The altitude is 5000 feet. The hotels are poor, or were the last I knew them. There are, however, many good boarding-houses. The rates are from $8 to $10 a week. I look upon the climate of Albuquerque as one of the very best to be found in the Southwest. The winters are warm and delightful, and while the summers are hot, they are not so distressingly so as in Arizona. The nights are fairly comfortable, even in the warmest season. The great complaint all through the Southwest is in regard to the lack of good accommodations. This is due not to the fact that there are none, but to the fact that all the cities of the Southwest are small and overcrowded with invalids, and as all can not have the best, there must necessarily be some complaint, especially among those who come late and are left out and obliged to take what they can get.

There are but few cities in New Mexico that offer any inducements for invalids, and when we have mentioned Las Vegas, Santa Fé and Albuquerque, we have named them all, with the possible exception of Las Cruces, Silver City, Deming and Eddy. Las Cruces is a little village of 3000 and has an altitude of 3800 feet. It is south of Albuquerque and but forty miles from El Paso. The winter climate is ideal. There is hardly a day in the whole winter that one can not sit out safely and comfortably in the sun all day long. The houses are adobe and usually but one story in height. The boarding-houses are few in number and only a small number of patients can be accommodated. Excellent board and comfortable lodging for about one dozen invalids can be had at Livingston's ranch. The rates are $10 a week. There are a few other boarding-houses, but I am not familiar with them.

Silver City is a mining town of 3000. It has an altitude of 5800 feet. The climate is magnificent, there being but thirty-seven cloudy days in the year. Unfortunately, but a few people can find accommodations here.

Going still farther south, we enter southwestern Texas at El Paso. The altitude is 3000 feet and the population 10,000. The hotels are fairly good and there are many good boarding-houses, but the numbers are far too few to accommodate the many invalids that flock here from all parts of the North during the winter season. Board varies from $8 to $15 a week. Many rent furnished rooms and take their meals at the Chinese restaurants, which are the best to be found in the town. There is much of interest to be seen here, and by just crossing the river to the Mexican city of Juarez, we are at once in a strange corner of a strange land.

Before leaving Texas, I must refer a moment to San Antonio, a city of 40,000 people, where many people go for the winter. The climate is warm and mild, and generally delightful. Many patients do well here, although the place is wanting in two essential attributes, dryness and altitude. The yearly rainfall is thirty inches, nearly as great as in Chicago, and the altitude is but 650 feet.

There are but a few places in all the vast territory of Arizona to attract our attention. Flagstaff and Prescott, with altitudes of 7000 and 5300 feet respectively, are mining towns and poorly equipped for caring for invalids. Each affords a cool retreat in summer, but for permanent residence they are unsuitable on account of the lack of good accommodations.

Phœnix is a city of 10,000, altitude 1100 feet. The winters are very mild. This is a good place for selected cases, especially those who need a warm, dry climate, and who can not endure high altitudes.

A better place, however, and one giving better results, is Tucson, a city of 6000, a goodly portion being Mexicans, at an altitude of 2500 feet. Fairly good accommodations can be had here at the usual rates.

The ideal place in all Arizona is Oracle, situated thirty-eight miles from Tucson, at an altitude of 4500 feet, and reached by a daily stage. We have here a dry, warm climate, and at the same time secure the advantages of altitude. It is surrounded by mountains, and free from and perfectly protected from the wind- and dust-storms which are often such an annoyance on the arid plains of the Southwest during the early spring months. There are only about twenty-five people at Oracle, and these are on two or three ranches. The ranch owned by E. S. Dodge, and known as the Acacia ranch, is the stopping-place of invalids coming here. The rates are $10 a week. The best of fare and the best of food, fresh from the farm, can be had here, and few invalids will fail to improve in this magnificent climate of almost constant sunshine. The only possible objection is the long stage drive, which few advanced cases can endure without great fatigue and discomfort.

In conclusion, I would say that there is no one place suitable for all cases, and frequently one will do better by remaining a part of the year in one region, and then removing to another for the balance of the year. One patient will do well in one place and the next patient will do poorly, simply because the climatic conditions are not suitable for the case. We should judiciously shift a patient about from place to place, if necessary, until recovery has ocurred or until the disease has become latent, and then it becomes a serious question as to whether we should advise a permanent residence almost anywhere in the Rocky Mountain region, where one can live and round out a long and useful life, or to allow the patient to return to eastern climate and environment. With very few exceptions, those returning will sooner or later redevelop tuberculosis. Should they return, they should be most emphatically advised to flee for their lives at once, on the first manifestation of their former disease. Too frequently patients, in their anxiety to return to eastern homes, do so before the disease is entirely eradicated or health perfectly restored. The result is a rapid recurrence of the disease, and a second struggle for life which is often futile.

Columbus Memorial Building.

DISCUSSION.

Dr. ARNOLD C. KLEBS—Dr. Waxham's personal observations in the different places are certainly of great value. The places of which he speaks are all in more or less elevated regions. Altitude has apparently become the chief requirement of a desirable climate for such cases, and I believe it is necessary to analyze its active factors more exactly, and not only by empiric deduction. The principal reasons why high altitudes came into vogue are apparent absence of the disease among inhabitants of these regions, germ free air, and absence of organic decomposition, as also pointed out by the speaker. Of almost all high altitude resorts I know it to be especially true, for the well known resorts in Switzerland—Davos, Arosa and others—were first recommended and their great value for tuberculous patients insisted upon, by reason of such local immunity. Similar ideas prevail here as to the Rocky Mountains and other elevated regions. But this theory of local immunity had to be abandoned, as it was shown conclusively by able statisticians that its prevalence decreases in direct proportion with the density of the population. The apparent immunity is, therefore, due only to the sparsity of the population and also to the mode of life in those altitudes, which opposes due introduction of all disease to a great extent. We have to concede the value of an aseptic atmosphere, which contains no or little organic admixtures, although the presence of minute inorganic particles in the form of fine granite dust, suspended in the air by the ever-present winds, is not a very desirable feature, but under no circumstances can we admit a specific influence of the air, or even a local immunity. The value of these climates lies in quite a different direction.

Since this theory necessarily had to yield, a new one has been brought forward and its practical application was eagerly adopted. It is the effect of altitude and especially of rarefied air on the composition of the blood. Viault found in Peru and Bolivia, at an altitude of 14,000 feet, and also in Arosa at 8000 feet, an increase of red corpuscles. Regnard, at the Sorbonne, in his pneumatic cabinet, noted the same increase, but it was especially Miescher, and his school in Basel, who made extensive investigations seemingly conclusive in character. These investigations inferred either a greater concentration of the blood, due to the greater dryness of the atmosphere, or as especially sustained by the most recent workers on this subject, Schauman and Rosenquist of Helsingfors, who believe that a new formation of blood cells takes place under the influence of rarefied atmosphere.

An acceptance of this theory would infer that in order to improve the composition of our blood we have merely to increase the altitude of our habitation sufficiently, which would at once settle the question as to the value of high altitudes. But important evidence to the contrary has accumulated. The well-known physiologist of Turin, Angelo Mosso, has recently published the results of his very careful and exhaustive observations in different altitudes of the Monte Rossa group (5000, 8000, and 15000 feet.) He comes to the conclusion that, provided always the same conditions of life are preserved, there is a temporary increase of red corpuscles and hemoglobin but that this subsides soon, until the normal amount is reached, and in a prolonged sojourn under certain conditions even anemic proportions are reached, as Jourdanet had pointed out in 1875. Mosso believes that the theory of new formation of corpuscular elements or a concentration of the blood is a faulty one, and that the rarefied air has only an influence on the nervous system by producing a different distribution of the blood in the body; and, indeed, Cohnstein and Zuntz were able to reduce the number of red cells in peripheral areas by two to four millions by lesion of the medulla. As long as we can not take the total quantity of the blood into our calculations, the blood counts of the peripheral capillary system have only relative value, and Mosso's objections must be considered as seriously affecting the conclusions drawn by previous observers.

It has also to be noted that other external influences than rarefied air affect the blood count, as, for instance, cold baths, and, as recently observed by one of Kronecker's pupils, exposure to sunlight, producing polycythemia.

It has been a common experience for us to observe at an altitude of 400 feet, in Alabama (Citronelle), where I made regular blood counts of almost every patient throughout three years, during the first days after arrival a numeric increase of red cells, also in those coming from higher altitudes. We have similar reports from seacoast resorts and other localities of no or inferior altitude, which shows that certain changes of locality alone are able to produce similar results to those in high altitudes. The objection (I believe Gottstein's) to the use of the ordinary counter in rarefied atmosphere, as affecting the results, must also be taken into consideration.

We will always find in practice cases which seemingly contradict all theory, still every condition should be taken into account, and we certainly have to aim for a more exact basis for our endeavors. I believe Dr. Waxham is basing his opinion of the great value of the altitude climates mostly on impressions, which I am certain are correct, but objectionable for general application. A consumptive can get well or die in almost any climate; the factors which mostly influence the issue are mode of life, occupations, dwellings, food, and last, and probably least, atmospheric conditions. Conceding the relative value of climate in the treatment of tuberculosis, my principle in advising a change of locality is: to remove from city or town into the open country; to select an appropriate place, and especially the right man capable to supervise such régime, as is most essential in every case. The ability of one man in managing these cases has greater importance than the often minute atmospheric differences between certain resorts. The indiscriminate dispatch of patients, without most minute directions and a personal knowledge of local conditions, must be most strongly objected to.

But in the management of the large majority of cases, distant climates do not come under consideration at all, and for these patients we can do as well right here on the spot, and I am sorry Dr. Waxham does not give our much-abused Chicago climate a little credit. I consider that we have a very fine climate here; there are objectionable features, but where are they missing? Sanatoria are built nowadays to give opportunity for the use of twenty-four hours' open air almost anywhere, and the results in such institutions—the only reliable statistics over long periods, we have from them—should be much better known among physicians. Fifty miles distant from this city plenty of localities with a fine atmosphere could be found, where with an appropriate system, just as good, if not better, results could be obtained than in the open resorts in the regions so ably described by Dr. Waxham.

DR. HENRY B. FAVILL—As to the remarks of Dr. Klebs, for whose opinion I have great respect on account of his large experience in dealing with cases of tuberculosis, it rarely falls to my lot to hear so many statements with which I so absolutely disagree. I am just as positive in my opinion as he is positive in his expressions, that climate is for us, in the handling of our business, a *sine qua non*, and that we can not afford in this country to forego the advantages offered by the great Southwest any more than we can forego the advantages of any other decided and pronounced therapeutic measure. The why of this I will not consume your time to discuss. I have no doubt that under any sort of favorable conditions in these places consumptives will recover, partially, or their lives will be prolonged, according to the stage and conditions of the disease, who would here die, no matter what was done for them, and no matter how well it was done. I have not the least idea but that we can prolong their lives by any system of hygienic management, if carefully carried out here in this climate, but it can not be accomplished in one-tenth of the time it can be in the great Southwest resorts. My experience and observation—every man is more or less his own guide—are absolutely in this direction. I have many patients in the great Southwest to-day, and Drs. Robison and Wells have likewise—patients who we know would have been dead and buried long ago in this climate, and patients who in their hearts feel profoundly grateful to us for having made sufficiently early diagnoses to send them there.

DR. EDWARD F. WELLS—So far as the climatic treatment of consumption is concerned, I am satisfied that, for the great majority of tubercular patients, the best climate is their home, wherever that may be. I will modify this statement by saying that the great majority of tubercular patients are not able, financially, to avail themselves of the real advantages of climatic changes. Consumptives, as a rule, are persons of a finer mold than the ordinary, with strong attachments to friends, home and surroundings, and they demand more luxuries and necessaries than the average person does. It can only be a great cruelty, if nothing more, to send such a person far away from interests, friends and home, with a meager pocketbook, and expect him, with nostalgia as a fellow guest, to improve in a cheerless boarding-house in the far Southwest. This does not apply to those who are able, financially, to surround themselves with friends, necessaries and luxuries, and to avail themselves of the real advantages of climatic change; neither does it apply to those of lesser financial means, but who are naturally good travelers, and who can readily accommodate themselves to their surroundings in any place.

There are certain theoretic and practical reasons why an elevated region should be better than our own for tubercular patients: 1. The air is purer than it is here, and it is necessary to inhale a large quantity of it to maintain life. There is naturally a large surplus of lung tissue which is not used at our level; not all of it is used at any level at which man can reside, but a much larger proportion of it must be used at an elevation, say like that of Santa Fé, than at the elevation of Chicago. Deeper inspiration opens many little air-spaces that may be agglutinated with inflammatory products and be the nidus for the tubercle bacillus. Again, patients in elevated regions of the Southwest are much less liable to subsequent or further reinfection, because tubercle bacilli are less apt to live in an elevated region than here, on account of the great amount of sunshine. In other words, the atmosphere is largely germproof and free from germs, and this, of itself, must have a profound effect upon a tubercular patient. The same conditions render bacteria, other than the bacillus of tuberculosis, prevalent to only a slight extent, or absent. One of the great dangers of tuberculosis is the multiple infection by the staphylococcus, etc., and not simply by the tubercle bacilli.

With reference to the increase in the number of red blood-corpuscles and hemoglobin, I would like to ask Dr. Klebs, or the reader of the paper, whether the method of Hammerschlag, of estimating the hemoglobin and iron contained in the blood by taking its specific gravity, and Daland's method of estimating the number of red blood-corpuscles are not preferable to the use of Fleischl's apparatus and the Thoma-Zeiss cell. I am inclined to think that the trend of opinion is toward laying stress upon the specific gravity of the blood rather than to depend upon the color tests for the amount of hemoglobin it contains. If its specific gravity is known, a simple calculation will give the amount of hemoglobin and the amount of iron.

In conclusion, I heartily agree with much of what Dr. Waxham has said, but I can not concur in the subtle current running through his paper that climate is, unreservedly, the only and best remedy we have in tuberculosis, because it is not applicable to a large proportion of our tubercular population. It may be a perfectly legitimate opinion for a member of the medical profession to have, but, in my opinion, it is an unfortunate belief for the lay portion of our community to have that the only safety for their tubercular relatives and friends is in fleeing to high altitudes.

Dr. John A. Robison—I wish to relate one experience that I have had in sending patients to a high altitude and its effect upon the hematopoietic processes. I had under my care two young women with predisposition to tuberculosis. About two years ago one became profoundly anemic, and there was a slight tubercular deposit in the right apex. I sent her to Mont Claire Sanitarium at Manitou. She remained there all winter and the following spring, and since returning to Chicago has been in perfect health. I never saw such a transformation, with the exception of that in her sister. When she went to Manitou she was chlorotic, her lips were almost bloodless. When she returned she had rosy cheeks, had gained in flesh, the tubercular deposit had apparently cleared up and she has been in perfect health since.

Last winter her sister became chlorotic, but there was no deposit in the lungs, and I sent her to Manitou. She returned in the course of a few months, having gained fourteen pounds. Her cheeks were rosy, her lips red, and she has retained her health ever since. These are two examples which show that the change of climate from Chicago to Colorado quickened all the blood making processes, and it did not require a blood-count to demonstrate it.

I was glad to hear Dr. Waxham insist upon patients making their plans, when they go to Colorado, New Mexico or Arizona, to live there. This is an important point. When Dr. Solly delivered an address in this room, I asked him the question, whether a tubercular patient in moving to Colorado should not remain there, and I was much surprised to hear him say, "no; not necessarily." He said that after they had been there for two or three years they could go East.

I wish to ask Dr. Waxham a question in regard to Phœnix. For a number of years this place has had a great reputation, but is it not true that it is somewhat on the wane on account of the fogs due to irrigation, and lack of hotel accommodations and good boarding-houses? I would also like to ask him whether he knows anything about the town of Eddy in the Pecos Valley, for consumptives?

Dr. Liston H. Montgomery—In the two cases cited, that were sent to Manitou, what therapeutic measures, if any, did you use?

Dr. Robison—I treated the first case several months; gave her the usual remedies for anemia, without any notable results. When they went to Manitou neither of them took any medicine.

Dr. Waxham (closing the discussion)—With all due respect for Dr. Klebs' opinion, I must heartily agree with Dr. Favill with reference to the advantages of climatic treatment of tuberculosis. I believe it is the only treatment that promises the hope and expectation of almost certain recovery in incipient cases. I have seen so many patients recover as a result of a suitable change of climate that I am convinced of its great utility. It is not only altitude, but it is sunshine and warmth which enable patients to live out doors in certain climates, where they can not in others. For example, I was surprised this morning to learn that there had been but four sunshiny days in Chicago during the month of March. In this climate tubercular patients can not get the advantage of much sunshine or much out-door life, which they could get if they were in New Mexico, for during this season of the year they could sit out-doors all day long and drink in the sunshine from morning till night. I think I made it clear in my paper that I did not advise all patients to flee from this climate, for we all know that a great majority of patients, as Dr. Wells has pointed out, can not take advantage of a change of climate, and I urge against sending patients away who are unable to financially provide themselves with every means of comfort. I have frequently emphasized the importance of not sending such people away from home.

In answer to Dr. Robison's question with reference to Phœnix, I do believe that Phœnix is not considered with as much favor now as formerly. Indeed, most of my patients have done poorly at Phœnix, and I have been at a loss to account for it, unless it has been that they have but little altitude, only 1100 feet. In Phœnix it is warm and mild, and there is a great deal of irrigation and poor drainage. In addition to that, the accommodations are rather poor. I believe that Tucson is very much better located; it has an altitude of about 2500 feet. Oracle, I consider one of the best places in all the Southwest; it is thirty-eight miles from Tucson, has an altitude of 4500 feet, is protected from the winds by the surrounding mountains, and the climate is almost perfect. The only disadvantage is a long ride of thirty-eight miles from Tucson. Las Cruces is almost equal to Oracle. It is especially suitable for tubercular cases that can not stand a very high altitude. It has an altitude of 3600 feet; the climate is superior to that of Phœnix. In regard to Eddy, located in the Pecos Valley, the climate corresponds almost identically with that of Las Cruces, excepting that it has less altitude. There is the same large amount of sunshine, same warmth and mildness, and, in short, the climatic conditions are very similar.

MODERN ANATOMY.*

BY EDMUND W. HOLMES, A.B., M.D.
DEMONSTRATOR OF ANATOMY, UNIVERSITY OF PENNSYLVANIA, SURGEON TO THE METHODIST EPISCOPAL HOSPITAL.
PHILADELPHIA.

There are three fallacies in our present method of teaching: 1, a large public clinic for so-called practical clinical instruction; 2, a main reliance upon didactic methods in all branches; 3, an old-style dissecting-room.

The time was when the didactic lecture, reviewing and condensing, was absolutely necessary; the lecturer had to do the weeding, culling the essentials for presentation to the class. As a result, the museum preparations, apparatus, illustrative charts and other means of instruction were confined closely to the shelves as adjuncts to the didactic methods only; attendance upon which, and a knowledge of which were the sole requirements for graduation. The professor himself (*Deus in machina*), dignified and learned, the sole authority upon his branch, came out from the seclusion of his study at the lecture hour to speak the winged word to his class, and as solemnly returned to his isolation. Well educated, he was supreme; cultivated, he was far above his surroundings, for had he not been to Liverpool and Berlin and studied anatomy in Edinburgh, Vienna and Paris.

The medical student, on the other hand, was too often without literary training, uncouth, unobservant and somewhat prone to dissipate; the profession was not a science, the practitioner but a pill-driver. Under such conditions the didactic method flourished and grew to its present preeminence.

In the progress of time learning has permeated the community; in the republic of letters, the doctrines of liberty, equality and fraternity have broken down the old barriers, have educated and refined the medical student, have made him a fit companion in study, and have changed him from a mere receptacle for other men's words into an investigator of facts for himself. The avenues of thought are now wide open to him, the sources of knowledge easy of access, foreign travel an every-day event; in fact, the whole face of our profession is changed, the student is now a confrére, not a subordinate or inferior, so that it may be safely affirmed that the man who is too good to associate with his pupils is not good enough to be a teacher.

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*Read before the Philadelphia County Medical Society, March 8, 1899.

I think it will be generally acknowledged that while anatomy is the basis of the whole medical fabric, and is also the most difficult in the whole curriculum, it receives the least practical attention, and is the one upon which our students stumble most seriously before our State boards; the one about which the average practitioner is most ignorant, and the want of knowledge of which is the cause of the greater part of our errors in practice. The time has come when this defect must be corrected; when the student must be not merely a memorizer, but an auto-investigator; the instructor not a demigod, but a coworker fitted to conduct as well as to instruct; when the lecture must be made not the principal factor, but an adjunct subsidiary to the practical laboratory; the museum, with its long array of wet and dry specimens and models, must be in the dissecting-room rather than in the lecture hall, easy of access for personal examination to illuminate the students' daily work rather than merely to illustrate the lecture. The didactic lecture is still necessary to a limited extent as a directory for the explanation of those parts not accessible to the knife of the ordinary student or explanatory of such parts, such as the obturator muscle or the supinator brevis, which have been found of peculiar difficulty, or for the purpose of grouping the knowledge otherwise gained in dissected fragments.

In the short time of two terms of five months each the medical schools could do little more than condense the main facts, jam them into their hearers for future digestion and application, the main channel of instruction being the ear.

The dissecting-room of the period was large, dirty, ill-smelling and inaccessible, where students assembled, a few, in earnest, for faithful study, the others, careless, for perfunctory dissection without supervision and without profit, many graduating without dissecting at all; the cadavers ill-preserved, water-logged in pickle or tanned in alcohol. The room was in charge of a single demonstrator, who, be he ever so willing, was overwhelmed by the methods in vogue, by a want of recognition from the higher authorities and by the lack of facilities for instruction. We thus see that in the curriculum of twenty years ago the learned professor, the didactic lecture, the corps of instructors, a few other corpses, and (in)voluntary dissection were the armamentarium.

Under the modern method the dissecting-room should be clean, accessible, under strict supervision, open during certain hours only for earnest individual work; the daily task outlined upon the blackboard, presupposing two hours' study *at home* the evening before, in preparation for the following day's dissection, not with a single man, but with a large corps of competent assistants, all in attendance throughout the assigned hours of dissection, material in abundance, the bodies well preserved and thoroughly cleaned.

Before the novice is allowed to dissect he should go into the bone-room for a course of osteology. The work of the day should be shown him upon a previously dissected subject, for the old idea that you can learn anatomy only by your personal dissection is in a sense wrong, if your own dissection is of such a slovenly character as not clearly to exhibit the structures involved, and, unfortunately, though the student can only properly learn anatomy by dissection, yet he can only dissect to advantage when he knows something of anatomy before he dissects. This apparent paradox can be overcome in the way indicated: 1, by the previously assigned task; 2, by the work of the day being shown him upon a dissected subject; and in addition, 3, that wet specimens be kept in tanks readily accessible, which shall be constantly referred to for information as the part is worked out; because it is of infinite advantage that he should not make a single cut without a fixed and definite idea of what he is doing. A caution should be observed here in regard to too much demonstration. The student, under strict supervision, must do his own work with his own hands, and if the dissection is not satisfactory in its manual technic, it must be repeated; the whole subject to that infernal nuisance, an examination, at the end of each dissection. The writer has thus given over a thousand such examinations annually for the past seven years.

The dissection of the whole body during each of the first and second years, a re-dissection for applied anatomy during the third year should be the minimum of requirement; with additional facilities for voluntary review by means of wet specimens and models during the fourth year; to say nothing of the opportunities that should be offered to our alumni to freshen up fading memories, to prepare themselves for difficult operations or to devise new ones.

As the theory of the student-idea has changed from a passive receptivity to that of active personal research, the preliminary training must advance, *pari passu*, as the instruction becomes more personal and more practical, actual observation taking the place of didactics, the training of the eye and the hand in addition to the ear, a tremendous burden is thrown upon the medical school, and just so far as the laboratory individualism takes the place of the long-range teaching the difficulty is proportionately increased. The medical school can no longer assume responsibility for any training properly preliminary; it is even a question if it has the time for very advanced technic, certainly it has little for the breeding of specialists. The training of the mind, so much harped upon, should be done in the pre-medical days, and specialism should be given only to post-graduates and not to them till the foundations for it have been well-established by at least five years of general practice.

In the days when you and I graduated, comparative anatomy, embryology and histology were but briefly touched upon; to-day they are absolute essentials. In the last two years of a college course these might well supplant the higher mathematics and the mere reading of the ancient classics, which are of less importance than the analytic study of the freshman and sophomore years; in fact, in our own university as well as at Princeton and other institutions of like grade, the courses of biologic study are already offered to the expectant medical matriculant, and almost all of the current work of the first-year medical in embryology, histology, and in addition, comparative anatomy, can readily be traversed. The teaching in these must also be not didactic but in the laboratory, although the teachers need not necessarily be medical graduates.

Where the preliminary training is not higher than a high school, greater difficulties present themselves, which, however, might be met, in part at least, in cities such as ours, by the public scholarships being applied to obtaining preliminary biologic courses rather than to immediate entrance into the medical course, for I believe it is more important for the student entering upon a medical career to be grounded upon these three preliminaries—histology, embryology and comparative anatomy—than upon some of the groups which are classed under the "humanities."

For the student who has not had a full four years' college training, I have sympathy, for I feel there is a place in the profession for the self-made man of great common-sense and earnest purpose, and though a college man myself, I am not so blindly wedded to the college idea that I would at present admit only those thus educated, for though I believe more and more the successful medical man of the future must be well trained, yet really the best-trained physician is the one endowed with common-sense, who knows his facts and can apply them, whether he be a genius born, a self-made man trained in the school of hard experience, or the bookworm product of the college; to say nothing of the tact which is sometimes inborn and sometimes acquired by the hard knocks of personal contact; for be it always remembered that the world at large cares nothing for your theories, and wants not necessarily well-educated men, but practically successful physicians. Nevertheless, with equal brain, with equal tact, with equal common-sense, the non-college man is tremendously handicapped in a contest with his better educated brother.

We may here digress a moment to make a somewhat "techy" suggestion that increased requirements for the student demand increased requirements in the teaching staff, and too high a standard of excellence will demand a higher grade of intellectuality and attainment than has heretofore been exhibited by too many of the medical faculties throughout our country. This is one of the obstacles, too little recognized, which has prevented the profession of medicine from being placed upon a higher plane. Be sure no stream can rise higher than its source.

Many of you may be surprised at my advocacy of the teaching of histology, comparative anatomy and embryology in the college course preliminary to medicine, but from careful observation I am convinced of the wisdom of this, otherwise the student, on the one hand, overcrowded in his medical curriculum, or the teacher, on the other hand, in his enthusiasm loses sight of the true aim, and makes these branches the ultimate end, instead of using them to teach, or illustrate the teaching of, human anatomy. The result is the same, the human anatomy is pushed into the background. The human machine is so intricate that it is not too much to ask that the student should come to its study with his preliminary training complete, while the medical school itself should devote its energies to human anatomy, descriptive and applied, and these collaterals should be entirely subsidiary. I once went into the refrigerator of a medical school, where the shelves were crowded with the remains of cats, monkeys and cobras in decent order, but the human bodies, dirty, were flung ignominiously and indiscriminately upon the floor, and I said to myself, that is what human anatomy apparently is coming to, so long as our schools endeavor to cover so wide a range.

In the majority of our schools the student is expected to learn the whole of his anatomy by dissecting each part once only. What would you think of an engineer who would expect to know the mechanism of a locomotive by taking it apart and putting it together once, with some didactic lectures thrown in, or a watchmaker who had seen that intricate machinery only once; yet this is what we practically expect of our medical men.

There is another matter that I would like to emphasize to you in which those of you outside of the medical school can aid the teachers in the medical school, and that is by directing the students who come under your care before they come to us. The greatest error, both in our colleges and among practitioners, is the stress laid upon the knowledge of the names of the arteries rather than their position; you learned them by heart, great strings of names like ropes of onions, and you have forgotten every one of them; you could not have passed an examination upon them six months after. We don't fear to cut an artery because it has a name; we don't cut them because it adds to the shock, and the blood is a nidus for sepsis and, moreover, it is unnecessary; but if you do cut one, bless its name, clamp it with a hemostat. Agnew used to say of the man who would not compress a carotid artery with his thumb until a ligature could be applied, that it was doubtful if Providence intended him to be a surgeon; but you must know, not its name, but where it is, and, properly studied, you will remember its position after its name has long been forgotten. No, the names of the arteries are not the main things, but the main things are the bone and the muscle, and the wide expanse of fasciæ so much neglected; when these are learned, the arteries coursing in the valleys between muscular or bony projections, as points of reference, become comparatively simple, and perhaps the names, too, may stay with you. "Grind" your student upon bones, muscles and fasciæ only, but repeatedly, *ad nauseam*, before you send him to us, then we will give him a dissected subject, letting him take the muscles off and restoring them to place until he has mastered the interrelation of these structures, but we will not allow him to desecrate the human form divine with the slashing knife of an ignoramus; and perhaps later, when we get civilized, we will write our best anatomic thought in a book and let some freshman read it to his classmates as a didactic lecture, and, after your student is thoroughly instructed in the elementaries by the junior we will send him to the professor, who being deservedly high-priced should not be condemned to do drudgery, but being freed from routine has prepared himself by original research to open the way to the higher knowledge of our magnificent science.

I have always thought it a disgrace to our profession and to this community that the immortal Leidy should have been compelled, for the sake of a livelihood, to waste his magnificent powers in drilling elementary facts into unappreciative novices. Yea! even until he had to sit down in the lecture, and quickly passed from the examination-room to his death-bed.

To conclude then:

1. Modern anatomic education requires the highest intellectual training as a preliminary, in which histology, embryology and comparative anatomy should form an important part. With our modern methods of precision in diagnosis and practice, a knowledge

of the facts of anatomy was never so important, yet in our medical schools human anatomy has been pushed aside by the less important ologies and isms. The teaching of the medical school should be mainly upon human anatomy and should be mostly upon cadavers, with didactic lectures only as an adjunct, the stock drilling and teaching being by younger men, who should have decent remuneration, while the professor, freed from the exhaustion of elementary work, should have time to devote himself to original research and to the instruction in the higher elements of his art. It might be well to impress on you in this connection that the scope of this branch has enlarged so tremenduously that the tendency is to lead its teachers not as formerly into practice or surgery, but into the fields of scientific research.

2. Our profession are lamentably weak in their knowledge of this branch, far weaker than they would dare to confess to the general public, or perhaps even to each other—and this not because they have forgotten, but because they never knew it; they were never properly taught it, they were never given sufficient facilities for study or review, were never sufficiently impressed with its importance, and because they were taught by hearing and not by touch, by faith and not by sight.

3. The instruction should be practical and communicated not only through the ear, but also by the eye and by the hand.

4. For those of us who are engaged in the teaching of this engrossing branch of medicine, let me urge you never to forget that the majority of those committed to our care must necessarily be practitioners not scientists, and that in schools like ours, devoted to the evolution of the every-day physician, your facts must be broad, major, practical, rather than minute, scientific or theoretic.

5. Lastly, as loyal Philadelphians, let us realize the intense competition of rival schools in neighboring cities, which will in the next few years test our mettle in the race for supremacy, particularly in the facilities they will offer, in men and methods, for the scientific and practical study of modern anatomy.

ONE-SIDED AMBLYOPIA.*

ITS DIAGNOSTIC SIGNIFICANCE WHEN WITHOUT OPHTHALMOSCOPIC LESIONS.

BY H. GRADLE, M.D.

CHICAGO.

It is often a difficult problem to determine the cause of a one-sided reduction of sight not dependent upon intraocular disease.

In order to illustrate these difficulties, I wish to present the histories of some obscure cases and view them in the light of more decisive observations in my experience. The first inquiry in such cases must be whether the dimness observed by the patient is really a recent or progressive failure of sight and not a stationary old amblyopia, as is often found in strabismic eyes or less often in the more ametropic eye of inanisometropia, even if no squint exists. Not uncommonly a patient does not know that one eye is inferior to the other until tested by the oculist. On the other hand, I can recall at least one instance where a young man became alarmed because he had recently learned by shutting one eye that his other eye was poor—there being V=20/100 in consequence of a high degree of hypermetropia, which remained unchanged under an observation of some months. Before placing a case in the category to be now discussed, it is also necessary to exclude certain delicate and not fully understood changes in the center of the retina, which sometimes require pupilary dilatation and considerable skill in the use of the ophthalmoscope for their recognition.

One-sided failure of sight without intraocular disease is either due to a lesion of the optic nerve between chiasm and eyeball or is functional, in other words, of psychic origin. The latter condition has been observed relatively often in hysteric patients. I will not quote the extensive literature on this subject, but refer for details to the " Traite de L'Hysterie " by Giles de La Tourétte (1891, Part i, chapters 8 and 9). The typic cases occur in distinctly hysteric subjects and vary from dimness of sight to absolute blindness. As a rule the patient is not annoyed by this condition, if one-sided, perhaps not even conscious of it. The field of vision is almost always concentrically restricted for white and for colors, though to a variable extent in different cases, and as a rule the color-fields are reversed, i. e., the limit for blue is narrower than that for red. The field is often limited in both eyes, although central vision may only be reduced in one. In no case of this description in literature or in my experience was there any interference with the reaction of the pupil to light even in an alleged blind eye. There is no tenderness in the orbit except when suggested to the patient by a traumatic history. The diagnosis is suggested by finding hysteric stigmata, and made certain when anesthesia of the lids or conjunctiva can be demonstrated. In doubtful cases it can be made absolute only by removing the blindness by purely psychic influences, no matter how long it may have existed. I will report two instances of moderate amblyopia in which the diagnosis was not at once suggested by the history.

Case 1.—Mr. H., a laborer, aged 51 years, wanted an examination for pension purposes. He claims to have had a fall from a stage-coach, twenty-six years ago, and that ever since then his right eye was of little use to him. It is not quite clear whether or not there was formerly diplopia. For a few years he claims to have increasing dimness of the right eye. The left eye is objectively normal in every way. The right eye shows absolute paralysis of the superior rectus and of the sphincter muscle of the iris; no intraocular anomaly and approximate E. V = 20/80 improved by convex 1D to 20/50, but still he calls his sight dim. Reading with + 3.5 is difficult but possible. His left eye has more than 20/30 V. But the field, much restricted in the right eye—especially on the temporal side, where it only reaches twenty degrees—is also concentrically restricted in his left eye, which he considers normal. The limits for colors in the horizontal meridian are (in degrees):

		Green.	Red.	Blue.	
R. E.	Outward	5	8	5	Blue appears green to the R. E.
	Inward	5	10	5	
L. E.	Outward	45	50	15	
	Inward	12	22	10	

While the peculiar reversed and restricted color-fields of both eyes, with the ophthalmoscopic integrity, in spite of the long persistence of the dimness, suggested hysteric amblyopia engrafted upon an organic lesion of fibers of the third nerve, perhaps of traumatic origin, the diagnosis was made positive by finding an incomplete anesthesia to touch and to pain on the right side of the whole face, including the lids and surface of the eye, of which anesthesia the man had not been aware. There was also diminution of smell and taste on the right side.

Case 2.—Mr. R., a salesman, 35 years old, claims that his eyes have been satisfactory until within the past six weeks. Six months ago he had gonorrhea, afterward rheumatism of the ankle, but is now cured. For six weeks he has noticed an occasional blurring, at first only in reading, later on, too, in distant vision, and he thinks that his right eye is wholly at fault, or at least much more than the left. For at least three weeks, but probably longer, his lids have troubled him, especially on the right side, and the trouble is increasing.

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*Read before the Chicago Ophthalmological Society, March, 12, 1899.

The left eye is objectively normal, except for a slight chronic conjunctivitis. V=20/35, with cyl.+0.5 axis 90, V=20/20. The right eye shows considerable inflammatory swelling of the edge of the upper lid, with pronounced catarrhal conjunctivitis, but with very scant secretion; eyeball pale, pupil, media and fundus normal. V=only 20/80, not improved by any glass; near point about eight inches for either eye; field for white and colors normal and no scotoma.

The cause of the dimness in the right eye was not clear. Careful testing showed that it was not due to mucus floating on the cornea or to regular astigmatism. There were no symptoms suggesting any disease of the optic nerve. Neither the history nor physical examination pointed to hysteria. But there was emotional display in the man's answers to questions and an exaggerated anxiety in his manner that made me suspect that his amblyopia might be of psychic origin, perhaps suggested by pressure of the inflamed lid slightly deforming the cornea. Accordingly I gave him as positive a promise regarding the recovery of sight as seemed warranted, and confined the treatment to local applications for the inflammation of the edge of the lid and conjunctiva—nitrate of silver, zinc sulphate solution, Credé's ointment of soluble silver. Three days later the external condition had improved without the formation of the stye, which I had expected. His sight seemed clearer to him, but was objectively not changed. The field was normal, even for colors. On the seventh day the lid was practically well, and on testing him now V was found 20/25 in the right eye, and the accommodation in both eyes improved so as to enable him to read without fatigue. When seen a few weeks later he was found normal in every respect.

The most frequent organic lesion causing one-sided amblyopia is inflammation of the orbital portion of the optic nerve—the so-called retrobulbar neuritis. This is usually not accompanied by visible intraocular changes, although sometimes slight obscuration of the pupilary contours can be observed. If it does not end in recovery, partial atrophy becomes visible at a later period. I can not admit the correctness of the usual distinction between acute and chronic retrobulbar neuritis, if we refer to one-sided instances. The cases vary somewhat in the acuteness of onset, but *one-sided* cases are never chronic in the sense of being absolutely stationary for long periods of time. They either recover after the climax is passed or terminate in atrophy. They differ in this respect from the strictly bilateral chronic disease of the optic nerves, caused by toxic influences. The period of recovery may, however, extend through two to four months.

In this disease a central scotoma, especially for colors, is often, but not always demonstrable. A few times, when I could not discover a relative central scotoma during the height of the disease, I found it possible to detect it during recovery. In other words, the morbid process persisted longer in the fibers supplying the center of the retina than in those distributed to the periphery. In the so-called fulminating retrobulbar neuritis with apparently complete blindness Greef[1] has found in four cases a narrow ring sensitive to light in the extreme periphery of the field; in other words, an absolute scotoma reaching not quite to the limits of the visual field. I have seen, however, a few instances in which the diagnosis of retrobulbar neuritis was confirmed by all other symptoms, as well as by the whole course, but in which no scotoma could ever be detected. The localization of the morbid process in the nerve may possibly vary with the etiology. There was, however, usually no constriction of the field, at least when tested with a light. In one case only was the visual field contracted, especially on the nasal side, but only during the height of the disease.

In retrobulbar neuritis the reaction of the pupil is interfered with in proportion to the amblyopia, in every instance. Careful comparison of the two eyes invariably showed some difference, though sometimes only minimal.

In this disease there is always distinct though perhaps but slight tenderness to pressure upon the eyeball during the first few days. In some cases the patient complained of pain on turning the eye. Often, but not always, I have observed unilateral headache at the onset. Occasionally there was a rise of temperature of about 1 F. The diagnosis, usually not obscure, is made positive by the tenderness to pressure or the demonstration of a central scotoma.

Much more obscure is the clinical diagnosis of neuritis or perineuritis of the intracranial portion of the optic nerve, the part between chiasm and optic canal. The only definite anatomic evidence of isolated disease of this part of the nerve tract has been found in syphilis of the brain and is discussed fully by Uhthoff in his exhaustive review of visual disturbances in cerebral syphilis.[2] In seventeen autopsies with microscopic examination of the entire optic nerves he found several instances in which inflammation of the nerve or of its pial sheath was limited to the intracranial portion and did not extend beyond the optic canal, the orbital part and, of course, too, the intraocular end being normal. These were all instances of fatal and hence severe syphilitic disease, and while the nerves were mostly involved in a diffuse inflammatory or gummatous lesion at the base of the brain, there were two instances in which the optic nerves were the only seat of a basal lesion. While the disease involved both optic nerves in all of Uhthoff's cases, the lesions were by no means symmetric in extent, and it is to be expected that in less severe instances the process might be one-sided. Uhthoff analyzes the reports of 150 autopsies of cerebral syphilis in literature and finds similar occurrences mentioned in some, although none were as systematically examined in this respect as his own. Whether such a localized inflammation of the intracranial part of the optic nerve has ever been found in non-syphilitic diseases I have not been able to learn. The clinical aspect of this circumscribed neuritis I have not seen mentioned in literature except by Uhthoff, in his clinical comments on these cases, and in a vague way by Deyl, in his chapter on the optic nerve, in Norris and Oliver's "System of Diseases of the Eye," Vol. iii.

My own attention to the possible occurrence of this affection was first aroused by the study of several instances of paralysis of ocular muscles due to syphilis. In four cases of this kind the patients had imperfect vision when first seen, but their sight soon became normal under specific treatment. Twice the lowered vision was monocular, while in two instances it was bilateral, although in one of these the motor palsy (third nerve) pertained only to one side. The lowered vision, reduced to less than 20/30 or even 20/50, did not disturb the patients, a fact all the more striking in one whom I had one year previously fitted with glasses and whose vision was normal at that time. There was no scotoma or restriction of the field in any of these patients, no pupilary disturbance or intraocular disease. In the light of Uhthoff's autopsies it seems a safe assumption to attribute the transient lowering of vision to a localized neuritis of the intracranial part of the optic nerve in cases in which an ocular palsy points to a syphilitic lesion at the base of the brain, all the more so when persistent headache suggests basilar meningitis. In the following two cases, however, there were no other symptoms to confirm the diagnosis. In neither of them was syphilis demonstrable beyond doubt, yet the transient and gradually disappearing amblyopia, without characteristic changes in the visual field, with remarkably little disturbance of pupilary reaction, seems to me to conform better with the diagnosis of neuritis of the intracranial part of the optic nerve than other diagnostic hypothesis. It is quite striking that both of these patients recovered perfect sight much more rapidly than is ordinarily observed in typic retrobulbar neuritis.

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[1] Berlin Klin Woch., No. 40, 1898.

[2] Graefe's Archiv. of Ophth., Vol. xxxix, 1, p. 88 et seq.

Case 3.—Mrs. B., widow, 36 years old, has a neurotic family history. Her sister had typic tabes. She is in fair health and has neither a specific history nor presents any indications of syphilis. Eight years ago she had a spell of transient blindness of the right eye lasting a few weeks. Her menses, expected about the first of the month, were delayed without known cause until the 12th, since which time (two weeks ago) she has had a diffuse headache with pain in the eyes, especially the left. Headache and pain are now diminishing. The sight, formerly natural, has become dim in the left eye. She claims to see double on threading a needle. The eyes are normal externally. There is some doubtful tenderness of the left eye to pressure. Pupils are absolutely normal and both alike; fundus normal in both eyes. In the left eye the arteries and veins of the retina are more tortuous than in the right. R. E. V=20/30; field normal; color zones nearly if not quite of normal extent; accommodation difficult at seven inches. L. E. V=20/100, field normal; colors not recognized; no scotoma. There was no disturbance of any of the muscles and no spontaneous diplopia under any tests for binocular vision.

While the patient presented no symptoms of any nervous disease, except the visual disturbance, her knee-jerks were totally absent, even on re-enforcement. Even in the absence of all ataxia or vertigo or sensory disturbances, the Westphal symptom in connection with the tabetic history of her sister suggested the possibility of tabes. She was placed upon iodid in increasing doses, taking finally 2 grams three times daily.

Two days later V. was the same, but colors became dimly recognizable. The headache had ceased. On the fourth day V. R. E. was 20/60. On the eighth day V. had reached not quite 20/30, but reading with the right eye was still very difficult, even with convex glasses. There were no new objective appearances. At the end of two weeks the R. E. had V=20/20; L. E. 20/25. The accommodation was normal and the patient seemed well. Four months later she was still entirely well.

The rapid improvement makes it more than doubtful whether the treatment with iodid was reponsible for the result. Indeed, the headache had begun to decline before she was under treatment. While the patient's emotional condition suggested hysteria, no stigmata were found, and the integrity of the visual field, which was tested repeatedly with white and colors, as well as the right-sided headache, speak rather against hysteria. The lesion seems to me to have been a mild neuritis of the intracranial part of the optic nerve, analogous to the transient affections of the motor nerves of the eye in the early stages of tabes.

Case 4.—Mr. C. H. has been under my observation off and on since 1887. He formerly complained of spells of vertigo and more or less dull headache, presumably due to constipation and relieved by attention to the latter. His vision was normal, but he had used with benefit a convex glass of 1D, mainly for near work. Even with his hypermetropia thus corrected, he has always had imperfect accommodative power, the near point (with correction) receding to twelve inches in 1898, at the age of 45 years. In June, 1898, his asthenopia induced me to re examine the eyes, when I found his H now reduced to 0.5 D, but with the As. H against the rule of 0.5 D, correction of which gives him perfect vision. For work he accepted at that time 1.25 with cyl. 0.5 axis 0. June 28 he reported himself as satisfied, except for slight headache in the morning, which disappeared after taking calomel. July 13, 1898, he returned, having that morning discovered that the sight of his right eye was very dim. He had no other symptoms.

The following history was now elicited. In his seventeenth year he suffered from a doubtful sore, for which he received for several months internal medication. Since then he has had no evidence of syphilis, and has healthy children. As I had previously known, he has always been nervous, often suffering from more or less dull headache and spells of dizziness, apparently due to the condition of his bowels. He is a moderate smoker and does not drink. Two years ago he had a sudden attack of incomplete aphasia lasting twenty-four hours, without any other symptoms. A few months ago the same accident repeated itself for the same length of time. During the past year his virile power has considerably diminished.

The left eye is normal, V = 20/20 (corrected); P. P. = 12 inches. The right eye is absolutely normal, externally and internally, not tender, and the pupilary reaction perfect; V reduced to 20/100; no scotoma; field for white normal; for red normal; for blue somewhat restricted, about the same as for red, and for green very much restricted, the color being scarcely recognized. No diplopia could be obtained with prisms; no anesthesia or other hysteric stigmata could be found; knee-jerks normal. He was given a dose of calomel.

Two days later, his condition being unchanged, he was put on large doses of salicylate of sodium. On the sixth day the right pupil was unmistakably a trifle more sluggish in reaction than the left, and wider than the left when either eye was closed; V. perhaps a trifle better. He continued taking salicylate, not quite regularly, until on the the twelfth day his vision had risen to 20/60. There was still a slight difference between the pupils, both, however, being less sensitive to light than normal. For another week he took the same drug irregularly, but in spite of it, his sight failed again and had now fallen to 20/200. There was still no scotoma; field was normal; colors were scarcely perceived; and pupil was as before. He had repeatedly been examined with dilated pupil and the fundus was found normal. A blister put on the right temple had no effect upon the sight. On August 1 (the eighteenth day), the sight of the right eye was barely ∞. The field was now reduced very much and concentrically. The pupil was nearly immobile and slightly dilated. He was sent to Dr. Patrick for examination, who found no evidence of nervous disease, and he was placed upon increasing doses of iodid.

Eleven days later V. had risen to 20/100; F. had become nearly normal; colors were dimly perceived centrally, and the right pupil showed slight reaction, the left being also still noticeably sluggish. On August 25 the right eye had regained 20/20 and was perfect objectively, and functional in every way, and has since remained so.

In this case the uncertain history of infection, twenty-eight years ago, as well as the prompt reaction to iodid renders the existence of a specific neuritis very probable. The integrity of the left eye shows that this must have been peripheral to the chiasm, while the normal state of the disc, the absence of tenderness and the absence of any scotoma exclude involvement of the ocular end of the nerve and presumably of the orbital portion. The moderate improvement recurring during the second week, under the use of salicylate of sodium, does not speak against this view, as this agent has often an unmistakable, even though transient, influence upon various forms of inflammation. Besides, it is well known that the degree of paralysis caused by non-destructive syphilitic nerve lesions is subject to fluctuation. The only other symptoms of the patient—the loss of virility and the two transient attacks of aphasia—are not sufficient to make a definite diagnosis, but they suggest incipient nervous disease. As far as I have been able to learn, no further disturbances have occurred in the succeeding half year.

In one-sided amblyopia without intraocular lesion, the question of incipient optic atrophy may also require consideration, although as a rule this affection can be recognized ophthalmoscopically from its beginning. But it must not be forgotten that a descending atrophy requires a certain length of time to reach the intraocular end. The most conclusive cases bearing on this question are injuries to the optic nerve, especially those due to traumatic fracture of the optic canal. In a case of this kind, which I had opportunity to study continuously, there were no differences between the papilla of the normal and the blind eye visible until the twentieth day, when the discoloration became unmistakable, thence proceeding gradually to well-defined atrophy. Yet, from a diagnostic point of view, it may be admitted that no sudden injury to the continuity of the optic nerve is likely to occur except under circumstances which by themselves would establish the diagnosis. But that a primary atrophy may embarrass the diagnostician by reducing sight before producing unmistakable ophthalmoscopic appearances, is illustrated by the following obscure observation.

Case 5.—M. K., a traveling man, of 28 years, in good health and with negative personal history, claims that in January, 1898, he was dazzled by snow and that his eyes have watered and been somewhat sensitive ever since that time. His right eye has been weaker than the left since then, and in the past two weeks he has been practically blind in that eye.

He presented himself Aug. 18, 1898, apparently in good health, with none but ocular symptoms: Knee-jerk normal, urine normal, both eyes normal externally, no gross muscular lesion, the right pupil a mere trifle less sensitive to light than the left; ophthalmoscopically, nothing morbid, except slight pallor of the temporal quadrant of the disc, in the right eye more pronounced than in the left. The appearance of the right disc was not different from what is often seen in perfectly normal eyes. There were no appearances of atrophy, merely enough pallor to raise a suspicion of incipient atrophy, yet that eye was practically blind. Movements of the hand were seen at less than eight feet distance. The field, measurable only by large objects or a light, was slightly narrowed and a large upward sector of the field entirely blind. Colors were scarcely recognized. The left eye was subjectively normal. V = 20/30, but with the cyl. 0.5 axis 90 V = 20/20; field perfect for white and colors.

There is a striking incongruity between the objective findings and the visual impairment. The nearly perfect reaction of the pupil and the practically normal intraocular appearance seemed to exclude any serious nerve lesion, and yet V. was not much more than ∝. No objective proofs of hysteria could be found, nor was any exaggeration of his ailment made probable by tests with prisms and other attempts to discover "ignored" or "denied" sight. The most positive symptom pointing to disease of the optic nerve was the total blindness of the superior sector of the field. He was put upon iodid of potassium in increasing doses, but without benefit. He claimed that the drug gave him a right-sided headache, which he had not hitherto had. Nevertheless he took it up to 4.00, three times a day, for about one month. Strychnia was also given in large doses, without result. As he kept on traveling he was seen only at intervals. September 12 the sight was found barely more than ∝. The blind sector had enlarged, and yet the pupilary reaction was still quite decisive, though feebler than in the other eye. The diagnosis of incipient atrophy was not yet beyond doubt according to the appearance of the disc. Two weeks later, however, the atrophy of the nerve was unmistakable ophthalmoscopically. Even recently, six months after the first observation, the ophthalmoscopic appearance of atrophy might be compatible with moderate vision, the pupil is not yet quite insensitive to light, especially when this is held downward or toward the nasal side, while the sight in what is left of the field is but dimly quantitative. There is some reason for fear in this case that the atrophy may involve the other nerve. Its suspicious pallor has become perhaps a trifle more pronounced. Central vision and the field for white are still intact, but at the upper and outer limit the recognition of green is now a trifle uncertain.

While attention to the existence or absence of tenderness, the presence or absence of headache, the state of the pupil, the form of the field for white and colors at the periphery and in the center, and especially the careful study of the field of the other eye, as well as the consideration of any other existing symptoms of nervous disease, will usually lead to a diagnosis even in obscure cases, continuous observation during the course of the affection may be required for certainty. Even with all these aids the diagnosis can sometimes not be established beyond doubt. For instance, I do not consider the diagnosis in Cases 2 and 3 absolutely certain. Once in a while, however, the diagnosis must be left entirely open, as in the following singular observation.

Case 6.—Dr. M., a physician, 27 years old, of healthy antecedents, had his eyes examined some years ago on account of slight irritability. He was advised to wear a + 1 for work, which he did with comfort. He was not aware of any difference between the two eyes and has used the left for microscopic work. Without any provocation he one day noticed dimness of the left eye, especially on threading surgical needles. Alarmed thereby, he instilled atropin. Two days later there was no change, and he now used atropin in his sound right eye. Four days after this he called and I found objective conditions absolutely normal, both pupils atropinized:

R. E. V = 20/100, with + 1 and cyl. + 0.75 vertical; V = 20/20.
L. E. 20/200, with + 1.25 and cyl. + 0.75 vertical; V = 20/100.

Field normal for white and colors; no scotoma.

That the sight of the left eye was really as poor as stated subjectively was shown by the impossibility to provoke diplopia with prisms and the absence of compensatory movements under prisms. Two days later the condition was unchanged.

Reassured that there was no intraocular disease, and finding steady improvement from now on, Dr. M. did not return again. In about three weeks all annoyance had ceased. Yet the left eye is not quite normal, for when he uses it long, the sight, fairly good at first, soon becomes unsteady. I re-examined him six months after the occurrence and found pupils and fundus normal in both sides, right eye vision as before but with H. latent. L. E. V nearly 20/30, but fading to 20/40 on fixation. With cyl. + 0.5 V = 20/30 was maintained fairly steadily. The field is still perfect for white and colors, and there is no scotoma.

DISCUSSION.

Dr. **Harold N. Moyer**—If I were to discuss any part of the subject, it would be those cases which have been described as hysteric amblyopia. I like the term which Dr. Gradle used, psychic amblyopia, for it is by no means certain that these cases are all hysteric, but all those that are hysteric are psychic, a distinction that may be wisely borne in mind. Where the stigmata of hysteria are present, the diagnosis of these cases is not difficult. But it is well to remember that in some of them organic disease is associated with the psychic amblyopia, and sometimes with other stigmata of hysteria. This is often the source of error, the two conditions being simply associated.

A case presenting stigmata of hysteria is not difficult of recognition. I recall one seen by Dr. Wilder and myself. The amblyopia was sudden and quite complete in one eye; marked in the other; total deafness to voice upon the same side as the amblyopia, with absolutely normal ear-drums, nasopharynx, and Eustachian tubes. Singularly enough, in that case the highest tones were not perceived in the deaf ear, while upon the opposite side the lowest tones up to 128 were not heard. An area of anesthesia extended from the margin of the hair and angle of the jaw to a transverse line drawn around the body at the level of the umbilicus. The left arm was included. There was absolute paralysis of the left arm, of three months' duration, without electric alteration. In such a case as this there is not the slightest difficulty in making a diagnosis. The association of the symptoms, the absence of organic trouble, is self-evident in a cursory examination of such a patient.

In contrast to this one: a young girl, 11 years of age, had progressive failure of vision for a year and a half. Vision in the left eye was reduced to the perception of light; vision in the right eye was equal to counting fingers at four or five feet. The left, however, on closer examination was found to present a normally sensitive portion of the retina corresponding to a slight oval area in the temporal side of the retina, amounting to about ten degrees in the visual field. With the left eye she could see nothing, only a perception of light; with the right eye she could count fingers at three or four feet; she could not see the largest type on the Snellen test-card within a foot or two, or figures drawn upon cardboard as, for instance, a triangle made with matches, could be seen, but not one of the same size drawn with a pencil. She could distinguish coins, as a penny from a quarter, and a quarter from half a dollar. She readily picked out a dime from several coins lying on my hand. These were what I have termed, for want of a better name, confusion symptoms. This girl presented absolutely no stigmata of hysteria. There was no anesthesia, nothing in the history of the case, excepting a bad heredity; she had a neurotic mother; that would suggest hysteria other than the disturbance of vision. The diagnosis is even yet in doubt in my mind, although the child has been some time under observation, but I feel sure that the case belongs to the group of psychic blindness. While these two cases are in mind, I will speak of another point in the examination of that patient. Vision being reduced to the perception of fingers at the distance mentioned, I darkened the room, placed objects in a certain place, and this child could walk about among them with more facility than I could: but if I bandaged the better eye, she stumbled over everything in the room. The question arises: Was there a difference between the two eyes? The character of the blindness would lead us to believe that there was a difference in degree. So far as I could determine, she could not see except with a narrow portion of the retina in the left eye. The loss of vision, apparent with the test types, was not shown when the room was darkened. I would like especially to direct your attention to the contradictory observations in this case.

Dr. William H. Wilder—I had hoped that Dr. Moyer would bring out one interesting test he made in his case of hysteric amblyopia. This was the Snellen test with red and green glasses. When the Snellen spectacles were placed on this patient with, for example, the green glass before the left eye, she not only saw all the red letters, but also all the green ones, thus demonstrating that she had much more vision in the amblyopic eye than was supposed. This to me was very significant, for it at once raised the question of simulation. It was the first time that I had ever made use of this important test for malingering in cases of supposed hysteric amblyopia.

As far as confusion tests are concerned, mentioned by Dr. Moyer, most of us have seen cases where patients would carefully avoid objects when placed in front of them. I recall a young girl whom I saw five years ago, whose vision was reduced almost to the perception of light, or at least to counting fingers at a distance of a few feet before each eye; yet if any thing was placed in front of her while she was walking along, she would carefully avoid it, or step over it without stumbling. She subsequently recovered.

Dr. Lyman Ware—In determining hysteric amblyopia from other forms, I have relied upon inversion of the field of vision for colors. Whether that is pathognomonic or not, I do not know.

Dr. W. F. Coleman—I have not looked up my case records, but as Dr. Ware spoke of a case in which there was a reversion of the color fields, I remember a case which a neurologist sent to me for examination. He was a farmer, about 45 years years of age, in excellent general health, who had complained of some rather obscure cerebral symptoms. The neurologist was in doubt as to whether the man had a brain tumor. I made an ophthalmoscopic examination which showed that there were no changes in the fundus. His general condition I do not remember very well, except that I believe he had some anesthesia on one side. He had a reversal of the color fields; also a contracted field of vision. The central vision was 20/30, but his own sensation of loss of vision was out of proportion to his actual vision. He had the impression that his vision was very low. I gave the opinion that the case was hysteric, but whether it was complicated with any organic lesion or not, the neurologist was in a position to judge. The man had been kept under close observation for two years, and a year later he had perfectly recovered from all symptoms, with return of normal vision and disappearance of all general symptoms.

Dr. C. P. Pinckard—The tests referred to by Dr. Moyer as "confusion tests" are comparatively common, and I have often used them. The last case I recall was a boy about 12 years old, whose vision for letters was reduced to less than 1/10, yet for certain small objects, such as pictures, his vision was practically normal.

Dr. A. E. Bulson, Jr., of Fort Wayne, Ind.—These cases are very interesting to us, but due care must be exercised in all to distinguish hysteria, a functional disturbance, from malingering, in which the impairment of vision is feigned, the one frequently simulating the other in the character of manifestations. This is particularly necessary in the examination of pension applicants, referred to by Dr. Gradle, in which there is generally a tendency to exaggerate the real trouble with a view of gaining a higher rating through the means of such deception. My experience with pension applicants has led me to be suspicious of all cases of marked impairment of vision in which the ophthalmologic findings are negative, or practically so, and to give less weight to a few ill defined symptoms which frequently form the basis of a diagnosis of hysteria.

An applicant for increase of pension was recently before me for examination, the claim being total blindness from partial paralysis and so called "nervous disease" due to exposure while in the service. Blindness had been sudden and attended by other nervous manifestions, and the claim was vouched for by a sympathizing neighbor who led the patient to my office. To all appearances the eyes were normal, and all well known methods of detecting simulation were tried without avail. The suspicion of the pension department, made known in the letter of instructions, rendered it advisable to keep the applicant under observation longer than usual, but prior to a second examination, made later in the day, the applicant was discovered in the act of playing billiards at one of the less frequented resorts of the city.

He also reported a similar case in an employe in one of the railroad shops. The patient's actions and statements were erratic and contradictory, yet by the usual tests it was not possible to positively detect simulation, though such was suspected. Two or three ordinary aromatic lozenges for perfuming the breath quieted the pain inside of twenty minutes, and a few days later, with no further treatment, the patient, after being told that none of the sight has been destroyed, admitted that a portion of the sight had suddenly returned. A general dislike for work, especially outdoor work during severe cold weather and the advantage of a comfortable income from sick benefit insurance were sufficient incentives for malingering, even though nothing further was contemplated by way of suit for damages against surgeon or railroad company for alleged loss of sight.

The point is, malingering presents itself in such a variety of phases, and many times so well simulates hysteria, that extreme caution is necessary if we are to avoid error in diagnosis.

SURGERY OF THE BILIARY PASSAGES.*

BY JOHN B. DEAVER, M.D.
PHILADELPHIA, PA.

I will discuss this subject entirely from its practical standpoint, including only in the discussion the writer's personal experience in dealing with the conditions of the biliary passages, including the gall-bladder, cystic, hepatic and common duct, as they have arisen. The conditions for which the writer has operated have been gall-stones in the gall-bladder, gall-stone in the cystic duct, gall-stone in the hepatic duct, gall-stone in the common duct, strictures of the cystic duct, obstruction of the cystic duct due to kinking (angulation) of the duct caused by adhesions, acute phlegmonous cholecystitis, chronic empyema of the gall-bladder, hydrops of the gall-bladder and obstruction of the common duct with distension of the gall-bladder, due to pressure upon the terminal portion of the duct by malignant disease.

Strictures of the cystic duct	1
Stone at junction of cystic and common duct	1
Cholelithiasis with stone in cystic duct	3
Stone in common duct	6
Acute cholecystitis	2
Empyema with cholelithiasis and stone in common duct	2
Cholelithiasis and stone in common duct	6
Cholecystectomy for recurrent cholelithiasis	1
Cholelithiasis and complete excision of gall-bladder	1
Kinking of common duct by adhesions	1
Kinking of cystic duct by adhesions with cholecystitis	1
Abscess in elongated lobule of the right lobe of liver	1
Cholelithiasis	14
Adhesions	5
Jaundice	10
Partial excision of gall-bladder	2
Complete excision of gall-bladder	2
Gall-bladder closed	5
Common duct closed	5
Cystic duct closed	1
Recovery	34
Deaths	6
Shock	5
Hemorrhage	1

Males 6, females 34.

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*Read before a joint meeting of the Philedelphia Academy of Surgery and the Philadelphia Pathological Society.

Any or all of these affections occasion pain which under one heading may be styled biliary colic.

That biliary colic can be occasioned by a condition other than the passage of a gall-stone will be clearly proven; also that the most common form of disease of the biliary passage is obstruction; that the obstruction may be either temporary or permanent and is usually due to gall-stone; that obstruction may be due to stricture of the cystic or common duct, or to kinking of the duct by adhesions, is also true. In the writer's operative experience he has met with but one case of stricture and two cases of kinking of the ducts due to adhesion. Attacks of biliary colic seem to be frequently regarded as a matter of comparatively little moment, and only after repeated attacks, when decided structural changes have taken place in the gall-bladder and biliary ducts, do they come to the surgeon for relief. The writer's experience, which covers a number of operative cases tabulated in the paper, warrants him, he believes, in taking a stand against too conservative measures in dealing with this class of cases. The ill effects of conservatism often result in cholemia and serious structural changes which in many instances tend toward malignancy. The factor which plays the most conspicuous rôle in the operative mortality is the blood change caused by cholemia, manifesting itself as hemorrhage, which, after operation, is often uncontrollable. In the absence of cholemia and old age the mortality in these operations is very low.

We are aware that gall-stones exist in the human subject without causing trouble, and that it is only when the condition is associated with inflammation or obstruction to the biliary passages that the pathologic factor comes into play and interference becomes imperative. Schroeder's table, quoted below, shows the frequency of the occurrence of gall-stones and the ages when most common:

Age.	No. of Post-mortems	Gall-stones.	Per cent.
0—20	82	2	2.4
21—30	188	6	3.2
31—40	209	24	11.5
41—50	252	28	11.1
51—60	161	16	9.9
Above 60	258	65	25.2

On an average of 10 per cent. of these cases 4.4 per cent. were found in men and 20.6 per cent. were in women.

He has also found that 50 per cent. of women with corset livers have gall-stones, the condition being favored by the altered shape of the liver.

Another explanation of the frequency of gall-stones is found in their composition. We find six varieties:

1. The common gall-stone or mixed cholesterin is the variety most often met with. They vary in color from yellow, the most common, to green, the rarest, with brown and white as intermediary in frequency. They vary in shape and size, are faceted from friction and molding during the early or soft stage of their existence. Usually they are about the size of a dried pea but may be as large as a hazelnut.

2. The pure cholesterin stones are usually large, oval and without facets and occur singly. They vary in size from a hazelnut to a pigeon egg. The surface has a warty appearance due to the formation of crystals. They are transparent or semitransparent and have a slight yellow tinge. Some of these stones contain a dark center.

3. Laminated cholesterin stones have a smooth surface and vary greatly in color—white, yellow, green, brown or black and any combination of these colors—as the name suggests. They are made up of layers and are friable and especially so when dry. They are faceted.

4. Mixed bilirubin stones are usually not larger than a cherry-stone and occur in pairs or maybe three or four, but rarely more. If more than one be present they are faceted. Their color is dark brown or reddish brown. They are laminated and shrink when dry.

5. Pure bilirubin stones are never larger than a pea and occur most commonly as sand. They occur in two varieties, one soft, with rough mulberry-like surface, friable and shrinking when dry. The other variety is about the same size, steel gray or brown in color, very irregular in outline and with either smooth or rough surface. Sometimes this latter variety attains large sizes, one being reported as measuring 2¾ inches in length and four inches in circumference.

6. The next variety of protein forms are amorphous and consist of incompletely crystallized cholesterin salts.

The cholesterin and lime which enter into the formation of gall-stone originate from the mucosa of the biliary organs and the amount is not influenced by the character of the food ingested. Kausch has noticed that the amount eliminated in certain diseases was not materially increased except when a stone was present in the gall-bladder, and then the bile was very rich in cholesterin. This would seem to prove that the presence of a stone caused increased cholesterin, and that the production of cholesterin was not the result of metabolism nor a specific product of the liver. It is a well-known fact that the presence of crystals tends to increase the crystallization of cholesterin, thus explaining the frequency of large numbers of stones found in the gall-bladder.

The most interesting and practical point in the formation of a gall-stone is the nucleus which supplies the basis of crystallization. In the bile in the gall-bladder, epithelial cells are always present, usually arranged in groups and undergoing fatty or hyaline degeneration. They appear as white pearly bodies and consist of cholesterin which speedily crystallizes, thus forming the nucleus for the future stone.

All gall-stones are formed in the gall-bladder, with the exception of the bilirubinate of calcium stones which are sometimes found in the intrahepatic channels.

The retention of the bile in the gall-bladder favors the formation of stone, probably from the deleterious effects upon the mucosa or from the favorable medium thus produced for the development of micro-organisms. Circulatory disturbances or vicarious hyperemia appears to favor the formation of calculi.

Out of the 100 post-mortem examinations done at the German Hospital, for other diseases, but six of the autopsies showed gall-stones. The history of the six cases follow.

Case 1.—Mrs. C. Y., aged 53 years, had lacerated perineum; fatty degeneration of heart; atheromatous mitral leaflet and aorta; fatty degeneration of liver. The gall-bladder walls were thickened, and ten stones found, varying in size from a pea to a hickory nut, and pus was present.

Case 2.—L. R., with a diagnosis of enteric fever, had several small gall-stones the size of a pinhead.

Case 3.—Mrs. H., aged 55 years, with a diagnosis of cerebral apoplexy; the gall-bladder contained stone 4 x 6 cm. in diameter; ducts were patulous.

Case 4.—G. W. R., aged 61 years, with a diagnosis of aortic regurgitation, mitral regurgitation, chronic interstitial nephritis, ascites; gall-bladder thickened and contained two small stones; cystic duct three small stones.

Case 5.—H. S., aged 54 years, with a diagnosis of perihepatic peritonitis; gall-bladder distended and firm to the touch. Countless numbers of gall-stones were present, none of which were larger than a millet-seed.

Case 6.—W. C. H., aged 48 years, with carcinoma of liver and head of pancreas, and chronic Bright's disease. Some gall-stones were present in the gall-bladder.

As has been stated, gall-stones may exist for a long time in the gall-bladder without giving rise to any disturbance or signs of their presence. They give rise to trouble or become truly pathologic, only when displaced in the gall-bladder, causing obstruction in the cystic, hepatic or common duct, or when inflammation supervenes. Stones in the gall-bladder or in the sinus of Vater may be dislodged by traumatism, excessive exercise or sudden contraction of the abdominal wall. Increased secretion from the mucosa, due to reflex irritation, or irritation from the stone itself, or more frequently from more or less severe infection, may cause displacement of a stone into the cystic, hepatic or common duct and excite obstruction. As a result of obstruction, the gall-bladder may become distended; this excites pain, the result of muscular contraction, which is increased in proportion to the degree of distension.

The prodromal symptoms of biliary colic are not marked and may come on gradually. The pain at first produces little more than discomfort in the right hypochondrium or epigastrium, gradually increasing in severity. The onset is ushered in with gastric symptoms not unlike acute dyspepsia, increasing to nausea and vomiting. The pain is colicky in character and is often referred to the right shoulder-blade, There is usually obstinate constipation and little if any rise in temperature. Jaundice is present or absent, depending upon the severity of the attack and the location of the obstruction. If the stone is lodged in the hepatic or the common duct, jaundice is almost sure to follow, while if in the cystic duct it will be absent unless associated with catarrhal cholangitis. If the stone be impacted in the cystic duct, the pain is more likely to be constant. The patient usually gives a history of previous attacks. The family physician is rarely consulted in the earlier or lighter attacks. In the writer's observations the attacks progressively grow more severe.

The region of the gall-bladder is usually very tender, the pain increasing on deep inspiration. There may be enlargement of the organ, which can be demonstrated by palpation and by percussion; the tumor moves with respiration and does not give an area of tympany between the liver dulness and the tumor.

Diseases of the biliary passages other than cholelithiasis are inflammatory, malignant, traumatic, and those due to adhesions. Catarrhal inflammations are acute and chronic and are named from the location attacked. Cholangitis or inflammation of its ducts may be either acute or chronic. Cholecystitis may be acute or chronic.

The suppurative affections consist of suppurative cholecystitis or empyema of the gall-bladder; infective cholangitis with suppuration; phlegmonous or acute parenchymatous cholecystitis followed by rapid gangrene; ulceration attacking the gall-bladder and ducts; stricture of same, usually the result of gall-stones which have been passed; perforation with possible permanent fistula. Under these headings we can study the diseases of the biliary passages systematically and to the best advantage.

The acute form of cholangitis is a simple form of catarrhal inflammation and is the result of infection from the intestinal tract. The swelling of the mucous membrane of the common duct, the one affected at first, gives rise to more or less obstruction, and jaundice follows, the so-called catarrhal jaundice. The chronic form of cholangitis is more important from its association with more serious diseases, and from the fact that the jaundice produced by the chronic form may simulate that due to organic disease. The jaundice which follows attacks of cholelithiasis is often due to cholangitis and not to stone obstruction, thus explaining the rapidity of the disappearance of the jaundice in response to medicinal measures.

Chronic cholangitis is the usual cause for the jaundice of malignant liver diseases which responds to treatment, while the form due to pressure of the growth is permanent. Jaundice is at times present when a calculus obstructs the cystic duct or gall-bladder; this is explained by the extension of the inflammation, which is necessarily chronic catarrhal, to the common or hepatic ducts, causing swelling and the outpouring of excessive ropy mucus.

"Thudichum in 1863 described a catarrh of the finest ramifications of the bile-ducts which causes their lining to be shed in the form of casts. He considers that these often form the nucleus of gall-stones where the catarrh is associated with decomposition of bile, due to bacteria invading the obstructed bile-ducts." Meckel calls this "lithiatic catarrh" and Mayo Robson "desquamating angiocholitis or stone-forming catarrh of the bile-ducts."

Cholecystitis or chronic catarrh of the gall-bladder is a definite disease and can exist independent of cholelithiasis. The mucosa is thickened and the gall-bladder contains thick, ropy mucus mixed with bile, epithelial cells and débris. This mucus is firm enough to cause muscular contractions which in turn are strong enough to simulate the pain of gall-stones. There is rarely jaundice, and when it does occur it is very slight in character. There is rarely a tumor, although the gall-bladder may be distended; there is absence of tenderness over the involved region. The inflammatory process seldom penetrates the peritoneal coat, so that adhesions to surrounding viscera do not exist, as is the case in cholelithiasis. Cholecystitis may be a sequence of cholelithiasis; it may arise from a dependent position of the gall-bladder or obstruction from pressure of feces in the hepatic flexure of the colon.

The suddeness of the attacks; the absence or slight degree of jaundice; the absence of gall-stones in the feces, the absence of tenderness and the fact that the attacks usually yield to medicinal treatment serve to make the differential diagnosis between cholecystitis and cholelithiasis. However, when medical treatment fails, cholecystotomy with drainage may bring about a cure, and may unhesitatingly be done.

The bacteriology of the suppurating types of disease of the gall-bladder and ducts is of so much importance that we must have an understanding of the forms found and the route by which they enter the tract. We know that normal bile is not only sterile but has a mild antiseptic property, according to some authorities, and that it only forms a proper medium for bacteriologic activity when it becomes stagnant. The most common forms of bacteria met with in the gall-bladder or ducts are the bacillus coli communis, the typhoid bacillus, the staphylococcus and the streptococcus. Pure cultures of the bacillus coli communis have been found in empyema of the gall-bladder; the same is true of the typhoid bacillus. We also know that the bacillus coli communis is present in the alimentary canal in health and it is only when inflammation occurs that it becomes pathologic and virulent. The typhoid bacillus has frequently been found in the contents of the gall-bladder during and long after attacks of enteric fever, and it is probably due to its persistence here that relapses of enteric fever occur so frequently. I think we can safely say that in every form of inflammation of the biliary passages bacteria are present and play the most important rôle in the outcome and progress of the attack.

There are but three ways in which these organisms can reach the interior of the biliary passages: 1, through the duodenal opening of the common duct; 2, through the blood and, 3, through the walls of the organ. It is probable that the entrance through the common bile-duct is correct, as the other two methods are improbable, in fact have been practically disproven.

Acute suppurative cholecystitis or empyema is most commonly associated with cholelithiasis. There is a form of empyema of the gall-bladder, which is less serious than the other forms and which is caused by infective process and which I will call simple acute infective cholecystitis. The more serious form is simply a more severe infection or an advanced state of the simpler form. Phlegmonous cholecystitis and the gangrenous form are to my mind stages or degrees of acute infective cholecystitis, and will be considered under that general heading. The simple acute infective variety is purely infective and is seldom associated with gall-stones, but occurs as a complication or sequelæ of fevers, e. g., enteric, malarial, typhus from bowel inflammation and infective appendicitis with abscess and catarrhal cholangitis.

Empyema may be limited to the gall-bladder if the obstruction be in the cystic duct, or it may include the common duct when the obstruction is here located, causing an empyema with an acute suppurative cholangitis, a severe type of the disease with acute general symptoms demanding prompt operation to save life. The symptoms will, in the early stages, be dependent upon the originating cause, and as the great majority are associated with, and due to calculi, the attack will be characterized by a history of gall-stone attacks, followed by a tender swelling in the right hypochondrium and by a continuous pain, in contradistinction to the intermittent pain of uncomplicated cholelithiasis.

Constitutional symptoms depend upon the absorption of pus and are too well known to require an extended description here. The rigors, anorexia, hectic temperature, rapid loss of weight, with or without jaundice, are all familiar. Along with the general symptom is the tender swelling of the gall-bladder, due to local adhesive peritonitis, with the full gall-bladder. The pus may discharge itself under the ribs, having penetrated the parietes. The usual course is to follow the suspensory ligament of the liver and empty at the umbilicus, the adhesive peritonitis having protected the general peritoneal cavity. Cases have been reported where the pus emptied into the colon, duodenum, right renal pelvis, portal vein, vena cava, stomach, chest or subphrenic space, leaving a fistula which is usually permanent.

Phlegmonous or the gangrenous type is the fulminating form of acute suppurative cholecystitis and runs a rapid and fatal course, not unlike the fulminating form of appendicitis and, like it, without obstructive cause, but due to severe infection. It may be caused by infection from typhoid fever, typhus fever, cholera, malaria, sepsis, puerperal sepsis, and from causes still unknown. The symptoms, rapid in development and sudden in onset, are severe pain and tenderness in right hypochondrium, soon becoming general, pulse rapid and weak, rapid breathing, high fever and asthenia, marked tympanitis, uncontrollable vomiting and the "Hippocratic" face. Jaundice may or may not be present, and the temperature remain low or normal, thus resembling fulminating appendicitis. The issue depends upon nature's success in isolation, by adhesive peritonitis, or upon the courage and judgment of the attending physician, who must advise the early use of the knife.

The differential diagnosis is not the easiest one to make, but if we consider the causes of the local peritonitis in the right side of the abdomen we usually come down to a differentiation between acute appendicitis and acute phlegmonous cholecystitis. In the former the pain starts below, radiates to the umbilicus, while in the cholecystitis it starts above or just below the costal margin and radiates to the back and right shoulder-blade. The location of the tenderness is of importance in making a diagnosis.

The other conditions giving rise to right-sided local peritonitis are perforations of the pyloric end of the stomach, the duodenum, of the gall-bladder or ducts, and traumatic causes.

There are three causes which enter into the occurrence of gangrene, although it is usually an extreme degree of the phlegmonous cholecystitis. They are bacterial infection, thrombosis of the nutrient vessels and tension from overdistension. Thrombosis is improbable on account of the free blood-supply of the organ; overdistension possible but improbable, so that we have the high-grade bacteriologic infection as the most probable explanation.

Suppurative cholangitis is the most serious type of inflammation affecting the biliary ducts, first on account of its causes and secondly from its constitutional and local effects, due to septic infection in the stagnated bile resulting from obstruction. The first and most important cause, because the most common, is cholelithiasis. The second is enteric fever and other infective diseases. The remaining causes are malignant and hydatid disease. The symptoms of this affection are pain which, if the cause be gall-stones, is severe and paroxysmal; if the disease be dependent upon malignant disease, pain may be entirely absent.

Pronounced and persistent jaundice is a constant symptom, although if the obstructing stone be movable, the degree of jaundice may vary, and at times almost disappear. The temperature is variable, ye is always present and is associated with rigors and profuse perspiration. The severe attacks of pain are usually accompanied by chills and are followed by an increase in the severity of the jaundice. A characteristic of this affection is a uniform tender enlargement of the liver. Associated empyema of the gall-bladder will be present or absent, depending upon th location of the obstruction, whether in the commo or hepatic duct. The most serious of the complications arising in this disease are endocarditis, pneumonia and pleurisy, all which are septic. Abscess of the liver has been known to follow the subacute variety of suppurative cholangitis.

In this discussion of the technic of the operation, I will call attention to a few points. 1. The incision is carried directly over and through the right rectus muscle, believing, as I do, that the resulting union from apposition of muscular as well as fibrous tissue offers a better safeguard against a subsequent ventral hernia. I regard this of special importance in this class of operations, as the incision for proper exposure of the parts is necessarily a comparatively liberal one. 2. The peritoneal cavity being opened, the proper disposition of sterile gauze is a *sine qua non* for a successful issue of the remaining part of the operative technic; this makes the surgeon master of the field of operation and enables him to guard against the possibility of peritoneal infection. 3. Freeing adhesions, exposure of the gall-bladder, liberating same throughout, followed by careful palpation of hepatic and common duct by way of the foramen of Winslow. 4. Incision into the gall-bladder or common duct, as the case may be. 5. Where the common duct is incised, I have never found it necessary to use any mechanic appliance in suturing incision in same. I find the best appliance, if I may style it such, is the index finger of either hand, depending upon the dexterity of the operator, engaged in the foramen of Winslow, with which the duct is brought near enough to the surface to suture it readily and successfully. 6. Where it is necessary to open the terminal portion of the duct, incision of the posterior parietal peritoneum to the outer side of the descending portion of the duodenum enables the operator to deal with the duct extraperitoneally. If the stone occupies the sinus of Vater and it can not be dealt with by the latter route, the incision in the posterior parietal peritoneum should be closed and the descending portion of the duodenum opened, a procedure which is doubtless familiar to you all. 7. Where, as in many of these cases, a temporary biliary fistula is indicated, suture the wall of the divided gall-bladder to the belly wall, exclusive of the skin and superficial fascia. The fistulous orifice will become occluded shortly after the removal of the drainage, by observance of the better method.

STRICTURE OF THE CYSTIC DUCT.

Case 7.—Miss B. A., aged 23 years, admitted to the German Hospital March 6, 1898. Three years ago she had an attack of agonizing pain in right hypochondriac region, lasting two days; vomited; no chill, fever, bloody vomiting or jaundice; relieved by opium. One year following she had another attack quite as severe, lasting about the same time; vomited; no jaundice. The third attack was a year later and since then she has had attacks every two months, sometimes as often as every two weeks; always relieved by morphia.

Operation: March 8, 1898, under ether, an incision was made in the right semilunar line, gall-bladder opened, cystic duct found occluded by stricture; no stones; gall-bladder excised and the cystic duct tied with silk; recovery.

STONE AT JUNCTION OF CYSTIC AND COMMON DUCTS.

Case 8.—R. P., aged 37 years, admitted to the German Hospital Aug. 2, 1897, complained of pain at and below right costal border, which radiated to back, also of daily chills, fever and sweats. Examination revealed enlarged gall-bladder and hard nodule, thought to be gall-stone.

Operation: August 6, incision was made over line of gall-bladder downward from the costal border. The gall-bladder was found enlarged and distended, and when opened discharged a large quantity of bile-stained mucus; stone at junction of cystic and common duct. The cystic duct was opened and stone removed; both duct and gall bladder closed; recovery.

CHOLELITHIASIS WITH STONE IN CYSTIC DUCT.

Case 9.—Mrs. R., admitted to the German Hospital Oct. 31, 1892, for years past had had repeated attacks of pain centering around the umbilicus, starting from the region of the gall-bladder. Shortly before these attacks and during their continuance she became jaundiced. She never noticed any gall-stones in her stools, nor could any be found at the Woman's Hospital, where she was treated for some time. At the time of admission to the hospital she says she had no pain, and during the three weeks prior to operation she had but one attack of pain. There was a tumor of the gall bladder, which moved with the movements of respiration; tender to touch. Diagnosis: impacted gall-bladder or malignant disease.

An incision was made directly over the position of the tumor; gall-bladder much enlarged, filled with stones and a small amount of pus. A stone the size of a small marble was removed from the cystic duct. The total number of stones removed was 847. The edge of the gall-bladder was stitched to the edge of the wound, the stitches not including the skin; drainage by means of a rubber tube; recovery.

Case 10.—E. W., aged 30 years, admitted to the German Hospital March 23, 1898, ten years before had an attack of severe abdominal pain referred to the epigastric region, accompanied by vomiting and fever, lasting about fifteen minutes; was not jaundiced; pain radiated to back, but not to the shoulder. Since then she has had a number of attacks, most of which have been accompanied by vomiting, except the more recent ones. In many instances a chill has preceded the attack of pain. The last attack, which occurred ten days before admission to the hospital, started with severe pain in the epigastrium, lasting three hours. Morphia relieved her. There was no vomiting nor chill with the attack.

Operation: March 24, under ether, an incision six inches in length was made over the right rectus muscle. On opening the gall bladder a number of stones were found and removed. The cystic duct was occluded by a stone, which was pushed into the gall bladder. April 3, the stitches were removed an patient made a very rapid recovery. Union was by first intention, and she left the hospital on the fifteenth day after operation.

Case 11.—Mrs. E. A., aged 65 years, admitted to the German Hospital Nov. 6, 1897, on admission was deeply jaundiced, vomiting, with rapid pulse, and pain; has had paroxysmal pain, radiating to shoulder; operated on the morning after admission.

Operation: Incision over right rectus muscle; gall-bladder found tied up in great omentum; gall-bladder full of stones, mostly small; walls of gall bladder infiltrated and very brittle. The cystic duct contained a stone, which was removed through an incision carried into the duct; incision in duct closed by stitching; patient died of shock, one hour after leaving table.

Case 12.—Mrs. A. B., aged 48 years, admitted to the German Hospital Sept. 9, 1897, had her first attack of jaundice in the spring of 1897, very soon followed by severe colicky pain in right side of abdomen radiating to back and shoulders. Jaundice gradually subsided, but she continued to have colicky pains, sometimes preceded by a chill; relieved by opiates; vomited with the attacks. Examination revealed resistance about gall-bladder and dulness on percussion.

Operation: September 10, an incision was made over right rectus muscle; many adhesions found around gall bladder. On opening gall bladder, pus and bile escaped. Several stones were removed from gall-bladder, also one from the common duct, which necessitated opening duct; recovery.

EMPYEMA WITH CHOLELITHIASIS AND STONE IN COMMON DUCT.

Case 13.—Mrs. Anna W., aged 57 years, admitted to the German Hospital Nov. 16, 1897, had always done hard work on a farm. No one in her family ever had a complaint similar to hers. She has had eleven children, no miscarriages, and typhoid fever, and thinks her present trouble began ten years ago, when she was seized with cramps in the abdomen, radiating to back and up to right shoulder; vomited much at first, but after the pain fully developed, during the height of the attack, vomiting ceased; constipated; stools clay-colored for some time after attack. These attacks have come on repeatedly; has had about twenty, getting less frequent but more severe, since she had typhoid fever; last attack was in July and August this year, confining her to bed for four weeks. Jaundice, accompanied the attacks and has persisted since the last one.

Operation: November 18, incision was made over line of gall-bladder, from costal border down for a distance of 14 cm.; liver found enlarged; gall-bladder, which was but little distended, was incised and pus evacuated, a number of gall-stones removed from the gall-bladder, and a stone palpated in the common duct; common duct incised and stone removed; both openings closed with continuous black silk sutures. The patient died in seventy-two hours.

STONE IN COMMON DUCT.

Case 14.—Mrs. B., aged 49 years, was admitted to the Philadelphia Hospital Aug. 12, 1897, with a history of a biliary colic, jaundice, pain over the site of the gall-bladder and tenderness extending over the entire right hypochondriac region.

Operation: Gall-bladder exposed and found small and contracted; stone detected and removed from the common duct; incision in duct sutured. Uninterrupted recovery followed.

Case 15.—Mrs. H., aged 66 years, admitted to the German Hospital April 10, 1897. Four or five years before, had first sudden attack of colic, beginning in right hypochondrium, skirting around to the right scapula; considerable flatulent indigestion, heartburn and vomiting at these times; attack lasted two days; has had several such; is generally jaundiced after an attack; some attacks are more severe than others. During the attacks there was extreme tenderness in the region of gall-bladder; has been losing flesh during the last year; is rather emaciated but not cachectic. Examination revealed absence of tenderness over gall-bladder, liver not enlarged; impossible to palpate gall bladder.

Operation: June 12, with incision over right rectus muscle. Gall-bladder was enlarged and, when incised, a large quantity of dark bile escaped; common duct contained a large stone, which was removed through an incision into the duct. The stone was large and soft, $\frac{3}{4}$ by $1\frac{1}{2}$ inch. Further search discovered a smaller stone which, owing to its small size, eluded the finger, even slipping up into the hepatic duct, but finally brought down to the opening in the common duct and removed. It was about the size of a cherry-stone. The duct was closed with a double row of fine silk sutures; gall-bladder closed in same way; iodoform gauze drainage to site of incision in common duct; recovery uninterrupted.

Case 16.—Mrs. W. A., aged 46 years, admitted to the German Hospital Sept. 19, 1898, had had repeated attacks of biliary colic for nine months; first attack was not until after cessation of menstruation. Jaundice followed each attack and remained for some days. There was pain over gall-bladder, but it rarely radiated to the shoulder.

Operation: Usual incision, opening abdomen through right rectus muscle, exposing small gall-bladder, which was isolated with gauze and opened. A large stone was found in the common duct and delivered through the gall bladder; rubber drainage; walls of gall-bladder stitched to muscles and aponeurosis; uninterrupted recovery.

Case 17.—Mrs. F. L., aged 41 years, admitted to the German Hospital March 29, 1898, at the age of 29 had had an attack of severe pain in the right hypochondriac region, radiating to the back and right shoulder. Since this attack she has had one almost every six or eight weeks; last, eight days before admission to hospital, started with a chill and vomiting, pain in the right hypochondriac region, extending to the back, up to the right shoulder and down the arm, and lasted until admission. She was slightly jaundiced. Bowels have been freely moved, at first chalk-colored, getting darker. On admission she had pain in the right hypochondriac region; tenderness over right upper quadrant of abdomen.

Operation: April 30, incision over right rectus muscle; gall-bladder found contracted; a large stone in common duct, which was dislodged into the gall-bladder and removed through an incision in the gall bladder; uneventful recovery.

Case 18.—M. F., aged 48 years, admitted to the German hospital July 5, 1889, gave a history of attacks of biliary colic.

Operation: Stone removed from common duct; rubber and gauze drainage; incision in duct not sutured; recovery.

Case 19.—L. S., aged 33 years, admitted to the German Hospital May 23, 1896, and discharged June 5.

Operation: Common duct opened and one stone removed; rubber and gauze drainage; incision in duct not sutured; recovery.

ACUTE CHOLECYSTITIS.

Case 20.—Mrs. M. S., aged 48 years, white, large fleshy woman, never sick until 21 years of age, when she had enteric fever; for past four years has been occasionally suffering with slight pain under border of ribs on right side; pain radiates around her side and up the back under scapula; had vomiting with nearly all her acute attacks; these attacks came frequently, and she was jaundiced every time, with one or two exceptions; bowels generally constipated, although she has had diarrhea during the attacks. Two days before admission to the hospital, she was taken with an acute attack of pain in right side at lower border of ribs, much worse than any previous attack. She had persistent vomiting and marked diarrhea; tenderness on pressure and pronounced rigidity over right side of abdomen; temperature 103-104 F.; pulse 130; unable to relieve patient with large doses of morphia.

Operation: Gall bladder enlarged and seat of active inflammation; 75 c.c. pus present and 173 gall-stones. Rubber drainage was inserted into gall-bladder and one into abdominal cavity by side of gall-bladder, one piece of iodoform gauze inserted with latter tube. The abdominal tube and gauze were removed on the third day; tube removed from gall-bladder on twentieth day; uninterrupted recovery.

Case 21.—Mrs. E., aged 50 years, admitted to the German Hospital June 25, 1898, has never had a previous attack of jaundice or colic. She has had four children. Two days before admission she complained of severe pain in the right hypochondriac region radiating to the back and up to the right shoulder. The next day she said she was easier. The morning of the day of admission she had a temperature of 102.6 F.; abdomen extremely tender in the right hypochondriac region; on percussion, gall-bladder found enlarged and tender.

Operation: An incision made over the right rectus muscle; gall-bladder found slightly distended and, when opened, pus and bile escaped; gall-bladder stitched to the wound with silk so as to make a fistulous tract; recovery.

CHOLELITHIASIS AND STONE IN COMMON DUCT.

Case 22.—A., aged 60 years, was admitted to the Philadelphia Hospital with an acute attack of biliary colic and jaundice. After one month of treatment, during which the symptoms persisted, she was transferred to the surgical service, and, on Oct. 31, 1895, an incision six inches in length was made to the inner side of the right semilunar line extending downward, which was subsequently enlarged to eight inches, owing to the great amount of superficial fat. After opening the peritoneum, the gall-bladder was easily found, and free from adhesions. Digital examination of the gall-bladder and ducts at this point disclosed the presence of one large and several small stones in the bladder, but failed to discover any obstruction in the ducts. The gall-bladder, after being surrounded by gauze, was opened at the fundus, and held up by two sutures. About twenty stones and fragments were removed, the largest measuring one-half inch in diameter.

After the evacuation of the gall-bladder, the finger was passed through the foramen of Winslow, and thus detected a stone one-half inch in diameter in the common duct, near the junction with the duodenum. After repeated attempts the stone in the duct was moved in the following manner: The intestines were walled off from the field of operation by gauze packing, and held out of the way by a retractor consisting of a strip of silver two inches wide by twelve inches long. This was passed into the wound (with the aid of illumination from an electric headlight) and so placed that the end of the retractor was beneath the duct. The finger reinserted was then able to grasp the stone and hold it in position. Guided by touch, a scalpel was carefully passed down and incision an inch in length was made in the duct in the line of its axis. By aid of the forceps the stone was removed. A rubber drainage tube was passed into the duct and surrounded by gauze, which was left *in situ*. The fundus of the gall bladder was anchored to the edges of the parietal wound and drained in a like manner. The external incision was closed by deep sutures of silkworm gut, and superficial sutures of silk; an aseptic dressing of gauze and cotton placed over the whole. This was changed in three hours, when it was found saturated with bile and slightly blood stained. The second dressing was made in six hours, and showed only bile.

Heavy and frequent dressings were required, as they were rapidly saturated with bile. The gauze packing was removed at the end of three days, and the drainage-tubes at the end of one week, leaving a biliary fistula, which discharged freely. The stools, which previously were clay-colored, became normal and the jaundice disappeared. The patient fell into a semicomatose state on the tenth day after operation, from which she never roused. She died November 20; no autopsy.

Case 23.—Mrs. M., aged 56 years, was admitted to the German Hospital April 30, 1897. Her father died of apoplexy; mother alive; one sister alive; two brothers dead of Bright's disease; family history otherwise negative. She was married twice, about thirty years in all; had one child; menopause seven years ago; menstruation established at 10 years; always free; always healthy; always a heavy eater; bowels regular; leads a rather sedentary life; present attack began at the menopause. The first attack, like all others, began with sudden colicky pain in epigastrium, passing around the right hypochondrium to the back, and soon caused vomiting; pain generally lasted twelve hours or more, relieved only by rest and hypodermics of morphia; sometimes was able to abort it by rest and hot applications. When relief came by hypodermics, it was gradual, not sudden; has examined for stones, but never passed one to her knowledge.

At first, the attacks of pain occurred about once a year, but of late they have been more frequent. In January, 1897, for first time, she had jaundice during a spell, soon disappearing, and again during the last. With the exception of one spell several years ago these two have been the most prolonged of any, and the only two with jaundice; urine dark and feces light at these times. Some attacks, she says, she felt gradually leaving her, just as they began.

Examination: Patient very fleshy; tenderness on deep pressure over gall-bladder, but not marked; no enlargement can be felt; on admission, suffering extreme pain which had lasted for several days; beginning jaundice.

May 2, pain relieved; jaundice; May 3, jaundice fading; no stone passed; heart regular, no murmur; pulse volume good; no cough.

Operation: May 6, incision made over right rectus muscle; intestines were much distended, requiring careful packing to retain the lower border of the liver exposed and the gall-bladder, which was found to be filled with calculi; gauze carefully packed around and under gall-bladder, and two silk sutures passed through its walls to hold it up; gauze again packed under to protect incision, and gall-bladder opened; 376 stones removed by curette and spoon; two large and a number of small stones were lodged in the common duct. After thorough search for and careful removal of all stones, the gall-bladder was sewed with fine black silk and primary sutures removed. Two pieces of plain gauze, which were carried to bottom of the wound, were left in for drainage. Recovery followed.

Case 24.—Mrs. M., admitted to the German Hospital May 16, 1895, with previous history of gall stones, jaundice, pain and digestive troubles; tenderness marked over gall-bladder, which was enlarged and could be demonstrated.

Operation: Lumen of gall-bladder greatly reduced from chronic inflammation. There was a large stone in the gall-bladder, which was partially crushed before removal; a second stone located in the common duct, and the size of a large cherry-stone, was removed through an incision into the duct. Bleeding was free but packing controlled it. The patient made an uninterrupted recovery.

Case 25.—Mrs. F. McF., aged 47 years, white, had measles when a child, but no other sickness until two and a half years ago, when she had typhoid fever; has been subject to slight bilious attacks for past fifteen years; never confined to bed by any of them; during these attacks had pain in right side at lower border of ribs, referred around side and up to right shoulder; in some attacks had vomiting, also slight jaundice; never to her knowledge passed any gall-stones. In the last two years they have become more frequent and severe, coming on as often as once in two weeks; present attack began Feb. 5, 1899, with chill, followed by vomiting and pain in right side over gall-bladder area, referred around side and up to right shoulder; jaundiced; has been constipated constantly since these attacks began, fifteen years ago; had a burning of skin over whole body during these attacks.

Operation: Gall-bladder found much enlarged and filled with small stones and very dark, thick bile; stones removed. A movable stone three fourths inch in length and three-eighths inch in circumference was removed from the common duct; incision in common duct sutured; rubber drainage, in gall-bladder and abdominal wound; uninterrupted recovery.

Case 26.—A. W., aged 31 years, admitted to the German Hospital April 6, 1898. Nine years before thought she was injured by a person lifting her, when she suddenly had pain in the right upper quadrant of the abdomen. Since that time she has had a number of attacks of pain in the epigastrium, with chilliness and vomiting. Six years ago she had the first attack of jaundice, since which time she has never entirely recovered her normal color. Last fall she had a severe attack of colic with severe pain in the right upper quadrant of the abdomen, accompanied by chilliness and vomiting. The stools have been light-colored (like putty); always constipated; appetite fair; has lost weight during the last ten years; urine has been quite dark; much itching and dryness of skin; skin and conjunctiva very yellow.

Operation: April 7, under ether, an incision about four inches in length made over the right rectus muscle; gall-bladder found enlarged; walled off with gauze, opened, large number of stones found and easily removed; a large stone found in the common duct and removed through a half-inch incision into the duct; wound in duct closed; biliary fistula established; patient died of secondary hemorrhage two weeks after operation.

Case 27.—Agnes R., aged 46 years, admitted to the German Hospital Nov. 16, 1897, gave negative family history as regards phthisis and cancer; menstruation regular up to the last period, when she was two weeks beyond the time; has had one miscarriage and eight children; thinks she has sustained no injury from childbirth; has not been sick much, but was always weak; always worked hard when able. Has been troubled with cramps in abdomen for thirty years, coming on suddenly and radiating to back and right shoulder, attended by vomiting, constipation and jaundice; stools are clay-colored at times; urine dark-colored and covered with a greenish-yellow foam; has not vomited any black coffee-ground material; last attack was a week ago; can feel a lump in right side underneath border of ribs, first noticed a year ago, but in a little while it disappeared and returned after six months; quite emaciated and weak.

Operation: November 19, incision made over right rectus muscle; gall bladder full of stones, incised, and evacuated, inspissated mucus, bile and stones; common duct opened and stones removed from it; several also lodged in hepatic duct, which were pushed into common duct and removed; wounds in gall-bladder and common duct closed with black silk sutures; uneventful recovery.

CHOLECYSTECTOMY FOR RECURRENT CHOLELITHIASIS.

Case 28.—Mrs. R., aged 38 years, was operated on some months ago and 847 gall-stones removed; recovered from operation; has recently had an attack of colic.

Operation: Incision was made in line of old scar (scar tissue excised) and gall-bladder found adherent to abdominal wall. A stone was felt in the gall-bladder; gall-bladder excised and fragments of stone (crushed in handling) removed. Patient recovered with permanent fistula. For several years following last operation she has passed an occasional stone.

CHOLELITHIASIS AND COMPLETE EXCISION OF GALL-BLADDER.

Case 29.—Mrs. E. P., aged 67 years; admitted to the German Hospital Sept. 26, 1897, married forty years, nine children, has always been constipated, and suffered occasional attacks of acute abdominal pain, sometimes attended by jaundice, frequent nausea and vomiting; lost weight constantly in two years; hard, painful tumor in right hypochondriac region, extending down to cecal region, firmly tied down.

Operation: Under ether, an incision made over most prominent part of tumor, exposing an enlarged and firmly adherent gall-bladder to the transverse colon on the right: Gall-bladder, having undergone calcareous changes contained two large, hard, round, black stones, and was excised. The patient never rallied from shock.

KINKING OF COMMON DUCT BY ADHESIONS.

Case 30.—Mrs. W., aged 28 years; married (a patient of Dr. H. C. Deaver), when 16 years of age had a severe attack of acute cholecystitis, accompanied with marked jaundice. Three months later she passed a number of gall-stones, ranging in size from a pea to a small marble. The pain was so intense that it required as much as a grain of morphin, hypodermically, to relieve her. In August, 1897, she had a moderately severe attack of catarrhal appendicitis, from which she never entirely recovered. The attack of appendicitis was followed by a catarrhal colitis, which was not relieved by medical treatment and only subsided after her appendix had been removed ten weeks later. She remained perfectly well until February, 1898, when she complained of severe pain over the region of the gall-bladder, which was also referred to the back, directly over the region of the inferior angle of the right scapula.

Diagnosis: Stone in the cystic duct; no jaundice, nor gastric disturbance, bowels slightly constipated, were freely moved by salines; rest in bed, ice-bags locally, and liquid diet, without any apparent improvement; was seen by Drs. J. C. Wilson and John B. Deaver, in consultation, and diagnosis confirmed, and later by Dr. J. M. DaCosta, who thought her trouble was either stone in the cystic duct, or adhesions around the ducts, caused by the attack she had had when a girl, which has been previously described.

Operation, May 25, revealed adhesions involving the common bile-duct, causing kinking of the duct and interfering at times with its function, thereby producing the colicky pains; adhesions relieved; complete recovery.

KINKING OF CYSTIC DUCT BY ADHESIONS, WITH CHOLECYSTITIS.

Case 31.—M. S., aged 55 years, merchant, admitted to the German Hospital, had had usual diseases of childhood; never sick since; severely injured in left side about seven years ago, and several ribs broken; first noticed present trouble about one and one-half years ago. It began with dull boring pains in right iliac region, which at times would shoot up toward the liver and around side and up back of scapula of right side;

lasted for two or three days at a time, then absent for same period; at times had vomiting with it; says he was slightly jaundiced nine years ago, but never since. Bowels are constipated during these attacks; between attacks normal.

Operation: Gall bladder adherent to stomach, omentum and liver by adhesions; walls much thickened. It contained considerable dark, thick liquid material, much darker than normal bile. The gall-bladder was drained and rubber drainage inserted; rubber drainage also inserted into abdominal cavity at base of gall-bladder; no stones found in cystic or common duct or gall bladder; gall-bladder stitched to abdominal wall; wound closed with silkworm gut sutures; recovery.

ABSCESS IN ELONGATED LOBULE OF THE RIGHT LOBE OF LIVER.

Case 32.—E. A., white, aged 24 years, single, seamstress, German, was admitted to the German Hospital Nov. 8, 1897. The family history was negative; had pneumonia and meningitis at the age of eight, typhoid fever six months ago; has been in this country fourteen years; menstruation regular but profuse; no history of malaria or dysentery; has noticed swelling, freely movable as far as umbilicus, in right side for some years, not painful; three weeks ago, while menstruating, had pain in right loin and iliac fossa, of a dragging character; is common for patient to have pain with menstrual periods; growth plainly visible; urine light yellow, acid, 10.16, faint trace of albumin, no sugar: round, square and columnar epithelial cells, red blood-corpuscles, leucocytes; slight elevation of temperature on admission; morning temperature 99 F., evening 100 F.; soft systolic mumur, apparently not transmittent, heard best at apex; lungs apparently normal; no cough.

Operation: November 12, under ether narcosis, the tumor proved to be elongated lobule of right lobe of liver, the site of an abscess; abscess opened and drained; gall-bladder found moderately distended; discharged from hospital, December 20, the sinus being still present, corresponding to the drainage-tube tap.

CHOLELITHIASIS.

Case 33.—Helen C., aged 43 years, admitted to the German Hospital June 29, 1897, had had no previous attacks; present attack began as crampy pain in right side shooting across and upward; no vomiting; attack not severe enough to send her to bed, but since then she has had a succession of attacks, gradually growing in severity and accompanied by jaundice; two weeks ago pains became very severe, a succession of cramps without vomiting; sacral backache and pain over right kidney posteriorly; has had frequent micturition; one tender spot deep in right iliac fossa, just below McBurney's point; extremely fat and flaccid abdominal walls, making examination difficult; puts her finger just below McBurney's point as spot of greatest tenderness; no tumor can be felt.

Operation July 15, small incision as usually made for chronic appendicitis cases; appendix delivered and found to be normal; incision prolonged upward and gall-bladder palpated; found to contain stones; common duct and hepatic duct found to be patulous; gall bladder opened and twenty stones removed; gall-bladder closed and returned to abdominal cavity; July 31, discharged; recovery uneventful.

Case 34.—Mrs. S., aged 30 years, admitted to the German Hospital Oct. 3, 1898; married thirteen years; five children; eighteen months before had severe acute pain in region of the gall bladder, radiating to right shoulder and chest, followed by jaundice, lasting in all about three days; second attack in two months, duration about seven days, followed by jaundice; gall-stones in stools; third attack six weeks later, duration nine days with jaundice, stones in stool; fourth attack in three months from the date of the third, lasting seven days; jaundiced and stone found; fifth and last attack three weeks ago; jaundiced and stone found in stools.

Operation: Incision over right rectus muscle. The gall-bladder was delivered in a wall of gauze and opened; nineteen small faceted stones were removed; wound dressed daily on the seventh, ninth and eleventh days and a small stone washed out; uninterrupted recovery.

Case 35.—Mrs. L. Y., aged 31 years, white, with usual diseases of childhood, pneumonia and pleurisy at eighteen years, and no sickness since until October, 1897, when she first noticed pain along lower border of ribs on right side. Pain was lancinating in character and referred to side and up back to right scapula; vomiting accompanied attack; was also jaundiced; in July and September, 1898, had similar attacks; was in bed seven weeks with an attack which began in July, and three weeks with an attack which began in September; had another similar attack, but lighter in severity, one week before admission to the German Hospital; was jaundiced. On palpation a mass could be felt in gall-bladder area, very tender to touch.

Operation: Gall-bladder adherent to liver, bowel and peritoneum, by numerous strong adhesions; fifty-two gall-stones removed from gall-bladder; rubber drainage inserted into abdominal cavity, also one piece of iodoform gauze; rubber drainage inserted into gall-bladder; transfused with 1200 c.c. normal saline solution after operation; uninterrupted recovery.

Case 36.—Mrs. C. McM., aged 42 years, white, patient in the German Hospital, had had usual diseases of childhood, but was well until twelve months ago, when she had typhoid fever. When convalescing from typhoid she says she suffered a relapse in which she had cramp-like pains at lower border of ribs on right side; vomited bilious material; had marked tenderness over same area; slightly jaundiced. Two months after this attack she passed fifteen gall stones by the bowels, irregular in size, the largest about the size of a chestnut; has never to her knowledge passed any since, but has had intermittent attacks of pain in gall bladder area; has been slightly jaundiced and complains of a burning sensation of the skin of entire body; likens it to a mustard application.

Operation: Gall-bladder walls much thickened; adhesions to omentum and stomach. One adhesion between gall bladder and stomach was so dense that on separating it the gall bladder was perforated, also outer wall of stomach; tear in stomach repaired by a silk Lembert suture (incision made in gall-bladder on opening it so as to eliminate the perforation); gall-bladder walled off with gauze. Seven well-formed stones similar to a beechnut, in size and shape, were removed, one somewhat larger and several smaller pieces, which were tightly adherent to inner surface of gall bladder wall, were removed by careful manipulation. Rubber drainage was put in abdominal cavity and also in gall-bladder; recovery.

Case 37.—E. M., admitted to the German Hospital Jan. 8, 1896, was greatly jaundiced; gall-bladder emptied of several stones, closed and returned to abdominal cavity; no drainage; discharged January 28; cholecystotomy; recovery.

Case 38.—George S., admitted to the German Hospital May 15, 1895, was greatly jaundiced; gall-bladder emptied of several stones, closed and returned to abdominal cavity; no drainage; discharged May 28; recovery.

Case 39.—J. M., aged 53 years, admitted to the German Hospital Dec. 9, 1890, was greatly jaundiced; gall-bladder emptied of several stones, closed and returned to abdominal cavity; no drainage; died December 21.

Case 40.—C. K., aged 55 years, was admitted to the German Hospital Aug. 7, 1896, greatly jaundiced; gall-bladder emptied of several stones, closed and returned to abdominal cavity; no drainage; died August 10.

Case 41.—Mrs. S. was admitted to the German Hospital Sept. 25, 1895, greatly jaundiced; gall-bladder emptied of several stones, closed and returned to abdominal cavity; no drainage; discharged October 15; recovery.

Case 42.—L. S., aged 42 years, was admitted to the German Hospital, July 6, 1889; gall-bladder emptied of several stones, closed and returned to abdominal cavity; no drainage; discharged July 22: recovery.

Case 43.—M. H., aged 36 years, was admitted to the German Hospital, July 23, 1890; gall-bladder opened and a number of stones removed; gall-bladder closed without drainage; discharged August 4; recovery.

Case 44.—O. O. was admitted to the German Hospital, July 18, 1895, and cholecystotomy with removal of stones; discharged September 27; recovery.

Case 45.—Mrs. K., aged 57 years, admitted to the German Hospital, Sept. 16, 1889; operation revealed gall-bladder full of stones; stones removed and gall bladder sutured; abdominal wound closed; discharged September 30; recovery.

Case 46.—A. W., aged 50 years, admitted to the German Hospital, June 29, 1896, was discharged July 25; excision of gall-bladder; recovery.

Treatment for Hemophilia.—Davis (*British Med. Jour.*, Feb. 11, 1899, p. 339) gives a brief account of a family of "bleeders" that he has had under his care for fifteen years, the father, two sons and two daughters being affected, and one daughter and two sons not affected. The father suffers from periodic attacks of hemorrhage from the bowels and lungs and is treated by being put to bed and kept perfectly quiet and still, no food of any kind being given for two days, and sips of iced or cold water being taken occasionally. The bleeding that results from the extraction of a tooth is controlled by means of a spray of chlorethyl freezing-mixture, which causes congelation of the oozed blood into a hard mass that fits the cavity tightly and uniformly and acts as the best and most reliable compress.

SURGICAL TREATMENT OF HABITUAL CRIMINALS.

BY A. J. OCHSNER, M.D.

SURGEON IN CHIEF OF AUGUSTANA HOSPITAL AND ST. MARY'S HOSPITAL, CHICAGO.

During the past two years I have had an opportunity of making observations in two cases which seem to me to be of especial interest in pointing out a reasonable plan for the surgical treatment of habitual criminals of the male sex.

Case 1.—Mr. G., a merchant, married, 43 years of age, came under my care July 22, 1897, giving the following history: Although he had never been very rugged, he had never suffered from any disease except an attack of intermittent fever at the age of 16. He has always suffered from constipation, and for three months has suffered from a throbbing pain in the region of the prostate gland. More force is required in voiding the urine and evacuating the bowels than formerly, causing a slight protrusion on each side in the vicinity of the inguinal canals.

Present condition: He is fairly well nourished, although he has lost twenty pounds during the past three months, which makes his present weight ten pounds below his average. The chest is well developed, heart and lungs normal, abdomen slightly scaphoid, slightly tender throughout but not resistant. Rectal examination shows large internal hemorrhoids, and a uniformly enlarged prostate gland which is tender upon pressure. The temperature and pulse are normal, the urine has a specific gravity of 1024, is acid, contains a very slight trace of albumin, but is otherwise normal. There is pain in the epigastric region, beginning half an hour after meals and continuing for two to three hours. Portions of undigested food, especially lettuce, berries and other uncooked fruits, are evacuated with the feces, as well as large masses of mucus. The patient is extremely nervous because he fears the presence of a carcinoma in the rectum. He has received careful internal and local treatment without benefit for several months. The enlargement and irritability of the prostate gland has constantly increased.

My treatment consisted in resection of the vasa deferentia on both sides through an incision less than one inch in length, just below the external inguinal ring. The hemorrhoids were also removed by means of clamp and cautery. The irritation in the region of the prostate gland subsided almost entirely before he left the hospital, two weeks after the operation, and his general health improved very rapidly. At the present time, twenty months after the operation, he is perfectly well, and his sexual power, which had been somewhat impaired before the operation, is fully as good as at any time during his life, which shows that in this case there has been no harmful effect in this direction from the resection of the vasa deferentia.

Case 2.—A laborer, married, 54 years of age, whose previous history was good, with the exception of an attack of malaria and one of typhoid fever, came under my care Sept. 27, 1897, suffering from urinary obstruction due to the presence of an enlarged prostate gland the size of half an orange. He claimed to have had no venereal disease. An attempt at catheterization the previous night had been followed by a chill and severe pain in the region of the prostate gland.

The operation consisted in resection of the vasa deferentia, as in the previous case. The prostate gland became more painful and the swelling increased from day to day. One week after the first operation I opened a large abscess of the gland very freely into the rectum, by means of the Paquelin cautery, and tamponed the abscess cavity with iodoform gauze saturated with compound tincture of benzoin. The wounds over the vasa deferentia had already healed. The wound in the prostate healed in three weeks, and the patient has been perfectly well ever since, and has found no impairment of his sexual desire or power.

It has been demonstrated beyond a doubt that a very large proportion of all criminals, degenerates and perverts have come from parents similarly afflicted. It has also been shown, especially by Lombroso, that there are certain inherited anatomic defects which characterize criminals, so that there are undoubtedly born criminals. There are a certain number of criminals who have acquired their vice from contact. A fairly normal individual, being placed while young in an environment suitable to develop criminal tendencies, will be much more likely to develop into a criminal than were he placed under opposite conditions. This fact in itself makes it desirable, for the general welfare and safety of the community, to reduce as much as possible the number of children born in the families of criminals because their surroundings must necessarily be favorable to the development of vicious tendencies.

Statistics show (E. Bleuler, Lombroso, etc.) that fully three-fourths of all crimes are committed by habitual criminals. Taking these two facts into consideration it would seem that if it were possible to eliminate all habitual criminals from the possibility of having children, there would soon be a very marked decrease in this class, and naturally, also a consequent decrease in the number of criminals from contact.

So far as female criminals are concerned, nature usually protects the community against the likelihood of offspring, because a very large proportion of these individuals acquire a specific endometritis and salpingitis usually resulting in an occlusion of the Fallopian tubes early in their career, hence their sterility is assured. Ligation and section of the Fallopian tubes has been suggested.

In order to accomplish this end in male criminals, a method must be employed which will not in itself be a punishment to the criminal. It must not result in a deformity, neither must it endanger his life, nor must it interfere with his enjoyment of life should he reform and become a useful member of society.

Castration has been recommended as a punishment for certain crimes, and has been practiced without legal sanction in many cases. Whenever and wherever this has been advocated, it has met with the strongest possible opposition, because it practically destroys the possibility for the future enjoyment of life. Judging from the results obtained in the two cases reported above, it is evidently possible to obtain the same result, so far as sterility is concerned, without in any way interfering with the criminal's possibilities of future enjoyment of life.

It will be necessary to increase the number of observations, but we have analogic conditions in patients whose vasa deferentia have been totally obstructed as the result of a gonorrheal inflammation. Although these patients are necessarily sterile, there is never any lack of sexual inclination resulting from this condition. I have resected the vasa deferentia in a considerable number of patients suffering from hypertrophied prostates, but they were all older than these two, and all were either impotent or widowers, and could consequently not aid in making competent observations.

The operation which I would suggest consists in the following steps: 1, thorough disinfection of the surface over the external inguinal ring; 2, infiltration of the tissues with a solution of one grain each of muriate of morphia, muriate of cocain and sodium chlorid to the ounce of sterilized water; 3, an incision in the direction and directly over the cord, not to exceed one inch in length, down to the vas deferens; 4, isolating this structure for the distance of half an inch; 5, ligation with catgut and section one-quarter of an inch below this; 6, closure of the wound with a buried catgut stitch, and application of a collodion dressing. The entire operation can be performed on both sides in less than ten minutes, without any pain to the patient. The wound will heal so perfectly that no scar can be discovered.

The advantages of dealing with habitual criminals in this manner can be summed up as follows:

1. It would do away with hereditary criminals from the father's side.
2. Aside from being sterile the criminal would remain in his normal condition.
3. This method would protect the community at large without harming the criminal.
4. The same treatment could reasonably be suggested for chronic inebriates, imbeciles, perverts and paupers.

710 Sedgwick Street.

RECURRING GONORRHEA.

BY HARRY GREENBERG, M.D.
INSTRUCTOR IN GYNECOLOGY, WISCONSIN COLLEGE OF PHYSICIANS AND SURGEONS.
MILWAUKEE, WIS.

V. F., single, merchant, aged 26, consulted me on July 2, 1898, for an attack of gonorrheal urethritis, and under treatment with potassium permanganate solution irrigations for one month, was discharged cured. He was then instructed to abstain from the use of alcohol in any form, and was warned against marrying for at least one year from date of discharge, as he was then engaged to be married to a refined young woman of this city.

On March 2, 1899, he again consulted me as to the advisability of marrying, and assured me that during all these months, he had noticed no discharge from his urethra, and at no time felt any inconvenience. He also stated—and I think truthfully—that he did not during that time partake of any alcoholic drinks, and had not indulged in sexual intercourse. Physical examination revealed nothing.

He was married one week later, and again consulted me in ten days from the date of his marriage, for a discharge from his urethra and all symptoms of acute gonorrheal urethritis, which diagnosis was substantiated by the microscope. Three days later his wife consulted me for burning urination and vaginal discharge, which on examination proved to be of gonorrheal infection, likewise substantiated by the microscope. This young woman I had treated for uterine displacement, and had examined her but two days previous to her marriage, and as I at no time had occasion to doubt her innocence, the infection can be attributed to no other cause than that she contracted it from her husband.

This is but one of many similar cases that have come under my notice, but none, where I could so definitely attribute the recurring infection to an old and apparently cured gonorrhea.

This case is of interest in once more reviving the question: When may our patients, after cessation of the discharge from a gonorrheal urethritis, marry without fear of relapse and infecting the innocent woman? In an article in the JOURNAL of March 25, under the heading of "Treatment of Gonorrheal Urethritis," the author, after recommending a certain line of treatment, says that after the discharge ceases and microscopic examination reveals no gonococci, the patient may be discharged and, in his own words, relapse is impossible without infection. The case above cited certainly does not warrant this, his positive assertion.

While it is true that many cases of gonorrheal urethritis suffer no relapse, it is also true, in many instances, that although the microscope will fail to show any gonococci in the urethral secretions, yet they exist latent in some of the folds of the urethra, harmless in their present state, but liable to regain their former virulence under favorable conditions, which a temporary congestion of the urethra will afford. Immoderate use of alcohol, and excessive venery—both conditions common in the newly-married—have the effect of producing a hyperemia of the sexual organs, and produce therefore a good nutrient medium for the latent gonococci to thrive on. It may also be possible that the gonococci, while harmless in their present position in the male urethra, after being deposited in the vagina, affording them a fresh soil, will again become virulent and produce a gonorrheal vaginitis, which will in return reinfect the man on a subsequent coition.

This same fact is also applicable in the female, after a gonorrheal vaginitis. I have observed, on examining prostitutes who had at some period been affected with gonorrhea, but were now apparently free from it, that they are nevertheless prone to infect the male urethra with gonorrhea. I have also carefully investigated several cases where the man has contracted the infection from a woman who, before and after sexual intercourse with that man, was examined by me and no signs of gonorrhea could be detected. Evidently the latent gonococci in the folds of the vagina, after being deposited in the male urethra, began to thrive on the new soil and set up the inflammation.

545 E. Water St.

RECURRENT RHEUMATIC IRITIS.*

RECOVERY, WITH A SEGMENT OF THE IRIS FIXED WITHOUT APPARENT SYNECHIA, WITH NORMAL ACUITY OF VISION AND WITHOUT INCREASE OF MYOPIA, IN PATIENT WITH MYOPIC ASTIGMATISM.

BY S. D. RISLEY, A.M., M.D.
Attending Surgeon Wills Eye Hospital; Professor of Diseases of the Eye, Philadelphia Polyclinic and College for Graduates in Medicine.
PHILADELPHIA, PA.

Mr. A., aged 35 years, with well-marked rheumatic diathesis, has for several years been subject to recurring iritis of a severe type. I have treated him through three violent and persistent attacks and several milder exacerbations of the disease. The last and most violent came on as a simple hyperemia of the iris, with impaired visual acuity on Oct. 22, 1898. A full dilatation of the pupil was immediately secured, when it was discovered that the fundus presented a uniform fluffy appearance and that there was a fine exudate in the anterior portion of the vitreous. Notwithstanding active treatment addressed to his diathesis and to the local conditions, the eye developed a violent and painful attack of iritis of the parenchymatous type, which confined him to his room until the close of November, and he did not resume his business until the middle of January. The in-

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* Read before the College of Physicians of Philadelphia—Section on Ophthalmology.

jection of the eyeball slowly retired, and with it the infiltration of the vitreous and the inflammation of the uveal tract, until, on February 4, vision had risen once more to 6/6, and the eye was white. The pupil was still too large as compared to the fellow eye, although a mydriatic had not been used for more than six weeks, and was pyriform, the long axis being vertical. The iris, however, reacted promptly to the change of light and shade, except at a small segment below, where it remains in a condition of semidilatation, and does not expand or contract. At date of present writing, March 18, the pupil is still larger than its fellow, and the lower segment is still fixed. No synechia can be made out, and there is apparently no atrophy of the iris fibers.

Dr. de Schweinitz, in commenting upon the etiology of the paralysis in his case, presented to the Section last October, remarks that, "evidently the nerve-endings or filaments which supply the lower half of the iris have been permanently injured by the preceding inflammatory process."

As possibly throwing light upon the etiology of the paralysis in my own case, it is interesting to observe that on October 29, when the eye was steadily growing worse, I discovered, hanging in the anterior chamber, a translucent membrane appearing like a thin sheet of transparent gelatin. Its exact origin could not be made out, but it occupied the lower and outer quadrant, and appeared to extend from the outer angle of the anterior chamber diagonally inward to the vertical meridian, where it covered the lower and outer quadrant of the pupil and seemed to be attached to the surface of the iris at its lower half, just at the point where paralysis is now present. During dilatation, as in Dr. de Schweinitz' case, the pupil was entirely round. It should be borne in mind that the pupil was kept widely dilated for many weeks, and that during this time it was involved in a high grade of plastic, parenchymatous inflammation. It is therefore possible that the posterior surface of the iris is attached far back to the anterior capsule of the lens, and the absence of contraction and expansion may be due to this adhesion. I am inclined to think that this is the probable explanation, but if so, the adhesion is back of the iris, where it can not be seen, and can not therefore be demonstrated.

Correspondence.

A Very Irregular "Regular."

New York City, April 3, 1899.

To the Editor:—The following letter speaks for itself. I violate no confidence in making it public. It was not addressed to me, nor indeed, except on the envelope, which I did not see, to any one else. It was shown to me as having been received by a government official, and was circulated on the authority of its writer—a "regular" physician of long standing:

> ———— ————, November, 1898.
>
> My Dear Doctor:—Hoping and believing that you are alive and well, and not doubting that, for old acquaintance sake, you will entertain my message, I will speak briefly and without apology.
>
> I was pained to read of the death of Geo. E. Waring, and all the more because I have the fullest assurances that his death could have been prevented. And so of thousands who have died, or will have died, in the new regions coming under United States control as a result of the war. The obstacle to the employment of the remedy might be called by the mild name of professional conservatism, I suppose. However keenly one might regret that a really powerful sanitary or therapeuti agent were under the cover of a patent, nevertheless I would use it, if it were certain to save life. And I beg you to accept my personal and professional assurance that the remedy is a practical specific in all forms of fever and in nearly all cases of inflammation, gastric, hepatic, intestinal, pulmonary, etc.
>
> The agent is the oxygen generated or rather evolved by the application of the ———— or ————, practically the same in operation and effect. I am perfectly aware of the apparent incredibility of the assurance, but I make the statement soberly, disinterestedly and in the fear of God. But what can I, a mote in creation, and with the weight of professional predilection, adverse to aught that is without the sphere or area of professional ethics, so-called, avail? . . . It seems exceedingly regrettable that so many in camp and hospital must die, when the deaths *need not* occur. . . .

I have no wish to lead in a reformatory raid, but I do believe that a line should be drawn in the ranks of the profession itself between the men who realize the dignity of medicine and the shallow sciolists like the author of the above letter, who is of the class which "practices allopathy or homeopathy," as its clients prefer, of which examples are by no means rare in physicians of recognized regularity. The letter-writer is not an illiterate; he does not outrage the English language nor exhibit the not uncommon evidences of ignorance that would shame a school-boy. His chirography is commendable; his orthography unexceptionable; he expresses himself intelligibly, and is consequently more disreputable and dangerous than the ignoramus whom every one ridicules and avoids. He is a respectable member of society, and writing "in the fear of God," is probably a dignitary in a church, whose members, and not unlikely his pastor, give heed and weight to his utterances. Conscious of acting an objectionable part, he virtually accuses himself in excusing himself for having antagonized what he says "might be called by the mild name of professional conservatism." The harm that such a man does is incalculable. He announces as incontrovertible what laymen might be pardonable for accepting as such, and with humility that savors of sanctimony, he appeals for support by lamenting, "what can I, a mote in creation, and with the weight of professional predilection adverse to aught that is without the sphere or area of professional ethics, so called, avail?"

Beside the dictum of this man, regularly certified to be *doctoratus* in medicine, Clara Barton's indorsement of electropoise as an "incalculable blessing, which has power to put a person to sleep and keep him asleep until satisfied nature awakes refreshed," is venial and of a par with this estimable, indefatigable but misguided woman's certificate as President of the American National Red Cross, that "We have tried Dr. ————'s blood and nerve remedy, and although the remedy has been in our hands but a short time, we judge that the remedy has all the merits which are claimed for it. We shall continue its use, with the expectation that we shall be able to indorse it still more highly"; but when a man, presumably educated in the highest of all professions, writes: "I beg you to accept my personal and professional assurance that the remedy is a practical specific in all forms of fever and in *nearly all* cases of inflammation, gastric, hepatic, intestinal, pulmonary, etc.," and adds, "I am perfectly aware of the apparent incrediblity of the assurance, but I make the statement soberly, disinterestedly and in the fear of God," it is to be regretted that he can not be disciplined by expulsion from the ranks of the profession he dishonors, apart from the grief he causes the relatives and friends of the man whose death he signally deplores as preventable as well as "of thousands who have died or will have died in the new regions coming under United States control as a result of the war." But, however reprehensible, individual effort at exposure only serves to glorify the culprit as a victim of persecution and to dignify his work as heresy, so it is for the profession as a body to discountenance and disbar all such offenders. The American Academy of Medicine has sought to establish a pale of professional inerrancy based on the amplitude of preliminary education, but it is not improbable that the writer of this letter might have been admitted to fellowship as an academician had he escaped the imputation of authorship of this epistle to the gullible. Doubtless the advocate of oxydonor might be convicted under the code of ethics of the Association, to which he apparently subscribes with a mental reservation, but what written code can replace an all-pervading sentiment of *esprit du corps*, which would discredit such a one without trial and conviction? It is true that the names of honorable men are daily dragged in the dirt by proprietors and manufacturers of other oxydonors, and it is accepted without question or animadversion that their certificates are genuine, when in fact there have been casual remarks, extracts from reports or garbled excerpts interpolated by ingenious advertising agents to have the effect and serve the purpose of an endorsement never contemplated. So long as this is possible without detriment to the individual's reputation thus traduced, it is idle to hope to deal condignly with those who, like the writer of this letter, exploit so obvious a fraud. The shyster among lawyers is marked and shunned; the demagogue among politicians is known and abhorred; the Pharisee in religion is recognized and avoided; why should not the charlatan in medicine, by common consensus, be exposed and contemned?

Albert L. Gihon,
Medical Director U. S. Navy (retired).

Is Tobacco Disreputable?

Philadelphia, Pa., April 10, 1899.

To the Editor:—In an article in the Journal of April 1, Dr. Matthew Woods discusses "Some of the Minor Immoralities of the Tobacco Habit." The title is a misnomer, for according to Dr. Woods there are no minor immoralities connected with the subject. The weed itself, he says, "has been ignominiously expelled from the pharmacopea of every civilized land," because of its uselessness and danger. Indulgence in its use he characterizes as vicious, shameless and depraved. Much of what Dr. Woods has written in this address reads like an old-fashioned explosion on the evils of the "rum" habit, but he is careful to make it clear that he would not be so severe on alcoholism, for after arraying what he regards as the evils and immoralities of the indulgence in tobacco, he says with a clearness that is pointed and emphatic, that these charges "can not be laid at the door of the 'giant evil' alcohol, for with all our knowledge of the wrongs of drink we can not but admit that it is the excessive use, the abuse, of 'the fluid that makes glad the heart of man' that has caused so much injustice and distress."

Not through any feelings of personal dissatisfaction, but rather from a sense of professional pride, from a sort of friendly fealty to scores of professional colleagues, and affectionate respect for honored professors of my alma mater, I ask the privilege of interposing at least a brief protest against a sweeping arraignment which sets down as obdurate, gross-natured, graceless and debased, thousands of men who are, head and heart, an honor to the profession.

The paper of Dr. Woods, with its extravagant assertions—unsupported by competent authority—to the general effect that the use, *not the abuse*, of tobacco is filling the world with mental, moral and physical misery, reads like a compilation from the fulminations of some of the seventeenth century reformers who undertook to check the wildfire spread of tobacco-using and who actually employed, as means to that end, excommunication on one hand and capital punishment on the other.

As for the therapeutic virtues of tobacco, I can testify to its possession of them. It is singularly effective as an anodyne, and applied with due regard to the dangers of absorption, resulting in nausea, there are few remedies more satisfactory for application for the prevention or reduction of inflammation in wounds, smaller burns and in certain skin affections.

On the ethic side I can not, in the full knowledge of the great number of honorable practitioners who smoke, for a moment assent to the proposition that the custom is either immoral or degrading, and I regret that one of my fellow members of the American Medical Association, who might have accomplished some good by pointing out the peril and results of overindulgence in, or abuse of tobacco, has permitted his zeal to carry him to an extreme which makes his address simply a censorious lecture to those of his colleagues, a vast majority, I take it, who make rational use of what Spencer calls "divine tobacco,' while indirectly the profession through this representative is placed in the apparent position of radically denouncing as unworthy members, if not enemies of society, the countless multitude of men in all professions and callings who do likewise.

To quote bodily one of the most characteristic sections of Dr. Woods' article: "The laboring man and his family have no worse enemy than tobacco. . . Returning from work with a pittance, about sufficient for bread, larder empty, children half clad, wife worn out with the overwhelming perplexities of the day, the home and its misery presenting a spectacle that appeals to his better nature, and for a time, wrapped in the worldly creed of prudence, he is under the influence of that discontent that would soon effect a betterment of his estate. He is a teetotaler, perhaps, with scruples against beer, but there on his mantel, void of ornament, lies a pipe black with the stains of long usage, and soon under the power of its discontent dispelling influence, what cares he for the misery of his condition, the cough of his pallid wife, the helpless cry of his half-fed children, the tawdry emptiness of his spare apartments, for with a garrulous newspaper in his hand and a pipe in his mouth, is he not translated into the listless paradise of self-complacent minds, where care does not enter; and 'the slavery holds him within this sepulchre of ambition,' and will not let him go until the grave closes over him, a tobacco-saturated victim of self-indulgence, his orphaned children too often a care on the State?"

What member of the profession, in his entire experience, has known one single child to become a State ward under circumstances described in the above excerpt? The influence of black pipes and garrulous newspapers rarely widow the wives or orphan the children of teetotalers.

Dr. Woods, in one of his recent diatribes against smoking and smokers, remarks that "in these nicotin days it is a significant fact that we produce so few men of supreme intellect." If this is meant as a generalization, it may be worth while to reflect that in every department of medicine others will probably agree that progress has been made in unparalleled strides during this closing quarter of the nineteenth century, not to mention the wonders produced in other fields of mental activity; if, on the other hand, particularization is intended, it might be well for Dr. Woods to name a scant half-dozen or so examples of the non-smoking variety of towering talent.

With no disposition to defend over-indulgence in tobacco, I feel like asking, in passing, whether impairment of health, with all that this implies, does not result much more frequently from other things of common use, even from the best of things the good God gives us, than from tobacco? How many patients come to the physician, to use a single example, with health wrecked by tobacco, as compared with those who suffer from overindulgence in strong coffee. We need not, therefore, class coffee as an abomination and denounce those who use it, and so I think it may be and will be commonly (or to use the more picturesque term from Dr. Woods' paper, consuetudinarily) admitted that one may smoke without being despicable, and that compared with the comfort, the soothing and solacing influence balmily spread over the world at large by the grateful nicotian plant, the real evils resulting from its use are as the nothingness of the occasional burns inseparable from our employment of artificial heat in household and commercial economy.

John A. McKinna, M.D.
1403 N. 17th St.

Disclaims Dishonesty.

Indianapolis, Ind., April 14, 1899.

To the Editor:—In one of your "Minor Comments" of April 8 (vide Journal, p. 770), complaint is made concerning "one W. B. Clarke" (the "one" lest there might be two, perhaps), in a published communication "made up of alleged quotations from medical men, against vaccination," in which "isolated statements are quoted from noted physicians, but separated from their context so as to make them express opinions contrary to the general tone of their published writings and their real sentiments," which presentation you characterize as "thoroughly dishonest" and characteristic of "unscrupulous cranks." Having long been a reader of the Journal, the best medical journal in the world, and not wishing to fall under its condemnation, but desiring to be set right in the matter, please allow me to say that the article you refer to was mainly made up from the work "Smallpox and Vaccination," by Alex. M. Ross, M.A., F.R.S.L., Eng., of Montreal, who died a year ago, and who was very prominent in the profession. I have seen them in other works and pamphlets, but never before knew their honesty to be impugned. When I used his quotations I had no doubt that they were bona-fide, and did not have their context to verify them by. There was, then, no dishonesty in their use. I can also furnish the source of all other quotations used, but will not now weary you with them. I will be perfectly satisfied to allow you to republish the article you criticise (if you have lost yours I can get you another), point out its unwarranted uses, and leave the matter to the judgment of your readers.

That the vaccination subject is a debatable one in its present shape (as are many other medical subjects), we see by the appearance of such laborious works as Crookshank's "History and Pathology of Vaccination," Creighton's "Jenner and Vaccination" and "Cowpox and Vaccinal Syphilis," and his article on "Vaccination" in the "Encyclopedia Britannica," White's "History of a Great Delusion," Pickering's "Sanitation or Vaccination," and many smaller works that could be mentioned. While I believe in a scientific prophylaxis as regards smallpox, inoculative in character, I do not intend to be dishonest or to use unfair means in discussing cowpox vaccination, nor do I need to. Yours respectfully,

W. B. Clarke, M.D.

[When an article quotes Niemeyer, Sir James Paget, Jonathan Hutchinson, F. H. Hamilton and others like them as opponents of vaccination, and uses statements applicable only to accidents from the old arm-to-arm method as against vaccination generally, one is excusable in questioning its fairness and candor, to state it mildly. But if these are all taken from the work of Dr. Ross, who is also quoted as declaring vaccination "an unmitigated curse and the most destructive medical delusion which has ever afflicted the human race," the original dishonesty is traced a little farther back.—Ed.]

A Subliminal Miscarriage.

Rockford, Ill., April 10, 1899.

To the Editor:—Probably more errors occur in subliminal argument through inductive conclusions, from the employment of indifferent or false data than is realized in our common philosophy; conclusions are drawn and made positive from simple parallels or seeming coincidences, and applied in theory as though actual facts; especially is this true where narrow ardor or impoverished avidity seeks to gratify a pretense, or fit a vacuum.

In no phase of philosophy is this truer than in the interminable maze of psychiatry where we deal with those attributes which make man kin to Deity and "only a little lower than the angels"; where the border line between mediocrity and madness is as meager and tortuous as the tracks of the sea in a tempest; where Hahnemann was, and Eddy and Dowie are now floundering; and the foam and spray they raise is wrecking by its blinding veil weak minds that will not be piloted by trained thought into clear waters.

Only the shallow subliminal instances are given, that can be utilized for their conclusions and purposes; the abortive or negative ones are ignored by the fanatic and seldom chronicled by the thoughtful and candid, and thus a store of valuable data is lost to actual science and only the vague side of the subliminal sphere brought to view.

To perform a duty on right lines this instance is given:

During the recent winter a Mrs. R., an American, aged 28 years, the mother of three children, became the subject of a pelvic abscess necessitating her removal from her home to the local hospital, for an operation; with many others of her rank the thought of going to a hospital was much dreaded by herself and bewailed by her family until it was their subject of talk by day and evidently their dreams by night; for, pending the argument and consent of all concerned, the subject herself, her mother-in-law, her maid, her foster-mother and husband, all, on either the same or successive nights dreamed seeing their loved one carried away in the city ambulance; had been present at her death, had witnessed her burial robes, flowers, casket, and interment, with a uniformity that was startling in detail even to real consciousness when in turn they were graphically recited. Notwithstanding this quintuple subliminal testimony, the patient passed through the operation, rallied and recovered without a single untoward event, returning to her home on the eleventh day, restored and happy.

Then all in timid and penitent turn related their dreamy observations of a fortnight before, with such graphic and appropriate embellishment as their station, imagination and command of words permitted, without one being able to add the ghoulish, "I told you so," to the finalé. Spiritualists will find little to tempt them in this episode and the psychist may record it as an object for future reference as a rare negative narrative in his search for truth. D. Lichty, M.D.

For Whose Benefit Do We Write?

Fargo, N. D., April 11, 1899.

To the Editor:—Apropos of Dr. Howle's letter in the Journal (vide April 8, p. 777) perhaps I may be able to throw a little side light on the subject.

Recently the representative of a drug house in the East came into my office, and picking up a reprint of an article of mine that had just appeared in a prominent journal, said: "Say, Doctor, if you will write an article recommending the use of our preparation for that class of work, I will reward you well." Here was an inducement to help out the manufacturer and at the same time look out for number one. While the preparation he spoke of is quite a good one, there are any number of just such preparations put up by different houses, and most of them just as good as his. It is needless to say the bribe was not accepted.

I do not mean to say that all such articles are "bought," as he wished to buy mine, but some of them evidently are, if not in one way then in another. It also frequently serves to bring one's name before the profession, although this object is often missed. I know that when such "reprints" and "extracts" come to my desk they are more apt to go into the waste basket than to be read, digested and remembered, and I am not alone in thus dealing with them. The author should write for the benefit of his readers and not for that of the manufacturer.

W. L. Grant, M.D.

South McAlester, I. T., April 12, 1899.

To the Editor:—I note a communication in the Journal (vide April 8, p. 777), anent the laudation of nostrums by the profession. The writer intimates that there is a Senegambian in the fuel-stack, but seems unable to locate his whereabouts. I think I have found this swart individual. An article of mine published in a St. Louis medical journal some time ago brought forth invitations for articles from half a score of others. This was more or less gratifying to me, but my gladness stopped suddenly, when I received a letter from one of the journals, extolling my "peculiar style of versatility" and generously offering me a three years subscription to their journal free if I would write an article commendatory to a certain medicine which it advertised. I declined the offer with thanks, and then wondered if all the endorsements sent out by the proprietary houses had been obtained in the same way. Verily this is a day of commercialism, when members of the profession can lend their names and endorsements to boost up the advertising pages of "Jim Crow" medical journals. W. B. Pigg, M.D.

P. S.—Since inditing the above I am in receipt of a pamphlet filled with indorsements of a certain remedy. Among the indorsers are two from this Territory, neither of whom belong to our medical society.

Public Health.

Comparative Mortality of the Sexes.—A comparison of the mortality tables of the insurance companies of various countries shows that the death rate of the male sex is three times that of the female at 50 years; twice at 60 to 78, and six to seven times as much toward the close of the century.—*Semaine Méd.*, March 8.

Wall Coverings and Bacteria.—Heimes of Greifswald announces that the results of numerous tests with oil paints, calcimin, fresco and other wall coverings, demonstrated that bacteria die much more rapidly on oil paint than on any of the others. Loeffler considers the fact thus established of great practical utility, and that it should be borne in mind henceforth in the construction or renovation of hospitals, etc.

Health in Michigan.—Reports to the State board of health, Lansing, by observers in different parts of the State, show the diseases which caused most sickness in Michigan during the month of March (five weeks ending April 1), 1899, as follows: Influenza, rheumatism, bronchitis, neuralgia, tonsillitis, pneumonia. Compared with the average for March in the thirteen years, 1886-1898, cerebrospinal meningitis increased, and whooping-cough, intermittent fever, remittent fever, consumption, diphtheria, measles, inflammation of bowels and erysipelus decreased in area of prevalence.

Improved Formaldehyde Disinfection.—Fournier announces that the combination of acetone with formaldehyde increases its penetrating power, and that "disinfection with it can be considered complete." The acetone has no bactericidal effect, but serves merely as a mechanic vehicle to facilitate the penetration of the formaldehyde. He described his method at the meeting of the Paris Academy of Medicine, February 28: 1, projection of the vapors from water, alkalinized or not, and of acetone in equal proportions; 2, an hour and a half later projection of the formacetone; 3, twenty-four hours later saturation of the aldehydes with a projection of ammonia; 4, opening and airing the room four to six hours later.

Water-Supply for Jersey City.—The mayor of Jersey City has awarded a contract for a new and permanent water-supply for Jersey City. The price named is $36 per million gallons until the daily consumption passes 25,000,000 gallons. For 30,000,000 gallons the price will be $34 per million; for 35,000,000, $32; for from 35,000,000 to 45,000,000 gallons, $24 per million, and after that $20 per million, the maximum being fixed at 70,000,000 gallons daily. The city may purchase the plant at any time within one year after it is in operation, for $7,595,000, provided a fifty-million-gallon maximum be agreed upon. With a seventy-million-gallon maximum and one year's option the price will be $8,745,000. Should the city elect to wait five years or longer the price will be $9,245,000, but the purchase must be made within fifteen years. The water is to be drawn from the Rockaway River, the intake to be at Old Boonton.

Vital Statistics of Connecticut.—The annual report of the State Board of Health of Connecticut, as summarized in the *Hartford Post* (April 1), gives the following interesting data: There were in 1897, 20,580 births in the State, including 915 that were still-born, 10,623 males and 9866 females, 91 not stated. The highest birth-rate per thousand (26.6) was in New Haven County, the lowest (18.1) in Middlesex. The ratio of children born of native and foreign-born parents was nearly equal, 40.9 and 42.2 respectively. Male births were to female as 107.6 to 100. The birth rate per thousand for the whole State was 23.3. The number of marriages registered during the year 1897 was 6461, equaling a marriage of 7.3 (or 14.6 individuals) to the 1000 of population. The registered mortality, exclusive of still-births, was 13,915, a ratio of 15.7 per thousand. Of these, 7240 were males and 6657 females, while of 18 the sex was not given. Both birth- and death-rates are slightly less than in the preceding year, as was also the case with marriages.

Sanitation in Pinar del Rio.—Major William L. Kneedler, brigade surgeon vols., recently made an inspection of the towns of Artemisia, Mariel and Guanajay in the department of Pinar del Rio, Cuba. He found the first two in a fairly clean condition, but the sanitary state of the last mentioned town was unsatisfactory, notwithstanding the amount of work already done there. In view of its probable continued occupation by U. S. troops, he considers that its condition should be improved. Mariel will probably be the port of entry for the department, if quarantine against Havana becomes necessary. He recommends an appropriation of $3500 for improving the sanitation of these towns and the employment of a native physician in each, in Mariel and Artemisia, at a salary of $50, and in Guanajay at a salary of $100 per month. The advantages of using native physicians are obvious. Speaking the language and being in touch with the people, they will be able to report and treat contagious diseases, and under the supervision of the chief surgeon and the health officer of the department they will help to maintain sanitary conditions in the places where the U. S. troops and the natives must come in contact.

Preventive Inoculations of Immune Serum in Cattle Plague.—The *Ztft. f. Hyg. u. Inf.* (xxix, No. 2) contains the report of Kolle and Turner, who are carrying on the work commenced by R. Koch in South Africa. They discuss the various protective measures; shooting or fencing off infected herds; Koch's bile method; the glycerin-bile method; injection of virulent infected blood from immunized cattle and their personal "simultaneous" method, which they prefer. This consists in the injection of small amounts of virulently infected blood in the side of the animal, while 140 to 200 c.c. of serum from immunized animals is injected simultaneously on the other side. For the production of the immune serum animals first immunized according to the simultaneous method are treated with constantly increasing doses of virulent infected blood, up to four liters. Four and a half liters of blood are then taken from the animal that has been thus treated, during the three following weeks, and centrifugalized until three and a half liters of immune serum are obtained. The writers believe that the disease can be easily stamped out by their method. They confirm the statement that the micro-organism of the cattle plague does not pass through the Chamberland filter.

Influence of Food and Sanitation at Cienfuegos, Cuba.—Colonel Gaillard, 3rd U. S. Vol. Engineers, stationed at Cienfuegos, Cuba, has plotted a curve showing the number of deaths per week among the inhabitants of that city from Jan. 1, 1898, to March 18, 1899. Deaths of Spanish soldiers are not included. The estimated population is 40,000, and as 4317 persons died during the year 1898, the death-rate for the year was

107.9 per thousand, a rate equivalent to more than decimation. The rate was, however, not regular during the weeks of the year. It began with a total of 80 deaths during the week ending Jan. 7, 1898, equal to an annual rate of 79 per thousand of population, and ended with a total of 138 deaths during the week ending Dec. 31, 1898, equal to an annual rate of 179 per thousand. The death-curve rises somewhat after the blockade was established, on April 24, but its rise to its culmination during the last mentioned week is much more rapid during the last four months of the year. On Jan. 1, 1899, the change of flags was effected. The American troops arrived on January 3 and the distribution of rations to the people was begun next day. Following these events the weekly death-list fell rapidly. During the weeks ending January 7, 14, 21 and 28, the total numbers were respectively 121, 105, 85 and 60. The last Spanish troops embarked for the peninsula on Feb. 6, 1899, and the cleaning of the city was commenced on the following day. A lowering of the death-curve resulted, so that during the weeks ending March 4, 11 and 18 the total numbers were only 40, 47 and 40, or about half the number which occurred during the corresponding weeks of the previous year, and only three-eighths of the average rates which prevailed throughout that year. The influence of food and sanitation is well shown by a comparison of these weekly rates.

Treatment of Typhoid Fever in the 8th Cal. Infantry.—This regiment was mustered out at Benicia Barracks, Cal., February 6, last. While at Vancouver Barracks, Wash., eighteen severe cases of typhoid fever were taken into the hospital during the last week of September and the first few days of October, 1898. Acting Assistant-Surgeon Robert C. Yenney treated and reported these cases in full, giving carefully drawn temperature-charts showing the progress of each to convalescence, for none of the cases had a fatal termination. Blood was sent to the Army Medical Museum, Washington, D. C., and the specific character of the fever was determined by Widal's reaction. The treatment consisted of: 1. Absolute rest in bed, with the enforced use of the bedpan and urinal. 2. Cotton jacket to the chest. 3. Calomel in broken doses on admission, to empty the intestines. Diarrhea, if moderate, was left alone, if severe, a pill containing one grain each of opium and lead acetate was given and repeated not oftener than every two hours, and not then unless a bowel movement had occurred since the last pill had been taken; if twenty-four hours passed without a movement, low enemata of soap-suds and olive-oil were given—this especially during convalescence. 4. Milk, with lime-water, or beef tea given every two or three hours, formed the basis of the diet. Beef broth, chicken soup and oyster soup were given freely during convalescence. Egg nog was administered once or twice daily during the course of the disease and during convalescence; water and cracked ice ad libitum. 5. Internally, strychnin, 1 mg., with whisky, 7 to 15 c.c., was given every two or three hours and, while convalescing, turpentin .330 in emulsion, or frequently Fowler's solution .180 to .330 c.c. three times a day. 6. The temperature was taken every two hours and if found to be above 102.5 F., a cold sponge bath was given, the temperature to be taken again in half an hour and the bath repeated if needed. 7. Turpentin stupes to the abdomen several times daily. 8. The back of each patient was rubbed morning and night with solution of alum and alcohol to guard against bed-sores and add to his comfort. Those showing little tendency to change position in bed were turned over several times each day. 9. There were comparatively few complications. Hyperplasia was combatted by cold sponge baths and ice to the head and spine. Phlebitis, which occurred in three cases, involving in each the right femoral vein, was treated by slight elevation of the limb, painting over the course of the vein with tincture of iodin and wrapping the limb in raw cotton, held in place by a light bandage. Severe nasal hemorrhage occurred in three cases and was controlled by plugging the anterior nares. Slight affections of the respiratory tract were treated with ammonium chlorid internally and counterirritation with turpentin stupes. 10. All necessary precautions, as by disinfection, were taken to prevent the spread of the disease from the hospital.

Health and Sanitation at Manila.—The *Army and Navy Journal* of April 8, 1899, in discussing the reports concerning the health of the troops at Manila, refers to a communication to the Secretary of State from an ex officer of the British army, in which the fear was expressed that sickness would soon be prevalent in the commands. This communication was sent to General Otis, who returned it, endorsed as follows: "Troops here soon become acquainted with and accustomed to the climate. The conditions prevailing and the results of our occupation, in so far as the health of the command is concerned, are not known to the writer of the communication. At present, as affairs are somewhat critic, military duty is exacting. I think, however, that the health of the command will compare favorably with the British troops in India, there being only about 8 or 9 per cent. on sick report from all causes. I do not think it necessary to consider the remarks of the writer further. The condition of this command is sadly misrepresented in the United States." Commenting on this, the *Journal* goes on to say that figures from the annual report of the surgeon-general of the army for 1898 form the basis for interesting comparison. For last year the sick percentage of the entire army was .03585, while for the decade 1887–1897 the percentage was .04026. The Manila ratio may seem alarmingly large to the lay mind, but there is nothing in it to cause worry when compared with other records. In the period from 1840 to 1854, fifteen years, the percentage was .08604, or between the 8 and 9 per cent. mentioned by General Otis. Brought together, these figures would present this relationship: 1899, Manila, 8 to 9 per cent.; 1898, U. S. Army, 3 to 4 per cent.; 1887–1897, 4 to 5 per cent.; 1840–1854, 8 to 9 per cent. Considering that the American troops in the Philippines are fighting in a tropic climate, where the temperature is so steadily high that the breech-clout is the sole covering for a large part of the population, the percentage reported by General Otis should be a subject for felicitation rather than for misrepresentation. In this connection a note in the *Manila Times* of Feb. 18, 1899, is interesting: "The sanitary department is apparently one of the few branches of the service not disturbed by the outbreak of hostilities. During the last few weeks great improvement has taken place in the condition of the streets. A large force of men is at work in small detachments sweeping the principal districts of the city, and new iron sprinklers are taking the place of the old obsolete hand buckets and hose deluges. The germ-breeding moat has been deprived of many of its cesspools and refuse piles and large patches of weeds and grass have been burned away."

Health Reports.—The following cases of smallpox, yellow fever, cholera and plague, have been reported to the Surgeon-General of the United States Marine-Hospital Service for the week ended April 15, 1899:

SMALLPOX—UNITED STATES.

Alabama: Mobile, April 1–6, 3 cases.
District of Columbia: Washington, April 3, 5 cases.
Florida: Key West, March 30, 1 case.
Illinois: Chicago, April 7, 1 case.
Indiana: Evansville, March 31, 1 case (total, 17 cases).
Louisiana: New Orleans, March 26 to April 1, 42 cases, 2 deaths.
Maryland: Baltimore, April 1–8, 1 case.
North Carolina: Newbern, April 6, 1 case.
Texas: Galveston, April 1, 4 cases; Zapata County, smallpox present.
Virginia: Newport News, April 2–8, 13 cases; Norfolk, April 2–7, 31 cases; Portsmouth, April 1–7, 9 cases.

SMALLPOX—FOREIGN.

China: Hongkong, February 18–25, 5 cases, 4 deaths.

England: London, March 11–18, 1 case.

Greece: Athens, March 18–25, 31 cases, 23 deaths.

India: Calcutta, February 25 to March 4, 1 death; Madras, March 4–10, 1 death.

Mexico: Chihuahua, March 18–25, 1 death; Mexico, March 26 to April 2, 2 cases, 2 deaths.

Russia: Moscow, March 11–18, 24 cases, 4 deaths; Odessa, March 18–25, 1 case; St. Petersburg, March 18–25, 13 cases, 1 death; Warsaw, March 11–18, 3 deaths.

Turkey: Constantinople, March 6–13, 7 deaths.

CHOLERA.

India: Calcutta, February 25 to March 4, 16 deaths.

PLAGUE.

India: Calcutta, February 25 to March 4, 23 deaths.

Mauritius: February 14, 1 case.

Illinois Medico-Sanitary Legislation.—The following is a synopsis of medico-sanitary legislation passed in Illinois by the 41st General Assembly, which adjourned on April 14, 1899:

1. An Act to establish a State Colony for Epileptics, the object of which is to secure humane, curative and scientific treatment and care of epileptics.

2. An Act to provide for the appointment of a State Food Commissioner and to define his duties and fix his compensation, and to prohibit and prevent adulteration, fraud and deception in the manufacture and sale of articles of food. Under this Act, it shall be the duty of the commissioner to enforce all laws that now exist or that may hereafter be enacted in this State regarding the production, manufacture or sale of dairy products, or the adulteration of any article of food, and personally or by his assistants to inspect any article of food made or offered for sale within this State, which he may, through himself or his assistants, suspect or have reason to believe to be impure, unhealthful, adulterated or counterfeit, and to prosecute or cause to be prosecuted, any person or persons, firm or firms, corporation or corporations, engaged in the manufacture or sale of any adulterated or counterfeit article or articles of food which are contrary to the laws of this State.

3. An Act giving the State board of health supervision of all lodging-houses in cities of one hundred thousand inhabitants or more. Under the provisions of this measure, it shall be unlawful for more than six persons to occupy the same room for sleeping purposes at the same time in any such lodging-house, and no room in such lodging-house shall be occupied for sleeping purposes which does not contain four hundred cubic feet or more of space for each person sleeping therein at the same time. Any person or persons violating any of the provisions of this section shall be adjudged guilty of a misdemeanor and shall be liable to a penalty not exceeding $100. Any landlord, keeper, manager or clerk of any lodging-house who wilfully or knowingly aids, counsels, advises or permits any person to do any act in this section constituted an offense, shall be deemed guilty of a misdemeanor, and shall be liable to a penalty not exceeding $100 nor less than $25.

4. An Act to amend "An Act Concerning Corporations," which provides that the attorney-general may file a bill in chancery in the name of the People of the State of Illinois, against any corporation authorized to confer degrees, diplomas, or other certificate or certificates of qualification in the science of medicine, pharmacy or dentistry, which conducts a fraudulent business or abuses, misuses or violates the terms of its charter, in any court having jurisdiction of the corporation and subject-matter of such bill, for an injunction to restrain said corporation from conducting its business fraudulently or abusing, misusing or violating the terms of its charter, and also for the dissolution of said corporation, and thereupon it shall be the duty of the court in which said bill is filed to grant such injunction and to hear and determine the same as in other cases in chancery.

The enforcement of this law will summarily put an end to the operations of the "diploma mills," which have disgraced the State at home and abroad for many years.

5. An Act to Regulate the Practice of Medicine in the State and to repeal all previous laws.

This measure, which, if signed by the Governor, goes into effect July 1, 1899, provides for the examination and licensing of persons who desire to practice medicine and surgery in all their branches, for those who desire to practice midwifery and for those who desire to practice any other system or science of treating human ailments, who do not use medicines internally or externally, and who do not practice operative surgery.

Applications from candidates who desire to practice medicine and surgery in all their branches, shall be accompanied by proof that the applicant is a graduate of a medical college in good standing, as may be determined by the board, Provided that graduates of legally chartered medical colleges in Illinois in good standing as may be determined by the board may be granted certificates without an examination.

Examinations may be made in whole or in part in writing by the board, and shall be of a character sufficiently strict to test the qualifications of the candidate as a practitioner. The examination of those who desire to practice medicine and surgery in all their branches shall embrace those general subjects and topics, a knowledge of which is commonly and generally required of candidates for the degree of doctor of medicine, by reputable medical colleges in the United States. The examination of those who desire to practice midwifery shall be of such a character as to determine the qualification of the applicant to practice midwifery. The examination of those who desire to practice any other system or science of treating human ailments shall be of a character sufficiently strict to test their qualifications as practitioners. Provided that those who are authorized to practice other systems can not use medicine internally or externally, or perform surgical operations, and that only those who are authorized to practice medicine and surgery in all their branches, shall call or advertise themselves as physicians or doctors. Provided further, that those who are authorized to practice midwifery shall not attend other than cases of labor.

The fees for examination and for a certificate shall be as follows: Ten dollars for examination in medicine and surgery, and $5 for a certificate if issued; $5 for an examination in midwifery, and $3 for a certificate if issued. For all other practitioners, $10 for an examination and $5 for a certificate if issued.

The State board of health may refuse to issue the certificates provided for in this act to individuals who have been convicted of the practice of criminal abortion, or who have by false or fraudulent representation obtained or sought to obtain practice in their profession, or by false or fraudulent representation of their profession have obtained or sought to obtain money or any other thing of value, or who advertise under names other than their own, or for any other unprofessional or dishonorable conduct, and the board may revoke such certificates for like causes.

Any person shall be regarded as practicing medicine, within the meaning of this act, who shall treat or profess to treat, operate on or prescribe for any physical ailment or any physical injury to or deformity of another. This section does not apply to any person who ministers to or treats the sick or suffering by mental or spiritual means.

The examination of those "who desire to practice any other system or science of treating human ailments," who are not permitted to call or advertise themselves as physicians or doctors, or to use medicine or perform surgical operations, will probably be in the following branches: anatomy, physiology, chemistry, histology, pathology, bacteriology and hygiene.

A bill for an act to regulate the practice of osteopathy in the State passed the Senate, but died in the House.

This measure provided that the State board of health should issue certificates of qualification to persons presenting diplomas from legally chartered osteopathic schools, said certificates to be conclusive as to the right of the lawful holders to practice osteopathy in the State.

The bill provided further that the system, method and science of treating diseases of the body, commonly known as osteopathy, is hereby declared not to be the practice of medicine or surgery.

It will be remembered that the osteopathic bill passed both branches of the legislature in 1897, but was vetoed by Governor Tanner.

Convenient Glass for Ice-Cooled Drinks.—A stout outer glass or beer mug has a rubber ring fitted to its top, and holds the broken ice. A second smaller glass fits tight into this ring and contains the beverage. A hole in the rubber ring allows the escape of the air as the second glass is inserted, afterward closed with a stopper. The ice does not melt as rapidly as in a wide-mouthed vessel and the temperature is very cold for a long while after it has all melted, not requiring renewal for four or five hours. This glass is also convenient for summer drinks, avoiding possible contaminations from the ice.—*Deutsche Med. Woch.*, March 2.

Societies.

COMING MEETINGS.

American Climatological Association, New York City, May 9.
Association of American Physicians, Washington, D. C., May 2.
LaSalle County Medical Society, LaSalle, Ill., April 25.
Louisiana State Med. Society, New Orleans, April 25-27.
Maryland Medical and Chirurgical Faculty, Baltimore, Md., April 25.
Nebraska State Medical Society, Lincoln, May 9.
Ohio State Medical Society, Springfield, May 10-12.
Texas State Medical Association, San Antonio, April 25-28.
Washington State Medical Society, Weston, May.
Wisconsin State Medical Society, Oshkosh, May 3.

Missouri State Medical Society.—The next meeting of this society will be at Sedalia, Mo., instead of Joplin, May 16-18.

Marion County Medical Society.—This society will give a banquet at Marion, Ohio, May 4.

Conference of State and Provincial Boards of Health of North America. —The fourteenth annual meeting of this body will be held at Richmond, Va., May 23 and 24, 1899. J. N. Hurty, M.D., Indianapolis, Ind., is secretary.

Hornellsville Medical and Surgical Association.—The following officers were chosen at the recent session of the Hornellsville, N. Y., association: President, B. R. Wakeman; vice president, W. E. Palmer; secretary and treasurer, Dr. Copeland.

Cumberland County Medical Society.—At a recent meeting held at Bridgeton Pa., the following officers were elected: Ellsmore Stites, president; Frank M. Bateman, vice president; Hamilton Mailly, secretary, and Joseph Tomlinson, treasurer.

Delaware County Medical Society.—At the last meeting of this society, Delaware, Ohio, election of officers resulted in: President, W. B. Hedges; vice-president, W. T. Simms, Lewis Center; secretary, J. B. Woodworth; treasurer, C. W. Chidester.

Omaha Medical Society.—This society held its annual meeting April 11, and elected the following officers: President, J. P. Lord; first vice-president, Harold Gifford; second vice-president, H. P. Hamilton; secretary, J. M. Aikin; treasurer, W. R. Lavender; board of censors, D. C. Bryant, B. B. Davis and C. C. Allison.

Medical Association of Greater New York.—Articles of incorporation, approved by Judge Charles H. Truax of the supreme court, and by the secretary of State at Albany, of this new medical society, in which the profession of all the boroughs of New York is represented, have just been filed at the various county clerks' offices.

Northeast Missouri Medical Association.—The next meeting of this association will be held at Unionville, Mo., July 11, 1899. At the recent meeting, April 11, officers were elected, as follows: J. T. Jones, president, Queen City; W. E. Dicken, vice-president, Kahoka; E. E. Parrish, secretary, Memphis; O. F. Pile, treasurer, Memphis.

Northwest Wisconsin Medical Association.—The annual meeting of this association has just been held at Stevens Point, Wis., and the following officers chosen: President, Karl Doege of Marshfield; vice-president, Carrie Frost of Stevens Point; secretary and treasurer, C. von Neupert of Stevens Point; censor, John Phillips of Stevens Point.

Detroit Medical and Library Association.—At the regular meeting, April 10, Dr. J. H. Carstens read a paper on "Lessons from 224 Consecutive Abdominal Sections." He called attention to the peculiarity of each class and reported a number of peculiar cases in each subdivision of abdominal surgery, also the causes of deaths that were unusual.

Ross County Medical Society.—At the annual meeting of this society, held at Chillicothe, Ohio, April 7, officers were elected for the ensuing year, as follows: A. P. Cole, president; B. F. Miesse, vice president; Erminie Smallwood, secretary, and J. W. Lash, W. A. Hall and J. M. Hanley, censors. The society will hold its next meeting May 18, 1899.

San Joaquin Valley Medical Association.—This association recently met, in seventh annual session, at Fresno, Cal.; the following officers were elected: President, R. A. Fergusson, Bakersfield; first vice-president, E. C. Dunn, Fresno; second vice-president, W. W. Cross, Visalia; third vice-president, N. P. Duncan, Hanford; secretary, George A. Hare, Fresno; assistant secretary, W. A. Barr, Fresno; treasurer, T. M. Hayden, Fresno. The next session will be at Bakersfield, Oct. 3, 1899.

Missouri Medical Association.—At the last meeting, April 11, the following officers were elected for the ensuing year: President, J. S. Jones of Queen City; vice-president, W. E. Dickens; secretary, E. E. Parish; treasurer, O. F. Pile. Papers were read by Drs. Mitchell, Pile, Sisson, Magee and others, of Memphis. The next meeting will be held at Unionville, Mo., July 11, 1899.

South Carolina Medical Association.—The fourth annual session of this association closed April 6, at Harris Springs. Next year the meeting will be at Charleston, and be the celebration of the association's semi centennial. The officers chosen for the ensuing year are: W. P. Porcher, Charleston, president; C. T. Wyche, Prosperity, first vice president; D. Furman, Greenville, second vice president; J. Q. Wilber, Waterloo, third vice-president; E. F. Parker, Charleston, corresponding secretary; T. H. Whaley, Charleston, recording secretary; B. E. Baker, Charleston, treasurer.

Washington (D. C.) Society of Ophthalmologists and Otologists.—At the recent meeting of this society Dr. L. H. French read a paper on "Ring Scotoma," and gave the details of a case which had undoubtedly existed since birth. In this case the fundus was normal. Dr. Dye gave the histories of two cases of mastoiditis which offered every indication for operative procedure, but operation being impossible, they both recovered under other treatment. The question of indications for operation in mastoid cases was discussed by Drs. Chas. W. Richardson, Swan M. Burnett, Belt, Bryan and Muncaster. Dr. Swan M. Burnett reported several cases in his practice similar to those related by the essayist.

Mississippi Valley Medical Association.—The date of the next meeting of this association, to be held in Chicago, has been changed from September 12 to 15 to October 3 to 6 inclusive. The autum fête to be known as the American Festival, will be held in Chicago, beginning September 25 and ending October 9, with the laying of the corner stone of the Federal building, when the president and the cabinet will be in the city. During this time the railroad fare to Chicago from all points will be a flat one-fare rate for the round trip, without the necessity of certificates or signatures. The limit of the tickets is so long that a protracted stay can be make in Chicago in order to take advantage of the clinical facilities of the meeting as well as to enjoy the added attractions of the festival.

Tennessee State Medical Society.—This society, at its annual meeting in Nashville, April 11-13, adopted a resolution against any further steps being taken to repeal the existing medical laws of the State, feeling that such action would be a gross injustice done the medical profession of the State and a damage done her citizens in turning loose upon the different communities of the State a horde of incompetents, who are now gathering from other States, whence they have been driven, to prey upon the people of this State. The following are the officers for the coming year; President, D. E. Nelson, Chattanooga; vice-presidents, G. M. Bazemore, Cleveland, G. W. Moody, Shelbyville, and M. M. Smith, Cedar Chapel; secretary, W. D. Haggard, Nashville; treasurer, W. C. Bilbro, Murfreesboro. Knoxville is the next place of meeting.

Washington (D. C.) Obstetrical and Gynecological Society.—The 297th meeting of this society was held on April 7. Dr. H. L. E. Johnson read a paper reporting a case of "Atresia of the Uterine Canal after the Menopause," in which he found a portion of a surgical needle, and a case of "Cystic Degeneration of Both Breasts." He referred to his previous papers on this subject and pointed out the similar nervous phenomena in this and the previous cases reported. A trachelorrhaphy had been performed on this case about ten years previously; the portion of needle found had been in the cervix from that time. He did not consider the presence of the needle at all causative of the condition, but presented it as a clinical curiosity. The operation on the cervix presented an excellent result. He considered the conditions which called for the operation upon the cervix, the exciting cause of the atresion. He presented both breasts, containing multiple retention cysts, which he removed from the same patient about three years ago. He reported permanent recovery, the patient at this date being in excellent health, with no secondary manifestation.

Detroit Academy of Medicine.—At the regular meeting, held April 11, Dr. I. H. Neff of the Eastern Michigan Asylum, Pontiac, read a paper on "Early Diagnosis and Treatment of Paretic Dementia." As the general practitioner is most likely to see general paresis before the alienist or even nerve specialist is called in, it is desirable that the few essential points necessary for a diagnosis be well understood, for treatment must be begun early to have much effect. Physical signs besides mental symptoms must be sought. The pupilary changes occur early, as the bilateral myosis, the immobile pupil, or the slowly reacting one; 85 per cent. of the cases in the asylum showed pupilary changes. The knee-jerk is exaggerated in the early stages in most cases. These two symptoms, with a facial tremor, halting speech and cerebral seizures will, especially if any mental changes are present, give a diagnosis. Since a conservative estimate gives 60 per cent. of the cases to be due to syphilis, antisyphilitic treatment should be instituted; but no brilliant results can be expected. Hydriatics, however, do offer encouragement. The cold pack at a temperature of 55 to 70 degrees for thirty minutes, followed by massage with "friction," and opium to tolerance where restlessness exists, was used in fourteen cases in the asylum. Better results have been obtained by this method than by any other so far used. Forty treatments were the average number given. This method might be used before the patient requires hospital care.

Chicago Medical Society.

Meeting, April 5, 1899.

Dr. F. Kreissl occupied the chair in the absence of President Bevan.

DIAGNOSIS AND PROGNOSIS OF APPENDICITIS.

Dr. Charles J. Whalen read a paper on this subject, and said that the diagnosis in many cases is easy, and becomes more so as experience increases. A certain number of cases have to be carefully considered, and in a few the diagnosis is very difficult. Appendicitis is by far the most common inflammatory condition within the abdomen in persons under 35 years of age. Good guides in searching for the appendix are the right common and external iliac arteries, the pulsations of which can be easily felt. He finds that in the healthy individual he is able to find the appendix in about 25 per cent. of cases. The appendix is found in its normal position in 90 per cent. of all cases. If McBurney's point is absent, in the presence of other symptoms he would not hesitate to diagnose appendicitis.

Appendicitis must be differentiated from renal and hepatic colic, acute indigestion, cholera morbus, strangulated inguinal hernia, torsion and volvulus. Inflammation of the right Fallopian tube and ovary may simulate appendicitis very closely, but the history of previous pelvic troubles, especially the extension of gonorrheal infection, is important. It is rare for inflammation of the tube to occur without previous disease of the uterus. The differential points were dwelt upon at considerable length, and he cited a case that came under his observation a few years ago, presenting very erratic symptoms and resembling those usually encountered in appendicitis. There was some tenderness on the right side, but it was not confined to any particular point. Careful examination satisfied him that he was not dealing with a case of appendicitis or of typhoid fever. Consultation with a noted diagnostician of the city resulted in his venturing a diagnosis of typhoid ulcer in the appendix, which subsequently proved to be wrong also. One year later a laparotomy was performed and showed a badly diseased right ovary. The essayist is satisfied that the patient's previous trouble was located in that organ, yet there had never been any previous infection or trouble with the pelvic organs, nor was he able to detect any trouble with the ovary by bimanual examination.

Hysteria may simulate appendicitis very closely. He has had four cases of hysteria which so counterfeited the symptoms of appendicitis that without the use of the clinical thermometer a positive diagnosis would be impossible. Operations should not be undertaken unless fever exists.

He has collected 6500 cases which he has classified as catarrhal, suppurative, and recurrent appendicitis. Of this number, 1400 were treated medically; 252 of these died, a mortality of 18 per cent. Of the remaining 5100 cases, 987 were operated on during the catarrhal stage; 50 died, a mortality of about 5 per cent. Of 2630 cases operated on during the suppurative stage, 526 died, a mortality of 20 per cent.; 1483 were cases of recurrent appendicitis with 35 deaths, a mortality of 2.25 per cent. This low mortality-rate in recurrent appendicitis is due to the immunity to infection acquired by repeated irritation. It is at once apparent that of 5100 cases subjected to operation, 1483, or 29 per cent., were of the recurrent form of the disease. Add to this 18 per cent., mortality obtained by medical treatment, and we have 47 per cent. of cases either dying or not fully recovering from the disease. In contrast with this, under the most favorable and unfavorable surgical conditions, there is a death-rate of only 9.25 per cent. in the hands of all surgeons, many cases being *in extremis* when operated on. The essayist is of the opinion that if we could give 100 equally severe cases of appendicitis each to equally informed surgeons, and if we could follow the subsequent history of those treated medically, the one who always operates early will cure at least five times as many cases as the other He had summarized eighty-five articles on appendicitis by the most eminent men of the world in medicine and surgery and briefly stated their opinions, enumerating those favoring conservative treatment, and those arguing in favor of surgical procedures.

LEIOMYOFIBROMA OF THE RIGHT KIDNEY.

Dr. Edward H. Ochsner reported a case and exhibited the specimen. The tumor was removed from a young man who gave the following history: His father died at the age of 62, of carcinoma of the stomach; otherwise his family history is good. The patient had never had any serious illness. The winter previous he had had a slight attack of influenza, and four months previous to the operation some pain in back, also a feeling of discomfort and fulness under the right costal arch, both of which symptoms persisted when he was admitted to the hospital. He stated that he had always noticed that the right side of his abdomen was larger than his left, but as it did not cause pain or discomfort he paid no special attention to it. When in bathing with his playmates, even as a boy, they had, however, repeatedly called attention to it. While he was growing it seemed to him that the enlargement kept pace with the growth of his body, but during the last six months, since he himself had apparently stopped growing, the enlargement became disproportionately large. For the three years previous to his admission to the hospital he had been employed doing odd jobs about a saloon, and had been drinking a large quantity of whisky almost daily.

He was admitted to the Augustana Hospital on Aug. 25, 1897, and on examination the following conditions were noted: Male, 21 years of age, small in stature and of slight build, weighing about 120 pounds; fairly well nourished, appetite good, tongue clean, bowels regular, urinations normal; urine clear, sp. gr. 1020, reaction acid, no albumin nor sugar, and microscopic examination negative; pulse normal; right parasternal line of dulness begins at upper border of sixth rib, right nipple line same; right midaxillary line upper border of seventh; right scapular line upper border of tenth rib; auscultation of heart and lungs negative; respiratory excursion satisfactory; chest circumference at level of nipple 83 cm.; greatest abdominal circumference 87 cm. In the upper portion of right side of abdomen, directly under right costal arch, a marked fulness attracted attention, which on palpation was found to consist of a large, firm, slightly nodular tumor, passing up under the costal arch, reaching to 1 cm. below level of umbilicus, and 6 cm. to left of median line. By placing one hand on right lumbar region and one on right hypochondriac region the tumor could be moved slightly from side to side, and from before backward and vice versa; slight, but only slight, downward movement with inspiration. No ascites; no edema.

He and his brother (Dr. A. J. Ochsner) examined the patient independently, and each made a diagnosis of tumor of the right kidney, probably fibrosarcoma. On the strength of the above findings and the consequent diagnosis, Dr. A. J. Ochsner operated on the following morning, and removed the tumor. On examination they found a slightly nodular and yet nearly spheric tumor which, when fresh, weighed 4600 grams or about ten pounds and two ounces. It has a smooth, firmly adherent tense capsule, which seems to be continuous with the kidney capsule, making it probable that the tumor has developed from the inner surface of the capsule of the kidney. Passing over the tumor are numerous large radiating blood-vessels, all taking their origin from one surface. On this same surface is superimposed a fairly well preserved, somewhat flattened out kidney. On cutting into the tumor we find it to consist of a firm, white, glistening, relatively non-vascular, fibrous mass. On teasing the specimen the bundles of fibers can readily be made out. The kidney shows no marked macroscopic abnormalities. The markings are plain and the proportion of cortical to medullary tissue is normal. On microscopic examination the tumor itself is found to consist of fibrous tissue, some unstriped muscles, with here and there a small blood-vessel. The proportion of fibrous tissue to muscular tissue varies markedly in the different specimens, and even in the different portions of the same specimen, but there is always a very great preponderance of the connective tissue. The kidney shows slight interstitial changes, but from its macroscopic and microscopic appearance, as well as from the condition of the urine, there is reason for considering it to have been a quite useful organ, even at the time of extirpation.

In consequence of these findings the essayist concludes that the tumor is a leiomyofibroma of the right kidney. He has been very slow in coming to this conclusion, because he knows how very rare leiomyofibromata of the kidney are; in fact, nowhere in the literature accessible has he been able to find the description of an identic case.

Because of the size of the tumor, the lumbar incision could not be thought of, consequently an incision just external to the right rectus abdominis muscle, extending from 2 cm. below the costal arch to a few above Poupart's ligament was chosen. After entering the peritoneal cavity a large tumor covered by peritoneum was exposed to view. An incision was made through the peritoneum, which was then stripped back with some difficulty, loosening the tumor everywhere except at the hilus. The vessels and ureter were now freed, clamped with a strong pedicle clamp and severed. The tumor was then delivered through the abdominal wound, the vessels ligated double with strong unchromicized catgut ligatures, the end of the ureter seared with actual cautery and dropped back into the wound. The lower portion of the wound was now closed in the ordinary manner, then the peritoneum, which had formed the covering of the tumor, was carefully stitched to the peritoneum of the abdominal wall, thus making the space from which the tumor had just been removed extraperitoneally. Because of slight oozing the wound was now very carefully packed with iodoform gauze, and dry dressings applied, and the patient left the table in fifty minutes after the commencement of the operation without having lost more than a few ounces of blood, and with absolutely no shock. He made an uneventful recovery and was discharged from the hospital on Oct. 2, 1897, with a small sinus where the drainage had been left. On Nov. 4, 1897, he wrote that he was feeling well, had gained twenty pounds and the sinus had become smaller. A few months later he reported that the sinus had closed, he was well and working every day. Three months ago the patient stated he had been perfectly well for months.

PERICYSTITIS IN THE PUERPERIUM.

Dr. **Gustav Kolischer** followed with a paper on this subject. He said that this form of disease is hardly recognized, and not mentioned in medical literature. There appears sometimes in the late puerperium an inflammatory infarction of the perivesical cellular tissue, especially at the anterior side of the bladder, which may assume such dimensions that the whole bladder to the touch seems to be transformed into a disc or cake shaped, hard tumor, larger than a man's hand.

The symptoms are: after the patient has complained for a time of not being able to void urine without straining, or she has had to be catheterized for an unusually long time after confinement, and a slight tenderness of the lower abdomen is present, she suddenly has an attack of fever. Sometimes a chill marks the beginning of the disease which follows. Nothing is more common than to think of that which is generally termed a puerperal process; but as the discharge does not become offensive, intrauterine disease may be excluded, and an inflammation of the parametrium is sought for. By bimanual examination the anterior half of the pelvis minor and major is found filled with a tumor from which the uterus can not be isolated. The tumor is especially tender on its anterior side, and, as a rule, thorough palpation can not be carried out on account of the reactive tension of the abdominal wall. As this condition remains almost unchanged, fever and pain continue, and in spite of repeated examinations, no point of softening can be found to warrant surgical interference. The essayist has never observed phlebothrombosis or other serious sequelæ appear in the course of this disease, nor suppuration of the inflammatory tumor. He has twice seen laparotomy performed in cases of pericystitis, as the surgeons expected to encounter a parametritic exudate, which was supposed to have developed toward the anterior abdominal wall. In both cases the findings were typic.

In order to establish the diagnosis of pericystitis, the objective symptoms should be divided into two groups: one group is obtained by bimanual examination, and the other by an internal examination of the bladder. By the bimanual examination, eventually, when necessary under anesthesia, one finds the above mentioned disc shaped tumor in the region of the bladder; although through the protrusion of this tumor into the abdominal cavity the uterus, as a rule, can not be differentiated, it is still possible sometimes to isolate the uterus from the tumor by rectal exploration; at the same time, the fact can be established that the parametria are tender and soft, and that the uterus is overwalled by the tumor. The uterus itself is movable. Often through the rigid resistance, which the hard tumor causes, it becomes possible to palpate the ureters, which never can be done in cases of parametritis.

Internal examination of the bladder gives the following conditions: The capacity of the bladder is not considerably changed, but the whole viscus is elongated, as sounding shows; one notices that though the bladder has been filled as much as possible, the tumor does not grow smaller by emptying the bladder through a catheter, consequently the tumor is not caused by a distension of the bladder, but by changes in its walls and in the surrounding tissues. After spontaneous micturition there is always residual urine to be found; the bladder can not contract completely.

With reference to the etiology, he mentioned an observation he has made in such cases. There has always been before a protracted labor with very hard pains and the head of the child has pressed against the pelvis for a long time, or emptying the bladder in proper time has been omitted, or a very difficult forceps operation has been performed. So it is not unreasonable to suppose that in these cases a traumatic hemorrhage into the perivesical cellular tissue has taken place, which hemorrhage is the primary cause of inflammatory infarction.

As regards the therapy, he finds very useful hot irrigations of the bladder, hot poultices applied to the lower abdomen, and ichthyol suppositories, for their analgesic effects. Encouraged by the success of American gynecologists in operations on puerperal parametritis, it seems to him well worth considering whether we can not treat puerperal pericystitis surgically, at least in acute cases.

Cincinnati Academy of Medicine.

Meeting held April 10, 1899.

GENERAL DISCUSSION ON THE RECENT EPIDEMIC OF INFLUENZA.

Dr. J. T. **Whittaker** spoke first of the etiology of the disease, clearly established by Pfeiffer as due to a specific microorganism. However, when not long ago a circular letter had been addressed to almost 2500 German physicians, asking their individual opinions as to whether influenza was due to a microorganism or to a miasm, 52.5 per cent. had concurred in the former and the remaining 42.5 per cent. in the latter opinion. The last epidemic, or rather pandemic, of influenza has taught us several lessons; where formerly we learned that pandemics of the disease occurred not more than a half dozen times during a century, we now know that a pandemic may occupy a considerable portion of a century, and latent cases from this pandemic may be the foci of epidemics which may last from two to ten years; that following or accompanying the trail of an influenza outbreak, we have many cases of catarrhal conditions of the nose and throat simulating influenza, but not accompanied by the bacillus of influenza. While this examination for the bacillus is within reach of any physician having the least expert bacteriologic skill, he hoped that in time an efficient health department would be able to solve these problems for us and send a report within the twenty-four hour limit.

As far as diagnosis is concerned, the finding of the bacillus is positive proof.

The prognosis depends principally upon the complications; out of 502 deaths from Danish statistics, but 46 had died from pure influenza, the rest from some of the numerous complications, principally those on the part of the respiratory system.

The treatment is to a large extent symptomatic, and in that the disease may be complicated by or show itself as almost any disease in the nosology. When we take into consideration the vast number of heart complications, particularly myocardial troubles, the first indication is to support the heart, alcohol being the best remedy for this purpose, and, when it can be borne, digitalis is often of the greatest benefit. Alcohol is especially valuable when we consider the depressive effects on this organ of the salicylates, which are so frequently given in such lavish doses to patients the victims of this disease. The symptom that demands almost immediate attention is the muscular pain; when the salicylates are given for this a rather large initial dose is imperative to accomplish the desired purpose, small repeated doses apparently not answering so well. Among coal tar derivatives for subduing these pains, he preferred phenacetin or even better, lactophenin, the latter not in doses of over 8 grains. The emunctories must be kept active; an initial treatment of calomel served this purpose about as well as anything; opium, particularly in the form of Dover's powder, was especially valuable in that it quieted the nervous system, stimulated the heart, and to some extent cleansed the body of the poisonous products of the influenza bacillus by stimulating the secretion of the sweat glands.

The after-effects of an attack of la grippe, even a very mild one, often baffle diagnosis as they do treatment. A profound depression, a loss of the zest of life, a feeling of approaching dissolution, and an indifference to an early demise, were but a few of the many curious phenomena that may arise at this time. The hearts of these patients, strong, healthy males that many of them are, bore out their statements. Their cardiac action was such, and at times so fluttering, as to give the impression that it would never beat again. The asthenia exhibited by most of them was truly pitiable. The various complications of the disease would naturally suggest variations in treatment. The disease in different epidemics shows complications more pronounced at the expense of one of the three great systems, the respiratory, the nervous, and the gastrointestinal. Naturally, on account of being the primary seat of the disease, the respiratory tract was the principal sufferer, either in the form of a bronchitis, or a lobar or lobular pneumonia.

Dr. S. E. Allen spoke principally concerning the microorganism of the disease. The discovery was made in 1891 and 1892, though the researches were not published until somewhat later, by Pfeiffer, of a small bacillus resembling that of mouse septicemia, with rounded ends, appearing in myriads, in the bronchial mucus, especially the greenish masses, of patients afflicted with influenza, the ordinary expectoration also containing them in large numbers. When the acute symptoms of the disease had worn off to some extent the bacilli could also be found within the leucocytes of the bronchial secretion. He then referred to the culture experiments, etc., which finally resulted in identification sufficient that the bacillus of Pfeiffer be regarded as the specific cause of influenza.

Dr. N. P. Dandridge, while in the East during the last few weeks, had remarked upon the many cases of appendicitis that had come to operation. It was the opinion of some of the surgeons there that the influenza bacillus was responsible for some of the cases, as la grippe had been raging in their several localities with considerable virulence. As far as he was personally concerned, however, the epidemic of la grippe had not increased his surgical practice.

Dr. S. C. Ayers spoke of the ear complications of influenza during the recent epidemic, particularly the catarrhal and purulent processes of the middle ear. The attack had usually supervened on about the fourth or fifth day and the drum would at first show marked injection; exudation usually followed and in some instances he was compelled to perform paracentesis. The cases had not been troublesome to manage as far as complications were concerned, and all had made good recoveries.

Dr. J. L. Cleveland thought that the present epidemic of influenza was, in comparison with its predecessors of recent years, a mild one. In his experience the gastro intestinal tract seemed to be the most affected. Anorexia, persistent and long continued, nausea and vomiting, and severe diarrheas, were all very frequent in his practice. From the bacteriologic report he did not think the detection of the specific germ as easy a matter as the first speaker would lead us to believe.

Dr. A. W. Johnstone reported three cases of appendicitis upon which he had operated in one week during the height of the influenza epidemic. He thought that these cases were lighted up as it were by the prevalence of la grippe. One of the appendices had contained an enterolith; another patient had been the subject of previous attacks.

Dr. Joseph Ransohoff had not noticed an increase in surgical practice due to the epidemic. During the two months of the epidemic he had operated upon eight cases of appendicitis and he could not recall one that could in any way depend on la grippe bacillus. He thought that all of them would have come to the table regardless of any epidemic conditions. Nor did he think that two of the cases reported by the previous speaker were dependent upon influenza. One of these cases had disclosed an enterolith, itself a frequent and sufficient cause for appendicitis; he saw no reason why an enterolith should not cause a purulent appendicitis during a la grippe epidemic as well as any other time. The other case had been one of recurrent appendicitis and he did not think it remarkable or pertinent that a subsequent attack should develop during the epidemic. A large number of la grippe cases had been treated in the medical wards of the Cincinnati Hospital; none of these had been transferred to the surgical service for any surgical affection whatever during his term of service, which had lasted four months. Nevertheless, in view of the many gastro intestinal complications of this disease, he saw no reason why an appendicitis should not develop, directly or indirectly depending upon this specific cause. He himself had had a severe attack of catarrhal jaundice following influenza, the cause of the jaundice in all probability being an occlusion of the common duct, the result of inflammatory tumefaction. He thought that the orifice of the appendix might become occluded in the same manner and inflammation result.

Dr. Alfred Friedlander thought that in the discussion the relationship existing between tuberculosis and influenza had been lost sight of. When in Vienna last year he had seen quite a number of instances of association of these two infections, in which the diagnosis had not been trusted to symptoms and physical signs alone but also to the bacteriologic examination. Two things had been remarked; the tendency to dissemination when influenza was engrafted upon even a mild case of tuberculosis; and the rapidity with which cases of phthisis which had held their own for a long period, went down hill after an attack of la grippe. He was glad to be able to add that inoculation experiments of the influenza bacillus upon the lower animals had at last been successful.

Dr. G. A. Fackler had been especially annoyed with the anorexia in his cases. As regards the complications on the part of the respiratory system, there had been but two cases of catarrhal pneumonia among all the cases at the Cincinnati Hospital this year. He did not agree with the speaker who said that influenza may manifest itself as a lobar pneumonia; he believed that lobar pneumonia was itself due to a specific micro organism. He thought that infections of influenza and lobar pneumonia can and frequently do exist together; but that lobular pneumonia was *the* pneumonia of influenza. This lobular form shows one peculiarity; that of a large section of lung tissue exhibiting complete consolidation with areas of air-containing tissue of considerable size between; when these large areas of consolidated lung are near the surface, the physical signs of a lobar pneumonia might easily be simulated; resonant areas between the dull areas and the double character of the disease would aid in reaching a correct diagnosis. The remark of one of the previous speakers concerning the close relationship of tuberculosis and influenza, while pertinent, was not new nor did he think that the speaker intended to convey that idea. The danger of the association of the two diseases had been known for many years.

Dr. Albert Frieberg, in speaking of the surgical aspects of the disease, mentioned four cases of joint involvement following la grippe.

Chicago Neurological Society.

Meeting of February 23, 1899.

Dr. Richard Dewey, the president of the society, occupied the chair.

TRIGEMINAL PARALYSIS.

Dr. Sanger Brown read a paper on this subject, with report of a case. The patient, a well-educated and intelligent man, 57 years of age, of good family history, good habits and with no evidence of specific infection, had sciatica five years ago, resulting in perioneal paresis and anesthesia of the dorsum of the foot. Under electric treatment by the author he recovered, with the exception of some anesthesia of the toes which had persisted.

About the first of January, 1896, while brushing the teeth, he noticed a diminution of sensation in the gum on left side of the upper jaw. Within a few days this anesthesia spread until it involved nearly the whole left face and the scalp to the median line, and as far back as the vertex, examination revealing distinct anesthesia and analgesia in the distribution of the first and second branches of the fifth nerve. The muscles of mastication were normal, but taste for bitter on anterior two-thirds of tongue, left side, seemed to be diminished. Pupils, smell, co-ordination and reflexes were normal. About a month later the patient noticed that the lower gums were insensitive and that the muscles of mastication on the left side tired easily. About three weeks later diplopia suddenly appeared, vision of either eye was found to be only $^{20}/_{30}$ and the patient was referred to Dr. Gradle for ocular examination. From this time the condition has remained, with little permanent change but with more or less daily variation in intensity of the symptoms. There has been considerable paresthesia in the anesthetic area, often a feeling of stiffness or swelling brought on by eating and an occasional dart of pain through the left eye. Recent examination revealed distinct ptosis on the left side, extensive, if not complete, atrophy of the left temporal and probably of masseter, loss of lateral movement of jaw to the right, and other conditions the same as three years previously. As to possible cause of the affection, the author reviewed tumor, syphilis, aneurysm, tabes and other degenerative processes and while recognizing the difficulties of a positive diagnosis, was inclined to the belief that aneurysm would explain better than any other lesion all the symptoms of the case. He concluded that the case afforded no positive evidence as to the course of taste fibers. When first seen the patient had convergent strabismus of six degrees, due to weakness of the left external rectus, and posterior nasal suppuration, possibly from the sphenoid sinus. In June, 1896, Dr. Gradle operated for relief of the diplopia, advancing the external rectus and ten days later doing a tenotomy of the internal rectus, greatly improving the condition at this time; with correction of existing astigmatism and myopia, vision was $^{20}/_{20}$. In May 1898, two years later, the patient again complained of diplopia, which was found to be vertical and due to paresis of the left superior oblique, and vision of the left eye was reduced to $^{20}/_{30}$ with no visible fundus changes. By August the diplopia had increased, and vision had fallen to $^{20}/_{35}$. At the present time vision is $^{20}/_{40}$, visual fields and fundus normal. Dr. Gradle was unable to account for the defective vision, but thought it might be due to a perineuritis of the intracranial portion of the optic nerve between the chiasm and the optic canal, but such a diagnosis must be largely hypothetic. The existing ptosis is slight, as the patient can raise the lid normally when he looks upward. The pupils are sluggish, but probably not more so than corresponds to the patient's age.

Dr. H. N. Moyer—Twelve years ago there came to me a man who had paresthesia of the face. He was an hostler by profession and the best description he could give of it was that his face constantly felt as though the night before it had been kicked by a horse. I was inclined to attribute it to functional trouble and kept him under observation. At the end of two or three years he developed anesthesia. One of his most serious complaints, aside from his soreness, was that his food did not taste properly; nothing he could find would taste good. He used to tell me how he would go about trying to find good things to eat but nothing tasted properly; the finest steak would taste like sawdust. In three or four years he began to develop anesthesia on both sides of the face and finally it involved the whole region of the distribution of the fifth pair. The anesthesia was absolute. I want to mention that in connection with what Dr. Brown has said regarding Krause's theory of other nerves besides the fifth furnishing sensation, in this man sensation was absolutely gone to temperature, touch and pain. An instrument of some degree of sharpness could be thrust through the skin to the bone without causing sensation, but if the skin was moved in the slightest degree he knew that he was touched. If the head was held firmly and the pressure made directly on the bone, he had no sensation, unless the skin was moved, putting the muscle on the stretch, seeming to show that there is a muscle sense apart from pain and temperature sense. So far as I know this is the only observation of exactly this kind that has been made. Subsequently the anesthesia became absolute and he developed eye symptoms, partial ptosis at times and paresis of various ocular muscles, as has been described here. Pains developed, his knee-jerks disappeared and he is now in the Kankakee asylum, twelve years after I first saw him, a typic case of tabes.

There is a man now under my care, who has complete anesthesia of the middle trunk of the fifth, associated with bilateral paresthesia, which has existed for several years, but he has no disturbance of taste at all. He has had various ocular palsies, and has of late lost his knee-jerks and there is now a good deal of swaying with his eyes closed, and he has lightning pains. A third case I saw in the Eye and Ear Infirmary was one of total anesthesia in the middle trunk of the fifth nerve on one side. In this case there was no impairment of taste, but the man had previously suffered, from what they told me at the infirmary was a trophic trouble of the cornea, trophic ulceration with opacity of the cornea. That man also had loss of knee-jerks and swaying with eyes closed. He had this trouble for a number of years and I regarded it as simply a tabetic eye. I thought it bore the same relation to his trouble that the tabetic joint does to the ordinary case of tabes.

If we group these three cases together you will see that there is considerable variation in their symptoms: One had trophic disturbance of the cornea, one disturbance of the sense of taste, the other did not. If we take these in connection with Dr. Brown's case, we still see that as far as the physiologic path of the nerve of taste is concerned, the four cases really throw very little light on it, and I suppose we must go back to the old proposition that the pathway of the sense of taste differs in different individuals. To me Dr. Brown's case seems strikingly like one of tabes.

Dr. Brown—I should have said that the knee-jerks are normal and there is no ataxia.

Dr. Moyer—But they will come later. There is the paresthesia, the pains, the paresis of various muscles, the loss of sensation. These symptoms are those of my first case and he is a typic tabetic, but at the time I examined him and for the first six or eight years he was under observation there was not a sign of tabes. It seems to me like a case of tabes. The trouble is probably not in the Gasserian ganglion but back of its roots.

Dr. Gradle—Is tabes likely to develop at 60 years of age?

Dr. Moyer—Yes; it is likely to develop at any age. It is much less common, but is not excluded by advanced age.

Dr. Dewey—Was there a luetic history in the case you speak of?

Dr. Moyer—In the first case it was doubtful. It certainly could not be excluded, neither could it be confirmed. In the second case lues was probable. In the third nothing could be determined.

Dr. Sydney Kuh—I would like to ask Dr. Brown whether all of the tests for the sense of taste were made by himself or by the patient?

Dr. Brown—The patient made most of them. I cautioned him very particularly to keep his tongue out of his mouth and hold the substance there until he tasted it or felt sure that he was not going to be able to taste it. He used most of the time, instead of solutions, salt, sugar and various bitter substances; being a druggist he had easy access to them. Most of the tests were made in that way, although I tested all of them in my office. I made solutions mostly and applied a bit of cotton to the tongue, being careful that they should not have an opportunity to spread to other parts.

Dr. Kuh—I think some light has been thrown upon the question as to the course of the fibers through which the sense of taste is conducted to the brain, this evening. In Dr. Brown's case, the first and second branches were affected to a greater extent than the third. In two of Dr. Moyer's cases only the first and second branches were involved, and in one case all three. These observations tally, in part at least, very nicely with two cases published by Dr. Adolph Schmidt in the *Deutsche Zeitsch. f. Nervenheilkunde*, in 1895. They are more instructive in regard to this one question than anything I know of. One of his patients had total paralysis of the fifth nerve on one side of the face, I think it was the left, which involved all three branches equally. It had existed for a long term of years, fifteen I think, and for some years had been practically stationary. The same patient had paralysis of the second branch only, on the opposite side of the face, and Dr. Schmidt found that the sensation of taste was affected on that side in which all three branches were involved, but not on the side in which only the second was affected. In his second case there was paralysis of the trigeminal nerve on one side only; total paralysis of the first and second branches and partial paralysis of the third. There was hyperesthesia over the skin with anesthesia of the mucous membranes. In this case the sense of taste was not affected at all. I think that case disposes of Dr. Brown's theory that the loss of taste may have been due to the loss of sensibility to touch, etc., which existed in his case. These cases and one observed by Dr. Moyer seem to show that the fibers of the sense of taste are to be looked for in the third branch of the fifth nerve and not in the second branch. Those few observations in which the glossopharyngeal nerve was affected at the base of the brain seem to prove beyond all reasonable doubt that not all fibers for the sense of taste pass along that nerve, because there is no case on record in which there was absolute loss of the sense of taste excepting in the posterior part of the tongue only. Dr. Gradle asked whether tabes can develop at the age of 60. The age at which tabes appears depends to a very great extent upon the age at which syphilis is acquired. I have at present under observation a man who has had symptoms of tabes for a few months only. He is 51 years old and acquired syphilis at the age of 36. Another one of my patients developed the symptoms of tabes after 60. If I am not mistaken there is one case on record in which the first symptoms of tabes occurred at 70, and in which syphilis was acquired late in life.

Dr. J. J. M. Angear—There are some indications that the facial nerve is considerably involved in this case as well as the fifth. Some years ago we were doing very well physiologically, when we understood that the facial nerve was a motor and the fifth a sensory nerve, but we to day know that there is no such thing as a pure motor nerve, nor a pure sensory nerve. To day we know that the afferent nerves are made up of axons which carry the impressions of touch, pain, temperature, muscular sense, etc., while axons of the efferent nerves transmit the following impulses: motion, vasomotor, inhibitory, excretory, trophic, etc. Some are inclined to the idea that the efferent nerves contain a few afferent axons and vice versa.

Trophic influence is involved, which is an efferent and not an afferent function. We have evidence of atrophy which can not arise from injury of the fifth nerve because it is an afferent, and not an efferent nerve. We have evidence that secretion was interfered with, and the secretory is another efferent influence. Taste was involved. It is laid down by all our modern authorities that in case of paralysis of the facial nerve, the cause arises back far enough to involve nerves in the tympanum. We always have paralysis of taste, but if the injury is back of the knee or the geniculate ganglia, we do not have an interference with function of taste. In this case the taste is involved and therefore the facial nerve must be injured. Next, as I understand it, there was difficulty in mastication, biting his cheek. The muscles of mastication are dominated by the fifth pair, but the muscle of the cheek, the buccinator, is animated by the facial nerve and not from the fifth pair, so that if there was really danger of biting the cheek and not being able to control the buccinator muscle during mastication it shows that at least that branch of the facial was involved. Then, again, we have evidence that the fourth pair of nerves was involved, so that we must have considerable involvement in this particular case, and it is worthy our attention as far as the diagnosis is concerned, as well as the prognosis. If we are not able to diagnose it I do not see how we can very well prognose it, and if we can neither diagnose nor prognose, I do not see how we can treat it. So we come back to the point that the diagnosis is the important thing. To substantiate some of these points I think I can speak *ex cathedra*. I had paralysis of the facial nerve, Bell's paralysis, a few years ago. I suffered for a few days from bad taste. It only lasted a few days, however, while the paralysis lasted perhaps two or three months, and a part of it has not yet disappeared. There was no difficulty whatever with the fifth pair of nerves, but taste was involved for a few days only. If we have involvement of taste in the middle part, the tympanic part, of the facial and not in either extremity, it goes to show that taste does not go through the entire facial nerve. That will go to substantiate the fact, or help to show that it may possibly go back through these different ganglia and down through the tympanic branch of the glossopharyngeal, and reach the brain in that way, but I do not know of any modern author who holds to the view that we depend upon the fifth pair wholly and solely for taste, not even for the anterior part. It has for many years been known that anything which will interfere with the chorda tympani interferes with taste, but it has been left for more modern years to tell us that if the facial nerve is involved back of the geniculate ganglia we do not have any interference with taste.

Then with reference to the secretions I can speak again, and *ex cathedra*. The mouth was dry, especially the anterior portion and the secretion from the lips; I do not think there was any difference between the superior and inferior labia; the little secretion that was there was of that sticky, gummy character, that at times it was almost impossible to open the mouth, and I was constantly licking my lips so as to clear up that gummy secretion. The secretions from the eye were greatly increased. I am satisfied that comes from the facial; it is there now as plainly as ever, but I know the fifth pair was never involved. This takes us back to the modern teaching of physiology, that the secretory is an efferent and not an afferent energy. So with reference to the trophic influence; whenever we have atrophy it is certain we have more or less paralysis or paresis of motion. This proves the original statement that the facial nerve must be involved here as much as the fifth. The origin of the fifth is very extensive; a part of it goes down as low as the lower part of the cervical portion of the spinal cord, a portion going to the fourth ventricle, the aqueduct of Sylvius, etc. The nuclei for the third, fourth and fifth, as well as the facial, are very near each other, so that whatever will interfere with the function of one may interfere with either or all the others.

Dr. Gradle—Having observed the case myself, perhaps it will not be improper to make a few remarks about some of the questions involved. At no time has there been any evidence of involvement of the facial nerve; none of the muscles innervated by the facial have in any way suffered. The atrophy pertains exclusively to the muscles innervated by the motor branch of the fifth nerve. The anesthesia came on gradually, was not complete originally, is scarcely complete now, and as we do not know the exact seat of the lesion nor its character with certainty, I hardly think we are justified in drawing inferences regarding the paths of the gustatory fibers. The cornea is normal. The cornea does not often suffer in paralysis of the fifth nerve in man unless the anesthesia is complete.

In regard to tabes, I would like to ask those gentlemen who have had more extensive experience than I have, whether the tabetic paralyses of the motor eye-muscles are not more complete than these were; and whether they are not more fugitive? These are permanent, they have never improved. The improvement in the diplopia in the first place was due to operation and the later cessation of the diplopia due to the fact that the pupil is partly covered by the lid. Furthermore, the impairment of sight is very slight and has taken a long time to develop. That is not indicative of tabes, as far as I am aware. Wherever there are changes in vision in tabes it is due to visible atrophy, but such is not the case here. I can not give a satisfactory explanation of the lowering of sight, it is just enough to be established beyond the possibility of error, but is not very extensive as yet. Neither the field for white or colors nor the central perception of colors is in any way interfered with.

The question of syphilis perhaps can not be definitely answered. I was under the impression that the treatment with iodid had been carried further than Dr. Brown has stated tonight. Still it is improbable that a syphilitic lesion should exist four years and encroach gradually from the fifth and sixth to the fourth and perhaps the third nerve, without causing more acute symptoms. He has absolutely no pain, no headache, no cerebral symptoms. My original view that there may have been an inflammatory infection, possibly a periostitis started from the infection of the sphenoid sinus, has not been confirmed by the history. It is more than probable that if it had been started it either would have been transitory in character or would have led to more considerable destruction than now exists. I am inclined to think the view suggested by Dr. Brown is more probable than the one I took. I do not think the patient has presented any other symptoms to throw any light on the matter. Whatever nervous troubles he has had are insignificant, his mental ability is in no way interfered with, his bodily strength is at par, corresponding with his nutrition and age, his knee jerks are perfect and no other functions are impaired.

Dr. Hugh T. Patrick—In regard to one of Dr. Gradle's questions, whether these ocular paralyses are not incompatible with a diagnosis of tabes, a large proportion of the ocular paralyses of tabes are comparatively transient, and in those that are permanent a large proportion suffer from a high degree of paralysis with marked strabismus. But I suppose most of us have seen cases that are permanent and at the same time not extreme in degree, so that although this would be perhaps an anomalous ocular paralysis for tabes, I do not think it would be incompatible with that diagnosis. Regarding the optic atrophy, that also is a somewhat anomalous condition, because when an oculist of Dr. Gradle's skill can not see an optic atrophy we suppose it is not there. But is there not generally a stage when there is some visual defect from optic atrophy, and yet the atrophy be so slight that one could not decide by looking at the disc, but would draw conclusions from the visual condition of the patient?

Dr. Gradle—The indications of atrophy are absent; the field for color is not diminished. Atrophy becomes visible at a fairly early period, as far as my experience goes. Here the lowering of vision was distinct ten months ago.

Dr. Patrick.—Still, vision was 20/30, which is pretty good. I should think the central fibers were perhaps more affected than the others, although then we would expect some difference in the central perception of color. On the whole, I greatly incline to Dr. Moyer's view of the pathology of the case, that it is probably degenerative in nature and not inflammatory or neoplastic. The general course of the trouble and the group of nerves affected would suggest such a process more than anything else, and the lesions of the fifth that occur in tabes are ordinarily caused by nuclear or internal root affections. I have a couple of sections for which I am indebted to Oppenheim, which show complete atrophy of the ascending root of the fifth. It was a case of tabes in which there was paralysis of the fifth on one side. I believe I have recently seen the analogue of Dr. Moyer's first case in the person of the wife of a physician, who was sent to me by a laryngologist to whom she went on account of a peculiar discomfort in her nose. A careful examination revealed no local trouble. Although I could not make out a well-defined anesthesia of the mucous membrane of the nose and the upper lip, the region in which she complained of this queer feeling of discomfort, it seemed to me there was involvement of these branches of the fifth. Examination showed loss of the knee-jerks and, I think, beginning Argyll Robertson pupils, at least they did not respond to light as well as they should.

Dr. H. M. Lyman—I do not like to pronounce positively regarding a case I have not seen or had an opportunity of studying the notes of, but I was forcibly reminded of a case I saw not long ago in which there was atrophy of both eyes involving both optic nerves, and Argyll Robertson pupils, besides a progressive deafness involving both ears, and retention of the knee jerks. It seemed to be a very distinct case of degenerative sclerosis involving the optic nerves and the ganglia at the base of the brain, apparently progressing downward, but not yet having involved the spinal cord. It seems to me in this case the most probable hypothesis is a localized degenerative change at the point which impinges upon the roots of the nerves mentioned. There is such a thing as a tabetic degeneration, and we have also insular or multiple sclerosis. The question arises whether it is not tabetic in its origin, or might it not be a case of multiple sclerosis that was progressing, not having yet invaded the cortex of the brain or any very considerable extent of the nervous system? There is more than one kind of degenerative change to be considered.

Dr. Moyer—The bulbar forms of tabes are exceptional, but they do occur. I well recognize the force of what Dr. Gradle advanced regarding the eye symptoms as a point against the suggested diagnosis, but I want briefly to call your attention to the strong similarity of these cases to the ordinary forms of tabes where it begins in the spinal cord. We have in the vast majority of cases the trunk anesthesia on one or both sides, sometimes on the same trunk level, sometimes unequal, the pain and visceral disturbance. Many cases of advanced tabes have the knee-jerks present. There is a striking analogy, simply a difference in the symptomatology relating to the difference in the innervation; it is simply on a level with the head instead of the trunk.

Alumni Association, Medical Department, University of California.

Quarterly Meeting, April 4, 1899.

TYPHOID FEVER IN CHILDREN.

Dr. F. R. Starr read a paper on this subject and reviewed the condition very thoroughly. In children of 2 years or less, he said it is exceedingly uncommon, in 2000 cases of autopsies in one institution in New York, no case having been found. In children of 3 years it is more common, while after the tenth year it is no rarity. The agency of infection, pathologic changes, and diagnostic symptoms were very carefully considered. There are some differences in the course of the disease as met with in children, compared with the disease as found in adults. The temperature rise in children is more rapid and the duration of the disease is generally shorter than in adults. The various complications are found about as frequently in children as in adults, but when the disease occurs in the former, the nerve disturbances resulting are generally more marked. Paralysis is not uncommon, nor is aphasia; otitis is more often encountered than with the adult patient. The usual affections of the lungs are very common. He thought the test of the blood by the Widal method the only one of very great value. The differential diagnosis was gone over and stress laid upon the fact that here in California the disease is generally a mild one and the diagnosis may at first be very much masked. In regard to the treatment, Dr. Starr said the great question was whether the disease could be aborted or not. On this point there is very much difference of opinion, most authorities considering it can not be aborted. Personally, the Doctor thought the disease not susceptible of abortion. But one authority of note out of several which Dr. Starr had consulted in the matter, held to the abortion belief. The Woodbridge treatment, the Doctor had not had an opportunity of trying in a case of typhoid in infancy, but his experience with the treatment as used to combat the disease in adults, leads him to believe it is absolutely useless. The treatment should be a general one, attention being paid to all factors influencing the child, as the room, bed, ventilation, etc., especial attention being given to the diet, which should be milk, unless this can not be taken. Calomel in small doses, particularly if there be constipation instead of diarrhea, as is often the case with children, is a very excellent thing; intestinal antiseptics also are of great value in many cases. Sulfocarbolate of zinc had proven most satisfactory in his hands. Further than this the symptoms should be carefully watched and treatment directed to any complication arising. A temperature below 103 degrees demands no treatment, but above this something should be done. Cold baths and sponges are much to be preferred to any antifebrile remedy. Guaiacol may be used, if it is employed with sufficient care. The possible complications were considered and the best methods of dealing with them discussed.

Dr. H. A. L. Ryfkogel differed with the speaker in the matter of the urine. He had made a great many tests of urine and had found that in no case was the reaction obtained except with typhoid fever and advanced tubercular disease, which, of course, could be easily differentiated from typhoid. In over fifty cases of typhoid he had made use of this test, without a single failure to obtain the reaction; on the other hand, hundreds of specimens of urine had been tested and the reaction never resulted unless the urine were from a typhoid patient or one having advanced tubercular disease.

Dr. Guido Caglieri thought typhoid in children much more common than was supposed. He had two cases in one year, one child about 2 and the other about 2½ years of age. Though no post-mortem examinations were made, and the Widal test was not made, the clinical picture was perfect. In both families, too, other cases of typhoid developed. He called attention to the fermentative and bacteriologic processes going on in the lower bowel and spoke of flushing out this region with boiled water at frequent intervals.

A letter was read from the members of classes of 1873, '74, '75 and '76 requesting the alumni association to petition the regents of the University to the intent of having the name of Dr. H. H. Toland inserted in the diplomas of the graduates of the Medical Department. Dr. D'Ancona suggested that he did not see how this could be done without changing the name of the department to read the Toland Medical Department of the University of California, and he felt that the regents would not do this, even if the alumni thought it advisable. The question of the advisability of the measure was discussed at some length. Dr. Toland was the original founder of the medical school and turned it over to the State university as a free gift. For that reason it was thought by some members present that it would be a graceful act to have his name commemorated in the diplomas. A committee was appointed to take the matter under consideration.

A report was made by Dr. H. B. A. Kugeler, as a member of the General Council of University Alumni, as to certain matters that had been considered by the council. They recommended that a fund be raised and a certain sum of money, as large as might be, offered as an annual prize for original research, the prize to be open to competition by any person connected with any department of the university, the only requirement being that the essay presented be based on actual original research. Professor Ritter, also a member of the council, and one of the faculty of the departments at Berkeley, spoke of the proposed measure. He said that for a university to be great in the full sense of the word, it must be the birthplace of original thought and must foster and reward original research.

Resolutions were passed heartily commending this proposed action of the council, and endorsing any action that it might see fit to take in the matter.

College of Physicians, Philadelphia.

Section on General Medicine.

CONCUSSION OF THE CORD.

Dr. W. G. Spiller presented a paper with microscopic findings, and referred to the voluminous literature on this subject, although notwithstanding this little is known regarding the definite pathology of the condition. Paraplegia resulting from trauma is not infrequently functional, yet there must be some distinct lesion present in other cases, as demonstrated in the lower animals. The lesions most frequently met with are minute hemorrhages and degenerations of the peripheral nerves. A case was referred to in which there had been present ankleclonus, increased knee jerk, and a spastic gait following a fall. Another case had been due to a fall of ice striking the patient in lumbar region. In this case there had been great numbness in the left lower extremity, difficult micturition and defecation. Some anesthesia had been present. On the left side the kneejerk had been increased. In the latter case it was thought that the symptoms present could not have been due to injury of the cord, because if the cord had been injured the symptoms would have been referable to the parts involved, whereas the only localized symptom was a small area of anesthesia, and a hematoma at the point of injury. Nunna has reported a case of spinal concussion with autopsy findings, but up to this time there have been no extensive microscopic studies which accurately describe the distinct or essential lesion, and the question of spinal concussion still remains unsettled.

GANGRENOUS PANCREATITIS WITH EXTREME FAT NECROSIS.

Dr. J. Allison Scott read a paper and reported a case, the history of which was as follows: A. B., American, aged 64 years, was admitted to hospital Aug. 1, 1897; illness seemed to date back ten years, when he began to suffer from dyspeptic symptoms, and he could not digest starchy foods. Some time later there had been a prickling sensation all over the body, believed to be of neurotic origin. Much flatulence was complained of after eating, accompanied by pain in the region of the stomach, the latter at times becoming swollen. At the time of entrance he vomited copiously, for which morphin was given. Temperature was 102.5; very restless; pulse irregular and intermittent; bowels very loose and feces quite dark in color; twenty-four hours later delirium was present, death ensuing. The mental symptoms were peculiar in that the patient would answer questions coherently, to subsequently lapse into a condition of mania manifested by singing. The abdomen was very much distended, tenderness of right hypochondrium, and the urine was diminished in quantity, specific gravity 1012, no albumin, no sugar. The stools contained no fat. The pupils were contracted and face cyanosed. Petechial spots were present on the abdomen and chest, and the blood had yielded a positive Widal reaction on two separate occasions.

The autopsy presented a well-nourished man with excess of subcutaneous fat. There was slight abnormality about the valves of the heart, and lungs showed evidence of previous disease. The intestines were matted together with plastic lymph and evidences of peritonitis present. The pancreas was probably three times larger than normal and the head projected far into the duodenum. It was gangrenous and had begun to slough, and its head showed numerous bright red spots studding its surface. No calculus was present; spleen normal; liver fatty and enlarged; kidneys were contracted in size. The sections of pancreas were prepared by Dr. Kirkbride and showed distinct fat necrosis.

This was the first case reported at the Pennsylvania Hospital for the past ten years. Seven cases had been presented before the London Medical Society in one year. Dr. William Pepper, within the past two years, has seen two cases.

The most characteristic symptoms which might be found in this condition are: abdominal colic, particularly after ingestion of food; copious vomiting; pain in right hypochondrium, but not referred to right shoulder-blade; abdominal distension; constipation; temperature 100 to 104; collapse; occasionally sugar in urine, but no albumin.

Dr. Alfred Stengel referred to a case of hemorrhagic pancreatitis which had occurred at the German Hospital several years ago, and in which he had performed the autopsy. The symptoms had been similar to those outlined by Dr. Scott and the diagnosis had been made before death. At the autopsy numerous hemorrhagic cysts were found in the head of the pancreas. There had been no fat necrosis.

Dr. F. R. Packard had seen two cases of gangrenous pancreatitis.

INFLUENCE OF DIET ON THE ELIMINATION OF NITROGEN, UREA, URIC ACID AND THE XANTHIN BASES IN THE URINE.

Dr. A. E. Taylor, by invitation, read a paper on this subject. His examinations were preliminary to work which he hopes to do in studying the excretory products in various diseases. All observations were made on a healthy man weighing 160 pounds. Different kinds of diet were used: 1, a normal diet; 2, a diet composed of sweet bread; 3, a meat diet; 4, strictly vegetable diet; 5, rigid milk diet; 6, diet entirely free from albumin, composed for the most part of sago, butter, etc.; 7, diet in which were allowed two bottles of beer per day, tea, coffee, chocolate, etc.

The examination included: 1, estimation of total nitrogen of the urine or the xanthin bases; 2, amount of urea; 3, uric acid. His results have confirmed but few of those previously reported, and were opposed to many results obtained by Haig.

He found that the relation of uric acid to urea is not of such great importance, and that its relation varies in great part according to the diet. Ordinary meat could hardly cause a great excess of uric acid in the system or the urine, since a great part of this product arises from nucleins and nucleo-proteids, and the muscle cells and fibers of beef are poor in these substances and could hardly give rise to a greatly increased amount of uric acid.

Dr. James Tyson stated that the evidence found by Dr. Taylor confirmed his clinical experience in cases in which a certain variety of diet had been allowed.

Philadelphia Academy of Surgery.

Meeting April 13, 1899.

COMPARISON OF MERITS OF SUPRAPUBIC AND PERINEAL CYSTOTOMY.

Dr. N. P. Dandridge of Cincinnati reviewed the literature on cystotomy, devoting special attention to the suprapubic method, ably described in 1878, although Francko had previously written of it in 1556, and early in the present century French surgeons had resorted to suprapubic cystotomy for foreign bodies.

Among complications which may arise from this method, he mentioned hemorrhage, injuries of the kidneys, ureters or rectum, and said that surgeons have, as a rule, discarded the method of distending the rectum as practiced by Peterson; distending the bladder is, however, used at the present time. There is more danger in the high operation, and the mortality is greater. The wound requires longer for healing than the perineal incision. Fistula may develop, as well as hernia and cystitis.

In cystotomy, drainage is necessary, and the perineal method has this advantage. By either method cystitis may develop and is always due to infection. Stone alone will not give rise to cystitis, but when pressure occurs, as from stone, infection is quite easily produced. Ammoniac decomposition of the urine also aids in bringing on cystitis. In the perineal method drainage by means of a large-sized tube is quite satisfactory. Where there is hemorrhage, the retropelvic method should be preferred, because the large clots are more easily removed than in the low method.

Regarding healing of the wound in the high operation, Hunter McGuire speaks of good results and prefers the abdominal route. In cancer and tuberculosis of the bladder, the suprapubic incision should be advised; it is also recommended when the stone is large or when there is ankylosis of the hip. It, however, has been proven that in the perineal method drainage is more satisfactory, there is less discomfort, less difficulty in micturition and less danger from the operation. As regards stone, Thompson prefers the crushing method.

As to statistics, in 169 cases of all ages operated on by the abdominal route, there was a death-rate of 15.3 per cent, while in the lateral operation the death rate was less than 5 per cent. In children the suprapubic method gives 6 per cent. mortality, while the lateral is only 2 per cent.

In hypertrophied prostate the Bottini operation may have certain advantages, while the Alexander method also yields good results.

Dr. J. William White, in doing the suprapubic method, still practices distension of the rectum as well as the bladder, preferring in the latter instance some kind of weak antiseptic fluid. As to mortality per se, he knew no special reason why the suprapubic method should give a higher rate than the perineal, and did not think it should form a basis or governing rule in the operation to be selected. The following conditions called for the suprapubic operation: prostatic disease, tuberculosis of bladder, hemorrhage, ankylosis of hip; while the perineal method should be done in such conditions as cystitis, false openings into the bladder and impacted stone in neck of bladder. In children the latter operation generally gave the best results. Regarding the choice of operation in case of vesical calculi, litholapaxy is the one of choice the world over. In cystitis, he had in certain instances made use of a permanent catheter, the patient wearing it for three to five weeks, and in some instances effecting a cure. He also took occasion to review and quote statistics as to the two operations. He had never seen reopening of the wound in the suprapubic method, but had seen it in the hernial incision. In both operations there was danger from septic infiltration.

Dr. Edward L. Keyes in general accorded with Dr, Dandridge. As to statistics, they are open to considerable question, and those quoted by certain writers should not at least govern our actions in this country in making a choice between the two operations. The three main indications for preferring the suprapubic route are: 1, if stone is of large size; 2, if stone is encysted, and 3, if stone has formed around a foreign body. In septic cystitis, the perineal method is the one of choice. He had in one instance made use of a permanent catheter for four years, the patient seeming to suffer from no discomfort. In one instance, in the suprapubic incision, he had introduced a silver tube shaped like a tracheotomy tube, the patient wearing it for ten months. In the suprapubic method there is great danger from suppression of urine, but why he could not say. In this regard he had to differ from Dr. White in ascribing the cause to infiltration into the prevesical space. He thought the dictum, "no tension, no tenesmus," was far from being correct, as proved in his own experience. In case of stone he preferred litholapaxy. Regarding operations for hypertrophied prostate, he thought that prostatectomy had been pushed too far and that the pendulum had begun to swing back. As a rule he prefers a partial prostatectomy with perineal drainage.

Dr. **Arthur T. Cabot** had seen the permanent catheter bring about good results, even when there were appearances of incipient uremia present. In case of stone he would choose litholapaxy. For prostatic hypertrophy he had used the perineal incision, but now prefers the suprapubic route.

Dr. **Lewis Pilcher** had performed litholapaxy, but in his experience it was the exceptional operation and he personally resorted to either the suprapubic or perineal methods. As between suprapubic cystotomy and litholapaxy, he preferred the former.

Philadelphia Pediatric Society.

Meeting held March 11, 1899.

STRICTURE OF ESOPHAGUS, AND TREATMENT.

Dr. J. H. **Jopson** read a paper on this subject. The etiology was given as traumatism, esophagitis, such as that seen following scarlet fever, syphilis, swallowing caustic fluids, and tuberculosis. In children probably the most common cause is swallowing of caustic fluids, such as lye. He had seen five cases of this condition within the past few years and four had been due to this cause. The most common seat of stricture is at the region at which normally there is the smallest diameter, i. e., at a point on a line with the cricoid cartilage and at the cardiac end of the stomach. The most common symptoms are regurgitation of food, difficulty in swallowing, palpitation, sense of suffocation, emaciation, and exhaustion. A positive sign would be narrowing of the esophagus as determined by the passage of a bougie. The best instrument for this purpose is a soft English bougie, but even in the use of this instrument great care must be exercised. To assist in its passage, a gag will often be found to be of great benefit. Again, one may allow the patient to swallow liquids, when at the stricture will be produced a sound similar to "glu glu." Hysteria may simulate stricture of the esophagus. Of the operations that have been advised for the relief of stricture are, esophagotomy, gastrostomy, and dilatation, which in all cases should be a gradual one. The operation of choice seems to be that of dilatation by means of a soft English bougie. Before beginning dilatation one should always wait until after the subsidence of the acute stage. When the method of dilatation can not be practiced, and where the patient suffers from exhaustion, or when nutritive retcal enemas fail to nourish, gastrostomy is indicated. Esophagostomy is indicated when the stricture is high up. The operation of gastrostomy was first described in 1838, but does not seem to have been employed until 1875. The mortality has been placed at 26, 28 and 18 per cent., the latter being for non-malignant cases. Another method has been used by Abercrombie, and consists in the employment of perforated shot. Still another is in favor, consisting of a series of small perforated silver balls which, on being swallowed at night, to be withdrawn on the following morning, cause dilatation of the stricture.

Dr. L. J. **Hammond** had in one case resorted to esophagostomy, and passing the finger up to the point of stricture, the latter had been divided with a straight bistoury.

Dr. J. P. **Crozer Griffith** had seen a case of stricture of the esophagus which had subsided spontaneously, the reason for which he had been quite unable to explain.

Dr. D. L. **Edsall** desired to know whether stricture of the esophagus per se was an etiologic factor in the production of tuberculosis, to which Dr. Jopson replied that he did not know to what extent this condition acted as a factor in tuberculosis, but bronchitis was quite common.

ACETANILID POISONING.

Dr. T. S. **Westcott** reported a case of acetanilid poisoning from its application to the external surface of the thighs of a child. The case was one in which an infant had become chafed about the thighs and groin last August, and acetanilid in fine powder had been applied at 10 A.M. of the day in question. At 1 P.M. the lips were quite blue; at 2:30, face had a waxy appearance; at 3:30, was in profound sleep with great depression. At 5 P.M. its condition had somewhat improved. Whisky proved beneficial. Acetanilid, having been proven poisonous, should never be applied to raw surfaces. It has been known to produce toxic symptoms when employed as an ointment in the proportion of 1 to 8. In a case of lacerated wound of the forearm treated by Dr. Alfred Hand, in which acetanilid had been used as a dusting powder, cyanosis was produced. In another case seen by Dr. Hand, a child 8 or 9 years of age had been using an ointment containing 10 per cent. acetanilid, four ounces of which had been used by mistake within a period of twenty-four hours, with the production of collapse.

Dr. J. S. **Gillespie**, after applying acetanilid to the umbilic cord, on the fourth day observed toxic symptoms produced by the drug.

Topeka (Kan.) Academy of Medicine and Surgery.

Meeting held April 11, 1899.

LIQUID AIR.

Dr. W. L. **Schenck** read a paper on this subject. He believes its possibilities for usefulness very great in sanitary and surgical science, as its use would do away with the necessity of ice and hospitals and sick-rooms could be easily cooled and the air purified by its use. It would also probably be of great use in cauterization. He referred to recent articles in the lay publications and said that the force produced by liquid air appeared in its rapid evaporation, but while it can not be stoppered in bottles or in any way kept longer than eight to ten hours, this will not prevent its use in sanitary science, as the expense of manufacturing it is so slight that plants can be established wherever needed. There is no limit to its production, and as a product there is no change in its elements, for its use is simply a return to its original condition.

Dr. B. D. **Eastman** spoke of its great possibilities for driving large engines and also for sanitary purposes.

Dr. **Frank** emphasized the fact that the surrounding air was cooled simply by the liquid air abstracting the heat from it.

CEREBROSPINAL MENINGITIS.

Dr. **Harriet E. Adams**, in a paper on this subject, spoke of the young being most frequently affected, and reported two cases in detail.

Dr. **Frank** said that tubercular origin should be suspected in a great majority of cases, and spoke of the retracted abdomen in differentiating it from typhoid. Cold applications should be preferred, except in a case of rheumatism, when hot should be used. He considers alcohol, cold applications and strong heart stimulants occasionally all the treatment needed.

Dr. W. L. **Schenck** stated that opisthotonos and headache were not always present. He believes the disease is non contagious and simply a filth disease, while we should never use alcohol, as it is simply an anesthetic.

Dr. **Davis**—Any case that tends to recovery should not be classed as tubercular, since they never recover.

Dr. **Moore**—It is a germ disease. Alcohol should not be used, as it paralyzes the pneumogastric nerve and allows the heart to beat too rapidly.

Dr. **Adams** always preferred hot to cold applications.

PATHOLOGY OF ERUPTIONS IN ERUPTIVE FEVERS.

Dr. T. W. **Peers**, in discussing the paper presented by Dr. Frank on this subject, pointed out that in the differential diagnosis of scarlet fever and measles, the eruption in scarlet fever covers the skin smoothly, with only very fine points on close examination, while in measles it is more lumpy, but frequently scarlet over the entire body. Again, crescentic forms appear on all parts of the body in measles, and there is buccal eruption in measles, which shows twelve hours before it appears on the body and also affects all mucous membranes.

Ureteronephrectomy.—Le Dentu recently operated on a patient with a papillomatous tumor at the vesical orifice of the right ureter, by extirpating the right kidney and ureter entire with the tumor and suturing the bladder; uneventful recovery.—*Semaine Méd.*, March 1.

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SATURDAY, APRIL 22, 1899.

PROPORTION OF BIRTHS TO DEATHS IN FICTION.

A most grave and damaging accusation was brought against the great masters of fiction a few weeks ago by the *Medical Press and Circular*—no less than a charge of seriously misrepresenting one of the most important elements of human welfare, the birth-rate. It was alleged, and what was more, figures were given to prove it, that the average proportion of births to deaths in some forty of our most popular novels, was as *one* to *ninety-six.* Well may we exclaim with Prince Hal over Falstaff's tavern-reckoning: "What! but a single pennyworth of bread to this intolerable deal of sack!" In those whose sole profession is to "hold the mirror up to nature" such false drawing is indeed a generous fault. As our contemporary well points out, at this rate the charming world of fiction, those Islands of the Blest to which our tired souls, sick and weary of this workaday world, turn for relief and cheer, will soon become totally depopulated; a mere howling wilderness.

But some authors are even more lost to all sense of the proportions and proprieties of things than this. Anthony Hope, for instance, in the "Prisoner of Zenda," has reached the incredible pitch of inaccuracy of an average of five deaths per chapter and not a single birth. And it may be added that as the story conspicuously fails to end with the good old finale, which ought to be made obligatory by law upon all writers of fiction—"so they were married and lived happily ever after"—there is not even a prospect of a birth to balance this wholesale slaughter. The great Wagner, in his earliest attempt at fiction, is said to have attained an even higher pitch of "exterminativeness," for so sanguinary was the drama that long before the last chapter there were not enough characters left to go on with the story, and the ghosts of the slaughtered ones had to be called up and pressed into service in order to carry through the closing scenes.

We are grieved to see that several of our contemporaries have been inclined to treat these grave charges in a spirit of levity, and to offer trivial and irrelevant excuses on behalf of the literary misdemeanants, e. g., that Anthony Hope, Marie Corelli, Ouida and others of the most flagrant offenders are bachelors or spinsters, and hence evidently unaware of the importance of keeping up a due proportion of births; that Marion Crawford, W. D. Howells, Mrs. Burnett and others unfavorably mentioned are Americans, and "children are going out of fashion in America!"

But this is mere trifling with the indictment. It is time that some more weighty and serious defense was attempted, especially in view of the fact that the position of the novelists is not only justifiable but highly commendable, both upon artistic and scientific grounds. In the first place we are surprised that the obvious fact should have escaped the eagle eye of the *Medical Press* that the inhabitants of the charmed realm of fiction are, in the nature of the case, immortal, and have no need of descendants to preserve them and their memory from extinction. They have attained unto the resurrection, where "there is neither marrying nor given in marriage." No "hungry generations tread them down." Thackeray is dead, but the sweet simplicity of Amelia, the coquettish evils of Becky Sharp, the fatal beauty of Beatrix Esmond, still live and charm us as they did our grandfathers. George Eliot is no more, but Mrs. Poyser is our familiar friend and daily delight. "Births" necessary to keep the kingdom of romance "populated?" They would be an impertinence!

Besides, the realm of fiction has a method of increase of its own with a sufficiently rapid rate. Whole bookfuls of new inhabitants are added to it every year—many of them most undesirable people, we fear, of late years, especially the Russians and some French. But then this sort of overcrowding is only one of the necessary inconveniences of immortality, whether literary or spiritual. In the second place, the principal duty of writers of fiction is to interest and amuse us. If they can benefit or instruct us at the same time, well and good, but they must be entertaining. Now, it is a well-known biologic fact that according to the law of averages, the more brilliant and interesting an individual may be, the more likely his or her offspring are to be stupid and commonplace. The children of geniuses are nearly always duffers, and sometimes little better than fools. The sons of heroes are often calves or even curs, and the daughters of noted beauties, Cinderellas—without any fairy god-mother.

The offspring of philosophers turn out heavy dragoons, while the failure of heredity in ministers' sons and deacons' daughters needs but to be alluded to. Few families can hope to be brilliant or even amusing in two successive generations. It is a master-stroke of artistic reticence to suppress all references to the infant prodigies of heroes and heroines.

But why not at least, the *Press* would say, chronicle the birth of the hero and the heavy villain, so as to have a statistic offset to their untimely taking off when the dramatic unities demand it? Some people can take nothing for granted; have no imagination. Is not the mere existence of the villain abundantly sufficient proof that he was born at some time? What need have we of his birth certificate or the particulars of his christening? Very few mortals, however distinguished in later life, ever achieve anything of real importance for the chronicler during the first ten days of their existence, or even ten years.

Besides, the heroine and the villain are alike the actual creations of the author, and may be killed off by him at any time without any right to object on the part of either the police or the registrar of vital statistics. If any of the characters are left alive at the end of the story it is so much clear gain; there is an actual preponderance of "births over deaths."

Last, and most important of all, what is the dominant theme of the novelist's work? The love story, of course. Time and again has he been bitterly reproached for subjecting all his powers, all his skill of characterization, his insight into human nature, his most vivid descriptive gifts, to the mere delineation of the course of true love. The fall of empires, the clash of religions, the great movements of history are mere backgrounds for the display of the devotion and the despair of two moon-struck innocents—mere stage accessories in the drama of their transports and their sufferings. No matter in what country or age the scene of a novel is laid, these are but new words for the same old, familiar air. A novel without a love story is like an egg without salt. Now, the emotion of romantic love, *la grande passion*, ennobling to its possessor and entertaining to the onlooker as it may be, is emphatically, from the anthropologic point of view, a race-continuing instinct, and this being the burden of the romance-writer's song, it is most absurd to demand that he should also formally tabulate its material results and the number thereof; as well require the poet of spring to append to his lyric praise of the apple-blossoms, a statement to the effect that they will later result in excellent pies. But then some people, as we have said, have no imagination and can take nothing for granted. The only thing that would satisfy them would be to have the familiar "peroration" revised to read: "So they were married and lived happily ever after and had seventeen children." But even if this did repopulate the world of fiction, it might come perilously near depopulating the world of fact by discouraging matrimony.

INFECTIONS WITH PROTEUS VULGARIS—WEIL'S DISEASE.

In 1886 Weil[1] described four cases characterized by acute febrile symptoms, rapid enlargement of the liver and spleen, jaundice, and renal disturbances. After the symptoms had lasted from five to eight days they disappeared slowly, but in three of the cases fever, and in two of the three all the other symptoms, returned after from one to seven days. The second attack lasted from five to six days. Weil concluded that the condition had not before been described in medical literature. Since that time numerous cases have been described, and the question whether the disease is novel or not has been extensively discussed.

Fiedler[2] described a similar condition occurring in butchers, in the summer time, and he considers jaundice the one constant symptom. The first fatal case was reported by Brodowski and Dunin[3]. In addition to parenchymatous degeneration of the liver, spleen, and kidneys, there was a small-celled infiltration along the vessels in the liver. Nauwerck[4] observed two cases terminating fatally, the post-mortem showing fatty and necrotic changes in the livers. In the mucosa and submucosa of the intestinal wall were found groups of bacilli, surrounded by necrotic tissue.

Fraenkel[5] saw the disease develop in the course of an attack of erysipelas of the scalp; he denies its right to be considered as a separate disease, and would call the symptom complex acute infectious jaundice. In 1891 Jäger[6] isolated from the organs of a fatal case, and from the urine from a case which recovered, a variety of the proteus bacillus, which was pathogenic for mice and pigeons, causing in these animals fatty changes in the liver. A year later, he found the same organism in the urine in a large number of cases presenting the symptoms described by Weil, and in the organs of another fatal case. He examined the water in which the patients had bathed and found the same bacillus in it. He also examined fowls dying from an epidemic disease characterized by jaundice, and found the bacillus in some of the bodies. Some of the dead fowls had been thrown into the river, in the water of which he found the bacilli. Jäger also observed four cases of Weil's disease in individuals drinking water from the contaminated river.

The bacillus described by Jäger differs from the ordinary proteus vulgaris by the development of a greenish fluorescence in the agar cultures. He believes Weil's disease is a distinct entity, and that it is caused by a bacillus belonging to the proteus group.

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[1] Deutsch. Archiv. für kl. Medicin, Bd. xxxix, 1886.
[2] Ibid. Bd. xlii, 1888.
[3] Ibid. Bd. xliii, 1888.
[4] Quoted by Libman, Phila. Med. Jour., March 18, 1899.
[5] Libman. loc. cit.
[6] Ztft. f. Hygiene, 1892.

Libman[7] believes that many of the cases reported as Weil's disease undoubtedly are of varying character, but that there can be but little doubt there exists a class of cases of jaundice and other symptoms due to the bacillus proteus, and occurring after the use of infected water or decomposing meat. If the term "Weil's disease" is used in this sense, then he can see little objection to its retention. Possibly it would be better to call them cases of "infection by the bacillus proteus (fluorescens)."

Pfaundler[8] found a bacillus of the proteus class in the urine in one case, and in an abscess of the jaw which occurred later in the same case. This bacillus, he says, corresponded with Jäger's. Libman describes a case in which he found a bacillus like Jäger's; the patient, a bartender 21 years old, developed symptoms of appendicitis, for which he was operated on, and in the pus of the appendicular abscess Jäger's bacillus was found in pure culture. On the day after the operation slight jaundice and some rise of temperature developed. The liver rapidly enlarged, as did the spleen, the jaundice becoming very distinct. The symptoms abated and the patient recovered quite fully in about one week. During the height of the disease cultures were made from the urine and the blood, but all remained sterile. The blood serum gave an agglutination reaction with cultures of the proteus. The bacillus isolated from the pus showed great variety in form and size, was actively motile, and did not stain with Gram's method. There was a delicate green fluorescence in some of the cultures on agar. All of the cultures emitted a peculiar unpleasant odor. The bacillus was pathogenic to rabbits, producing enlargement of the liver and the spleen, together with cloudy swelling, fatty degeneration, and small areas of necrosis in the spleen. In this connection it is interesting to note, that Norway describes a case of Weil's disease, in which there were small yellowish spots of necrosis in the liver.

Washburn[9] of Milwaukee has recently described several cases of infectious jaundice, some of which correspond very closely with the symptom complex of Weil's disease. He does not think that there is yet sufficient ground upon which to base any distinction between the different forms or degrees of jaundice associated with febrile affections.

It would seem that careful bacteriologic examination of the urine and of the blood, as well as testing the blood serum for the presence of the agglutination reaction with the proteus vulgaris, might throw some further light upon a class of diseases the nature of which, in the mind of the general practitioner at any rate, must seem to be somewhat indefinite. The facts brought forward by Jäger, Libman, and others certainly seem to indicate that members of the proteus group of organisms have a special tendency to produce degenerative and necrotic lesions in the liver, as well as symptoms that correspond more or less closely to the clinical picture as presented by Weil.

MULTIPLE PERSONALITY.

Reports of cases of triple personality having lately appeared in several journals, the Journal among the number, a few words relative thereto may not be amiss.

In the case of Dr. A. J. Irwin (vide Journal, January 7), the reporter seems to doubt whether the ear disease present in the patient had developed a brain lesion or simply awakened a dormant neurosis, and remarking thereon, he excludes insanity and delirium, "as these new selves have neither frenzy nor hallucinations." A more recent case has appeared in the Pathological Institute of New York, under the direction of Dr. Ira Van Giesen. In September, 1891, Dr. Irving C. Rosse of Washington read a paper on this subject at a meeting of the American Neurological Association, mentioning five observations that had come under his personal notice. In each the illusive transformation assumed a triple character, and in three there was unsound mind. The mention of cases in which these oppositions or scissions in the *ego* have occurred may be found in "Shadows Around Us" and in "Linked to the Past," while triple individuality has called forth a facetious little volume under the title, "I, Me and Him."

Most of the reported cases in which the normal unity of the consciousness is broken, appear, however, to be states of double consciousness, doubling of personality or of periodic asynesia[1] rather than the singular condition of triple personality.

Without attempting a definition of the convenient abstraction known as personality, we may assume that, being a consensus or a composite of complex character, it follows that its disturbances are uniform. We are not bound to the number two in considering the mass of conscious, subconscious and unconscious states that may succeed one another in our body. To whom has it not happened, in studying the metamorphosis of his psychic individuality, that it raises, lowers, or stays at a level; or, in other words, that at one time he experiences exuberant vitality, at another depression, and again the normal state or usual tone of life known as euphoria?

Many of us know of mental disintegration in certain hysteric persons, of the lack of fusion in the psychic life of spiritualistic mediums and somnambulists; and hypnotism reveals the fact that subjects exist in whom is an intelligence other than that of the normal psychic individual acting by the side of this individual without its being in any way opposed. For instance, in the creation of artificial personality by hypnotism, experiment may show: 1, a lethargic state marked by neuromuscular excitability; 2, a cataleptic state, produced by raising the eyelids; 3, a somnambulistic one, caused by pressure on the vertex. If during the cataleptic state the right eyelid is lowered, the left brain is acted upon and a lethargic state of the right side only is brought about, the subject becoming hemilethargic on the right and hemicataleptic on the left.

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[7] Phila. Med. Jour., March 18, 1899.

[8] Cited by Libman.

[9] Medicine, April, 1899; Journal, April 8, p. 781, ¶ 42.

[1] See "Memory, Disorders of," in Reference Handbook of the Medical Sciences.

The prevalence of the number three in accounts of abnormal phenomena may be partly accounted for by literary or religious associations. However, it need scarcely be said that the triple point of view is not confined to the matters in question. Sociologically speaking, every man is what he conceives himself to be, what his neighbors conceive him to be, and what he really is. The "Autocrat of the Breakfast Table" has adopted the theory of triple personality, which he has so entertainingly developed in the "Three Johns." Dr. **WEIR MITCHELL** has touched upon the subject in "Characteristics," and **ADAM LYTTLETON**, in one of his sermons, asserts that every man is made up of three *egos* and has three selves in him. Coexistent personalities are also known to occur in dreams. The attitude of the *ego* may take on several shapes during uneasy sleep, when a medical man, for instance, becomes several personalities, one or both die, and he, as the survivor, makes the necropsy. Everybody knows the place that the doctrine of the Trinity holds in theology. As a factor it is known to lend color to mental disturbances, since individuals suffering from disordered memory or from inhibited activity of the higher volitional powers have believed themselves to be triple. **ESQUIROL** tells of a priest who, having applied his mind too ardently to the service of the Holy Trinity, finished by seeing around him triple objects, and wished that he be served at table three covers, three dishes and three plates.

In conclusion we can not but regard with great satisfaction the concrete facts and authentic observations herewith mentioned. That they show a decided advance in the domain of psychology and have a scientific interest that may be of important practical value in neuropathology is evident from the attention they have claimed from both the psychologist and physician.

INFECTED CLOTHING.

An unpleasant story comes from New York that the chief sanitary inspector, Dr. **FEENEY**, has found that there is a regular trade in second-hand clothing of those who have died of infectious diseases and of bodies that have been drowned, the articles generally going to the South and Southwest, where they may be responsible for some of the epidemics that have there occurred. There was some indignation expressed when infected clothing was said to have been sent over the border from Canada during the Civil War, by Southern sympathizers, as a sort of illegitimate war measure, but how much better is this when it is done in time of peace for the sake of gain? The New York authorities will do well to follow up the discoveries of Dr. **FEENEY** and thoroughly put an end to this abominable traffic.

SLOWNESS OF PERCEPTION OF SIGNALS.

The *Philadelphia Medical Journal* (March 25) contains an item in regard to the examination of railway employes which suggests a very possible danger that has been hitherto largely overlooked. Dr. **VALENTINE**, of the Long Island Railroad, finds that while color-blindness, heretofore regarded as the chief element of peril, is comparatively rare, it is not uncommon to meet with abnormal slowness of sight or limited range of vision. Most of those with these defects are those of middle life or beyond. Slowness of perception of danger signals would naturally be as serious a cause of risk as partial color-blindness and it is a little remarkable that more has not been made of it than is the case. The difficulty being throughout a psychic one, as some have thought color-blindness might be in some cases, it is not hard to conceive its occurrence in the early stages of general decadence. At the same time it is also conceivable that it may be compensated for by special attention and that the tests, not reproducing all the actual conditions, might to some extent mislead the examiner. The subject is one that ought not to be, and we presume is not, neglected by railroad medical examiners generally.

ANTIPNEUMOCOCCIC SERUM.

Not long since, the lay papers were publishing, as a great advance in therapeutics, the statement that a serum cure had been discovered for pneumonia. It is not so generally known that more or less successful experimens in this line have been carried on for several years past, notably by **PANE** of Naples, whose publications are, in part, to be found in files of the *Centralblatt für Bacteriologie* for 1897 and 1898. In the present issue of the **JOURNAL** there is noted an article in the *Lancet* by Drs. J. W. **EYRE** and J. W. **WASHBOURN**, in which they refer to a former paper, giving an account of two cases of pneumonia successfully treated with antipneumococcic serum obtained from a pony, and, as they say, still other cases have been reported in the journals. In this, their latest paper, they give results of experiments on rabbits with **PANE**'s serum used to counteract a virulent pneumococcus culture prepared by themselves, of which .00001 and even .000001 loop of a blood-agar culture were fatal. One cubic centimeter of the serum injected in the veins was found sufficient to neutralize not only these doses, but even .01 loop of the culture, the result being practically coincident with those of **PANE**, who claims that a cubic centimeter of his serum is effective against 3000 fatal doses of the pneumococcus. The prospect of a serum cure of pneumonia and other pneumococcal affections would seem to be bright, according to these experiments, and when we consider the varied ways in which this microbe attacks the system, hardly being exceeded in this regard by any other germ, the value of this line of research is evident.

DESTINY OF CASE-BOOKS.

The *British Medical Journal* of April 8 comments on the story that has recently been published in London *Truth*. It seems that twenty-one manuscripts of volumes of notes of cases treated by the late Dr. ALFRED MEADOWS, in the Hospital for Women, were sold in a lot, at auction. A gentlemen present at the sale, considering it a very improper thing that records of this kind should be publicly offered for sale, took the trouble to visit the hospital in question and remonstrated with the authorities, but without avail. *Truth* approves of this action on the ground that, "setting aside all sentimental consideration, there are necessarily many facts in such books which would afford an opening for the most iniquitous practices if they got into unscrupulous hands." Our contemporary agrees with *Truth* in this matter and says that it is unseemly that books full of private records, whether of hospital patients or others, should be exposed for public sale. We can not understand to what depth of poverty an individual or estate or a hospital could have reached to make it necessary to sell such books. The records, for outside individuals, could be worth nothing except as waste paper, unless they are bought for improper use. We can easily understand how the curious and those hunting for sensations might be willing to invest a few cents in such records, and we can still more easily imagine how the vicious and the criminal might willingly invest dollars in such material for the purpose of blackmail, as evidence could be obtained from case-books, whether in or out of a hospital, that could be used to advantage for disreputable purposes. While it might be necessary for such unscrupulous persons to invest in a number of such "job lots" as were offered for sale in London, still a few investments might ultimately give knowledge which would be powerful if used by the blackmailer.

MEDICAL JOURNALS AND COMMERCIALISM.

That physicians must rely upon medical journals to keep them informed of, and in touch with, the progress that is being made in the various branches of the medical sciences, needs only to be stated to be accepted as a fact. And when physicians can not accept what appears in the scientific pages of their journals as legitimate information, without being compelled to examine every article to see if it bears the earmarks of an advertisement before they can accept it as reliable, then indeed it is about time to call a halt and ask "where are we at?" Journals have two sources of income: their advertising pages and their subscription lists. A very few—and these of a special character—are able to exist on what they receive from their subscribers only. The majority must also depend upon their advertising pages. On the other hand, a certain class—the "sample copy" variety—exists on what is obtained from advertisers. This class is becoming more and more in evidence, and, sad to relate, seems to thrive much better than the other kind. Legitimate advertising is a good thing. The funds obtained from it are making it possible to publish scientific matter at a small price, which could not otherwise be done; and at the same time it keeps the reader informed of advances being made in pharmacy, of new books, new instruments, etc. But there has developed another method of advertising which, to put it mildly, is a disgrace to the journals which permit it—that of publishing as scientific articles those which are written solely and only for advertising purposes. This has reached such a point that soon the question must be answered: Shall the reading pages of our journals be controlled by commercialism, and be subservient to advertisers, or shall they be kept for legitimate purposes? If the American Medical Editors' Association and the Medical Publishers' Association, which we understand are to hold a joint meeting at Columbus in June, will meet this question squarely, and put an end to such a dishonest system, which can be done, it will show that the existence of these associations has not been in vain.

EFFECT OF THE NAVY PERSONNEL BILL UPON NAVAL MEDICAL OFFICERS.

The profession at large is naturally interested in the bearing of the Navy Personnel Bill, recently enacted, upon their confrères in the medical corps of that service. It has long been a matter of surprise that the twin services of the military establishment should differ so greatly in the pay and position of the officers of their respective medical departments. With identic rigid professional requirements, there is no reason why the medical officer should enter the army as a first lieutenant, while the assistant surgeon in the navy, of equal or possibly greater ability and acquirements, and precisely the same duties and responsibilties, begins his career as only an ensign quartered in the steerage with undergraduates from the naval academy. The opportunity was therefore welcomed of rectifying these discrepancies, and it was shown how a simple proviso of two lines would satisfy the medical officers and all line and staff disensions so far as they were concerned, to-wit: "*Provided*, that the officers of the medical corps of the navy of the United States shall have the same rank, pay and privileges as officers of the medical department of the army of corresponding grades." Unfortunately, at the very close of the session, two provisos were added in conference to the bill in other respects acceptable. One is the provision "that nothing in this Act shall operate to increase or reduce the pay of any officer *now* on the retired list of the navy," and the other, "that any officer of the navy with a creditable record, who served during the Civil War, shall, when retired, be retired with the rank and three-fourths the sea pay of the next higher grade." The first operates to prevent the assimilation of the pay of the retired naval officer, with that of the officers of equivalent rank on the retired list of the army and marine corps; but even this consideration is insignificant beside the other, which establishes an invidious distinction that will exist as long as the names of the officers already retired are borne upon the navy register. The officer who was retired only the day before this Act goes into effect, however distinguished his Civil War service, must see his junior, who was retired the day after, and whose service in the Civil War may have been merely nominal, honored with the rank and pay of the grade above him.

The entire profession should have at heart the interests of these medical officers, old in service but many of them still prime in vigor and ready for any possible future duty, and the medical members in the next Congress must see the injustice promptly remedied as the first act of the session. Hasty legislation is the rule at the close of the short session. Enactments never contemplated by either house creep in, as did this, in conference.

MEDICAL LEGISLATION IN ILLINOIS.

The Illinois Legislature has passed some good laws during its recent session, as can be seen by reference to page 874. The act to regulate institutions conferring degrees will put a stop to the "diploma mill" business, if enforced, and it will be. The new act to regulate the practice of medicine, while not what was desired by many, is a measure that will prove to be far in advance of the unsatisfactory condition of affairs that has existed heretofore. It provides for examination of all those who desire to practice, but graduates of recognized medical colleges in Illinois may be granted certificates without examination. The word "may" evidently is intended to leave this to the discretion of the board. Possibly if the leading medical college of Illinois would ask that their graduates be examined also, so that no favoritism be shown, it might result in ultimate good to the cause of higher medical education. The bill provides for those who desire to practice other "systems" or "science" of treating human ailments, but it does so in such a manner that these faddists will have to know "a little bit" before they can practice.

THE SANITARY IDEAL.

There is an interesting parallel between the sanitary and social ideals of the present day, the extermination of disease and the abolition of poverty. They both have a single aim, the promotion of happiness, and both tend to split on the same rock, that of population. When disease is done away with and all men live to the full natural limit of their existence, untrammeled by the harassing cares of the struggle for life which wear them out before their time, what arrangement is to be made to accommodate the natural increase that will call on the resources of the earth for its support? The offspring of a single pair, could all the matured germs be utilized, would soon populate the earth, and even under ordinary normal conditions, could disease decrease and poverty be eliminated from the restrictions of humanity, the population of the world would more than double with each generation. Dr. Richardson's celebrated city of health would, soon have "standing room only" for its citizens with its calculated death-rate and the ordinary birth-rate that was ignored by the imaginative sanitarian. Excess of population would tax the living resources and poverty and misery would reappear, disease would again be a factor in human life and the second state might become worse than the first. There is a truth in Malthusianism, however much we may ignore it and however little it may be forced upon us by the actually existing state of affairs. There is, it must be confessed, not much danger of the sanitary ideal of the total absence of disease being even approximately realized, and we fear, as little also of the solution of the social problem. We are told in Scripture that the poor we have always with us, and disease and death are likewise certain to be our permanent inflictions. No amount of skill or science can eradicate death or even generally postpone it to the extreme limits of human life. Disease will always be existent and will adapt itself to whatever new condition may be brought about. Human progress necessarily entails new demands on the human organism and the ever varying environment brings forth new pathogenic influences. The nervous system alone has been and will be, in the order of evolution, a constant subject of attack; the advance of mankind will be, as in the past, over countless failures, physical and otherwise. The physician of the future may have conquered some of the disorders that now afflict us, but he will have others to meet which we as yet do not recognize. He will probably be more of a sanitarian than is the case at present, but he will have on his hands probably as much as ever the task of alleviating suffering and warding off the ever present danger of disease and death. He can only be dispensed with by mankind when it has retrograded into a simian golden age, or in the millenium, when the righteous shall reign a thousand years. There is no discouragement in this fact; the possibilities of science are ever widening and only the exhaustion of knowledge, even in what concerns the physical side of our being, would be a misfortune.

BROWN-SEQUARD.

We can partly claim Brown-Sequard, the father of organ therapeutics, as an American, his father having been an American citizen, although he was born on the island of Mauritus, of a French mother. His life and achievements were the theme of the address by Berthelot at the last annual meeting of the Paris Academy of Sciences, from which we learn that as a student in Paris he eked out a scanty support by teaching, and shared his attic with a number of guinea-pigs and rabbits on which he was constantly experimenting. He came to America a number of times, taught here and in Scotland, was professor at Dublin and at our own Harvard in 1868, but was constantly attracted back to Paris, in his restless life crossing the ocean sixty times. He finally settled down as professor of physiology, being the successor of Claude Bernard. He died in Paris in 1894. He was married three times, each wife an American.

Medical News.

The County Hospital, Virginia City, Nev., was burned recently, with the loss of one life.

While on a recent visit to Constantinople, Dr. S. Weir Mitchell of Philadelphia professionally attended the wife of Tewfik Pasha, Turkish minister of Foreign Affairs.

Dr. J. Richard Shannon, who it is stated was the only physician from Philadelphia in active service at Santiago, is about to resign from the army and will resume his practice in Philadelphia.

Japan and Portugal have made vaccination and revaccination compulsory. The regulations in Japan require revaccination at 6 and 12 years of age, and under certain conditions during epidemics.

Under date of Jan. 31, 1899, Dr. H. J. Schlageter, acting assistant-surgeon at the military camp at Circle City, Yukon River, Alaska, reported officially the prevalence of scurvy among the civilian population of that locality.

Several cases of smallpox are reported from Altoona, Pa., and on April 8, three new cases were reported from Windber, Somerset County. The city council of Johnstown has appropriated $1,000 for the relief of those afflicted.

At the recent meeting of the Alumni Society of the University of Va. (Washington, D. C. Branch), Dr. William H. Wilmer was elected 3d vice-president and Dr. Jesse Ramsburg a member of the executive committee.

The following in regard to the local epidemic of smallpox has been given out by the Cincinnati Health Department: Total cases at the branch hospital (covering the entire winter), 390; deaths, 8; discharged, 331; now at the branch, 51.

John Philip Sousa has made a contract to compose a march, for $5000, to bear the name of a medical article and to be used in its exploitation. The *Medical Record* suggests that it might not be inappropriate to set the march to the tune, "Tommy make room for your 'anti'."

Some official statistics recently published in France state that in 1896, 866 children were born of women 50 years of age and over, of which seventy-seven were illegitimate births. The Romeos to these mature Juliets were in two instances under 20 and in seven, between 20 and 24.

On April 13, the North German Lloyd steamer *Lahn*, arriving in New York City, from Bremen and Southampton, reported thirteen on board afflicted with smallpox. They were transferred to the Riverside Hospital while the remaining 270 steerage passengers were detained on Hoffman Island for observation.

The Pennsylvania legislature, on April 13, passed appropriation bills aggregating $141,750, for the various hospitals throughout the State, Jefferson College Hospital and the University of Pennsylvania Hospital, both of Philadelphia, each receive $50,000, the other hospitals receiving sums down to $2,000, the lowest appropriation.

The secretary of the Iowa State Board of Health has decided, in relation to the appointment of Dr. Marie Breen as health officer of Lemars, that the only question is that of competency, and that a competent woman physician is as qualified as any other for the position. Dr. Breen has, therefore, entered upon the duties of the office.

The conference of advocates of the Paris Court of Appeals has discussed the question, "Does the publication in a book by a medical man, of observations made upon persons treated in a hospital constitute the offense of violation of professional secrecy, defined by Art. 378 of the Penal Code?" They decided the question in the affirmative.

A gift of $25,000 has been made to the Massachusetts General Hospital, by Mrs. Harriet Frothingham Wolcott, to be known as the J. Huntington Wolcott fund, the income of which goes to the maintenance of free beds in that institution. . . The sum of $5000 has been given to the Atlantic City (N. J.) Hospital, by Miss Elizabeth Boice of Absecon.

The Austrian Government has refused the petition of some of the smaller towns for a medical college, with the statement that each student in the smaller universities (Innsbruck) costs the State a thousand gulden annually. It is suggested that it would be much cheaper to support the students from the smaller towns at the large universities, such as Vienna, Prague or Graz.

The official list prepared by War Department, showing the roster of medical officers now in active service, who served both in the Civil and Hispano-American War, contains the name of Dr. C. H. Alden, asst. surgeon-general and member of the Medical Society of the District of Columbia, Washington, D. C. Dr. Allen entered as first lieutenant and asst.-surgeon.

The daily average temperature during the recent fighting in Manila, between February 6 and 23 was taken at San Juan del Monte, about five miles from Manila, by Acting Asst.-Surgeon C. F. de May, and recorded as follows: At 7 a.m. 66 F.; at 10 a.m. 73; at noon 84; at 2 p.m., 81; at 4 p.m., 79; at 6 p.m., 72 and at 8 p.m. 69. On two mornings the temperature was 61 degrees at 6 a.m.

It is reported by an anonymous writer in a Ceylon paper, according to the *British Medical Journal*, that the beautiful red color of cocoa seeds, intended for exportation, is due to their having been soaked in a spittoon containing the expectorations of the natives who chew betel nuts. This is said to be carried on in private and regarded as a trade secret. The truthfulness of the story is probably questionable.

It is stated that Housemann of Berlin has recently made an examination of the brain of Professor Helmholtz and found its weight to be 1440 grams. The frontal lobes were unusually well developed and had an extraordinary number of convolutions. The normal brain weighs on an average of 1358 grams. In comparison with that of others, it may be interesting to state that the brain of Gauss weighed 1492 grams, while that of Cuvier was 1600 grams.

The anti-expectoration ordinance appears to be enforced in Newark, N. J. A man was recently fined $10 and costs for spitting in a trolley car. Public expectoration is not universal in this country, though some foreign tourists may say so, and there is a strong and growing prejudice against it. A few more precedents set like the above and we may have enforceable ordinances against it in other of our large cities.

The University of Vienna has made arrangements with an accident insurance company by which, on the payment of six and a half francs per semester, an indemnity is insured to students incurring professional accidents in the course of their studies in medicine, chemistry, physics, etc., on the university premises. The indemnity amounts to seven and a half francs a day until restored to health, or 30,000 francs in case of permanent disability.

Commencements of various medical schools since our last week's report, have been as follows: Women's Medical College, Kansas City, Mo., a class of 6; Medical College of Alabama, Mobile, 21; A. I. U. Medical Department, Little Rock, Ark., 6; Medical Department of Vanderbilt University, Nashville, Tenn., 79; Ohio Medical University, Columbus, Ohio, 11; Milwaukee (Wis.) Medical College, 5; Louisville (Ky.) National Medical College, 4; Barnes Medical College, St. Louis, Mo., 220. The College of Physicians and Surgeons of Chicago held its annual commencement April 19. The graduating class numbered 120.

Prof. William Libby of Princeton University, who has recently returned from a visit to Hawaii, delivered a lecture on "The Leper Settlement of Molokai," before students of the Jefferson Medical College last week. The lecture was fully illustrated, showing the disease in its several stages. On the island, 3099 cases have occurred, and of these two-thirds have died.

Early in January Dr. Thomas H. Manley of New York City was notified that a woman was about to sue him for the loss of a joint of the thumb, and an answer was demanded, which Dr. Manley prepared and sent, giving the matter no further notice. However, in the New York papers of April 12 it was announced that a judgment had been found against the Doctor for $2000 by default. Dr. Manley at once applied to the court to have the case reopened, which request has been granted, and the case will take the usual course.

It has just been announced that the collections of the Hospital Saturday and Sunday Association (N.Y.) amount this year to the very handsome sum of $70,000, from which $3,000 had to be deducted for expenses. The share of each hospital or dispensary entitled to participate in the distribution of the fund is dependent on the number of free days of treatment it provided during the past year, and on this basis the largest single appropriation, $5,800, goes to the Montefiore Home for Chronic Invalids. The smallest appropriation is $250, and this is given to each of the last three institutions on the list.

Phosphorated cod-liver oil was prescribed by a French physician—1/10,000—but in renewing the prescription he merely wrote "phosphorated cod-liver oil," and the druggist delivered it according to the Codex formula, at 1/1000. The child soon died with severe icterus, and the parents sued the physician. Although it was shown that twenty milligrams of phosphorus in the twenty-four hours—the amount taken by the child—is not ordinarily a fatal dose, the courts decided adversely to the physician, who was condemned to over three thousand francs damages and the druggist to over two thousand.

Among the other international congresses to be held at Paris during the exposition next year. there will be one on "Professional Medicine and Medical Deontology." The subjects for discussion are the relation of physicians to the State and other organic bodies; their relations with individuals outside of the profession, those with their confrères, and their associations for mutual benefit and protection. If the material announced to be brought before the congress justifies it, it will be divided into sections, each taking up one of these subjects. The general secretary of the commission on organization is Dr. Jules Glover, 37 rue de Faubourg Poissonniere, Paris.

A bill has been passed by the Assembly at Albany, N. Y., permitting the mayor of New York City to appoint one of the physicians of the city board of health president of that body. Previously it has been contrary to the law of the State for any medical man to be president of the board. The Legislature has also passed a bill providing shorter hours of employment for drug clerks, and one placing the licensing and regulation of all free dispensaries of the State under the control of the State Board of Charities, also a bill providing that the property of all medical societies in New York County and King's County (Brooklyn) be exempt from taxes, provided such exemption does not exceed $10,000.

Surgeon-General Sternberg has received a report from Major Havard, chief-surgeon at Santiago, saying that the city and department of Santiago are in generally good sanitary condition. He does not apprehend an outbreak of yellow fever or any other contagious disease. Smallpox for a time was serious in the Holguin district, but Major Woodson's commission has put a stop to it Work on the general hospital is progressing and it is expected that Santiago will soon have the best equipped hospital on the island. General Wood is supplying the necessary money for the repairs and fittings, out of the city revenues. Meanwhile the surgeons are using temporary quarters best available for the purposes.

The municipal authorities at Paris have appropriated funds to establish and maintain a chair of gynecology and also a chair of pediatric surgery at the Faculté de Médecine, the medical department of the university. The professor in each case is to receive 12.000 francs, and a clinic and laboratory assistant, 1200 each. Richelot and Hartmann are candidates for the chair of gynecology and Broca for that of pediatric surgery; each is already a *professeur agrégé* and eminent in his specialty. Paris has long been lamenting the lack of official instruction in gynecology, when all other faculties, even at Tomsk, Tokio, Lima, etc , have long had their professor of this specialty. Berlin has four.

Much interest is manifested in the decision to be handed down by the court of appeals in answer to an argument by the attorneys for the Kentucky State Board of Health, praying the court to dissolve the injunction given by Judge Settle at Bowling Green, preventing the board from interfering with one Dr. G. N. Murphy, who is practicing osteopathy in that city. The board's attorney contended in his argument that the action of the last State Legislature, giving the State board powers to revoke licenses was constitutional, a point contended against by the opposing attorney for the osteopath. The latter claims that the law is unconstitutional and void for uncertainty and confers legislative and judicial powers on executive officers. The opinion to be handed down will be of interest, as upon it depends the prosecution of the osteopaths practicing in other parts. The State Board of Health of Illinois is having a similar case to deal with at Galesburg, in which a jury, in a trial before a justice of the peace, declared that an osteopath is not a physician within the meaning of the law. The case has been appealed by the State board and will come up in the county court, April 24. The case is against one Frank Chapman, who was arrested for practicing without a license.

Current Medical Literature.

AMERICAN.

Titles marked with an asterisk (*) are noted below.

Boston Medical and Surgical Journal, April 13.

1.—Traumatic Cerebral Edema: Its Pathology and Surgical Treatment, J. W. Courtney.
2.—*Local Treatment of Pneumonia in Children. R. F. Chase.
3.—Treatment of Phthsisis. A. B. Farnham.

Maryland Medical Journal, April 15.

4.—Abortion. John M. Bertolet.
5.—A Doctor's Life in the Backwoods One Hundred Years Ago. Eugene F. Cordell.

Medical News (N. Y.), April 15.

6.—Differential Diagnosis of Pelvic and Abdominal Diseases in the Female. Paul F. Mundé.
7.—*Statistics of Fifty Autopsies on Tuberculous Subjects. Aldred Scott Warthin.
8.—*Experience with Litten's Diaphragm-Phenomenon in 220 Cases. Richard C. Cabot.
9.—Foreign Bodies in the Larynx. Charles H. Knight.

Medical Record (N. Y.), April 15.

10.—*Cases of Sciatic and Brachial Neuritis and Neuralgia—Treatment and Cure by Electrostatic Currents. William J. Morton.
11.—Hemorrhagic Apoplexy—Its Etiology, Pathologic Anatomy, Prognosis and Treatment. George E. McLaughlin.
12.—*Thyroid Feeding as an Aid in Development of Backward Children. H. H. Vinke.
13.—Some Remarks on Use of Obstetric Forceps. S. Marx.
14.—Puerperal Infection with the Bacillus Aerogenes Capsulatus. Francis Carter Wood.

Philadelphia Medical Journal, April 15.

15.—*Cysts of the Urachus. E. D. Ferguson.
16.—*Clinical and Scientific Contributions on Value of Widal Reaction, Based on Study of 230 Cases. James M. Anders and Joseph McFarland.
17.—*Modern Methods in Production of Vaccin Virus. Richard Slee.
18.—*Benzin in Anesthetic Mixtures. Horatio C. Wood, Jr.
19.—Value of Thiol in Nose and Throat Practice. Walter A. Wells.
20.—History of Case of Incipient Phthisis Treated by Hypodermic Injections of Silver Nitrate Over the Vagi. G. H. Franklin.
21.—Report of Case of Gastro-Intestinal Hemorrhage in a Newborn Child. John A. Brophy.

New York Medical Journal, April 15.

22.—*Extraordinary Case of Aortic Aneurysm. Carl Beck.
23.—Remarkable Case of Tertiary Syphilis. Eiliv Janson.
24.—Report of Necropsy in a Case of Acromegaly, with a Critic Review of the Recorded Pathologic Anatomy. Louis J. Mitchell and E. R. LeCount.
25.—*Some Observations of Malarial Disease in the Province of Santiago de Cuba. Frederick W. Fabricius.
26.—Practical Application of the Skiascope. J. W. Sherer.
27.—An Arcus Senilis Tattooed. W. L. Bullard.

Cincinnati Lancet Clinic, April 15.

28.—*Acute Osteomyelitis. Robert Carothers.
29.—Meningitis—Diagnosis. T. E. Keelor.

Medical Review (St. Louis, Mo.), April 15.

30.—*Report of Case of Removal of Gasserian Ganglion. H. H. Mudd.
31.—Ancient Versus Modern Therapeutics. John R. Baer.

Northwestern Lancet (Minneapolis, Minn.), April 1.

32.—*Alcoholism. H. L. Staples.
33.—*Observations at Credé's Clinic, with Special Reference to New Silver Salts. W. D. Kelly.
34.—*Value, Limitations and Alternatives of Topic Application in Gynecology. E. C. Dudley.
35.—Examination of Sick Childreu. W. Stuart Leech.

Archives of Pediatrics, April.

36.—*Fevers of Children; Their Significance, Their Diagnostic Value, and Antipyretic Treatment. Samuel S. Adams.
37.—*Tracheocele. J. Park West.
38.—*Black Tongue; With Photograph of a Case and Brief Consideration of Its Etiology. William S. Gottheil.
39.—*Polyuria and Incontinence of Urine; Symptoms of Adenoids. Francis Huber.
40.—*Irrigation of Bowel in Fermental Diarrhea. Joshua C. Hubbard.

National Medical Review, April.

41.—Report on Examination of Milk Furnished by the Pasteur Milk Laboratory of Washington, D. C., from Jan. 1, 1898, to Feb. 1, 1899. E. A. de Schweinitz.
42.—*Metallic Silver as a Suture and Dressing. Francis R. Hagner.

Journal of Comparative Neurology, March.

43.—*Observations on Innervation of the Intracranial Vessels. G. Carl Huber.
44.—Observations on the Blood-Capillaries in Cerebellar Cortex of Normal Young Adult Domestic Cats. Frank S. Aby.
45.—An Anomaly in the Internal Course of Trochlear Nerve. Richard Weil.
46.—*Critic Review of Recent Publications of Bethe and Nissl. Adolf Meyer.

Louisville Journal of Surgery and Medicine, April.

47.—Childbed Fever. James T. Blackburn.
48.—*Let the Term "Amputation" be Abolished Altogether in all Traumatisms Involving the Extremities or Their Appendages. Thomas H. Manley.
49.—Surgical Aspect of Appendicitis. J. Garland Sherrill.
50.—Lateral Lithotomy. W. F. Scott.
51.—Tiunitus Aurium. M. G. Price.
52.—Epidemic Cerebrospinal Meningitis or Spotted Fever at Morgantown, Ky. E. A. Cherry.
53.—Epidemic Cerebrospinal Meningitis in the City and County of Henderson, Ky. W. A. Quinn.

Journal of Nervous and Mental Diseases, April.

54.—*Motor Paths in Brain and Cord of Monkey. E. Lindon Mellus.
55.—*Acute Anterior Poliomyelitis Occurring Simultaneously in a Brother and Sister; With Remarks upon its Etiology. Frederick A. Packard.
56.—Case of Hysteria in which a Needle-Puncture was Followed by Typic Symptoms of Ascending Neuritis. J. Torrance Rugh.
57.—Clinical Notes on a Case of Syringomyelia. Smith Ely Jelliffe.
58.—Anomalous Symptoms Following Traumatic Hemorrhage into Spinal Cord. William M. Leszynsky.

University Medical Magazine, April.

59.—*Diseases of Conus Medullaris and of the Cauda Equina. Horatio C. Wood.
60.—High Division of the Posterior Tibial Tendon. Jas. K. Young.
61.—*Aural Massage. Ralph W. Seiss.
62.—A Case of Ataxia for Nosologic Diagnosis, Probably Progressive Meningomyelitis (Cerebrospinal). F. Savary Pearce.
63.—*Bichlorid of Mercury Injections in the Treatment of Abscess and Purulent Inflammations of the Tear Duct. J. Winter Wamsley.
64.—Our Duty to Degenerates. J. Newton Hunsberger.

Journal of Boston Society of Medical Science, March.

65.—*Bacteriology of Accessory Sinuses of Nose in Diphtheria and Scarlet Fever. Richard Mills Pearce.
66.—Test Types for Examining Vision of Railway Employes. Charles H. Williams.
67.—*Proprietary Domestic Disinfectants. Charles Harrington and Richard Mills Pearce.

The Laryngoscope, April.

68.—*Remarks on Etiology of Nasal Polypi. Jonathan Wright.
69.—Simple Method of Preparing a Serviceable Solution of the Suprarenal Gland for Nasal or Laryngeal Application. M. D. Lederman.
70.—*Agoraphobia in Relation to Ear Disease. A. Guye.
71.—Mastoid Operatious. W. F. Cole.
72.—Two Mastoid Operations with Unusual Features. Thomas R. Pooley.
73.—*Pneumatic Massage in Treatment of Deafness and Tinnitus. George A. Webster.

New England Medical Monthly and the Prescription, April.

74.—Temperance from a Physician's Standpoint. William F. Barclay.
75.—On Physical Education. Charles P. Robbins.
76.—Chlorosis. S. Ascher.
77.—Some Observations on the Exhibition of Iron. G. A. Gilbert.
78.—Clinical Observations During an Epidemic of Variola. J. C. Slack.
79.—Biliousness. Deering J. Roberts.

Woman's Med. Journal (Toledo, O.), April.

80.—Abortion and Placenta Previæ with Hemorrhage. Ella Camp.
81.—Brow Presentatiou with Difficult Labor. Ingeborg Rasmussen.
82.—Diagnostic Points Determining Age of Embryo and Fetus. Emma S. Mackey.
83.—Studies of Melancholia. Maria Mitchell Vinton.

2. **Pneumonia in Children.**—Chase reports his deductions from experience with 45 cases of pneumonia in children, 39 of the lobar and 6 of the lobular form. The mortality is small—one of the former and one, possibly two, of the latter, one case being considered hopeless at the time of last notice. He speaks well of poultices in treatment of these cases, applying them every forty minutes, rarely using more than six or eight in the twenty-four hours. He also thinks that mustard paste has its value, and for hyperpyrexia he has relied entirely on water and alcohol sponging. The ice-cap is used in delirium and congestive headaches. Other details of the treatment are quiet, ventilation, proper food, properly given. A judicious nurse will know when to let the child alone and when to change its position to keep it from choking from the secretions.

7.—**Autopsies in Tuberculosis.**—Warthin gives an analysis of the necropsy results in forty-one cases of tuberculous patients. He finds in 100 per cent. of these, besides the lungs, and pleura, the larynx, bronchial glands, liver, spleen, and kidneys were also involved by the tuberculous lesions and the small intestines and mesenteric glands in 95 per cent. While the number of autopsies was small, he can not but believe that metastasis and secondary infection play a much more important part in chronic tuberculosis than is commonly thought to be the case. The secondary lesions are very often neglected. He also thinks that the laryngeal complications incur the discomfort of the patient and should be recognized and attended to by the physician. Besides these 41 cases, there were 7 of acute miliary tuberculosis and one of meningeal tuberculosis and tuberculous lymphadenitis. In the seven of miliary tuberculosis, the most striking point of interest was the uniformity in which the primary focus was found in the four male cases in the left seminal vesicle.

8.—**Litten's Diaphragm-Phenomenon.**—Cabot gives the results of his observations in 220 cases in testing Litten's phenomenon.

This consists in a sort of shadow, seen to descend during deep inspirations, from about the seventh to the ninth rib, passing up again during expiration, the patient lying with chest exposed and feet pointing toward the light, cross-lights being excluded. It can be seen in all cases except those that are very fat, and is absent in the following conditions: 1. Fluid or air in the pleural cavity; 2, obliteration of the pleural cavity by adhesions; 3, advanced lung emphysema; 4, pneumonias of the lower lobe; 5, intrathoracic tumors low down in the chest. It is due to the peeling off of the diaphragm from the inside of the thorax during inspiration, and its clinical value is due to its affording an easy measure of the volume or the capacity of the lungs. Cabot observed it in a number of conditions. Summary: 1. In 102 normal chests the diaphragm-shadow showed an average excursion of 2⅓ inches on each side of the chest. 2. In 11 cases of pleuritic effusion, 5 cases of adherent pleura and 3 cases of acute dry pleurisy, the shadow was absent on the affected side. 3. In 6 cases of emphysema the shadow was either absent or nearly absent. 4. In 30 cases of phthisis the excursion of the diaphragm was diminished on the affected side (except in one case); even incipient cases may show this change. 5. Muscular weakness may greatly limit the excursion of the shadow. In obesity it is often missed. It may be obtained only during a fit of coughing. 6. Great enlargement of the liver or spleen may exist without abolishing the shadow, but a very large accumulation of ascitic fluid may render it invisible. 7. The diaphragm-shadow seems to render unnecessary the use of the X rays in the investigation of diaphragmatic movements.

10.—**Static Currents in Neuritis.**—Morton reports thirty-seven cases of neuritis treated by the static current, which he believes specially effective. He also tabulates a number of other cases, making a total of eighty. His conclusions are as follows: 1. The pain of neuritis is temporarily relieved from the first treatment, and the case is totally relieved and cured in the minimum duration of time. 2. The immobility and fixation of joints and limbs at once disappear unless due to prior adhesions. 3. The more acute the case, the more urgent immediate electric treatment, and the more speedy the relief and cure. 4. An acute case is debarred from becoming a chronic case. 5. Immobility of splints or plaster bandages is superfluous and sometimes harmful by promoting adhesion. 6. High potential currents, of the type here referred to, produce a sedative effect upon tissues, viz., upon muscle, nerve, and any contractile tissue, produce vasomotor dilatation, and constitute the most effective curative treatment of neuritis.

12.—**Thyroid Feeding in Children.**—Vinke calls attention to the importance of thyroid feeding in backward children, when the condition is due to a semicretinoid state. He reports three cases thus treated.

15.—**Cyst of the Urachus.**—Reporting a case of extensive cyst of the urachus operated upon with recovery, Ferguson directs attention to the common fatality that attends attempts to remove like cysts in their entirety when they are in intimate relation and adherent to important organs of the abdomen and pelvis, and suggests, instead of removing the entire sac, that when possible the entire lining of the cyst be stripped off, thereby securing a surface that may be coaptated and direct union result; failing to so denude the wall of the sac, and finding that the sac wall can not be readily separated from important parts, drainage is the better course.

16.—**Widal Test.**—In concluding their review of the value of the sero-reaction, as applied to 230 typhoid cases, Anders and McFarland suggest some precautions to be observed, and directly bearing upon the clinical value of this test: 1. They contend that typhoid is not to be excluded on account of the absence of a positive Widal reaction, since genuine cases have been observed in which a negative result was obtained from the test throughout the disease. 2. All cases reacting positively are to be regarded as typhoid fever, until a bacteriologic examination fails to reveal typhoid bacilli anywhere in the body. 3. Taken singly, the sero-reaction is the most trustworthy indication of typhoid fever. 4. Although not an early diagnostic symptom, the reaction serves often to complete the diagnosis in the majority of cases at the earliest date possible. 5. As the sero-reaction may be long delayed, and very exceptionally absent throughout, it is not to be solely relied upon for therapeutic purposes. 6. Previous attacks of typhoid within one or two to three years render the test valueless. Accurate results are best secured when the technic is carried forward by a trained bacteriologist.

17.—Vide Journal, April 1, 1899, p. 711.

18.—**Benzin in Anesthetic Mixtures.**—Taking exception to the views of Schleich, who considers that benzin in the anesthetic mixture of ether, chloroform, and benzin, serves simply as an inert diluent, Wood has concluded, from a number of carefully directed experiments upon the lower animals with the benzin administered, both intravenously and by inhalations, that the benzin is not only not inert, but has considerable toxic power. It depresses the heart, paralyzes the vasomotor system, the pulse becomes slow, blood-pressure is suddenly reduced, respiration at first embarrassed, then increased, and finally ceases abruptly. From a study of clinical reports it is noticed that the percentage of cases showing cyanosis is high. Respiration is often stopped suddenly without warning, and one or two cases of sudden collapse have been observed. Bronchial irritation and slight albuminuria occasionally occurred. Nephritis has not been reported as resulting from the use of the mixture, while vomiting seems to occur as frequently as after an ether anesthetic. No deaths have been reported as directly due to this form of anesthesia in the thousand cases on record.

22.—**Aortic Aneurysm.**—Beck reports and illustrates a rather remarkable case of aneurysm of the arch of the aorta, producing absorption of the bones, and disturbances otherwise. The patient was treated with Lancereaux' gelatin injection for two months, with some improvement.

25.—**Malaria in Santiago.**—Fabricius gives a series of personal observations of malarial disease in Santiago and vicinity, which seems to be rather a malarial focus. He describes the topography in detail and says that the malignant type appears to be the endemic form in this region, the milder forms being chiefly among non-residents and, he assumes, were probably brought with them. He describes a peculiar body which he found in many cases in addition to the regular parasite, but he makes no special deduction as to its pathologic significance.

28.—**Acute Osteomyelitis.**—Carothers reports a case of acute suppurative osteomyelitis in which he performed hip joint amputation. The patient is apparently on the way to recovery. He discusses the nature and etiology of the condition, its differential diagnosis from rheumatism, erysipelas and typhoid fever. The prognosis is grave, if untreated. The best treatment of the established disease is operation—the sooner the better.

30.—**Removal of the Gasserian Ganglion.**—Mudd reports a case of neuralgia of the right infraorbital nerve. The removal of the nerve gave temporary relief, but the pain recurred, and more severe than before. The Gasserian ganglion was removed by the Hartley-Krauss operation. There was relief from the old pain, but more or less uncomfortable paresthesias and anesthesias in the region of the disturbances. There was also motor paralysis of the eyelids.

32.—**Alcoholism.**—Staples' article is a readable statement of the facts and gives some curious instances of alcoholic insanity. As regards the treatment of alcoholism, he considers sodium bromid as of exceeding value in the acute delirious stage, and it should be given in large quantities. He has given as much as 1 oz. in twenty-four hours, with good results. Potassium bromid should be avoided. When vomiting is intense and evidence of pain marked, morphin is valuable. He gives the acid phosphates as cerebral tonics and believes they have value. As regards the permanent cure of alcoholism he does not speak so hopefully, and many of the so-called cures are simply contrivances for money-making without regard to the patient's welfare. The mental effects in the Keeley institutes have undoubtedly been a great factor in helping many cases. It should be remembered that many cases recover suddenly without any treatment, the alcoholic disease having died out.

33.—**Silver Salts.**—Kelly reports observations in Credé's clinic, especially in regard to the effects of silver salts in the septic infectious conditions, and reports seven cases in which they were of obvious value. He describes Credé's methods, the success of which is the more remarkable considering that all operations are done in a single room about twenty feet square.

34.—**Applications in Gynecology.**—Dudley discusses proper and ordinary methods of using a hot-water douche, the indications and methods of application of the tamponade, its uses in intrauterine application and those of curettage. Topic treatment, he thinks, should seldom be long continued. Its legitimate place is as a supplement for systematic and operative medical or surgical treatment.

36.—**Fevers of Children.**—Adams emphasizes the importance of discriminating between the significance of high temperature, with or without symptoms of cerebral disturbances. In the former case it is serious and the fever should be reduced; in the latter it has no necessary significance whatever. Some importance is attached to the methods of taking temperature, which the author says should always be in the rectum in children. As agents for reducing temperature in children he condemns the coal-tar preparations, especially antipyrin and antifebrin. Phenacetin is somewhat safer, but it needs to be used with caution. The local application of cold may also be perilous if too low a temperature is used. With a body temperature of 105, one should be cautious about reducing that of the bath below 95 degrees. Just as good results can be had if a cold cloth is applied to the head, as with the lower temperature advised by some. The average duration of a bath is ten minutes, and the patient should at the time have continuous friction applied.

37.—**Tracheocele.**—West describes and figures a case of tracheocele and gives a résumé of the bibliography of the condition. The patient was 20 months old, well developed and otherwise healthy. The cause was not apparent.

38.—**Black Tongue.**—Gottheil reports a case of this rather rare condition, occurring in a healthy child and without hypertrophy of the papillæ. He illustrates the case and the parasite to which he credits the disease. It yielded to hyposulphite of soda applications, but will probably return.

39.—**Polyuria and Incontinence of Urine.**—Huber explains the existence of polyuria and incontinence of urine in some cases in children, as follows: the adenoids cause mouth breathing and dryness of mouth and throat with consequent thirst. The excessive drinking causes hypersecretion of urine. The changes in the blood and lymph circulation in the brain, due to the nasal lesion, make the blood surcharged with CO_2, or there is deficiency of oxygen. The cerebral circulation is interfered with by the nasal obstructions and in consequence many products of cerebral tissue-change accumulate to produce the condition known as aprosexia. The children do not attend to their wants, inhibition is less active, the bladder reflex is neglected and urinary incontinence results. Removal of the adenoids brings about a cure.

40.—**Irrigation in Diarrhea.**—Hubbard recommends irrigations of the bowels to remove toxic aggregations in fermental diarrhea. He gives temperature-charts showing the good effects of this method and says: "The irrigation not only lowers the temperature but quiets the restless babies, some even go to sleep during the process. The character of the pulse is also improved. Both this improvement in the pulse and the quieting effect may, I suppose be due to the decrease in the fever. I know of no contraindications and have seen no bad results from irrigation, which seems a most rational treatment."

42.—**Silver Suture and Dressing.**—Hagner calls attention to the uses of silver wire in surgery and that of silver foil as dressing. The special value, he thinks, with Credé, is in an antiseptic action due to formation of lactate of silver in the vicinity of the sutures or foil. He sums up the advantages as follows: No evidence of suture irritation; no stitch abscesses; no area of dermatitis about the wound; no toxic effect when used in or over large granulating wounds.

43.—**Innervation of Intercranial Vessels.**—Huber has investigated the nerve-supply of the cerebral vessels of dogs, cats and rabbits, using Ehrlich's methylene blue stain. He finds two sets of vessels supplying these vessels, one medullated, terminating in the adventitia, and another non-medullated, terminating in the muscular coats and resembling in all respects the perivascular, vasomotor nerves of vessels in other portions of the body. The first named he considers to be sensory nerves, from their arrangement, size and mode of ending, the other he considers vasomotor for similar reasons. Huber's work is almost exclusively microscopic, but he reports a few experiments in which he tried extirpation of the cervical sympathetic in cats, to observe its effect on these nerves; the results were not, so far as they went, sufficiently conclusive. He finds two similar kinds of nerves in the dura, medullated sensory and non-medullated vasomotor nerves. He has not, however, been able to trace in its entirety the end brushes of the sensory nerves, and believes that they have a wide and interlacing distribution. The paper is an important one, in that the author's findings, if correctly interpreted, contradict, or at least throw doubt on, certain generally accepted physiologic opinions. His paper reopens the question, which some have considered settled, of intracerebral vasomotor nerves.

46.—**Findings of Bethe and Nissl.**—Meyer gives a brief summary of Bethe's findings and a rather sarcastic notice of Nissl's theories, which are assumed to overthrow the neuron theory. He says: "The status of the neuron problem developed a year ago is not changed essentially to day. It will be a difficult task—but one which must be worked over—to bring into harmony the widely differing pictures produced by the methods of Golgi, of Ehrlich, of Bethe, of Nissl, etc., to work through all the important experimental reactions with these methods and to refrain from putting bright guesses down as statements of facts. It is quite evident that we are still very far from a complete picture of the architecture of the nervous system; but not so far that we should allow ourselves to be thrown out of the saddle by every little addition of detail. The neuron theory deals primarily with genetic and trophic relations, and as such it is a good working hypothesis, though full of unsolved problems. The question of function of the nervous system is to-day at best one of activity of aggregates of neurons, and if we want to specialize further, we will do best to start from the known and not from the unknown. Many of us have the feeling that notwithstanding the veto of Golgi and the considerations of Nissl, we are perhaps not forced to accept a '*reseau diffus*' outside of what we know as processes of cells, and certainly few people will follow Nissl in willingly despising what we have, and in putting the sole emphasis on the 'non-classified residuum,' the storehouse from which the supplies for all the hopes and the remedies for all the woes are expected to be furnished to those disappointed with what is safely established and with the usual methods of acquiring new knowledge."

48.—**The Term "Amputation."**—Manley pleads for conservatism in the management of crushing and mangling wounds of the limbs, and ends his paper as follows: "Modern surgical science and art have so revolutionized the therapy of crushed members that the term "amputation" should be expunged from all textbooks on surgery and its practice severely interdicted. The word implies severance *en bloc*—something never called for under these circumstances. The term 'excision' or 'resection' should be substituted for it. Effective embalming of the shattered limb permits of safe delay and the preservation of every possible portion of tissue. Reaction established, now in many cases the surgeon should turn to utilize the important auxiliary art of osteoplasty, dissossement, ebonation, bone grafting, tissue-sliding, etc."

54.—**Motor Paths of Monkeys.**—Mellus describes the results of excision of minute portions (2 to 4 mm. square) of the motor cortex of monkeys, as shown by the Marchi stains. They were allowed to live ten to forty days after the incision. The amount of degeneration varied, and was in some cases surprisingly large. The degeneration of the association fibers (subcortical) was in all cases considerable, and could in some be followed a long distance from the lesion, in some cases into the so called silent area. These lesions of the ascending frontal were likely to cause some degenerations in frontal gyri. In all cases scattered degenerated fibers crossed in the middle third of the callosum, to be distributed in the opposite hemisphere. Passing inward or downward from the lesion, there was always a tract of blackened fibers, somewhat scattered in the centrum ovale, but in the upper layers of the internal capsule grouped somewhat according to the situation of the cortical lesion, but lower down in the middle third of the posterior limb fibers from all the motor regions were mingled rather indiscriminately. Considering now only the degenerations following destruction of the hallux center, a large proportion of the finer fibers from the lesions passed from the internal capsule into the thalamus and could be followed some distance within it. In the crus, the remaining degenerated fibers were rather evenly scattered through the posterior third, whence many of them passed into the substantia nigra and were lost. The rest passed on through the pons and medulla, scattered over the whole cross section of the pyramidal tract. At the pyramidal decussation they clearly divided, some crossing, some passing into the lateral columns of the same side, showing that the direct pyramidal fibers exist in the lower animals, as has been shown in the dog, by Muratoff. The number of degenerated fibers remained unchanged in the cervical and dorsal cord, but in the lumbar enlargement they gradually disappeared from above downward. Here also fine fibers were seen crossing into the gray matter of the opposite side, mostly, it appeared, by way of the posterior commissure. In no case could fibers be traced to the large cells of the anterior horns. Mellus next describes and discusses the effects of destruction of the various other motor areas, the thumb, which could be traced to the third dorsal, the facial, which varied, but in some cases could be traced to the facial nucleus, and a small number of degenerated fibers were found sometimes as far down as the seventh or eighth cervical root, thus explaining, probably, the hand and arm movements observed after stimulation of the facial centers.

55.—**Acute Anterior Poliomyelitis.**—Packard reports in detail two cases of this affection occurring simultaneously in brother and sister, and reviews the literature for similar cases. He suggests infection as a causal factor, at least in some cases.

59.—**Conus Medullaris and Cauda Equina.**—Wood describes affections of the conus medullaris and of the cauda equina, their diagnosis, prognosis, etc. Those of the conus are characterized by disorders of the genito urinary organs and the colon, and are not attended with pain. The first symptoms are vesical irritability and constipation, these soon followed by urinary retention and fecal incontinence. Later there may be complete motor and sensory paralysis of the organs. Impotence is usually an early as well as a late symptom. The diagnosis is from these symptoms, and largely by exclusion. Diseases of the cauda have less characteristic symptoms and these depend largely upon the portion of the cauda involved. As this part is really a bundle of nerve roots, the pain is that of a neuritis, though associated with other local sensory disorders, anesthesia, hyperesthesia, etc. Motor disturbances generally take the form of paralysis. There are also trophic disorders, disorders of the reflexes, genito urinary organs, colon, etc., and the diagnosis is made on the coexistence of these asymmetrically. Paradoxic ischuria, i. e., alternating incontinence and retention, has been thought by some to be characteristic. The prognosis of conus disease is very grave; there is no condition of non-organic involvement of the part known. That of cauda disease is also serious though not, perhaps, so hopeless. Unless of syphilitic nature, these diseases do not yield to treatment; surgical interference may possibly be of use in the affections of the cauda, if from traumatism or tumor. Other measures that have been proposed, counter irritation, etc., are of dubious utility.

61.—**Aural Massage.**—Seiss calls attention to aural massage, of which pneumatic vibration is the safest, simplest and most useful form, its uses and contraindications. It is of value in disorders that have caused rigidity of the drum without any active, inflammatory process, chronic otitis of purely catarrhal type, true aural sclerosis, and fibrous senile degeneration of the ears. He concludes with a caution that it is only useful in trained hands, and if used without careful study is as capable of harm as of good.

63.—**Bichlorid Treatment of Tear-Duct.**—Wamsley reports three cases in which advantage was derived from injections of a 1 to 1000 solution of bichlorid of mercury into the abscess cavity. He also claims that these are beneficial in cases of chronic purulent discharge without abscess. He uses cocain first, before giving the injection.

65.—**Bacteriology of Accessory Sinuses.**—Pearce reports results of the antra and other accessory sinuses of the nose in fifty cases of fatal diphtheria and scarlet fever, either alone, combined together, or with other diseases. They show that infection of the antra is very common in fatal cases of scarlet fever and diphtheria. The common microbes found were the diphtheria bacillus, the pus cocci and the pneumococcus. The inflammatory changes in the antra, however, were not such as to reveal themselves during life. The question still remains whether these antrum infections also occur in cases that recover, which Pearce thinks is probable, and may explain some of the after-symptoms of these disorders.

67.—**Disinfectants.**—Harrington and Pearce report the results of experiments with various proprietary disinfectant preparations sold by druggists, to test their power to destroy germs of typhoid, diphtheria, etc., and tabulate the results. Some seventeen different preparations were tested, among them, Platt's chlorids, bromochloralum, phenol sodique, etc. Only two of the list were universally effective. One of these was a preparation containing a fairly large amount of cresols and the other a 1 per cent. solution of formaldehyde. The general results were, as will be seen, generally unfavorable, and the authors state that the cost of these proprietary remedies is very much in excess of that of large volumes of those agents which yield the best results.

68.—**Nasal Polypi.**—Wright reports an aberrant case of nasal polypus and discusses the etiology and pathology of these formations. In this particular case the growth persistently recurred in a girl of 16, without evidence of chronic inflammatory action. It was confined to one spot on the inferior turbinated, the rest of the nasal mucosa seeming perfectly healthy. All the polypi contained cysts and some of them seemed hardly more than blebs which burst and collapsed when the snare was tightened. He concludes that edematous infiltration of the nasal mucosa, either sessile or in the form of polypi, may result: 1, from mechanic obstruction of venous return by the product of inflammation in the mucosa or in the underlying bone; or 2, from the vasomotor phenomena accompanying chronic inflammation; or 3, from the vasomotor phenomena present in neuroses which may give rise to hay fever and bronchial asthma. Analyzing his case, he refers it to the third of these formulæ, i. e., that there was some sharply localized vasomotor disturbance leading to rapid effusion of serum from the vessels.

70.—**Agoraphobia and Ear Disease.**—Guye calls attention to the relation between ear diseases and the neurasthenic obsession known as agoraphobia, a relation noticed by Lannois and Tournier within the past year. He reports two cases briefly and hopes that specialists who meet with this condition will look for pathologic aural conditions.

73.—**Massage in Deafness.**—Webster reports observations of six cases treated by pneumatic massage through a Siegel's speculum, by means of an air-pump controlled by an electric motor. The results, as regards hearing, were good (improvement) in four cases of the six; as regards tinnitus they were all good, and in one relief was complete. The cases in which hearing was most benefited were those in which suppuration had recently ceased. He concludes that pneumatic massage is a useful adjunct to treatment in conditions of deafness and tinnitus following chronic suppurations of the middle ear, where the suppuration has ceased and the middle ear is dry, as in the cases treated. He sees no special advantage in rapid over slow vibrations; a motor is, there, only a convenience to the operator

FOREIGN.

British Medical Journal, April 8.

Open Air Cure of Consumption. C. Theodore Williams.—German sanitariums for consumptives, where the open-air treatment of consumption is carried on, are discussed with the two systems there, the Dettweiler, where the patients spend most of their time in the open air in the so-called Liegehallen, and do not take much active exercise, and the Nordrach system, where a large amount of exercise is prescribed. He speaks highly of these institutions.

Etiology and Prevention of Tuberculosis. D. S. Davies.—The causation of tuberculosis is reviewed, with the history of the subject since the infectiousness of the disease has been generally recognized. He admits the possibility of direct heredity, but thinks it must be exceedingly rare. The danger from food is a real one, especially from milk, which is so generally used in the raw state. As regards notification, he believes that a voluntary system and registration would be of great benefit.

Hysterectomy as Conservative Operation. J. Bland Sutton.—The writer pleads for conservative hysterectomy and concludes: "A careful consideration of all the facts makes it clear that the uterus can only be considered as a receptacle or reservoir wherein oösperms may develop. It is secondary, and certainly subservient, to the ovaries. It is not a vital organ, and its removal entails two physiologic sequelæ in women during the sexual period of life, namely, amenorrhea and sterility. It is necessary to discuss the uterus in this way because of the notion or superstition that there is something which distinguishes the uterus from other viscera, and that its removal is followed by mental abberation and other serious nervous disturbances. All this is now known to be mythic, but a careful consideration of the physiology of the ovary in the light of increased knowledge, mainly the outcome of surgical enterprise, leads us to a better appreciation of ovarian dominance, and its tyrannic influence over the life and well-being of women."

Treatment of Distended Small Intestine. A. Ernest Maylard.—In cases of bowel obstruction, the bringing of the obstructed portion to the open air and making in it a longitudinal incision through which the contents are gently forced as they pass through his hands, by the assistant, while the operator seeks for the obstruction, is recommended. He thinks that this method has decided advantage in relieving the system of toxic agents in the retained excretions. The amount of handling that the bowel has to undergo is necessarily considerable, but this he does not think a disadvantage. He reports two cases in which this operative method was successful.

Lancet, April 8.

Operative Treatment of Varicose Veins. A. Pearce Gould.—The writer has operated by excision of a portion of the saphenous vein, according to Trendelenburg's method, in some fifty cases, which he reports in tabulated form. In several cases he used a modification of the method, making the excision above the varix, preferably just below the junction with the femoral vein, and when this was done the success was much more uniform and satisfactory. In case of the complication of aseptic thrombosis, one of the most troublesome ones in varicose veins, he believes that excision of the thrombosis is to be recommended. He reports and figures two cases thus successfully operated on.

Chronic Mediastinitis. Thomas T. Whipham.—This paper, begun in the *Lancet* of April 1, concludes with a general discussion of the subject, its literature, causation, complications, diagnosis and treatment. From the data at command, the essential cause is not very clear. There appears to be no one antecedent affection that can be regarded as causal. While the disease is an indurative mediastino-pericarditis, the heart itself is not necessarily involved. In some cases it has been found normal. The kidneys may be congested, but are not always so; the urine frequently contains albumin, but this is more dependent on the state of the circulation than on organic kidney disease. Ascites was present in a large proportion of the cases, accompanied by chronic thickening of the peritoneum, not necessarily connected with cirrhotic liver, which was present in only a proportion of the cases. The cause of the chronic peritonitis is, therefore, still obscure. The spleen was affected in a considerable proportion of cases where any details are given of its condition. The pleura appears to have been very generally involved. The diagnosis is often difficult, owing to the effusion in the serous cavities. Drs. Taylor and Sutherland call attention to swelling of face, cyanosis of lips, and early ascites as suspicious signs. Treatment is of little avail after the condition is established, and the lack of clear, early symptoms or history of cause preclude prophylactic measures. Whipham advises special care in the convalescence of children in acute rheumatism as a possible preventive in some cases.

Exploratory Operations on Stomach for Obscure and Obstinate Gastric Symptoms, etc. A. Ernest Maylard.—The author suggests the usefulness of exploratory operative measures in gastric disturbances which do not yield to other methods, or in which the diagnosis is not sufficiently clear to inform us as to the therapeutic treatment. He objects to the persistent usage of lavage and other similar measures when a simple and comparatively harmless exploratory operation would be more satisfactory. He reports a case in detail to illustrate his remarks.

Experiments With Pane's Antipneumococcic Serum. J. W. H. Eyre and J. W. Washbourne.—Allusion is made to the fact that the authors had employed the antipneumococcic serum in 1897 and successfully treated cases of pneumonia with it. They then refer to Pane's publication on the same subject and the fact that he is now preparing the serum obtained from donkeys, in large quantities. They obtained some of his preparation and tested it on rabbits to see whether its effects on their pneumococcic cultures were the same as those in their former experiments, with apparently satisfactory results, their findings practically coinciding. The experiments are, as they say, of special interest in showing that the serum will protect against pneumococci obtained from two different sources.

Ice or Heat as a Local Application. William Ewart.—Three cases of joint affections treated by rubbing with ice, which afforded an immediate relief from the pain, are reported. He has also used it in relieving pleuritic pains in acute pneumonia of the base, with apparently encouraging results. In conclusion he refers to the methods used by Dr. Kinnear of New York, with the spinal ice-bag, in chronic rheumatism and lumbago, which he reports of great benefit.

Habana Medica (Cuba), March.

Differentiation of Malarial Bilious Fever and Yellow Fever. E. Edelmann.—"Fiebre de borras," which affects creoles and acclimated persons in Cuba, has only recently been recognized as a true yellow fever and distinguished from severe malarial bilious or hematuric fever. Vomiting, albuminuria and icterus may occur in the latter and the patient may die with melanuria, delirium and coma, but the temperature curve and the hematozoa in the blood indicate its nature, and quinin may cure it. "All the essential fevers seem to have taken out naturalization papers in Cuba and established themselves as permanent residents."

Journal des Sciences Medicales de Lille, April 1.

New Method of Disinfecting Wounds and Obliterating Bone Cavities. P. Coudray.—Guilmeth, the inventor of coryl and the coryleur (vide Journal, p. 759), combines an antiseptic, usually iodoform, with ethyl chlorid. This fluid boils at 10 C. and, raised to a temperature of 20 to 25 C., issues from the apparatus as a gas (ipsilene gas) under a certain pressure. Used to spray wounds, it penetrates into the deepest crevices, carrying the antiseptic with it; sweeps out all the effusions, necrosed particles and ineffective agents, leaving a thin coating of iodoform adhering. The chlorid also dissolves fatty matters, an important chemic factor in the disinfecting process. The slight refrigeration induced stimulates granulation. Coudray has applied the same principle to the regeneration of cavities in bones. Phosphate and carbonate of lime are combined with the chlorid and the cavity sprayed with the mixture. In one case a large cavity in the end of the femur filled up completely with four sprayings in the course of a month.

Journal de Medicine de Paris, April 2.

Ovarian Therapy in Epilepsy. Toulouse and Marchand.—Five cases of epilepsy were submitted to this treatment, in which the appearance of the epilepsy had coincided with the natural or artificial menopause or with irregularities in menstruation. The general health was not affected by the medication in any way, and no accidents of any kind were noted. Fresh raw ovaries from cows were administered, with no other medication; a cold douche once a week. One patient who had never menstruated commenced to have regular menses after the ingestion of a gram a day for thirty-eight days. The menses also returned after fifty two days in another case in which they had been suspended for four years. Ovarian therapy, the writers conclude, tends to re-establish the menstruation; it is harmless and has the effect of slightly diminishing the number of epileptic seizures, and diminishes very much the number of attacks of vertigo.

Presse Medicale (Paris), March 29.

Treatment of Metritis with Chlorid of Zinc. R. Romme.—P. Delbet has modified and improved this treatment of metritis, avoiding injury to the cervix. He instills one or two cubic centimeters of a 20 to 40 per cent. solution of the zinc chlorid into the fundus of the uterus with a Braum or Colin syringe. Three injections are the minimum for a cure, from this to seven, at intervals varying from two to fifteen days. There is no danger with care, but the installations are frequently painful. A preliminary injection of a little 5 per cent. cocain solution will prevent the pain to some extent. Delbet has an experience of sixty-two cases thus treated during the last two years, and states that the results are remarkably fine in hemorrhagic metritis, and satisfactory in mixed metritis, but less successful with the glandular variety. This treatment is fully as effective as curetting, while it does not require anesthetics nor repose afterward. Another advantage is its value as a prophylactic measure against cancer by its destruction of the membranous lining of the uterus (vide Journal, p. 494).

Intervention for Bullet-Wound in Heart. G. Marion.—An interesting point noted in this case (operation too late) was that artificial respiration by traction of the tongue lifted the entire heart abruptly at each traction as if by strong aspiration, demonstrating the efficiency of this method of artificial respiration which produces a vacuum sufficient to force the heart up.

Nephroptosic Cachexia and Hammock Nephropexy. Bazy.—A wandering kidney may entail digestive disturbances and pain, leading finally to cachexia, which nothing but nephropexy will relieve. Bazy advocates the direct fixation of the kidney to the intercostal muscles and to the anterior face of the last rib, with the cellulo-adipose capsule suspended from the same rib.

Berliner Klinische Wochenschrift, No. 12.

Introduction of Foreign Serum into Circulation. H. Friedenthal and M. Lewansowsky.—When an albuminous preparation is to be introduced into the organism for alimentary purposes, it must be of a nature to be easily assimilated and free from germs and toxins. Animal blood serum possesses these three qualifications when the toxicity has been abolished by heating it for two hours to 55 or 60 R. This deprives it of all globulicidal and toxic properties, and large amounts can be injected without injury. The article even suggests that serum from blood obtained at human venesection might be utilized in this way.

Deutsche Medicinische Wochenschrift (Berlin), March 30.

Visor Plastic Substitution of the Lower Lip. A. Stieda.—A eulogy of this simple and effective method of correcting the defect after removal of the lower lip for cancer, as practiced on twenty cases at Eiselsberg's clinic, Königsberg. The entire lower lip is removed with a semicircular incision, and a second incision made under the chin—the suicide's incision. The bridge of intervening skin is then mobilized and raised like the visor of a helmet until it fills the place of the absent lower lip. A few stitches at each corner are all that is required besides the compressing bandages. The defect under the chin is partially covered by drawing up the elastic skin from below over it and the rest left to granulate spontaneously. The cosmetic and functional results are remarkably good, but one of the chief advantages of the procedure is that the lymph-glands of the region can be conveniently extirpated through the incision under the chin, thus ensuring against recurrence of the growth.

Value of Intracerebral Injections as a Means of Testing Preparations of Tuberculosis Toxins. F. Neufeld.—Research at the Berlin Institute for Infectious Diseases has failed to confirm the assertions of Roux, Lingelsheim and others in regard to the value of intracerebral injections for this purpose. The results were so negative and contradictory that no reliance can be placed upon tests by this method.

Memorabilien (Heilbronn), March.

Hemorrhage with Low Placenta. G. Fieux.—Observation of a case of persistent hemorrhages during the first months of pregnancy in which fetal membranes spontaneously ruptured and all hemorrhage was checked at once, induced Fieux to imitate nature's method and perforate the membranes in these cases. The procedure has been invariably successful. In one case he had to bore through the placenta to reach the membranes.

Munchener Medicinische Wochenschrift, March 28.

Contribution to Etiologic Statistics of Carcinoma Uteri. F. Blumenfeld.—Between 1884 and 1898, 678 cases of carcinoma uteri were treated at the Munich University Clinic—the average age 45.05 years; the youngest 24 and the oldest 73. Comparison with Gusserow's statistics, 2265 cases collected between 1850 and 1880, shows a larger proportion lately among younger women (5 to 6 per cent. more between the thirtieth and fortieth years). The apparent increase in the total number observed of recent years is probably due to improved methods of investigation. Of the total 678 only 2.5 per cent, were primary carcinoma of the corpus, for which the average age was 49.4 years. Three were nulliparæ; the rest had an average of 5.07 children. The average age of the first menstruation was 14.8 years in the total of 678. Dysmenorrhea and menorrhagia for three previous years was noted in 9 per cent., and it is evident from the records that catarrh of the endometrium induces a predisposition to carcinoma. The connection between the neoplasm and the menopause seems less evident than usually assumed. The average age for the menopause in the 128 cases in which it was recorded was 47.4. Of the 678 carcinomata, 405 had developed before this age, and even comparing the seven years preceding and the seven following this date, we find 188 cases between 40 and 46 and only 135 between 47 and 53 years of age. Of the 678 cases, 3.5 per cent. had never borne children. Of the rest, 216 had 2.7 pregnancies recorded and 351, 8.8. Over a fourth had at least one abortion and five abortions were recorded in a number. In 41 cases the carcinoma dated from the last childbed, and in 11 from the last abortion. A third of all the cases had a record of difficult delivery, and lacerations of the cervix were noted in a fourth. Obstetric operations were recorded in 183 cases, one to each 20.4 births, once again as often as in ordinary practice; version and manual deliverance of the placenta were also much more frequent than usual. Adding to these figures 21 cases of gynecologic operations the records show that every third woman of the 678 had undergone some surgical operation in the uterus. The influence of heredity was noticeable in 11 per cent. In four cases several members of the family had carcinoma of the uterus, or in the males, of the stomach. Tuberculosis was also recorded in the families of 261, but only 3.2 per cent. of the carcinoma cases were tuberculous.

Pathogenic Streptothrix Isolated from the Sputum. W. Rullmann and F. Perutz. This is a further study of the case described in No. 29, 1898, in which an affection closely resembling tuberculosis was found to be entirely dependent upon a streptothrix. Pure cultures developed on blood serum, in twenty-four hours, a characteristic film with raised edges and five raised radiating divisions, easily lifted from the serum but tenacious in structure. The colonies below are smaller, with a wavy outline and consist of several layers of spheric bodies. The streptothrix was not affected by blood from guinea-pigs but was killed in twenty-four hours with a pleural effusion experimentally produced in rabbits. The writers conclude by reproducing Flexner's report of a similar case of pseudotuberculosis hominis streptothricha (*Jour of Ex. Med.*, July-September, 1898), which asserts that histologic investigation alone is unable to differentiate it from true tuberculosis.

Bulbar Paralysis without Apparent Anatomic Foundations. Schule.—Here is described an observation of a woman without antecedents, succumbing with the clinical picture of a bulbar paralysis with paresis of all four extremities, but with no manifestations of muscular atrophy nor disturbances in the sensorium or sphincters nor cerebral symptoms. The autopsy was absolutely negative. Nothing abnormal could be detected even with the Marchi test, except a few fresh tiny hemorrhages in the medulla oblongata.

Janus (Amsterdam), April 15.

Paludism and Mosquitoes. A. Laveran.—The only statement in the article not already familiar to the readers of the Journal, perhaps, is that the eggs of certain kinds of mosquitoes retain their vitality in the soil for quite a while after it has become dry, although prolonged desiccation destroys them. He mentions as an instance Professor Giard's experience with a box of soil sent him from a marsh in Guiana, for some special research. The dirt was very dry when it arrived, but quantities of mosquitoes developed from it after it had been remoistened. Laveran appeals to all observers favorably located to make a thorough study of the relations between paludism and mosquitoes and report results, especially in regard to the varieties of mosquitoes involved.

Anales del Circulo Medico Argentino (Buenos Ayres', January 15.

Postemsky's Thoracotomy Applied to Hydatid Cysts of Lungs. N. Repetto.—A horizontal incision is made in the thorax parallel to and immediately below a rib, carrying the incision up across the rib at each end. The rib is then divided at each end of the incision, loosened from its periosteum and turned over backward, exposing the pleural wall below. This is then incised and the lung seized immediately with a couple of Kocher forceps and drawn up and slightly out of each end of the incision in the pleura, thus closing it and preventing the ingress of air and the collapse of the lung. The lung is then incised between the forceps and the cyst extirpated according to Posadas' method (vide Journal, p. 783). The opening into the pericyst is then sutured, the lung next, the forceps removed and the pleura sutured as rapidly as possible. The fragment of the rib is then replaced and two to four stitches taken in the periosteum to hold it in place; suture of the muscles, and then of the skin; no drainage. A successful case is illustrated. Posadas has performed this operation eight times with six prima intentio recoveries, one with marsupialization. One proved to be a gangrenous cavity and the patient died from shock.

Cronica Medica (Lima, Peru), February 15.

To Determine Vitality of Tissues in Severe Traumatisms of Members. Tito Costa.—The author bases his prognosis on the reaction that follows fifteen minutes application of an Esmarch tourniquet, as active hyperemia indicates continued relations between the nerves and vessels of the peripheral injured tissues and the sound central parts.

Association News.

Columbus Meeting.—Among other plans for the coming meeting of the Association are the following: A reception to the visitors will be given on June 8, at the Columbus auditorium, to which the members of the board of trade and their wives will be invited. Governor Bushnell will give a reception in their honor at the State capitol. An informal entertainment will be given at the Great Southern and in addition there will be many receptions in private houses. Mrs. Canfield will have charge of the entertainment of the ladies and she will be assisted by the members of the art association and the federated clubs. There will be an entertainment at the Country Club and at the Ohio State University. The badges for the delegates will be of sterling silver, of neat and appropriate design.

The revised assignment of meeting-places is as follows: General sections, Grand opera house; Practice of Medicine, senate chamber; Diseases of Children, house of representatives; Surgery and Anatomy, First Congregational church; Gynecology and Obstetrics, Y. M. C. A. auditorium; Cutaneous Medicine and Surgery, First Congregational church; Ophthalmology, Y. M. C. A.; Laryngology and Otology, Y. M. C. A.; Neurology and Medical Jurisprudence, First Presbyterian church; State Medicine, Stomatology, committee rooms, State house; Physiology and Dietetics, committee room, board of trade; Materia Medica, Pharmacy and Therapeutics, council chamber, city hall.

Section on Stomatology.—The members of this Section are, as a rule, dentists or those who devote their attention to surgery of the mouth. Dentists, graduates of reputable colleges, can become members and participate in the meetings of the Sections, in the same way as other professional men.

Section on Pediatrics.—The following papers will be read before the Section at the Columbus meeting (no morning sessions):

June 6.

1. The Death-Dealing Long-Tube Nursing-Bottle. Ernest Wende, Buffalo, N. Y.
2. Infant Feeding. Jos. W. Stickler, Orange, N. J.
3. Toxic Human Milk. E. W. Saunders, St. Louis, Mo.

4. Acute Colitis and Enterocolitis. Francis A. Thompson, Milwaukee, Wis.

5. Constipation in Infants. H. M. McClanahan, Omaha, Neb.

6. So Called Congenital Obliteration of the Bile-Ducts. Frank X. Walls, Chicago.

7. Some Thoughts on Physiologic Elimination in all Pathologic Conditions. J. A. Work, Elkhart, Ind.

8. The Small Boy. Samuel Knox Crawford, Chicago.

9. Importance of a Knowledge of the Development or Evolution of a Child in the Treatment of Children's Diseases. E. Stuver, Fort Collins, Colo.

10. Infantile Diseases from the Standpoint of Biology. Jos. Clements, Kansas City, Mo.

June 7.

11. Early Recognition and Treatment of Mental Defects in Children. Harold N. Moyer, Chicago.

12. Hysteria in Children. Ed. E. Mayer, Pittsburg, Pa.

13. Infantile Convulsions; Their Cause, Nature and Management. C. G. Slagle, Minneapolis, Minn.

14. Spasmus Nutans. Isaac A. Abt, Chicago.

15. Study of the Heart and Circulation in Feeble-Minded Children. John M. Taylor, Philadelphia, Pa.

16. A Contribution to the Study of Angioneurotic Edema. F. W. Houghton, Council Bluffs, Iowa.

17. The Infantile Umbilicus: Its Diversities and Dangers. A. E. Gallant, New York City.

18. Treatment of Septic Conditions in Children. Edwin Rosenthal, Philadelphia, Pa.

19. May Not Gonorrheal Vulvovaginitis be Acquired by Children Indirectly? Chas. O'Donovan, Baltimore, Md.

20. Some Points Concerning Antitoxin in the Treatment of Diphtheria. Louis Fischer, New York City.

21. Some Facts Concerning Tuberculosis in Children. John A. Robison, Chicago.

22. Dynamics of Puberty. Marcus P. Hatfield, Chicago.

June 8.

23. Practical Points in the Treatment of Inherited Syphilis. C. Travis Drennen, Hot Springs, Ark.

24. Early Recognition of Constitutional Syphilis in Children, by Country Physicians. W. A. Dixon, Ripley, Ohio.

25. Differentiation Between Syphilides and Cutaneous Disorders. Chas. W. Allen, New York City.

26. Cutaneous Manifestations of Influenza as Seen in Young Children. W. C. Hollopeter, Philadelphia, Pa.

27. The La Grippe Exanthemata. Harriet E. Garrison, Dixon, Ill.

28. Scarlet Fever: A Clinical Study. Annie S. Daniel, New York City.

29. Scarlet Fever. R. B. Gilbert, Louisville, Ky.

30. Some Observations in Heart Lesions in Scarlet Fever. Eliza M. Sturgis, New York City.

31. Congenital Dislocation of the Knee. John Ridlon, Chicago.

32. Notes on Fractures of the Long Bones Without Deformity. Jas. Porter Fiske, New York City.

33. Frequency of Rickets in Infancy in Boston and Vicinity. John Lovett Morse, Boston, Mass.

34. Thyroids in Juvenile Obesity. I. N. Love, St. Louis, Mo.

35. Cretinism. H. D. Jerowitz, Kansas City, Mo.

36. Membranous Tonsillitis of Influenza. Rosa Engelman, Chicago.

Section on Ophthalmology.—The program for this Section includes the following addresses (by invitation):

"Advances in the Surgical Treatment of Strabismus." Dr. Edmond Landolt of Paris.

"Some Points in the Symptomatology, Pathology and Treatment of the Sinuses Adjacent Accessory to the Orbit." Dr. Chas. Stedman Ball of New York City.

"The Rise of Ophthalmic Surgery in the United States of America." Dr. Charles A. Oliver of Philadelphia.

Papers will be presented to the Section by members as follows:

1. Aluminium Spheres as a Substitute for Glass Balls in Mules' Operation. D. C. Bryant, Omaha, Neb.

2. Treatment of Trachoma by Cupric Electrolysis. George F. Keiper, Lafayette, Ind.

3. Fractures of the Orbital Plate of the Frontal Bone, with Report of Cases. J. O. McReynolds, Dallas, Tex.

4. On Seeing the Capillary Circulation in One's Own Retina. C. E. Norton, Lewiston, Me.

5. Uncommon Expressions of Ethmoidal Sinus Disease and its Ocular and Orbital Symptoms. Robert Sattler, Cincinnati, Ohio.

6. Subjectoscope or Some Subjective Visual Sensations. Hamilton Stillson, Seattle, Wash.

7. Nutrition of the Crystalline Lens and its Relation to Cataract Formation. Lewis Stricker, Cincinnati, Ohio.

8. Excessive Myopia: When Should We Operate and How? Andrew Timberman, Columbus, Ohio.

9. Quinin Blindness in a Young Child. H. Moulton, Fort Smith, Ark.

10. Nasal Stenoses in their Relation to Ocular Disturbances. Bryson Delavan, New York City.

11. Eye Troubles Attributable to Nasopharyngeal and Aural Disturbances. Joseph A. White, Richmond, Va.

12. Diseases of the Accessory Sinuses in their Relation to Diseases of the Eye. J. H. Bryan, Washington, D. C.

13. Cyst of the Iris Following Iridectomy for Cataract Extraction. S. C. Ayers, New York City.

14. Relation of Accessory Cavities to Ocular Affections. C. R. Holmes, Cincinnati, Ohio.

15. Ocular Manifestations of Arteriosclerosis, with Report of Cases. Charles H. Beard, Chicago.

16. Pathologic Influence of Antral Cystitis in Lachrymonasal and Ocular Lesions. S. Lewis Ziegler, Philadelphia, Pa.

17. Analysis of Cases of So-called Chronic Glaucoma, with Special Reference to the Visual Field. Geo. E. de Schweinitz, Philadelphia, Pa.

18. Operative Treatment of Chronic Glaucoma. Alex W. Stirling, Atlanta, Ga.

19. Whether to Operate in Glaucoma Simplex: An Analysis of 16 Cases. Robert L. Randolph, Baltimore, Md.

20. A Clinical and Pathologic Study of a Case of Hemorrhagic Glaucoma. Wm. Campbell Posey, Philadelphia, Pa.

21. Significance of Certain Rare Forms of Ametropia. S. D. Risley, Philadelphia, Pa.

22. Management of Cases of High Anisometropia. Edward Jackson, Philadelphia, Pa.

23. Astigmatism After Cataract Extraction. C. F. Clark, Columbus, Ohio.

24. On Very High Astigmatism. T. B. Schneidemann, Philadelphia, Pa.

25. Surgical Treatment of High Degrees of Myopia. H. V. Würdemann, Milwaukee, Wis.

26. Experiences of Secondary Capsular Operations. J. M. Ray, Louisville, Ky.

27. National Recognition of Eyestrain Reflexes. Geo. M. Gould and Helen Murphy, Philadelphia, Pa.

28. On Variations of the Cylinder Axis (Torsion of the Globe) in Distant and Near Fixation. W. Franklin Coleman, Chicago.

29. Radical Cure of Vernal Conjunctivitis. L. Webster Fox, Philadelphia, Pa.

30. The Papillitis Accompanying Brain Tumor. John E. Weeks, New York City.

40. Some Questions Arising During the Treatment of Migratory Ophthalmia. Adolf Alt, St. Louis, Mo.

41. Some Clinical and Pathologic Notes on Migratory Ophthalmia. Harold Gifford, Omaha, Neb.

42. The Question of Operation on the Injured Eye in Sympathetic Ophthalmia. Robert Sattler, Cincinnati, Ohio.

43. Value of Cycloplegia in Optometric Examinations. C. M. Culver, Albany, N. Y.

44. Why the Negro Does Not Suffer from Trachoma. W. M. Cowgill, Paducah, Ky.

45. Demonstrations of Moist Specimens Showing Relations of Accessory Sinuses to Orbit. C. R. Holmes, Cincinnati, Ohio.

46. Concerning Bacteriology of Acute Catarrhal Conjunctivitis. C. A. Veasey, Philadelphia, Pa.

47. Report of a Case in Which Both Eyes Were Lost From Intraocular Hemorrhage After Cataract Extraction. Albert R. Baker, Cleveland, Ohio.

48. Secretion and Exudation Considered as a Factor in Diseases of the Eye. Jno. W. Wright, Columbus, Ohio.

49. A Case of Convergent Strabismus Measuring Sixty-two Degrees (Observed in the Clinic of Dr. Edmond Landolt) and its Management. William B. Meaney, Louisville, Ky.

50. Mucocele of the Newborn. Clark W. Hawley, Chicago.

51. The Phorometer or Maddox Rod; Which? Alvin A. Hubbell, Buffalo, N. Y.

52. A few Thoughts Indicating a Causative Connection Between the Uric-acid Diathesis and Astigmatism Against the Rule. Louis J. Lautenbach, Philadelphia, Pa.

53. Report of a Few Cases of Retinal Disease Following Febrile Affections that Attacked the U. S. Troops in Porto Rico During the Recent Campaign. W. K. Rogers, Columbus, Ohio.

54. Relation Between Glaucoma and Detachment of the Retina; With Report of a Case. Allen C. Haight, Chicago.

55. Relative Frequency of Iritis in Syphilis and Rheumatism Observed in 300 Cases. Randolph Brunson, Hot Springs, Ark.

56. Electrocautery in Affections of the Lids and of the Cornea. Flavel B. Tiffany, Kansas City, Mo.

Readers of papers are requested to send *at once* to the secreary, Dr. Charles H. Williams, the names of three members of he Section, with whom arrangements can be made for the discussion of their papers.

Necrology.

Peter Pryne, M.D., Geneva Medical College, N. Y. (now extinct), 1846, died at his home in Herkimer, N. Y., April 13, aged 79 years. He was a descendant of some of the oldest Dutch settlers, near Albany, N. Y., and was a surgeon in Sing Sing prison from 1860 to 1870, and from 1871 to 1873.

Robert Loughran, M.D., Albany, N. Y., 1857, died in Kingston, N. Y., of cardiac disease, April 11, aged 67 years. In 1860 and 1873 he represented the 1st Ulster district in the State Legislature. During the Civil War he was surgeon of the 80th regiment N. Y. Vol. Inf., and afterward was for many years a pension examining surgeon. He had also been health officer of Kingston and was widely known as a public-spirited sanitarian.

W. L. McBryer, M.D., assistant-surgeon of the Sixteenth Pennsylvania Volunteers during the late war with Spain, died in Pittsburg, April 10, aged 37 years.

R. G. Jennings, M.D., Little Rock, Ark., died April 5. Dr. Jennings was born in Maine in 1833, and was graduated from the Medical School of Maine in 1856. After the Civil War he became contract surgeon at the Federal garrison at Fort Steele, Little Rock. After the war he began the practice of medicine in Little Rock, where he became one of the founders of the medical department of the Arkansas Industrial University and was for a number of years a member of the faculty. He was also for several years a member and secretary of the State board of health.

James B. Gibson, M.D., formerly senior surgeon of the Manhattan Eye and Ear Hospital of New York, died in Colorado Springs, Colo., April 10.

James McAlpin, M.D., Sommerville, Pa., died April 9. He was born in Clarksburg, Va., in 1825, and was graduated from the University of Pennsylvania in 1857. The Doctor was somewhat prominent as an artist, two of his most noted pieces being the "Wrath of Diana" and "Ocean Life."

Wm. L. McAllister, M.D., Pasadena, Cal., died April 8. During the Civil War he served in the 134th Indiana and afterward was graduated in medicine from the Indiana Medical College. He located in Pasadena in 1886.

W. P. [illegible]drick, M.D., of the Northern State Hospital for the Insane, Oshkosh, Wis., died at Rochester, Minn., April 7. . . T. H. Briggs, M.D., Battle Creek, Mich., a member of the county and State societies and of the American Medical Association, died April 7. . . Thos. E. Collier, M.D., Atlanta, Ga., April 12, aged 64 years.. . . Henry W. Ewers, M.D., Troy, N. Y., April 7, Castletown Medical College of Vermont, class of 1853. . . D. L. McDonald, M.D., Shiremanstown, Pa., April 11. . . Granville W. Prizer, M.D., Lionville, Pa., April 5, aged 58 years. . . E. R. Travers, M.D., Amboy, Ill., April 13, aged 67 years.

DEATHS ABROAD.

C. Lange, M.D., aged 86 years, Potsdam, Germany, a popular novelist, under the pseudonym of "Philipp Galen." . . A. Knorr, Munich, docent of the veterinary college. . . Professor Studtgaard, Copenhagen, Denmark. . . J. Samelsohn, M.D., Cologne, aged 48 years, a prominent and popular ophthalmologist and author of numerous works on his specialty. . . Prof. P. Bernard of Lille, 40 years of age. . . M. Durand-Fardel, aged 84 years, for forty-five years medical inspector and physician at Vichy, and a much-quoted writer on the subject of mineral waters. . . H. E. Desrosiers, professor of materia medica at Laval University, Quebec. Mavrogheni Pasha, physician-in chief to the Sultan. . . Dr. Tarnovsky, director of the Maternity at St. Petersburg. . . Professor Cricks of Brussels, aged 34 years, from operative infection.

New Instruments.

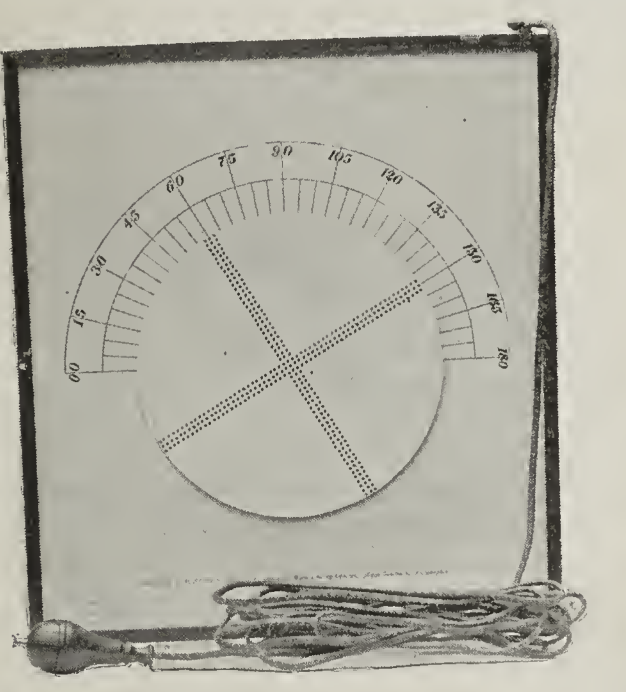
A Pointed Line-Test for Astigmatism.

BY JAMES THORNTON, M.D.

ADJ.-PROFESSOR OF THE EYE IN THE PHILADELPHIA POLYCLINIC AND COLLEGE FOR GRADUATES IN MEDICINE.

PHILADELPHIA, PA.

Having been unsuccessful in finding an astigmatic dial that was mathematically correct in every particular, or one that fulfilled the true definition of the word "a-stigmatism," the writer herewith presents a chart which appears to meet the necessary requirements for normal visual acuity at a distance of six meters. This chart is composed of a series of squares placed in three parallel rows, at right angles to each other, each square and space representing a visual angle of one minute, so that, to the astigmatic eye, the squares will coalesce and appear as straight lines. This chart, mounted on a square card, with peripheral markings, for purposes of record, may be slowly rotated by the surgeon; or when attached to a concealed clock and small battery, can be rotated by means of a push-button in the hand of the patient or physician. To those who use the astigmatic chart for diagnosing astigmatism of small degree, this chart will offer great delicacy and accuracy. Messrs. D. V. Brown & Son of this city are the makers of this chart.



A Simple and Perfect Nasal Tampon.

BY W. H. PETERS, M.D.

LAFAYETTE, IND.

My method of removing tonsils has been so kindly received that I want to give you something else of equal value, namely, a nasal tampon which is perfectly satisfactory and which can be made from materials found in every drug store, and can be made by any man with a little ordinary intelligence. Cut off three common rubber condoms to a length of 3½ inches. Take a No. 9 soft-rubber catheter and snip a few extra holes within two inches of its tip. Insert about two inches of the tip of the catheter into one of the condoms and with common thread wrap the upper half inch of the condom smoothly on the catheter, being careful not to obstruct the lumen of the latter. Now slip a second condom over the first one, expelling all the air between the two, and wrap the upper half inch loosely down upon the similar wrapping below it. Then apply the third in the same manner. This gives us a three-ply, soft tampon which, when wet, can be easily introduced into the nose and inflated by the mouth. It is perfectly self-retaining and closes up the posterior as well as anterior nares. The projecting end of the catheter is bent upon itself and wrapped with a thread or rubber band. The whole of the balloon part is inside the nose. It should not be inflated too tightly, the patient's sense of comfort being a good guide. I leave this tampon in for twenty-four to thirty-six hours and always have a second one at hand ready to replace it. The only antiseptic I use upon it is a saturated solution of common salt.

New condoms must be used, as they become rotten and unreliable with age. The great advantage of this method over tamponing with lint and cotton and fat pork (this latter is seriously said, because country physicians use it very frequently) is that they are very easily inserted and that in deflating them for removal the blood clots are not disturbed. No skill is required to introduce them—the instruction to push them directly backward, not upward, being sufficient to enable the patient or nurse to apply them. I never use styptics, except hot water, and here I will say I precede the use of the tampon by syringing out the nose with hot water. The tampon seems very bunchy and clumsy in appearance. I have very frequently used it, and it is very easily introduced while wet.

I believe this to be original with me: a three-ply soft tampon made on a soft catheter without valves or any unnecessary or expensive parts.

Miscellany.

Personal.—Dr. Henry P. Newman, of Chicago, has been elected to succeed the late Dr. Etheridge as professor of gynecology in the Chicago Policlinic.

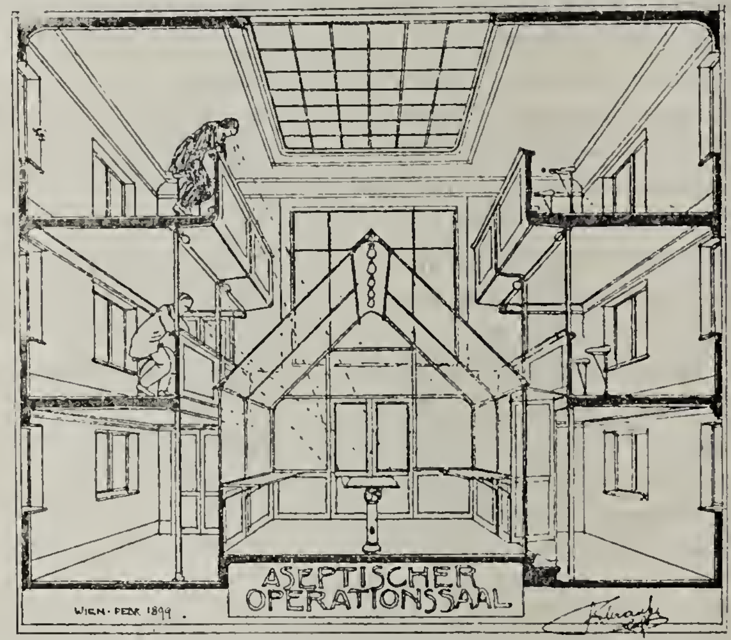
The Bianchini Poisoning Case at Paris.—The principle that poisoning which is not chemically proven does not exist in the eyes of the law, was disregarded in this case, in which a wife was condemned to five years of penal servitude on the depositions of two physicians that they were called to her husband and found him with enormous dilatation of the pupils, stertor, stupor, congestion of the face, throat parched and hallucinations later. He improved by morning, but the next night presented the same symptoms, which re-occurred in this way for a week, until the wife was suspected and the husband isolated, when he recovered at once and permanently. Brouardel and two other experts concluded it a case of atropin poisoning, but two other experts—Gilles de la Tourette and Jean Charcot—testified that it is impossible to diagnose atropin intoxication from symptoms alone.

Soap Treatment of Local Tuberculous Processes.—Prof. A. Hoffa writes to the *Munich Med. Woch.* of February 28, urging the more general adoption of this simple, inexpensive and most effective method. He uses the sapo kalin. venalis transparens of linseed-oil and liq. kal. caust., crud. without alcohol; 25 to 40 gm. are rubbed into the skin of the back from the neck to the knees, with a sponge or the palm of the hand, two or three times a week, usually at night. The soap is washed off with a sponge and warm water after half an hour, and the patient stays in bed over night. He has thus treated over two hundred patients in the last twelve years, with the most satisfactory results, combining with it the local treatment required. The most remarkable cures are obtained in multiple bone and joint tuberculous processes, and he observes, the most effective testimony to the value of the soap is the comparison of cases treated with and without it.

Renal Insufficiency and Freezing-Point of Blood.—Koranyi has established that the functions of the kidney can be readily determined by noting the freezing-point of the blood. In normal subjects the maximum variation is 0.01 from the norm. 0.56, but in anemia and cachexia it is higher than 0.56, and when there is an accumulation of carbon dioxid in the blood, the freezing-point is lower than 0.56 and returns to this figure if the blood is submitted to a current of oxygen. The freezing-point is lower than 0.56 in case of renal insufficiency, and this variation differs from the preceding, as it is not altered by oxygen. The freezing-point is lowered in acetonemia and is lowered still further if the blood is brought into contact with oxygen, as this transforms into acetone the substances in the blood that generate it. In case of renal insufficiency the freezing-point varies within certain limits with the character of the food, which must be borne in mind during the tests.—*Berlin Klin. Woch.*, 1899, No. 5.

Extirpation of Aneurysm of Carotid.—De Castro recently operated on a young woman referred to him from London, as he had published the report of intervention in a similar case, removing an aneurysm of traumatic origin located in the middle third of the primary carotid on the left side, between ligatures. The sac was not completely extirpated, on account of adherences. Light antiseptic non-compressing dressing was applied. To prevent cerebral disturbances, the patient was kept on an inclined plane, insensibly elevated. The left side of the face and head was cold and torpid the first few days, and there was slight syncope when she first sat up. With these exceptions the recovery was smooth and rapid. He has ligated the carotid seven times; twice for aneurysms; four times the internal, with extirpation of the parotid, and once the external for severe injury. There were no cerebral troubles in any except the above case. The lack of compensatory circulation in severe injuries requiring immediate operation constitutes the danger. —*Revista de Méd. y Cir.*, No. 582.

An Aseptic Amphitheater.—It is proposed to rebuild the great General Hospital at Vienna and the *Klinische Wochenschrift* has been publishing a series of articles with suggestions for improved facilities in various lines of hospital work. The aseptic operating-room shown in the cut (from No. 11, March 16, A. Hinterberger), is to some extent a combination of suggestions by Professor Rydygier and the glass operating-room in use at the Policlinico at Rome. It is designed for forty spectators, the seats in the balconies made like bicycle saddles and the railing sloping to serve as a writing desk. The windows through which the preparations are passed out, opens into a vestibule where an attendant passes them along through a window opposite, after the first is closed. Movable standing lamps with a storage-battery in the standard, no wires, are recommended when a side light is desired. The objection that the surgeon can not lecture during the operation is met by having an assistant in the balcony do the talking, which has certain advantages. The approved size for the glass room is about 12½ feet long by 11¼ wide and 6¾ high.



Blood During Life, in Sepsis, Pneumonia, Meningitis and Chronic Diseases.—White (*Jour. of Boston Soc. of Med. Sci.*, February) examined the blood bacteriologically during life, in ninety-eight cases of the above nature; the blood was aspirated directly from a vein into a sterile syringe. The main general conclusions are as follows: Blood for bacteriologic examination during life must be taken directly from the veins, and in considerable quantity. Undoubtedly resorption of toxins is the most mportant feature in cases of sepsis, because it was found that pyogenic bacteria invade the general circulation in rather small proportions even in severe cases, and as a rule, late in the disease. In the latter stages of lobar pneumonia a general pneumococcus infection occasionally occurs and is of evil prognostic significance, as is the finding of specific bacteria in the blood in sepsis. The value of blood cultures during life from the standpoint of diagnosis is somewhat limited because the specific microbes are so infrequently demonstrable; positive cultures are, of course, of great value; negative cultures, on the other hand, do not exclude infection. General terminal infections with pyogenic cocci occasionally precipitate the fatal end in chronic diseases, but local infectious processes play this part more frequently. Contrary to the rather general belief, invasion of the blood current by bacteria during the agony is probably of rather uncommon occurrence.

Autointoxication During Intestinal Occlusion.—Beattie Nesbitt (*Journal of Exp. Medicine*, 1899, iv, p. 1) believes from suitable experiments, that complete occlusion of the lower end of the small intestine will give rise to cholin, neurin and perhaps other bases, provided the food taken contains any considerable quantity of lecithin. It is not improbable that other poisons are also formed by bacterial action from other parts of the food in cases of intestinal obstruction. Neurin is an exceedingly intense poison, and it may be formed by the action of bacteria upon cholin, which is not so markedly toxic by far for human beings. Neurin paralyzes the heart and increases the intestinal movements to a marked extent. Inasmuch as it seems proven that highly poisonous substance may form in the intestinal contents during complete obstruction the washing out of the stomach and so much as possible of the intestine as is now generally done before surgical measures are resorted to, certainly seems indicated in order to remove as much of the poisonous products as possible. The diet should also probably be regulated, at least to the extent of excluding the substances that give rise to large amounts of lecithin, as for instance, eggs.

N. Y. Board of Health and Manufacture of Antitoxin.—Col. M. C. Murphy, president of the New York board of health, April 15, received a delegation of physicians, druggists and business men for the purpose of discussing the question of the board continuing the manufacture of antitoxin for sale. The interest developed by the discussion over the Collier bill, although that measure was defeated, had called the matter to Colonel Murphy's attention, and he willingly met the delegates.

Professor Wilcox of the Post-Graduate Medical College presented the case with accuracy and terse statements. He showed that the authorization of the sales of these laboratory products was obtained under a misapprehension, and that there now existed no reason why the department should continue the system which exposed it to so much adverse comment. He mentioned the fact that the friends of the present system are few, while on the other hand 500 physicians in the city of New York and 1500 throughout the State, including many officers of local boards of health, are opposed to it. In the course of his remarks Professor Wilcox drew attention to the fact that under its present administration the department of health commanded in a far higher degree the confidence of the medical profession than had been the case for some years previously, and for this reason there was less hesitation in coming to the department for the discussion of a matter which so largely commanded the favor of the profession.

President Murphy replied in a very frank and encouraging statement of his aims in the matter. He deprecated anything which might seem to be a reflection on the probity of the department involved in some late criticisms in the lay press. He said that he had been examining into the matter and that at the present time the ablest of the cleric staff of the department were engaged in compiling for his information the full figures of the business done in the sales of antitoxin, and other statistics which would assist him in coming to a decision. He said he had been informed by some physicians that antitoxin would keep for but fifteen days, and if that were so it seemed to be an argument in favor of the sale of the article by the city. He had also been told that antitoxin would keep for eighteen months, and after that would deteriorate but slowly. This was new to him and he should like further information on that point. He was convinced that the department should stop the manufacture of antitoxin except for its own use or for any emergency that might arise. Others who addressed Colonel Murphy in support of the discontinuance of the present system were F. B. Thurber, president of tne U. S. Export Association, Dr. E. Eliot Harris, chairman of the legislative committee of the State and county medical associations, Thomas F. Main, of the drug trade section of the board of trade, and Dr. F. E. Stewart, editor of *Merck's Archives*. In conclusion Colonel Murphy said that he would take into careful consideration all that had been said, and added that they would have no reason to be dissatisfied with the result which he should reach.

Detroit.

Infection Through Clothing.—The attention of health officer Gibbes having been called to the shipments of second-hand goods into the city and the possibilities of introducing contagious diseases through infected clothing—action has been taken by the health board to guard against such a possibility.

Health Report.—For the week ending April 14: Births, male 43, female 28; deaths 94, under 5 years, 30; contagious diseases: diphtheria, last report 4, new cases 8, recovered 3, dead 2, now sick 7; scarlet fever, last report 23, new cases 9, none dead, now sick 20.

Washington, D. C.

Health of the District. —The report of Health Officer Woodward, for the week ended April 8, shows the total mortality to have been 111, 61 white and 50 colored. At the close of the week there were 21 cases of smallpox, 26 of diphtheria and 75 of scarlet fever under treatment. There were 3 deaths from cerebrospinal meningitis, 3 of diphtheria and 1 each from diarrhea, whooping cough and typhoid fever. There were no deaths from smallpox or scarlet fever.

Central Dispensary and Emergency Hospital. — At a meeting of the board of trustees, the 7th instant, Dr. Swan M. Burnett, president of the staff, presented his report for the month of March, which showed: new cases, 506; visits, 1695; prescriptions, 3227; operations (hospital and dispensary), 268; deaths, 6, autopsies, 5; ambulance calls, 79; number treated in wards, 52.

Washington Asylum Hospital.—Dr. D. Percy Hickling, visiting physician to the Washington Asylum Hospital, has again called the attention of the commisssoners to the overcrowded wards of that institution. He says that at present the colored male ward of the hospital contains 40 patients, while it has accommodation for but 25. He makes some valuable suggestions for correcting the abuse.

District Physicians and Beef Inquiry.—Dr. R. A. Pyles, chief surgeon and Dr. S. Clifford Cox, assistant surgeon of the First D. C. Volunteer Regiment, were recently examined by the Army Court of Inquiry as to the beef served the D. C. soldiers in Cuba. They both stated that the men were in good health till July 20, when fresh beef was issued. This was followed by an epidemic of diarrhea and dysentery. When the issue of beef was stopped the diarrhea and dysentery were promptly checked. They both condemned the canned roast beef as unwholesome, unnutritious and causative of dysentery.

Philadelphia.

State Board of Medical Examiners.—The Pennsylvania State Board of Medical Examiners, at its meeting on April 4, elected the following officers for the ensuing year: President, Henry Beates, of Philadelphia; secretary, William S. Foster, Pittsburg. The date of the next examination will be June 20, held in Pittsburg and Philadelphia.

Bequests.—By the will of Miss S. C. Blake, who recently died in Santa Barbara, Cal., the Orthopedic Hospital of this city will receive $10,000. A like sum is bequeathed to the Boston General Hospital of Boston. Also, under the will o Jane McAnally, the following charitable institutions are beneficiaries: St. Joseph's Hospital, $1000; St. Agnes Hospital, $1000; St. Vincent's Home and Maternity Hospital, $2500; Little Sisters of the Poor, $500; St. Joseph's House for Industrious Boys, $500; Free Hospital for Poor Consumptives, $500; St. Vincent's Orphan Asylum (Tacony), $1500. St. Joseph's Hospital also receives $200 by the will of Mary Joyce. By the will of Margaret S. Lockhart, $500 has been left the Hospital of the Protestant Episcopal Church.

Report of St. Mary's Hospital.—During the year just closed this institution has treated a total of 1560 patients in the hospital, of whom 1249 were charity cases. In the outpatient department there 10,261 patients treated, and 45,629 visits made. During the year 226 ambulance calls were made. Owing to the lack of room not all patients applying can be treated, but it is hoped that this will be overcome when the hospital moves to its new quarters. At that time it is hoped that the capacity will be almost trebled over its present capacity. The total receipts during the year amounted to $14,638.80, and the total expenses $18,890.75.

City Health Matters.—From the last message delivered by Mayor Warwick, the following statistics are of interest to medical men generally. During the entire year 1898 there were 7 cases of smallpox in Philadelphia, all treated at the Municipal Hospital, and all recovered. There were 6097 cases of typhoid fever reported, an increase of 4103 over 1897. The total number of deaths was 639, of which 73 were soldiers brought to the city from the various army camps. The number of deaths occurring in children under the age of five years was 7998, or 33.66 per cent. of all deaths occurring throughout the city. The total number of deaths from all causes was 22,190, or an average of 65 each day, and a death-rate of 19.18 per thousand population. The total number of births was 29,469, an increase of 54 per cent.

Mortality Statistics.—The number of deaths occurring in this city during the week just closed was 520, a decrease of 64 over last week and an increase of 17 over the corresponding period of last year.

Treatment of Epileptics.—The annual report of the managers of the Pennsylvania Epileptic Hospital and colony farm at Oakburne, Chester County, Pa., states that during the year just closed there have been 31 patients admitted and 25 discharged from that institution, of whom 14 have been benefited by treatment. At the dispensary in Philadelphia, 239 cases were treated during the year. The officers of the institution are: President, Wharton Sinkler; vice-president, Charles M. Lea; secretary, Samuel W. Morton; treasurer, Simon W. Climenson; superintendent, J. F. Edgerly.

Examinations.—At the University of Pennsylvania final examinations begin about May 15 and end about June 1, with commencement June 14; at Jefferson Medical College, they begin April 14 and end about May 5, and commencement is May 15, while April 24 is their beginning at the Medico-Chirurgical College, where they end about May 6, with commencement May 20. Philadelphia hospitals will hold examinations for resident physicians as follows: St. Agnes, May 12; St. Joseph's, May 1; Methodist, May 16; Presbyterian, April 27; Howard, April 27; St. Mary's, April 27; Episcopal, April 27; Philadelphia Hospital (Blockley), April 27.

The Public Service.

Movements of Army Medical Officers under orders from the Adjutant-General's Office to April 13, 1899.

Edmund Barry, acting asst.-surgeon, from Washington, D. C., to Ft. Monroe, Va., to duty in the Josiah Simpson Hospital.

Paul Clendenin, major and chief surgeon Vols., former orders amended; he is relieved from duty as chief surgeon 2d division, 7th Army Corps, and will report for assignment in the Dept. of Santiago, Cuba.

Frederick J. Combe, major and brigade surgeon Vols., sick leave granted.

Benj. J. Edger, Jr., acting asst.-surgeon, from Washington Bks., D. C., to post duty at Ft. Monroe, Va.

Arthur R. Jarrett, acting asst.-surgeon, former orders to Providence, R. I., revoked.

Chas. F. Kieffer, captain and asst.-surgeon U.S.A., from Ft. Meade, S. Dak., to San Francisco, Cal., for assignment in the Dept. of California.

Jas. H. McCall, acting asst.-surgeon, from Anniston, Ala., to temporary duty at Jackson Bks., New Orleans, La.

Luke B. Peck, acting asst.-surgeon, now at Ft. Sam Houston, Texas, to accompany the 10th U. S. Cav. to Cuba.

John L. Phillips, major and chief surgeon Vols., former orders of March 8, 1999, revoked; he is relieved from duty with the 2d Army Corps and assigned as attending surgeon and examiner of recruits at Boston, Mass.

Geo. R. Plummer, acting asst.-surgeon, from Jackson Bks., La., to Havana, Cuba, for assignment in the Dept. of Havana.

Frank Roberts, acting asst.-surgeon, from Port Cabanas, Havana, Cuba, to Washington, D. C., reporting to the surgeon-general.

E. O. Shakespeare, major and brigade surgeon Vols., from Washington, D. C., to New York City and return under special instructions.

Alex. N. Stark, captain and asst.-surgeon U.S.A., from the command of the hospital ship "Aid," now at Ft. Monroe, Va., to the hospital ship "Terry," for service on the coasts of Cuba.

Eugene L. Swift, captain and asst.-surgeon U.S.A., from Ft. Slocum, N. Y., to tempororary duty at Boston, Mass., in connection with the mustering out of the 8th Mass. Inf.

Henry D. Thomason, major and brigade surgeon Vols., to Ft. Sam Houston. Texas, to accompany the 10th U.S..Cav. to Cuba.

Wm. L. Whittington, acting asst.-surgeon, now at Ft. Sam Houston, Texas, to accompany the 6th U.S. Inf. to Manila, P. I.

Chas. Willcox, captain and asst.-surgeon U.S.A., from Ft. Bliss, Texas, to post duty at Ft. Sam Houston, Texas.

John Mason Williams, acting asst.-surgeon, from Washington, D. C., to San Francisco, Cal., for assignment in the Dept. of California.

Wm. H. Wilson, captain and asst.-surgeon U.S.A., to relieve Lieut. Eugene H. Hartnett, asst.-surgeon U.S.A., as member of an examining board at Ft. Monroe, Va.

Robt. S. Woodson, captain and asst.-surgeon U.S.A., to proceed at once to Ft. Bliss, Texas.

Movements of Navy Medical Officers.—Changes in the medical corps of the U.S. Navy for the week ending April 15, 1899.

Medical Director G. A. Bright, retired April 9, section 1444, revised statutes.

Medical Director J. H. Clark, retired April 16, section 1444, revised statutes.

Asst.-Surgeon W. M. Garton, detached from the "Supply" when put out of commission, and ordered to temporary duty at hospital, New York City.

Surgeon J. R. Waggener, order of April 3 modified; ordered to San Francisco, Cal., when the marine battalion is ready for passage to Manila, P. I.

Surgeon S. H. Griffith, detached from duty as a member of the marine examining board, Washington, D. C., and ordered to the "Prairie."

Surgeon G. G. Herndon, detached from the "Prairie" and granted sick leave for two months.

Asst.-Surgeon J. J. Snyder, detached from hospital, Newport naval station, and ordered to the "Wabash."

Surgeon J. W. Ross, retired, detached from duty at army hospital, Havana, Cuba, and ordered home.

Medical Inspector W. S. Dixon, detached from the naval academy and ordered to Washington, D. C., April 15, for duty as member of the retiring board.

Surgeon N. H. Drake, ordered to duty as member of the naval medical examining board, New York City.

Surgeon T. H. Streets, detached from duty as member of the naval medical examining board, New York City, and ordered to the "Philadelphia" as fleet surgeon, by steamer of April 19.

Surgeon W. R. DuBose, detached from the naval hospital, Brooklyn, N. Y., and ordered to the naval academy.

Surgeon J. H. Gaines, retired, granted leave to go abroad for six months from May 6.

CHANGE OF ADDRESS.

Andrews, J. D., from 575 King St., to St. Francis Xavier Infirmary, Charleston, S. C.

Bartee, L. H., from Augusta to Pleasant Hill, Ga.

Burchard, W. M., from Lemon City, Fla., to Uncasville, Conn.

Barker, J. L., from Louisville to West Fork, Ky.

Boyd, D. A., from Nashville, Tenn., to Platt, N. C.

Benson, C. B., from Tracy, Ohio, to Union City, Ind.

Cruse, C. V., from St. Louis, Mo., to Iola, Ill.

Crume, G. P., from Earl Park, Ind., to 240 Chestnut St., Chicago.

Converse, E. D., from 126 State to 92 State St., Chicago.

Dorian, J. S., from Nashville, Tenn., to 96 Guernsey St., Buffalo, N. Y.

Davis, C., from 240 Wabash Ave to 31 E. Washington St., Chicago.

Duhigg, T. F., from 782 10th to 702 East 9th, Des Moines, Iowa.

Felt, R. A., from St. Louis, Mo., to Anita, Iowa.

Groover, T. A., from 1404 L St., N. W., to Garfield Memorial Hospital, Washington, D. C.

Harvey, R. H., from Lake Ave. and 43d to 2100 Calumet Ave., Chicago.

Hayes, F. L., from South Somersworth, N. H., to 152 Howard St., Brookline, Mass

Hurst, G. P., from Augusta to Social Circle, Ga.

Houston, I. M., from Falls City to Nebraska City, Neb.

Johnston, C. W., from Augusta to Heards, Ga.

Melburn, W. C., from 803 S. Summer to 209 Russell St., Nashville, Tenn.

Mergler, M. J., from 34 Washington St. to 2930 Indiana Ave., Chicago.

Martin, T. M., from Nashville, Tenn., to Plantersville, Ala.

Minor, E. B., from St. Louis, Mo., to Orange, Mich.

Mother, E., from Jersey City, N. J., to 22 Adams Ave. W., Detroit, Mich.

Peterson, R., from 4621 Woodlawn Ave. to 4466 Berkley Ave., Chicago.

Plummer, R. W., from 66 W. 82nd to 47 W. 71st St., New York City.

Palmer, G. T., from 31st and Indiana Ave. to 2604 Indiana Ave., Chicago.

Powell, E., from Reliance Building to 705 Masonic Temple, Chicago.

Rehfus, E. G., from 1316 to 1528 S. Broad, Philadelphia, Pa.

Rutherford, J., from Bishop, Pa., to Albuquerque, N. M.

Simpson, W. B., from Red Oak to Sabethany, Tex.

Smith, V. C., from New Orleans, La., to Vicksburg, Miss.

Strickland, J. W., from Augusta to Moniac, Ga.

Thielen, M. H., from Chanute to Grundy Center, Iowa.

Thorpe, J. H., from St. Louis, Mo., to Pleasant Ridge, Ky.

Welburn, W. C., from 803 S. Summer to 209 Russell St., Nashville, Tenn.

Whitman, C. H., from 529 Broadway to 431½ S. Spring St., Los Angeles, Cal.

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Address.

THE MEDICAL PROFESSION.*

THE CAUSES OF ITS DIVISION INTO DISCORDANT ELEMENTS AND THE REASONS I AM NOT A HOMEOPATH.

BY WILLIAM E. QUINE, M.D.
PROFESSOR PRACTICE OF MEDICINE AND DEAN OF THE FACULTY, COLLEGE OF PHYSICIANS AND SURGONS.
CHICAGO.

Charity suffereth long and is kind.

The invitation from the officers of the Dunham Medical College to address you on "The Causes of Division of the Medical Profession into Discordant Elements and the Reasons Why I Am Not a Homeopath," was extended, I am sure, in friendly spirit and for worthy purposes; and it was accepted in the kindly hope and expectation of being able to show that the "Causes of Division" alluded to are by no means as numerous and formidable as they were forty years ago; that they are getting less numerous and formidable every year; and that even now they are so insignificant as to be no barrier to the unification of the profession if this were seriously desired by both parties.

I need not be told that the acceptance of this invitation involves delicate responsibilities; for I already know that my hosts—some of whom are warm personal friends—have a right to expect that I shall be courteous and fair, and my own students who are present have an equal right to expect that I shall, like the "Beast" of Revelation, "Cry aloud and spare not."

The teachers and students of homeopathy before me are well aware that they have come to "face the music" and I, to furnish it. To avoid not only the fact, but even the appearance of unfriendliness to you, young gentlemen, I shall call upon well-known adherents of your "school" to do the principal part of the talking; and if they say unpleasant things you are to remember that they are your seniors and presumably know more about the subject than you do. You are to remember, too, that they are your friends, not mine. What I shall say from my own mind will be said in good temper and with good intent, with earnestness, perhaps, for that is my natural mode of utterance, but without prejudice, without unkindliness, and without stronger desire of any kind than that of setting forth the truth as I see it.

The word "prejudice" means "an adverse opinion formed without due examination of the subject." I have been accused by the editor of the *Medical Century*, of this city, one of your most rancorous writers, who is doing more than any other ten men of my acquaintance to keep the medical profession divided into discordant elements—not only of filling the minds of my own students with prejudice, but their hearts with hatred, against homeopathists and homeopathy; but I am sure that I should not have been invited to address you if your teachers believed these things to be true. They are not true. I know of no reason why I may not have reasonably intelligent opinions on homeopathy, after studying it and lecturing upon it off and on for twenty years, if you, young gentlemen, may know so much about it that you can decide to become its adherents before you have ever read a line in a medical book. You will doubtless find that my opinions are wrong, but I hope to be able to convince you that they have not been formed without due examination of the subject and that they are not the offspring of hatred.

The first step in the demonstration of any problem is a clear presentation of its terms. About a century ago Samuel Hahnemann assailed with abusive epithets and denunciations the methods of practice that were then in favor, and forced upon the attention of the world a new method which he termed "homeopathy." Those who accepted his views and became his disciples he designated "new-school doctors," and those who did not, he declared to be "allopaths," or "old-school doctors."

The tenets of homeopathy as announced by him were warmly espoused by his early disciples, but they were rejected with derision and contumely by a large majority of his professional contemporaries. At this time the "discordant elements" into which the profession was divided were separated by an "impassable gulf," as Hahnemann expressed it. But since then, on the one hand, important changes have occurred in the methods of practice of the "old school," and, on the other, the "new school" has been gradually getting away from the precepts and practices of its founder; so that now there is less difference between a representative "new-school doctor" and a representative "old-school doctor" on questions of therapeutics than there is between the extremes of opinion among the homeopathists themselves. My address will be devoted largely to the demonstration of these facts.

The first precept proclaimed by Hahnemann, and the corner-stone of his "system," is the "law of similars," or the "law of cure," which is tersely expressed in the well-known formula,

SIMILIA SIMILIBUS CURANTUR.

Hahnemann declares that "diseases exhibiting certain symptoms are to be cured only, and are cured invariably, by medicines which produce similar symptoms on a healthy person. "It is not possible," he says, "to perform a cure but by the aid of a remedy which produces symptoms similar to the disease itself." "It is an infallible—an unerring law." "The great sole therapeutic law." "A mode of cure founded on an eternal infallible law of nature." (Organon.) He also declares he is the discoverer of this law. "The great art of healing," he says, "remained undiscovered until my time." This claim, if true, constitutes the right of homeopathy to the name "new school." But the claim is not true. Let me prove to you that the so-called "law of similars" was common property hundreds of years before Hahnemann was born. (Born 1755; died 1843.)

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*An address delivered before the faculty and students of the Dunham Medical College (Homeopathic).

Hippocrates, who died B.C. 357, two thousand years before Hahnemann was born, wrote: "Some diseases can be treated best by contraries and some by similars." "To cure mania give the patient a draught made from the root of mandrake in a smaller dose than will induce mania." Whether this idea originated with Hippocrates, or was merely appropriated by him, is not known.

Theophrastus, writing about B.C. 300, says: "Diseases are cured by remedies which affect the organism similarly to the disease."

Paracelsus, who died A.D. 1551, two hundred years before Hahnemann was born, declared that "A hot disease has never been cured by a cold remedy, nor a cold disease by a hot remedy. Like attacks its like and never its contrary."

Basil Valentine, whose writings were published about 1602, one hundred and fifty years before Hahnemann was born, announces that "Like cures like but contraries do not cure."

Stahl, who died in 1734, twenty-one years before Hahnemann was born, asserts: "I am persuaded that diseases are subdued by agents which produce a similar affection."

Shakespeare, born in 1564, one hundred and ninety years before Hahnemann, has one of the characters in the drama "Troilus and Cressida" say: "Tut man; one fire burns out another's burning. Put thou some new infection in thine eye and the rank poison of the old will die."

It is quite plain then, the conception that "like cures like," did not originate with Hahnemann. He merely appropriated it and claimed it as his own. Now, contemplate the absurdity of establishing a "new school" on the basis of a theory known to be over two thousand years old, and of designating physicians who would not be governed by it any longer as "old-school doctors!" Is it not plain that this epithet really applies to homeopathists themselves?

It can not in reason be maintained that Hahnemann had never read of the doctrine of similars, for he was a man of great literary attainments and earned his living by literary work, for many years. I think that there are few men in the world to-day as well versed in the history of medicine as Hahnemann was. It was not ignorance, then, which led him to claim the doctrine of similars as his own invention; it was dishonesty. It is not ignorance on the part of the homeopaths of to-day which leads them to claim the doctrine of similars as the discovery of Hahnemann and the peculiar and exclusive property of their sect; it is dishonesty.

Although Hahnemann discovered nothing but an ancient theory, it must be admitted that he set it forth in stronger language than any of his predecessors, not even excepting his prototype, Paracelsus. Prior to his time it had been regarded as a general guide to the selection of medicines; but he declared it to be an "unerring law," "an infallible law" and "the sole law of cure." If these declarations are true, Hahnemann must be honored as a great discoverer; but if they are not true and the "law" merely represents one kind of curative impression and other kinds are known, he discovered nothing but a theory that is as old as the history of medicine. In view of the quotations I have read to you it must be amusing to learn that "old-school doctors" are sometimes criticised by their homeopathic brethren for prescribing medicines according to the "law of similars" on the ground that they are robbing the "new school" of the honors of the resulting cures. And yet they are criticised often and with the semblance of righteous indignation. A fairly representative instance will be found in Marcy's work on "Practice." The distinguished author says: "Gentlemen of the old school, your practice too often belies your profession; you pretend to be allopathists and antipathists while constantly administering medicines after the method of the homeopathists. Where is your pride? Where is your consistency? You have received your bundle of ideas from Hippocrates and Galen to whom you pay reverent allegiance. You disdain innovations and despise discoveries and improvements. You have withstood the changes of more than two thousand years, and by your powerful dicta have continually discouraged all original induction and endeavored to crush in the bud every advancement in medical knowledge."

When I tell you that there are not three physicians in Illinois who are registered as, or pretend to be, allopathists, and not one who pretends to be an antipathist; that I have never in my life seen, and you have not seen, one line in any "old-school" text-book or periodical, that endorses "allopathy," "antipathy" or any other "pathy" whatsoever; and that I have never known, and you have never known, one "old-school" medical teacher to pay a minute's attention to "pathies," except to condemn them, every one; I will leave you to form your own estimate of your distinguished author's veracity. Homeopathic literature is full of such senseless vituperation. You can hardly pick up a book or a periodical without finding some, —and our Chicago periodicals are not surpassed, so far as I know, in respect to either the quantity or the mendacious quality of the output. The malicious falsehoods about members of our profession whose only crime is their inability to see in the doctrine of similars an infallible guide to therapeutics, have the effect, and, I believe, are intended to have the effect, of keeping the medical profession divided into discordant elements. I am proud to be able to say that there is nothing like this spirit, and that nothing like it would be tolerated, in the literature of the "old-school" doctor. I will agree to find in any one of half a dozen modern homeopathic text-books more denunciation, misrepresentation and abuse of "allopaths," "antipaths," and "old-school doctors," and more bombastic expositions of therapeutic creed, than can be found in relation to homeopathy and homeopathists in all the "old-school" text-books that have been published in a quarter of a century. Gentlemen, will you invite me to make a public comparison of proof with you? I am at your service. I believe that there are more slurs and falsehoods printed in the *Medical Century* of Chicago, alone, in relation to "old-school" doctors and institutions, than can be found in relation to homeopathists and their institutions, in all the "old-school" periodicals in the world, for the same period of time. Do you invite me to make a public showing of the proof?

But to return to our learned author, Professor Marcy: When we received our "bundle of ideas from Hippocrates" we discovered "similia" in it,—and, although we do not attach much value to the discovery, we feel obliged to claim it merely to maintain the appearance of "reverent allegiance" to the old man. The imputation that we "disdain innovations and despise discoveries" and endeavor to "crush in the bud every advancement in medical knowledge" is answered passably well by Harvey, Jenner, Chamberlin, Laennec, Louis, McDowell, Sims, Bernard, Brown-Sequard, Bichât, Charcot, Von Graefe, Helmholz, Darwin, Virchow, Bright, Koch, Löffler, Behring, Laveran, Senn, Murphy, and a few others, and so it is hardly necessary that I should say anything about it. But by the way: Isn't there a "new-school" doctor who is generally honored by the medical world for his contributions to exact knowledge, whom we could add to this list? Isn't there *one*? Listen to the answer of the *Homeopathic U. S. Medical and Surgical Journal* for 1867: "We want solid acquirements everywhere; we want in our schools more pathologists and learned physicians, as Bennett, Watson, and a score of others; writers, for instance, on female diseases and their surgical and mechanic treatment; and writers on obstetrics, such as Sims, Simpson and Barnes. When will issue from our ranks writers of such worth as Rayer, Casenave and Wilson on diseases of the skin? Louis, Andral and Skoda on diseases of the chest? West on diseases of children? Ricord on syphilis? Or such pathologists as Virchow, Rokitansky or Rock? Homeopathy is a humiliated beggar to allopathy. Produce! Produce! Were it the pitifullest infinitesimal fraction of a product, in God's name produce it!"

Let my friend, Dr. Campbell, formerly of Joliet, speak: "So deeply are we indebted to the old school for their important discoveries that we are obliged, in justice to ourselves and to our patients, to take their journals and buy their books in order to keep pace with the progress of medical science. True homeopathy appropriates and utilizes everything that allopathy acquires." (*Investigator*, 1, 7, 295).

If you want further evidence on this point, look over the list of the text-books you are using this very session, and when you are through, examine the announcement of the Chicago Homeopathic College, and you will find in it "old-school" authorities recommended by the faculty, as follows:

Anatomy: Gray.
Physiology: Foster, Landois and Sterling.
Histology: Satterthwaite.
Bacteriology: Abbott, Fraenkel.
Pathology: Ziegler, Green.
Practice: Osler, Loomis.
Surgery: American Text-Book.
Diagnosis: Da Costa, Vierordt.
Mental and Nervous Diseases: Ross.
Gynecology: Garrigues.
Obstetrics: Lusk.
Jurisprudence: Reese.
Laryngology: Bosworth.
Hygiene: Parkes, Rohé.
Dictionary: Gould.

Gentlemen of the "new school," kindly locate your own pride and consistency.

Now let us return to the "law of similars." The idea embodied in it has the merit of antiquity. From time immemorial it has been set forth in disquisitions on the therapeutic action of medicines. There is no reason why those who are trying to honor Hippocrates should not accept it if they believe it to be true. Indeed, many do believe that there is some truth in it. I believe it. But it seems to me impossible that the "law" should be the only guide to the cure of diseases, because it limits the efforts of the physician to the effacement of symptoms, and makes no provision whatever for dealing with *causes* and *pathologic products*, nor for anticipating and *preventing* complications. All it requires you to do is to wait for symptoms to appear, and when they do appear, to combat them by giving the patient a medicine which produces similar symptoms.

Hahnemann is explicit on this point. He says: "The ensemble of symptoms is the sole object that a physician ought to have in view in every case of disease; for the power of his art is to be directed against that alone in order to cure it and transform it into health." "Only that which is necessary for a physician to know of disease and what is fully sufficient for the purpose of cure is rendered evident to his senses." "It is an indubitable truth that the sum of all the symptoms in each individual case of disease is the sole guide to direct us in the choice of a curative remedy."

Hence, you see, it is not necessary to remove causes, nor even to know their nature. If a patient have convulsions, it is of no consequence to know whether they are due to uremia, scarlatinal infection, intestinal worms, acute indigestion, hydrocyanic acid or strychnin; or if he have intermittent fever, it is of no consequence to know whether it is due to malarial infection, pyemia, or a gall-stone in the common duct. It will be all-sufficient to treat the symptoms. Now, in my view, the first demand to be met in every case of disease is to remove the cause, if possible. But Hahnemann asks us to believe that if we try to obliterate the effects, the cause will cease to act. Furthermore, the "law" makes no provision for obviating complications. If a patient have acute nephritis and the usual liability to dropsy, convulsions, coma and acute dilatation of the heart, it is not proper to guard against these dangers; the scientific and infallible method is to wait till they confront you, and then to treat them by the administration of "similars." Nor is it necessary, according to this "law," to deal with pathologic products—as a collection of pus in the liver. Just give the patient something that's good for chills, fevers and sweats, and bid him God-speed.

These ideas have never been accepted by "old-school doctors," and they are now repudiated by every one of Hahnemann's professed disciples.

Intelligent physicians know that symptoms are merely those elements of disease that come within the cognizance of patient or physician. They also know that there are elements which are hidden from view—such as a stone in the kidney, a gangrenous appendix, a collection of pus in the brain—whose existence is inferred by a process of reasoning. Whether an element be perceptible or hidden, demonstrated or inferred, does not affect its claim to attention. The successful physician is usually the one whose knowledge and judgment lead him to correct inferences as to the location and nature of the hidden element. It is vastly more satisfactory to deal directly with a gangrenous appendix than it is to limit your efforts to the administration of medicines which are good for collapse. Not one of your professors here, young gentlemen, will now dare to stand before you and say: "Only that which is necessary for a physician to know of disease and what is fully sufficient for the purpose of cure is rendered evident to his senses."

There is no difference whatever that I can see between "new-school" and "old-school" doctors with respect to readiness to remove a cause, or a pathologic product, or to protect a patient from impending complications—the Hahnemannic "law of cure" to the contrary, notwithstanding. To say less than this of my homeopathic brethren would be to imply that they put creed above the sanctity of human life.

I trust it has been made clear that the "law of similars" is not the only guide to the treatment of diseases, and that other elements must receive due consideration besides symptoms.

When speaking to my own students about the "law of cure" I say, Hahnemann did not claim that *same* cures *same*—but that "like cures like." Now, likeness is not identity. If two things or conditions are merely alike, but not identic, there is some difference between them by which they can be distinguished from one another. If a medicinal impression be identic with a morbific impression it will not fail to increase the force of that morbific impression but if it be merely like the morbific impression—that is, different from it in some respects—it *may* influence it favorably. And since identity is hurtful, and "difference" is essential to a remedial effect, I infer that the remedial effect is produced by the "difference."

But when I try to ascertain how close the "likeness" must be, according to the Hahnemannic idea, in order that the medicine shall be infallibly curative, I find myself in trouble. Turning to homeopathic books for information I find in Hahnemann's the statement that "smallpox cures dysentery;" hence, I infer that these diseases are near enough alike to meet the requirements of the "law." And turning to Guernsey's work I find the statement that *Pulsatilla* is the "similimum," that is, the symptoms produced by it on a healthy person are "like" the symptoms of "female derangements, hysteria, rheumatism, dyspepsia, measles, insomnia, ague, hemicrania, toothache, vomiting, constipation, colic, diarrhea, hemorrhoids," etc.; that *Charcoal* is the similimum of "rheumatism, vertigo, chilblains, urticaria, herpes, glandular swellings, typhoid fever, chapped lips, anorexia, looseness of the teeth and consumption;" and that *Lachesis* is the similimum of "nervous disorders, paralysis, convulsions, weakness of memory, fits, lockjaw, toothache, gangrene of the tongue, swelling of glands and abscess of the liver." Then I have to admit that I am not acute enough in seeing likenesses to make a good homeopath. The "law" is charmingly comprehensive—so comprehensive as to permit a physician to give any medicine, or any number of medicines, in any dose or doses, in any disease. But let us examine the present status of opinion concerning its "universality" and "infallibility," as set forth by some of its most authoritative exponents.

Prof. R. N. Foster of this city, late president of the Illinois State Homeopathic Society, said in his presidential address, referring to the "law": "It covers a wide field, but not so much ground as its earlier advocates had hoped." Ah! it is not universal, then.

Prof. C. Wesselhoeft, in a paper read before the Southern Homeopathic Medical Association (*New York Medical Times*, January, 1892), admits that "homeopathists in order to join the ranks of a united profession may have to recede somewhat from the too premature axiom of the universality and infallibility of our law of similars." That is quite true.

Dr. D. A. Gorton (Drift of Medical Philosophy 1875) says: "The law of similars is but a fragment of the art of curing diseases; Hahnemann was mistaken as to its importance;" and he adds that "there are very few genuine homeopaths in existence."

Dr. J. P. Dake (*Hahnemannian Monthly*, July, 1894) says: "We can not imagine a physician who is entirely limited to the homeopathic use of drugs." That is my own fix, Doctor.

Dr. Charles S. Mack (Philosophy in Homeopathy, 1890) "explains" the matter very happily. He says the "law" is the only possible law of cure. When medicines are prescribed in accordance with it patients are "cured" by force of medicinal action; but when medicines are given in violation of the "law," and the patients nevertheless get well, the patients merely "recover." He admits, however, notwithstanding the sufficiency of the "law," that "to-day homeopathists are, more than formerly, availing themselves of practices which are distinctly not homeopathic."

Henriques (p. 240), in writing of the principles governing the "old" and the "new" schools, says: "Neither can claim the exclusive dignity of an universal law of therapeutic action. Both are extremely useful, each in its respective and appropriate sphere as *empiric rules* of practical guidance. There can be but one absolute principle of therapeutic art, which may be termed 'counteraction' operating by a twofold law '*contraria contrariis*' and '*similia similibus*.'" Just so. I do not quite understand the learned author, but if he is trying to crawfish from "similia," I agree with him.

Dr. Parsons (*Investigator*, March, 1876), in a paper read before the Illinois Homeopathic Association, said: "The success of the physician does not depend so much upon his ability to prescribe in accordance with the homeopathic philosophy as on his ability to win the confidence of the community."

Now, that's just what I say. Sail in without reference to anybody's theories, win the confidence of the community by doing good, faithful work, draw upon all the resources of nature and art for your remedies, but be honest about it; don't claim to be a disciple of Hahnemann, my dear sir, when you are doing that.

Dr. E. Perkins (Ibid., 2, 12, 471) says: "If we relied less on homeopathy and more on common sense, it would be more creditable to us." Dr. Perkins, here's to your good health, sir! Them's my sentiments.

Professor Holcombe (Ibid., 1, 3, 134) says: "There are modes of cure which are not explicable in our philosophy."

Dr. Franklin (Ibid., 1, 3, 23) says that "Homeopaths no longer practice homeopathy."

Another writer in the same periodical (1, 7, 298) says: "Let us acknowledge that the homeopathic law is not applicable in all cases of disease, and does not comprehend every means of cure."

The North American Journal of Homeopathy declares in its prospectus that it will maintain "similia" as the only therapeutic law, and in the very first number Professor Hedges of Chicago, writing on the treatment of a bite by a rabid dog, recommends as measures of prevention of hydrophobia, that the part be excised and cauterized and that the patient be required to take belladonna and bromid of potassium, "in free doses," for a period of six months.

Prof. Woodyat of this city (*Investigator*, 1, 2, 50) deplores the uselessness of homeopathy in the treatment of diphtheritic ophthalmia and quotes Stellwag, Green, Wells, Carter and Hutchinson—all robust "old-school doctors"—in justification of the treatment he employs.

Dr. S. C. Bumstead of New York, in an essay read before the American Institute of Homeopathy, said: "We do not hesitate to proclaim our belief in the law of similars; but we believe also that methods of treatment are often preferable which can not by any hocus-pocus be classed under it."

Dr. Temple of Chicago (*Investigator*, 1874, 399), says: "For thirty-one years I have been a close observer of homeopathic practice. For the last ten years I have grieved to witness departures from the faith by many of our physicians—their disregard for the great therapeutic law. We have seen dynamization ignored and the crude drug infusion given by the quart for days, weeks and, in one case, over three months. We have seen quinin given in twenty-grain doses and cupper and leecher called into use to aid the *homeopath* in the cure of disease. And what is strange, inconsistent and disgraceful, homeopaths justify their conduct by the assertion that, if they do not resort to strong medicines, they would lose their patients. The standing of homeopathy is becoming impaired. People say we have no faith in our system, and our prescriptions in the apothecary stores prove it."

Professor Temple, I sympathize with you, sir—upon my soul I do—but I have to admit that you are telling the melancholy truth.

Dr. Kirby of New York (Ibid., 1874, 302), a homeopath of fifty years' experience, says: "Is not much of the pretended practice of homeopathy random practice? How many of the faculties of our colleges are homeopathic? How many graduates practice homeopathy? I hear pretended practitioners of our school say to the sick, 'I give my patients what I think will do them good without regard to any school of medicine. I am no slave to any system.' Why, Mr. Editor, this is common talk. It is the rule."

To enliven your spirits a little, for you are looking mighty sour at me, permit me to offer in contrast with the foregoing tales of woe, a few extracts from Grauvogl's[1] "Practice" (1866), a work that was hailed with ecstatic peans by my excellent brethren of the new school. Dr. Eggert of Indianapolis says of it: "The work will—nay, must—become the bulwark of our school in the face of our enemies" Dr. Parsons of Iowa says: "Grauvogl has opened a masked battery and it will be difficult to come within range of his guns without being forced to surrender." Professor Gatchell, of anywhere, says: "They will be impressed with the singular ability with which he handles their leaders and smashes their idols." Professor Hering says: "At last we have a thinker." The "thinker" was not attending to business when writing about pulmonary tuberculosis, for, on page 275, he declares that "With the rarest exceptions it is produced by ossification of the cartilage of the first rib." That he was imbued with a proper appreciation of his capacity to smash things may be inferred from the remark on page 398, that "The hollowness of the physiologic school"—that's another name for us—"manifests itself as soon as its doctrines are analyzed, as has been done in this work." In every chapter of his book you will find the bombast that is so striking a feature of the "new-school doctor." On page 158, after describing a case of disease in detail, italicizing the prominent symptoms, he exclaims, "What now! What allopath would not be utterly hopeless in such a case and declare the patient lost beyond all doubt? The homeopathist does not give up any patient. The consciousness of his superior power holds him up; a power which rests upon the law of similarity; upon a rock whence flow thousands of healing springs." Of course, the patient got well. He had to, for Grauvogl was there himself. And the law of similarity was triumphantly exemplified in the administration of doses of half a grain of nitrate of silver and five grains of quinin.

In Part 2, on page 100, he says that nothing which looks like a medicine should be used; and on the next page he recommends tincture of opium in three or four drop doses; emetics and castor-oil to clean the alimentary canal; diuretics in dropsy; and *alkalies* in excessive *acidity* of the secretions. On page 214 he informs us that "the sole and simple question can only be what quantity of a substance, regardless of all subjective symptoms and incomprehensibilities" (what a very delicate way of referring to "provings" and "potencies"!) "is necessary to induce that chemic or physical counteraction which is equal in intensity and opposite in direction to that which is induced by the morbific cause in order to check the latter, or at least, delay it, and by repetition remove it." *Counteraction? Opposite* in direction? Well! What has become of "*similia*"? *Gee Whiz!* The man is smashing the wrong idols!

In Rau's "Organon," on page 140, the author comments as follows on the treatment of a case which he had just described: "The treatment is not homeopathic, but it is in accordance with the principle of *contraria contrariis*. I mention this by way of advice to those who condemn every kind of antipathic treatment without rhyme or reason." Referring further to the old doctrine of "contraries," he says: "These rules have been followed for three thousand years, sometimes with great success." The author also relates cases in which homeopathic treatment had failed, recommends castor-oil for the relief of constipation, tonics and stimulants for the relief of debility and exhaustion, and on page 177 says: "I confess that I never hesitate to avail myself of all the means at my command to relieve the patient."

Now, without presuming to question the integrity of anyone, I must nevertheless admit that I can not see how an honest man can do this and still claim to be a disciple of Hahnemann.

Hempel, in Vol. i, on page 801, says: "Of Hahnemann's original rules of practice hardly one is followed by modern practitioners."

In recent numbers of the *Medical Century*, various important diseases are discussed exhaustively by homeopathic gentlemen of the greatest distinction, among them Profs. J. S. Mitchell, R. N. Foster, C. E. Fisher, W. J. Hawkes, T. C. Duncan, and others, all of this city. In the treatment of diphtheria (Jan. 15, 1895), dozens of "indicated remedies" are recommended whose "provings" sustain no discoverable relation to one another, so far as I can see, nor to the symptoms of the disease—the most unique being *Lac Caninum*—dog's milk—whether potentized or not, is not stated—the suggestion of my friend, Professor Fisher. In the article on pneumonia, my friend, Professor Duncan, recommends in the treatment of that disease aconite, veratrum viride, tartar emetic, ipecac, carbonate of ammonium, phosphorus, nux vomica and various other medicines, without saying a word about "potency," dose, "similars," or single medicines.

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[1] C. W. Earle in The Examiner, 1870.

Dr. C. A. Weirick, writing (Sept. 15, 1895) on the management of typhoid fever, discourses on intestinal antisepsis, mentioning favorably in this connection, without reference to dose, naphthalin, thymol, salicylic acid, etc., touches upon the utility of the cold bath; and, in general, deals with the subject exactly as is done by "old-school doctors."

Prof. E. M. Hale, one of the most distinguished disciples of Hahnemann in this city, in a communication to the *Inter Ocean* (Jan. 9, 1889), criticising a lecture of mine which he had not heard and which had not been correctly reported to him, said: "He attempts to make his hearers believe that the homeopathic school uses the same methods as those taught by Hahnemann fifty years ago, when the fact is that, of the two thousand physicians belonging to that school in this and the old countries, not one in one hundred follows the methods of Hahnemann."

Now, think of that. "Not one in one hundred follows the methods of Hahnemann." And yet they are all homeopathists. I can not understand that. How is it possible for one to be a homeopathist who repudiates the teachings of Hahnemann? Didn't Hahnemann know what homeopathy was? Who was Hahnemann anyway? Where did he live—over there on Milwaukee Avenue?

(*To be continued.*)

Original Articles.

NOSTRUMS.*

BY H. C. WOOD, M.D.

PHILADELPHIA, PA.

Very properly, in strict accordance with its etymologic significance, old Dr. Johnson defined nostrum to be "a medicine not yet made public, but remaining in some single hand," but under the present heading I propose to widen out the inquiry of the hour into a more general examination and review of the use in the United States of medicines extrapharmacopeial in their relations, and more or less secret or proprietary in their origin.

Time was when the business of pharmacy partook of the nature of a profession, but more and more is the old apothecary shop becoming a mere distributing store, requiring little more scientific knowledge for its management than does the corner grocery. At one time 80 per cent. of the receipts of the druggist were from preparations made or prescriptions compounded in his own laboratory or shop. In 1890, Mr. M. N. Kline made an inquiry based upon the sales of the large wholesale druggists, and found that out of one hundred consecutive orders 58 per cent. were of patented and proprietary articles, 6 per cent. were pharmaceutic preparations, about 1 per cent. were packeted goods, the remainder apparently being crude drugs; or, taking the purchases for three months by five representative druggists, who bought their supplies from one store, 64 per cent. were patented and proprietary articles, about 1 per cent. packeted goods, leaving 35 per cent. as the proportion of legitimate pharmaceutic preparations and crude drugs. This would indicate that about 40 per cent. of the sales of the retailer are connected with legitimate pharmacy.

No one can have watched the progress of this matter without being convinced that the sale of extrapharmacopeial remedies and nostrums is year by year steadily increasing. In order to get another view of the subject, I addressed the following questions to sundry druggists: What, judging from your experience, is the proportion between the sales in the average Philadelphia drug store of: 1, physicians' prescriptions; 2, drugs and their preparations, not proprietary nor patent; 3, proprietary or patent medicines?

The replies received have not been very numerous or very satisfactory, but they show that the percentage of patent and proprietary medicines sold varies greatly in different retail stores, and is large almost in proportion to the modern character of the store; there being still left in Philadelphia a few old-time apothecaries who have been able to bring down from the past a legitimate trade for prescriptions and drugs, in which the proprietary medicines form but a small part. According to the answers I received, in the modern drug store the proprietary articles appear to constitute from 50 to 60 per cent. of the sales.

The magnitude of the change is further shown in the fact that twenty years ago there were in the city of Philadelphia about thirty wholesale drug stores; to-day, I am informed there are but six, not including those who sell medicines not to the drug trade, but to country stores. More than this, according to a member of a successful firm, most of these wholesale drug stores are kept alive by their own specialties, a purely distributing house being almost unknown; and three-fourths of the business is further said to be the selling, not of standard drugs, but of proprietary articles.

If the business changes which we have noted consisted simply of the lessened sale of drugs, and showed that the world was taking less medicine than twenty years ago, there might be reason for congratulation and hope of progress, but the changes which have taken place would seem to be not a diminished output of medicine, but the substitution for the true and known of the untrue and unknown. Surely there is more hope for a nation that takes quinin than for one that lives on vermin killer or health pills.

It is generally believed that the proprietary and patent medicine business is one which invariably yields great receipts; careful inquiry, however, seems to show that this is a mistake, that it is a speculative rather than a legitimate business, one which does not yield a larger percentage for the investment than do the ordinary occupations of life, but which, like a huge lottery, gives great but barren promises to the many, and to the few money prizes which dazzle the eyes of the multitude. Careful inquiry among those who are thoroughly familiar with the patent-medicine business shows that in this country, within the last twenty years, not more than fifty persons have succeeded in making fortunes out of it; rarely have these fortunes exceeded $100,000, and in not more than half a dozen cases have they reached a million dollars. The profits of the business are enormous; the amount of business which has been done gigantic; where then have the profits gone? Into the newspapers and magazines, lay and medical! Thousands of persons have been ruined by advertising beyond their means, and not having sufficient capital to meet the obligations they had incurred, have passed into bankruptcy.

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*Read at Centennial Meeting of Medical and Chirurgical Faculty of Maryland, Baltimore, April 25-28, 1899.

Almost every drug store in America has its own so-called "specialties," which are of the nature of proprietary medicines; but leaving these out of sight, there are about three hundred firms or companies who do business on a large enough scale to be called "proprietors." Of these three hundred, we are informed by competent authority, fifty spend $20,000 to $100,000 a year in advertising, twenty from $300,000 to $500,000 a year, the balance from $10,000 to $20,000 a year; making in all, as closely as can be determined, between fourteen to fifteen millions yearly spent in the advertising of nostrums. This stream of gold passes into the exchequers of the newspapers, the magazines and the advertising agents; cause it to cease, and a considerable proportion of the newspapers and of the medical journals of the United States would cease to live; a consummation most devoutly to be prayed for. If there were only a half dozen medical journals published in the United States, if every doctor who wrote an article that had not novelty or other valuable quality in it should be beheaded within a fortnight, what a blessed world would it be to live in, but how soon would the profession be depleted!

It is a matter of great interest to know what proportion of the nostrums swallowed by the public are purveyed through the medical profession. It is probably impossible to get accurate statistics, but a gentleman who is connected with one of the largest distributing houses in the United States, and who has paid especial attention to this subject, estimates for me that about 10 per cent. of the whole patent medicine and proprietary trade is carried on through the physicians. This estimate seems to me under rather than over the truth.

We, as members of the medical profession, and especially those of us connected with the medical press, are accustomed to inveigh against newspapers, secular and religious, for accepting the advertisements of patent and proprietary medicines, whereas in truth, unless the pot be warranted in calling the kettle black, we ought to keep silence with shamefacedness.

All dealers in medicines of the class under consideration with whom I have come in contact are concordant in asserting that the most successful proprietary remedies of the day are those which are chiefly or often solely distributed through the physicians; and in my own consulting practice I have been astounded to so often find men of good repute and standing using drugs of whose nature they have no knowledge; there certainly has been of late years a rapid growth among physicians of the habit of prescribing proprietary medicines.

The ease of prescription, and the readiness of administration of the modern tablet is undoubtedly doing much in increasing the use of nostrums. If the user of the tablet could by its use simplify his practice, it would be well. If he would have tablets of strychnin, tablets of cocain, tablets of digitalis and tablets of nitroglycerin, he might escape from polypharmacy and really become more scientific and successful in obtaining results; but in the majority of cases the tablet links itself with polypharmacy. The cardiac stimulant tablet will contain nitroglycerin, whose action is over in twenty-five minutes, and digitalis, whose influence can not be felt under five or six or more hours; or as in instances which we have known, he will have the nitroglycerin combined with iodids, bromids, and half a dozen other remedies having no relation one with the other, and perchance antagonistic. Then again, prescriptions in which not even uniformity of size is maintained—shotgun prescriptions, in which BB is mixed with number 8, and even mustard seed—prescriptions invented on the principle of the sea captain, who gave to the sick sailor a little of everything in the sea-chest, saying, with an oath, that if the man died it was not his fault, as he had given to him (the sailor) a little of everything he had. From this to the abyss of nostrumism is a steep and slippery path; *facilis descensus Averni.*

Not only, however, do members of the profession stultify themselves by prescribing nostrums, but even more depressing is the fact that, never mind how worthless a remedy may be, the proprietor can almost invariably secure public recognition of excellence from men eminent in the profession. One class of drugs may be mentioned simply as an example. Except formalin solutions there is no disinfecting mixture sold which, in proportion to the price, is comparable in power to the simplest disinfectants recognized by the pharmacopeia, and yet the markets of the United States are loaded down with proprietary disinfection solutions, most of them absolute frauds, many of them certified to by leading members of the profession. These certificates have not been paid for, but have been free gifts from the members of the profession to the various firms. The profession is not corrupt, it is disgustingly weak—feeble as the molasses and vinegar drink of our childhood. Many of these certificates have an enormous pecuniary value; they have been given simply because some smooth-tongued commercial traveler has asked for them. The doctor has received no equivalent for that which he has given, but none the less has he in the giving stultified himself, degraded his profession, and assisted in the swindling of the public. Of those who have given certificates for disinfecting solutions, how many have ever made any bacterial experiments upon the solutions in question. Probably not one has ever carried such a trial to a careful comparison of the proprietary solution with that of an ordinary disinfectant, or considered the question of relative price. Moreover, the doctor who gives a certificate based upon a thorough trial has no guarantee or reason for believing that the solution furnished one year after date, with his certificate attached, will be the same as that which he used in his experiment. So far as I can remember, personally I never gave but one certificate concerning a drug or a commercial article, and so far as I know no greater scoundrel ever misused a certificate than did the one to whom I gave this lonely representative of personal weakness. It ought to be a first principle in ethics that no doctor should be allowed to give a certificate, a commendatory letter, or anything else recommendatory, to any proprietor of anything under the sun. It is a great pity that the medical profession has not such a public sentiment as to make the giver of a certificate feel that he risks ostracism by the giving. Esau, the Hairy One, was a pattern of shrewd foresight contrasted with many an American doctor; he did get one comforting mess of pottage for his birthright; the American doctor hears only some words of honeyed flattery in the secrecy of his office, but is deaf to the derision in the outer world of those who have been "chestnutting" with him.

One undoubted cause of the increase in the use of proprietary and patented medicines by the profession is the production of patented drugs which are of such peculiar therapeutic value that, whether he will or not, the doctor must use them. The difficulty of the situation is, however, more apparent than real. All the physician has to do is to make it a governing principle that the only patented or proprietary drugs he will use shall be simple organic principles.

The golden rule of living should be: give no certificates; use no proprietary combinations of medicines. When we have done this then with polished weapons can we make war upon those who batten on the misfortunes of mankind.

Having reached this principle for our own government, we are in a position to consider for a few moments the subject of the general governmental control of proprietary medicine; a subject which is at the present made more vital by the fact that the laws of the United States regarding it are now under consideration by the Federal authorities, for the purpose of reorganization. The importance of the subject can hardly be estimated; hungry is the Anglo-Saxon throat for medicine; never to be stopped is the clamor of overcredulous, suffering humanity.

According to the *Drugman*, while thirty years ago the annual yearly revenue in Great Britain from taxes on patent medicines was $210,000, in 1892 it was $100,500,000, and the tide is still rising. I have no American statistics to offer you, but certainly the average Yankee is not in his hunger after pills and draughts much behind his transatlantic cousin. The success of the various proprietary remedies rests in the greater part upon a very curious fact, namely, that the embalmment of a lie in printer's ink makes it to the ordinary Anglo-Saxon mind as genuine and as indestructible as an Egyptian mummy; and this trait of character belongs as much to the American as to the Englishman.

Whether it be possible by law to control in this country the enormous volume of the patent-medicine trade is very uncertain; in France, before a proprietary medicine can be put upon sale the formula and the process of its production must have been submitted to a committee of the Academy of Medicine, which committee can alone give permission for its sale, and has the power of fixing the highest price at which it can be sold. Certainly the American proprietors, in the ardency of their zeal for the salvation of their fellow-men by drugs, would not be willing to be hampered by such bounds as these. It is possible that a law recognizing the registration of medicinal formulas, and perchance even one making it a requisite that the formula of the patented medicine shall be printed upon the package in which the medicine is sold, might be enforced to some extent if once enacted; but at present the enactment of such a law seems even more improbable than its enforcement.

After all, there is no reason why the medical practitioner, as a medical practitioner, should be especially interested in this matter. As already urged, proprietary formula compounds, protected in any way by law, are or ought to be an abomination to the professional mind; but at this time to attack their use by the people would be quixotic. The traffic in lies will never cease. The gullibility of the human nature is unfathomable, and if we as a profession would only keep our own garments from being defiled, we could well afford to take no heed of the doings of the public, or the wolves that prey upon them. When the sheep wish to be devoured the wolf is scarcely to be blamed. On the other hand, the profession is and must remain vitally interested in all legal questions centering around distinct organic principles.

The question whether patents should ever be taken out by members of the professions has been so much discussed that every one must at least acknowledge that there are to this, as to other problems, two sides, but at present we are not immediately concerned with this subject, since the inventors or discoverers of new principles are chemists rather than practitioners of medicine. The reasons that justify the existence of patent laws at all apply to the work of these men as strongly as they do to the work of mechanics. Viewing the matter as the lawgiver must view it, the chemists are certainly entitled to the protection of their labor; but what shall the protection be?

The intent of the patent laws is that the discoverer shall be encouraged by the temporary right to his discovery, but that such right shall eventually lapse, so that the invention shall become the property of the whole people. The application of this principle throws out at once the patenting of the names of drugs, since the name which usage has given to a remedy will, for the mass of the people and even of the profession, adhere permanently to the product. Antipyrin, for example, will be known in commerce as antipyrin to the end of the chapter. Life is too short, and brain matter too precious, to consume either in saying phenyl-dimethyl-iso-pyrazolone. I have never heard of an American physician using the name adopted by the British pharmacopeia, "phenazone;" and I can not remember having seen this name printed even in an English medical article. Now, if copyrights could be made to attach to the name antipyrin, the patent for antipyrin would for practical purposes be thereby indefinitely extended.

No one has recognized more clearly than have our pharmaceutic manufacturers the force of considerations such as those just given, and the effort has been both persistent and widespread to obtain permanent proprietorship of a remedy by making its popular name a trade-mark, and in this way to destroy the intent of the patent law by obtaining through the laws governing trade-marks an exclusive right which has no ending.

A trade-mark is, however, the sign of the brand and not of the article. Originally it was a design; a lion rampant stood for a lion brand of starch, sugar, or what not; and the design, which was the sign of the product of the firm's factory or series of factories, was naturally the property of its inventor. Now it is claimed that a name may be made a trade-mark and registered as such. This claim, however, probably can not be sustained even under the present law. In the decision rendered by the United States supreme court in the case of the Columbia Mill Company of Minnesota vs. W. W. Alcorn & Co. of Pennsylvania, the presiding judge said: "That to acquire the right to the exclusive use of a name, device or symbol as a trade-mark, it must appear that it was adopted for the purpose of identifying the origin or ownership of articles to which it is attached, or that such trade-mark must point distinctly, either by itself or by association, to the origin, manufacture or ownership of the article on which it is stamped. It must be designed, as its primary object and purpose, to indicate the owner or producer of the commodity and to distinguish it from like articles manufactured by others." In another case it was affirmed by the justices of the supreme court that: "The office of the trade-mark is to point out distinctly the origin of ownership of the article to which it is affixed; or, in other words, to give notice as to who was the producer."

These decisions would appear to the lay mind to be sufficiently distinct and authoritative, but de-decisions of the supreme court can, I suppose, be countermanded, so to speak, by subsequent decisions of the same tribunal; and certainly the law should be made so clear and positive in its statements that no manufacturer would think of attempting evasion.

The question as to what the patent law should be in regard to medicinal principles invented or discovered is not easy to answer. Should there be product patents or should there be process patents? In other words, should the substance antipyrin (product) have been patented as a product, or should only the process by which the original discoverer produced antipyrin be capable of being patented? It is evident that the difference between process and product patents is not only clear but of vital importance to the inventor or discoverer. Supposing that an organic principle, of practical value in medicine, has been discovered and produced by a certain process; if the discoverer patents the drug he secures proprietary rights in its sale for the whole term of years provided for by the patent law. If, however, he can only patent the process of production, he acquires proprietary right only until the time when some other chemist invents a new process which may be better or worse than the old, but which enables the second chemist to compete with the originator, so to speak, who therefore practically loses the value of his patent. This time may be three weeks, it may be three years, it may be the whole term of the patent.

The American Pharmaceutical Association has, I believe, expressed itself as being in favor of granting process patents only. The American Pharmaceutical Association is a most respectable, indeed a highly honorable, body, but it is to the interest of its members that the patent rights of chemic investigators shall be as loosely held as may be, and therefore it is possible that the minds of its members are unconsciously biased. I can not myself see why the man who practically invents a new principle such as antipyrin should not have the same inalienable right to the result of his labors as had he who first placed the eye in the front of the sewing needle. It is probable that the law ought to recognize in its protection two classes of new remedies. No vegetable or mineral substance which exists pre-formed in nature, ready for the use of man, should be capable of being patented. It can in no sense be called an invention; the discovery of its medicinal value is almost always largely the result of chance, not of foresight. A process for the extracting from a drug of its active principle might, however, be patented, so that process patents might be allowed for medicines of this class. On the other hand, when by synthetic methods a substance which is not found freely existing in nature has been made by a chemist, such substance may well be said to be an invention of the chemist, and to be therefore capable of patenting.

In Germany there are no product patents allowed, only process patents; but in Germany it is the habit of the courts to be very liberal in the interpretation of patent rights, throwing the whole burden of proof upon the inventor of the second or new process, and requiring his process to be absolutely diverse from the first; whereas in the United States the courts narrow as far as possible the rights of the patentee, so that the new or second process may survive judicial decisions, although it was really founded upon the first process which had received the patent. This, at least, is the allegation of the chemic manufacturing houses of the country; exactly how correct it is only a long-time worshipper at the shrine of patent courts could say.

Finally, colleagues of the medical profession, the time allotted me by your patience has expired, and I must leave the subject of my paper, though it be scarcely more than touched upon. To me this seems for us the final sum of the whole matter: so long as there be trout to rise, so long will there be fishermen to make their deadly casts. The credulous, the ignorant, the men and women who want to be deceived, the despairing, who grasp at every floating straw, will exist until the coming of the millenium demonstrates that through the succession of ages the suffering of innumerable human units has perfected human nature; but as members of the medical profession, let us see to it that we in no way aid those who, serving the father of all liars, wax rich and wanton on the miseries of their fellows.

1925 Chestnut Street.

SARCOMA OF THE THYROID GLAND.*

BY PAUL F. MORF, M.D.
CHICAGO.

Although the occurrence of enlargements of the thyroid body was known for a long time, it was not until within a comparatively recent period that the discovery of malignant tumors having their origin in this gland was made. In 1817 Alibert (quoted by Bircher) reported a case of true sarcoma of the thyroid body. Raynaud, in 1838, under the title "Thyroscarcomie," gives a report of an encephaloid sarcoma with metastatic foci in the lungs and liver, but he unfortunately gives no description of the microscopic findings. Förster, in 1860, gave an accurate and careful description of one of this class of neoplasms. Virchow mentions the malignant tumors of the thyroid, but gives no data as to their occurrence, and no description of the tumors themselves. He also makes the statement that he saw one sarcoma of the thyroid gland.

The credit of being the first to materially advance our knowledge of the clinical and pathologic manifestations of the struma maligna, and place it on a substantial anatomic basis, belongs to Kaufmann, who, in 1879, very minutely described a series of cases of malignant thyroidal tumors. He collected in all seven cases of sarcoma of the thyroid, three of these having been observed and examined by himself. Since the appearance of Kaufmann's article in 1879, a number of cases have been reported, the majority from the Continent, a few from England, and several in this country. By sifting the literature on the subject of thyroidal tumors to which I had access, rejecting such cases as might leave any doubt as to the exact nature of the neoplasm, I have been able to collect more or less complete descriptions of thirty-nine sarcomata of the thyroid gland. To these thirty-nine cases I add one more, which I had opportunity to observe while acting as interne in the Cook County Hospital, Chicago. I also add the microscopic description of the tumor of Case 39. The history and clinical findings of this case were reported by Dr. Graham of this city, to whom I am indebted for the material. In his report no details were given in reference to the minute structure of the tumor, mention being only made that the tumor was a round-celled sarcoma. The history of the former of these two cases is as follows:

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*Read before Chicago Pathological Society, March 13, 1899.

W. B., American, aged 47, was admitted to the Cook County Hospital, Chicago, Dec. 20, 1897. About one year before admission, he noticed a small swelling in the right side of the neck, near the sternal origin of the right sternomastoid muscle. The swelling slowly increased in size up to about the middle of November, 1897, since when it has grown rapidly; voice unchanged, no dysphagia, occasionally has dyspnea; has lost eight to ten pounds in weight during the last two or three months; appetite good; digestive and urinary systems normal. Previous history: Eighteen years ago patient received an injury in a railroad accident, both clavicles, the left scapula and three ribs being broken; has had gonorrhea twice, but no other diseases; father and mother living and healthy; no one in family had goiter or malignant growth of any kind.

Examination at time of admission showed the following: Patient is well nourished, adipose tissue abundant, no anemia or cachexia; chest, abdomen and extremities negative. On the right side of the neck, occupying a position corresponding to the location of the right lobe of the thyroid gland, is a tumor about as large as a goose egg, firm in consistency, no fluctuation; no adhesions to the surrounding structures, or to the overlying skin, which is normal in appearance. On aspiration with an exploring syringe a small amount of blood is obtained. The cervical lymphatic glands are not enlarged, nor involved in the growth. The right sternomastoid muscle and the large vessels on the right side of the neck are displaced to the right and backward. The left lobe of the thyroid gland shows no enlargement.

On Dec. 22, 1897, under general anesthesia, the tumor was removed by Drs. Moorehead and Brown. The patient made a rapid recovery, leaving the hospital on Dec. 31, 1897.

The tumor removed is about the size and shape of a goose-egg (9x7x6 cm.), firm in consistency, and shows no areas of softening. It is surrounded by a firm connective tissue capsule, which is not perforated or broken through at any point. On section the cut surface is slightly moist and glistening, having a dark red color in some places; elsewhere it is grayish and yellowish in color.

Sections taken from the part where the tumor tissue bordered on the glandular tissue, hardened in formalin and alcohol, stained with hematoxylon and eosin and mounted in Canada balsam, present an interesting picture.

The tumor tissue proper is made up of round cells of intermediate size, and of spindle cells. They are closely packed together and almost no intercellular substance can be made out. The protoplasm of the tumor cells is very scant in many places. The nuclei are large, some oval, some round and others more or less crescentic in shape. The majority take the stain very well, showing a deep blue color; in many, one distinct nucleolus, in many others, two nucleoli can be seen. Some have a deeply stained nuclear wall, while the interior of the nucleus itself is more or less homogenous in appearance, showing no chromatin threads or granules, and staining less intensely than the limiting membrane. In other nuclei the chromatin granules and threads are distinct and scattered irregularly through the nucleus. Some mitotic figures can be found; indeed, they are not rare. In some instances the nuclei show the chromosomes arranged into groups of three, indicating an atypic division of the nucleus. The blood-vessels, or more properly the blood-spaces, are fairly numerous. Their walls are formed by the tumor cells, the protoplasm of which stands out sharply against the lumen of the space and is somewhat flattened and drawn out.

Where the tumor tissue borders on the preformed thyroidal tissue, the alveoli of the gland have been changed by compression from their normal round or ovoidal shape, to an irregularly quadrilateral or rhomboidal shape (on section), or appear as spindle-shaped slits. The normal epithelial lining has almost entirely disappeared, as well as a large part of the colloid material, which in the normal gland, or in the colloid goiter, fills the vesicles. The vesicles are either empty, or what is much more common, more or less completely filled by extravasated blood-cells. These for the most part are well preserved, the reds showing, in many cases, only the alteration in shape resulting from mutual compression. Some few with disintegrated and pigment granules, having a golden brown color, are found both free and enclosed in cells.

Where the tumor merges into the altered gland tissue just described, the tumor cells are less closely packed together, gradually becoming more and more scattered and separated by the gland tissue. At the outermost margin of the tumor, sarcoma cells are found lying here and there; 1, in the connective-tissue walls of the altered vesicles; 2, an isolated cell here and there, lying among the extravasated intra-alveolar red blood-corpuscles; 3, an occasional deeply stained round or spindle-shaped sarcoma cell may be seen lying separate from the neighboring part of the tumor and surrounded by the small amount of colloid material which still remains. Among the tumor cells, small hemorrhagic foci are occasionally seen.

Diagnosis: Primary mixed-celled sarcoma of the thyroid gland.

On April 19, 1898, the patient returned to the hospital. There had been a recurrence of the growth, and he also complains of dysphagia and dyspnea, stating that three weeks ago he received an injury at the inner end of the right clavicle and soon after a small lump appeared there, which has rapidly increased in size. At this time there was found a uniform enlargement at the front of the neck, having a more or less hemispheric shape, the convexity anteriorly, extending from the level of the hyoid bone above to the upper extremity of the sternum below. At the right sternoclavicular articulation there was a tumor, about the size of a walnut, or a little larger, soft and fluctuating, the overlying skin having a deep reddish-blue color and appearing about to rupture. On this account this nodule was removed under local anesthesia. The central mass of this nodule had become softened and consisted of a semifluid mass. The cortical portion was firmer and of a grayish-red color. Very thin sections were hardened in formalin solution immediately after removal of the nodule. Microscopically, the sections showed the presence of numerous round cells of medium size and a few spindle cells. Many mitotic figures were found, sometimes as many as three or four dividing nuclei in a field (1/12 oil-im. ocular iv, Reichert) corresponding with the very rapid growth of the nodule.

Healing of the wound made for removal of this nodule occurred *per primam*, patient leaving hospital again on April 30, 1898. Five days later he was again readmitted. He complained of increased dyspnea, which brought on the exitus four days later.

At the autopsy, April 14, 1898, examination of body, made by myself, gave the following findings: The body is that of a well nourished man, short and heavy set; rigor mortis well marked; lividity in dependent parts; linear scar in the middle of the neck anteriorly about 12 cm. long; a second scar about 8 cm. long over the inner end of right clavicle; general nutrition good, fatty layer moderately thick; no anemia or cachexia.

The pericardial sac contained about 60 c.c. of a slightly blood stained fluid; the pericardium is smooth and glossy; there were a few old adhesions over the anterior and posterior surfaces of the right ventricle; left ventricle contained a small amount of dark fluid blood, the right ventricle a small white non-adherent blood-clot. The mitral orifice admitted four finger tips; there were a few yellowish plaques at the base of the anterior mitral cusp; aortic semilunar valves were normal; tricuspid orifice admitted five finger tips, loosely; the valve itself was normal; myocardium is of a brownish red color, with here and there small pale yellowish spots; near the beginning of the aorta were numerous small rounded or irregularly shaped, slightly-elevated yellowish spots 2 to 3 mm. in diameter.

The pleural cavities were empty; the pleuræ smooth and glossy, with a few old adhesions over the right upper lobe. The lungs were dark red in color, floated and crepitated. Near the anterior margins there were small areas of grayish distended air-vesicles; and in the lower part of the left upper lobe was a tumor about the size of an orange, moderately firm in consistence, and on section a dark grayish-red color. A similar tumor having about the same size was found in the lower portion of the right middle lobe, and a third in the lower part of the left lower lobe. In the lower portion of the right lower lobe was a fourth mass about the size of a walnut. These tumors had grown from the lobes in which they were originally situated, and passed across the adjacent interlobar fissure, and into the adjoining lobe; numerous smaller nodules about the size of a pea or hazelnut were scattered through both lungs.

The peritoneum was smooth and glossy, its cavity empty.

The spleen weighed 350 grams; peritoneal surface was normal, but the organ cut with slightly increased resistance. On section, hemorrhagic foci about the size of a pinhead were found.

The liver weighed 2300 grams; surface was smooth, superficial veins congested and cut with normal resistance. On the cut surface the lobular markings were indistinct; in places the periphery of some of the lobules was distinctly yellow. The gall bladder contained a small amount of dark greenish bile, passages patent.

The kidneys together weighed 450 grams; surface was smooth and even; the stellate veins were somewhat injected. On the convex margin of the right kidney was a small cyst the size of a pea, containing a clear fluid; on section, cortical markings were indistinct; cortex to medulla as 1 to 4; capsule stripped readily, leaving a smooth surface.

The pancreas, stomach, intestines and bladder showed no essential changes. The mesenteric glands were not enlarged.

The scalp, skull, dura mater and brain showed no essential change. Tongue and pharynx were normal. There was calcification of the cricoid cartilage.

On the anterior surface of the neck was an enormous tumor mass, irregularly hemispheric in shape, limited above by the hyoid bone extending downward over the sternum to the point of junction of the first and second pieces of the sternum. The lateral boundaries corresponded to a line drawn from the angle of the inferior maxilla to the middle of the clavicle on each side. The skin over the tumor was normal in appearance, except near the median line, where it was somewhat thinned and adherent to the underlying tumor—site of scar of first operation. Dissecting back the skin showed the two sternomastoid and also the two sternohyoid and sternothyroid muscles pressed away from the median line, their fibers pressed apart, and the muscles themselves thin and atrophic. The carotid arteries and the internal jugular vein on each side were displaced outward and backward, were adherent to the tumor mass, but their lumen was patent throughout, and their walls had not been perforated at any part by the new growth.

The trachea was compressed from in front and the right, diagonally toward the left and behind, giving the cartilages a more or less oval contour; the lumen of the trachea was not completely occluded at any point. The compression extended downward from a point 1 cm. below the cricoid cartilage, a distance of 5 cm. The trachea contained some bloody mucus.

The esophagus was almost surrounded, near its upper extremity, by a process of the tumor, somewhat cylindric in shape about 4 to 5 cm. long and about 3 cm. in diameter, which passed between the posterior wall of the pharynx, esophagus and the spinal column on a level with the cricoid cartilage.

The main tumor mass was about the size of a child's head, somewhat elastic in consistency throughout the greater part.

In the lower right quadrant, and near the upper left quadrant there were two areas of fluctuation. Section through these fluctuating areas showed in each case a cavity about 5 cm. in diameter, containing a semifluid dark-red mass, the wall of each cavity consisting of tumor tissue.

Elsewhere on section, the cut surface presented a dark-red blood stained appearance, mottled with small yellow points.

Anatomic diagnosis: 1. Recurrent sarcoma of the thyroid gland with metastases in the lungs. 2. Old pleuritis. 3. Emphysema of lungs. 4. Beginning atheroma of aorta. 5. Fatty infiltration of the liver.

Description of microscopic findings of tumor in Case 39: The tumor is composed chiefly of round cells of medium size, their diameter being about equal to twice that of a red blood-corpuscle. There are, in addition, a few small spindle shaped cells. The protoplasm is present in relatively small amount and is homogeneous in appearance. The nuclei are distinct, well stained, and for the most part circular in outline; some few have an oval shape. They have a distinct wall, which stands out prominently against the more lightly stained background of protoplasm. The chromatin is more or less irregularly scattered throughout the nuclei; here and there a nucleus containing two nucleoli, or a cell with a mitotic figure is seen.

Between the cells a small amount of slightly fibrous intercellular substance can be made out. The blood-vessels and blood-spaces are moderately abundant; their walls are formed by long spindle-shaped tumor cells. In some parts of the tumor, small areas are found where there has been a disintegration of the embryonic cells, leaving a granular mass in which no organic elements may be distinguished. Where the tumor tissue merges into the tissue of the thyroid, there can be seen large spaces filled with disintegrating blood-cells. Some alveoli retain their epithelial lining, but instead of cubic cells are found flattened cells; in other alveoli the alveolar epithelial lining has entirely disappeared, the vesicle, however, containing a small amount of colloid material and an occasional tumor-cell.

Regarding the occurrence of sarcoma in the thyroid gland, the following statements may be made: 1. It is a rare disease. 2. It is more common in those countries where goiter is an endemic disease than in those countries where sporadic cases are the rule. 3. It is more common in persons whose thyroid is the seat of ordinary goiter. 4. It is more frequent in the male than in the female. 5. It occurs oftener in late than in early life.

That it is a rare form of disease hardly needs to be demonstrated. The small number of cases reported points this out as an undoubted fact, there being forty cases in as many years. However, it is perhaps not as rare as would appear from this, for, naturally, not all cases are reported, some which are reported are not accessible, and others not available, because of incomplete or unreliable descriptions. Among 7461 autopsies at the Berne Pathological Institute (Limacher) "struma sarcomatosa" was found forty-four times. In studying the frequency of occurrence of sarcoma of the thyroid, we naturally compare with it the frequency of occurrence of carcinoma of the same gland. While collecting the cases from the literature I was impressed by the relatively large number of reports of cases of cancerous goiter. Ewald, in Nothnagel's "Spec. Path. u. Therap.," gives the relative frequency of carcinoma to sarcoma of the thyroid as 3 or 4 is to 1. Kaufmann, in his original paper, reported seven cases of sarcoma and twenty-three of carcinoma of this gland. In considering the subject of the frequency of the occurrence of sarcomata of the thyroid, we include only those cases in which the growth was primary in this gland. Regarding the frequency of secondary sarcomata of the thyroid, the figures of Mueller (quoted by Lücke and Zahn) are in point. Among 102 cases of sarcoma occurring in various parts of the body, 3.1 per cent. produced metastases in the thyroid gland and pancreas. From this it is evident that secondary sarcoma of the thyroid must also be considered infrequent. Of interest in this connection is a communication by Pinner, who reports a case in which a primary sarcoma of the pancreas had given rise to a secondary growth of the same nature in the thyroid gland.

That sarcoma of the thyroid is more common in goiter countries than elsewhere, appears to be the case from the following: The largest number of cases have been reported from goiter countries. The figures of Limacher here are also in point, as Berne is one of the acknowledged foci of the ordinary goiter, and while there are no figures on this point that I know of, taken from post-mortems made in this country, still I think it will be generally admitted that no pathologist has found as large a number of sarcomata in this country, where the ordinary goiter occurs sporadically, in an equal number of post-mortem examinations. Just as occasional cases of benign goiter are found in this country, so also scattered cases of the sarcomatous degeneration of the gland are reported in the medical literature of this country. Unfortunately, several of these cases are so incompletely described that they could not be included in the table with the other cases.

The third assertion seems borne out by the following: Of the appended forty cases, twenty-two gave a history of previous goiter. If we remember how easily a small enlargement of the thyroid is overlooked

TABULAR ANALYSIS OF FORTY CASES OF SARCOMA OF THE THYROID GLAND.

No.	Reported by	Sex and age.	Previous goiter.	Origin.	Microscopic variety.	Cervical glands.	Metastases.	Points of special interest.
1	Förster . .	F. 60.	. . . .	Right lobe.	Spindle & stellate cell; bony tissue.	No enl'rgement.	. . . .	Adhesions to larynx firm; perforation of trachea.
2	Scheiber . .	M. 40.	Tumor of neck years before.	Right side.	Alveolar sarcoma; stellate cells.	Involved. .	In cranial bones. .	Trachea compressed; common carotid, internal jugular and vagus involved in growth.
3	Doléris . .	M. 55.	Tumor of neck 14 yrs. before.	Left lobe.	Fibrosarcoma. . .	Involved. .	. . . .	
4	Kaufmann.	M. 66.	Present for a long time previously.	. . . .	Spindle-celled sarcoma.	Involved. .	In pleura.	Left jugular, innominate and thyroid vein filled by thrombus; thrombus reaches to opening of innominate into cava.
5	Ibid	F. 53.	Since youth. .	. . . .	Spindle-celled sarcoma.	. . . . . .	Anterior mediastinum, both lungs and liver.	
6	Ibid	F. 46.	Three years before.	Left lobe(?)	Struma cystosarcomata.	. . . . . .	. . . .	
7	Ibid	M. 56.	Long time previously.	Left side.	Sm'll round-celled sarcoma.	. . . . . .	Mediastinal lymphatic glands.	
8	Ibid	F. 61.	No previous goiter.	Left lobe.	Round-celled sarcoma.	. . . . . .	No metastases . .	Compression of esophagus.
9	Ibid	M. 53.	. . . .	. . . .	Spindle-celled sarcoma.	. . . . . .	In bones, muscles, skin.	
10	Ibid	F. 57.	No previous goiter.	Right lobe.	Round and spindle cells.	. . . . . .	No metastases . .	Duration approximately five months.
11	Neumann. .	F. 54.	Present for 5 years.	. . . .	Alveolar sarcoma contain'g colloid masses.	. . . . . .	Met. alveolar sarcoma in humerus.	
12	Braun . . .	F. 59.	For 20 years previously.	Left lobe.	Lymphosarcoma. .	Right side; mod'r'tely enlarged.	. . . .	Duration of disease about four months; compression of larynx and trachea.
13	Heath . . .	F. 55.	. . . .	Mainly on the right side	Spindle and round cells and intermediary forms.	. . . . . .	In pleura and lung	Duration about six months; whole larynx displaced; perforation of larynx and trachea below vocal cord by tumor; platysma, sternomastoid, omohyoid and thyroid stretched over growth, thinned and atrophied.
14	Tilleaux . .	M. 33.	None	. . . .	Fibrosarcoma. . . .	Not enlarged.	. . . .	Patient presented clinical symptoms and signs of Basedow's disease.
15	Mathieu . .	F. 69.	None	. . . .	Round-celled sarcoma.	Involved. .	. . . .	Encephaloid degeneration; trachea surrounded, but not compressed; complete obliteration of middle portion of jugular; right pneumogastric enters the mass and its fibers separated by tumor cells.
16	Bircher . .	M. 50.	None	. . . .	Round-celled sarcoma.	Enlarged. .	In lungs.	Adhesions to trachea; duration of disease about six months; cause of death, edema of glottis.
17	Schumziger	M. 49.	Tumor of neck many years.	R. side neck.	Ro'nd and spindle-celled sarcoma.	. . . . . .	. . . .	Foci of softening cavity formation and calcification; trachea surrounded on three sides; perforated r. side.
18	Braun . . .	M. 59.	Goiter since early youth.	Right lobe.	Round and spindle-celled sarcoma.	Hard and infiltrated	L. vent., 5th costal cart., perichond., pleura, left lung and liver.	Larynx and trachea pressed to the left side; larynx compressed and its cartilage softened.
19	Ibid	F. 46.	Tumor of neck since age of 17.	. . . .	Cavernous sarcoma.	Enlarged. .	In lungs.	Perforation of trachea by tumor; extensive thrombosis of cervical vessels.
20	Ibid	F. 44.	Goiter present for ten years previously.	. . . .	Spindle-celled sarcoma.	Not enlarged.	. . . .	Adhesions to trachea and esophagus; operation, suppuration, followed by erosion of blood-vessel by the suppurative process, causing fatal hemorrhage.
21	Ibid	M. 58.	Tumor of neck 24 years.	Right side.	Vascular round-celled sarcoma.	Enlarged; some hard, some soft.	R. lung and in 7th cervical vertebra.	Thrombosis of small veins, coming from the tumor, with tumor tissue.
22	Wölfer. . .	M. 38.	Tumor of neck for 15 years.	Right side.	Fibrosarcoma. . .	Involved. .	. . . .	Trachea compressed; large blood-vessels of neck (right side) imbedded in tumor mass and pressed outward; duration about ten weeks.
23	Ibid	M. 51.	Tumor of neck 19 years.	Right side.	Angio-cavernous sarcoma.	Infiltrated.	Lungs, medi'stin'l lymph gland and in left ileum.	Larynx and trachea dislocated toward left; thrombosis of veins of neck; cause of death, pulmonary edema.
24	Ibid	M. 63.	None	Right side.	Round-celled sarcoma.	. . . . . .	. . . .	Trachea dislocated toward right; duration about four months.
25	Ibid	F. 51.	. . . .	Left side.	Giant, round and spindle cells.	. . . . . .	In dura mater. .	Trachea pressed toward right; cricothyroid membrane perforated by tumor; l. sternomastoid muscle infiltrated; jugular vein perforated, thrombosed, thrombus extending upward into sigmoid sinus, downward into r. auricle; thrombus consists of tumor tissue.
26	Ibid	F. 35.	. . . .	. . . .	Alveolar angiosarcoma.	. . . . . .	. . . .	
27	Kobler . . .	M. 62.	None	Right side.	Spindle-celled sarcoma.	Enlarged; cheesy degenerat'n.	Liver, upper part of ileum and in right kidney.	Trachea adherent just below larynx; esophagus compressed, tumor tissue replacing its muscular coat; multiple hemorrhages in brain.
28	Pitt	M. 65.	No history of previous goiter.	Left side.	Round-celled sarcoma.	Adjacent glands involved.	. . . .	Growth extends into left jugular, where a clot mixed with growth was adherent; "r. side of heart contained extensive ante- and post-mortem clot, extending into pulmonary artery and showing localized patches of white growth, doubtless carried from internal jugular vein"; duration of disease about four weeks.
29	Shattuck. .	M. 42.	. . . .	Right lobe.	Spindle-celled sarcoma.	. . . . . .	. . . .	Invasion of esophagus and sheath of carotid by tumor.
30	Turner. . .	F. 66.	None	. . . .	Round-celled sarcoma.	Not infiltrated.	. . . .	Right sternomastoid muscle infiltrated by tumor; infiltration of adjacent fatty tissues; tumor and skin adherent to one another; duration about nine months.
31	Bryant. . .	M. 56.	None	. . . .	Round-celled sarcoma.	. . . . . .	. . . .	
32	Pick. . . .	F. 51.	Tumor for many years.	Left side.	Spindle-celled sarcoma with bony tissue.	Enlarged and infiltrated.	Lungs, heart, liver, stom'ch intestine, pancreas, dura mater, palate.	Larynx pressed toward r. side; trachea compressed and adherent to tumor; large blood-vessels and nerve dislocated; esophagus compressed and bent; duration of disease about one year.
33	Ibid	M. 66.	None	Right lobe.	. . . .	Enlarged; infiltr'ted.	. . . .	
34	Lentz . . .	F. 56.	Goiter at age of 15.	L. side neck.	Chondrosarcoma spindle cells.	. . . . . .	. . . .	
35	Gatti . . .	M. 40.	Goiter since childhood.	Right lobe.	"Sarcome à cellules polymorph." Giant, large and med.-sized cells.	. . . . . .	In the lungs. . . .	Trachea and large blood-vessels surrounded by growth; suppuration and abscess formation in tumor; streptococci in blood; duration of disease about 7 months.
36	Stewart . .	F. 41.	Lump at neck 5 years before.	Right side.	. . . .	. . . . . .	. . . .	Larynx displaced toward left side; tumor adherent to lower part of thyroid cartilage and carotid sheath.
37	Limacher. .	F. 59.	Goiter for many years.	Right lobe.	Alveolar sarcoma.	Enlarged; hard.	In lungs, manub. sterni.	Tumor had its origin from the endothelium of the blood-vessels; duration about eight months.
38	Ibid	M. 48.5	For many yrs. previously.	. . . .	Alveolar angiosarcoma.	. . . . . .	. . . .	
39	Graham. .	M. 60.	Goiter of two years stand'g	. . . .	Round-celled sarcoma.	. . . . . .	. . . .	Larynx and trachea crowded to r. side; fatty degen. of tracheal rings; when turned flatwise two walls fall together; duration about five months; cause of death, cerebral embolus.
40	My case . .	M. 47.	None	Right side.	Mixed, round and spindle cells.	Involved. .	In lungs.	Compression of trachea; duration about 17 months.

Family history.—No. 13, none of malignant disease; 14, both mother and aunt had a goiter; 24, father had a goiter; 35, mother had a goiter.

in a locality where from one-half to two-thirds of the inhabitants are afflicted with the disease (Bircher), and also remember that in many of the histories of the cases reported, no definite statement is made in regard to previous goiter, it is probable that the proportion of cases in which a benign enlargement preceded the malignant growth is larger than appears from these figures. However, a benign enlargement is not a necessary precursor of the sarcoma. In some of the reported cases, the definite statement is made that no previous enlargement was present. As appears from the appended table, no previous goiter was present in eleven cases, or 27.5 per cent. One can therefore scarcely agree with the statement of Braun that "struma maligna" rarely occurs except in cases in which the thyroid is already the seat of goiter. However, statistics based on such a small number of cases are necessarily uncertain, and additional observations are desirable to settle this point definitely.

The influence of sex is shown to be of some importance. Eighteen of the forty cases collected were females, the remainder males. This is contrary to what might be expected from the preponderance of the non-malignant goiter among women.

That sarcoma of the thyroid occurs more frequently in advanced than in early life is a point on which almost all observers agree. One exception to this is Lücke, who says this form of neoplasm is found oftener in young strong persons, although he admits it has been observed at a more advanced age. Separated into decades, the forty cases herewith show the following distribution:

AGES	CASES
20-30	1
30-40	2
40-50	10
50-60	18
60-70	9

We thus see that an overwhelming majority of the cases occur after the fortieth year, with comparatively the largest number during the fifth decade. To give an adequate and satisfactory explanation for the occurrence of sarcoma in this location, at such an advanced age, contrary to what is usual—namely, the occurrence of sarcomata elsewhere at an earlier age—is, at the present state of our knowledge of neoplasms, impossible. However, we know from the researches of Wölfler that very frequently the parenchymatous elements of the thyroid become atrophic in later life, this atrophy being often accompanied by a copious hyperplasia of the interacinous connective tissue. Whether the pathologic mesoblastic tissue growth which forms the sarcoma is akin to the normal connective-tissue hyperplasia, or an exaggeration of the same, is perhaps an interesting speculation, but a question which must possibly remain unanswered until more is known of the physiology of the thyroid and the etiology of tumors in general.

The tumor more frequently originates in the right lobe of the thyroid than in the left. This is apparent from the examination of the appended table, and is also borne out by the statement of Lücke, that usually only one lobe of the gland is affected, and in the cases observed by him, the right lobe was the one involved. Family history of goiter, or of malignant disease, seems to be an unimportant element in causing a predisposition, being present in only a few cases; neither does previous injury to the thyroid gland appear to be an exciting factor of any moment.

The rate of growth of sarcomata of the thyroid is usually rapid, which may perhaps be explained in part by the copious blood-supply which this gland normally receives. The duration of the disease is sometimes difficult to establish exactly, for here dependence must be placed on the anamnestic statements of the patient, who may have for a short time overlooked a small tumor. Lücke states that the duration of the disease appears not to be over one year. Indeed, so rapid and malignant is the course of these tumors that it leads Kocher to remark, "The more our experience with neoplasms of the thyroid gland increases, the more we come to the conclusion that this organ, aside from the bones, is relatively the most frequent seat of acute sarcomata, which, by means of their rapid development, may very easily be confounded with an acute inflammation."

In those histories which give sufficient data to establish the duration with approximate accuracy, the shortest time was four weeks, the longest seventeen months. A duration of perhaps six to seven months may be considered the average. The cause of death in a large number of cases is interference with the vital functions of respiration or deglutition, due to pressure on the trachea or esophagus. Death has also frequently followed closely after operation for removal of the neoplasm, from suppuration, asphyxia, bronchopneumonia and secondary hemorrhage.

In size, the neoplasm varies from a nodule as large as a walnut, to a tumor filling up the entire anterior surface of the neck, from the hyoid bone above, to the sternum below. The contour is more or less irregular, the surface apt to be nodular and uneven. The consistence may be firm, or fluctuation may be obtainable on parts where the tumor tissue has broken down and become changed to a semifluid, or fluid detritus. The skin covering the tumor may be freely movable and unaltered, or it may be adherent and show the secondary changes due to invasion of its substance by sarcoma cells and subsequent ulceration, although this latter complication is not frequent.

In the early period of its development, the new growth is confined within the capsule of the gland, this condition being present at the time of operation in the case which I observed; but later its confines are passed by the tumor cells and the neighboring tissues are invaded. When the tumor is large, the sternomastoid, sternohyoid and sternothyroid muscles are displaced, thinned, and their fibers separated by the pressure exerted by the tumor, while in some cases the muscle substance is infiltrated by the tumor tissue. (Case 25.)

The trachea, from its intimate relation to the thyroid gland, is one of the structures most frequently involved by the advance of the tumor growth. It may be dislocated toward one side or the other, bent and distorted. Pressure first produces a partial, later perhaps an almost complete obliteration of its lumen, while adhesions between its wall and the new growth rapidly form. Later the tumor cells frequently invade the walls of the trachea, which have become atrophic from pressure; then finally the mucous membrane is perforated and the tumor cells may continue their growth, forming a mass which projects into the treacheal lumen. (Case 25.)

Pressure on and invasion of the esophagus may occur in a like manner, but this complication is perhaps a little more uncommon than the condition just described. The large vessels of the neck are frequently adherent to, or more or less completely surrounded by the tumor mass. Their lumen may be patent, or as is often found, the wall of the vein is infiltrated by embryonic cells, and its lumen filled by a thrombus, which may also in turn be invaded by the advancing sarcoma. The extent of this complication is well illustrated by a case described by Wölfler. (Case 25.) The wall of the internal jugular was broken through by the tumor, on a level with the third ring of the trachea. Within the vein the tumor mass extended downward into the left innominate vein, and from here into the vena cava superior, projecting from the termination of this vein with a conic extremity into the right auricle. Upward the tumor mass extended into the left facial vein and into the left sigmoid sinus.

The nerve trunks of the neck seem to for a long time resist the advance of the embryonal cells into their substance, nor is there often a disturbance of their function, though entirely surrounded by tumor tissue. That the nerve trunk may, however, be invaded, is shown by the case described by Mathieu. (No. 15 in the table.) The pneumogastric nerve was found to penetrate into the tumor mass and here showed double its normal volume. Microscopically, an infiltration of the nerve trunk by sarcomatous tumor elements was found, the bundles of nerve-fibers being pressed apart and separated from each other by the embryonic cells.

The cervical lymphatic glands are involved in a large number of cases. As shown by the appended table, the cervical glands were affected by the disease in eighteen of the forty cases. The study of the involvement of the cervical lymphatic glands is of importance, not only from a clinical standpoint in differentiating between a benign and malignant goiter, but also from the point of view of the pathologist, because it teaches us, as Braun points out, one of the ways by which a tumor increases in size, and also how these tumors so completely surround the trachea, esophagus and great cervical vessels. Braun made serial transverse sections of the neck in a case of sarcoma of the thyroid, with very interesting results, coming to the following conclusion: "It is usually taken for granted that these rapidly growing neoplasms perforate the more or less resistant connective-tissue capsule which at first surrounds them, and after this has occurred, grow about and surround and press aside the trachea and esophagus. Certainly, however, increase in size of the thyroid tumors occurs as often, if not oftener, in the following manner: the primary tumor coalesces with the neighboring tumors, which in part may have originated from infected lymphatic glands, and in part are metastatic nodules." Thus the trachea, the esophagus and also the large cervical blood-vessels become surrounded by tumor masses. This statement is illustrated by the case which I examined, where a process of the tumor passed behind the esophagus (v. s.). This extension was most probably formed by an infection of a retro-esophageal gland with tumor cells, with subsequent enlargement, and later a conjunction with the primary tumor.

The microscopic appearance of the tumor on section is somewhat variable. As a rule, the cut surface is slightly moist, smooth, transparent (Kaufmann) or translucent and glossy. Kaufmann avers that "these tumors are differentiated by scattered bundles of fibrous tissue which course from the periphery toward the center of the tumor."

The morphology of thyroidal sarcomata has received a careful study from a number of investigators. An analysis of the cases which I have collected from the literature and the two cases reported herewith gives the following results:

1	Round-celled sarcomas	10
2	Spindle-celled sarcomas	6
3	Mixed-celled sarcomas	7
4	Alveolar sarcomata 1. " " and stellate cells 2 " angiosarcomata 2	5
5	Angiosarcoma	1
6	Fibrosarcomata	3
7	Spindle cells with bony tissue	2
8	Cystosarcoma	1
9	Cavernous sarcoma	1
10	Angiosarcoma	1
11	Lymphosarcoma	1

This analysis shows: 1, the relative frequency of the round-celled sarcoma, which corresponds with the clinical observation of the rapid course of these tumors; 2, the relative infrequency of the fibrosarcoma, which is usually a somewhat more slowly growing tumor; 3, the relatively frequent occurrence of alveolar sarcomata; 4, the total absence of pigmented growths. From which of the connective-tissue elements of the gland these tumors originate can not be definitely stated. Limacher describes one case in which the histogenesis of the sarcoma cells could be distinctly traced to the endothelial cells of the blood-vessels of the glands.

The manner of growth of the tumor and its effect on the normal or strumous thyroid are of interest. It was Kaufmann who called attention to the fact that the sarcoma cells invade the thyroid tissue by growing into the interacinous connective tissue, and by increasing in number, bring this to atrophy and gradually replace it. The pressure on the acini by the growing cells causes a compression, an atrophy and disappearance of the gland tissue proper. The interstitial development of these sarcomata has been emphasized by others, and Kauffman asserts that it must be regarded as the rule.

The secondary changes which occur in sarcomata of the thyroid appear to be no different from those occurring in sarcomata elsewhere in the body. Ulceration appears to be a somewhat unusual complication, probably for the reason that death occurs from one of the above-mentioned causes, before atrophy and destruction of the skin has taken place, and infection of the thus exposed tumor tissue, with pus-producing micro-organisms, can occur. In this connection, the case of Gatti is of interest. Suppuration occurred in the sarcomatous thyroid, with the formation of a small abscess, while blood examination revealed the presence of the streptococcus.

Sarcoma of the thyroid is one of the malignant tumors during the course of which metastases frequently form. Metastasis takes place: 1, by way of the lymphatic vessels, as shown by the frequent involvement of the cervical and the occasional enlargement of the mediastinal lymphatic glands; and 2, by way of the blood-vessels, especially the veins. To emphasize this latter assertion, it is only necessary to recall the case of Wolfler, just described. As may be noted by examination of the appended table, metastatic nodules were present in eighteen of the cases, or 45 per cent. exclusive of involvement of the cervical lymphatic glands. The distribution was as follows: Lung, 11; bones, 6; liver, 4; pleura, 3; heart, 2; mediastinal lymph, 2; dura mater, 2; intestines, 2; stomach, 1;

pancreas, 1; kidney, 1; costal cartilage, 1; ant. mediasnum, 1; skin, 1; palate, 1.

As might have been expected, the primary metastases are most frequent in the lung tissue, and next to the lungs metastatic foci are found most frequently in the bones; having been present in 6 of the 18 cases in which metastases were found. This is equal to 30 per cent. Luke gives the frequency of bone metastases in sarcomata which had produced metastases, as 12.7 per cent., so it appears that bone metastases are 2½ times as frequent in sarcomata of the thyroid as in tumors of this class in general.

Limacher, as stated above, found 44 cases of sarcoma of the thyroid in the post-mortem records of the Berne Path. Institute, and among these 44 cases, 35 showed metastases. The difference between these figures and the figures deduced from the series of cases collected by myself is perhaps explained by the fact that in many cases, a post-mortem examination was not made, or if made, was not reported. So, very probably some metastatic foci have been thus overlooked. Among these 35 cases the distribution is as follows: Lung, 27; liver, 7; bones, 8; spleen, 1; brain, 3; heart, 3.

It will be noticed that in this series also, the metastases are relatively frequent in the lungs and in the bones. As far as my knowledge goes, no adequate explanation has been offered to account for this frequency of osseous metastases.

As the conclusions reached in this paper are based on the study of a comparatively small number of cases, and as it is evidently not possible to enumerate all peculiarities and unusual manifestations of thyroidal sarcomata, it has seemed desirable to arrange in tabular form the chief facts of interest in the pathology of these tumors. Special care has been taken to include in this table several points concerning which there seems to be a difference of opinion among the various writers on the subject. An endeavor has also been made to bring out some of the salient points in the pathology of the disease, in each case, in order that a comprehensive picture of the many and various anatomic features might be presented.

In conclusion, I desire to express my sincere appreciation of the kindly interest and the help rendered by Prof. Ludwig Hektoen, in the preparation of this paper.

417 La Salle Avenue.

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XERODERMA PIGMENTOSUM.*

REPORT UPON THE PRESENT CONDITION OF THE INDIANAPOLIS CASES.

BY ALEMBERT W. BRAYTON, M.Sc., M.D.
Professor of Dermatology, Syphilology and Clinical Medicine in the Medical College of Indiana; Consultant to the Indianapolis City Hospital, City Dispensary and the Deaconess' Hospital; Chairman of Section on Cutaneous Medicine and Surgery at the Denver meeting.
INDIANAPOLIS, IND.

ALSO THE REPORT OF A CASE IN COLUMBUS, OHIO, NOT BEFORE PUBLISHED.

BY ARTHUR H. BOWEN, M.D.
Lecturer on Dermatology in Starling Medical College.
COLUMBUS, OHIO.

This "truly wonderful and terrible disease," as Dr. R. W. Taylor designates it, was first described by Hebra and Kaposi in their "Lehrbuch der Hautkrankheiten," in 1870. A disease peculiar to early life, presenting polymorphous symptoms, chronic and unending in its course, indelible in its disfigurements, prone even from its benign lesions to destroy or impair vision, to more or less disfigure and destroy the nose, ears and mouth parts, and by its malignant new growths leading to early death.

Xeroderma pigmentosum is a rare disease; the primary article of Hebra and Kaposi was based on four cases only, out of the multifarious richness of their clinical material. Later, two cases were published by Geber, under the title, "A Rare Form of Nævus." In 1877 Dr. Taylor read, before the American Dermatological Association, a paper giving the history of seven cases of this rare disease; Dr. Heitzmann related a case at the same meeting. In 1878, Dr. Duhring reported a case, under the title, "A Rare Case of So-called Xeroderma of Hebra." In 1882, Kaposi published a paper based on two personal papers, using the name "xeroderma pigmentosum," although Dr. Taylor had applied the provisional but very graphic name of "angioma pigmentosum et atrophicum." In 1883, Vidal, out of enthusiasm for Kaposi, called the disease, "La dermatose de Kaposi," a not uncommon name at the present time. In 1884, Pick wrote a clear account of the disease under the title, "Melanosis Lenticularis Progressiva." In the same year Radcliff Crocker published the histories of three cases, with the title, "Atrophoderma Pigmentosum." These are the only cases reported from England. Dr. White of Boston, in 1884, described two cases from his city; in the same year Dubois Havenith reported a case.

This brought our knowledge of the subject to 1888, under ten observers of forty-one cases. Dr. Taylor's cases were the second, sixth and seventh daughters of a family of ten children. The sister of the mother of these children married a maternal second cousin; of their five children, the second and fourth were victims of this dread disease. Dr. Taylor observed two other cases in different families. This distinguished and fortunate observer contributed a paper to the New York *Medical Record*, March 10, 1888, under title of "Xeroderma Pigmentosum and its Relation to Malignant New Growths of the Skin," in which may be found a résumé of the forty cases known at that time. Accompanying this paper is an extended table of two pages, giving the essential facts of all the then recorded cases; the age, sex, age at onset, age when tumors appeared, nature of the tumors, name of the observer, and extended remarks, critic, historic and suggestive, on the individual cases. There was also a series of six half-tones of five of Dr. Taylor's personal cases—one showing the progress from the eighth to the thirteenth year, with the development at the latter age of well-marked malignant tumors of the eyelid and cheek.

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It would seem that the wide dissemination of the knowledge of this disease through Dr. Taylor's paper, in the *Record*, should have brought the disease into such prominence that all the cases scattered through our country would at once have been recognized. But such was not the case. A family of Low German descent, which had lived for two generations within a half-hour's ride of Indianapolis, presented three cases covering a period of twenty-six years, without recognition of the true nature of the disease. Dr. Taylor's paper was the source of my knowledge of the disease, and enabled me, with the help of the articles in the atlases of Taylor and Morrow, and the brief notes in the various works on dermatology, to identify two cases in the family cited. I wrote a description of the cases for Dr. Taylor, and also sent to him a life-size water-color drawing, made by Mr. Richard Gruelle of Indianapolis, of one of the cases—a girl of 16 years. Dr. Taylor was kind enough to present the case to the Section on Cutaneous Medicine and Surgery at the Washington meeting in 1891. This was published with an excellent chromo-lithograph in the *Journal of Cutaneous and Genito-Urinary Diseases* for April, 1892, and also, with the same plate, in the *Indiana Medical Journal*, September, 1892. In the meantime a third case of the disease developed in an infant daughter of the family, and the two cases, with the plate, were published in the "Transactions of the Indiana State Medical Society" for 1892, so that, altogether, some six thousand copies of this excellent colored plate—the best graphic representation of the disease extant, according to Dr. Taylor's view—were widely distributed throughout the country.

The most extended histologic studies of the tumors of xeroderma pigmentosum known to me are those made by Dr. S. Pollitzer of New York City. They were published with sections in the same issue of the *Journal of Cutaneous and Genito-Urinary Diseases*, in which occurred the plate and description of my own case. Dr. Pollitzer's material was from one of Dr. Crocker's three London cases; the material was taken in 1890. In 1892, Dr. Crocker's three cases were still alive, but two of them were progressing to a rapidly fatal termination, and in one the disease was quiescent. They comprised two brothers and a sister of the same family; in each case the disease was discovered soon after the first year of infancy. They were respectively 12, 10 and 9 years of age at the time they were reported.

The sections presented by Dr. Pollitzer exhibit a wildness of growth equivalent to pathologic riot. In a pin's head area are seen epithelial ramifications as the prevailing type. Intermingled with these are islands of spindle-celled sarcoma and round-celled sarcoma; also epithelial pearls and granulation tissue. Illustrative of the variety of structure in these tumors is a remark of Dr. Ludwig Hektoen, professor of pathology in Rush Medical College, Chicago, who wrote me that he made careful sections and studies of some of the material sent him from my cases, and "knew less of the pathology of the disease than ever before."

In the extended paper of Kaposi, pp. 728 to 742, in the volume on "Diseases of the Skin" (Twentieth Century Practice, 1896), the author gives nine sections illustrating the pathologic anatomy. The sections and discussion of them show that the development of carcinoma and sarcoma in xeroderma pigmentosum is due to the disproportionate growth of the epithelioid structures, as distinguished from the connective-tissue stroma. The author further states, that essentially the same condition is met with in the senile skin in those cases where sarcoma or carcinoma arises from preexisting papillary warts, or pigment nævi. In the old people, we attribute the cancer growth to the senile changes in the vessels and the senile degeneration of the connective tissue of the cutis. These multiple epithelioid growths in old people, while akin histologically to those of xeroderma, do not warrant us in calling such cases Kaposi's disease—a disease which always begins in the first year of life. Indeed, its congenital tendency is its most marked etiologic characteristic, and is further emphasized by the occurrence of the disease in several children of the same family. Among the forty-three cases first presented by Kaposi in tabular form, two brothers and sisters were affected in six families, three children in each of four families, and in one family seven children. Kaposi gives the total number of cases published up to 1895, as 76, reported by thirty different authors. The American reporters are: Drs. Taylor of New York, 7 cases; J. C. White of Boston, 2 cases; Duhring of Philadelphia, 1 case; M. B. Hutchins of Atlanta, Ga. (not Hutchinson, as in Kaposi's paper), 1 case; C. Heitzmann of New York, 1 case; Arthur H. Bowen of Columbus, Ohio, 1 case, and the three Indianapolis cases which are the subject of this note—a total of sixteen American cases, as far as the present writer can determine. I have not calculated from the literature the number of families in which the seventy-six cases occurred—probably less than thirty families have furnished all the cases. The Portugal cases, occurring in late life—40 to 80 years of age—it seems to me ought not to be recorded as xeroderma pigmentosum.

But it is not necessary to pursue further the histopathology of a disease of which perhaps not more than threescore cases are authentically known. Dr. Taylor has summed up the microscopic findings of Kaposi, Geber, Neisser and Pick (American Text-Book of Genito-Urinary, Venereal and Skin Diseases), and he refers the reader to the elaborate exposition of the histology of the morbid growths given by Dr. Pollitzer and already referred to in this article.

I quite agree with Dr. Taylor in his insistence that xeroderma pigmentosum is a disease of infancy, and is rarely, if ever, developed in childhood and adolescence, and probably never in adult life. The undoubted cases occurred in the first and second years of life, and probably every true case began before the sixth month. In the early stages, the brown spots are easily mistaken for ordinary freckles; the red flush is not uncommon in infancy; unobserving parents would not take alarm, generally speaking, until extreme bronzing, contractions or tumors appeared.

Certainly, the three cases under my observation developed an aberrancy of redness and freckling noticed by the parents by the sixth month of life. In the case of the little girl, now 6 years old, whom I have frequently seen since her third month of life, atrophic macules not larger than an eighth of an inch in diameter, were the first symptoms observed. These atrophic spots were not preceded, as far as I could learn from he parents or observe for myself, by any preliminary rash, pigmentation or telangiectasic areas. Dr. Hardaway has quoted this order of development observed by me in his description of xeroderma pigmentosum ("Morrow's System," vol. iii, p. 405, foot-note).

Dr. Taylor has had his series of cases under observation for twenty years; I do not know that any one of them has survived for twenty years, but various members of the two families have, some one or other, been suffering from this disease through that time. He is very emphatic as to the disease commencing in very early life. Of the cases reported by Kaposi, Vidal, Heitzmann, and others, as beginning as late as 9, 16, 72, and even 88 years of age, he is skeptic, as any one would be who is practically conversant with genuine cases of xeroderma pigmentosum. "It should be distinctly borne in mind," he says, "that the coincidence of the various pigmentations of the skin, with attendant epitheliomatous and other malignant growths does not of necessity constitute xeroderma pigmentosum." A child may have freckles in early life and malignant tumors in later life, and yet not suffer from true xeroderma. The weight of all testimony goes to show that the disease is one of early childhood, up to 5 or 10 years of age, frequently limiting itself to the skin alone—showing only redness, white atrophy, intense freckles, or even glossy black patches of pigment, contraction and ectropion of the lower lids. The tumors may come by the fifth year; they may be longer delayed, but their appearance marks the stage of the disease dangerous to life, unless they are promptly and thoroughly eradicated.

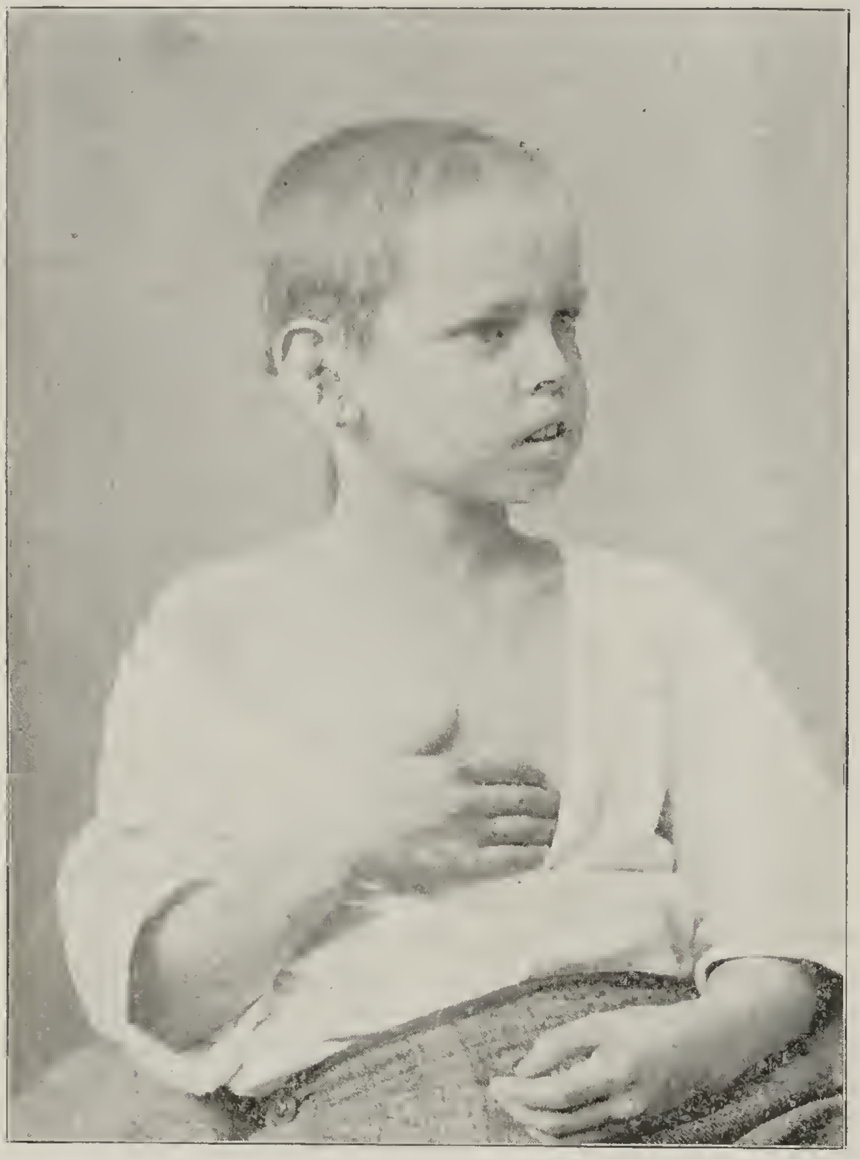
Drs. Wm. G. Corlett of Cleveland, Guido Bell and Louis Burckhardt of Indianapolis, were good enough to visit my cases with me in March, 1888. Dr. Corlett had seen the oldest case, now 22 years of age, five years before at the meeting of the Mississippi Valley Medical Association, in Indianapolis, where they were also seen by Dr. Ravogli of Cincinnati, Dr. W. T. Belfield of Chicago, and others interested in dermatology. The young woman is physically well preserved; she has been usually strong and robust, fond of work, from which she is only deterred by her photophobia and the gradual encroachment of the disease upon the lower conjunctival surfaces. The lower lids are destroyed; the cornea is clouded; the pupils are sadly malformed by the contracting iris; the tears flow on the face; vision now only amounts to the perception of light and the appreciation of large objects. The nose is eaten away to the bridge; the rims of the ears are eroded; the hands are warty and rough. The largest single tumor was on the right hand at the base of the little and ring finger. This I removed several times with the curette, going to the periosteum, but never entirely prevented its return at the margin in ever-widening circles until, at the suggestion of Dr. Burckhardt, I applied Fowler's solution several times a day to the scraped out areas. I have removed numerous warty tubercles from the fingers, ears, cheeks, lips and lower eyelids. Sometimes the electric needles were applied, under chloroform, to the tumors on the lids, with the happiest results; again the curette was used. Bleeding is profuse, but easily checked by pressure; sometimes the tumors drop off and disappear, as in the case of ordinary warts. Arsenic internally has no effect. At one time I removed a fibrosarcoma from the inner surface of the arm, just above the joint. It was the size of a large egg; the skin over it was normal. The general skin of the body is always dry; the legs and arms are branny, the trunk and scalp not affected, nor the hair or nails. The mucous membranes are normal; menstruation was regular from the sixteenth year; the weight is about 150 pounds. Within the year just closed (1898) she has developed some cachexia, palpitation, rapid breathing and insomnia; these symptoms are in abeyance this spring (1899).

The little sister, six years old, is in the freckled stage, with white areas and beginning contraction of the lower lids, and ectropion. The few epitheliomatous nodules which have appeared upon her lips and chin have been removed sometimes by the fingernail, again by the spoon, and afterward treated with Fowler's solution, with good results. By proper care I think such a case may go on to womanhood without noticeable mutilation of the ears, fingers, nose, lips or cheeks. But the ectropion and the involvement of the conjunctiva is the most difficult symptom to control. In no case should the nodules be allowed to grow to the size they are shown in the graphic representations of the disease, as for example in the case figured by Dr. Taylor in plate xix of the "American Text-book," already mentioned. The danger of the disease is in the warty tumors. These were allowed to grow in the case of the brother, two years older than the patient above, who died of the disease in his ninth year. The nose and lips were destroyed; the child died of exhaustion subsequent to inanition and possible sepsis.

There are no metastatic growths in xeroderma; the glands and lymphatics are free. It is a disease of the skin primarily and especially of those parts exposed to the light, although it has developed upon the feet and ankles of children who have worn shoes and stockings from infancy. Left alone, any of the nodules may become deep ulcers; the ears are cropped, the nose destroyed, the capsule of the eyeball eroded, the teeth exposed, and the patient passes swiftly on to death, as was the case with the boy above described. In the absence of the knowledge of the disease the cases were regarded as an aberrant form of lupus; indeed, that was the name given by Jonathan Hutchinson—"multiple pigmented lupus."

Xeroderma pigmentosum is a family disease; it is not hereditary; not all in the family are affected. In the present family were seven children; the first-born, a male, is 29 years and healthy; the second, a boy, died of the disease; the third is Mary, above described, and probably the best preserved and most typic of all the cases tabulated in the literature of this disease; the fifth and sixth are healthy boys with fair skins and no trace of disease; the seventh is the child of 6 years, whose case I have watched from infancy. When I first saw Mary in the City Hospital of Indianapolis, she was brought to the clinic to be treated with Koch's tuberculin. Three bottles had been sent to President Harrison, by the German government. A bottle was sent to me for experiment in the Hospital of President Harrison's adopted city, and she was the second case treated in the United States, as far as I can determine, with Koch's tuberculin. It was given under the direction of Dr. Theodore Potter, at my request, but produced no reaction. I had been negligent of the literature of xeroderma pigmentosum, and it was through Hutchinson's picture of his "multiple pigmented lupus," in "Sajous' Annual" that I correctly diagnosed the disease and was led to the study of Dr. Taylor's paper of 1888.

But why, it may be asked, is so much attention given to a disease which has no practical interest because of its extreme rarity? No case has been observed in Chicago, with her cosmopolitan population of over one and one-half millions—more than all the people of California. Only three cases are reported from the British Islands. The publication of the Indianapolis cases led to the diagnosis of one case in Ohio. Save these four cases I know of no other childhood cases in the United States, except those of Dr. Taylor and those of Dr. White of Boston. One case from Michigan was described to me in such clinical detail that I am reasonably certain it was xeroderma pigmentosum, but I can not make it matter of record, as the child is dead and the relator is now insane. The cases are valuable, as all knowledge is valuable. A species is none the less a species in botany or zoölogy because it is restricted to a small area or is represented by but a few individuals.



Dr. Arthur H. Bowen's case of xeroderma pigmentosum.

I will close this paper by the addition of the Ohio case which was recognized upon the publication of the Indianapolis cases in the *Journal of Cutaneous and Genito-Urinary Diseases*. The case fell under the observation of Dr. Arthur H. Bowen, lecturer on dermatology, in Starling Medical College, Columbus, Ohio. This case has never been published. I submit also the photograph of Dr. Bowen's case. Dr. Bowen's report was received June 1, 1898.

I also include the report upon the histopathology of the tumors, which was made in the fall of 1892, by Dr. J. C. Graham, then lecturer on bacteriology and pathology in Starling Medical College, but now resident in Denver, Colo.

REPORT BY DR. BOWEN, COLUMBUS, OHIO, OF HIS CASE OF XERODEMA PIGMENTOSUM.

The patient, T. J., aged 9 years, was admitted into St. Francis Hospital in August, 1892. His parents are both living; are healthy, and give no history showing any hereditary disease of any kind. The father is Welsh, the mother American; at time of marriage the mother was 17 years of age. The patient is one of five children, all living except one, who died of "inflammatory croup." The patient is the only one affected; the others show no symptoms of this or any other skin disease. He weighed 14 pounds at birth, and was perfectly healthy up to the age of 8 months, when the present trouble made its first appearance.

The patient was of light complexion, with brown hair and blue eyes, and was three feet eight inches in height. At time of admission into the hospital he was spare and slightly emaciated, but quite strong; digestion fairly good; bowels slightly constipated; skin dry, rough and slightly scaly; sebaceous and coil glands inactive. The affected skin was more thickened and inelastic than the normal skin, and more sensitive.

The history corresponds with that of other cases reported. The mother says the disease first appeared upon the cheek below the eye, as bright red spots, which she called "sunburn." The spots increased and spread rapidly, the skin in places broke, discharging a light-colored pus. After the red spots disappeared the freckles and white, glazed, pearly condition of the skin appeared. The affected surface was not completely covered with the pigmented spots, until about the age of 7 years. The drawn or contracted appearance of the mouth and nose followed the subsidence of the erythematous lesions.

The patient complains of his eyes being weak, and the mother says he has had conjunctivitis.

The ulceration in the ear, for which the boy was brought to the hospital for treatment, began as a wart about six months before. It had been cauterized by the family physician every second day, but continued to grow worse.

The eruption involves entire face and neck, extending from the edge of the hair to the border of the third rib; the hands, fingers, wrists and forearm to the elbow; the feet and legs to the knees.

The eruption began upon the face, spread slowly, involving in the order named the neck, hands, arms, feet and legs, becoming general over affected surface in about six years. The lesion consisted of erythematous spots, pigmented spots, telangiectases, atrophic spots, warts, tumors and ulceration. The erythematous patches began at about the eighth month of age, irregular in outline and of a pinkish red color. Pigmented spots or freckles followed the erythema, appearing about the second year, becoming general over the affected surface at about the sixth year.

The freckles over forehead vary in size, brown or blackish in color, irregular in outline, and in distribution most marked upon face, neck and hands, most numerous upon neck and hands.

The atrophic spots appeared first during the second year, and are most marked about the mouth and upon the back of the hands. These spots varied in size, were irregular in shape, and of a white, glistening or pearly appearance.

These caused a partial stenosis of the mouth and nose, giving them the drawn or contracted appearance seen in the photograph.

The telangiectases, were innumerable, small, stellate, pin-head sized, most distinct upon the neck.

The affected surface became a bright pinkish red color when the circulation was slightly excited.

The warts were more numerous on hands and neck. They were pea-sized and smaller, roundish, elevated and rough.

The tumors appeared at the fifth year. They were few in number and of slow growth, round and oval, pea-sized, smaller and longer, freely movable. firm and slightly elevated, with a covering of normal skin. They were better felt than seen. They were situated on the temples at outer angle of either eye, on nose between eyes, and on the neck.

The ulceration upon the right ear involved the entire thickness at one place and extended into the external meatus. It developed from a wart of six months' duration. The ulcer is irregular in shape with rough edges. The discharge was pustulous, abundant and offensive, forming yellow crusts. The ulcer was painful at times.

As the prognosis was unfavorable the patient remained in the hospital but a short time.

I learned recently, indirectly, that the patient was dead. I wrote to a physician where the patient lived asking for some information regarding the boy, but have had no reply to my letter. I enclose the report made by Dr. J. C. Graham of Columbus.

DR. GRAHAM'S REPORT.

"The growths given me for examination were three in number, two the size of a white bean, one of which was removed from the forehead, the other from the back of the neck, the third, about as large as a split pea, came from the forehead. I was not present when the growths were cut out and did not have an opportunity to examine them fresh; they were placed in alcohol and subsequently imbedded in celloidin for cutting. In attempting to cut them I found the two larger growths were calcified, necessitating their removal from the celloidin and decalcification before sections could be made.

"There was very little of interest in the smallest growth. The epidermal layer was thin, having only a few strata of cells, the rete was much atrophied, papillæ were almost entirely wanting, and glands were altogether absent. The cutis consisted of firm connective tissue whose nuclei stained fully. The hair follicles were much atrophied, the lymph spaces were filled with small round cells, and the blood-vessels were few in number.

"Sections of the large tumors made subsequent to decalcification showed the following: Epidermis thin, no papillæ, glandular structures and hair follicles wanting, and the greater part of the mass made up of epithelial cells supported by a scanty reticulum of connective tissue; the cells were greatly degenerated and took the stain very slightly. Calcification began in the centers of the nests of epithelial cells, and was present in nearly every one. The degenerated condition of the structures made an exact histologic analysis difficult.

"I regret very much not having secured a specimen from the ulcerated mass on the ear, since it might perhaps have shown a malignant character, such as growths described by a number of writers on the histology of xeroderma pigmentosum.

"So far as I have been able to review the literature of this disease, no former case has presented calcification of the nodules."

A RARE AFFECTION OF THE EYE: CONGENITAL IRIDEREMIA.*

BY FLAVEL B. TIFFANY, M.D.
PROFESSOR OF OPHTHALMOLOGY AND OTOLOGY, UNIVERSITY MEDICAL COLLEGE.
KANSAS CITY, MO.

L. M. W., a girl of 12 years, was brought to my office by Dr. T. S. Greer of Edgerton, Kan., Feb. 15, 1899. As the Doctor presented the child with her father, he said that he thought he had a very singular case. Looking at the child's eyes, I remarked to him: "You have succeeded, Doctor, in dilating the pupil *ad maximum*," to which he replied, "No, I have never used any mydriatic in this case, nor has the girl taken any medicine that would induce mydriasis." Upon a closer examination I discovered that instead of the pupils being dilated, there was an absence of all the iris excepting a narrow rim at the ciliary border, about 1.5 mm. wide (Figs. 1 and 2), and this was ragged or serrated, having no circular fibers. There was a slight scallop at the zenith of both irides. (Fig. 2). By either the direct or indirect method there could be seen a black zone encircling the entire periphery—the ciliary body—with a transparent space all around, through which the bright reflex of the choroid and retina could be seen. Encircling the lens at its ciliary margin was a narrow crown of centripetal striæ resembling arcus senilis lentis; this I named *arcus juvenilis lentis*, the first I had ever seen; probably this was the suspensory ligament where it joined the lens capsule.

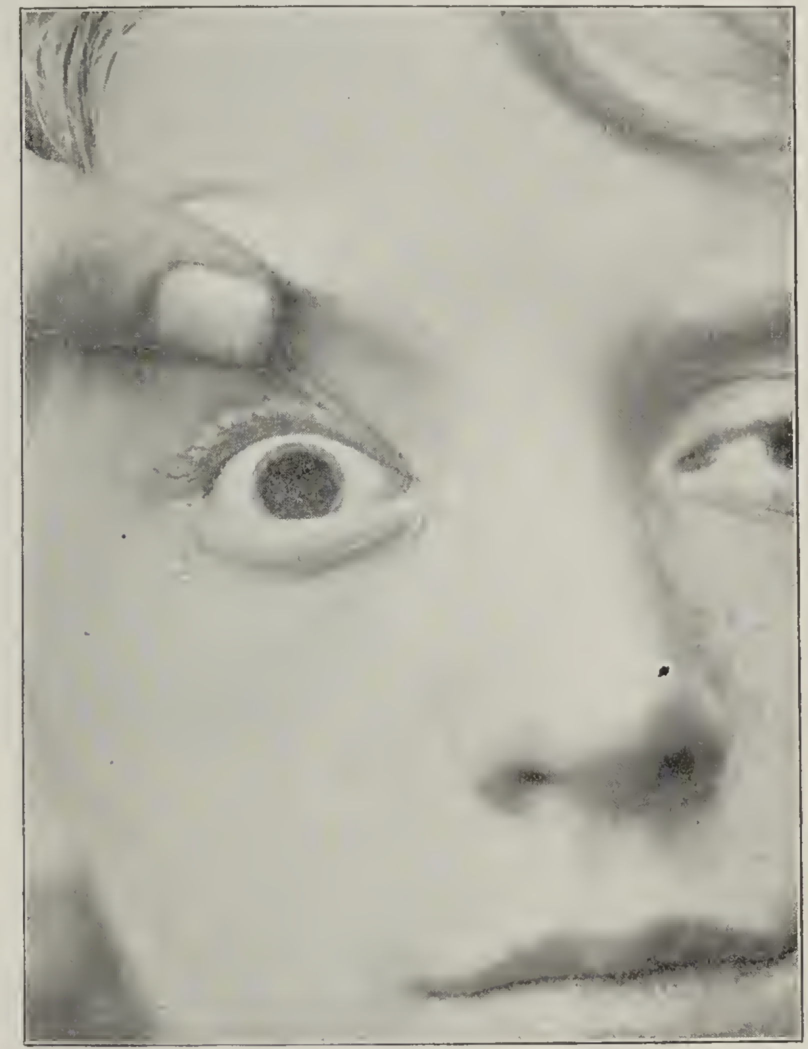


Figure 1.

The little patient was suffering from photophobia, always closing the palpebral aperture as in albinism, thus regulating the amount of light to the fundus of the eye Her vision was but 20/100 of either eye, and a convex spheric glass of 2.50 D. only improved to 20/80. Cylinders did not improve, although there was considerable regular astigmatism, as the ophthalmoscope showed, on the retina and optic disc. (Fig. 3.) She did not have any pain in the eyes, only dread of light, but frequently suffered from headache, and usually had to look at objects for some time before she was able to distinguish them. This I attribute to the feeble power of accommodation, as was perceived by the excellent view one obtained of the ciliary bodies, and perhaps to the irregular astigmatism. There were also several opaque leucomas, or rather nebulæ, near the margin of each cornea. (Fig. 2, *a*, *b*.) The opacities probably aggravated the photophobia and caused in a measure the irregular astigmatism. The latter produced a warped or wavy appearance of the retinal blood-vessels when the fundus was viewed by the ophthalmoscope. The pupil was larger than would be possible in complete mydriasis. The narrow rim of iris was of a light grayish hazel, similar in color to the iris of her father. Eserin would not contract the pupil, nor would atropia dilate it in the least. There were no circular fibers and the radiating ones

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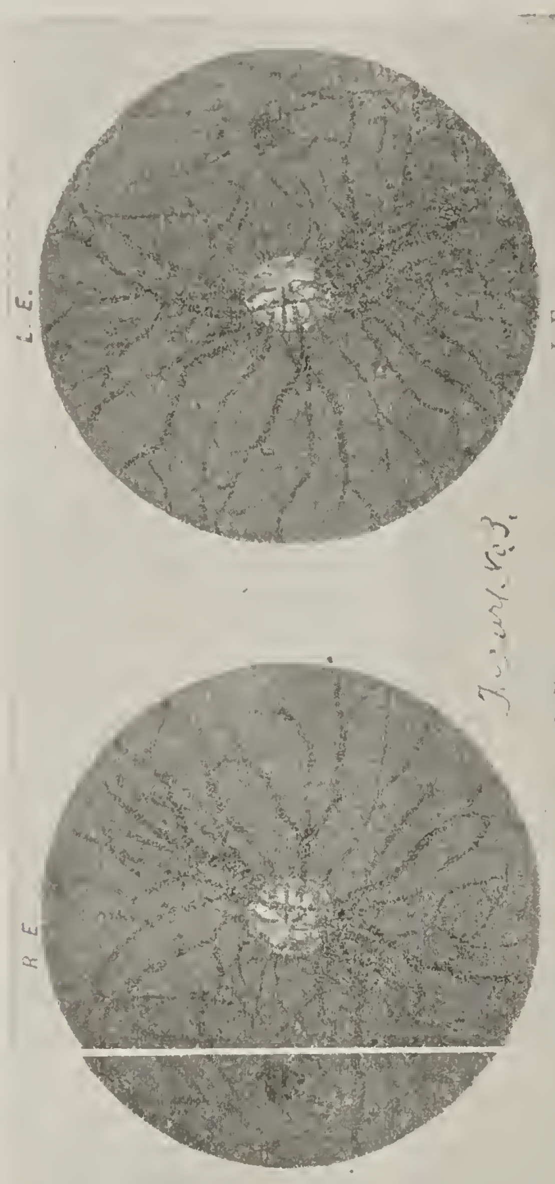
*Read before the Midland Ophthalmological Society, March, 1899.



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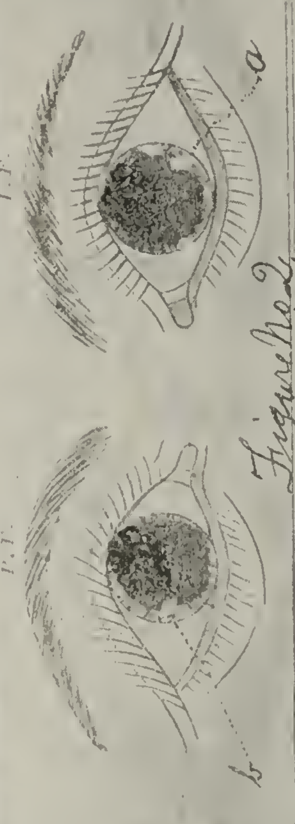

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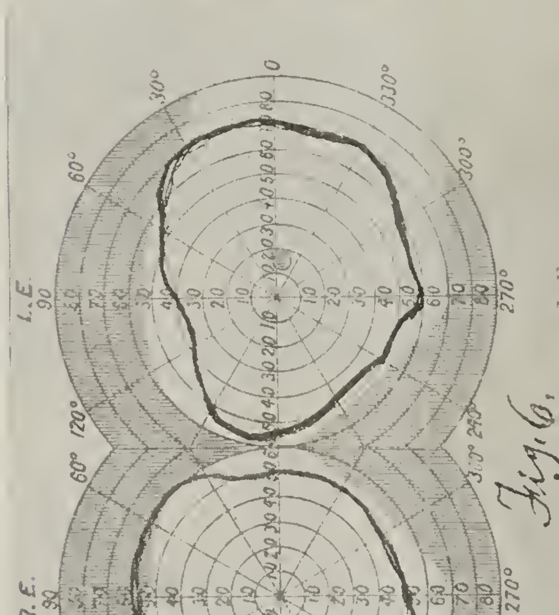


Fig. 6.

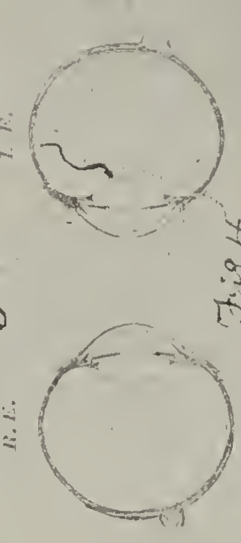
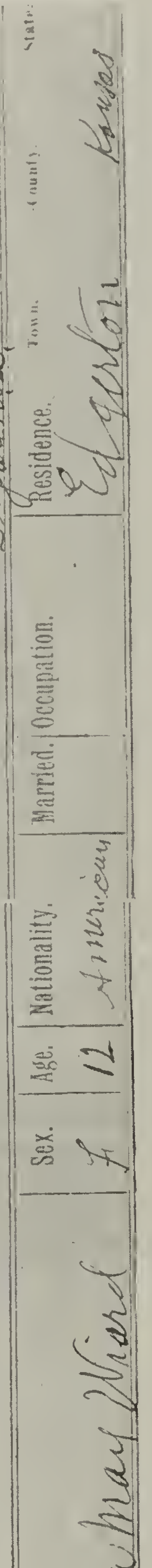


Fig. 4.



No.	Name.	Sex.	Age.	Nationality.	Married.	Occupation.	Residence. Town.	County.	State.
	Lena May Wiard	F	12	American			Edgerton		Kansas

were short and irregular in length. Within the vitreous body of the right eye there was an opaque floating body (Fig. 4) which had one end attached to the posterior lobe of the lens capsule; the other end was whipping about like a sail in the wind, and looked not unlike a cysticercus. The father said that his daughter's eyes always had the present appearance, as though "they were all sight," as he expressed it, until she was about 4 years old, when the narrow band (Fig. 1) began to appear, but this band had not widened any for several years. Previous to the third year of age the eyes were totally black, as is shown in the small photograph (Fig. 6), taken when she was but 3 years old.

In looking up the subject in the literature, I find that only a few lines are devoted to this peculiarity. Some authors merely mention the fact that we occasionally have irideremia; some do not even mention it. Very few attempt to give the etiology or account in any way for the strange phenomenon. One suggests that it may be due to inflammation of the uveal tract during fetal life. I have visited almost all of the large eye clinics of Europe and New York, and I have besides treated, in my private and clinical practice, about 15,000 patients, and this is the first case it has been my fortune to meet. In this case the irideremia is not entirely complete, there being, as I have stated, a narrow rim of iris encircling the ciliary region. Many of the authors state that irideremia is bilateral, whereas in coloboma of the iris it is frequently unilateral, and when the latter anomaly is confined to one eye, it is usually in the left. Coloboma is almost always associated with microphthalmus or macrophthalmus. There is frequently nystagmus associated with irideremia, but in the case under consideration there is no involuntary oscillation of the globe. Stenopaic disc is advised as treatment, but this did not improve vision in the least in my patient. I prescribed only spheric glasses, as cylinders did not help. I regret that the patient does not live in the city, that I might have an opportunity of seeing her often and making further observations, more especially concerning the action of the ciliary body and the modus operandi of the power of accommodation. Evidently the ciliary muscle as well as the ciliary processes was defective. The field of vision in this case was nearly normal, as Fig. 6 indicates.

RETENTION CYST OF GALL-BLADDER.

APPENDICAL ADHESION CAUSING INTESTINAL OBSTRUCTION; FIBROMYOMECTOMY COMPLICATED BY PREGNANCY.

BY J. HENRY BARBAT, M.D.
SAN FRANCISCO, CAL.

Mrs. P., aged 29 years, previous health good except for chronic constipation, had first attack of pain three months previous to operation; the pain being in the region of the gall-bladder and lasting for three or four hours. The second attack occurred a month later and was so severe that I was called in to relieve her. The pain was continuous in character with occasional exacerbations, which caused her to cry out. The bowels were constipated and the patient had been vomiting; there was icterus, but no mass could be felt in the abdomen. A diagnosis of gall-stones was made and the patient advised to have an operation. She preferred to wait, and as the pain subsided somewhat, thought an operation unnecessary.

A month later I was called in and found exactly the same condition of affairs with the exception that the gall-bladder could be felt somewhat to the right of the normal position. Her temperature was 103 F., pulse 110. She consented to an operation and was removed to the hospital. The abdomen being opened at the right border of the rectus muscle, the gall-bladder was found distended, thickened, inflamed and adherent to the surrounding structures and covered with patches of lymph. An endeavor was made to bring out the duodenum, in order to make a cholecystenterostomy, but after liberating the adhesions it was found that the inflammatory thickening had rendered the walls of the gut so thick and brittle that it was impracticable to attempt anastomosis.

Careful palpation of the gall-bladder and cystic duct failed to reveal any calculus. An aspirator needle was inserted into the gall-bladder and a clear thick fluid removed, which proved to be mucus, showing that the cystic duct was completely occluded. The only thing to do was to drain the viscus, so a second small incision was made about an inch to the right of the first and the gall-bladder stitched to the peritoneum from the inside. This proved a very satisfactory method, as there was plenty of room to work through the large incision, and it would have been impracticable to have worked through the smaller one from the outside. The reason for making the second incision was that the gall-bladder lay about one and a half inches more to the right than normal, and owing to its thickened and inflamed condition it was not advisable to make sufficient traction to draw it to the first incision. The gall-bladder was opened on the third day, about four ounces of mucus evacuated, and a drainage-tube inserted. Every other day for three weeks following, the wound was dressed and from one to twenty stones removed, ranging in size from a pinhead to a pea. In all, 143 stones were removed; the wound was kept open for one week after the last stone was taken out, and then allowed to close.

For the first ten days no bile came through the wound, showing the cystic duct to be obstructed either by a stone or thickening of its wall; after this period the bile began to flow in increasing quantities until about a pint a day was passed; the wound closed completely four days after the drainage-tube was removed, and the patient has been free from pain ever since.

SLIGHT APPENDICAL ADHESION CAUSING OBSTRUCTION OF BOWEL.

Master P., aged 10 years, previous health poor, had been under a physician's care for seven weeks before I saw him, on account of some obscure bowel trouble which appeared to get worse. The attending physician, believing the appendix to be at the bottom of the trouble, asked me to see the case in consultation. The child had been having paroxysmal pains all over the abdomen, which had become so severe that he would scream and writhe in agony about every hour. He was constipated and required large doses of purgative to obtain an evacuation of the bowels. He was vomiting and having occasional hiccough, and had lost his appetite. Examination revealed a marked degree of emaciation, with a distended abdomen. The abdominal wall was so thin that the loops of intestine could be distinctly seen, and during a paroxysm the intense vermicular action was plainly evident. The colon was not distended, so a diagnosis of partial obstruction of the small intestine was made and an immediate operation advised. The abdomen was opened in the median line and the loop of obstructed bowel sought for; a thick tense band was felt passing from about the level of the umbilicus to the right inguinal region, which proved to be the appendix.

The tip was found adherent to a loop of ileum and was freed without difficulty; the organ being congested and thickened, was removed. The obstructed bowel was found just above the point where the appendix was adherent, and the whole mass brought out of the abdomen. I attempted to loosen the adhesions which caused the obstruction, but found the bowel so brittle that it was considered dangerous to continue, so I made a lateral anastomosis about three inches below the obstruction, by means of a medium-sized Murphy button. The button was passed on the twelfth day. The relief was immediate and the boy began to call for food on the third day. His appetite was ravenous and he gained fifteen pounds in three weeks. I was sorry that I had to leave the obstructed bowel in the abdomen, but the little patient was so weak and took the anesthetic so badly that we thought him dead several times during the operation, and as the mesentery was very much thickened and the mesenteric glands in the neighborhood of the obstruction much enlarged, it would have required more time to remove the loop and make an end-to-end anastomosis than would be safe under the circumstances. An examination of the loop showed that the appendix had become adherent to the bowel and held it in such a position that a sharp bend was produced; at first this did not cause much disturbance, but after inflammatory thickening began the obstruction became progressively worse until at the time of operation it was almost complete. One of the enlarged mesenteric glands was removed and examined microscopically, but showed nothing but inflammatory disturbance, thus eliminating a tubercular origin.

FIBROMYOMECTOMY COMPLICATED BY PREGNANCY.

Mrs. G., aged 39 years, IIpara, youngest child 4 years old, previous health good, two years ago noticed some discomfort and pain in the lower part of the abdomen. In March, 1898, she felt a lump on her right side, in the inguinal region, for which she consulted physicians who advised its removal. Her menstruation had been regular up to July, 1898, when it ceased until October, then appeared for a few days and stopped entirely. Her abdomen had been growing steadily larger until, when I first saw her in January, 1899, she appeared as large as a woman at term. There was considerable pain during the two months previous, which had been steadily increasing until she was willing to undergo any operation for relief. She had noticed no signs of pregnancy. Examination showed an irregularly enlarged abdomen, evidently containing one or more large fibrocystic tumors and a few small ones. No sharp dividing line could be felt between the masses, so it was concluded that they were all part of the uterus.

A possibility of pregnancy was discussed, as the os was blue and patulous, but the patient could not believe herself in that condition and, even if she were, the pain and progressive emaciation were sufficient incentive to remove the diseased parts as soon as possible.

She was operated on at the Waldeck Hospital, on Jan. 26, 1899. Before opening the abdomen it was deemed advisable to curette the uterus as it would probably have to be removed. At the first stroke of the curette, fluid began to pour out and continued until about a gallon had come away. As it was evident that the fluid was amniotic, the curettement was dispensed with and the abdomen opened near the median line. A large mass presented, which was delivered and removed by applying clamps to the broad ligaments and cutting above them. The vessels were picked up separately and ligated, and the cut surfaces whipped over with fine catgut.

The cervix was left. The patient made an uninterrupted recovery except that the pulse was slightly accelerated, keeping above 85 for two weeks, and probably due to the removal of both ovaries. I regretted that I had not implanted a piece of one of the removed ovaries in order to prevent sudden menopause and its accompanying nervous phenomena. The specimen was composed of a large fibroid which occupied the whole anterior and lateral walls of the uterus. There was a smaller fibroid on the fundus, and a fetus six months old, which occupied the posterior portion of the uterus. The anterior wall of the uterine cavity was formed by the large fibroid and was soft and friable; the remaining walls were very much thinned and softened.

Cases of this character impose grave responsibilities on the operator, more so if it is possible to make a diagnosis of pregnancy before operating; if we can determine definitely the age of the fetus we are justified, if the case is not too urgent, in waiting until the completion of the seventh month, and removing the fetus before beginning the removal of the fibroid uterus. In the case before us there was nothing to indicate the existence of pregnancy, except the cessation of the menses, and as the patient had practically stopped since July, 1898, we would expect her to have felt life before the time of her first visit; but even if a positive diagnosis of pregnancy had been made it would not have been a contraindication to immediate operation, as the patient was in a very miserable condition, and in the light of subsequent developments it would have been dangerous to have allowed her to go to term, as there would have been danger of rupture of the uterus if the labor pains were at all severe. As to whether the tumor would have prevented the descent of the fetus if the case had gone to labor, it is difficult to say, as the fibroid might have been pushed up out of the pelvis by the subsequent growth of the child and left the birth canal free; but it would have been at the expense of the cervical canal, which would have been thinned to a dangerous extent.

SOME PATHOLOGIC CONDITIONS OF THE OVARIES THAT CAUSE GREAT PAIN.

BY GEORGE HALLEY, M.D.
KANSAS CITY, MO.

No physician who has been engaged long in the practice of medicine has not had complaints coming to him from his female patients, of excessive pains in the lower portion of the abdomen. The pain is not always confined to the pelvic portion of the abdominal cavity; but often extends both above and below it. The pain radiating upward from the pelvis, follows a line about two inches inside the crest of the ilium, radiating upward and backward, often losing itself beneath the floating ribs. Downward, it is found most often in the front of the thigh. Occasionally it is found on the outside of the thigh, and rarely in the back part of it. Sometimes it is confined entirely to the lower portion of the iliac fossa and upper two inches of the thigh. The pain is usually of a dull, aching, persistent character; increased markedly by physical exertion of any kind, and very seriously aggravated by movements of the pelvic contents or pressure on them, no matter how slight. Often the pain is a real hyperesthesia, the slightest touch exciting manifestations of pain as much or more than a deep pressure. It is occasionally found to be much worse as the menstrual period approaches; gradually improving after the flow has ceased, and reaching its maximum of improvement at the middle of the time intervening between the periods. At other times the pain appears to be persistent and is of about equal intensity throughout the menstrual period, diminishing, or becoming entirely absent during the period of flow, to return again with a full or increased intensity, three or four days after the cessation of the flow.

The physical symptoms attendant on, and coincident with this painful condition, are usually constipated bowels, painful or difficult micturition, great nervousness with prostration, often amounting almost to a mania. Sleeplessness is often a marked symptom, practically disqualifying the sufferer for any of the ordinary duties of life. The pathologic condition that is most often found is perhaps cystic degeneration of the ovarian substance. But this condition is not always present, and in a goodly number of cases that I have met with in my recent investigation of this question, there has not been so much of a cystic degeneration as of a varicosed condition of the pampiniform plexus. This, I am satisfied from observation, is a very frequent cause of the painfulness complained of when there is no, or very slight, disease of the ovarian structure. I have again and again found the veins composing the plexus as large as a lead pencil, and in some cases, tortuous, with the walls enormously thickened. One lady, on whom I operated recently, had no cystic degeneration of the ovarian tissue, but some of the vessels of the plexus were as large as the internal jugular vein, and the walls of these vessels were abnormally thick in proportion to their size. In these cases the train of morbid symptoms are, to some extent, characteristic of the pathologic conditions found, and enable the observer to determine, with considerable degree of accuracy, the character of the disease he is about to encounter.

Thus the cystic ovary is excessively painful to the touch, either through the vagina or rectum, while in varices of the plexus, the ovary is not so painful, or not painful at all. The pain is continuous throughout the intermenstrual periods, but little difference being observed at any time.

The pain is usually much worse as the menstrual period approaches, and remains severest in cystitic ovaries during the time of flow. Not so, however, with those in whom a varicosed condition of the venous plexus exists. They usually suffer most during the intermenstrual periods, their period of rest being after the flow has been fully established. Such patients usually express themselves as being able to do more work and feel better while they are menstruating, than at other times. The pain is often so severe that the patient has to remain in bed, the flow generally giving relief after the first day of menstruating.

Examination of the organ, after the abdomen has been opened, will show it to be much in the same condition as the testicle of a man suffering from varicocele. Indeed, it may with perfect justice be said to be a varicocele of the ovary. These women, too, usually differ in the amount of blood lost at each menstrual period, from those suffering from cystic disease of the ovary. The flow is usually much longer, and the blood lost during the period very much greater. The flow, too, is frequently found recurring with greater frequency, the periods not uncommonly recurring two or three times in a month. In cystic disease of the ovary, the periods, as a rule, are not regular. They are almost invariably much farther apart, five, six, seven or eight weeks, or often three, five, or six months elapsing between menstrual periods.

This is not a constant condition by any means, but sufficient to be remarked. The writer has many times found those suffering the most, perfectly regular in the period of recurrence, as well as in the amount of blood lost. Occasionally a varicosed condition of the vessels and a cystic degeneration of the ovarian structure are found together; then the symptoms will be mixed.

As to treatment, much has been written of late on the benefit of hot douches in pelvic pains and inflammations, and while no one can be more willing to give credit to its usefulness and curativeness than myself, I have found that when used freely and hot (as it always should be to get the best results) in those suffering with either cystic disease of the ovaries, or varices of the plexus, it greatly aggravates the symptoms, rendering life a burden to the sufferer. The indication, when the disease has been diagnosed, is to either entirely remove the ovary and tube with the upper portion of the broad ligament, or to ligate both ends of the vein of this plexus with some good strong material, and cut out, or ligate and cut out, veins, just as is done in most cases for the radical cure of varicocele. This requires more care in execution and detail of the operation than an ordinary removal of the ovary. If the plexus has to be cut away, the ligation must be very thorough indeed, as the artery will, for a time at least, produce a highly hyperemic condition of the ovary, and there is danger of a persistent bleeding from the ends of the severed vessels. If the ovary and tube are to be removed, care must be taken to pull well up inside the clamp all the vessels of the plexus in order that they may be caught and severed in the ablation.

I have often thought that the reason so many operations on the ovary are unsuccessful (failing to relieve the pain for which the operation was done) was owing to the veins of the plexus being the organ diseased, and not the ovary or tube. What effect the ligation of the veins will have on the future of womanhood in those operated on in this way, I am unable to state, having only operated on three in this manner, and those quite recently. So far, I find the pain is relieved as thoroughly as if ovary and tube had been removed. As to what effect this operation would have on those suffering from cystic disease of the ovary, I am inclined to think that benefit, if not a cure, might result. There is nothing present in cystic disease of the ovary that would positively necessitate its removal, except it be the pain it occasions. If then, the ligation of the venous side of the circulation, which is a comparatively simple operation, would bring about as good results it would be the better operation to do, as it would still leave the woman sexually perfect.

This paper has not been written with the purpose of positively indicating a line of treatment, but rather as suggestive in calling professional attention to a phase of this exceedingly painful condition that distresses so many surgeons beyond measure, and to the further fact that little or nothing has been written on this subject up to the present date.

I shall carefully note in the future the benefits that seemed to have been gained in the few cases operated on, and at a future time, hope to report further observations along this line.

SUMMER CARE OF THE TUBERCULAR.

BY WILLIAM PORTER A.M., M.D.
ST. LOUIS, MO.

One of the practical questions that arises in the mind of almost every physician, especially if he lives in the Mississippi or Ohio valley, is "How can I tide my tubercular cases over the hot summer months?" In my own practice I have found that the July and August temperature of 90 degrees and more, the close, humid atmosphere, and the nights with scarcely a breeze, are conditions that are greater hindrances in the management of such cases than the inclemency of the winter months. Patients can be protected against cold and change, but there is little defence against heat and humidity.

While not so enthusiastic in commending climate as a *sine qua non* in the treatment of tuberculosis as I have formerly been, yet I am sure that many of us lose much in the continuity of medication and care of these cases during the hot season. So it is with renewed interest that I read such communications as have appeared in the Journal from Drs. Parker, Reyburn and others.

There are certain things I want for my patients in summer—cool, dry atmosphere, not too much elevation, good hygienic surroundings, freedom from great diurnal thermometric variation and, withal, economy and convenience both in regard to travel and stay. If, with these conditions, we can have good wholesome food, pleasant environment, and a continuance of such methods of treatment as have been found best in the individual case, there should be, in most instances, a continued gain.

So it is that the physicians in the East have found the Adirondacks suitable for their patients in summer, or send them to a sanitarium in the hill country of New York or New England, while we in the West naturally have to do with Colorado and the Ozarks.

There is one region, however, within reach of all, which has to a great measure been overlooked. The northern lake region, especially near Petoskey, Mich., has long been a resort for hay-fever patients, but I have also had marked good results in cases of tuberculosis and chronic bronchopneumonia, during the summer months.

The location that I have found best, after six years' experiment, is the Les Cheneaux country, some ten miles north of Mackinac Island. Being just under the northern peninsula of Michigan, it is protected from the north winds, and the temperature is more even than I have found elsewhere. The atmosphere is dry, for the waters of the great lakes at this latitude are cooler than the air in summer and there is little evaporation, while the sandy soil quickly absorbs any rainfall. During the day the temperature is from 70 to 80 and about 8 degrees less at night. Even "The Sleepy Oregon" is no more conducive to rest.

Here, among these beautiful islands, where living is cheap, the sailing and fishing and the woods are a perpetual guard against ennui, and the average gain in weight of my tubercular cases was about a pound a week, with a corresponding increase in vitality. During the last four years, I have sent to this region, each summer, from twelve to fifteen cases of phthisis in the first and second stages, and the result has been uniformly good. All the indications for therapeutic care should be kept up, and in that clear atmosphere, among the pines, the air, doubly purified, as it comes over the long reaches of Lake Huron, tonics, chest exercise, serum, and whatever else may be used, seem to have a greater potency than when used in the artificial surroundings of a heated city.

Evacuation of Biliary Passages.—E. Rose publishes a couple of observations and a number of tests on the cadaver to prove that a simple incision in the gall-bladder and curettement of the gall-bladder, the choledochus and the bile-duct, are as effective in removing calculi as cholecystectomy and choledochotomy. One of his patients died not long after, and the absence of any peritoneal reaction was noted. Two stones differing from those removed during the operation were found in the pancreatic portion of the choledochus, and seven others in the hepatic duct, resembling in every respect those removed. No better result would have been attained with choledochotomy or cholecystectomy, which would not have prevented the emigration of the calculi from the hepatic duct to the choledochus. An assistant draws the liver and false ribs upward, which opens Winslow's foramen and enables the operator to seize the stone in the choledochus with his finger, and by inserting a small curette through the incision into the choledochus, between the stone and the wall, the stone can be extracted without opening the duct.—*Deutsche Ztft. f. Chir.*, xlix, No. 6.

Correspondence.

Shall We Follow China?

Chicago, April 21, 1899.

To the Editor:—The recent examination for internes at the Cook County Hospital, Chicago, taken in connection with the mania which now prevails in the public schools and in various departments of the so-called civil service, of rating students and men solely by a written examination, reminds one very much of the academic bureaucracy into which China crystallized two thousand years or more ago, and from which it is only to be aroused by dismemberment.

It is presumed that the County Hospital Board endeavors to secure the best educated and best trained young men to act as resident physicians in the County Hospital, to the end that the sick poor may receive the best treatment. The qualities which such young men should have might be enumerated as follows: They should be strong and well. They should have the ability to recognize disease, and the more rare quality of tact in the treatment of the sick person. They should be able to act quickly in all cases of emergency. They should be capable of and accustomed to making a study, both clinical and pathologic of any disease, and they should have experience in recording these studies.

It is hardly presumed that internes are much accustomed to methods of treatment. The treatment is left largely to the attending staff. For years this staff has seen fit to select its internes wholly upon the basis of a written examination. All other methods of testing the fitness and ability of the applicant have either been unthought of or laid aside on account of supposed difficulty of application, or on account of the fact that they could not be applied in an impersonal manner. The result of this method of examination has been most disastrous to medical education in Chicago. Beginning with the Northwestern University Medical School in 1882, quiz classes have been formed among the students who have been excused from attendance upon all lectures, and the winter of the last year in college has been spent in a systematic cramming, a giving up of the student's time and effort to a series of medical catechisms. Every year the senior classes of our three or four prominent colleges have observed the significant spectacle of a segregation of the brightest and most devoted members of the class into a small group, upon which the energies of the faculties were concentrated. These men, in an intellectual way, are groomed and dressed and fed somewhat as the football teams, the pride of our universities, are in a physical way. The other students have inquired why it was that the same method was not applied to all the students. If the catechism and cram is good for the best and most diligent portion of the class, would it not be better for the average man, a group of which most of them consider themselves members?

The writer maintains that the system of written examinations as a test of professional ability is wholly inadequate, and that its almost universal practice by State boards of examination and civil service boards is pernicious in the last degree, and tends toward a species of orientalism which is as revolting as it is irrational. Frederick the Great is said to have selected his body guard with a measuring-rod. All soldierly qualities except height and breadth of shoulder were neglected. The Cook County Hospital staff selects its internes solely by a species of catechism. No account is taken of actual clinical experience or ability, and no test is made of laboratory or operative technic. The applicant's health, his moral qualities, and his previous medical work are left wholly out of consideration. No attempt is made to measure his medical perspective, his knowledge of medical literature.

It is too soon to see the fruit of this pernicious system. The stream of internes graduating from the County Hospital has already furnished some of the most brilliant names in the register of American medicine and surgery, but one is struck by the fact that of the more recent internes entirely too many have fallen into a relative oblivion, and too many more have set their mark for medical usefulness, if one may judge by their literary efforts, entirely too low. How much of this is due to the unfortunate trend of their education, how much is due to the lack of true professional interest in the selection of the attending staff of the hospital, and how much is due to the greater stress in recent professional life, is a matter of personal opinion and conjecture. One thing is absolutely sure and agreed upon, and that is that the influence of written examinations at the County Hospital, and elsewhere, is giving the most unfortunate trend to medical education in Chicago.

Bayard Holmes, M.D.

Question of Priority.

Craig Colony, Sonyea, N. Y., April 18, 1899.

To the Editor:—Apropos to your editorial on "A Question of Priority" (vide Journal, April 15), I desire to submit the following comments:

That science should know no national limitations is often quoted, but it has not become as yet a practical fact.

To one having occasion to look up the bibliography of subjects in medical science, they are often struck with the extreme limitations of many so-called reviews in the German, French and English publications.

This state of affairs can not be from a lack of expressed desire on the part of such reviews, as they continually proclaim that the breadth of their horizon is not bounded by the language of their publication. Neither can it be because of lack of knowledge of languages other than their own. Much less can it depend upon a lack of worthy matter to incorporate in their journals, as the equality of such journals on the same subject is well known.

One is forced to the conclusion that it must rest upon a lack of appreciation of the reviewer, based upon national characteristics of prejudice. We do not urge this idea because so many Americans fail of representation in such journals, although we shall have something to say about that later.

We deplore the fact because, time and money being limited, we can ill afford to squander both, because of national prejudices creeping into scientific matters.

In the special branches of medicine, one looking up the literature of the subject is at once made aware of the author's limitation to the language of his own country. This is carried to such an absurd extent that the observer quotes and cites writers of a narrow field of investigation of his own acquaintance, who are altogether unworthy of being classed with capable workers of other countries who have a lifetime of experience to draw from. Not infrequently such a writer or reviewer poses as an original, when one day's work in bibliography would prove the humiliation of his position. Equally ludicrous is the position taken by our own reviewers in abstracting foreign literature only.

We have for years been wondering when American reviewers would take a different position. Any student of medical literature knows how common it is to see a journal issue abstracts from foreign scientists only. Indeed, we have heard more than one prominent clinician or pathologist declare that he could get no recognition at home, until he sent his articles abroad to be published in a different language, clothed in such vesture of which the American journal was in search. When a foreign publication of the original was not possible, a review abstract was sufficient to bring attention at home. When stated thus plainly we at once recognize the absurdity of such a Philistine act.

We are well aware that as a whole, American writers have not yet become trained for long, arduous and painstaking investigation, but this should not exclude the few who are.

There are many very carefully reported clinical phenomena recorded by American physicians in American journals which, if allowed to go unnoticed, would be not only an injustice to the individual worker but a positive loss to medical science.

We hope the time is near at hand when American reviewers of medicine will fully acquit themselves of the stigma of slighting any medical investigators of whatever nationality, and we also hope that foreign reviewers, too, will speedily mend their ways.

Very truly,
L. Pierce Clark.

Naphthalin in Typhoid Fever.

Buffalo, N. Y., April 22, 1899.

To the Editor:—Dr. Woldert's article in the Journal of April 15, on the use of naphthalin in typhoid, is so much in line with my own hobby, that I may be pardoned for a brief discussion of the subject. In August, 1895, I published (*Boston Med. and Surg. Journal*) a report of the use of charcoal and such direct antiseptics as iodoform and salol in the treatment of typhoid and, since then, I have used salacetol as the active antiseptic, in preference to the benzol and double benzol derivatives. It seems to me that the main object to be attained in the treatment of typhoid is the reduction of associated infectious processes. We all acknowledge now that the elevation of temperature is not the prime consideration, and, considering that leucocytosis is not normal to the course of the disease, even in favorable cases, I can not see why its artificial production by the Brand baths should be attempted. In such diseases as diphtheria, pneumonia, septicemia, etc., it is quite well established that a mixed infection is vastly more dangerous than one representing practically the pure culture of one bacterium. So, in typhoid, if we can have merely typhoid, without intestinal putrefaction and septic ulceration with corresponding involvement of the mesenteric lymph nodes, perhaps of the gall-bladder, pleura, lungs, etc., the patient remains only comfortably sick, delirium is lacking or at a minimum, the temperature is never dangerously high after treatment has had a few days to become operative, septic complications are lacking and convalescence begins in about three weeks. As Dr. Woldert has independently noted, the absence of indican is a practical evidence of the lack of intestinal putrefaction and of the favorable course of the fever. In my cases, the Ehrlich test has usually resulted negatively, indicating that the corresponding more or less specific poison has been absent.

Diet is also an important factor. It always used to puzzle me to understand why, in a disease of excessive oxidation, the natural force and fuel foods, fats and carbohydrates, should be withheld, why, in a disease of perverted nitrogenous change, animal foods should be used to add to the possible leucomains and other toxic derivatives from meats; why milk which curdles in the stomach should be a soft, unirritating mass in the intestine, while bread, etc., which melts into a pulp in the stomach, should bring on relapses by local effect on the iliac ulcers located nearly twenty feet from the pylorus; why, in the absence of digestive power on the part of the stomach, peptic digestion should be mainly relied on; why constipation should be a desideratum in a disease in which most of the elimination of bacteria and their products must take place by the bowel; why, if the bowels must be moved, it is dangerous to use salines and mercury, which act mainly on the hepatic secretion and that of the unaffected upper small intestine. Little by little, I have made practical application of these theoretic considerations and have found no exception to the general rule that it is safe to rely on physiologic laws.

Very truly, A. L. Benedict, M.D.
174 Franklin St.

Dissemination of Tubercle Bacilli.

Savannah, Ga., April 20, 1899.

To the Editor:—Referring to the editorial in the Journal of April 15 (p. 827), I think Flügge greatly exaggerates the danger of infection by means of the fine drops expelled from the mouths of phthisic persons in coughing. He has *not* by any means proved that tuberculosis is *commonly* transmitted by such drops. I believe the only danger, save in exceptional cases, of the open mouth coughing, is that such drops soon become dried and act as so much dried sputum. The danger of inhaling such drops under ordinary circumstances is slight.

Cornet's recent works proved conclusively that tuberculosis may be disseminated by dried sputum dust.

Very respectfully, J. J. Curry,
Acting Assistant-Surgeon U. S. A., Pathologist to the General Hospital, formerly assistant in pathology Harvard University.

Recurring Gonorrhea.

Fort Wayne, Ind., April 24, 1899.

To the Editor:—In the Journal of April 22, Dr. Harry Greenberg, Milwaukee, reports a case under the above title, but this is a misnomer. It ought to be called "a non cured clap." An injection of a 1 to 2 per cent. solution of nitrate of silver would, in twenty-four hours, have cleansed the field, and the discharge would have revealed the gonococcus. This should always be done, before a patient can be said to be cured, and I even make culture experiments with pleuritic serum; this makes the diagnosis doubly sure. The physician ought always to be sure of his diagnosis; if he does not know how to handle a microscope or make culture experiments, let somebody do it who does.

Carl Proegler, M.D.

Current Medical Literature.

AMERICAN.

Titles marked with an asterisk (*) are noted below.

American Gynecological and Obstetrical Journal, April.

1.—*Reminiscences of Founders of the Woman's Hospital Association. Thomas Addis Emmett.
2.—*Plea for More Correct Application of the Emmett Methods in Plastic Surgery. W. D. Haggard, Jr.
3.—*Preliminary Report on Use of Doyen-Thumin Crusher with a New Instrument for Extending its Work on the Broad Ligaments. Henry Parker Newman.
4.—*Clinical Contribution to Treatment of Malignant Tumors of Ovary. X. O. Werder.
5.— Cesarean Operation, with Report of Two Cases. A. McDiarmid.
6.—*Operations During Pregnancy. C. P. Noble.

American Journal of Obstetrics, April.

7.—*Diagnostic Value of Pain in Gynecology. Richard Lomer. Introduction by A. Sänger.
8.—*Clinical History of Uterine Polyps. B. C. Hirst.
9.—*Convenient Technic for Delivery of After-coming Head where Gross Disproportion Exists; with Comparative Considerations. Frank A. Stahl.
10.—*Phthisis in Pregnancy and Labor. W. Reynolds Wilson.
11.—*Treatment of Asphyxia in Children, by use of a Soft Rubber Catheter. S. Ormond Goldan.
12.—*Influenza Complicating Uterine and Pelvic Disease and Pregnancy. F. C. Ameiss.

International Medical Magazine, April.

13.—*Relation of Gout to Rheumatoid Arthritis. Wm. Ewart.
14.—*Dilatation of the Stomach, with Especial Reference to Etiology and Treatment. John A. Lichty.

Therapeutic Gazette, April.

15.— An Ophthalmic Clinic at the Jefferson Medical College Hospital. G. E. de Schweinitz.
16.—*Lumbar Puncture Followed by Relief of Symptoms—Four Cases. J. Madison Taylor.
17.— Morphin in Uremia. J. W. Meek.
18.—*Organotherapy in Gynecology. W. A. Newman Dorland.
19.— Tuberculous Peritonitis. Anna M. Fullerton.

Pediatrics, April 15.

20.—*Eight Cases of Laparotomy for Intussusception; Six Recoveries Charles P. B. Clubbe.
21.— Second Contribution to Surgical Treatment of Intussusception, with Cases. Henry Howitt.
22.— Cases of Congenital Displacement of the Scapula. J. E. Virden.

Ophthalmic Record, April.

23.—*Necessity for Knowing Range of Accommodation. J. G. Huizinga.
24.— Histology and Etiology of Posterior Lenticonus. R. Denig.
25.— Diabetic Cataract with Report of Five Operations. Robert L. Randolph.

26.—*Pulsating Exophthalmus from Aneurysmal Varix in Neck. H. Gifford.
27.— Keratitis Ulcerativa Marginalis. W. A. Martin.
28.— Angioneurotic Edema of Conjunctiva. Alexander Duane.
29.—*Divergent Strabismus Cured by Correction of Myopia. Alexander Duane.
30.— For Removal of Warts of Lid. Almon Brooks.
31.—*Diagnostic Significance of One-Sided Amblyopia Without Ophthalmoscopic Lesions. H. Gradle.

Richmond Journal of Practice, March.

32.—*Typhoid Perforation; Operation; Recovery. Hugh M. Taylor.
33.—*Function of Vermiform Appendix and its Bearing on Pathogenesis of Appendicitis, with a few words on General Principles of Treatment. R. M. Slaughter.
34.—*Plea for Better Compensation for Physicians. O. M. Smith.
35.— Local Treatment of Burns. G. A. Brown.

Medical Age (Detroit, Mich.), April.

36.—*Some Remarks on Tropic Malaria. Frederick W. Mann.
37.—*Fracture of Articular Portion of Astragalus, and Fracture of Both Bones of Forearm, one Three Weeks After the Other, with Radiograph of Both Fractures. Angus McLean.
38.— Strength Husbanding. Robert Bruce.

Medical Monograph (Topeka, Kan.), March.

39.—*The Sputa. Isaiah Frauk.
40.—*Pulmonary Sounds. William E. McVey.
41.—*Acute Catarrhal Pneumonia. Wm. N. Beggs.
42.—*Influenza. S. G. Stewart.
43.—*After-Effects of La Grippe. S. P. Plummer.
44.—*Is There a Tubercular Diathesis? Charles T. McClintock.
45.— Vocal Resonance. E. M. Magruder.

Columbus Medical Journal, April 4.

46.—*The Liver. D. N. Kinsman.
47.—*Infant Feeding. E. A. Harper.

Pacific Medical Journal, April.

48.—*Mother vs. Child. C. K. Bonestell.
49.—*Some of the Clinical Aspects of Granular Kidney. Samuel West.
50.—*Nationalization of Practice of Medicine. George Adam.

St. Louis Clinique, April.

51.—*Danger of Quinin in Malarial Hematuria. W. H. McLean.
52.— Essentials in Chemistry. C. W. Lillie.

Journal of Medicine and Science, April.

53.—*Non-Malignant Ulcerations of Rectum. B. B. Foster.
54.— Syphilis of Rectum and Anus. G. A. Pudor.
55.— Rest in Disorders of the Eye. C. E. Norton.
56.— Bacteriology and its Relations to Medicine. John Lord.
57.— Masso-Therapeutics. E. H. Judkins.

Texas Courier-Record of Medicine, April.

58.—*Etiology and Medical Treatment of Gall-Stones. W. H. Washburn.

Alabama Medical and Surgical Age, April.

59.— Some More Common Diseases of Rectum. B. R. Pearson.
60.—*Use of Ozonized Air in Diseases of Lungs and Air-Passages. J. F. Peavy.
61.—*Some Observations on the Exhibition of Iron. G. A. Gilbert.
62.— Preventive Measures. Sterling A. Wood.
63.— Some Things that Every Physician Should Know Concerning the Management, Treatment, etc., of the Eye. R. F. Harper.

Texas Medical Journal, April.

64.—*Treatment of Surgical Shock by Saline Infusion. J. Shelton Horseley.
65.—*Report of Three Cases of Aortic Aneurysm. J. N. Hall.
66.— Smallpox and its Management. John W. Kenney.
67.—*Cesarean Section with Recovery of Mother, and Child Saved. James Byars.

North Carolina Medical Journal, April 5.

68.—*Empyema—Its Diagnosis and Treatment. C. D. Hill.
69.—*Duration of Acute Gonorrhea and Importance of Treatment. H. T. Bass.
70.— Care of Sick and Wounded in War of the Revolution. Francis R. Packard.

Medical Times and Register (Phila.), April.

71.—*Treatment and Therapeutics of Gout or Rheumatism in Relation to the Heart. J. J. Caldwell.
72.—*Orthopedics for the General Practitioner. Edward A. Tracy.

Medical Bulletin (Phila.), April.

73.— Judicial Methods—Medicolegal Testimony—The Zelner Case. John V. Shoemaker.
74.— Report of an Interesting and Complicated Case. Edwin V. D. Gazzam.
75.— Acute Catarrh of the Middle Ear. E. B. Gleason.

Post-Graduate (N. Y.) April.

76.— Febrile Conditions, Their Relation to Body Heat Production, and Their Treatment. Wm. Henry Porter.
77.— Crisis in Pneumonia. Andrew H. Smith.

Maryland Medical Journal, April 22.

78.—*Forced Inflation and Pneumomassage in the Treatment of Otitis Media. Edward E. Gibbons.
79.—*Massage in Aural Diseases. A. D. McConachie.

Medical Review (St. Louis), April 22.

80.—*Personal Experience in Operating with the Use of Infiltration Anesthesia. L. T. Riesmeyer.
81.— Medical Gynecology. A. W. Latimer.

Medical Record (N. Y.), April 22.

82.— Notes on Cysts of the Breast. Wm. T. Bull.
83.—*Salicylic Acid in Treatment of Pneumonia. Wm. C. Sebring.
84.— Case of Resection of Bowel for Carcinoma. Carlos C. Booth.
85.—*Lung and Heart Reflexes: A Contribution to the Study of Heretofore Undescribed Clinical Phenomena. Albert Abrams.
86.—*Use of Extract of Suprarenal Capsule in Ophthalmic Practice. Frank N. Lewis.
87.—*Surgical Treatment of General Peritonitis, with Report of Cases. Frank D. Gray.

Philadelphia Medical Journal, April 22.

88.—*Röntgen Ray Diagnosis of Renal Calculus. Charles Lester Leonard.
89.—*Medical Expert's Duty and Where He Most Frequently Fails in it, with Illustrations from Zelner Case. John V. Shoemaker.
90.—*Cerebral Hemorrhage with Temporary Glycosuria: Report of Case. R. B. H. Gradwohl.
91.—*Anthrax: Influence of Tanneries in Spreading the Disease. Mazyck P. Ravenel.
92.— Contribution to Study of Micrococcus Tetragenus in Acute Angina. August Jerome Lartigau.
93.— Case of Poisoning by Rhus Toxicodendron Acquired in an Unusual Manner. J. Alison Scott.

New York Medical Journal, April 22.

94.—*Syphilis and the Liver. J. G. Adami.
95.— Logic Analysis in Therapeutics. Charles E. Quimby.
96.— Report of Necropsy in Case of Acromegaly, with Critic Review of the Recorded Pathologic Anatomy. Louis J. Mitchell and E. R. Le Count.
97.—*Treatment of Syphilis. Boleslaw Lapowski.
98.—*Treatment of Gall-Stones. Walter Lester Carr.
99.— Surgical Treatment of Gall-Stones (Biliary Calculi). Carter S. Cole.

Medical News, April 22.

100.—*Chronic Nephritis Affecting a Movable Kidney as an Indication for Nephropexy. George M. Edebohls.
101.—*Galvanocaustic Radical Treatment of Hypertrophy of Prostate. F. Kreissl.
102.— Differential Diagnosis of Pelvic and Abdominal Diseases in the Female. (Concluded.) Paul F. Mundé.

Cincinnati Lancet-Clinic, April 22.

103.— Cross Presentations. Robert W. Stewart.
104.— Treating Organic Ailments Through Direct Antagonism. George Sprague.
105.— Growing Pains. D. S. Hauson.

Boston Medical and Surgical Journal, April 20.

106.— Sir Benjamin Collins Brodie, Bart.: a Sketch. James G. Mumford.
107.— Traumatic Cerebral Edema; Its Pathology and Surgical Treatment. J. W. Courtney.

1.—**Reminiscences of Founders of the Woman's Hospital Association.**—Emmet's paper is a readable history of the early days of modern gynecology in New York, and is full of interesting facts. As a sample may be mentioned that one in which he tells of the criticism of a distinguished London gynecologist, who held that the frequency of fistula operations in the Woman's Hospital reflected on the skill of American physicians. Emmet was able to furnish him, at his request, for use in a work being prepared, with a tabulated list showing that the majority of these cases were immigrants, mainly from the British Isles, who had been transferred directly from the ship to the hospital. The data were not used.

2.—**Emmett's Methods in Plastic Surgery.**—Haggard writes of the comparative neglect of minor plastic surgery on account of the greater attractiveness of the major operations. Among the causes of the imperfect results of such operations he reckons: an exaggerated idea of the importance of the perineal body as a sort of keystone in supporting the uterus; a failure to recognize the part played by the pelvic fascia in maintaining the pelvic floor; and especially the failure to appreciate the results of its injury and the mechanics of the production of rectocele, together with the proper methods for its correction. Added to this he thinks the neglect of silver wire for suture is also a cause of the poor results obtained. He goes over the whole subject of Emmet s operation in detail.

3.—Vide Journal, March 4, 1899, p. 484.

4.—Vide Journal, March 4, 1899, p. 485.

6.—**Operations in Pregnancy.**—Noble reports his experience in operating on pregnant women, twelve cases in all. One woman aborted, but this was not due to the operation, as the ovum was already dead. A case of myomectomy also aborted. The operation in this case was undertaken on the diagnosis of ovarian tumor or it would not have been attempted. One case of hysteromyomectomy did well; the very rapidly growing tumor could hardly have permitted the pregnancy to progress to term. Five cases of ovariotomy all did well, and Dr. Noble deprecates the conservatism that would spare operation in these cases, with the risk of contusion, infection, etc., and the consequent peritonitis. In one ovariotomy, together with left ovarian tumor, there was parovarian tumor of the right side, which was removed, leaving the right ovary and tube intact. In one fatal case of obstruction of the bowels, the seven-months pregnant uterus interfered seriously with the release of adhesions, and Noble believes a hysterectomy might have saved the patient's life. A case of anal fistula was operated on without interference with the pregnancy, and he believes that in such cases, and in some of hemorrhoids, operation is indicated in spite of the patient's special condition.

7.—**Diagnostic Value of Pain in Gynecology.**—Lomer's article is a continued one and will be noticed in full when completed.

8.—**Clinical History of Uterine Polyps.**—Hirst discusses uterine polyps and reports five cases illustrated by cuts.

9.—**Delivery of After-coming Head.**—Stahl describes a new technic for the extraction of the after-coming head in cases of difficult delivery where perforation has been necessary. He describes a case in full and the different methods that have been devised to meet this complication, and gives a bibliography of the literature.

10.—**Phthisis in Pregnancy and Labor.**—Wilson thinks the influence of parturition on the consumptive woman is unfavorable. His advice is that a person suffering from systemic tendency to this disease should not marry. Phthisical women should not nurse their children, although the danger of infection in this way is slight.

11.—**Asphyxia in Children.**—Goldan reports a case in which he used a rubber catheter for intubation into the larynx, in a case of asphyxia during anesthesia, together with artificial respiration. He thinks that the intubation of the catheter into the larynx had possibly some influence in assisting respiration in a reflex way.

12.—**Influenza Complicating Uterine and Pelvic Disease and Pregnancy.**—Ameiss describes the complications on the part of the uterus and the pelvic organs from influenzal infection. Among these are severe hemorrhage, interference with the natural progress of parturition; complications in labor, which is usually tedious, and subsequent prostration, also the exacerbations produced by influenza in cases of chronic pelvic diseases.

13.—**Gout and Rheumatism.**—Ewart considers the relationship of rheumatoid arthritis to gout to be one of contrast; their differences are much more marked than their affinities. Gout is a clinical species; it is hard to define arthritis, and in some aspects it may be regarded as a morbid result rather than an independent disorder. Dr. Ewart compares the two in their resemblances and contrasts, and recognizes some mixed conditions in which arthritis may supervene on the gouty diathesis. He does not positively commit himself to any one of the theories of the pathology of arthritis, the neural, the infective, and the rheumatic. The treatment of the two conditions being very different, much depends upon the diagnosis, which in developed cases is hardly difficult. In the aberrant ones, where there is a suspicion of both, he would, where the diagnosis is uncertain, treat chiefly the arthritis and be sparing of the energetic remedies for gout. Local measures may be the same for both, the eliminative treatment also. Arsenic, he considers a safe remedy even in mixed cases where a vigorous tonic treatment is not strongly indicated. The general medical treatment of arthritis must adapt itself to individual cases, but usually it will be well to disregard indications derived from a mistaken diagnosis of rheumatism, and not be deterred by a gouty history or antecedents from using measures to improve the general health and strength of the patient. In doubtful cases there is generally more rheumatoid arthritis than gout.

14.—**Dilatation of Stomach.**—Lichty's paper takes up the etiology and treatment of chronic dilatation of the stomach. Under the first head he includes mechanic causes, such as overeating or too rapid eating, chronic gastritis, abnormal tumors, and pregnancy, chronic constipation and faulty dressing (corsets, etc.). Under indirect or nutritional causes he enumerates worry, anxiety and overwork, neurasthenia, various diseases, such as tabes, multiple sclerosis, febrile disorders; anemia and chlorosis are probably coincident rather than causal. The treatment is hygienic, dietetic, physical and therapeutic. Under the first head he particularly specifies hygienic dress, not constricting the waist; under the second, he prefers liquid diet, at first mainly of milk and raw eggs, and gradually coming back to solid food. Anything tending to fermentation, potatoes, starch and white bread, as well as raw fruits and excess of sweets and fats are to be avoided. Under physical treatment he includes abdominal massage and exercise, faradism and alternating hot and cold packs or douches to the abdomen. As regards drugs, he recommends tincture of nux vomica or quinin and strychnia. In hypoacidity, small and repeated doses of HCl are useful; if the reverse condition is present, a mixture of sodium bicarbonate, magnesia and bismuth may be of advantage. Two cases are reported to illustrate the treatment and its results.

16.—**Lumbar Puncture.**—Taylor advocates lumbar puncture as a therapeutic measure in conditions of excessive cerebrospinal overtension, and reports four cases in which it produced apparent improvement. Nothing special was learned from examinations of the fluid withdrawn. The operation is safe when properly performed and therefore he concludes it is justifiable as an aid to treatment.

18.—**Organotherapy.**—Dorland reviews the literature of ovarian therapy in gynecology, and reports two personal observations. His conclusions are as follows: 1. The ovaries, in common with other glandular organs in the body, exert an occult, but very positive, influence upon the general organism. 2. When this influence is removed, either by the natural atrophy of the glands at the climacteric, by destruction of the ovarian stroma from pathologic processes, or by extirpation of the organs, there results a series of distressing phenomena, including hot and cold spells, nervous and mental manifestations, and neuralgic attacks. 3. The administration of ovarian substance or of the extract of ovarian tissue is promptly and very generally followed by a marked amelioration of these symptoms. 4. The average dose required varies from two to five grains of the extract administered thrice daily. 5. Excessive doses of the remedy will be followed by cardiac and nervous manifestations necessitating a diminution in the dose administered or a complete, though temporary, change of treatment. 5. In some cases there appears to be developed a tolerance to the remedy whereby its effects are diminished in intensity. For this reason it is better to begin with small doses, and gradually increase the amount as may be indicated in the given case.

20.—**Laparotomy for Intussusception.**—Clubbe reports eight cases of laparotomy for intussusception in children aged from five months to 11 years, making a total of twenty-seven cases on which he has thus operated. He advocates the use of preliminary injections in these cases, holding that, if used early, reduction may be accomplished, and in all cases the mass is reduced in the easiest and best way. The injection should be given under an anesthetic while the child is prepared for operation and if the tumor can still be felt after it the operation should proceed. If it has entirely disappeared, operation may be deferred and the case carefully watched; if it reappears, the abdomen should be opened. Neglect of these precautions has brought injection into disrepute.

23.—**Accommodation.**—Huizinga calls attention to certain elements in the estimation of accommodation, the proper range of accommodation in each, and the special work required of the eye, and lastly the power of endurance of the ciliary muscle. (Vide Journal, Feb. 18, 1899, p. 348.)

26.—**Exophthalmus and Aneurysm.**—Gifford reports an apparently unique case of pulsating exophthalmus from aneurysmal varix in the neck. The cause was not, he thinks, as usual, due to rupture of the artery within the cranial or orbital cavity, but was produced by the increased pressure in the sinuses caused by the aneurysm in the neck, the pressure being transmitted through the petrosal to the cavernous sinus.

29.—**Divergent Strabismus.**—Duane very briefly reports a case of angioneurotic edema or urticaria of the conjunctiva occurring suddenly in the course of treatment of a conjunctival catarrh and lasting only half an hour, with no recurrence.

31.—**Amblyopia.**—Vide Journal, April 22, 1899, p. 855.

32.—**Typhoid Perforation.**—Vide Journal, April 15, 1899, p. 839.

33.—**Vermiform Appendix.**—Slaughter holds that the appendix is not a useless rudimentary organ, but has a useful function as a secretor of mucus for lubrication of the lower intestines. This mucus requires a free passage, as in case of any obstruction, an inflammation is set up. This is the chief exciting cause of appendicitis. The organ is changed into a retention cyst with decomposing and germ-breeding contents. An impaired circulation in the appendix is another condition favoring appendicitis. He classifies appendicitis into the obstructive, as explained above, and the rheumatoid, a less serious condition, rarely requiring operation. The distinctions of catarrhal or endo appendicitis and ulcerative or parietal appendicitis are of no practical value, really signifying only stages of one and the same condition. The diagnosis of appendicitis is easy as a rule, though it should be made with due caution if other conditions exist that might simulate it. In his experience most cases recover without operation or recurrence, and in most others there is time to decide as to operation and obtain competent help. The cases of fulminant appendicitis, however, though rare, are yet frequent enough to vitiate this as a universal rule. Recurrent cases call for operation. The medical treatment is quiet, rest in bed, liquid diet, salines and anodynes, preferably codeia, to relieve pain. High temperature and great pain are not necessarily unfavorable symptoms. Low temperature (under 100°), rapid, weak pulse and pinched expression, are danger signals.

34.—**Physicians' Compensation.**—Smith pleads for better compensation, and with reason, as the law and courts of Virginia are certainly lacking in justice and consideration as regards our profession. Seventy five cents a day for jail attendance, fifty cents for all day in court, two dollars and a half for a post-mortem examination, are disgracefully low compensation for a skilled professional man who has on top of this to pay a license fee of $10.75 per annum for the privilege of practicing medicine and giving, in the way of charity work, to the public, more than any other class of men in the State. The scale of fees proposed by Dr. Smith is certainly moderate enough. These are: ordinary visits, $2; prescription, $1; examination in lunacy or idiocy, $5; post-mortem, $5 to $20. If the private patrons are like the public ones in Virginia, our profession must be laying up all their treasures above, there is no chance here below.

36.—**Tropic Malaria.**—Mann reports experience with malaria in returned soldiers from the Spanish War. The majority of cases were of the tertian type of infection, but in nearly all of these the fever was quotidian, thus indicating a double infection. A surprising feature was the sudden remission. Several types, the gastric, the cerebral, and the dysenteric were observed, the latter being common. Hemoglobinuria was seen in two cases and in nearly all, enlarged spleens, some of them extremely so, were present. The blood changes were striking and a marked oligemia prevailed. The parasites were abundant. Only two of the cases were typhoid and these died too soon to determine whether or not a mixed infection existed. In the other the Widal test was negative. When typhoid cases began to come, it was equally affirmative, and as a differential test between malaria and typhoid it was entirely satisfactory. The treatment was simple: appropriate diet, cold baths for hyperpyrexia, or sometimes guaiacol externally, quinin exclusively for internal use, large doses sometimes given hypodermically, more often twenty to fifty grains in rectal suppository during apyrexia. Its value is greatest in this stage. Mann, in treating such cases again would give it by intravenous injections by the Baccelli method. The paper is illustrated by temperature-charts and closes with a statement of the mosquito theory of the etiology of malaria.

37.—**Fractures.**—McLean reports a case of fracture of the astragalus taken for a sprain and contested by an accident insurance company. The skiagraph revealed the condition and secured payment. Later the same patient suffered an unrecognized fracture of the ulna, followed in three weeks by one of the adjoining radius, also made little of by the patient, who seemed rather insensitive to such injuries. The X ray settled the diagnosis.

39, 40, 41.—**Sputa, Pulmonary Sounds, Etc.**—The papers of Frank, McVey and Beggs are summaries of the facts as known in regard to their special subjects.

42.—**Influenza.**—Stewart gives a short paper on influenza. His treatment is, for light cases, simply rest and light diet; for those with severe pains it is symptomatic, phenacetin and caffein for the relief of pain, and quinin in small doses as a tonic. A cough mixture is prescribed for the relief of laryngeal irritation and compound syrup of hypophosphites to maintain the strength. Gastro intestinal disturbances require suitable treatment. During convalescence some preparation of iron is used. The diet should be mild, nutritious, and in gastrointestinal cases, fluid. Supporting treatment is the main thing. Complications are to be treated on general principles.

43.—**Effects of La Grippe.**—Plummer briefly mentions some of the after-effects of influenza, including middle-ear inflammation, salpingitis, and recurrent appendicitis. One can not be sure of the safety of the patient until a long time after the attack has passed.

44.—**Tubercular Diathesis.**—McClintock inquires whether or not there is such a thing as a tubercular diathesis and is inclined to believe that there is, but just what it is and upon what chemic or physiologic conditions it depends, he can not tell. He notices, as having a bearing on this question, the facts of its geographic and its zoölogic distribution, its special location in the body, its apparent antagonism with certain other diathetic conditions, such as gout, leukemia, etc. He thinks that a diathesis that gives some immunity to tuberculosis implies a physiologic opposite condition that favors the disease.

46.—**Liver.**—Kinsman reviews the physiology of the liver and concludes that its functions are excretory rather than secretory as regards the bile; that in its glycogenic function, it acts on the thermogenesis; it also has the function of destroying poison in the blood, thus protecting the system; it controls the blood crasis, furnishing two principles, one increasing, the other decreasing its coagulability, and as a producer of urea, it largely influences the flow of the urine.

47.—**Infant Feeding.**—Harper discusses the methods of feeding children who can not nurse. He condemns the various preparations of condensed milk on account of the uncertainty as to their age and quality and believes that cow's milk properly prepared is the best substitute. He quotes Rotch's formulæ for the preparation of cow's milk for infants of different ages. After sterilizing, the milk should be put away in a cool place until used. The bottles, when cleansed, should be placed in the sunlight, which is a powerful germicide. Care should be taken to give food at stated periods, the quantity at each feeding being regulated by the condition of the child. Restlessness, disturbed sleep and no gain in weight indicate underfeeding, while overfeeding is usually shown by vomiting soon after meals. The entire food of the infant for the first eight or nine months should be milk, after that some variation may be cautiously begun. First, barley-water and oatmeal, and toward the close of the year beef juice may be added. During the second year the child's diet should consist of milk, oatmeal, bread, a very little lean meat. Eggs and fruit may be added for variety.

48.—**Mother vs. Child.**—Bonestell's article is a protest against the statement made in a recent discussion in the California Academy of Medicine in regard to the question of the importance of the life of the mother or the child. It was said by one of the speakers that the fetus has rights paramount to the rights of the mother, a view which he vigorously combats.

49.—**Granular Kidney.**—West's paper calls attention to the importance of the granular or cirrhotic kidney as a special disease. He does not recognize all the distinctions that have been made between the different types of this affection, nor does he consider the question as settled, whether it is primarily arterial or renal in its pathology. It is, however, in his opinion, a disease *sui generis*, and should not be treated, as it generally is by writers, under different heads of arterial and renal diseases. He discusses its symptoms and pathology.

50.—**Practice of Medicine.**—Adam's paper is one of those socialistic medical papers that are being written at the present time. He assumes that the average wage for a day's labor in the United States is $1.50, while the average product for the same is $6. His remedy for all the evils he thinks he sees, as far as they concern the medical profession, is the nationalization of the practice of medicine; let the government control the care of the sick and pay the doctor from the public funds.

51.—**Quinin in Malarial Hematuria.**—McLean reports a case of malarial hematuria which he considers caused by the use of quinin in large doses. The patient died in collapse. He calls attention to the danger of quinin in some instances in acting as an irritant to the kidneys.

53.—**Non-Malignant Rectal Ulcers.**—Foster discusses the subject of non malignant ulceration of the rectum, including the traumatic ulcers, catarrhal ulceration, tubercular ulceration, whether due to actual tubercle or simply to the malnutrition dependent upon the general disease, lupus exedens, and the simple irritant ulcer of fissure. Many of these types have been cured without surgical operation, but the only local remedy of which he speaks at any length is nitrate of silver application. He uses a solution varying from 2 to 20 grains to the ounce, daily when it can be done, otherwise every two or three days. Rest and protection from irritants, diet, etc., are the important adjuncts to treatment.

58.—**Gall-stones.**—Washburn, in a general discussion of the subject of gall-stones and their treatment, holds that there is a rational basis for the use of olive-oil in this disorder, but its utility is limited on account of the usual non-tolerance of the large doses required. His experience has led him to make sodium phosphate the basis of continued treatment, giving it in one daily dose of one teaspoonful, continued for weeks, months or years, as the case may demand. It may, in individual cases, be alternated with beef-gall, sodium salicylate, or salol, using each for a time as indicated. Exercise, not carried to fatigue, and a mixed diet without excess of starch or sugars is advised. In the vast majority of cases we have to depend on medical treatment. In only a minority is surgery demanded.

60.—**Ozonized Air Therapeutically.**—Peavy advocates the use of ozone in the treatment of tuberculosis, administering it by placing the patient on an insulated stool connected with the positive discharge rods of the static electric machine. A spray electrode conducts the electric breeze from the negative end of the machine to the patient's face. He thinks that in this way the blood and tissues are at once made more electropositive and capable of absorbing the oxygen which has been rendered more intensely electromagnetic, thus affording the conditions for rapid and effective oxidation.

61.—**Use of Iron.**—Gilbert calls for greater discrimination in the use of iron preparations and believes the albuminate in most respects the best form for its administration. He reports his own case, and briefly, three others in which it was of benefit.

64.—**Saline Injections in Shock.**—Horseley's paper pleads for the more general usage of saline injections as a remedy and prophylactic for surgical shock. He prefers the intravenous over the intracellular method, on account of the quicker absorption and the stimulant effect of the heated solution on the cardiac walls (temperature, he says, should be 110 to 115 degrees, or as hot as the hand can bear). The danger of introduction of air is slight if the canula is introduced with the solution already flowing and withdrawn before it has ceased, and that of introducing floating particles is avoided by using a small sterile gauze or cotton filter. The technic is described in detail.

65.—**Aortic Aneurysm.**—Three cases of aortic aneurysm are reported by Hall, in two of which there were autopsies; the other is living. The first case was not diagnosed during life, a complicating, secondary pleuritic effusion masking the symptoms in the one examination.

67.—**Cesarean Section.**—Byars reports a case where pregnancy was mistaken for ovarian tumor and operated on with good results to both mother and child.

68.—**Empyema.** Hill reports two cases of empyema treated by thoracotomy and rib resection, and discusses the diagnosis and treatment of the condition. The former must be made by the use of the exploring needle, and as to the latter, the main point is to evacuate thoroughly and secure drainage. He sums up as follows: "For the diagnosis use the needle; for treatment make incision, or if necessary, incision plus resection; for after-treatment use rubber drainage-tubes and promote lung expansion."

69.—**Acute Gonorrhea.**—Sass combats the notion that gonorrhea is a simple matter, easily cured in a week or ten days. He quotes Finger, R. W. Taylor, Keyes and others to show that it has normally a duration of six to eight weeks under careful treatment, and that a cure can only be claimed when all traces of pus, cocci or clap shreds have disappeared from the urine. His conclusions are: 1. That gonorrhea is a more serious affection than it is usually considered by the general practitioner and by the laity. 2. That the period of time for a cure in general uncomplicated gonorrhea is from six to eight weeks. 3. The importance of making an examination of the urine for clap shreds before deciding that a case of gonorrhea is cured.

71.—**Gout and Rheumatism.**—Vide Journal, March 18, 1899, p. 597.

72.—**Orthopedics.**—Tracy considers the plaster-of-Paris dressing for fractures the cause of numberless deformities, and that its use should be discontinued. It is in no way fixative, and becomes less so the longer it is in use. Its continued use in hospitals is due to red tape and economy, and the fact that hospitals can stand the production of deformities, while the general practitioner, with whom the plaster dressing has never been a favorite, can not. In the large cities, he says, the practitioner has frequent opportunities to note deformities following plaster treatment, because of the large number of hospital cases.

78.—**Inflation and Pneumomassage.**—Gibbons views very favorably the use of high-pressure inflation in aural massage. He has been using fifty or sixty pounds pressure in these cases, always being careful to increase it gradually and to stop the moment any vertigo is experienced. He thinks there is no danger of rupturing the tympanic membrane. It would not occur save in an old atrophic membrane, when it could do no harm and might possibly do good. The danger of dislocating the stapes inward through the oval window is *nil*, provided vertigo is avoided. He reports four cases where this method was used to advantage.

79.—**Aural Massage.**—McConachie believes that in a very large percentage of cases, fully 50 per cent. of rigidity of the ossicular chain, oto-massage by passive motion is of advantage. Its beneficial effects in the after-treatment of acute catarrhal diseases is also marked. In osseous sclerosis it is useless.

80.—**Infiltration Anesthesia.**—Riesmeyer states that, while at first skeptic as to the value and success of infiltration anesthesia. experiment has brought him to a much more favorable opinion of it. He has tried it now in a number of minor operations, none of them as severe in their character as some that have been reported as managed by this method. Still his experience makes him believe that the method has a much wider range than he had hitherto supposed. He found the anesthesia complete, and in no case did he observe a necrosis, which he had somewhat feared; in fact, primary union of the wounds resulted in every case. The psychic effect, which he had somewhat doubted, is not at all, in his opinion, objectionable.

83.—**Salicylate of Sodium in Pneumonia.**—Sebring speaks very highly of the use of sodium salicylate in pneumonia. He employs it in the same doses as for attacks of acute rheumatism, from 8 to 10 grains every two hours. He finds also, from Blumer of Albany, that the drug is fatal to pneumococcus in five minutes in a 1 per cent. solution, and suggests that while he does not advance it as a theory or even as a guess, "stranger revelations have occurred in the history of medicine than that at last pneumonia should come to be regarded as an acute pulmonary inflammatory rheumatism, plus an infection of pyogenic bacteria." His observations lead him to the following general conclusions as to the action of salicylate in pneumonia: 1. In the beginning of the attack it quickly quiets the tumultuous pulse. 2. It acts as a sedative to the general nervous excitement that is prevalent through that period; indeed, it seems to act as a hypnotic all through the course of the disease in many instances, as a fair proportion of the patients have slept a major part of the time until recovery had become well established. 3. It almost surely and quickly gives relief from the pleuritic pains. 4. It seems to inhibit the manifestations of malign mental symptoms. Thus far none of the patients have developed the least delirium after beginning to take the drug, except the first, and five cases of drunkard's pneumonia, in which the delirium preceded the disease. 5. The pulse remained full and not overrapid to the end, except in one case; cardiac symptoms due to the disease itself have been unnoticed and symptoms of a "tired heart" do not often occur. 6. After the first few doses of the drug the patient will perspire freely as long as the diseased condition of the lungs persists, but either from this cause, or some other that the author is not cognizant of, the temperature seldom exceeds 103 F. 7. The cases will show a far smaller percentage of complication than is usual. 8. In nineteen out of twenty cases the disease will subside by lysis. 9. The length of time required for recovery is less than the rule with patients that recover under the usual treatment and by lysis. 10. The infected lung tissue progresses to resolution more slowly than it does with the average case, though complete recovery from an attack—that is, return to normal health—is more expeditious. 11. There is a marked diminution in the severity of the disease, all conditions being taken into consideration.

85.—**Lung and Heart Reflexes.**—Abrams' paper is given to the description of two reflexes, apparently hitherto undescribed, on the part of the lungs and heart. A pulmonary neurosis of dilatation can be produced by irritation of the nasal mucosa, e. g., firmly pressing cotton into both nasal cavities. He thinks this has a value in diagnosis as aiding in discovering regions of imperfect pulmonary expansion which exist. The heart reflex is due to irritation of the skin in the precordial region. It is only manifest by the Roentgen rays. The lung reflex can also be produced by cutaneous irritation, and he thinks this affords a therapeutic suggestion as showing the value of cutaneous stimuli, in bronchopneumonia for example, while he considers that the effectiveness of the Schott treatment in cardiac weakness is practically largely due to this action.

86.—**Use of Suprarenal Extract.**—Lewis reports three cases of treatment of eye diseases with extract of suprarenal capsule. A 10 per cent. solution was used in connection with cocain. He finds it has been of benefit in operations for dacryocystitis and hypopyon keratitis, diminishing the congestion to a marked degree and permitting more complete anesthesia, but in purulent ophthalmia, in glaucoma, and in deep-seated inflammations, it is not of benefit.

87.—**Surgery of Peritonitis.**—Gray reports nine cases of general peritonitis treated by free abdominal incision, thorough washing of the abdominal cavity, and subsequent drainage. There were seven recoveries. The two fatal ones were operated on in an almost hopeless stage of the disease. A third fatal case is reported, in which appendicitis was diagnosed and the coincident peritonitis was not recognized in time.

88.—**X-ray and Renal Calculus.**—Leonard calls attention to the value of the Roentgen ray method of diagnosis in cases of renal calculus, pointing out the necessity of a careful adaptation of the light and exposure to the individual case. The shadows produced vary so slightly in their density that great care must be exercised in reading the negative. All that is essential to an absolutely positive or negative diagnosis are two or three negatives in which the details of the softer structures are clearly defined. When the renal outline can be made out it is certain that no form of calculus can escape detection, showing the possibility not only of detecting calculi that are present, even in their incipiency, but also to demonstrate the absence of all calculi, no matter what their density. When calculi are known to be present it gives their absolute location and number, when no calculi are present it saves the risks of an exploratory nephrotomy. (Vide Journal, March 11, p. 551.)

89.—**The Medical Expert.**—The medical expert, Shoemaker says, is called into court to elucidate, by his explanations, technic points connected with his profession, which would otherwise be obscure, and might escape comprehension by court and jury. His duty it is to formulate and express an opinion based upon skilled knowledge, on hypothetic cases submitted to him on the witness-stand. In reference to facts, he believes with Taylor that a medical witness must bear in mind that he should not allow his testimony to be influenced by the consequences that may follow from his statement of them, or their probable effect on any case which is under trial. In reference to opinions, their possible influence on the fate of a prisoner should inspire caution in forming them; but when once formed they should be honestly and candidly stated without reference to consequence. The questions put on either side should receive direct answers from the medical witness, and his manner should not be perceptibly different, whether he is replying to a question put by counsel for the prosecution or the defense; the replies should be made in simple language, free from technicality. The first and most glaring fault is to permit himself to form a positive opinion as to the general merits of the case, or as to the guilt of the prisoner, to allow his bias, consciously or unconsciously to influence his testimony. A second fault very similar to the first is the forming of a judgment on very insufficient grounds and expressing positive convictions on doubtful points, thereby possibly lending the weight of his personal authority to support error. A third is want of scientific accuracy in his definitions and explanations to the court, and the use of technic terms without explaining them in simple language. A fourth is the making of rash and unguarded statements in reply to questions which require deliberation in order to be answered properly. A fifth is in attempting to reply to questions which have not been properly framed, or which are improper in themselves and should not have been asked at all.

90.—**Cerebral Hemorrhage and Glycosuria.**—Gradwold observed temporary glycosuria in a case comatose from cerebral hemorrhage; the findings were confirmed by a subsequent blood and urine examination. The urine withdrawn post-mortem showed no trace of sugar. The appearance of sugar in the urine in this case was considered due to the pressure excited by blood-clot on "Bernard diabetic center" on the floor of the fourth ventricle. The post-mortem findings confirmed the supposition.

91.—**Anthrax and Tanneries.**—In tracing out the source of infection in twelve fatal cases of anthrax in man, occurring at three different points in Pennsylvania, it was found that, without exception, the victims had been employed by tanneries, each of which had received a part of a cargo of hides imported from China, a large portion of these hides believed to come from cattle that have died of the disease. A study of the cases show that in every instance the infection occurred in those handling the hides in the dry state, probably due to the fact that a traumatism would be more likely to result from the hides in the hard, stiff state, early in the process of tanning, than when the hides became soft and pliable. Ravenel made a number of tests to demonstrate whether the tanning process had any effect on the spores of anthrax. Submitting the spores to the action of the various tanning fluids, for a period of one hundred and eighty days, he concludes that the tanning process, as ordinarily carried out, does not in any way protect operatives or leather workers from infection by the anthrax germ; the virulence and viability are unaffected, though possibly the combination of the tannin with the albumin in the hide may so "fix" the spores that they are less liable to become detached from the hide. He considers that for the proper protection of our operatives in tanneries, and our cattle industry, it will be necessary to devise an economic and simple method of thoroughly disinfecting hides without injury; proper regulation of hide importation; a more reliable method of obtaining reports regarding animal diseases from countries which export hides; as well as a process of tanning which will in itself destroy the spores of the anthrax bacillus.

94.—**Syphilis of Liver.**—Adami discusses this subject, especially in the congenital form of the disease. The manifestations in the infant's liver are, he holds, to be summed up as follows: 1. Syphilis may lead either to granulomatous deposits in the organs, or to intestinal fibroid changes. 2. The specific granulomata may be present either in the form of minute multiple miliary gummata, or of isolated larger gummata, such as in general are regarded as being of tertiary nature. 3. It is not possible to regard the one form as secondary, the other as tertiary, for either may exist with cutaneous disturbances of the secondary type. 4. By analogy, the intestinal fibroid change, so common in infantile syphilis, would appear in the main to be a degeneration and necrosis of the hepatic parenchyma, produced by the action of the toxins of the syphilitic virus on the individual liver cells. In part it is developed in direct association with the development of miliary gummata. The infant's liver seems to be more susceptible and less resistive to the toxic agency and more prone to degenerate. While the changes seen in adult and infantile livers are etiologically and anatomically the same, they present differences due in part to their reactive powers of the hepatic tissue at the different periods of life.

97.—**Syphilitic Treatment.**—Lapowski discusses the methods of treatment of syphilis with mercury. He holds rather to the view that this agent circulates in the body in the form of metallic mercury. He objects to the administration by the mouth and advises its use by inunction. The paper is to be continued.

98.—**Treatment of Gall-stones.**—To relieve the pain is the first indication, morphin or atropin hypodermically, and chloroform, in the intense paroxysms, will be of special service. Hot applications over the abdomen and hot-water bottles at the feet are advised to promote circulation. Considerable relief may be experienced by draughts of hot water with a little bicarbonate of soda. After the pain is over, if constipation exists, a dose of calomel followed in a few hours by a sulphate or phosphate of sodium may be given. When a person is known to have gall-stones, the diet should exclude fats, sauces, gravies, fried articles, pastry and whatsoever is liable to cause colicky attacks. Meats, fish, vegetables, fruits and bread may be allowed, provided there are no contraindications. Water should be taken freely. Vichy water, a glassful in the morning and an hour before luncheon and dinner, is also advised, and Carlsbad salts for their laxative effects. As for drugs that are supposed to act upon the gall stones, he thinks sweet-oil may be of some use and will aid in the expulsion of stones even if it does not dissolve them. Sodium salicylate stimulates the flow of the bile and is easily administered. Intestinal antiseptics may be required, such as salol, salophen and naphthalin, and if the bile-ducts are completely occluded, bile pills, coated with salol, given two hours before meals, will prevent putrefactive changes in the intestines. Chlorate of sodium is also used for the same purpose. Among other drugs mentioned are the succinate of sodium in 5-grain doses, t. i. d., and succinate of iron peroxid. Gentle massage of the abdomen in the region of the gall-bladder may have a use in the expulsion of small stones, but care should be taken that there is no impaction of large calculi. Exercise to strengthen the abdominal muscles and increase the action of the diaphragm, fresh air and regulated diet are also beneficial.

100.—**Chronic Nephritis.**—Edebohls calls attention to chronic nephritis due apparently to movable kidney, and recommends nephropexy. He reports 6 cases treated in which all symptoms of the nephritis disappeared in 4 after the operation, and presumably in consequence of it. In 2 cases it still persisted. In one of these the kidney again became movable, and in the other also, but there is no statement in the latter case as to the existence of nephritis.

101.—**Hypertrophy of Prostate.**—Kreissl describes and recommends Bottini's operation for prostatic hypertrophy. He thinks that it has conquered a well-deserved place, and he considers it the mildest surgical operation for the condition. If it fails, there will always be a chance for other operations. He reports five cases.

FOREIGN.

British Medical Journal, April 15.

Antenatal Therapeutics. J. W. Ballantyne.—The treatment of antenatal diseases and defects is discussed, and their management after birth, where the physician, though his results are not as brilliant as those of the surgeon, still has an important function. He mentions in this connection the manifestations of congenital syphilis and of cretinism. Under the head of intranatal therapeutics, he discusses the management of labor in reference to the welfare of the child, and under that of antenatal, the management of the general diseases of the mother during pregnancy, her protection from maladies which might be dangerous to the infant, and the questions of occupation and habits. In conclusion, he speaks of the question of the control of marriage to prevent defective progeny.

Bacteriologic Examination of Fauces in Scarlet Fever, to Prevent Post-Scarlatinal Diphtheria. G. C. Garratt and J. W. Washbourn.—The authors report a record of the examination of all the cases of scarlet fever within a certain period and of the various germs found in the throat. They conclude that post-scarlatinal diphtheria in hospitals is due to the introduction of unrecognized cases of diphtheria into the scarlet-fever wards, and this can be easily prevented by systematic bacteriologic examination of all cases on admission, and isolation of all those in which diphtheria bacilli are found.

Acute Tetanus Treated by Intracerebral Injections of Antitoxin. Wm. F. Gibb.—A case of acute tetanus appearing seventeen days after the accident is reported, treated by intracerebral injections of antitoxin with a good recovery in about five weeks. The treatment of tetanus, he remarks, is based on the following principles: 1. Maintenance of the patient's strength. 2. Control of the painful spasms by chloral, as far as possible. 3. Restrain the development of the toxin of the blood by hypodermic injections of antitoxin; and 4, prevent the toxin from affecting the nerve-cells in the higher centers by intracerebral injections of antitoxin. In cases where the presence of bacilli is still suspected, local operation may be necessary. In the case recorded it was presumed that they had been removed by the amputation a week before the first symptom of tetanus occurred.

Cure of Morphin, Chloral and Cocain Habits by Sodium Bromid. Neil Macleod.—Several more cases, in addition to those formerly reported by the author, are here cited, in which, by rather heroic use of the bromids, he treated morphin, chloral and cocain habits. In one case of morphin and cocain habit, the patient died after having taken 36 drams of the drug in a week. His general conclusions, however, are strongly in favor of this method. He gives it in doses of as high as 2 drams in solution every two hours for the first two days, and 1 dram during the third day. Morphin may be given the first day in the habitual dose, halved the second, and in a minimum dose the third day; cocain the same. Chloral may be cut off at once.

Oxyuris Vermicularis in Children. George F. Still.—The author concludes: that the appendix is a very common habitat of this parasite in childhood, and that in some cases it serves as a breeding-place for them; that their presence there may cause a catarrhal condition and this swollen catarrhal state due to threadworms is associated with pains in the right iliac fossa, simulating ordinary appendicitis; that in the treatment of threadworms large injections must be used and in view of the difficulty of dislodging them from the appendix, and their possible presence in the small intestines, treatment by drugs, by the mouth, should be combined with the injections.

Neurotic Ulcers of Mouth. W. Knowsley Sibley.—Three cases of neurotic ulcers in the mouth are here reported, produced, the author thinks, by a distinct trophoneurosis quite different from the common catarrhal or dyspeptic ulcers. In all three of his cases, mental trouble or worry seemed to be the cause. No medicinal treatment was effective, though possibly some nerve tonics did good indirectly. Local application of tincture of iodin, and cocain, borax, carbolic or peroxid of hydrogen mouth washes were used when pain was severe. The only curative treatment, he believes, is the removal from home and its accompanying worries, and mountain rather than sea air is advisable.

Resistence of Rats to Diphtheria Toxin. Louis Cobbett.—From his experiments with diphtheria toxin on rats, the writer concludes as follows: 1. The white or black and white rat of 100 grams weight is only relatively insusceptible to the action of the products of the diphtheria bacillus, and succumbs to the subcutaneous injection of filtered cultures, in quantities which are, weight for weight, from 1500 to 1800 times as great as those which suffice to kill guinea pigs of 250 grams. 2. Its tissues are but little affected locally by the injection of large quantities of filtrate, and have not been observed to suffer necrosis. 3. The serum of these refractory animals in doses of 1 c.c. does not protect guinea-pigs against quantities of filrate which are little larger than the minimal fatal.

Lancet, April 15.

Decrease of Phthisis in Great Britain. Hugh Beevor.—Statistics are given showing the decrease of consumption within the last forty or fifty years in Great Britain, illustrated by curves, maps and tables. The discussion is exceedingly thorough and shows not only the actual facts as to tuberculosis, but its relations with other disorders, to sex, occupation, food-supply, ventilation, urban and rural residence, etc. He brings out some interesting facts, such as, for instance, the general prevalence of phthisis in North Wales, which he accounts for by some peculiarities of diet, overcrowding, etc. He thinks that we may safely infer that the declension of phthisis, general as it has been, will still continue. The habits of the British population as to food and clothing especially have greatly improved, as shown by his statistics.

Malta Fever Treated With Antitoxin. E. D. Fitzgerald and J. H. Ewart.—A case treated with antitoxin furnished by Major Semple, who had also been using it at Netley with benefit, is reported. The effect on the fever is very marked and beneficial, the only very decided inconvenience being urticarial trouble which followed its use.

Stomach Contents in Gastric Crises of Tabes. Carstairs C. Douglas.—From the examination of the stomach contents in the gastric crises of locomotor ataxia, he concludes that there is no indication of hyperacidity or hyperchlorhydria, and apart from the presence of blood in vomiting, no indication whatever of any serious gastric lesions. Digestion was perfectly normal between the crises. He suggests that the blood vomited in the crises is from engorged or varicose veins near the cardiac end of the esophagus.

Practitioner (London), April.

Statistics of Cancer. Arthur Newsholme.—The statistics of cancer in Great Britain are reviewed and the author concludes that the increase is rather apparent than real. The frequency of the disease, however, causing 6 or 7 per cent. of the total mortality, is enough to make it a question of very serious importance.

Frequency and Nature of Cancer. Roswell Park.—This paper has in substance already been published in this country (vide Journal, April 8, p. 779, ¶ 15).

Geography of Cancer. Alfred Haviland.—The author goes over the medical geography of cancer in England and Wales, and finds that the results obtained by him thirty years ago are still confirmed by examinations more recently made. A curious result is that cancer has its greatest mortality in regions liable to floods and underlaid with a clayey soil, while the lowest death-rates are on the limestone formations.

Cancer and Cancer Houses. D'Arcy Power.—This paper is on the occurrence of cancer in certain regions and houses, thus affording strong evidence of its infectiousness. It is possible even to say whether or not it is advisable for a patient with a known tendency to malignant disease to remain in this or that locality. As to the actual cause, however, he leaves it still in abeyance.

Etiology and Histology of Cancer. H. G. Plimmer.—The history of the parasitic theory of malignant tumors is reviewed, and a parasite described in detail and illustrated. His conclusions are as follows: 1. In cancers there are certain intracellular bodies (also rarely found outside the cells) which are neither parts of the cell structure, nor any known degenerative change, and which are only found in cancer; and they are only found at the periphery of the growing parts of the cancer, and not in the degenerated parts, and have distinctive microchemic reactions. 2. There are certain cancers, which occur rarely, in which these bodies are present in enormous numbers. (From the rarity of these cases, as numerically mentioned above, and their comparatively acute course, we may be tempted to assume that they are due to the same cause as ordinary cancer; but there is really no more difference between them, as stated above, than between acute and chronic tubercle.) 3. By the use of appropriate means these bodies can be isolated and cultivated outside the body. 4. These cultures, when introduced into certain animals, can cause death, with the production of tumors, so far of endothelial origin (with the one exception of the cornea, the epithelium of which, when inoculated with these organisms, proliferates considerably, both on the surface and deeply in various directions between the fibrous layers of the cornea); and pure cultures, which, if inoculated into suitable animals, will again produce similar growths, can be made from these tumors.

Occurrence of Cancer. J. M. Fadyean.—This writer describes cancer in the lower animals, where it seems to be by no means unknown.

Surgical Relief of Cancer. Wm. Watson Cheyne—Cheyne, whose paper on cancer of the breast has been already noticed (vide Journal, April 15, p. 832), reviews the whole subject of cancer surgery, and shows that we are not without recourse in many cases of this disease, and that great advance has taken place both as regards the safety of operation and the freedom from recurrence. An early operation in most cases will greatly improve the patient's chances of future life and happiness.

Treatment of Inoperable Cancer. William B. Coley.—The treatment of cancer which is past operation, or where operation is impracticable, is discussed, and he reports all the principal methods which have been used for this purpose. The paper is on the whole rather a hopeful one, though the chances of cure of cancer other than by operation can not be said to be the best.

Deutsche Medicinische Wochenschrift.

Ultimate Results of Operations for Ectopia Vesicæ. Sonnenburg.—The ureters were implanted in the intestines in fourteen cases, with two deaths from subsequent ascending infection, which is the drawback to this method. Seven cases operated on by detaching the musculi recti and bringing them together, failed in three, with a persisting fistula in one; three have resulted satisfactorily, although all are incontinent. The Trendelenburg method has been applied in six cases; two have fistulæ and one is cured, but incontinent. Plastic operations have seldom secured continence, and incrustations and concretions have produced such pain that the new conditions could not be endured. Sonnenburg's method, removing the bladder and implanting the ureters in the groove in the penis, has been performed seven times; no deaths. He recently presented three patients thus operated on, to the surgical association, dating from sixteen, and two years or a few months previous. The results are highly satisfactory, although the continence, good at first, diminished in time. A receptacle for the urine is worn night and day, and fits over the ends of the ureters and holds the urine perfectly, with no pain nor inconvenience at any time.

Wiener Klinische Rundschau, April 9.

Vessel Death. J. Pal.—This is a study of the vasomotor paralysis noted in phosphorus intoxication and also encountered, with cerebral symptoms, in some cases of infectious diseases, nephritis, pseudoleukemia, etc., with the heart found nearly or entirely empty at the necropsy. It does not always accompany phosphorus intoxication, but the usual final phenomena are indications of pronounced weakness of the heart, with frequently nothing physical to be found to correspond. In some cases the heart decreases in size, especially in the transverse diameter, as death approaches.

Wiener Klinische Wochenschrift, March 30.

Spontaneous Gangrene in Childhood. Zuppinger. — Description of a case of severe spontaneous, multiple gangrene on the back and lower limbs of a hitherto healthy child after croupous pneumonia, which commenced a few weeks after convalescence from measles. He reviews the literature on the subject and emphasizes the importance of stimulating the heart's action in case of feeble circulation, without waiting for serious symptoms of vascular obstruction.

Significance of the Serum Reaction Described as "Thread-Formation." M. Pfaundler. — The writer was the first to describe the peculiar network of threads which develops after a certain time in certain mixtures or cultures with diluted serum. The rod shaped bacteria seem to stretch out into delicate, endless threads, which become interwoven and spread over a large portion of the drops examined. He concludes from further research that, while agglutination is the expression of a specific modification of the serum, thread-formation, on the other hand, is the expression of a specific modification of the serum, plus a specific modification of the microbe in the infected organism in the sense of individualization, or adaptation to the individual.

Journal de Medicine de Paris, April 9.

Inglis Pearson's Method of Treating Prolapsus Uteri.—Having noticed that an attack of pelvi-cellulitis is frequently followed by the cure of a pre-existing prolapsus, Inglis Pearson accomplishes the same results by artificially producing adhesions and contractions such as follow the cellulitis. He has now a record of eighteen rebellious cases completely cured by this method, which is warmly endorsed in a London letter in this Paris journal. Pearson injects 1.5 grams of the following solution: quinin sulphate, 2 grams; sulphuric acid, q. s. to dissolve, and aq. dest., 10 grams, into each broad ligament, after chloroform, ether or cocainization of the vagina, the patient in the lithotrity position. The syringe terminates in a fine platinum needle 3 cm. long, connected by a metal tube 10 cm. in length. It is inserted through the lateral walls of the vagina about 2.5 cm. from the top of the lateral cul-de-sac on a horizontal plane passing through the external orifice of the cervix. A stem pessary is inserted for four or five days and the patient remains in bed a month, not resuming her usual life until after the second month.

Centralblatt f. Chirurgie (Leipsic), April 1.

Etiology of Congenital Dislocation of Hip and the Paci-Lorenz Method of Treatment. G. Drehmann.—This communication from Mikulicz' clinic is based on 104 cases treated, and emphasizes the importance of distinguishing between luxations occurring early and those occurring late in the fetal life, as the prognosis of the former with its stunted parts is much less favorable. The explanation that the foot gets caught in the axilla is satisfactory for most cases, and heredity can occasionally be incriminated, but it is evident that the etiology is not identic for all. Mikulicz' apparatus requires great attention on the part of the parents, and for this reason was only applied to forty-nine children, all under 2 years of age. A number of cases were completely cured, even when the femoral head was only held above the acetabulum, but others relapsed after two or three years. The ultimate results of operative reposition—twenty-five cases—were satisfactory on the whole. In the children under 10, the joints are all freely movable, but with a tendency to contraction, necessitating long orthopedic after-treatment. In older children much contraction is always accompanied by more or less stiffness, which, however, does not detract materially from the cosmetic results. Three unilateral cases—girls of 8, 11 and 14—were successfully treated with braces, raised soles and gymnastics alone. The writer earnestly advocates the omission of the preliminary extension in Lorenz' method of manipulative reposition. In a couple of cases treated, one side with and the other without extension, the head remained firmly in its socket on the latter side, while on the other there was a constant tendency to reluxation, as was observed in most of the cases in which extension was employed, If a radiograph showed that the head projected above the rim the reposition was done over again. In several cases the repetition of the reposition several times finally accomplished a complete cure. The head has remained in its socket in nineteen cases—eight without a bandage for from two years to three months. Radiographs show that the acetabulum has developed in some cases; in one, bone stalactites have grown from the upper rim, forming a solid frame for the head. (Vide Journal, xxxi, p. 451.)

Deutsche Medicinische Wochenschrift (Berlin), April 6.

Celluloid Thread, a New Material for Sutures and Ligatures. Pagenstecher.—The best English linen thread is sterilized and grease extracted by boiling half an hour in 1 per cent. sodium solution, rinsed in boiling water and dried rapidly in sterile cloths in hot air. The thread is then impregnated with a solution of celluloid and smoothed, when it is ready for use after being sterilized with the dressings, in steam or hot air as required. The thread acquires by this process strength and stiffness, the surface is smooth and shiny, resembling silkworm gut. It is not affected by heat, moisture, the secretions of the wound or antiseptics. The thread never snarls; the knots hold firm; it is easily manipulated, and the needles are readily threaded. Pagenstecher has been using this celluloid thread, in five sizes, for three years and has abandoned silk entirely, and catgut for nearly all purposes. The operative results are excellent in every respect and the saving in expenses has been considerable. It has been patented in Germany.

Munchener Medicinische Wochenschrift, March 21.

Radical Operation of Free Inguinal Hernia by Suturing the Internal Abdominal Ring. Assaky.—Ten cases are reported successfully operated on through a 6 to 7 cm. vertical incision in the abdomen, the lower end about 1 cm. from the center of the internal abdominal ring, after reduction of the hernia, in the Trendelenburg position. The ring is then closed with two or three stitches through the abdominal incision, with a specially curved needle bent at a right angle to its stem. The results to date have been most excellent.

Globulicidal Action of the Animal Organism. von Dungern.—The writer attributes an important part to the intracellular destruction of bacteria in infections, which, he states, surpasses the extracellular, and is especially important after the latter has failed. He concludes from a long series of experiments with guinea-pigs, pigeons and fowls, that the analogy between the globulicidal and the bactericidal processes in the organism is complete. We can therefore assume that the destruction of the bacteria in the specifically immunized animal is an identic process with the dissolving of the erythrocytes in the organism previously specifically treated. Specific bactericidal immunity is therefore nothing but a special form of antitoxic immunity. The only difference is that the substance, upon the destruction of which the antibodies are formed, need not be considered particularly toxic, but merely a substance indispensable to the life of the bacterial cell.

Rights of Handsome Plaintiff in Personal Injury Case.—The novel point was recently argued before the supreme court of Nebraska, in the case of the Omaha Street Railway Company, vs. Emminger, that, while there would ordinarily be no error in the plaintiff in a personal injury case exhibiting to the jury a limb injured, as the one in this case had been, by the wheel of a street-car running over same, between the knee and the ankle, breaking the bones thereof, nevertheless it was improper in this instance, for the reason that the party suing, a female, was young, handsome and attractive, and consequently the sympathies of a jury composed of men must have been unduly excited in her behalf. But the supreme court does not agree to that. It says that the motto on the coat of arms of the State is, "Equality before the law." And it holds that the plaintiff (in the court below) having suffered injuries for which she sought compensation in damages, was entitled in sustaining her claim, to resort to the same proofs that she might have resorted to if she had been aged, ugly and repulsive. Another point that the court makes, of perhaps more general importance, is that when a party is liable for services rendered by a surgeon, he or she may recover the reasonable value of such services, where they were necessitated by the injuries for the compensation of which action has been brought, notwithstanding the fact that such surgeon has not been actually compensated. It also holds here that where medical experts had testified to results which would, in their opinion, follow from personal injuries, and with reference to other results which they believed might follow, it was not erroneous to instruct the jury that the party injured was entitled to recover for such injuries as the jury believed from the evidence she might labor under in the future as the result of her injuries.

Societies.

COMING MEETINGS.

American Association of Genito-Urinary Surgeons, Niagara Falls, N. Y., May 25.
American Climatological Association, New York City, May 9.
American Gastro-Enterological Association, Washington, D. C., May 2.
American Laryngological Association, Chicago, May 22-24.
American Medico-Psychological Association, New York City, May 23.
American Orthopedic Association, New York City, May 16.
Arkansas Medical Society, Little Rock, May.
Association of American Physicians, Washington, D. C., May 24.
Connecticut Medical Society, Hartford, May 24.
Galva District Medical Society, Galva, Ill., May 4.
Illinois State Medical Society, Cairo, May 16-18.
International Association of Railway Surgeons, Richmond, Va., May.
Kansas Medical Society, Topeka, May.
Kentucky State Medical Society, Louisville, May 16.
Michigan State Medical Society, Kalamazoo, May 4.
Montana, Medical Association of, Butte, May 24.
Nebraska State Medical Society, Lincoln, May 9.
New Hampshire Medical Society. Concord, May 25-26.
New Mexico Medical Society, Albuquerque, May.
North Carolina, Medical Society of State of, Asheville, May.
North Dakota State Medical Society, Fargo, May 24-25.
Ohio State Medical Society, Springfield. May 10-12.
Oklahoma Territory Medical Society, Oklahoma City, May 19.
Pennsylvania, Medical Society of State of, Johnstown, May 16.
Washington State Medical Society, Tacoma, May.
West Virginia, Medical Society of State of, Weston, May.
Wisconsin State Medical Society, Oshkosh, May 3.

Washington (D. C.) Society of Ophthalmologists and Otologists.—Dr. Frank Hyatt read a paper on "Chronic Simple Glaucoma, Treated without Operation," at the recent meeting of this society. The chief features of the case were the peculiar fields of vision and the improvement in sight under the treatment with eserin.

Northampton County Medical Society.—The annual meeting of this society was held in Easton, Pa., April 21. The following officers were elected: President, Charles McIntyre; vice-presidents, D. H. Keller of Bangor and J. O. Berlim of Bath; secretary, F. H. Irvine of Bethlehem; board of censors, A. A. Seem of Bangor, S. S. Apple of Easton, and Dr. Lauer of Bethlehem. The fiftieth anniversary will be held in Easton on June 13.

Hartford County Medical Association.—At the 107th annual session of this association, at Hartford, Conn., April 19, the following were elected officers for the ensuing year: President, Joseph A. Coogan; vice-president, William T. Bacon; clerk, Wilton E. Dickerman; Fellows, 1899, Charles C. Beach, Walter G. Murphy, Frederick T. Simpson, George T. Finch, C. M. Wooster; censors, Samuel W. Irving, Joseph B. Hall, Howard O. Allen; country reporter, Edward K. Root.

Seventh International Congress for Prevention of Abuse of Alcohol.—This congress opened auspiciously at Paris the first week in April, with a thousand members enrolled, half of whom were from other countries. It was emphasized in the early addresses that the aim of antialcohol associations should be more preventive than curative, and especially directed to warn and enlighten youth. The "university youth" should be the first to be enrolled in the antialcohol crusade. The municipality tendered the congress a reception one afternoon at the Hotel de Ville, when milk, tea, coffee and even champagne were liberally served. Total abstinence finds no favor in a wine-producing country like France.

First Austrian Congress of Balneology.—Among the communications presented at this congress, held at Vienna in March, we note Strasser's statements that hydrotherapeutic measures which augment the heat of the body increase the acidity of the blood, while cold increase the alkalinity. With hot baths, the destruction is more active than oxidation, and hence acidity. With cold baths, the oxidation surpasses the destruction and alkalinity results. He added that with the ebb and flow which hydrotherapeutics are able to produce at will in the body, every organ can be influenced, we can accelerate or diminish normal and pathologic processes and influence even the slightest, most secret vital processes in the interior of the working cell.

Detroit Medical and Library Association.—At the regular meeting held April 17, Dr. W. S. Anderson read a paper entitled "Study of Some Conditions that Lead to Fibroid Changes." Referring to the changes that take place in the human organism from infancy to old age, viz.: a constant increase of connective tissue as the person grows older, by degrees producing loss of elasticity, with constantly increasing firmness and rigidity with, in old age, the accompanying weaknesses and organic disorders. In answer to the query: "Is this a pathologic or a physiologic process?" When these changes take place prematurely and rapidly as a result of disease we can not call them physiologic. Physiologic old age, is a natural process—diminution of intellect, ambition, energy, finally merging into unconsciousness and death—the true euthanasia. To say that a man is as old as his arteries is to declare that the change in the arteries is a type of the change which is in progress in all the organs and tissues of the body. The loss of resiliency of the arterial coats and the tendency to failure of the heart makes the beginning of senile atrophy. Thus we can more readily understand symptoms from which old people complain. The fibroid changes are always accompanied sooner or later by circulatory disturbances with various local symptoms according to the organ affected, which is, as a rule, the weakest. It is a common error for practitioners to overlook the fact that in the aged the whole organism must be taken into consideration when one organ alone shows symptoms of disease. In diseases of the lungs, liver, and kidney, respectively, the one point should not be forgotten that the fibrosis of the organ involved is not the only pathologic condition existing, so that treatment should be directed to the general condition. As an illustration the author related the case of a woman, who had always been healthy until her 70th year, when she took cold and developed a cough which persisted in spite of the administration of expectorants. Coming under the author's observation she was placed upon digitalis and nux vomica for their general systemic tonic properties. The result was all that could be desired. As to premature senility the Doctor said the etiology is obscure. Heredity seems to have a marked influence. Syphilis, rheumatism, gout, hard work in damp and unhealthy localities are etiologic factors. The treatment, he divides into two groups: those measures which will prevent or retard further development of fibroid tissue; and symptomatic treatment. Under the former we have the regulation of the manner of living, hygiene, proper diet, exercise suited to the individual case, or, in some cases, rest. Potassium iodid is a drug which retards fibroid changes and should be given in 5 to 10 grain doses three times a day for a long time. Arsenic and phosphorus are also valuable. Digitalis and nux vomica strengthen the heart and aid in bringing about a better condition. For the symptomatic treatment remedies must be applied to meet the requirements of the case and this should be carried out on general principles.

College of Physicians of Philadelphia.

Section on Otology and Laryngology, March 15, 1899.

OBSERVATIONS ON LARYNGEAL PARALYSIS, DANGEROUS TO LIFE, OCCURRING IN THE COURSE OF TYPHOID FEVER.

Dr. Alexander W. MacCoy read a paper on this subject and said: Laryngeal complications arising in many infectious diseases, ulcerations, perichondritis, edema, etc., have been studied and are well known; but conditions of paralysis of the intrinsic muscles are not so familiar. They are often unrecognized and may be mistaken for other affections, such as croup and spasmodic laryngeal affections. Paralysis of either adductors or abductors may exist; the former only affects the power of phonation, whereas the latter affects respiration and is dangerous to life. Prompt recognition and relief is necessary in the latter condition.

He reported three cases where abductor paralysis due to paralysis of the posterior crico-arytenoid muscles had occurred in the course of typhoid fever. The first case, a young man, had been ill for two months, and was much emaciated and debilitated, when he was suddenly seized with a suffocative attack, simulating croup. Laryngoscopic examination showed complete paralysis, the bands remaining fixed in the median line. An adult intubation-tube was introduced and immediate relief obtained. The second case was one which only came under observation a few months previously, had a similar attack, and was still wearing the tube, which had been introduced after tracheotomy had been performed to save him from impending suffocation, due to abductor paralysis, as in the first case. The third case was a fatal one, in which intubation had been urged but was not accepted. In Dr. MacCoy's opinion the life of the third patient might have been saved had intubation been promptly performed, as in the first case.

The condition of double, posterior crico-arytenoid paralysis is such a grave one that, when the characteristic symptoms are observed, they call for examination by a laryngeal expert and early adoption of measures for relief, the best of which is intubation.

Dr. Hobart A. Hare had, within the last few months, seen two cases reported, and was inclined to ascribe the paralysis to a local and not to a central cause. As regards the prognosis, he classed it with the peripheral neuritis following diphtheria, as being generally favorable. The only other possible explanation would be its dependence upon a cortical lesion of that part of the cortex governing the movement of the adductor muscles. This view, however, is excluded by the absence of all other symptoms and the prompt and complete recovery of the patient. As regards the occurrence of perichondritis, it is unnecessary to state before this section that if the larynx were more frequently examined during the course of typhoid fever we should find more cases of laryngeal inflammation. Only last week, Dr. Reisman reported to the Pathological Society, a case with pharyngeal lesion accompanied by lesion of the larynx. If only looked for they would be found, as they are very common. In fact, a recent writer has said that we may assume that in cases of typhoid fever there is some affection of the larynx; if not due directly to the typhoid poison, at least it is caused by mixed infection.

Dr. E. L. Vansant—The complication of perichondritis in these cases is important, since it might interfere with the successful treatment by intubation; the pressure of the tube upon the inflamed cartilage might lead to necrosis and set up septic processes.

Dr. Kyle—As regards the pathology, it is known that typhoid fever causes hyaline degeneration of muscle-tissue, and areas of hyaline degeneration have been found in the laryngeal muscles; these even may become converted into small abscesses, which will discharge, if near the surface, but if they lie deeper may produce more permanent lesions.

Dr. Randall had no doubt that many cases of sudden death attributed to heart failure, in typhoid fever, as in other conditions, were in reality cases of unrecognized laryngeal paralysis.

Dr. MacCoy said his paper referred only to cases of double abductor paralysis arising in the course of acute infectious disease. The chronic cases of abductor paralysis were well known and were often remarkable for their duration, several having come under his observation which had continued for more than twenty years. He had not recommended the intubation-tube in the class of cases to which Dr. Vansant had alluded, but only in cases where there was no visible inflammatory laryngeal lesion. In a discussion some years since, at a meeting of the American Laryngological Association, the condition of double abductor paralysis was considered ideal for the employment of intubation-tubes. In such instances the patient is not in jeopardy from operation, as he is apt to be where tracheotomy is performed. The present view of neuritis from infection is generally accepted. It is now the consensus of opinion that there is no cortical central lesion in the class of cases mentioned in the paper; indeed, no definite central lesion has yet been determined for chronic cases of abductor paralysis. Dr. Kyles' explanation gives us a definite pathologic cause for the paralysis.

AURAL MASSAGE.

Dr. Ralph W. Seiss presented a paper on this new therapeutic procedure (vide Journal, April 22, [illegible]. 895,p. 61.)

CHRONIC EMPYEMA OF ACCESSORY NASAL CAVITIES.

Dr. Geo. C. Stout reported seven cases. The first was a farmer who had a foul-smelling discharge from the left side of his nose, for fifteen years. He had also a recurring abscess on the left upper eyelid. He was etherized and the entrance into the frontal sinus opened freely with a gouge and washed out with saturated solution of boric acid and packed with gauze. The antrum of Highmore was opened through the canine fossa and similarly treated. The anterior end of the middle turbinate was then removed with the cold wire snare in order to establish free communication between the frontal sinus and the nasal fossa. The cavities were washed out and repacked at intervals of from two to five days, then for five weeks, then silver tubes were introduced to keep the openings from closing too soon. Three years after the operation there had been no recurrence of any of the symptoms, although, as was discovered by chance, the patient continued to wear the silver tubes for many months after their usefulness had ended.

Another case was a woman who had had a discharge from the right nares for twenty years. A number of myxomatous polypi were found and removed. The antrum was aspirated through the inferior meatus, by inserting a silver tube, and irrigated as in the first case. The bulbous extremity of the middle turbinate was snared off and, caries being discovered, the region thoroughly curetted. An opening was thus made communicating with the frontal sinus and the antrum.

The third case was one of paracentesis of the frontal sinus.

In the fourth case, one of empyema of the posterior ethmoid cells, after cleansing aseptically, Dr. Cleveland removed the posterior extremity of the middle turbinate with a cold wire snare. The case made a rapid recovery.

The next case was one of antral empyema, for which paracentesis was performed, followed by operation through the canine fossa, with slow recovery. The delay was attributed to the presence of frontal sinusitis, which had not been recognized.

In the sixth case, one of frontal and antral empyema, which was cured by the removal of the anterior extremity of the middle turbinate, in the portion removed was found a bony walled cyst, nearly an inch long by three-fourths of an inch high and over one-half inch thick, filled with foul pus.

The last case was one showing the ravages of syphilis; the frontal sinuses, the antra, the sphenoidal sinuses, the two nares and the vault of the pharynx formed one large cavity with small fragmentary partitions. This is cited merely as an additional case in which frontal and antral disease were coincident.

Cases of antrum empyema may be obstinate or incurable because of co existing frontal sinusitis. Suppuration in the accessory nasal cavities is one of the results of chronic hypertrophic conditions of the nasal mucous membrane, which close the infundibulum, ostium maxillæ, and other openings. Nasal polypi may be a cause or an effect of empyema, which may also follow the exanthemata (including la grippe) or traumatism. Surgical measures, by paracentesis or external opening, are necessary to afford relief. Free drainage and irrigation with antiseptic solutions are essential.

Denver and Arapahoe Medical Society.

Regular Meeting, April 11, 1899.

DISSECTING ANEURYSM OF ASCENDING AORTA.

Dr. W. E. Shotwell read a paper on this condition in a male, aged 66 years, who on January 27, while engaged in tuning a piano, was suddenly seized with intense pain in the left ear and radiating down the spine. He was placed on a sofa, and, according to the statement of the lady of the house, rolled off on the floor in what she thought was a convulsion. He rolled about on the floor, suffering from most agonizing pain, beginning at the left ear and radiating down to about the fifth dorsal vertebra, which was exceedingly tender. His pulse was weak and rapid, face cyanosed, respiration labored. A hypodermic injection of strychnin and digitalin was administered. The respiration, however, ceased, the pulse was lost at the wrist, and consciousness entirely gone. Reaction soon set in and he became conscious, but this lasted only a few moments and he had another attack of much shorter duration and milder character. He then expressed himself as feeling well and free from pain, while the cyanosis and dyspnea disappeared and pulse improved. The heart sounds were muffled and distant. The cardiac impulse was entirely lost. Upon attempting the upright position, the pulse would become very weak and accelerated, followed by intense nausea and vomiting. He was sent home and put to bed. The next day he had occasional attacks of nausea and vomiting. In the intervals he felt well. In the afternoon he got out of bed, went to the water-closet, in another part of the house, returned in a few moments, lay down and died.

At the autopsy, made by Dr. Hugh Taylor, an aneurysm of the ascending aorta was found just above, and in close proximity to, the heart, which had ruptured over an inch in length. The pericardium was so distended with fluid and blood-clots that when opened the fluid spurted out several feet.

The unusual and remarkable features of the case were the length of time which elapsed from the first indication of rupture until his death, over twenty-four hours, and his general good feeling.

THE CHOICE OF A DRUG TO DILATE THE PUPIL.

Dr. Edward Jackson, in a paper on this subject, said in part: As a basis for choosing the particular drug most appropriate for the particular case, we may briefly review their physiologic action on the pupil. When a drop of atropin, 1:120, is placed in the conjunctival sac, usually in ten or twelve minutes the pupil begins to dilate. The dilatation increases rapidly, the pupil at first reacting well to light, but being less and less affected by illumination as it grows larger. In fifteen or twenty minutes after it begins to dilate the maximum size that can be produced by atropin is reached, and it becomes quite fixed, failing to respond to any of the forms of stimulation that produce reactions in the normal pupil. For about two days this condition remains unchanged. Then the pupil very slowly becomes smaller, and at the same time its reaction gradually returns, until at ten or fifteen days after the application of the drug, it has again become normal. Repeated instillations of such a solution prolong to any desired extent the period of complete dilatation, and recovery may be slower. He has seen three weeks elapse between the last instillation and complete recovery. He has never seen the recovery complete in less than nine days. Dilatation of the pupil is accomplished by paralysis of the ciliary muscle, and suspension of the power of accommodation reaches the maximum in one or two hours, remains complete for about two days, and then slowly passes off with the contraction of the pupil. With smaller doses the period of complete dilatation is shortened. Of a solution of 1:500,000 a single small drop containing less than one-millionth of a grain, will produce a perceptible enlargement of the pupil lasting thirty-six to forty-eight hours.

The action of the other natural mydriatic alkaloids, daturin, duboisin, hyoscyamin and scopolamin closely resembles that of atropin. They are two or two and one-half times as strong as atropin. Recovery from their effects does not require so long as from the effects of atropin.

The artificial alkaloid, homatropin, differs essentially from any of the above in being very much weaker in its action, and in having a much shorter period of recovery. A solution of 1:50 is required to produce complete dilatation and fixity of the pupil, and a single instillation of this does not produce complete paralysis of the accommodation. Recovery is generally complete in twenty-four hours.

Euphthalmin, a more recent artificial alkaloid, is much weaker than homatropin. One instillation of 1:20 produces almost maximum dilatation, but not fixity of the pupil, and recovery is complete in about twenty-four hours.

In contrast with all of the above is the action of cocain. It never produces fixity of the pupil, yet even a single instillation of a solution of moderate strength will cause, with feeble illumination, a wider dilatation of the pupil than can be obtained by any application of atropin or the stronger mydriatics. This superiority of cocain is most marked in elderly persons, in whom the other mydriatics produce only moderate dilatation of the pupil. The influence of cocain is well shown by its effect in enlarging the pupil already fully dilated by one of the stronger mydriatics.

Dilatation of the pupil for ophthalmoscopic examination is necessary in elderly people, or young persons with somewhat irritable eyes. Here the indication is to dilate the pupil quickly and widely for as short a time as possible, and to cause the least inconvenience and impairment of vision afterward. For this purpose brevity of action is of importance not only for the comfort of the patient, but also for the reputation of the surgeon. This is particularly the case when there is reason to suspect some progressive lesion causing impairment of central vision, as albuminuric retinitis, or retrobulbar neuritis with central scotoma. It has repeatedly happened to him to meet a patient suffering from one of these diseases in whom, for purposes of examination, the pupil had been dilated by one of the slower mydriatics. The mydriatic caused immediate impairment of vision, and by the time mydriatic influence had imperceptibly passed away the original disease had caused an impairment of vision, which replaced that produced by the drug. On the other hand, a mydriatic like cocain, or a mixture of cocain and homatropin, causes comparatively little interference with vision at any time, its effect passes off rapidly, and the patient realizes that he has recovered from the drug.

When on any account there is reason to suspect glaucoma, the only mydriatic free from liability to produce an attack is cocain, because it causes dilatation of the pupil chiefly or wholly through shrinkage of the iris tissue by contraction of its vessels, and therefore has little tendency to cause blocking of the filtration angle and a glaucomatous attack. The diagnosis of glaucoma by the production of an acute attack may be justifiable in some doubtful cases. For this purpose homatropin should be used.

Dilatation of the pupil for the accurate measurement of refraction may be needful in old people with small pupils. He has seen a patient whose emmetropic eyes were quite devoid of accommodation, read 13 inch type at from ten to thirteen inches, simply because the smallness of the pupils prevented blurring from imperfect focusing. In such patients it is quite impossible to make any accurate determination with trial lenses without somewhat dilating the pupil. For this purpose cocain or the combination of cocain and homatropin is to be preferred.

To dilate the pupil for examination by oblique illumination, cocain, with one of the other mydriatics, should be used, homatropin if the dilatation is desired only during the examination, or one of the slower mydriatics if the eye is subsequently to be kept under its influence.

In central partial cataract, either polar or nuclear, the patient sometimes sees better in a dim light because the enlarged pupil then permits light to enter through the clearer portions of the cornea and lens. Atropin is here specially indicated, both because of the comparative fixity it gives to the pupil, and because of the persistence of its action.

For certain operations, dilatation of the pupil is an aid or an important condition of success, as for the delivery of the lens in the single extraction of the cataract, or the division of secondary cataract. Here cocain is indicated, as the pupil contracts less and slower than when it is under the influence of one of the stronger mydriatics. It must be remembered, however, that light should be partly excluded from the eye operated on and entirely from the other eye.

Dilatation of the pupil in iritis is of the greatest practical importance and presents especial difficulties. The iris is swollen, its movements are hampered and the general congestion of the tissues greatly interferes with the absorption of the drug employed. Atropin and hyoscyamin or its equivalent in solution of 1:60 should be placed directly on the cornea, and these must be supplemented by the employment of cocain in strong solutions.

For simple dilatation of the pupil of the normal eye, the following solution is the most satisfactory:

℞	Homatropin hydrobromate. . . .	gr. i		065
	Cocain hydrochlorate	gr. ii		13
	Distilled water	℥ i	31	10

A single drop of this is to be placed on the upper margin of the cornea. Its maximum effect is produced in about one hour. Recovery from its effects is well advanced in six hours and practically complete in twelve. It causes no irregular astigmatism, but slight impairment of accommodation, and permits a good deal of contraction of the pupil in strong sunlight.

In conclusion, Dr. Jackson made the following summary: The time has come when it is not sufficient merely to use some mydriatic, but for each particular indication a particular mydriatic should be chosen.

For brief dilatation of the pupil in the normal eye, euphthalmin in 5 per cent. solution; cocain in 2 to 4 per cent. solution, homatropin 1:500, or homatropin 1, cocain 2, water 500 should be resorted to.

To dilate the pupil without provoking glaucoma in an eye predisposed to it, cocain alone must be used. To provoke an attack of glaucoma in a doubtful case homatropin may be employed.

To keep the pupil dilated on account of central opacity of the lens or cornea, atropin is best, beginning with a solution of 1:2000.

Cocain must be used to secure the best dilatation of the pupil for operation.

In iritis strong solutions of hyoscyamin, duboisin, scopolamin or atropin are to be used, supplemented by instillation of a strong solution (5 or 10 per cent.) of cocain.

Orleans Parish Medical Society.

Meeting held April 8, 1899.

CONGENITAL MYOSARCOMA OF COCCYGEAL REGION.

Dr. E. Denegre Martin presented a case and made reference to the different tumors which occur in this region: fatty, cartilaginous, osseous, vascular, fibroid, epithelial, cystic, sarcomatous, cystosarcomatous, caudal, fetal, involving Luschka's gland, and complex tumors. Their origin is intrapelvic; their occurrence, infrequent, is not dependent on heredity to any extent; females are affected more often than males. The size varies considerably; the covering in part skin, in part mucous membrane; the cystic tumors usually contain dark fluid; the vascular supply is abundant. Dr. Martin's patient was the daughter of healthy parents; at the time of her birth, Sept. 10, 1894, nothing abnormal occurred, though the tumor was at this time nearly as large as the head, leading the attending midwife to suspect a twin pregnancy. The tumor, which weighed fifteen pounds, extended from the anus to the third piece of the sacrum, measuring four by two inches. The covering over one-half of its surface, from the base up, was skin, over the other half what appeared to be mucous membrane. Spina bifida was at first suspected on account of the cystic feel of the tumor. Operation was done the fifteenth day after birth, when a slough had made its appearance, the patient suffering very little from shock. In spite of the maintenance of the prone position and the measures to protect the wound against contamination with feces, there was slight infection, attended with a rise of the temperature to 101 and the formation of a superficial slough. No other complication disturbed the course of convalescence.

FALSETTO VOICE.

Drs. A. W. de Roaldes and Gordon King showed the case presented before the society at last meeting (vide Journal, p. 474). The patient now answered questions in a baritone voice, which contrasted strongly with the high-pitched voice previously exhibited. The change had been brought about by a developmental system of vocal gymnastics, directed to the removal of the faulty habit acquired by the patient when a severe attack of measles had congested his larynx. Dr. de Roaldes called attention to the fact that in cases of this kind inspiration is defective, being accompanied by greater or less retraction of the abdomen. The patient must be taught to take deep breaths in silence and at same time relaxing the abdominal wall and allow it to bulge, relieving the diaphragm and lungs from the pressure exerted on them through the viscera by the contracted parietes. Practice in deep inspiration is followed by the forcing out of the breath in a sighing manner. The patient is then made to pronounce the vowel sounds in a low-pitched voice in expiration, after forcible inspiration. When this is done in a satisfactory manner, consonants are tacked on to the vowels (ba, be, bi, bo, bu) and dissyllables formed from these monosyllables; lastly the patient is drilled in reading in a low-pitched voice. All of this is gone through under the direction of individuals with deep voice and knowledge of pitch. Patients are often astonished to find themselves able to speak in the low pitch; a single lesson of one or two hours may accomplish a cure. The patient must, however, be carefully watched to prevent a lapse into the old habit; in the event of this occurring, his guard must stop him at once and give him the low pitch to imitate. Such has been the treatment in the case presented, in which the voice changed from falsetto to bass, finally assuming the baritone character.

OXYGEN IN PULMONARY DISEASE.

Dr. J. A. Storck spoke of the application of oxygen in this affection, presenting an apparatus he uses. This consists of a metal cylinder filled with oxygen under pressure, to which is attached a rubber bag; to the rubber bag is connected a wash-bottle containing either plain water or a 50 per cent. solution of potassium hydrate, through which oxygen is drawn from the rubber bag by means of a glass mouthpiece. The oxygen may be allowed to escape through a funnel over the patient's face—in cases of pneumonia. In two cases of chronic asthma this treatment carried on during a period of three months, four gallons of oxygen being given at a sitting, has proved very beneficial.

ACQUIRED CRYPTORCHIDISM.

Dr. Hamilton P. Jones told of a case in a sailor, 17 years of age. During a fight, a year and a half ago, his adversary caught him by the shoulders and struck him on the scrotum with his knee. The blow caused nausea and severe pain; on the following day he noticed that his testicles were no longer in their accustomed place in the scrotal pouch. Examination by Dr. Jones revealed the presence on the right side, over the middle of Poupart's ligament, of a body, pressure on which caused nausea; similarly situated on the left side was a fluctuating body—3 x 1½ x ½ inches in dimension—pressure on which did not cause nausea. The boy had exercised the virile function before the injury; he continued to have complete erection; the voice was masculine. He sought to have the testes replaced by an operation. Dr. Jones advised against this, suggesting that celluloid bodies might be placed in the scrotum for the sake of appearance if desired.

Dr. de Roaldes said that traumatism of the organ of generation could not have a retroactive influence on the larynx after it had reached its full adult size. Emasculation, to influence the voice, must take place before the development of the larynx has been completed.

San Francisco County Medical Society.

Meeting held April 11, 1899.

DIAGNOSIS OF CEREBROSPINAL MENINGITIS.

Dr. W. Fitch Cheney read a paper on this subject and said that the records in the office of the board of health show that during the fiscal year ending July 1, 1898, there had been filed 30 death certificates with this disease assigned as the cause of death. Ten of these deaths occurred between July 1 and Dec. 31, 1897; the remaining 20 during the first half of 1898. From July 1, 1898, to April 1, 1899, there have been filed 54 death certificates in which this disease is given as the cause of death. In the past nine months the number of deaths credited to cerebrospinal meningitis has nearly doubled the number which occurred during the whole of last year. Most authorities consider the disease a rare one; on this coast it has been regarded as particularly uncommon. Sporadic cases have been met with from time to time, but they have not been common and many old practitioners have never seen a case of this affection. The discovery of fifty four cases, or rather deaths, from this disease in the past nine months is therefore a matter of considerable import. Two questions arise when considering the matter: Is there any reason for this increase; and is there a possibility that some of these cases reported have been erroneously diagnosed? The second of these questions will be dealt with, but it is wise to look at the first for a moment.

Have there been any unusual conditions in the city during this time which could effect the disease under discussion? The spring and summer months of last year saw the assembling here of a large number of volunteers. They were encamped on the outskirts of the city. This assembling of troops has been noted by investigators as one of the principal predisposing causes in the propagation of cerebrospinal meningitis, especially when the men so massed are recruits and young soldiers. As the numbers increased, the cases of the disease increased; there were twice as many cases in the latter half of the year, as in the first half; there were many more soldiers in the city during the last six months of the fiscal year. Only a small proportion of the deaths are reported from the wards where the soldiers were camped; in fact, the deaths have been quite widely distributed over the city. Two conclusions seem evident: 1, the number of cases of this disease has been markedly increased by the advent of the soldiers; 2, the disease remains though the soldiers have departed. In February, fifteen certificates were filed, the largest number for any one month; in March there were eight deaths.

Diagnosis of any disease rests on two supports: symptoms and physical signs. The symptoms of cerebrospinal meningitis are unreliable guides to diagnosis, because the clinical course is so extremely variable. Certain manifestations occur with more or less regularity. Taken together they make up a comparatively good picture of the disease. The onset is sudden. The initial symptoms are usually chill, severe headache and vomiting. Pain in the head is the most common and constant phenomenon of the onset. The pain comes on abruptly, is usually agonizing and persistent. It is not always in the same part of the head, but is sometimes frontal and sometimes occipital. Bright lights and loud noises usually increase the pain. Vomiting is a fairly common symptom of the onset, and is present in at least two thirds of the cases; it may occur but once or twice or may persist for hours. Chill is not so commonly noticed, but frequently occurs. The development is rapid. The most marked symptoms are at once referred to the brain. Delirium comes on early, generally, and may be violent and maniac, or low and muttering. It is soon followed by drowiness and stupor, deepening to coma. The loss of consciousness may come at once, without the preliminary delirium. Profound disturbance of the cerebral functions is the first and most marked feature of the disease. Another symptom which is very common is the rigidity of the muscles of the neck. It may be simply stiffness, not easily discovered, or it may be a marked contraction, drawing the head back; the muscles of the back may also become contracted and the patient assume the condition of opisthotonos. Rigidity of the neck is found to occur in almost all cases. Other symptoms occur now and then, and should always be looked for: tremor of the muscles; tonic or clonic spasms of the extremities; strabismus; irregularity of the pupils; paralysis of the face. There are also certain peculiarities about the skin, as labial herpes and petechial or erythematous spots over the body; the latter furnish ground for the old name of "spotted fever."

The temperature is irregular and variable. There is no uniform or characteristic curve; the fever may be high or low at different hours in the same day without any apparent reason for its fluctuation. The pulse is also variable and does not follow the temperature variations. It becomes slow with the onset of coma and the respirations then become sighing.

Physical signs: Ordinary methods do not reveal much. Inspection and palpation reveal the peculiar rigidity of the neck. Percussion and auscultation furnish negative testimony. They in this way eliminate some other conditions that might be mistaken for cerebrospinal meningitis, as for instance pneumonia and typhoid fever. One or two other methods afford valuable aid. First in importance is lumbar puncture, usually made between the third and fourth lumbar vertebræ in adults and between the second and third vertebrae in children. The spines should be first counted very carefully and the third and fourth marked with a nitrate of silver pencil. The needle is then introduced midway between these marks. To do this, the patient is turned on his side, the region thoroughly scrubbed and cleansed, the site of puncture anesthetized with ethyl chlorid spray, and the sterilized needle pushed through with steady pressure. It must go in for a depth of an inch or an inch and a half before the cord is entered. The operation is simple and easy of execution. As soon as the puncture is made the fluid exudes in drops or in a steady stream. If it does not run freely the syringe may be attached to the needle and suction used. The fluid is sometimes clear or opalescent, and sometimes turbid or even like pus. The appearance of the fluid is no guide to the diagnosis. Microscopic examination of stained specimens is required. Cover-slips should be smeared, dried and stained with Loeffler's alkaline methylene blue. The specific germ is a diplococcus, almost invariably inclosed within the polymorphonuclear leucocytes. This is the so called meningococcus, first described by Weichselbaum in 1887. One other organism may produce primary cerebrospinal meningitis, and if found in the fluid from the cord, is equally diagnostic; this is the pneumococcus lanceolatus. It stains well with the same stain. It differs from the meningococcus in being lance-shaped. It occurs outside as well as inside of pus-cells and takes and retains the Gram stain, which the meningococcus does not. These two germs are the only ones associated with primary cerebrospinal meningitis. Cultures of the germs are not satisfactory; they do not grow well on anything, but do best on coagulated blood serum. Osler says: "Probably the most reliable method of diagnosis is lumbar puncture, which is easily performed and free from danger. Hereafter this procedure should be used early in all sporadic cases. It is not only perfectly harmless, but in some cases is distinctly beneficial." Councilman has had more experience than any other man in the United States. He says: "The surest method of diagnosis in meningitis, and one that should always be carried out when possible, consists in lumbar puncture . . . it is devoid of danger. It certainly deserves to be ranked as a method of diagnosis with examination of the sputum." Too much stress can not be laid on the point that it is not dangerous and may be, in some cases, of actual benefit by relieving the pressure on the brain. If no fluid comes at once from the needle, it may be because the needle is not in the subarachnoid space, or because the fluid is too thick to run. Examination of the fluid is simpler than the examination of sputum for tubercle bacilli or of blood for the malarial parasites. That it has no danger and may do good should remove objections.

The blood-count is also of importance in the diagnosis. One of the most constant features of the disease is a high leucocytosis. Absence of leucocytosis would almost positively exclude cerebrospinal meningitis. The presence of leucocytosis would almost positively exclude typhoid fever, the disease most liable to be mistaken for meningitis of this type.

A third method of diagnosis of value in clearing up obscure cases is an autopsy. This is of more value to the physician. In a disease suspected to be infectious it should always be performed. Precautions may then be taken to protect others.

Dr. Cheney then referred to his observations on six cases he had seen in the wards of Johns Hopkins Hospital last summer. In these cases lumbar puncture was frequently performed and he had seen it done and examined the fluid.

He returned, thinking diagnosis would be easily made were a case encountered. In the past three months he had seen three cases in consultation and had not found the diagnosis so easy as was anticipated. He detailed the cases, and in conclusion said a few words as to the difference between the primary and secondary forms of meningitis. His paper considered only the primary. This is always produced by the meningococcus or the pneumococcus. The secondary form may occur as a complication of pneumonia and is here produced by the pneumococcus; or may follow fracture of the skull, suppuration of the middle ear or facial erysipelas, in each of these cases being due to the streptococcus or staphylococcus; or may be due to the tubercle bacillus. In the secondary forms the diagnosis depends on the discovery of the primary disease, or clinical history, which vastly varies from the history of the primary form.

Dr. P. K. Brown detailed cases, and said that the diplococcus was found in all the cases and in the pus as well as in the fluid from lumbar puncture. It was to be found in the secretion of the nose even.

Dr. Farnum said that this was a most important point. We know that we have this disease in the community and it is therefore important to prove in all cases whether it is really cerebrospinal meningitis which we encounter in a certain case, in order that we may protect other persons who may have been or may be exposed. He had been much interested in proving the source of infection in several cases which had come within his knowledge. He had not yet failed to do so. In one case, that of a young woman, a personal friend of one of the patients reported at the present meeting, and who visited this patient during her fatal illness, subsequently developed the disease and died of it. He had investigated several cases of the same general sort with similar results; in all the contact with some one who had had the disease could be traced. He thought that, as we now know the disease to be contagious, all should be carefully examined and reported to the board of health just as any other infectious disease; especially as it is such a deplorably fatal disease. He had recently heard that several cases had appeared in Butte County.

Dr. J. D. Robertson thought the disease very often existed and was not recognized; that some digestive disorder in children was thought to be the real trouble when the case was one of cerebrospinal meningitis. He saw four cases last year, all under four years of age, but they all recovered. The disease he knew to be epidemic in Wyoming at the present time. Whenever it was possible, the direct contagion could be traced, and he thought it was always due to direct contagion, though we could not always trace the source of the contagion.

Dr. P. K. Brown called attention to the fact, now well known, that the disease was more common in the winter and spring months than at other times during the year, and he thought this had some bearing on the figures quoted by Dr. Cheney. More cases seemed to be reported in May than in any other month.

Dr. Cheney said that there was one fact that he did not mention. The various symptoms of the disease all may be found as occurring in other diseases, but they occur together in no other affection with which he is acquainted. The conclusions which he wished to draw were: 1. The disease seems to be here in an epidemic form and is increasing. Consequently, all the cases should be reported to the board of health and quarantined, for the reason that it is an exceedingly fatal, contagious disease. 2. Lumbar puncture should be urged in all cases. He had not been successful in securing permission to perform the operation in the cases which he had had, but the public should be educated up to approving of this measure, especially as it could in no case do harm, and might in some cases do much good.

HEART IN FEVER AND DURING CONVALESCENCE.

Dr. P. William Nathan read a paper and discussed the question of the relative amount of energy-consumption in the organism during fever, and thought that as the stored-up chemic energy is so much more rapidly used in fever, rest from work of all kinds should be insisted on. The heart needs rest, too; the pulse may be increased in rapidity, but it is not so full and energetic, and it indicates that the heart is not doing so much work, or is attempting to rest. The question as to the use of stimulants is a vital one, the pulse-rate of no importance, its quality alone being an indication as to the condition of the heart. The use of antipyretics he deplored in most cases, unless the fever is excessive. Few patients could take any antipyretic without hurting the heart. He thought this equally true of cold baths. It is claimed for them that they rouse the patient from his stupor. This Dr. Nathan thought not a good feature, for the rousing of the patient makes him do so much more work, or consume just so much more energy. Somnolence is beneficial, in his opinion, rather than the reverse. In typhoid cases where cold baths had been used he had noticed that the convalescence was always protracted. He then discussed the relative values of the different stimulants and thought that alcohol should never be used; digitalis or digitalin should take its place.

Philadelphia County Medical Society.

Meeting held April 12, 1899.

DANGERS OF PEROXID OF HYDROGEN IN SURGICAL CASES.

Dr. G. S. Spencer, in his paper on this subject, did not wish to discourage its use in all cases, but to show some of its contraindications as proven by certain cases which had come under his care. The first was one of carcinoma of the breast, for which an amputation had been done. On account of the large amount of tissue which had to be removed at the time of operation, the edges of the wound could not be drawn together, so that quite a large space was left to heal by granulation. On the seventeenth day, the patient was discharged to be treated in the dispensary. Some time later a sinus developed in the region of the wound. Three weeks subsequently the depth of the sinus measured two inches, into which was injected peroxid of hydrogen and a solution of bichlorid of mercury. Under this treatment the sinus constantly increased in depth. At the time when the sinus was injected with peroxid it was noticed that a small tumor would develop some distance away from wound. Judging from this it was evident that the peroxid was opening new tracts for the spread of the suppuration.

He had seen three cases treated with peroxid, in all of which cases the condition was made worse by the drug. These latter cases had been treated with care at the Jefferson Medical College. The first was one of stitch abscess following resection of bowel for carcinoma; the other cases were of a similar condition. In localized abscesses about the phalanges, peroxid should be used with great care, on account of its tendency to burrow, which in this region would carry infection beneath the deep palmar fascia and lead to development of palmar abscesses. It is known that the use of this agent in cases of otitis media has led to development of mastoiditis. Jonathan Hutchinson has spoken of a case in which, after the injection of peroxid into the cavity of the gum, suppuration increased. A case is known in which, after injection of a wineglassful of peroxid into the pleural cavity, there developed emboli, and subsequently hemiplegia. In another case in which it was injected into a sinus of the neck, alarming dyspnea followed.

Dr. Wilson, in discussing the paper, stated that the keynote of the dangers of peroxid had been sounded when the statement was made that it should not be injected into cavities with a small external opening. He knew of a case in which, after the injection of peroxid into a psoas abscess, there had followed rupture of the abdominal wall and protrusion of intestines. A cavity in which there was a small opening was a distinct contraindication to the use of the drug, and in such cases it was dangerous. In selected cases, however, he had seen much good result from peroxid.

Dr. Leffenbach thought that the drug had been much abused. Most otologists had long ceased injecting it into the ear in cases of otitis media. When used in these cases it should never be injected with a syringe, when harm would arise, but the parts might be swabbed out with absorbent cotton.

Dr. Mordecai Price thought the paper had brought up the subject of the treatment of sinuses in general. He could see no good result from the injection of fluids into sinuses or cavities. The region of the lung or diaphragm should be approached with great caution with this remedy. He had seen alarming symptoms follow the injection of peroxid into a cyst near the diaphragm, and had knowledge of a case in which a small abscess of the finger, treated by injection of peroxid, had given rise to the development of palmar abscesses, and from extension of the infectious process up the arm, an amputation had been resorted to.

Dr. Solomon Solis Cohen said the abuse of the drug had resulted from a misunderstanding of its mode of action, and also from a misconception of the idea its warmest advocates claimed for it. In abscess cavities it might be best to first get rid of pus by the injection of saline solutions, and subsequently inject peroxid. Its greatest use is possibly in stimulating healthy granulation.

EXTRAPERITONEAL EFFUSION DUE TO SPONTANEOUS RUPTURE OF UTERUS—DEATH FROM PYEMIA.

Dr. Reynolds Wilson read this paper, the case being a primipara, aged 27 years, with normal pelvis, except that the transverse diameter was slightly less than normal. She had been in labor for several hours when first seen. The child was born five hours later in a normal manner. A few days later the patient began to suffer with severe pains in the bladder, rectum and down the sciatic nerve. A number of bloody stools occurred. On the third day there was distension of the abdomen, which became painful. The temperature rapidly rose, and death ensued several days later. The autopsy showed considerable laceration of the cervix and several sinuses which had developed in the region of the mass formed after the first few days. Abscesses were found under the recti muscles. Peritonitis was present and there were adhesions to the diaphragm; large amount of pus posterior to uterus. It was thought that rupture of the uterus had occurred at the time of labor, but that the usual symptoms were not present. The hemorrhage had been slow and probably came from the hemorrhoidal vessels. The lower portion of the uterus was ruptured.

Dr. R. C. Norris thought some features of the case rather unusual, and he had never seen a similar one, and that when a dull mass develops in the region of the uterus after labor it is good practice to make an exploratory incision. In several cases of this kind, he had operated and relieved the condition present, while, if treated by the expectant plan, harm would doubtless have ensued.

Dr. Mordecai Price agreed with Dr. Norris that surgical procedure gives better results in these cases than does the expectant plan of treatment. When masses develop in the pelvic cases after labor it is his rule to always operate. He even operates in extreme cases.

Dr. Reynolds Wilson, in closing the discussion, stated that the evidences of hemorrhage were not at all pronounced in the case reported. Speaking of the treatment of similar ones, he had seen several in which a tumor had developed in the pelvis after labor with subsequent absorption and recovery. In one of these instances a tumor as large as a child's head had developed.

ELECTRIC HEATING APPLIED TO STEAM STERILIZATION.

Dr. Charles L. Leonard's paper discussed the production of dry hot air for therapeutic purposes, with demonstration of hot-air apparatus, consisting of a drum not unlike those commonly employed in the hot-air method. The principal advantage claimed for his device is that the heat is derived from electricity obtained from any system of electric lighting used in cities. The wires are arranged in such a way that heat is generated within the drum and is produced during its transmission through insulated material of a definite character. The current is controlled by proper switches. Another advantage of the apparatus is that provision is made for a constant current of air in the drum, which prevents the parts from becoming blistered. The cost for heating is about seven cents an hour. By this device he has been able to maintain the temperature at 420 F. without giving rise to pain.

Philadelphia College of Physicians.

Section on Ophthalmology, April 18, 1899.

HOLOCAIN.

Dr. Wm. F. Norris spoke of his experience with this drug, highly recommended as a local anesthetic in cases of cataract operation. Besides this property its germicidal effect has been observed. He has made use of it in cases of corneal ulcerations, where it proved to be of decided benefit. He applies the drug by means of a swab dipped in a 1 per cent. solution. In traumatic and dendritic ulcers, its good effects had been quite marked in cases not relieved by other remedies. Improvement began within the first few weeks under holocain, whereas other applications had been of but little benefit, although used for months. He has also used holocain in cataract operation to advantage. Regarding its germicidal influence, cultures of staphylococci have been inoculated with the 1 per cent. solution. In the examination made half an hour later no effect had been produced, but at the end of two hours all micro-organisms were dead. In ulcers with deep edges the drug proved beneficial.

Dr. Charles A. Oliver desired to know whether holocain injured the epithelial structures as does cocain; to which Dr. Norris replied that he had not observed so much scaling after holocain as from cocain.

Dr. George E. De Schweinitz stated that in a case of hypopyon keratitis in which he was using holocain, improvement was shown.

Dr. Charles A. Oliver reported that a physician in Paris had stated that it was possible to make a 4 per cent. solution by dissolving holocain in peanut-oil.

IMPLANTATION OF GLASS BALLS INTO ORBITAL CAVITY.

Dr. C. A. Oliver gave a demonstration of a new method for this implantation in two cases of enucleation. The operation was a modification of that proposed by Frost. The purpose is to secure a better stump. The outline of operation is as follows: The conjunctiva is dissected from the cornea as in ordinary enucleation, and the conjunctiva still further removed until the muscles are reached, after which the latter are cut loose from the eyeball, removing the tendon of the rectus internus first. The eye is then enucleated, cutting the optic nerve back as far as possible. Stitches are then introduced on either side of the cavity thus made so as to catch up the muscles and tissues. Two stitches are used, one placed externally, the other internally. In some respects they resemble the Kalt stitch, and when tightened the tissues surround the glass ball smoothly. Silk ligatures are used. After the operation ice-compresses are applied. The glass ball to be inserted should be two-thirds the size of the cavity made. In one of his cases the ball had been too small and had dropped downward. No reaction follows the operation.

DISLOCATION OF EYEBALL.

Dr. P. N. K. Schwenk by invitation, read a paper on this subject. He considers dislocations to be of two kinds, simple and compound. The accident results from traumatism. In the simple variety the ball is in front of, while if compound it is without, the lids; there is also laceration of muscles of eye. Dr. Schwenk spoke of two cases of dislocation of eyeball he had been called upon to treat; the first one had resulted from running a spear into the eye; the second case occurred in a dog and was caused by a milk-wagon running over its head. In both instances the ball had been replaced and good vision had resulted.

COMPLETE MONOCULAR BLINDNESS.

Dr. Wm. Campbell Posey reported a case following head injury, with restoration of vision. Thirty-six hours after injury, vision was becoming fainter, accredited by the patient to falling of the lid, but subsequently proving not the case. Five days later blindness was complete. The media were clear, blood-vessels almost collapsed. Leeches were at once applied; later given ascending doses of iodid of potash and strychnia. Vision was subsequently restored. The condition had probably resulted from fracture of the walls of one of the sinuses, subsequently leading to compression. In addition there was possibly fracture of the bone about the orbit, causing optic neuritis.

OCULOMOTOR PARALYSIS.

Dr. G. E. De Schweinitz reported a case following typhoid fever, with a cure. In August, 1888, the patient had two relapses of typhoid; in March, 1889, began to suffer from vomiting, and three days later there was complete ptosis. After several months, vision was 6/6, with no evidences of spots or visual defect. The urine had been carefully examined and no albumin found. It is a question as to the essential cause in cases of this character, since autopsy has demonstrated that it is not due to meningitis.

Dr. C. A. Oliver stated that Kneiss and Nothnagel looked upon it as being due to nephritis, instead of the coexisting typhoid fever which might be present.

Philadelphia Pathological Society.

Meeting held April 13, 1899.

ACTION OF VENIN AND ANTIVENIN IN RABBITS.

Dr. Joseph McFarland gave a demonstration and said that the investigations of Kitasato and Behring in diphtheria and tetanus doubtless had much to do with the perfection of the experiments of Calmette with the venom of serpents. The venin and antivenin which he proposed using had been obtained from the laboratory of Professor Calmette. The venin was a mixture of dried venom from various poisonous serpents of Madagascar, probably of the cobra variety. The beneficial effects of the antivenin, as prepared by Calmette, had been practically demonstrated in the French army, many of the men having died from snake bite previous to the introduction of the remedy, but after its introduction the mortality from this cause had been greatly reduced. In the experiment which followed, two full-grown rabbits were used. Into the vein of the ear of each animal was injected .25 c.c. of a 1 per cent. solution of venin. In the control animal, 2 c.c. of a solution of antivenin was immediately given, with the result that at the end of fifty minutes the animal receiving no antivenin had died, while the control animal manifested no symptoms of toxemia.

TRAUMATIC RUPTURE OF THE PELVIS OF THE KIDNEY.

Dr. J. M. Spellissy reported a case of this condition resulting from a fall from a scaffold, the patient striking on the abdomen. After the fall the patient had suffered from concussion, for about fifteen minutes, after which there was considerable abdominal pain, lasting two days. The temperature at this time was 100 F. A bulging on the left side of the abdomen was also observed. Hematuria also developed and lasted ten days. A diagnosis of rupture of the kidney was made. Septic symptoms having developed, an operation was performed, pus found, and through-and-through drainage established, but without relief, the patient dying on the twenty-eighth day. The autopsy showed a ruptured kidney filled with pus and the adjacent tissues proved that leakage had occurred posteriorly to the kidney, where a large collection of pus was found. Septic peritonitis was present.

INDICATIONS FROM CHANGES IN RETINAL ARTERIES.

Dr. George E. de Schweinitz read a paper on the changes in the retinal arteries indicative of general arterial disease from the opthalmoscopic standpoint. It has been demonstrated that chronic changes in the general arterial tree may manifest themselves in the retinal vessels, showing evidence of atheroma, arteriosclerosis and fatty degeneration. The statement that these changes were unrecognizable by the microscope, Dr. de Schweinitz regarded as questionable. The changes in arteriocapillary fibrosis which he was able to recognize in the retinal vessels by the ophthalmoscope, were: Alteration in caliber, alteration in walls of blood-vessels, increased brightness of arteries, which, at the crossing with the vein, was so transparent as to allow the vein to be seen. There is also an increased tortuosity of the diseased vessels. In the walls of the veins may be seen bright lines. Small hemorrhages may be present at the time of examination, or there may only be evidences of it, as shown by small whitish spots, the remainder of a former hemorrhage. The essential pathologic condition seems to be one of hyaline degeneration with thickening of the adventitia. The question raised had been whether or not those conditions occurred in old people during health, but after a thorough examination he could state that such does not occur.

Dr. A. A. Eshner stated that when arteriosclerosis is manifested in the retinal vessels, it might possibly be an index to the condition of the cerebral vessels.

Dr. Arthur V. Meigs said it is not always easy to determine that even the radial artery is of higher tension so-called, either by the touch of finger or sphygmograph. He had seen cases of arteriosclerosis frequently occurring in quite young persons or under 30 years of age.

Dr. H. A. Hare did not agree with Dr. Meigs that a high-tension pulse is hard to recognize, as it easy of demonstration.

Dr. Wm. G. Spiller spoke of tingling of fingers and toes in many cases, which he thought might be due to arteriocapillary fibrosis.

Dr. David Reisman thought that the high tension pulse might not infrequently be due to the absorption of some toxic material.

Dr. de Schweinitz, in closing, stated that one writer had found changes in the cerebral vessels similar to those in the retina.

Philadelphia College of Physicians.

Section on General Surgery.

X-RAY IN SURGERY.

Demonstrations were made showing the varied phases of this aid to diagnosis.

Dr. C. L. Leonard called attention to one point in connection with the study of shadowgraphs, i. e., by this means of diagnosis we are not only able to make a positive diagnosis but a negative one as well. In all cases it requires accurate technic to procure a good image, and subsequently a familiarity on the part of the diagnostician with the pictures in obtaining a correct interpretation of the results. He presented cases of renal calculi, a correct image of these bodies being portrayed. In some cases only one stone was seen, while in one there were two calculi present. The latter case was one co existing with hydronephrosis. In operating upon this patient the surgeon had been aided greatly in determining the correct positions of each stone by the photograph taken. It was also manifest that hemorrhage in great part might be prevented, owing to a better knowledge as to where the stone lay, thus requiring smaller incisions.

Dr. W. W. Keen corroborated the statements of Dr. Leonard in regard to certain cases of renal calculi in which skiagraphs had been made. He thought that when such convenient and positive diagnosis is at hand, the surgeon is not justified in cutting down upon a stone in the kidney unless a previous skiagraph had been taken. It is now a comparatively easy matter to get the correct position of the stone by simply measuring the distance from the spine of the vertebra to the stone, as told by the skiagraph. He placed special stress upon the medicolegal aspect of the X-ray, in that skiagraphs should never be allowed to go before an ignorant jury as evidence, because of the incorrect interpretations and deductions that would necessarily be made.

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SATURDAY, APRIL 29, 1899.

CANNED ROAST BEEF.

The Court of Inquiry into the character of the canned and refrigerated meat issued last year to the troops in Cuba and Porto Rico is nearing the end of its work. The court was convened by an order of the War Department, dated Feb. 9, 1899, to investigate "certain allegations of the major-general commanding the army in respect to the unfitness for issue of certain articles of food furnished by the subsistence department to the troops in the field during the recent operations in Cuba and Porto Rico." In addition to findings of fact, it was directed to submit an opinion upon the merits of the case together with such recommendations as to further proceedings as may seem to be warranted by the facts developed in the course of the inquiry. The questions before the court appear to involve the propriety of the action of the major-general commanding, the loyalty, business ability and integrity of the subsistence department and the good name and repute of the men who superintend the beef-packing interests of the country. The head-lines in the daily press, announcing the testimony presented from day to day, and the editorial comment thereon are strongly partisan and, in many instances, as extravagant as if some local political issue were under discussion. Besides, the testimony as published has sometimes been not over clear, as will happen when a sentence caught here and there by the reporter is made to do duty as a full expression of the views expressed by a witness. Nevertheless, if one is familiar with the subject, a careful study of the published testimony will enable him to determine the relative weight of the two sides to the controversy.

The history of the contention comes in as a part of the evidence in favor of the character of the meat ration provided by the subsistence department, for no special objection was raised against it until the allegations of the major-general commanding were made public. All through the summer of 1898 there came from the camps of the volunteer regiments complaints based on the confinement to a fixed ration. The new troops wanted variety in their diet, which the ignorance of company cooks, company officers and subordinate subsistence officers prevented them from obtaining; but there was no special criticism of the meat component of the ration. Even Major Louis L. Seaman, surgeon 1st U. S. volunteer engineers, who must be credited with having made a special study of the diet of the troops in Porto Rico, as the results of his observations were read before the New York Academy of Medicine, Feb. 2, 1899, and subsequently published in pamphlet form, makes no reference to any improper quality of the canned or refrigerated meat, his contention being merely that the meat ration whether canned or fresh, is in excess and should be diminished for troops in tropic climates. It is true that the troops reached Montauk Point from Santiago in a broken-down condition, but this was recognized at the time as the result of the febrile attacks, malarial and climatic, from which most of them had suffered. The only complaints heard at that time were that occasionally the refrigerated meat was coated with a fungus growth which had to be cut away, and that occasionally also it was tainted and had to be condemned, but this was regarded as no reflection on the subsistence department, considering the conditions to which the meat was exposed after issue from the refrigerator. But after publicity was given to the views of General Miles on the character of the canned meat, and the statements of Dr. Daly as to the detection of boric and salicylic acids in the fresh beef, the current of popular opinion as expressed in the daily papers was led to attribute all the ills from which the troops suffered to the use of these meats. Officers and soldiers then came forward to testify to the evil qualities of the canned roast beef: That it was not roast meat at all, but boiled meat—meat boiled to rags; that it was mawkish, insipid, slimy, unsatisfying and innutritious; that it induced nausea and vomiting; that dead grubs or worms were found in the freshly opened cans, implying a putrescent condition of the meat prior to canning; that ptomains which produced diarrhea, dysentery and fever were developed in the canned stuff within a few minutes after it was exposed to the air, and that the stench on shipboard and in storehouses from spoiled cans was so overpowering that many boxes had to be thrown overboard or buried. Now, since it is known that canned roast beef has been on the market for many years, used by the U. S. navy and the commercial marine and exported for foreign governments for army use with no evil report as to its character, there arises in the mind the suggestion that the canning companies were guilty of the atrocious crime of sacrificing the troops to their commercial interests, and that this was possible through the culpable ignorance or worse than ignorance of the officials of the subsistence department. Testimony of the strongest character would be required to substantiate charges of such gravity, but that testimony has not yet been forthcoming. It has been conceded that the canned roast beef is really boiled beef. It is tasteless, insipid and mawkish, because the extractives of the meat and some of its salts have been removed in the cooking prior to processing the cans, and sapidity has not been restored to it by adding salt and spices. It is nothing more than the cooked meat canned and sterilized. The contents of the cans sent to Cuba and Porto Rico appear to have differed in no material respect from those that may be purchased in the grocery stores of our cities. This, alone, exonerates the manufacturers and relieves the subsistence department of much of its responsibility. Ordinarily when a can is opened in this country the contents are found to be solid, masses of pale muscular fibers imbedded in a fatty and gelatinous matrix; but not unlikely when cans were opened in Cuba the contents were semifluid and slimy from the melting of the gelatin and the softening of the fat under the influence of a tropic sun. Dead grubs in freshly opened cans may be attributed to the imagination of the non-expert observer, for the heat of processing which gelatinizes the connective tissue would leave few vestiges of the grub; and ptomains take time for their development even in Cuba. That cans will sometimes break down, swell and burst is to be expected; and one such can will give foul odor to the exterior of many cans in its neighborhood, leading thus to their condemnation.

Chemic analysis of the contents of the cans by experts in this line of work has demonstrated therein the presence of a satisfactory proportion of the proteids and fats. In such analyses the proteid or muscle-forming element is calculated from the quantity of nitrogen present. As meat extractives are nitrogenous, although not nutritive, their nitrogen exaggerates the proteid value of any sample containing them. The canned meat samples have had the greater part of their extractives removed. Nevertheless, they yield a larger percentage of nitrogen than the average sample of fresh beef, so that weight for weight they have the advantage over the latter in available nutritive value or in albuminoid and gelatinoid substances. The separate estimation of these nitrogenous proximate principles has not yet been satisfactorily accomplished; but Prof. J. W. Mallet of the University of Virginia and Prof. H. W. Wiley of the agricultural department have recently devoted attention to the subject and cleared the way for future progress.

Although the canned meat gives excellent chemic results, it is easily demonstrated that the soldier on active service requires more nitrogen, daily, than is contained in the proteids of his allowance of such meat, and more carbon than there is in its fats. Any attempt to supply the needs of the system by means of this meat alone would cause surfeit and sickness. It has to be supplemented by other substances, as the finest samples of porterhouse steak would have to be similarly supplemented. The loss of its extractives and salts gives it an insipid taste, which in the absence of kitchen facilities for its proper preparation, would beget distaste, and even nausea, were the canned meat used without preparation for a number of days in succession; and the nauseating tendency would naturally be heightened after the soldier had experienced a taint of decomposition in some portion held over in the opened can. Inasmuch as some of the troops used the canned roast beef as a daily ration for three weeks continuously, it is not surprising that a distaste for this meat was engendered strong enough to suggest to General Miles the necessity for an inquiry into its character. Odium was thrown on a valuable article of food, and the commercial interests involved were seriously damaged by the conditions under which the article was used. The responsibility for these conditions can not be laid upon the subsistence department nor on any of its officers. Refrigerated meat failed to give satisfaction under these conditions and it is not clear that fresh meat would have kept at Santiago from the time of killing to the time of cooking without in many instances becoming tainted.

CYSTS OF THE PANCREAS AND THEIR TREATMENT.

Pancreatic cysts may arise: 1, from the retention and accumulation of fluid in an occluded or obstructed pancreatic duct; 2, from the proliferation of pancreatic tissue, constituting cystadenomata; or, 3, as a result of traumatism or inflammatory processes leading to hemorrhage and dropsy of the lesser peritoneal cavity. The symptoms may be few or slight, or inconclusive. Among the most common are colicky pain, with nausea and vomiting, and the appearance of a tumor in the upper half of the abdomen.

The swelling is comparatively fixed and uninfluenced in position by respiration. Its contained fluid is of alkaline reaction, with a specific gravity of between 1010 and 1020, often of a reddish or brownish hue, and in it may be found red and colorless blood-cells or hemoglobin, granular detritus, fat globules and cholesterin. It may exhibit the fermentative activity of pancreatic juice. The bowels may be loose and the stools contain undigested fat. Pressure on the biliary passages will occasion jaundice and, on the portal vein, ascites. The urine may contain sugar or albumin, and the secretion of saliva may be increased. Usually there is loss of weight and failure in strength.

In treatment the cyst may be extirpated or its contents simply evacuated, either through the anterior abdominal wall or through the loin. Simple aspiration, either for diagnosis or in treatment, is not permissible. Evacuation and drainage have been most commonly practiced. To the not very large number of cases hitherto recorded Bilton Pollard (*British Med. Jour.*, March 11, 1899, p. 594) adds the report of three further instances treated by incision and drainage through the anterior abdominal wall. One occurred in a man, 34 years old, who was well five years after the operation and attending to his work as a railroad signalman, although a sinus persisted. The second occurred in a man, 56 years old, who was perfectly well two years after the operation, except for the presence of a small ventral hernia. The third patient, a man 36 years old, presented a like condition a year after the operation.

In none of these cases was there a history of injury. In two the onset was marked by severe epigastric pain and frequent vomiting, in the other by sudden severe pain in the left hypochondrium, extending to the chest and giving rise to a choking sensation. In two of the cases there had been marked loss of flesh, in one as much as five pounds in two weeks. In none did the urine contain sugar, while in two an occasional trace of albumin was detected. The stools exhibited no peculiarity. Jaundice was present in one case only and in that after operation. In all three cases the tumor was large and occupied the epigastric and left hypochondriac regions, as well as portions of the umbilic and left lumbar. It moved little with respiration, but could be moved slightly from before backward and from side to side between the two hands. In two of the cases stomach-resonance could be elicited by light percussion in the epigastric region, although apparently occupied by the tumor, and this area of resonance was increased by distending the stomach with gas. In one case the percussion note was dull in the epigastric region over the most prominent part of the tumor, although at operation the cyst was found covered by the stomach. In this case the transverse colon could be traced over the lower part of the tumor. In one case there was good resonance in the flank behind the tumor, and this was increased by inflating the colon with gas through the rectum. In each case the tumor gave rise to a dull area on percussion in the left hypochondrium and also in the left lumbar region, but it could not be made to occupy the left loin as can a hydronephrotic kidney.

In two of the cases the lower pole of the left kidney could be felt behind the tumor just below the last rib. In one case distinct fluctuation and thrill could be elicited, and in all three the sense of tension and elasticity yielded by the tumor further suggested its cystic character. In each case the fluid removed at operation contained amylopsin, trypsin and steapsin. In one case the cyst lay behind the stomach and the transverse colon; in another it presented between the stomach and the colon, and in the third below the stomach, displacing the transverse colon downward. In all three cases the cyst was covered in front by omentum. In the first case the operation was performed in two stages, but in the other two the cyst was opened at once, after the greater part of its contents had been removed by aspiration. The margins of the opening into the cyst were stitched to the skin, and the cysts were drained for some time.

SIGNIFICANCE OF CERTAIN ANILINE STAINS FOR THE BIOCHEMISTRY OF THE CELLS.

The use of various stains has, of late years especially, been of the greatest importance in the study and differentiation of histologic elements, and has done much to enhance our knowledge in this department of medical science. Thus we have learned to discriminate between several different kinds of leucocytes and to gain some insight into the significance of their variation in number, nucleation, etc. Particularly with regard to the histology of the nervous system has elaboration in staining methods been productive of the most brilliant results, of which it may be safely said that we have only entered upon the beginning.

It has always been a matter of controversy whether the action of stains upon tissues is purely physical or really chemic, and of late years the tide has shown a strong tendency to turn in the direction of the chemic view.

Ehrlich, who has done so much work of the highest order in the development of staining methods, has shown that the staining of tissues is, in part at least, dependent upon chemic processes in nucleus and protoplasm, and it is in accordance with this conception that his triacid solution of orange G, acid fuchsin and methyl-green is constituted.

In using a modification of the triacid stain in a study of the nervous system, Rosin (*Berliner Klin. Woch.*, March 20, 1899, p. 251) found that the nerve-cells possess an important biochemic property that distinguishes them from all other cells, and residing in the presence of the basophile substances known as Nissl's granules, which react to stains like the nuclei of other cells. From this and from other experiences, Rosin was led to the belief that the staining of the tissues is dependent upon an active chemic process; and with the object of confirming this view he has studied the peculiarities and reactions of a number of crystalline stains in their relations with various tissues. He has found that the union of (acid) eosin and (basic) methylene blue results in the formation of a new staining substance provisionally designated methylene-blue eosinate, which is broken up into its constituents by the tissues so that the nuclei are stained blue and the protoplasm red; and by combining other acid and basic aniline dyes it has been possible to obtain a whole series of crystalline staining substances.

Concentrated aqueous solutions are employed in such proportions that an approximately neutral reaction results and precipitation takes place, the precipitate being again soluble in an excess of either acid or alkaline stains. Such precipitates are obtained from combinations of aqueous solutions of eosin or erythrosin and methylene blue, of methyl orange and methyl-green, of rubin and malachite green, of picric acid and methylene blue or magenta red, etc. The substances deposited are of crystalline nature, and almost insoluble in water, though soluble in alcohol.

The precipitate resulting from the combination of eosin and methylene blue, which crystallizes in needle-shaped crystals, dissolves quite readily in alcohol, to which it imparts a violet blue tint and a deep green fluorescence. The crystals present a greenish metallic luster and disintegrate in the air, becoming dark brown. The solution yields a characteristic spectrum. This methylene-blue eosinate has proved of the greatest biochemic significance in the staining of tissues. An alcoholic solution is made blue or bluish-green by addition of organic acids, the original color returning on neutralization. Mineral acids act similarly, although the original color does not return on neutralization. Alkalies render the solution red, the original color returning on neutralization. All acid substances are stained blue, all alkaline substances red, all neutral substances violet, e.g., egg albumin red, mucin blue, nuclein blue, fibrin red. In sections of tissues the nuclei are stained blue and the protoplasm red, the nerve-cells excepted, and of which the ground-substance of the protoplasm is stained red and Nissl's granules blue, while the nuclei are not stained blue. The neutrophile granules of leukemic blood are stained violet.

The insolubility in water of the precipitates obtained in the manner outlined is a serious disadvantage in the staining of tissues, but it has been found that this may be overcome by dissolving them in an excess of either of the solutions primarily used, as for instance methylene blue or eosin. The more concentrated these solutions, the greater the amount of precipitate they will dissolve. The resulting solutions are, of course, no longer neutral, but either acid or alkaline, as the case may be.

STATE OF THE BLOOD IN ERYSIPELAS.

At a recent meeting of the Society of Biology of Paris, Chantemesse pointed out that the leucocytosis-curve followed closely the temperature-curve, the polymorphonuclear cells especially undergoing increase in number, while the mononuclear cells, and particularly the lymphocytes, underwent diminution. With the onset of convalescence the polymorphonuclear cells resumed their usual proportion. The eosinophile cells disappeared during the attack, and reappeared with its termination. The occurrence of suppuration appeared to be of favorable prognostic import.

NEW CULTURE-MEDIUM FOR TYPHOID BACILLUS

At a recent meeting of the Berlin Medical Society, Piorkowski described a new culture-medium that he had found of especial value in rapidly differentiating the typhoid bacillus and the bacterium coli commune. For this purpose he used two-days-old urine of a specific gravity of 1020, that had become alkaline, and to which were added 0.5 per cent. peptone and 3.3 per cent. gelatin. The mixture is boiled over a water-bath, filtered, run into glass tubes and sterilized for fifteen minutes, and again on the following day for ten minutes, at a temperature of 100 C. In the course of twenty hours the bacterium coli commune appears in round, yellow, finely-granulated and sharply-defined colonies; while the colonies of the typhoid bacillus exhibit a peculiar tendril-like arrangement suggestive of spiro-chetæ. In tube-cultures the bacterium coli grew upon the surface, while the typhoid bacillus grew within the substance of the medium.

TREATMENT OF DIPHTHERIA WITH ANTITOXIN.

A study of the cases of diphtheria treated at the Zurich Children's Hospital from 1874 to 1898 shows, according to the Swiss correspondent of the *Lancet*, the influence of the antitoxin in reducing the rate of mortality and corroborates the evidence already supplied by statistics from other sources. There were treated, from 1874 to 1891, 690 cases, with a mortality of 43.8 per cent.; from 1891 to 1894, 149 cases, with a mortality of 40.3 per cent.; from Oct. 25, 1894, to May 25, 1898, 385 cases (with antitoxin), with a mortality of 9.8 per cent. In the first period there were 404 cases operated on, with a mortality of 60.4 per cent.; in the second 79 cases, with a mortality of 65.8 per cent., and in the third 118 cases, (86 intubation, 32 tracheotomy), with a mortality of 19.4 per cent. In the cases not operated on—286, 70 and 267 respectively for the three periods—the mortality was 16.01, 11.4 and 5.6 per cent. respectively.

This report adds another testimony to the accumulated data in favor of the antitoxic treatment of diphtheria.

CONSCIENTIOUS OBJECTOR.

It is interesting to note, in connection with the outbreak of smallpox in Kentucky, a letter which has recently been addressed to the officers at Horse Cave, that State, where compulsory vaccination has been ordered. The letter is from a traveling man, who threatens to shoot any one who attempts to vaccinate his children, and in part reads: "With all due respect to the physicians of Hart County and the medical profession of the State of Kentucky, allow me to give you this warning. My children are my children, and there is no higher power over them than the God in heaven who is above us all. It is not in my heart to hurt or harm any man, but I make a frank statement that if I am living I will shoot the man who vaccinates or attempts to vaccinate one of my children.

. . . I absolutely, truthfully and intelligently mean exactly what I say, . . . as I believe it to be a complete poisonous humbug." The letter is signed W. J. Lewis and dated at Morganfield, Ky. It will be interesting to watch developments in this case.

TROPIC MEDICINE.

While the British Government is aiding in the foundation of a school of tropic medicine, a like movement has been begun in this country under the highest scientific auspices. The Johns Hopkins University, it is reported, will inaugurate, this coming fall, a course of lectures with laboratory work in the special disorders likely to be met with in our new dependencies, and tropic pathology and sanitation generally. Dr. William Osler, than whom no better authority can be found in this country, will have special charge of the course, a fact that bespeaks its scientific and practical value. There is to be, it is stated, a selection made among the candidates for this course, so as to insure the best scientific and other qualifications and the consequent future furthering of our knowledge of these matters that appear likely to be of greater national importance to us in the future than in the past. A vigorous sanitary campaign against the germs of certain tropic and other disorders in Cuba alone has already shown the effectiveness of such measures, and with a more thorough knowledge we may expect still better results. In that section it would seem there is almost a virgin field for sanitation

AMERICAN VS. FOREIGN LITERATURE.

A correspondent in this issue calls attention to a fact already editorially noticed in the Journal, but which it may not be inopportune to notice again—the neglect of American contributions to medicine in other countries. Our correspondent also notes another point, the too frequent tendency of American journalists and writers to accept foreign dicta because they are such, and to, as it were, acquiesce in the semi-contemptuous opinion some foreigners affect of American medicine. We do not wish to encourage national conceit. There is enough of that everywhere, but we would like to see encouraged an appreciation of what good work is actually done in this country. The foreign journals will respect us more if we regard them a little less, and give ourselves the benefit of a little more national self-respect in the matter of our own contributions to contemporaneous medical progress. It is not to be inferred that any neglect of foreign literature is advised; the greater bulk of medical writing must naturally come from the three or four hundred millions of Europe rather than from our seventy-five millions. It is chiefly the tendency to neglect our own work on the part of ourselves and others that is to be deprecated.

PREVENTION OF PREMATURE BURIAL.

The London (England) Association for the Prevention of Premature Burial has just published its second annual report. The objects of the association are: 1. The prevention of premature burial generally, and especially amongst the members. 2. The diffusion of knowledge regarding the predisposing causes of the various forms of suspended animation or death-counterfeits. 3. The maintenance in London of a center of information and agitation. 4. According to an arrangement entered into with skilled and experienced medical experts in respect to death verifications, members of the association are guaranteed against premature burial. The executive committee reports that during the year 1898 an active propaganda was carried on in the press with the result that the association has become widely known in Great Britain and abroad. The names of twenty-one foreign and colonial correspondents are given, of whom eleven belong to the United States. The propaganda is ably carried on by the report itself, as it mainly consists of extracts from newspapers, giving gruesome accounts of the experiences of those who have been rescued from their impending premature burial, or who have been fortunately aroused from their cataleptic state just as the dissector's knife was about to be plunged into their vitals. The report closes with an appeal for funds, which appear to be much wanted as, to judge from the tabulated account of receipts and payments, and the unexpended balance, there is but little provision for fees for the "skilled and experienced medical experts" who have undertaken to protect the members from the horrible doom of being buried alive.

ONE DOMINION LICENSE IN CANADA.

Our Canadian friends are having the same trouble in reference to different laws in different provinces regulating the licensing of practitioners, although in a less degree, as we are having in the legislation in the different States. The question, however, is recognized there to the extent that an attempt is to be made to have a law or laws enacted that shall remedy this condition of affairs. In just what manner this shall be done is evidently not yet decided. Dr. A. Lapthorn Smith of Montreal, in the *Canada Lancet* (April), proposes that there shall be created a "University of Canada," which shall be an examining and licensing, but not a teaching, body—something on the plan of the College of Physicians of England. This "university" would in no way interfere with the present provincial boards and medical schools, which are satisfactory for those who propose to remain in one province. Those, however, who wish to be entitled to practice in any of the provinces, would have to pass through a uniform portal, the proposed university, the barriers of which must be as high at least as that of any of the provincial boards. This university would not only examine for the special degree at the end of the medical college course, but would examine the student as to his fitness in preliminary education, before he would be permitted to enter upon his medical studies. Dr. Smith elaborates on his scheme, which, as outlined, seems to be a feasible, practicable and, above all, a laudable one. Some day this phase of medical legislation, making a uniform standard for all States, will have to be met in our own country. A national examining and licensing board, under whatever name, whose requirements shall be high enough to satisfy the demands of any and every State in the Union, is a thing for which we may devoutly pray.

LIQUID AIR.

A few weeks ago an article on liquid air appeared in one of the magazines, and such extraordinary claims were made in regard to the possibilities and probabilities of this new material that not a few were convinced that the days of steam and electricity were numbered, that a revolution in mechanic and power-producing forces was about to take place. Judging from this article, not only had perpetual motion been invented, but, compared with this new power, all the discoveries of the past would be as mere playthings. While probably future studies, investigations and experiments in the subject of liquid air may prove this to be a *fin de siecle* wonder, the claims made by this writer are too sensational for belief even in this day of progress and discoveries. We know too well how, in medical matters, a little truth no larger than a grain of mustard seed is magnified to the size of a mountain by the sensational writers in the daily press. So also with other scientific matter. And, by the way, too often it happens that the little truth which existed at the beginning is liable to be lost sight of when the bubble of sensationalism is burst by the probe of investigation. While liquid air may prove to be a wonderful thing, it might be well to wait until men of authority in scientific matters tell us so in scientific journals, if we are not able to investigate it for ourselves. Magazine articles on scientific subjects are as rarely to be depended on as are newspaper articles on medical subjects. These comments are called forth from the fact that during the last ten days two papers have been received for publication, each of which was based on the magazine article to which we refer, and in each instance the statements contained in the article were accepted as law and gospel.

SANITARY HYPERLEGISLATION.

It is said that a bill is before the New York Legislature requiring telephone companies to sterilize their instruments, the bill having been inspired by the results of inspection by health officers during the height of the recent influenza epidemic. Undoubtedly such a procedure as is thus called for might be an excellent thing, at least as a psychic therapeutic measure, and may be easily practicable with telephones devoted to public use. To say, however, as a New York physician is quoted as saying, that "a call for central may be a summons for the destroying angel" or that "Schuylkill water is an elixir of life compared with the various mortuary evils which lurk in the innocent looking transmitter," as a Philadelphia newspaper puts it, is certainly a strong statement, and one that, by inference at least, conveys perhaps a very much more alarming impression than the facts actually warrant. If the insignificant dangers that lurk in the telephone receiver justify such utterances, what must we say of the public drinking cups, the dirty and unchanged seats of public conveyances, the unwashed or imperfectly washed utensils of the cheap restaurants, not to mention public towels, combs, and brushes of hotels and barber shops and a hundred other matters that the unthinking public has been utilizing without care or thought of peril? The fact is there is danger of infection everywhere, but there is also danger of overstating matters and thereby defeating the very purpose of the warnings we wish to give in most cases and creating a morbid mysophobia in a few, neither of which is a desirable result. The education of the public in sanitation, by sensational newspaper statements, is liable to defeat itself by its exaggeration or do genuine harm by overexciting the fears of the credulous. Sterilizing public telephones can do no harm and may relieve some people's minds, and if the New York Legislature chooses to enact such a regulation, we need not object. If, however, it should fail to do so, the public may still trust in Providence and bear in mind that numerous as are the perils between the cradle and the grave, as the Irishman said, we still daily perform the miracle of surviving them.

THE VITA PROPRIA OF CELLS.

The vitality which belongs to the individual cell has been designated by Virchow as the vita propria of the cell. This characteristic of the cell has been studied but little. Studying inflammation of the cornea, Grawitz observed that certain injuries, which usually destroyed all cell life, did not seem to have any effect upon the cells of the cornea. Thus, drying of the cornea for eleven days did not kill the corneal corpuscles. Busse observed that ciliated epithelium from nasal polypi may preserve the movements of its cilia for eighteen days after having been separated from its matrix. Spermatozoa have been found to maintain their movement for a long time after death of the animal or after their separation from the living organism. Schade observed distinct movement eleven days after the spermatozoa had been removed from the testicle of the guinea-pig. The nearer the freezing-point of the temperature in which the spermatozoa were kept, the longer the duration of their movement. This persistence of the life of spermatozoa may be of medicolegal importance. In the rectum of a boy who had been murdered, living spermatozoa were found eight days after death, the body having remained in water at a temperature which varied between 3 degrees above and 3 degrees below zero C. The murderer subsequently confessed that he had used the body of the boy to satisfy unnatural sexual desire. Wentscher found that bits of skin, kept in a sterile salt solution, may maintain the vitality of some of the cells for as long as twenty-two days. Similar results have been obtained by Schnitzler and Ewald and Ljunggren. Grohe[1] has investigated the vita propria of the cells of the periosteum. The pieces were taken from rabbits and kept at a temperature of between zero C and 4 degrees above. The pieces were then transplanted, at various intervals of time, between the muscular bundles of the extensors of the forearm, and it was found that the periosteum maintained the capacity of proliferation for as long as one hundred hours after the death of the animal from which it was removed. When transplanted even at this late time, it would in some instances produce typic cartilage and bone tissue. It seems, then, that the formative layer of the periosteum may maintain, for about five days, its highest proliferative faculty, which science hitherto has regarded as characteristic of the living tissue. The persistence of the life of the cells of the periosteum for one hundred hours, of the epithelium of the skin for twenty-two days, of the vitality of the spermatozoa for eleven days, the movement of the cilia of ciliated epithelium for eighteen days, shows that Grawitz was not far from right when he stated, that after somatic death weeks may pass before life has disappeared from the last cell.

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[1] Virchow's Archiv., Bd. 155, 1899.

Medical News.

Dr. Albert L. Gihon of New York sails for Europe May 20.

Dr. J. H. Oliver has been appointed dean of the Indiana Medical College, Indianapolis.

Contract has been awarded for the enlargement of the Harrisburg (Pa.) Hospital for the Insane.

Sixteen cases of smallpox have been reported in Sayre, Pa., by Dr. R. B. Hammer, medical inspector of the State board of health.

On April 21 the Philadelphia Medical Club entertained Dr. W. T. Bull and Dr. William B. Coley of New York at an honorary dinner.

Dr. Hal C. Wyman, Detroit, Mich., was tendered a banquet at the Hotel Cadillac by the faculty of the Michigan College of Medicine, April 19.

Dr. Thaddeus A. Reamy was given a complimentary dinner, April 28, by his Cincinnati colleagues, in honor of the seventieth anniversary of his birth.

The Health Department, New York City, has leased for ten years, at $10,000 a year, the building occupied until recently by the New York Athletic Club.

An institute for tropic hygiene, treatment of tropic disease, etc., is to be organized in Berlin at once. Professor Kohlstock is mentioned as the probable superintendent.

To facilitate the detection of tubercle bacilli, Besancon and Griffen (*Lancet*) recommend inoculation of the suspected material upon a culture-medium of agar-agar mixed with blood.

The Mayor of Denver has appointed Dr. Thomas J. Carlin, health commissioner and Dr. Frank Dulin assistant inspector, to succeed Drs. William P. Munn and A. K. Worthington, respectively.

The report of the board of managers of the Atlantic Seashore House states that 1367 children were received in that institution last summer and 288 mothers also cared for. The season for 1899 opens June 1.

According to the *Semaine Médicale*, Southern Australia is the first country to compel physicians summoned to attend a case of phthisis to report the case to the authorities, unless it has been previously declared by some other confrère.

Governor Roosevelt has signed the bill recently passed by the legislature, doing away with the time-honored but unwholesome practice of "kissing the book." It requires witnesses, when taking the oath in court, simply to place their hands on the Bible.

The new quarters of the Free Home for Incurable Cancer, New York, at 426 Cherry street, will be opened on May 1. Its resources have been materially increased by recent subscriptions, contributions aggregating $528 having been received in one week.

Since our last mention of medical college commencements (vide Journal, p. 891), the Maryland School of Medicine, Baltimore, has graduated 47, Marion Sims College of Medicine, St. Louis 83, and the College of Physicians and Surgeons, Baltimore 37.

The city of Allentown, Pa., has recently erected a hospital composed of granite and brick, and equipped with all the modern improvements. The building will accommodate thirty patients. The sum of $5000 has been appropriated by the State for its maintenance.

Beth Israel Hospital of New York is to have a new building, to front 78 feet on Jefferson street and 113 feet on Cherry. The structure, to cost about $100,000, is to be fire-proof and provide 121 beds. The seventh or roof floor is to be equipped for a solarium.

We learn that the *Medical Review*, St. Louis, has been sold to Dr. Hanau W. Loeb. Dr. L. T. Riesmeyer, who has been editor of the *Review* for the past six years, makes his "vale" in the last number, and so it is surmised that Dr. Loeb will act as editor as well as publisher.

Dr. J. N. Upshur, Richmond, Va., professor of the practice of medicine in the Medical College of Virginia, has resigned to give his entire time to his practice. The board of visitors asks for applications for the position, which will be filled at the meeting of the board on May 4.

Eleven cases of smallpox have been reported to the Kentucky State Board of Health, at Lebanon Junction, a town of 700 inhabitants. The board has enforced vigorous quarantine measures, as required by law, prohibiting any person from entering or leaving the place, and other restrictions.

A committee has been appointed to study the conditions that prevail in the numerous districts in Russia, Perm, Oufa, Kazan, etc., where goiter is endemic. In Kazan it has been noted that persons subject to goiter are frequently sterile, and if they have children they are deaf and dumb, or dumb, demented or imbecile.

Up to the present time there have been nearly five hundred more deaths reported to the local department of health, Cincinnati, Ohio, than during the corresponding period of last year. The department maintains that this is due mainly to tuberculosis and pneumonia, sequelæ of the influenza epidemic of last fall.

Joseph C. Sibley, congressman, has issued a letter to the people of the Twenty-seventh District of Pennsylvania stating that he will divide his salary for the congressional term as follows: with the hospitals of Bradford, Kane, Oil City and Warren, each $2000, with a like amount for the establishment of an emergency hospital at Franklin, Pa.

UP TO April 20, inclusive, there have been 179 cases of smallpox in New Orleans (172 colored, 7 white), with 3 deaths; 38 cases are still under treatment. Among the patients discharged was a woman in the eighth month of pregnancy who had suffered a confluent attack of variola without having gestation brought to a premature termination.

BY THE will of Mary Dwyer, who recently died in Philadelphia, the following bequests have been made: To the St. Agnes Hospital, for the establishment of a free bed, to be known as the Dwyer bed, $1000; to St. Mary's Hospital $3000. . . By the will of Marie Brunhuter, $100 has been devised to the St. Agnes Hospital and $100 to the Maternity Hospital.

THE LEGISLATURE of Pennsylvania has increased the appropriation to the Hospital of the University of Pennsylvania, and the Jefferson Hospital, from $50,000 to $75,000 each. The original appropriation of $70,000 made to the Medico-Chirurgical Hospital was increased to $120,000. These appropriations have not yet been approved by the Governor (vide JOURNAL, p. 890).

THE SALE of factory-made medicinal tablets at drug stores has been forbidden in Prussia, and the decree is arousing a storm of protests from physicians who find it inconvenient to wait for the druggists to put up a tablet prescription, and claim that their productions are apt to be unsatisfactory. Even the pharmaceutic journals consider the measure ill advised, although it was passed to benefit the druggists.

DR. B. F. NEWCOMER, Baltimore, has given $10,000 to the Hospital for Consumptives in that city, the only institution of its kind in the State. This fund will be used for the purchase of a large building and fifteen acres of ground situated about seven miles from Baltimore. Extensive improvements will be made in building and grounds at an expense of about $50,000, and accommodations will be provided for thirty inmates.

DR. MARTY has just concluded a study of 4,000 criminals in the French army, and his results go to prove that the criminal soldier shows a better bodily development than his fellow soldier with no such atavistic tendency. This better bodily development consists in greater height, weight, chest measurement, muscular power and general condition. The explanation offered by Dr. Marty for this is that it is only the very strong who can survive the wretched conditions of French criminal families.

SURGEON-GENERAL STERNBERG has ordered Major Walter Reed, M.D., to Puerto Principe to investigate the causes of the prevalence of typhoid fever in the Eighth Cavalry, stationed at that point. Major Reed is curator of the Army Medical Museum at Washington and was president of the board which investigated the cause of diseases in the camps of the United States army during the past summer. He is also professor of pathology and bacteriology in the Medical Department of the Columbian University. Dr. Reed's report will be looked for with interest.

THE BOARD of health at Zürich, Switzerland, keeps a number of washable linen overgarments, for the use of physicians attending contagious diseases: scarlet fever, diphtheria, etc. When the physician notifies the department of a case of contagious disease, he adds, "coats desired," and the authorities send the overgarment directly to the house for the physician to put on when he arrives and, on leaving the sick-room he hangs it by the door and it is disinfected by the authorities when the case no longer needs attendance. Lausanne has had a similar arrangement for three years, which has proved very satisfactory.

STATISTICS show that since the development of the bubonic plague in India there have been a total of 250,000 deaths recorded there. These figures are probably approximate, as doubtless many have been concealed from the health authorities. In Bombay presidency, where the most accurate records are kept, there have been 134,000 deaths. The deaths in this district until recently were 1000 per week, but lately it seems to be mitigating on account of the advent of hot weather, when outdoor life is practiced. In the city of Bombay the deaths have fallen from 250 to 100 per day. It is stated that the Haffkine serum has proven to be of distinct benefit in the treatment.

THE PROHIBITION of the sale, to enlisted men, of a highly intoxicating liquor which is found in the wine shops of Manila under a variety of names has been agitated there for some time back. General Otis has referred the subject to his provost-marshal general for suggestions looking to a practical course of action. It appears that the liquor in question is alcohol which is extensively and cheaply made from the refuse of sugar houses. The strong spirit is diluted by the wine venders, colored and flavored to suit, and sold at the price which its name as borne on the label seems to warrant. An old Scotch whisky bottle with a perfect label sells, when filled with the alcoholic mixture, at a higher price than a bottle which does not bear a label.

A COMMITTEE of experts has been appointed by a Paris court to decide the questions as to the maximum length of exposure to the Roentgen rays allowable, the minimum space between the subject and the tube, and whether there is danger from the use of the sector. These questions have been raised in a suit brought against a radiographic specialist to whom a patient was sent by her physician on account of a supposed deep hip trouble. Three exposures of 40, 45 and 85 minutes resulted in a dermatitis and nervous disorders requiring medical care at an expense of nearly $700, and she therefore sued the specialist for $1000. The defense alleged that all the rules of the art had been complied with and that there must have been some idiosyncrasy on her part.

THE NEWSPAPERS of Chicago have announced Dr. Nicholas Senn as a candidate for governor of Illinois on the republican ticket. In an interview Dr. Senn intimates that he has been asked to allow his name to be used, and while he has not said positively that he would acquiesce, his political friends think he will. Evidently republican party leaders are looking upon him as a strong man who would have not only a full party following, but who would get many votes that no other republican could. The *Tribune* says: "There is not a man in the State who would make a better candidate. The Doctor has won reputation at home and abroad as an organizer and a fighter. His fame as a surgeon, what he did in the army, his authorship of many books, his teaching in medical schools speak for themselves." While his admirers in the medical profession would probably dislike to have him leave its ranks for four years, their objections would be overcome by the knowledge that a great State would have for its governor a strong clean man, one who would be above petty partisan jobbery and political trickery, and who could be neither bought nor sold.

Poisoning at San Juan, P. R.—On March 18, a large number of persons connected with the U.S. general hospital at San Juan, Porto Rico, became affected with cholera morbus. Tyrotoxicon was detected chemically in the milk. Forty-eight persons were more or less severely affected, including all classes connected with the hospital. The symptoms were severe colic, vomiting, diarrhea, marked depression of the vital powers and dilatation of the pupils. With one exception all those affected had used the milk-supply of that day, and many had partaken of nothing but milk. The symptoms in the exceptional case could be accounted for satisfactorily in another way. The dairy was inspected and found to be in good condition; but the milk was not subjected to cooling until it reached the city by wagon, about an hour and a half subsequent to milking. The proprietor of the farm promised to make arrangements for cooling the milk prior to transportation. According to Major J. Van R. Hoff, chief surgeon of the department, it is the custom of the country to boil all milk as soon as received; otherwise it soon becomes spoiled on account of scarcity of ice. The commanding officer of the hospital was advised to sterilize all his milk-supply instead of trusting to cold-storage.

Operations Under Cocain.—In his surgical clinics before the students of the Medical Department of Tulane University, New Orleans, La., Dr. Rudolph Matas, occupying the chair of surgery in that institution, performed extensive operations under cocain analgesia, using Corning's method. Recently a modified Pirogoff amputation was done, the case being one of a frost-bitten Chopart stump. The great sciatic was exposed a little above the popliteal space and injected directly with cocain solution. Injections were also made in the course of the internal saphenous nerve in the lower third of the leg. The solutions varied in strength from .2 per cent. (Schleich formula) to 1 per cent. The operation was absolutely without pain. Earlier in the session the ring and little fingers of one hand were removed for epithelioma, by the same method. The median, ulnar and musculospinal nerves were exposed in the vicinity of the elbow-joint and injected with cocain solution. The same solutions were employed as in the foot case, in both cases a constrictor was applied above the cocainized area; the result was equally good. These and other cases are to be reported in full in the future.

Increased Resistance to Infection After Splenectomy.—Guinea-pigs inoculated with diphtheria fifteen to thirty days after removal of the spleen, survived forty-seven hours on an average, the control animals thirty-six; others inoculated with anthrax, fifty-one hours, the control animals fifteen. With cultures of the pyocyaneus, only one out of fourteen died, while eight of the normal control animals died and one barely survived. Inoculated in the abdomen, four out of eighteen splenectomized animals died, and thirteen out of the fifteen control animals.—*Ztft. f. Hyg. u. Inf.*, xxix, 3.

Association News.

Section on Surgery and Anatomy.—The program of this Section, for the Columbus meeting, includes the following papers:

1. Address of Chairman: Cicatricial Stricture of the Esophagus and its Surgical Treatment. W. J. Mayo, Rochester, Minn.

2. Etiology and Pathology of Gall-Stones. A. L. Wright, Carroll, Iowa.

3. Considerations on the Diagnosis and Treatment of Gall-Stones. Joseph Ransohoff, Cincinnati.

4. Observations on the Treatment of Gall-Stones. A. J. McCosh, New York City.

5. Surgery of the Common Bile-Duct. W. E. B. Davis Birmingham, Ala.

6. Appendicitis as a Cause of Inflammation of Right Ovary and Tube. A. J. Ochsner, Chicago.

7. Complications and Sequelæ of Appendiceal Abscess. J. B. Deaver, Philadelphia.

8. Bad Methods in Appendicitis. Robert Morris, New York City.

9. Presentation of the Operative Methods in Appendicitis. Joseph Price, Philadelphia.

10. Anatomy and Biology of the Processus Vermiformis. G. G. Eitel, Minneapolis.

11. Enucleation of the Mucosa of the Appendix. C. S. Hamilton, Columbus, Ohio.

12. Diagnosis and Treatment of Appendicitis, with Report of 100 Cases. W. J. Means, Columbus, Ohio.

13. Further Experience with Continuous Submersion in Treatment of Infected Wounds. F. J. Hodges, Ashland, Wis.

14. Desmoid Fibroma of the Abdominal Wall and Plastic Operation for Successful Repair of Defect Caused by Its Removal. A. I. Bouffleur, Chicago.

15. Wounds Produced by the Mauser Pistol. (German.) J. D. Griffith, Kansas City.

16. Observations on Prevention of Surgical Shock and Collapse, Based on Clinical and Experimental Evidence. George W. Crile, Cleveland.

17. Extrophy of the Bladder. Dudley P. Allen, Cleveland.

18. Extrophy of the Bladder. C. A. Wheaton, St. Paul.

Discussion of the papers on "Extrophy" opened by Rudolph Matas of New Orleans.

19. Tuberculosis of Fascia. J. E. Moore, Minneapolis.

20. Surgery in Knee Joint Tuberculosis. A. F. Jonas, Omaha.

21. Two Novel Cases of Surgery of the Trachea: 1. Stricture of the Trachea Successfully Removed by Operation. 2. Successful Removal of a Diaphragm in the Trachea Following Cut Throat and Producing Aphonia. W. W. Keen and W. S. Jones, Philadelphia.

22. Longitudinal Silver Wire Suture in the Closure of Wounds. M. L. Harris, Chicago.

23. Laminectomy, with Report of Cases. J. C. Monroe, Boston.

24. Pancreatic Cysts. L. L. McArthur, Chicago.

25. Splenectomy in Primary Splenomegalia. Harvey W. Cushing, Baltimore.

26. Treatment of Gunshot Wounds of Abdomen. J. C. Oliver, Cincinnati.

27. Some Unusual Symptoms of Aneurysm. Carl Beck, New York City.

28. Femoral Artery and Vein, Their Destruction Without Loss of Leg; Report of Case. B. Merrill Ricketts, Cincinnati.

Discussion of the two papers on "Aneurysm" will be opened by Edmond Souchon of New Orleans.

29. Surgical Treatment of Acute Peritonitis. A. F. House, Cleveland.

30. Resection of Rectum by Perineal Route. F. H. Wiggin, New York City.

31. Phantom, Semilunar and Annular Strictures of Rectum; Their Diagnosis and Radical Treatment Under Direct Inspection. Thos. C. Martin, Cleveland.

32. Some Complications Resulting from Rectal Operations. W. M. Beach, Pittsburg.

33. Excision of Rectum for Malignant Disease, Without Sacral Resection. N. Senn, Chicago.

34. Colostomy. J. A. Wyeth, New York City.

35. Intestinal Fistulæ. J. B. Murphy, Chicago.

36. Contribution to the Subject of Operative Interference in Perforating Typhoid Ulcer. C. A. Powers, Denver.

37. Influence of Age, Sex and Race in Surgical Diseases. W. L. Rodman, Philadelphia.

38. Surgical Treatment of Abscess of Lung. D. L. Fairchild, Clinton, Iowa.

39. Radical Cure of Inguinal Hernia in the Female, with Report of 100 Cases. W. B. Coley, New York.
40. Operation for Undescended Testicle and Congenital Hernia. A. D. Bevan, Chicago.
41. Typic Operation for Radical Cure of Inguinal Hernia and Atypic Ones. A. H. Ferguson, Chicago.
42. Hernia of Diaphragm, with Report of Cases. Floyd M. McRae, Atlanta, Ga.
43. Some of the Rare Forms of Hernia and Their Radical Treatment. R. Harvey Reed, Rock Springs, Wyo.
44. Bassini Operation without Buried Suture, for Radical Cure of Inguinal Hernia. E. H. Lee, Chicago.
45. Acute Gonorrhea: Its Prevention and Cure. Thos. Grant Youmans, Columbus, Ohio.
46. Emergency Surgery with Especial Reference to Work in the Homes of the Poor. R. C. Dugan, Eyota, Minn.
47. Treatment of Burns. M. F. Lee, Columbus, Ohio.
48. Traumatic Shock. Liston H. Montgomery, Chicago.
49. Would Surgery Suffer if Iodoform was Abolished? E. C. Brush, Zanesville, Ohio.
50. Detail in Cleft Palate Operations. S. L. McCurdy, Pittsburg.
51. Procedure of Election in Certain Cases of Enlarged Prostate. J. H. Dunn, Minneapolis.
52. Some Observations on the Bottini Operation for Prostatic Hypertrophy. Ramon Guitéras, New York City.
53. Automatic Drainage. William Jepson, Sioux City, Iowa.
54. Delayed and Non-Union of Fractures. Haldor Sneve, St. Paul.
55. Notes on Some of the Sequelæ Following Reducible and Irreducible Dislocation at the Humero Scapular Joint, and Their Treatment. Thos. H. Manley, New York.
56. Trephining for Tetanus. Emory Lanphear, St. Louis.
57. Reports of Some Cases of Brain Surgery. Carl Wagner, Chicago.
58. Mammary Cancer. J. H. Letcher, Henderson, Ky.
59. Unusual Phenomenon in a Case of Cancer of the Cardiac End of Stomach. C. D. Spivak, Denver.
60. Surgery of Gangrene of the Lungs. A. H. Levings, Milwaukee.
61. Use of Distilled Water and Boiling for the Sterilization of Surgical Instruments. W. K. Rogers, Columbus, Ohio.
62. Use of Dental Engine in Surgery. W. G. A. Bonwill, Philadelphia.
63. The Division Field Hospital. S. K. Crawford, Chicago.

Public Health.

Detroit Health Report.—For the week ending April 22: Total number of deaths 125; under 5 years 32. Total number of births, female 37, male 41. Contagious diseases: diphtheria, last report 7, new cases 4, recovered 7, none dead, 4 now sick; scarlet fever, last report 20, new cases 7, recovered 15, none dead, 12 now sick.

Ventilation of Rooms.—Dr. Caslaing of Poitiers has been awarded a prize by the French Academy of Science for his suggestion that two upper panes in each window be replaced with double panes a short distance apart, the outer pane leaving a narrow opening at the bottom as it does not reach quite to the sash below and the inner pane leaving a similar opening at the top as it does not reach quite up to the top of the sash.

Decadent Natality in Brazil.—Bulhoes Carvalho, in an urgent appeal for the sanitation of Rio Janeiro, to exterminate the foci where yellow fever breeds, calls attention to the decreasing natality in the indigenous races and to the importance of introducing foreign blood to prevent further decadence of the race. Immigration is now turned away from Rio Janeiro by apprehensions in regard to yellow fever. The Argentine Republic profits by this state of affairs and the "beneficent influence of Italian immigration has already had a marked effect on the natality statistics, in that country from the crossing of the two races."—*O Brazil Méd.*, March 8.

Vaccination of Army Recruits.—The regulations affecting the vaccination of recruits accepted for the army have recently been changed by orders from the adjutant-general's office. Prior to April 18, 1899, recruits were not examined as to vaccination until they arrived at a rendezvous, regiment or post where the army medical officer on duty performed the necessary operations. The orders issued on that date require the vaccination of all accepted recruits, not already protected, before leaving the recruiting station for a rendezvous, regiment or post, and as medical men under salary from the government may not be available for this work, provision is made for the payment of 50 cents per case to civilian physicians. Vaccin virus is supplied by the surgeon-general of the army. This change in the regulations is no doubt due to the prevalence of smallpox in the vicinity of many of the recruiting stations now open for the purpose of increasing the army to the maximum strength authorized by the last Congress.

Can Not Compel Vaccination.—The supreme court of Illinois reiterates, in the case of People vs. Board of Education, that a rule adopted by the State board of health compelling the vaccination of children as a prerequisite to their attending the public schools is unreasonable where smallpox does not exist in the community, and there is no reasonable cause to apprehend its appearance; that the power to compel the vaccination of children as a prerequisite to their attending public schools can only be derived from the general police power of the State, and can only be justified as a necessary means for preserving health. Besides this, the supreme court now further declares that it can not hold that in the preservation of the public health, under the police power of the State, a municipality invested with police power may invoke such power for the purpose of invading the individual liberty of citizens of the community. Neither the city, nor its board of health, nor the board of health of the State of Illinois, the court maintains, has power to require compulsory vaccination except in the public contingency before stated.

Malignancy of Malarial Infection in Cuba.—J. M. Espada (*Revista de Med. y Cir.*, March 25) draws a startling picture of the malignancy of paludism in Cuba, with which, it states, the ravages of yellow fever, dysentery, typhus and many other more dreaded diseases, are not to be compared. Yellow fever generally respects the natives, does not attack every one, and is not fatal for more than 20 to 25 per cent., while one attack ensures immunity for life. Paludism is very different. No one in a malarial locality escapes, and it recurs again and again, opening the gates to other enemies and assisting them in their invasion. The mortality from paludism is scarcely 1 per cent. on the records, but the subjects succumb to other diseases on account of the pre existing malarial diathesis. Children born of parents whose vitality is lowered by chronic paludism are deprived of their birthright of the "biologic fluid." Treating persons who live in a malarial locality is like trying to fill a sieve; they are cured, but the cure has to be soon repeated, each attack predisposing to another and more severe, unless there is a complete change of residence. The article concludes with a plea for energetic prophylactic measures, and the editorial in the preceding issue is an arraignment of the Americans for not having already commenced the task of the sanitation of Havana as promised and expected. "Disinfecting and painting a few houses and filling in a few holes in the streets will not reduce the death-rate."

Laboratory Committee: American Public Health Association.—At the meeting of this association, in September, 1898, it was decided to organize a standing committee composed of those actively engaged in laboratory work in connection with health boards. During the past few years, the chief development in sanitary science has been in connection with laboratory work, especially bacteriologic, so that every health board of importance now requires a special laboratory staff. Thus, within a few years, the number of laboratory men actively engaged in hygienic work and research has increased a hundred fold. The necessity of some central organization which could further the development of sanitary laboratory work in both scientific and practical directions, seems very obvious, and it would be of the utmost value to health boards if arrangements could be made by which their laboratory representatives could meet with those of other boards. It is hoped that as many as possible of the sanitary laboratories on this continent will be represented on the laboratory committee, by some one who will be able to attend the meetings of the association. The intention of this committee is not to overlap or interfere with the work of other committees, but as far as possible to help them in their work, and it is desirable that members of other committees engaged in laboratory work should be regarded as ex-officio members of the laboratory committee. At the meetings of the association there is a practical difficulty in introducing papers and discussions of a technic nature into the general proceedings, and those matters which most interest laboratory men, must be essentially of a technic nature. It has, therefore, been decided to hold sessions of the committee during the day or two preceding the general meeting, or in spare time between the regular sessions. A temporary organization has been effected and the first general session of the committee will be held on Oct. 30, 1899, the day previous to the opening of the general meeting in Minneapolis. Professor Welch of Baltimore has kindly consented to be honorary chairman. The work of arranging the program has been undertaken by Dr. F. F. Westbrook of Minneapolis, who, in cooperation with Dr. Probst, general secretary, will decide which papers are of a technic nature, more suited to laboratory committee sessions than for general meetings. Dr. A. Gehrman of Chicago has undertaken the editing of the proceedings and publication of the minutes of the meeting. The lines of work proposed, is as follows: 1. Original short papers on laboratory work and research. Summary reports of work accomplished during the year in the various laboratories. 2. Cooperative investigations: as on disinfection, water analysis, etc. 3. Short summaries of progress during the year in special lines of work. Those engaged in laboratory work bearing upon hygiene are eligible as members, and those wishing to become members will kindly address the chairman, Dr. Wyatt Johnston, 74 Shuter St., Montreal, Canada.

Health Reports.—The following cases of smallpox, yellow fever and plague have been reported to the surgeon-general of the United States Marine-Hospital Service for the week ended April 22, 1899:

SMALLPOX—UNITED STATES.

California: Los Angeles, March 25 to April 8, 4 cases, 1 death.
Colorado: Denver, March 18 to April 1, 9 cases.
District of Columbia: Washington, April 1–18, 17 cases.
Florida: Jacksonville, April 8–15, 1 case.
Indiana: Elmira, April 8–15, 2 cases.
Kentucky: Louisville, April 1–13, 26 cases, 2 deaths.
Louisiana: New Orleans, April 1–15, 23 cases, 1 death; Shreveport, April 19, 1 case imported from Mexico.
Massachusetts: Boston, April 8–15, 5 cases.
Michigan: Benton Township, reported present; Kalamazoo, April 1–15, 5 cases; Watervliet Township, reported present.
New York: Buffalo, April 20, 1 case; Elmira, April 8–15, 1 case.
Ohio: Cincinnati, April 1–14, 38 cases, 1 death; Cleveland, April 8–15, 13 cases.
Pennsylvania: Johnstown, April 8–15, 1 case; Pittsburg, April 8–15, 3 cases.
Rhode Island: Providence, April 20, 1 case.
Virginia: Alexandria, April 15, 1 new case; Newport News, April 8–13, 10 cases; Norfolk, April 7–12, 23 cases; Portsmouth, April 7–12, 18 cases, 1 death.
Washington: Spokane, April 1–8, 2 cases.

SMALLPOX—FOREIGN.

Belgium: Ghent, March 25 to April 1, 1 death.
Brazil: Bahia, March 11–18, 3 cases, 1 death.
China: Hongkong, February 25 to March 4, 2 cases 1 death.
Colombia: Barranquilla, March 25 to April 1, 2 cases.
Egypt, Cairo, March 11–18, 1 death.
England: London, March 18–25, 1 case.
Formosa: Tamsui, January 1 to February 28, 24 cases.
Mexico: Mexico, April 1–9, 1 case, 6 deaths.
Russia: Moscow, March 18–25, 22 cases, 8 deaths; Odessa, March 25 to April 1, 5 cases; Riga, January 1–31, 15 deaths.
Turkey: Constantinople, March 13–20, 8 deaths; Smyrna, March 5–12, 1 death.

YELLOW FEVER.

Mexico: Vera Cruz, April 6–13, 2 cases.

PLAGUE.

Formosa; Tamsui, January 1–31, 56 cases, 35 deaths; February 1–28, 126 cases, 84 deaths; February 22 to March 8, 107 cases, 63 deaths.

Army Medical Reports From Manila.—Among the first medical reports received at the surgeon-general's office from Manila, Philippine Islands subsequent to the outbreak of hostilities on February 4 last, was one dated February 15, from the brigade surgeon of the First Brigade, First Division, Eighth Army Corps, Major George Franklin Shiels. It refers to the list of casualties forwarded, and states that the progress of the wounded is satisfactory, and the general health of the command excellent. The excitement of the campaign appears to have largely done away with many of the minor ailments which formerly added to the number at daily sick call. Another brigade surgeon, Major F. J. Adams, surgeon of the First Montana Infantry, commenting on the condition of his command, the First Brigade of the Second Division, remarks that there has been a notable falling off in the sick list since hostilities commenced. Prior to February 4 the three regiments of Surgeon Shiel's brigade were quartered in various buildings. The First Washington Infantry was widely scattered, in the palace of the Archbishop, in a cigar factory, Paco, and in dwelling houses in the Calle Marcelino, the Calle Real and the Calle La Paz, all well lighted and ventilated. Its hospital at 66 Calle Nozelada had a capacity of 15 beds. Two officers and 64 men were on the sick list with the regiment, and 3 officers and 54 men were under treatment in the Reserve or other hospitals. Among the cases were 2 of smallpox and 25 of mumps. The First Idaho Infantry occupied a Nipa building known as the *Cock pit*, Paco, and Nipa barracks on the Calle Real, Malate. It had no regimental hospital, but on February 1 had 60 men sick in quarters and in the Reserve Hospital. The First California Infantry were somewhat crowded in the Cuartel de Infanteria and Cuartel de F. Fortin, which, however, were well lighted and ventilated. This regiment had a well-appointed hospital of forty beds on the Calle Real Ermita. Its sick numbered 101, of whom 26 were in quarters or regimental hospital, and 75 in the Reserve or other hospitals. The water-supply of all the regiments was reported as sufficient for every purpose, and the bathing facilities as excellent; the food-supply good, sufficient and well prepared, and the kitchens clean and well managed.

Major George H. Penrose, brigade surgeon of the Second Brigade, First Division, under date of March 2, reported that on the night of February 4 his brigade, which consisted of the Fourteenth U. S. Infantry, two battalions of the First North Dakota Infantry, one battalion of the Fifty-first Iowa Infantry, six troops of the Fourth U. S. Cavalry and one battery of the Sixth U. S. Artillery, was called into action. At 4 A.M. next day the fight at Cingalong road began, and by nightfall the town of Pasay was occupied. During the month the troops held a line of trenches south of the town. They were sheltered in native huts and improvised structures consisting of bamboo frames and banana leaves. Most of the organizations had their rations cooked in the city and sent out to them by rail. They had plenty of fresh beef and fresh bread. The supply of water for drinking was boiled before being used, as it was derived from shallow wells. The men on the right of the line bathed in the sea; those toward the left had an ample supply of water from the wells, and shower-baths were constructed by many of the companies. The command was amply supplied with medicines, hospital stores and surgical dressings. All seriously sick men were sent to Manila for care and treatment. Major Penrose compliments the hospital corps for its organization and discipline. "The bravery of these men," he says, "has been the subject of a special report." He also testifies to a decrease in the sick list since the beginning of hostilities. The town of Pasay was found to be infected with smallpox, but although occupied by our troops from February 4 to March 2, no case had been reported among them.

The report of Lieut.-Col. H. Lippincott, chief surgeon Department of the Pacific, dated Feb. 23, 1899, was accompanied by casualty lists covering the period from the outbreak to February 11. Although brief and couched in general terms it gives a satisfactory view of the condition of affairs during this week of continuous fighting:

> For many days we were in expectation of an attack on our lines, and this came at about 9 P.M. on the 4th and lasted till the morning of the 7th. Although the firing was active in front of several parts of our lines, nearly all wounds were received after midnight of the 4th and later in the month. A few of the mortally wounded arrived at the hospital before death took place. Those not mortally wounded gave every sign of hope of recovery on arrival. All were quickly brought in and dressing went on in order and with proper rapidity. They received instant attention on the field, for although the attack was sudden, and perhaps not looked for on that night, everything had been done in advance to secure the most thorough first aid in the event of an engagement.
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> The division surgeons and the medical officers of regiments were alert, and everything necessary was in readiness for immediate use. The ambulance company was reassembled, ambulances thoroughly equipped and the men served with travel rations. A full supply of first-aid packages, litters, lanterns, water, beef extract, dressings, stimulants, etc., were at hand, and the ambulances reinforced by carriages and carromatas. I am able to say that our department was in fine condition at the moment of the first fire, and continued to improve from day to day, so that there never was a delay in securing excellent attention for the wounded. The hospitals, too, were in readiness—the first Reserve Hospital (Crosby's) being used for all the severe cases and many of the slight ones; a few minor cases, however, were sent to the second Reserve Corps Hospital (Keefer's), while a number of slight cases found their way to the regimental hospitals.
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> The men of the Hospital Corps were properly equipped, and every man understood the part he was expected to take days before the attack, and there was the greatest enthusiasm among the men in performing the duty assigned to them.
>
> The wounded are doing well at this date. They have every reasonable comfort and the prospect for their ultimate recovery is very encouraging.
>
> Our supplies have been so liberally granted us, that not a wish has been expressed that I have not been able to meet, and for all this we are grateful to the surgeon-general.
>
> It is a matter of congratulation that first-aid instruction had been given for some time, systematic teaching having been instituted in the regiments, so that the corps men were quite skillful in their first aid work. The distance the men had to be taken before arrival at the first Reserve Hospital was from two to six miles, and this distance was covered quickly, although with every due consideration for the wounded.
>
> The government ambulances worked well, but we should have more of them, only eight were available. However, with the other carriages we managed very well. Some of the wounded were taken in box cars from Caloocan, properly furnished with cots, blankets, pillows, etc., and on arrival at the depot in Manila they were carried in ambulances to the hospitals. Many of the slighter cases have returned, and others will soon do so. Thus far there have been no primary amputations excepting a few fingers.

Bed Sheet Stretcher.—Dr. Jacobsohn exhibited at a recent meeting of the Verein für innere Medicin, an apparatus for preventing the folding and rumpling of the sheets of bedridden patients. The apparatus consists of an iron frame, the foot plank being removable. The side planks are inserted into the hems of the sheet and the foot plank is then adjusted. The sheet can be tightened by screws.—*Deutsche Med. Woch.*, March 16.

Book Notices.

Nervous and Mental Diseases.—By ARCHIBALD CHURCH, M.D., Professor of Clinical Neurology and of Mental Diseases and Medical Jurisprudence in the Northwestern University Medical School, Professor in the Chicago Policlinic, etc., and FREDERICK PETERSON, M.D., Clinical Professor of Mental Diseases in the Woman's Medical College, New York; Chief of Clinic, Nervous Department, College of Physicians and Surgeons, New York.

This is really two separate works. The authorship is a double, though not a joint one. This fact is stated in the brief preface; the idea of the authors is simply to make a comprehensive general text book covering the whole field of nervous and mental disorders in such a way as to afford the student or practitioner a fair general view of these affections as they are recognized at the present time. In this, both authors appear to have succeeded, and their work will be accepted as a useful and satisfactory text-book.

There are very few points calling for any criticism of the work as designed for its purpose. The attempts to lay down absolute diagnostic distinctions between paresis and brain syphilis and neurasthenia is in accordance with common usage, but it always seems to us as useless and liable to confuse or lead to false diagnosis in some cases. All these are protean in their symptoms and only close, prolonged observation can separate them, if at all, and the distinction of pseudo-paresis and paresis has only one possibly valid support, the effect of specific treatment, and that is on the pure assumption that such treatment is invariably useless in paresis. This, and one or two minor matters, are all to which we can take exceptions.

The book is handsomely illustrated, clearly and interestingly written, and should meet with its merited success.

Gout, Its Pathology and Treatment. By ARTHUR P. LUFF, B.Sc., F.R.C.P. Physician in Charge of Out-patients, and Lecturer on Forensic Medicine at St. Mary's Hospital. New York: William Wood & Co. 1899.

The first part of this book is mainly a reproduction of the Goulstonian Lectures on "The Chemistry and Pathology of Gout," delivered in 1897. The second part discusses the causes, pathology, diagnosis and prognosis. The third is the important part of the book, in which the author gives the results of a large number of experiments made by himself to disprove many of the old theories believed in as to the cause of gout. Especially, he attempts to disprove the loss of alkalinity of the blood, as a cause, and shows that not only is the blood normal as to this condition, but that if it were not so it would not be conducive to the solubility of the sodium biurate. While he apparently shows by his experiments the untenableness of the older theories, he does not very satisfactorily give us anything in their stead. He discusses the effect of different foods and drinks, both in their relation to cause and cure, as also the various mineral waters in relation to their curative effects. While the profession in this country is not as much interested in this disease as is the profession in England, the experiments of the author will be of interest to those who are making a study of like affections here.

Progressive Medicine. A Quarterly Digest of Advances, Discoveries and Improvements in the Medical and Surgical Sciences. Edited by HOBART AMORY HARE, M.D., Professor of Therapeutics and Materia Medica in the Jefferson Medical College, Philadelphia, etc., Volume i, March, 1899. Philadelphia and New York: Lea Bros. & Co. 1899.

The object of the editor, which is to present in a condensed form the latest accepted facts and knowledge in each department of medicine, is certainly a laudable one. With all the original research, scientific investigation, experimental and theoretic, that is being made; with the multiplicity of original papers full of ideas, which may be new or old, tenable or untenable, and with all the mass of literature that is being published, there is certainly need of having all this condensed, the wheat separated from the chaff, and put in such a form that we may find out just where we stand. The different departments have been placed in the hands of those who are well qualified for the particular part given them, and the work has been well done. They have not only condensed and made accessible all the accumulated knowledge of the last few years, but each one has analyzed and stamped that which is presented with his own personality and views.

The subjects in this first volume are "The Surgery of the Head, Neck and Chest", J. Chalmers Da Costa; "Diseases of Children," Alexander D. Blackader; "Pathology," Ludvig Hektoen; "Infectious Diseases, including Croupous Pneumonia," William Sidney Thayer; "Laryngology and Rhinology," A. Logan Turner; and "Otology," Robert L. Randolph.

Transactions of the American Pediatric Society. Edited by Floyd M. Crandall. Vol. x. Cloth. Pp. 226. Illustrated. New York: *Archives of Pediatrics.* 1898.

Besides the minutes of the tenth annual meeting, held at Cincinnati, Ohio, June 1 to 3, 1898, this volume contains an index of volumes one to ten, a list of presidents, officers, members and meeting-places of the society, also papers presented at the tenth annual session, on the following subjects: "The Scope and Limitations of the Hospitals for Infants," "The American Pediatric Society's Investigation on Infantile Scurvy in North America," "Should All Milk Used for Infant-Feeding be Heated for the Purpose of Killing Germs? If so, at What Temperature and How Long Continued?" "Three Cases of Amaurotic Family Idiocy," "Significance of Fever Following Operations for Pyothorax," "Irrigation by Submersion in the Treatment of Empyema," "Albuminuria as a Lithemic Manifestation in Early Life," "Death from Hemoptysis of a Child Aged 3 Years," "Urine of Healthy Infants and Children," "Short Reports of Unusual Cases," "Congenital Malformation of the Bile-Duct," "Seven Cases of Laryngeal Diphtheria Treated with Antitoxin, one death," "Exanthem of German Measles," "Dermoid Cyst Over Center of Large Fontanelle," "Heart-Stroke in Infants," "Fatal Hemoptysis in an Infant 2 Years Old," "Acute Nephritis of Malarial Origin," "Remarks on Classification of Anemias of Infancy, with Report of a Severe Case," "Melanosis Lenticularis Progressiva," "Sarcoma of Kidney in an Infant 9 Months Old," "Two Cases of Prolonged Pneumonia," "Report of a Case of Measles," "Teratoma of Sacrum and Coccyx," "Cases of Tubercular Meningitis with Peculiar Respiratory Phenomena."

Text-Book of Mechano-Therapy. By Axel V. Grafstrom, B.Sc., M.D. Pp. 40. Illustrated. Price $1 net. Philadelphia: W. B. Saunders. 1899.

The author's endeavor in this volume is to present the subject in a condensed form, especially for the use of medical students and trained nurses. The various chapters are entitled, "Introduction, Classification and Definitions," "Effect of Movements," "Gymnastic Postures," "Medical Gymnastics," "Massage," "General Massage Treatment," "Diseases of Respiratory Organs," Movements and Cardiac Diseases," "Mechano-Therapy Used in the Treatment of Rheumatism and Gout," "Diseases of Urinary Organs and Their Treatment by Mechano-Therapy," "Chronic Constipation," "A Short Review of Mechano-Therapy as an Agent in Treatment of Diseases of Children," "A Few Remarks Concerning the Use of Mechano-Therapy in Connection with the Diseases of the Nervous System," "Local Treatment." The subjects of uterine and ocular massage have been omitted, as the author considers that they belong more especially to specialists.

Essays for Students.—By Stephen Paget, F.R.C.S., Surgeon to the West London Hospital, Surgeon to the Eye and Throat Department of the Middlesex Hospital. New York: William Wood and Company, 1899.

These essays or lectures were prepared for students, and are more or less elementary. There are four essays, the subjects being "Strangulated Hernia," "Cancer of the Breast," "Some Run Over Cases," and "Elements of Aural Surgery." The three former are made up of reports of cases, and the lessons to be deduced from them. The last, which takes up nearly half the pages of the book, is the most important of the series, and covers practically the whole range of aural disease.

Epitome of the History of Medicine. By Roswell Park, A.M., M.D., Professor of Surgery in the Medical Department of the University of Buffalo, etc. Second Edition. Illustrated. Pp. xiv—370. Extra cloth, $2 net. Philadelphia: The F. A. Davis Co. 1899.

A second edition in so short a time proves that the excellent work of Dr. Park has been appreciated by the profession. The very few errors which appeared in the first have been eliminated in this edition. An additional chapter has been made by the insertion of the oration on "Iatrotheurgic Symbolism," which was delivered before the Maine Medical Association last June.

Retrospect of Practical Medicine. Edited by James Braithwaite, M.D., London, and E. F. Trevelyan, M.D., London, B.Sc., M.R.P.C. Volume cxviii. Cloth. Pp. 436. New York: G. P. Putnam's Sons. 1899.

This volume is the American edition of Braithwaite's "Retrospect," published in London, and already noted in the Journal (p. 383), the edition by the American publishers being on a better paper and of much more tasty binding, which makes it an ornament to any physician's library.

Transactions of Minnesota State Medical Society, 1898. Cloth. Pp. 180. Illustrated. St. Paul: *Northwestern Lancet.* 1898.

This volume has to do with the thirteenth annual meeting held at St. Paul, June 15, 1898, and in addition to the minutes, contains the various papers read at this session, also the constitution and by-laws, a roster of members and a list of the presidents of the society from its beginning. The volume is to be criticised in that it contains no index or table of contents.

Necrology.

Thomas Wister Flanner, M.D., died in Philadelphia, April 18. He was a graduate of the University of Pennsylvania, and a commander in the United States Navy during the Civil War, under Admiral Porter. It is stated that his death was primarily due to a wound received in the head during the bombardment of Arkansas Post in January, 1863. He was a native of North Carolina, and for a time practiced his profession in Springfield, Ill.

R. H. Plummer, M.D., San Francisco, Cal., died April 23, after an illness of two weeks with meningitis. The Doctor was a graduate of the Toland Medical School, 1866, and for twenty years was associated with Dr. L. C. Lane, founder of the Cooper Medical College, San Francisco. He was chairman of the entertainment committee of the American Medical Association at its meeting in San Francisco in 1894. He also held the professorship of anatomy in Cooper Medical College.

John Richard Conway, M.D., College Physicians and Surgeons, New York, 1883, died at his home in New York City, April 22, aged 36 years. In 1884 he became an interne of Bellevue Hospital, and later on was a visiting surgeon of the Charities Hospital, Ward Island, N. Y.

Joseph H. Mooney, M.D., Kansas City, a member of the faculty of the College of Physicians and Surgeons of Kansas City, Kan., died April 19, from abscess of the lungs. The Doctor was born in Wheeling, W. Va., forty-seven years ago.

Alonzo F. Steigers, M.D., late assistant librarian in the office of the surgeon-general of the army, died April 12. He was 55 years old and unmarried. Dr. Steigers entered the Union Army as a surgeon during the Civil War, and later became a contract surgeon in the regular army. He held this position a number of years and saw service in several Indian outbreaks. He was shot in a conflict with Indians in Nevada and subsequently lost an arm from the wound. He resigned his position in the army about seven years ago to accept the office which he held at the Army Medical Museum at the time of his death.

Park Beeman, M.D., Sidney, Ohio, died at Carysville, April 12 . . Charles Collin, M.D., Middletown, N. Y., April 15. . . Ruel Keith Compton, M.D., Pomonkey, Md., April 14, aged 72 years. . . C. D. Dake, M.D., Belleville, Ill., April 22, aged 50 years . . William M. Kemp, M.D., Bellevue, class of 1870, of New York City, April 22, aged 52 years . . Henry F. Kretz, M.D., Munich, 1894, of New York City, died April 23, aged 55 years . . C. W. Leabo, M.D., Greenridge, Mo., April 19, aged 46 years . . Selden J. Mudge, M.D., Olean, N. Y., April 19, aged 48 years . . Arnold Naudain, M.D., Univ. Pa., 1852, of Tremont, New York City, April 16, in his 70th year. . . W. M. Patterson, M.D., Campbell, Texas, April 8, aged 68 years . . William G. Stewart, M.D., Western Reserve Univ., Cleveland, Ohio, 1874, Newville, Pa., April 14, aged 59 years.

Resolutions on Death of W. W. Van Arsdale (vide Journal, April 1, p. 733).—The following memorial notice was adopted by the New York County Medical Association at its stated meeting on April 17, and ordered published in the medical journals:

Resolved, That in the death of Dr. W. W. Van Arsdale the New York County Medical Association has lost one of its most accomplished members. In addition to a thorough academic education, Dr. Van Arsdale passed successfully through the long course of study required at the University of Leipsic in Germany, from which institution he graduated with honors, and afterward served the required term of service in the great hospital of that city as pupil of, and assistant to, the distinguished Professor Thiersch. Returning to his native country he located in New York City, became connected as an assistant to the chair of surgery in the New York Polyclinic Medical School and Hospital in the early days of its organization, and served with such faithfulness and proficiency that he gradually rose to the professorship of surgery, which position he filled with entire satisfaction and held at the time of his lamented death. He was also assistant surgeon to the New York Cancer Hospital. For four years before his death he had been assistant visiting surgeon to Mount Sinai Hospital, where his conscientious and thoroughly scientific work was fully appreciated, and where his loss will be keenly felt.

Dr. Van Arsdale was twice elected chairman of the Section on Surgery in the New York Academy of Medicine, and was an earnest working member of the New York Surgical Society. He contributed many valuable papers upon scientific subjects to the various medical journals, and was justly considered one of the clearest writers of his day upon surgical topics.

John A. Wyeth, M.D., Chairman,
Francis J. Quinlan, M.D., } Committee.
A. Ernest Gallant, M.D.,

New Operation for Gastroenterostomy.—Dr. Sholita reports (*Vratch*, No. 1, Vol. xx, 1899) two successful cases of gastroenterostomy performed according to a new method devised by Professor Podrez in 1898. The idea is based on the well-known fact that a stitch made intentionally or unintentionally through the entire thickness of the wall of stomach or intestine produces a fistulous opening larger than the original stitch. The *modus operandi* is very simple. Having approximated the desired loop of the intestine to the anterior or posterior wall of the stomach, the needle, threaded with stout silk, is passed into the stomach and brought out at a distance of two centimeters; the same needle is introduced into the loop of the intestines and brought out at a distance of two centimeters, opposite the one made in the stomach. The two ends of the thread are then tied tightly. A similar stitch is made over the first one, but in an opposite direction. To insure the adhesion of the serous coats, four Lembert sutures are added, one at each corner of the cross like figure. After a few days, when the adhesion of the serous membrane is complete, the whole area enclosed between the stitches forms a large rhombic opening. Professor Podrez carried on his experiments nine days, and in each instance he found the opening established on the fourth day. The cases of Dr. Sholita are, he claims, the first on record where this method was applied to human beings. The entire operation is performed in a few minutes.

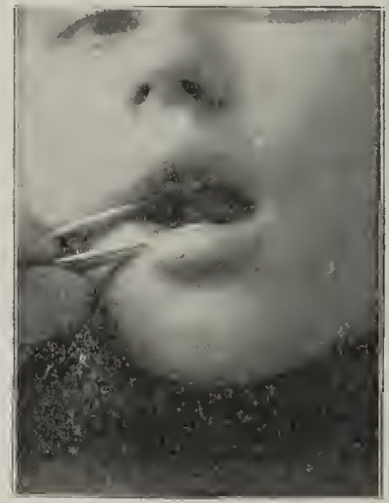
New Instruments.

Frasnotomy Speculum.

BY J. LUE SUTHERLAND, M.D.

GRAND ISLAND, NEB.

Some months ago, in cutting a tongue-tie for a strong and very refractory baby boy, I experienced such difficulty in bringing the parts into proper position to make the operation safe, that I was led to devise a speculum for this purpose. The illustration is sufficient to explain the utility and convenience of the instrument, which is strong, light and aseptic, and can be used in either hand. I have called it "Sutherland's Frasnotomy Speculum." It is made by Chas. Truax, Greene & Co., Chicago.



Miscellany.

Inguinal Hernia of the Bladder.—In thirty recent cases of inguinal hernia operated on at von Bruns' clinic, the bladder was found involved in the hernia in eight, and with the ureter in one. The presence of a layer of fat between the peritoneum and the bladder should arouse the suspicion of a cystocele.—*Beitrage z. Klin. Chir.*, xxiii, 1.

Wanted.—The following numbers of the Journal are needed to complete file for a State library: Vol. i, Nos. 1, 10, 16, and 26; vol. ii, Nos. 8, 14, and 19; vol. iii, Nos. 4, 11 and 25; and vol. xv, No. 13. Parties holding any or all of these numbers who care to dispose of them, will confer a favor by returning same to the Journal office, and 25 cents a copy will be remitted for each copy received.

Entrance of Air Into Lungs During Operations.—Three cases are described in detail in the *Cbl. f. Chir.* of March 18. In one case a fatal result was only avoided by massage of the heart (Maass-König), to which the organ responded visibly and successfully. The writer, J. Sternberg, urges the more general adoption of this valuable measure. One case presented complete paralysis of the left side for twelve hours, gradually passing away. Only three cases of paralysis consecutive to embolism are on record: one, hemiplegia, and two, light paresis.

Hearing for the Deaf.—Prof. V. Urbantschitsch has been applying to moderately deaf persons the exercises devised for the deaf and dumb, and has secured remarkable success in a large number of cases. The main point is concentration of the attention, while another person repeats certain words or syllables in a conversational tone until by repetition, the deaf person finds that he can at last hear the word. By using an ear trumpet and tube, the subject can repeat the words into his own ear, but it is best to depend upon a third person. Social intercourse, the theater, etc., are to be urged upon the deaf, as training this power of concentrating the attention; the hearing ill be found better in these conditions than when the subject ves quiet and retired. Much patience and perseverance are quired, but the results more than justify them in many cases, Goldstein of St. Louis proclaims, with many others.—*Vienna lin. Woch.*, February 23.

Reading Medical Works to Jury.—Medical works, of however andard and approved authority on the subjects to which they late, the supreme court of Florida holds, in the case of ggart vs. State, can not be read or introduced before juries independent, substantive, or affirmative proof; but this rule, adds, is subject to the exception that specified books may be troduced in rebuttal to contradict a witness who has testified having derived therefrom teachings that they do not contain, or whose teachings are substantially different from that estified to.

Gangrenous Ulcer from Insect Bite in Yucatan.—A physician in era Cruz has had occasion to treat a number of cases of workmen returning from the east coast of Yucatan, for a gangrenous lcer on the ear, neck or hands, caused by the sting of some y. The ulcer extends superficially and inward until the bone exposed, sometimes destroying the outer ear. He found all herapeutic measures ineffectual until he tried a 5 per cent. olution of chlorid of zinc, which cures the ulcer completely in wo or three applications.—*Cron. Med. Mexicana*, April.

Heredity of Ptosis Palbebrarum.—M. Münden of Hamburg relates (*Deutsche Med. Woch.* March 9) that in 1820 a woman was rossing the river in a boat when it upset, and in her struggle he eyelids were convulsively closed; rescued and revived, the ids were permanently affected with ptosis. Pregnant at the ime, when she gave birth to the child it was also affected with permanent ptosis palpebrarum. This child grew up and bore three children, two normal and one with the same congenital ptosis. The latter is still living and one of his children s also affected in the same way.

The Spanish Wounded at Manila.—An article in the *Archives de Medecine Navale* for February, reports Bremaud's observations of the Spanish wounded during the blockade of Manila. "The number was very small, and the troops suffered more from the bad hygienic conditions than from the enemy's fire." He cites nstances to prove the comparative harmlessness of wounds rom the small-caliber bullets fired with such initial velocity. They pass entirely through the member with only a small hole on each side and complete *restitutio ad integrum* in a few days. The chest or the abdomen could be shot through in this way without arresting the man's progress. He observed several who returned to active service a few days after such a wound, and is inclined to think that these projectiles would be unable to check a vigorous infantry or cavalry charge.

Boards of Army Medical Officers.—Two boards of army medical officers were convened by War Department orders during the past week, one in Washington, D. C., the other in San Francisco, Cal. The object of the former is to inquire into the practical results obtained by present methods of instruction, and to suggest any change that may seem to be advisable in view of the experience gained during the past year. It consists of Col. Dallas Bache, assistant surgeon-general, Major Louis A. La Garde, surgeon, and Capt. William C. Borden, asst.-surgeon. The latter was convened for the purpose of determining the fitness of certain officers for service in higher grades, in accordance with the laws regulating promotion. It consists of Col. W. H. Forwood, assistant surgeon-general, Capt. Edward Everts and Capt. Thomas U. Raymond, asst.-surgeons.

Camphorated Oil in Pulmonary Tuberculosis.—Therapeutic measures that increase the appetite are very useful in the therapeutics of phthisis. Injections of camphorated oil are effectual from this point of view, especially when there is atony of the stomach. The temperature falls, suppuration is checked, the sputa and cough diminish. Camphor is in these cases what digitalin is in cardiac affections. If the patient has fever, a subcutaneous injection of .1 to .2 gm. of 10 per cent. camphorated oil is made every day for four to six weeks, and after an interval of one to four weeks, recommenced as before. If there is no fever daily, inject .3 to .5 gm. of camphor every day for a week, suspending it then for a week. If more convenient, .1 gram can be injected at once for four days, then interrupt eight and recommence. There are no counterindications; even hemoptysis does not counterindicate these injections.—*Rev. Gen. de Path. Int.*, February 5.

Malpractice a Defense to Action for Services.—In an action to recover for surgical and medical services rendered, where malpractice is relied upon as a defense, the court of appeals of Kansas holds, in the case of Abbott vs. Mayfield, that it is reversible error for the court to refuse to instruct the jury that, if they find as a fact that the plaintiff was guilty of malpractice, he can not recover for such services. "Malpractice, in law," it was charged in this case, "means bad or unskilful practice in a physician. It may occur from neglect or ignorance." This definition, the court of appeals holds, was not sufficiently comprehensive. It criticizes it especially in that it confined malpractice to a physician, and failed to conclude with the resultant injury to the patient. As an apparently satisfactory definition, it quotes from Anderson's Law Dictionary: "Malpractice—Unskilful treatment by a physician or surgeon, in consequence of which the patient is injured more or less seriously, perhaps permanently."

Etiology of Leukemia.—In the *Centralblatt für Bakterologie* (Vol. xv., Nos. 8 and 9, 1899), Lowit gives the following as the most important results of his investigations into the cause of leukemia, the complete description of which will soon follow. In myelogenic leukemia he finds a leucocytic ameba in the peripheral blood, which he calls the hemameba leukemiæ magna, whose multiplication in the blood occurs by way of spores. In the blood-forming organs spores of the character of lasting spores are demonstrable. In lymphatic leukemia parasites are found only rarely in the peripheral blood. In the blood-forming organs there is found a microphyte, which he designates as hemameba leukemiæ vivax, which is intracellular. There are cases of leukemia in which both of these amebæ can be found in the organs after death. In pseudoleukemia he also finds amebæ in the blood and the organs in every case. The transmission of the infection to susceptible animals is possible. There develops a chronic infectious disease closely related to leukemia. In the blood there takes place more or less marked increase in the number of leucocytes. Amebæ are demonstrable in the blood quite constantly. This infection may be transmitted from animal to animal. The artificial cultivation of the hemameba has not yet been accomplished; further experiments in this line are being made.

The N. Y. State Commission on Lunacy.—From the annual report to the Legislature, April 10, items of much interest may be summarized as follows: The committed insane numbered 22,386 in the State and 855 in private institutions, of the former class the average number treated during the year was 20,635, while the whole number of original admissions was 4473. There were 1757 deaths during the year, and 1,018 were discharged as recovered from the State hospital, while 124 were sent to their homes in other States or foreign countries. The percentage of recoveries on original commitments was 22.76 and the percentage of deaths 39. The net increase in asylum population was 683. The per capita cost for maintenance during the last fiscal year was reduced to $185. The total for employes' wages was $1,323,655 and the total costs for provisions, stores, etc., $1,263,080. The receipts from the State tax amounted to $4,957,684 and the receipts from private and reimbursing patients $244,734. The average daily per capita cost of food supplies is now 18.5 cents and perhaps may be further minimized after arranging with Prof. W. O. Atwater, the food expert of the U. S. Government, for a dietary for the chronic insane and a separate one for acute or curable insane. Much is expected from the pathologic institute, established in New York city, as here are to be made special studies of diseased brains and other material furnished by the State hospitals. As it is, examinations are now made directly after the admission of patients, of specimens of blood, sputa and bodily secretions.

The Word "Medicine" Broadly Defined.—By special act of 1867 the officers and professors of the Medico-Chirurgical College of Philadelphia had "conferred upon them all the rights, immunities and privileges as to lecturing, granting diplomas and "conferring degrees in medicine as is possessed by the officers and professors of the University of Pennsylvania at this time." In construing this, the supreme court of Pennsylvania says that it takes the word "medicine" in its common signification, which in the beginning—and yet, with most of us—includes all learning having for its object the care of the health and the cure of the ills of the human body. Even within the recollection of some of us, it continues, the practicing physician or family doctor kept in his own office his drugs, compounded them himself, and not seldom maintained a dental chair, wherein he seated his patients, and dosed or extracted their ailing teeth. He had not only been taught dental surgery and pharmacy, but practiced both, under his degree from a college of medicine. Consequently, while a college of dental surgery may be restricted to granting a degree only in that particular branch of the profession, and the narrower will not include the broader field of learning surrounding it, the court holds that the Medico-Chirurgical College has full authority to teach all branches of medicine, including dental surgery and pharmacy, and by necessary implication, under the act of 1867, has the power to certify, by diploma or degree, the proficiency and qualification of the student in that particular branch of the main subject. (Vide JOURNAL, p. 569.)

Burden of Proof as to Certificate.—An appeal to the supreme court of California was taken, after the defendant had been convicted, in the recent case of the People vs. Boo Doo Hong, of the crime of willfully and unlawfully practicing medicine without having first procured a certificate to so practice as required by law. At the trial, uncontradicted evidence had been introduced by the prosecution sufficiently showing that, for several months prior to the filing of the information, the defendant had been practicing medicine at Red Bluff, in Tehama County. But no evidence was introduced on either side showing, or tending to show, that the defendant had or had not a certificate to so practice, as required by law. And, at the conclusion of the evidence, the trial judge instructed the jury, among other things, that the burden was upon the defendant to establish that he had a certificate to practice medicine as provided by law, and that if he failed to prove that he had such certificate, then it must be taken as true that he had not procured a certificate to so practice medicine. This instruction was especially complained of on the appeal, it being contended, on behalf of the defendant, that it was erroneous and misleading, as well as that the verdict was not justified by the evidence, because in a criminal action the defendant is presumed to be innocent until he is proved guilty beyond a reasonable doubt, and this presumption continues throughout the entire trial, and the burden is upon the people to establish his guilt by proving every material allegation of the information. Such is undoubtedly the general rule, the supreme court admits, but adds that there is a well-recognized exception to the rule, where there is a negative averment of a fact which is peculiarly within the knowledge of the defendant. And believing that this exception properly applies to such a case as here stated, the supreme court holds that there was no error in giving the instruction complained of, and that the verdict was justified by the evidence, so that the conviction appealed from must be affirmed.

Resection of Cervical Sympathetic in Epilepsy.—T. Jonnesco reaffirms the great benefits to be derived from total bilateral excision of the three ganglia of the cervical sympathetic with the intermediate connections in epilepsy of not too long duration. He has thus treated forty-two cases of epilepsy with three partial operations. Eighteen of this number have been followed from twenty-four to fifteen months; one six months. Ten have been cured; no seizures since the operation; one with complicating chorea. Six have been much improved and two were not affected; 55 per cent. cured; 28 per cent. improved and 15 per cent. unaffected, a better showing than Jaboulay's statistics quoted in the JOURNAL, p. 435. He asserts that total resection of the cervical chain is the only rational procedure, one side at a time, with a week's interval—a delicate but harmless operation. In old epilepsy with mania or epileptic dementia, the lesions are too extensive for any operation to be effective, but in fresh epilepsy, with or without mania, both the seizures and cerebral psychoses may be completely cured by it. The operation affects reflex gastro intestinal epilepsy by the suppression of the sympathetic route by which the reflexes are transmitted from the viscera to the brain, and it cures the anemic or toxic form by the cerebral congestion induced, which modifies the nutrition of the nerve-cells and frees them from the toxic products invading them. After the first slight lachrymation, etc., on the operated side there are no permanent trophic disturbances nor other post-operative phenomena except a contraction and paresis of the pupil, dropping of the upper eyelid and sinking of the eyeball in the orbit. He has had no deaths among sixty-one patients thus operated (seven for glaucoma, three very much improved), but six epileptics died shortly after in *status epilepticus* or from an acute intercurrent disease. He concludes his report in the *Cbl. f. Chir.* of February 11, by urging the general adoption of this benign operation, observing that one permanent cure of these serious affections outweighs a number in which it may be ineffectual.

Entitled to Test of Own School.—In the recent case of Martin vs. Courtney, the supreme court of Minnesota holds that, in an action for malpractice, a physician or surgeon is entitled to have his treatment of his patient tested by the rules and principles of the school of medicine to which he belongs, and not by those of some other school. To illustrate: The plaintiff in this case called a physician and surgeon of the homeopathic school of medicine, and proposed to have him give his opinion, based upon the plaintiff's testimony, whether the defendant's treatment of a crushed foot had been proper. Objection was made to this, on account of the defendant's being of the allopathic or regular school of medicine. The witness himself testified, on his preliminary examination, that there was a decided difference between the rules and principles of the two schools as respects the "practice of medicine," but not as respects surgery. When inquired of as to whether the two schools differed as to their treatment of sepsis, his testimony was that they had the same rules in regard to the treatment of sepsis connected with surgery; but, where the condition of sepsis has developed a diseased condition, it becomes a question of disease, and not surgery, and in such case the rules of treatment of the two schools of medicine would be entirely different. Then he was permitted to testify as an expert. But the supreme court holds that this was an error. Nor does it consider that it helped the matter any that the witness testitified that his "course of instruction had compassed the field of the allopathic course of study." The question of the competency of the witness to testify, it says, was one for the court, and not for the jury, and the defendant should have been permitted to present to the court on the preliminary examination all competent evidence on the question, such as other professional testimony that the two schools were hostile to each other in their rules as to the treatment of sepsis, even in cases connected with surgery. The competency of the witness, the court adds, did not depend wholly upon his knowledge or skill as a physician and surgeon, but also upon the question whether he would apply the correct rules and principles in giving his opinion as to the defendant's treatment of the case in question.

Right to Practice Medicine not Absolute.—In the but recently reported case of the regular State Board of Medical Examiners vs. Fowler, the supreme court of Louisiana lays down a number of propositions of general interest. It holds that whenever the pursuit of any particular occupation or profession requires, for the protection of the lives or health of the general public, skill, knowledge and other personal attributes or characteristics in the person pursuing it, the general assembly has the power and authority to have recourse to proper measures to insure that none but persons possessing these qualifications should pursue it, and that a statute to that effect is not open to attack as depriving citizens of their right to earn a living. The right to practice medicine, it then declares, is not an absolute natural right, but a right or privilege to be exercised under conditions and limitations regulated by legislative authority. The general assembly having the authority to require, as a condition precedent to the right or privilege of any one to practice medicine in Louisiana, that he should be subjected, before doing so, to a prior examination as to his qualifications, and found and declared worthy and qualified, it has the right to select the particular agency to whom should be delegated that duty. Courts can not control that selection. A statute creating a board of medical examiners, to be composed of physicians recommended for appointment from lists to be furnished by the Louisiana Medical Society and the Hahnemann State Medical Society, to be appointed by the governor on such recommendation, is not open to attack as discriminating in favor of the regular and homeopathic schools against the electic school of medicine. No constitutional right is given particular individuals entertaining peculiar theories of medicine to group themselves together, and calling themselves a special school of medicine under a selected name, to insist that they be recognized and dealt with as such. The action of the medical board of examiners is not conclusive, but is subject to correction in case of abuse. The recognition by the constituted authorities of another State that a person was properly qualified to practice medicine, and that the medical college whose diploma he presents as evidence of the fact was a medical college in good standing, does not carry with it a vested right in the party to practice medicine in Louisiana. Each State acts independently of the other in this matter. Nor is a person who has been practicing medicine as a physician for a number of years, without objection, exempt from complying with legislation of a later date, making it a condition precedent to any one's practicing medicine that he should have been examined by a medical examining board found to have the qualifications required by law for so doing.

Hygiene, etc., at the Paris Exposition of 1900.—A circular has been issued by Howard J. Rogers, director of the exhibit of social economy, hygiene and public charities of the United States Commission, which states that the official classification adopted by the French authorities divides exhibits into eighteen groups. Those under Mr. Roger's care are included in group xvi. The section for social economy will contain exhibits illustrating: 1, the social and economic condition of the laboring classes throughout the world, and 2, the efforts made and institutions founded with a view to ameliorating those conditions. The section for hygiene will contain exhibits illustrating: 1, the most notable recent advances in the science of hygiene, especially those due to American initiative; and 2, applications of this science in promoting the welfare of the individual; in constructing and caring for tenement houses, schools, factories and public buildings; in providing for the sanitation of cities and country towns; and in preventing the introduction of disease into a country at seaports or across frontiers. The section for public charities will contain exhibits illustrating the work which is being done through private initiative, or by public authority, for the protection and relief of the defective, dependent and delinquent classes. These exhibits will represent: 1, the history of this work, including legislation, organization and financial support; 2, aid afforded both children and adults in almshouses, hospitals, dispensaries, asylums, reformatories and other typic institutions; and 3, schools for the blind, the deaf and the feeble minded. The exhibit in each of the three sections of group xvi will be collective and distinctly national in character, i. e., it will contain contributions from a number of different States, cities, institutions and individuals, and these will be combined to form a symmetric whole, in which the parts most strongly emphasized will be those representing lines of work in which the United States is in advance of other nations. The French authorities intend to make social economy one of the most important features of the coming exposition. Their own section will contain exhibits representing the social and industrial life of the laboring classes throughout France—their dwellings, their occupations, their amusements, their peculiar social and economic institutions and various other provisions for their material welfare and their moral and intellectual development. The French exhibit of social economy will thus add a great deal to the significance and value of the entire French section, since it will supplement the commercial and industrial display and aid in their interpretation.

Philadelphia.

Municipal Hospital.—The City Council's Committee on city property has referred back the resolution which provided for the removal of the Municipal Hospital from its present location to a more desirable site.

Mortality Statistics.—The total number of deaths occurring in this city during the past week was 505, a decrease of 15 over that of last week, and an increase of 60 over the corresponding period of last year. The principal causes of death were: apoplexy, 22; nephritis, 35; cancer, 11; cerebrospinal fever, 6; tuberculosis, 63; diabetes, 2; heart disease, 37; pneumonia, 62; suicide, 2.

Washington, D. C.

Health of the District.—The report of the health officer for the week ended April 15 shows the total number of deaths to have been 113, 57 white and 56 colored. There were 9 deaths from cerebrospinal meningitis, 3 from typhoid, and one from scarlet fever. There were 23 cases of smallpox, 28 of diphtheria and 58 of scarlet fever under treatment at the close of the week. The health officer has appointed Dr. French a special medical sanitary inspector to investigate cerebrospinal meningitis in the district. Special cards on the subject have been sent to the different physicians, and they are requested to report all cases of the disease and co-operate with Dr. French in his investigations.

Woman's Clinic.—The Woman's Clinic, whose active staff is composed solely of women physicians of the district, and whose scope is limited to women's diseases, and those of children under 5 years of age, has been doing some very excellent work in a quiet way, as shown by their recent announcement. During the past eight years the attending staff has treated 22,535 patients, filled 27,579 prescriptions, and accomplished this work at a total expenditure of only $3,986. The source of revenue of the institution during that period was derived from voluntary donations amounting to $937.72 and a ten-cent charge for prescriptions, amounting to $3,048.36. The services of the officers and attending physicians have been gratuitous.

Baltimore.

City Hospital.—The Pasteur department of the City Hospital completed the second year of its existence on April 14. In the two years eighty cases in all have been treated and without a single death, and that means without the development of rabies in a single case. The ages of the patients, mostly from the South, have ranged from 2 to 80 years. The twenty-three-days treatment alone is used, and in all cases every effort is made to secure the animal. A constant supply of rabbits is necessary in order to keep up the stock of virus. Two rabbits are inoculated daily, and in all 1460 have been used in the two years. Only the tame animal is used.

Hospital for Relief of Deformed and Crippled Children.—During 1898 there were treated 528 cases, of which 299 were cured, 192 improved and still under treatment, 34 were incurable and 3 died; 250 surgical operations were performed. The charity has sixty-five beds available, forty in the city and twenty-five in the mountains. A mountain annex was added during the year at Blue Ridge Summit, Pa., with spacious grounds and thorough hospital equipment. A nurses' home has also been added.

Medical and Chirurgical Faculty of Maryland.—At the centennial, April 25–28, Dr. Archer's diploma, the first ever granted in America, and one of the most valued treasures of the faculty was exhibited. The following is a copy:

Omnibus ad quos præsentes Literæ pervenorint, Salutem. Nos Præfectus, Vice-Præfectus, et Professores Collegii et Academiæ Philadelphiensis, testamur Virum ornatum ac ingenuum Johannem Archer apud nos Prælectionibus in Medicina omnium Professorum assidue interfuisse, operamque sedulo navasse, ut Scientiâ Medicâ imbutus atque eruditus discederet, ac postquam, Curriculi sui Spatio peracto, in Aulâ nostrâ coram Curatoribus, multisque aliis Civibus dignissimis ad Examen revocatus, se in omnibus hisce Studiis satis versatum comprobasset, ex Curatorum Mandato in Publicis Comitiis vigilissimo primo Die Junii Anno 1768 celebratis Baccalaureatus in Medicinâ Gradum, omniaque Privilegia, et Honores ad hunc Gradum pertinentes consecutum fuisse. In cujus Rei Testimonium his Liberis, majori Collegii et Academiæ Sigillo munitis, Die Annoque prædictis Nomina subscripsimus.

Johannem Morgan, M.D., F.R.S.,
Theo. & Prax. Med. Professor.
Adam Kuhn, M.D., Mat. Med.
& Bot. Professor.
Gul. Smith, Collegii & Acadæ.
Præfectus S.T.D.
Fra. Alison, S.T.D. Coll.
Vice-Præfect. & Acadæ. Rector.
Eben Kennersley, Ling. Angl.
& Orat. Prof.
Gul. Shippen, M.D., Anat. Prof.
Jas. Davidson, Ling. Græc. &
Lat. Prof.

Fidem facio Virum ornatum Johannem Archer, Prælectionibus Clinicus et Praxeos Noscomio Philadelphiensi interfuisse et Fructus Diligentiæ suæ uberrimus consecutum fuisse.

Th. Bond (A.M.?), Collegii et
Acad. Curator & Prælec. Clinicus.

The Public Service.

Movements of Army Medical Officers under orders from the Adjutant-General's Office to April 20, 1899.

Roger Post Ames, acting asst.-surgeon, from New Orleans, La., to Havana, Cuba, for assignment in the Div. of Cuba.

R. Emmet Austin, acting asst.-surgeon, from Camp Wetherill, Greenville, S. C., to Galveston, Texas, to accompany part of the 10th U.S. Cav. to the Dept. of Santiago, Cuba.

Dallas Bache, colonel and asst. surgeon-general U.S.A., chairman of a board convened at Washington, D. C., to inquire into the methods and practical results of instruction in first aid.

W. C. Borden, captain and asst.-surgeon U.S.A., member of the board to investigate first-aid methods, etc.

John E. Brackett, acting asst.-surgeon, from the hospital ship "Missouri" to Washington, D. C., to report to the surgeon-general.

Fred. J. Combe, major and surgeon U.S.V., to accompany the 10th U.S. Cav. from Ft. Brown to Galveston, Texas, and thence to Santiago, Cuba, for assignment in that Dept.

Edward Everts, captain and asst.-surgeon U.S.A., member of a board in San Francisco, Cal., to examine medical officers for promotion.

W. H. Forwood, colonel and asst. surgeon-general U.S.A., president of a board convened at San Francisco, Cal., to examine medical officers for promotion.

Robt. J. Gibson, major and surgeon U.S.A., from Ft. Meade, S. Dak., to San Francisco, Cal., for assignment in the Dept. of California.

Geo. G. Groff, major and brigade surgeon Vols., former orders discharging him from the volunteer service revoked.

Jefferson R. Kean, lieut.-col. and chief surgeon Vols. (captain and asst.-surgeon U.S.A.), honorably discharged from volunteer service, to take effect April 17, 1899.

Chas. F. Kieffer, captain and asst.-surgeon U.S.A., former orders relieving him from Ft. Meade, S. Dak., to go to San Francisco, Cal., revoked.

Egon A. Koerper, lieut.-col. and deputy surgeon-general U.S.A., member of retiring board convened at Omaha, Neb.

Louis A. La Garde, major and surgeon U.S.A., member of a board to inquire into the methods and practical results of instruction in first aid.

Clarence J. Manly, lieutenant and asst.-surgeon U.S.A., appointed quartermaster and commissary of subsistence of the hospital ship "Missouri" now at Newport News, Va.

John R. McDill, major and brigade surgeon, from 1st Div., 7th Army corps, Camp Columbia, Havana, Cuba, to report to the surgeon-general at Washington, D. C.

Anita Newcombe McGee, acting asst.-surgeon, from Washington, D. C., to Ft. Monroe, Va., and return, on special duty.

Edw. L. Munson, captain and asst.-surgeon U.S.A., to relieve Major Walter Reed, surgeon U.S.A, as member of a board to examine persons designated for appointment as paymasters in the U.S. Army.

Alex. S. Porter, lieutenant and asst.-surgeon U.S.A., to report to the president of the board in San Francisco, Cal., for examination for promotion.

Thos. U. Raymond, captain and asst.-surgeon U.S.A., member of the board in San Francisco, Cal., to examine medical officers for promotion.

Walter Reed, major and surgeon U.S.A., to Havana, Cuba, for duty pertaining to the sanitary inspection of the camps, barracks and hospitals in the vicinity of Puerto Principe and to report on the prevalence of typhoid fever there, and thereafter to return to his station in Washington, D. C.

Wickliffe Smith, major and surgeon 161st Ind. Vol. Inf., leave of absence granted.

Daniel D. Wells, acting asst.-surgeon, from the hospital ship "Missouri," on her arrival at Havana, Cuba, to duty in the Div. of Cuba.

Chas. K. Winne, major and surgeon U.S.A., member of the retiring board convened at Omaha, Neb.

Movements of Navy Medical Officers.—Changes in the medical corps of the U.S. Navy for the week ending April 22, 1899.

Surgeon M. H. Crawford, ordered to duty at the naval recruiting rendezvous, Chicago, Ill.

Asst.-Surgeon J. S. Taylor, detached from the recruiting rendezvous, Chicago, Ill., and ordered to the "Independence" temporarily.

Asst.-Surgeon C. H. DeLancy, detached from the "Amphitrite" and ordered to temporary duty at the marine recruiting rendezvous, Savannah, Ga.

Marine-Hospital Changes.—Official List of Changes of Stations and Duties of Commissioned and Non-Commissioned Officers of the U.S. Marine-Hospital Service, for the fourteen days ended April 20, 1899.

Surgeon J. H. White, to proceed to Savannah, Ga., for special temporary duty.

Surgeon P. M. Carrington, upon completion of inspection duties to proceed to the Brunswick, Ga., quarantine station, while en route to rejoin station at Washington, D. C., for special temporary duty.

P. A. Surgeon J. O. Cobb, to proceed to Ft. Stanton, N. M., for the purpose of establishing a marine-hospital at that place.

P. A. Surgeon C. P. Wertenbaker, to proceed to Newport News, Norfolk and Portsmouth, Va., for special temporary duty.

P. A. Surgeon J. A. Nydegger, to inspect unserviceable property at Wilmington, N. C.

Asst.-Surgeon H. W. Wickes, granted leave of absence for seven days.

Asst.-Surgeon H. S. Cumming, to proceed to Norfolk, Va., for special temporary duty.

Asst.-Surgeon H. S. Mathewson, to inspect unserviceable property at the San Francisco quarantine station.

Asst.-Surgeon R. H. von Ezdorf, to proceed to Savannah, Ga., for special temporary duty,

Acting Asst.-Surgeon A. P. McConnell, granted leave of absence for four days from April 17, 1899.

Acting Asst.-Surgeon W. H. Marsh, granted leave of absence for five days from April 25, 1899.

Acting Asst.-Surgeon W. C. Todt, granted leave of absence for five days.

Sanitary Inspector D. E. Dudley, to proceed to the Tortugas quarantine station for special temporary duty.

Hospital Steward J. V. La Grange, to proceed to Ft. Stanton, N. M., and report to P. A. Surgeon J. O. Cobb for duty and assignment to quarters.

BOARD CONVENED.

Board convened to meet at Philadelphia, Pa., at 10 o'clock A.M., April 18, 1899, for the physical examination of an officer of the revenue cutter service. Detail for the board: Surgeon H. W. Austin, chairman; Asst.-Surgeon M. J. White, recorder.

APPOINTMENTS.

E. D. Hill of Massachusetts, appointed acting asst.-surgeon U. S. Marine-Hospital Service, for the physical examination of keepers and surfmen in the life-saving service at Plymouth, Mass., and vicinity.

D. C. Howell of Michigan, appointed acting asst.-surgeon U.S. Marine-Hospital Service, for the physical examination of keepers and surfmen in the life-saving service at East Tawas, Mich., and vicinity.

CHANGE OF ADDRESS.

Allen, R. I., from St. Louis, Mo., to Lucas, Ind. Ter.
Andrews, C. F., from Bryson, to Cyrnston, Tenn.
Breniman, E. M., from 308 S. Robey to 642 W. Congress, Chicago.
Curry, E. M., from St. Louis, Mo., to Trinidad, Colo.
Collier, J. M., from Plymouth to Lansing, Mich.
Chesley, V. L., from Manchester to Center Barnstead, N. H.
Carter, G. D., from Saverton to Joplin, Mo.
Colyer, W. A., from St. Louis, Mo., to Atwood, Ill.
Crudup, C. P., from Lainsburg, N. C., to Brock, Neb.
Capehart, P. W., from Washington, D. C., to Kittrell, N. C.
Curlin, C. W., from Nashville, Tenn., to Hickman, Ky.
Duff, J. W. from 2006 Carson St. to 4502 5th Av., Pittsburg, Pa.
Dunham, W. H., from 830 Dayton to 2503 Auburn Av., Cincinnati, Ohio.
Griffin, A. L. M., from 115 N. Jefferson to 419 W. Charles St., Muncie, Ind
Harpole, W. S., from 4238 St. Lawrence Av. to 157 E. 47th St., Chicago.
Hamley, E. C., from Des Moines, to Maquoketa, Iowa.
Hoyt, F. C., from Chicago to Mt. Pleasant, Iowa.
Hurst, R. L., from Nashville, Tenn., to Vaughan, Ark.
Johnston, J. G., from Newberry to Lowryville, S. C.
Kennedy, F. P., from Galveston to Peters, Texas.
Loope, T. E., from Manawa to Iola, Wis.
Le Moyne, F., from 5431 Fifth Av. to 5031 Cassteman St., Pittsburg, Pa
Macy, O. E., from Chicago to Pleasanton, Iowa.
McKown, T. D., from 256 to 252 E. Bennet, Cripple Creek, Colo.
Prestegar, T. T., from 927 to 512 4th St., Sioux City, Iowa.
Pomainville, F. from Chicago to Grand Rapids, Wis.
Russell, H. R., from Chicago to Stewartville, Minn.
Slighton, C. H., from Chicago to 427 Wilson St., Madison, Wis.
Sloan, J. F., from 656 to 684 Adams St., Chicago.
Stagg, W. H., from New Orleans to Washington, La.
Schafinger, C., from Philadelphia, Pa., to Felton, Del.
Williams, R., from Chicago to Carthage, Ill.
Woodard, R. C., from Augusta to Cecil, Ga.

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Original Articles.

NON-DIPHTHERITIC PSEUDOMEMBRANOUS RHINITIS.*

BY J. PRICE-BROWN, M.D.
TORONTO, ONT.

This is a non-specific inflammation of the mucous membrane lining the nasal passages. It may be acute, chronic or recurrent, and is attended by a deposit of fibrinous exudation. This exudate presents the anatomic features of a false membrane, being imposed upon the epithelium, without involving to any great extent, the deeper tissues. That this condition should ever exist as an independent affection is still a matter of doubt with some observers.

Abbott, in the "Transactions of the Pathological Society of London" (1893), says that "cultivation from the supposed false membrane of the nose always contained the Klebs-Loeffler bacillus, although in some cases it was thought to be attenuated. Evidence is accumulating to show that these cases of so-called fibrinous rhinitis are merely mild local manifestations of the specific diphtheritic bacillus." Professor Kanthack, in "Allbutt's System of Medicine" (1896), says, "a curious and important pathologic condition is the so-called rhinitis fibrinosa. Clinically such cases are not diphtheria, but pathologically and bacteriologically they are. In the cases I personally examined, I obtained, as others did, large numbers of virulent diphtheria bacilli." Musser, "Medical Diagnosis" (1896), says that in the diphtheritic form of acute rhinitis, the diagnostic symptom is the presence of false membrane in the nose. He says the nasal discharge is very acrid in diphtheria and is almost sure to cause excoriation of the upper lip. On examination a dirty gray membrane is found within the nostril. Bacteriologic examination confirms the diagnosis. M. Eeman, at the Belgian Society of Otology and Laryngology, 1897, maintained the unity of pseudomembranous rhinitis. He believed that this affection was always due to the Loeffler bacillus, reporting twelve cases which bacteriologically seemed to support his position. M. Buys at the same time endorsed M. Eeman's view. In five out of six cases he found diphtheria bacillus, while he believed the negative result in the sixth case arose from faulty technic. Osler, in his "Practice of Medicine" (1898), refers to seventy-seven cases of membranous rhinitis, in which thirty-three were found to owe their origin to Klebs-Loeffler bacilli. All ran a benign course. False membrane was limited to the nose in nearly all. Constitutional symptoms were slight, and infection of other children was slight also. "On the other hand," he says, "nasal diphtheria is apt to be most malignant. . . . Glandular inflammation being intense. . . . The infection may be primary through the nose."

The quotations from these authors would seem to indicate that they consider all cases of pseudomembranous rhinitis, whether mild or severe, as really of diphtheritic origin, and that the lighter cases, characterized by absence of systemic symptoms, are in reality the result of an attenuated virus. Notwithstanding this strong expression of opinion, many cases have been recorded, which can not but impress upon the mind the fact that membranous rhinitis does sometimes occur, of a purely non-diphtheritic character. A few of these cases it will be as well to briefly relate.

In 1894 (*Journal of Laryngology*) Brun Murdock reported a case of recurrent membranous rhinitis. The patient was a woman, aged 33, a subject of hay-fever. During a period of little over a year, she had five different attacks of fibrinous rhinitis, without any indications of true diphtheria. A number of microscopic examinations were made, but all failed to show any Klebs-Loeffler bacilli, though there were a number of micrococci of minor moment. In 1894, Schiffer read before the Belgian Society of Otology and Laryngology, a paper on the "Pathogenesis of Non-Infectious Croup of the Nasal Mucous Membrane," with a history of a case. The membrane was confined to the nasal cavities. The general symptoms were slight, save for the nasal membranous obstruction. Microscopic examination proved the absence of the Klebs-Loeffler bacillus. There was no sign of the disease being infectious. Middlemas Hunt, at the meeting of the British Medical Association, 1898, in a paper on "The Relation of Fibrinous Rhinitis to Diphtheria," reported four cases of fibrinous rhinitis. He said the first case "was in every way a typic one, as the patient remained in good health, had no albumin in the urine, no glandular enlargement and no subsequent paralysis." His second case was that of a medical man, in good health, but who sought advice on account of nasal obstruction and profuse watery discharge. He had not been attending any cases of diphtheria, but had assisted in a post-mortem in a case of ulcerative endocarditis. Both nasal passages were filled with thick white membrane, which left a bleeding surface when torn off with the forceps. Considering it to be a case of simple fibrinous rhinitis, no culture was made. Two weeks later the man had severe pharyngeal diphtheria followed by paralysis. In Middlemas Hunt's third case, the child's nasal passages were lined with membrane, but there was no deposit on the pharynx or tonsils. On removal of the membrane, the surface was raw and bleeding. There was, however, no fever, no albumin in the urine, no enlargement, and culture showed no Loeffler bacilli, but the presence of staphylococci and streptococci. Subsequent inquiry elicited the fact that she, with several other children associated with her, had suffered from tonsillitis a month or two previously, and that her case had been followed by paralysis of the palate. The fourth case recorded was followed several weeks later by diphtheria in the family.

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*Read before the Western Section of the American Laryngological, Rhinological and Otological Society, San Francisco, March, 1899.

In summing up the history of these cases, Hunt seems to be of the impression that all but the first were cases of nasal diphtheria; and he doubts the possibility of distinguishing the two diseases clinically, using these words: "I am afraid there are no clinical characters on which we can rely in distinguishing the two diseases, and our one method is to turn for help to the skilled bacteriologist." In the light of the history he gives, and judging further by his "one method," his third case could scarcely be one of nasal diphtheria, whatever might be said of the second and fourth.

Richard Lake (*Laryngoscope*, September, 1898) gives the history of a case of chronic pseudomembranous rhinitis, on the right side, in a man aged 54. The patient, a hay-fever subject, had unusual pallor, and there was present within the nares, together with the false membrane, a chronic discharge of coagulated secretion. Treatment only had a temporary effect; and on returning for examination ten months later the disease had increased in severity. The right nasal cavity was filled with a gelatinous mass, resembling the "white" of a plover's egg; and from it was obtained a pure culture of staphylococci pyogenes aureus, without other septic germs of any kind whatever. As Lake so pointedly says: "It is only within the last few years that a distinction has been made between diphtheria nasi and membranous rhinitis," but in Bosworth's words of years ago: "What the germ is, the pathologic laboratory has not yet told us."

Staphylococcus pyogenes aureus is the one usually found in a culture of the simple membranous disease; but neither can it nor the streptococcus claim to be its special progenitors, as the pathologic conditions in which these organisms are found are almost infinite. Bacteriologically, however, we can exclude diphtheria; and it is safe to say that any nasal pseudomembrane which on careful investigation fails to exhibit the Klebs-Loeffler bacillus, may be set down as non-diphtheritic, particularly when supported by the clinical history of the case.

That primary nasal diphtheria does sometimes occur, can not now be doubted; but still, it is exceedingly rare. Lennox Browne, in his work on "Nose and Throat" (1899), says that statistics have proven that it only occurs two times in a thousand cases, while nasal diphtheria, by extension from the pharynx, occurs in 21.3 per cent. of all cases.

On the western side of the Atlantic, I believe it is even still more rare. In a professional experience of thirty years, I have never seen a case of primary nasal diphtheria; and in answer to inquiry among a large number of my professional brethren, with one exception, the same answer has been returned. This exception occurred in the experience of my friend, Dr. T. F. McMahon. He has seen two cases; both occurred in children. In the one, the throat being unaffected, a culture was made from the nasal false membrane, abundant Klebs-Loeffler bacilli being found. In this case the child died. In the other, the Klebs-Loeffler bacilli were likewise obtained from a nasal culture, the throat at the time being unaffected. Subsequently the membrane extended to the pharynx and tonsils. This child recovered. In each case diphtheria appeared in other members of the family.

In reference to the results of observations by recent writers, upon non-diphtheritic membranous rhinitis, I might quote the following. McBride says: "The intense local discomfort, together with the absence of all constitutional symptoms in typic cases, forms an easily recognized combination." Hamilton Potter says: "The membrane is firmly attached to the parts beneath, and is only detached with violence, leaving a bleeding surface." Walsham says: "The points chiefly to be relied on, in distinguishing fibrinous rhinitis from nasal diphtheria, are the absence of constitutional symptoms, of glandular enlargement, of albumin in the urine, and of paralytic sequelæ." Lennox Browne says: "This membrane may be removed without exposing a bleeding surface. Risk of contagion is remote. Cultivation and inoculation experiments give negative results. The neighboring glands are not involved, and no one has found the Klebs-Loeffler bacillus."

The fact is that in simple membranous rhinitis, except for the nasal obstruction, symptoms are largely absent. The nostril—the disease being frequently unilateral—may be completely blocked by the false membrane, but the discharges are unirritating, and at the same time lack the peculiar odor for which diphtheria is distinguished. The clear, whitish color of the membrane remains unchanged, and in some cases it can be removed without producing hemorrhage, though the latter is not in accord with my own experience in idiopathic cases.

With reference to the statement that a similar false membrane is always produced by the application of the galvano-cautery to the mucous surface, it must be remembered that the protective covering is only formed upon the spots cauterized, whereas, in fibrinous rhinitis, the whole mucous lining may be affected. Sometimes, however, the effect of cauterization is not so limited, and the burning of a single spot within the nasal cavity may induce the formation of false membrane throughout the fossa. Although this fact is well known, the literature upon the subject is so meager, that the report of a case may not be without interest.

In September, 1895, a young lady, aged 25, came to me for treatment for hay-fever. On examination there was nothing unusual in the appearance of the nasal passages except that the inferior turbinates were very much enlarged. Otherwise they had the ordinary pale purplish hue usually found in such cases. Under cocain I burned each inferior turbinate body at the one sitting. Twenty-four hours later, on her return for treatment, both nares were stenosed, and the lining of the passages was covered with false membrane. It was of a clear, bluish, translucent color. All that I could do for her relief was to apply a solution of cocain, followed by vaselin. The membrane gradually became thicker, retaining its color. In two days it commenced to loosen and I removed it in large flakes with the forceps. They left a clear surface without hemorrhage. The subsequent treatment was simply a spray of abolene several times a day to the nose. Recovery was rapid, and the relief to the hay-fever complete.

Two years later, in September, 1897, she returned for treatment, again suffering from hay-fever. She said she had none the previous year. On examination the inferior turbinates were all right; but the middle ones were swollen and pressing against the septum. I again used the cautery. After applying cocain on absorbent cotton, I passed the electrode between the septum and middle turbinate on one side, and pressing outward, singed the surface. A small tampon dipped in albolene was then put in to keep the parts asunder, the operation being repeated on the opposite side. When she returned for treatment the following morning, the condition formerly produced by cauterization had been repeated, the whole lining membrane of each nasal fossa being seemingly coated with a fibrinous layer. The subsequent treatment was the same as on the former occasion, with a like result.

Although I have used the galvanocautery for many years, very fequently, this is the only case in which I have known it to produce false membrane in the nose, outside of the spot to which it had been applied.

Since treating this case of traumatic membranous rhinitis, I have had under my care two cases of idiopathic membranous rhinitis. They both occurred in the spring of 1898; and the following is a brief history:

Miss M. L., aged 17, a clergyman's daughter, had had stenosis of left nostril for two weeks, accompanied by watery discharge and sometimes a little bleeding; right nostril was quite free. There had been neither fever nor systemic symptoms of any kind. About one centimeter within the ala the passage was filled with what appeared to be false membrane of a whitish yellow color. Some seromucous discharge, but no soreness nor excoriation of lip; no history of diphtheria in family before or after. After applying cocain I removed several pieces of membrane that appeared to be loose. They were taken from the septum and inferior turbinate; slight hemorrhage followed. The surfaces were then brushed with a 5 per cent. solution of nitrate of silver, and sprayed with a quarter of 1 per cent. solution of thymol in albolene, the latter to be repeated by the patient several times a day. Internally I gave iron and glycerin.

The patient returned for treatment at intervals of two or three days for several weeks. On each occasion fragments of membrane were removed by forceps, and when bleeding occurred the points were touched with the nitrate of silver solution, the thymol-albolene spray being continued as before. By the end of the second week the membrane ceased to form. Some inferior turbinal enlargement was then touched with the galvanocautery, and at the expiration of another week the patient was well. There has been no recurrence. Microscopic examination of a culture of the membrane, kindly made by Dr. J. R. Wilson, revealed nothing but staphylococcus pyogenes aureus.

The second case, a girl, aged 5 years, was referred by a member of the staff of External Department, Western Hospital, as the right nostril had been completely blocked for some time. She was one of a large family. There was no family history of diphtheria before or after. The child's throat revealed nothing. There was no fever, no odor, no excoriation. The left nostril was free. The right nostril was filled with what I took for the moment to be a white foreign body of some kind, which I supposed had been inserted. After applying a solution of cocain the child submitted to manipulation, and the substance proved to be false membrane that could be removed in fragments by the forceps. This, like the former case, showed a tendency to slight hemorrhage on stripping off the membrane. Similar treatment, too, was likewise followed, with the exception that the home application was simply vaselin frequently applied. In three weeks the patient was quite well. Isolation was not enforced. Microscopic examination in this case was not made; there were, however, no developments either before or after, which would in any way lead to the belief that the case was diphtheritic.

In closing this paper I may perhaps venture to draw the following conclusions:

1. That non-diphtheritic pseudomembranous rhinitis does sometimes occur; and though a very rare disease, it is probably as frequent as *primary* nasal diphtheria.
2. That on clinical grounds alone it is possible, in a majority of cases, to distinguish it from genuine diphtheritic disease.
3. That owing to a possible mistake in diagnosis, isolation in all cases should be imperative, until a reliable bacteriologic examination can be made.

MULTIPLE PRIMARY CARCINOMA.

REPORT OF TWO CASES.

BY ALDRED SCOTT WARTHIN, Ph.D., M.D.
INSTRUCTOR IN PATHOLOGY IN THE UNIVERSITY OF MICHIGAN.
ANN ARBOR, MICH.

The relative rarity of multiple primary carcinoma has led to the production of a number of very important articles concerning their occurrence and origin. Winiwarter, Kaufmann, Michelsohn, Schimmelbusch, Bard and Bucher have especially busied themselves with this subject, and, from an exhaustive search of the literature and analysis of personal observations, have given us very important facts not only concerning the origin of multiple carcinomata but of carcinoma in general. To the number of cases of multiple primary carcinoma already reported and studied I shall add in this paper the reports of two cases, in each of which there were two undoubted primary cancers. These cases are important because they add new combinations to those already described, and also because they may serve to give some additional support to some of the theories of the origin of carcinoma.

Only those cases can be regarded as true multiple primary carcinomata in which every possibility of conveyance from a primary to a secondary focus is excluded. Metastasis, both lymphogenous and hematogenous, extension by continuity and contact, implantation and transplantation must be ruled out, and this exclusion can be positively affirmed if the tumors meet the three conditions required by Billroth: 1. Each carcinoma must have a different histologic structure. 2. The histogenesis of each carcinoma from a different parent epithelium must be proved. 3. Each carcinoma must form its own metastases.

But multiple tumors may be primary when they do not answer all of these conditions. The structure of carcinomata arising from a similar matrix in different portions of the body may be the same, and the formation of metastases so frequently fails entirely that their absence can not be looked upon as affecting the diagnosis. The most important criterion is the proof of the origin of each tumor from the epithelium of the tissue in which it is found. Moreover, a large number of principles gained by experience may aid us greatly in the differential diagnosis of primary tumor and metastasis: the presence in the part of chronic changes which seem to favor the development of carcinoma, the type of the tumor, its predilections so far as primary seat and location of metastases are concerned, etc. All of these may aid in the diagnosis, but the histogenesis of the tumor is the deciding point, so that if two carcinomata are shown to have an individual origin they must be looked upon as autochthonous. Unfortunately, the histogenetic proof is most frequently very difficult or impossible, so that the greater number of the cases reported in the literature as multiple primary tumors are of doubtful significance.

The two cases, the description of which follows below, fulfil the first two conditions of Billroth, the carcinomata in each case possessing a different anatomic structure and clearly showing their different histogenesis. In one case neither tumor produced metastases, in the other, one tumor gave rise to wide-spread secondaries, the other formed no metastases.

Case 1.—Mrs. E. C., aged 45, was admitted to Dr. Martin's clinic in the University Hospital, March 9, 1897. The patient's family history was negative, and she had been in fair health up to four months before admission. At that time she first noticed a fulness in the right ovarian region. Later she had occasional darting pains in the abdomen and began to lose flesh rapidly. On examination, the abdominal wall was yielding but sensitive. There was dulness and fulness in the right side. The cervix contained many small cysts and there was an old laceration of the perineum. In the rectovaginal wall and in the broad ligament there were many areas of thickening.

An exploratory operation was performed by Dr. Martin, and a tumor of the size of a goose egg was removed from the left ovary. There was a large amount of fluid in the peritoneal cavity, and the peritoneum was everywhere studded with small nodules of new growth. The omentum contained large masses of new growth. Small portions of the peritoneal and omental growths were removed for examination. The patient died four days after the operation, and the autopsy was performed by me ten hours after death.

Autopsy Protocol.—The body was of medium height and build; musculature small and flabby; panniculus wasted; hair gray; face senile; slight edema in lower extremities; skin sallow and rough, with moderate hypostasis in the dependent portions; a slight tinge of icterus; rigor mortis present in all of the muscles; body heat absent; head not opened; spinal cord not examined.

The main incision was made to the right of the incision in the median line below the umbilicus, which was made a few days previously in operating for the removal of an ovarian tumor. The edges of the wound were free from redness and discharge; easily separated. The healing process had advanced but slightly. The muscles were brownish, dry, lusterless and tore very easily. There was a very small amount of abdominal fat.

There was about 1500 c.c. of turbid, dark-brown fluid in the peritoneal cavity; it contained numerous blood clots; pelvis filled with a large clot of blood; intestines in normal position, and everywhere adherent, the coils being covered with fresh hemorrhagic fibrinous exudate; throughout the peritoneum were reddish yellow nodules of new growth; the omentum was rolled up and contained large solid tumor masses; diaphragm at level of fifth rib on the right, at the sixth intercostal space on the left.

Mamma: There was but a trace of the gland substance present; no new growth.

Examination of mouth, larynx, trachea and thyroid was negative.

Heart: The apex was in the nipple line in the fourth intercostal space. The pericardium contained about 100 c.c. of slightly turbid fluid; surface of pericardial layers slightly cloudy; ventricles filled with jelly clots, and white clots in the aorta and pulmonary vessels; heart walls very thin and the cavities small; muscle cloudy, yellowish and tore easily; slight thickening of mitral flap, the other valves normal; in arch of aorta, a slight degree of arteriosclerosis.

Lungs: The pleural cavity contained about two liters of clear yellowish exudate; small flakes of fibrin scattered over the surface of the pleuræ, which was cloudy, swollen and lusterless. Throughout the pleuræ, but especially in the parietal pleura, there were many flattened nodular elevations, some white and firm, others red and velvety. On section they showed definite stroma and on scraping yielded an abundant exudate. The lungs were partially atelectatic, on section grayish red, with marked hypostasis in the lower lobes. From the cut surface an abundant foamy fluid exuded, slightly turbid. In the lower lobes there were a few small areas not containing air. There was no evidence to the naked eye of new growths.

Bronchial glands: These were enlarged and soft. There was no caseation and no evidence of new growth.

Abdomen: The omentum was filled with large flattened masses about two inches thick, on section white in color, having a firm white stroma and yielding a scraping rich in cells. The peritoneum was everywhere covered with tumor masses, chiefly small nodules varying in size, shape and color. To many of the nodules strings of fibrin were attached. These growths presented the same appearance on section as those in the pleura and omentum.

Spleen: The spleen was small, blue-brown in color, the capsule thickened and wrinkled. On section the stroma was seen to be increased, the pulp atrophic, no follicles visible, and there was no evidence of new growth.

Adrenals: The adrenals showed the usual postmortem changes, but no evidence of new growth.

Kidneys: The kidneys were small but of normal shape, the fibrous capsule adherent. The cortex contained a number of small cysts and a few small white nodules. The cortex was narrow, its connective tissue increased, the parenchyma cloudy and yellowish, the pelves dilated and their mucosa thickened.

Intestines: The serosa was greatly reddened, cloudy and swollen, and everywhere covered with a bloody fibrinous exudate. Throughout the entire serosa there were tumor nodules varying in size and color. On section they presented an appearance similar to that of the growths found elsewhere. Otherwise, the examination of the intestines, appendix and stomach was negative.

Pancreas: The organ was small and showed a marked fatty infiltration.

Mesenteric glands: They contained nodules of new growth similar in structure to those found elsewhere. Similar masses were also found in the retroperitoneal glands. The examination of the abdominal vessels was negative.

Liver: The liver was small, weighing about two pounds, the left lobe very thin and narrow, the external capsule thickened and presenting many opacities. On section the cut surface was dark-brown, firm, and the lobules small, the connective tissue increased throughout. The gall-bladder was retracted into the liver substance, so that it did not project below the edge of the organ, and almost entirely surrounded by liver substance. On section five large faceted stones of dark-brown color were found filling up the entire cavity of the bladder. No bile was present in the bladder, but an abundance of brownish sand. At the apex of the bladder there was a new growth the size of an English walnut, arising from a firm white base in the mucosa of the apex of the bladder. The greater portion of the tumor was colloid; on the inner surface, long strings of colloid substance passed into the cavity of the bladder between the stones; great increase of connective tissue in the liver about the gall-bladder, but no evidence of new growth in the liver substance. The gall-ducts and common duct were open and no evidence of new growth along these. The tumor seemed localized to the apex of the bladder. Extending from the portal fissure along the portal vein there were strands of new growth similar to that found in the peritoneum, but differing from that in the gall-bladder, chiefly in the absence of colloid. To the naked eye the cut surfaces of the gall-bladder tumor and those found elsewhere did not resemble each other. All of the other growths were more homogeneous, firmer, grayer in color, with closer stroma and showed no colloid change.

Ovaries: The left ovary was removed at the time of operation, a ligature being around the stump of the left Fallopian tube; in the right ovary there was a tumor nodule the size of a walnut, on section resembling the tumors found in the omentum and peritoneum. The broad ligament was studded with small nodules of a similar growth.

Uterus: The uterus was small and its walls firm, the endometrium uneven and hemorrhagic. The tubes were tortuous and their mucosa thickened. Examination of the external genitals, bladder, and rectum was negative.

Examination of the remaining lymph-glands of the body was negative.

Microscopic Examination.—The tumor of the ovary and the small portions of growth removed from the peritoneum at the operation were examined and diagnosed before the patient's death. The main tumor presented the picture of an adenocystocarcinoma arising in a teratoma of the ovary. Cartilage, bone, muscle, skin structures, and tissue resembling thyroid were found in different parts of the growth. The chief part of the mass was made up of glandular cysts lined with short columnar epithelium. The origin of the carcinoma from the epithelium of these cysts is clearly evident. In many of the cysts there is a proliferation of these columnar cells into the lumen of the cyst, filling it entirely with nests of cells; in other cysts the epithelium extends into the lumen on short papillæ giving the appearance of a papilliferous cyst, but in many of the cysts the epithelium extended below the basement membrane into the connective tissue, forming large areas of cells growing free in the lymph-spaces.

Large areas of the ovarian tumor, therefore, present the appearance of a medullary carcinoma which in many places preserves some resemblance to gland structure. The metastases from the peritoneum present the same appearance of an adenocarcinoma which is in part medullary. Some of the secondary growths also contain cysts.

The tumor from right ovary, the growths in the pleuræ, peritoneum, omentum, and lymph-glands removed at the autopsy had the same structure as that of the tumor of the left ovary. No secondaries were found in lungs, liver, spleen, or kidneys.

The sections of the tumor in the apex of the gall-bladder present an entirely different appearance from the growths found elsewhere. The base of the tumor arises directly from the mucosa of the gall-bladder; the firm white portion at the base presenting the appearance of a carcinoma simplex. The growth of the tumor was entirely into the lumen of the bladder, the thickened wall of the bladder showing no infiltration. The chief portion of the mass of the tumor extending into the cavity of the bladder shows an extensive mucous degeneration of the cell nests. In the extreme portion of the tumor removed from the base both the stroma and cell nests have undergone a mucous degeneration. That the gall-bladder tumor and the ovarian tumor are primary tumors is clearly shown by the following facts:

1. The ovarian growth takes its origin from epithelial cells lining the cystic glands of an ovarian teratoma; the origin of the growth in the gall-bladder is from the epithelium of the mucosa of that organ.
2. The cells of the carcinoma of the ovary are large with large vesicular nuclei; those of the carcinoma of the gall-bladder are smaller and have very small, deeply-staining nuclei.
3. The ovarian carcinoma preserves some resemblance to gland structure, and is characterized by a tendency to form large cell masses; the gall-bladder carcinoma forms small nests of cells and shows no resemblance to gland structure.
4. The gall-badder carcinoma is further characterized by a marked tendency to mucous degeneration; the ovarian carcinoma shows no such change.
5. The secondary growths found in pleuræ, peritoneum, etc., have a structure identic with that of the ovarian tumor, and must be considered as metastases of that tumor. No metastases of the gall-bladder tumor could be found.

The microscopic examinations of the other material obtained at the autopsy showed as follows: Lungs, congestion, edema, scattered areas of bronchopneumonia; spleen, senile atrophy; kidneys, early stage of chronic interstitial nephritis with arteriosclerosis, chronic pyelitis; liver, brown atrophy with localized hepatitis in the part near the gall-bladder; pancreas, fatty atrophy.

Diagnosis.—Acute hemorrhagic peritonitis (postoperative); primary adenocarcinoma arising in ovarian teratoma with metastases in pleuræ, peritoneum, omentum, mesenteric and retroperitoneal lymph-glands; primary colloid carcinoma of the gall-bladder; cholelithiasis; atrophy of liver and spleen; early stage of arteriosclerotic kidney; pyelitis; bronchopneumonia and edema of lungs; acute pleuritis; fatty atrophy of pancreas; laparotomy.

Case 2.—Mrs. M. J. S., aged 59, was admitted to Dr. Nancrede's clinic of the University Hospital on Oct. 19, 1898. The previous history was negative. The present trouble began three weeks before admission, when she began to have severe constipation, with pain in the left side of abdomen. On October 17, after taking a number of laxative pills, she had severe and frequent attacks of vomiting for two days, without stools. The vomitus was greenish with a foul odor, but not fecal. Examination showed moderate tympanites with tenderness in the left iliac region, where a soft mass could be felt and easily indented with the fingers. A diagnosis of fecal impaction was made and enemata were given which were followed by the passage of a large quantity of gas and several large stools. Her condition seemed improved but no movements of the bowels could be obtained during the next week. On the 28th she had a severe attack of pain in the abdomen with a sensation of "something breaking." She showed signs of collapse almost immediately and was at once operated on. The abdomen was found to be full of feces. The condition of the patient was such that the operation was discontinued, death occurring a few minutes later.

Autopsy protocol.—Mrs. S. died at 10:40 Oct. 28, 1898. The autopsy was conducted by me at 2 o'clock the same day. The body was well built, about five feet six inches long, the skin pale gray, and over the left infraclavicular region a bluish discoloration surrounding five dark-red puncture marks (punctures for saline infusion). There was marked hypostasis over the back. The panniculus was very thick. There was no edema. Body heat was present and universal rigor mortis, abdomen greatly distended and a fresh laparotomy wound between the pubis and umbilicus.

The head and spinal cord were not examined.

Abdomen: On removal of bandage a recent laparatomy wound was seen between the umbilicus and pubis, and from between the stitches there exuded a foul-smelling brownish fluid; edges of wound clean and no evidence of inflammatory reaction; no pus present. The abdomen was opened through the wound, the edges of which were not adherent. A large amount of foul smelling gas escaped on entering the peritoneal cavity; the greatly distended intestines rising up out of the wound; abdomen contained about two liters of thick, foul-smelling brownish fluid filled with gas bubbles, also portions of fecal matter; intestines covered with a thick brownish frothy slime; no blood observed in the fluid or on the intestines. The omentum was rolled into a thick fold and high up in the dome of the diaphragm. About the middle of the sigmoid flexure there was an apparent constriction of the intestine with a great increase of the subperitoneal fat so that the appearance of an encircling lipoma of the intestine was produced. The mass was very firm, intestine collapsed and empty below this point, but above it, enormously distended, its walls being very much thinned; 87 cm. above the point of constriction there was a perforation in the tenia of the ascending colon 1½ inches long by ½ inch wide. The edges of the perforation were extremely thin but showed no other pathologic changes. The edges were turned out. The wall of the intestine in the vicinity showed thin areas, but no other point of perforation could be found. The serosa of the entire intestine was injected, cloudy, and contained small hemorrhagic areas, also areas covered with a thin layer of fibrin. The fat of the mesentery and the epiploic appendages was greatly increased, its blood-vessels greatly congested. Near the appendix there was a small round nodule about the size of a pea, dark red in color. It was removed for microscopic examination. The appendix was normal. On opening the sigmoid flexure the lumen of the intestine at the point of constriction was found to be completely obstructed. In the lumen and completely filling it was a small oblong, soft, reddish body about the size of a large raisin, and unattached. When removed, the lumen at the point of constriction would admit a lead pencil. The mucosa about the constriction was thrown into folds, very much puckered, and covered with small polypoid projections dark-red in color. Between these polypoid prominences were grayish points of ulceration. On cutting through the intestinal wall at the point of constriction the lumen of the bowel was found completely encircled by a new growth, the tissue of which was directly continuous with that of the prominences in the mucosa. The cut surface of the growth was for the greater part firm and white, containing a number of small colloid areas. In the entire remaining portion of the intestine nothing pathologic was found.

Liver: The liver was small, the left lobe being greatly atrophied, the capsule thickened. There was a broad flattened groove on the anterior surface of the right lobe just above and parallel to the lower border. On section the cut surface was dark brownish-red, rich in blood-vessels, its lobules clearly defined, somewhat smaller than normal, the connective tissue increased.

Gall-bladder: The gall-bladder was distended and contained thirty-three triangular grayish stones and a small quantity of dark brown slimy fluid containing much grayish sand. The mucosa was much thickened and polypoid. On the anterior wall there was a polypoid growth about an inch long by half an inch wide, attached to the mucosa by a wide pedicle, and the wall of the bladder thickened and indurated at the point of attachment. In the dilated common duct two other stones were found, very irregular in shape, soft and producing partial obstruction of the lumen of the duct.

Spleen: Much smaller than normal, its capsule was greatly thickened and white and opaque. On section it bled freely. The pulp was dark brownish-red and of firm consistency, the stroma increased; the follicles could not be seen.

Adrenals: Both adrenals were well preserved and showed no pathologic changes.

Kidneys: The left kidney was somewhat smaller than normal, the fatty capsule about an inch and a half thick, the fibrous capsule thickened and adherent. The surface of the cortex was granular, grayish-red. On section the cut surface was moderately rich in blood, grayish-red in color. The cortex was only about one fourth as broad as normal. The glomeruli were clearly seen as fine red points. The mucosa of the pelvis was thickened. The right kidney was similar in all respects to the left.

Stomach: The stomach was distended; contained about 500 c.c. of brown fluid containing food remains; mucosa slightly thickened.

Pancreas: This organ was large, of normal firmness and contained a large amount of fat.

Bladder: Empty, the mucosa slightly thickened. Examination of the ureters was negative, of the vagina also; cervix everted; small polyp protruded from the cervical canal; uterus enlarged and its walls thickened. On the endometrium in the fundus there was a polypoid growth about the size of a bean, dark-red in color.

Ovaries: Both ovaries very small, hard and white, in the right one a small cyst the size of a pea. The tubes showed no pathologic changes.

The abdominal aorta contained scattered patches of thickening.

Thorax: We were not allowed to open the thorax, and the only examination of the thoracic organs that we could make was a very incomplete one made through the diaphragm. Nothing abnormal was noted in this.

Microscopic Examination.—Sections of the intestinal wall at the point of constriction in the sigmoid flexure show that the lumen of the intestine is completely surrounded by a new growth, the type of an adenocarcinoma. The nests of cells, most of which preserve a gland-like lumen, extend throughout the muscularis and into the abundant fat tissue beneath the serosa. The cells of the new growth are large, some distinctly columnar, and contain large, deeply-staining vacuolated nuclei. In many of the cell-nests the cells have undergone a mucous degeneration. On the surface of the growth lining the lumen of the intestine there are flat ulcers. At the periphery of the growth the transition from the normal cells of the mucosa to the carcinoma cells can be clearly made out. The sections of the free body found in the lumen and causing the acute obstruction show it to present the appearance of an adenomatous polyp. It consists almost entirely of gland-like spaces lined by a single layer of columnar cells. There is very little interstitial connective tissue, the tubules lying close together. In many places the connective tissue is closely infiltrated with leucocytes and many of the tubules are filled with pus. The blood-vessels are greatly distended and there is much hemorrhage into the connective tissue and into the tubules.

Sections of the wall of the gall-bladder show a chronic inflammation of the mucosa, with polypoid hyperplasia of the epithelium. The tumor on the anterior wall consists of papillæ having a small amount of connective-tissue framework covered with a single layer of short columnar cells. In the pedicle of the growth there are gland-like spaces lined by the same kind of cells. These gland-like tubules extend beneath the mucosa into the thickened wall of the gall-bladder beneath the muscularis, forming a small nodule in the wall immediately beneath the point of attachment of the pedicle of the polyp. The cells lining the spaces in the muscularis are different in character from those on the surface of the polyp. These are less distinctly columnar and have smaller and more deeply-staining nuclei. They do not resemble the cells in the intestinal growth, being very much smaller and possessing very small, round and deeply-staining nuclei. Moreover, the origin of these cells can be clearly traced from those in the polyp, with which they are in places directly continuous. The gall-bladder tumor and the intestinal growth are undoubtedly primary growths independent of each other. They do not resemble each other and the origin in each case is clear. No metastases of either tumor were found.

The small polypi removed from the uterus show the structure of simple adenomata without infiltration of the uterine wall. There is a marked glandular endometritis present. The sections of the liver and spleen show simple atrophy and chronic congestion. The kidneys present an early stage of chronic interstitial nephritis.

Diagnosis.—Acute perforation of colon following acute obstruction of sigmoid flexure by constriction caused by an adenocarcinoma of the intestinal wall and blocking of the narrowed lumen by a free portion of the growth; primary adenocarcinoma of gall-bladder; cholelithiasis; chronic cholecystitis; atrophy and chronic congestion of liver and spleen; chronic interstitial nephritis; chronic endometritis; adenoma simplex of endometrium; arteriosclerosis; laparotomy.

Epicrisis.—It has been seen from the microscopic description given above that the two growths in each of these cases fulfil the first two conditions of Billroth; in each there is a decided difference in the anatomic structure, and the different histogenesis of each is very clearly evident. The study of these tumors leaves no doubt in my mind of the primary nature of the two carcinomata found in each case. Such a combination of coincident primary tumors in the same body I have been unable to find in the literature. They are not mentioned in Bucher's exhaustive report.

It is an interesting fact that one of the tumors in each case was found in the gall-bladder in association with gall-stones. The frequent coincidence of biliary calculi and primary cancer of the gall-bladder has long been known, and recent observations would tend to show that they are present in about nine-tenths of all the cases of primary gall-bladder cancer. The greater number of cases of gall-bladder cancer occur in women; in Musser's collection of one hundred cases the proportion was as high as three to one. The greater frequency of biliary calculi in women is also well known, more than three-fourths of all cases occurring in the female sex. Various causes have been assigned, but undoubtedly one of the chief factors in the production of biliary calculi is the abnormal pressure exerted upon the lower part of the liver in tight lacing. In twenty-five post-mortems of women made by me during the last year only two did not have gall-stones and those two did not present the condition of "corset liver" and "corset spleen" which were found in the other twenty-three. Of the same number of men only one had gall-stones, a soldier, aged 30, and his liver presented a marked narrowing and lengthening of the left lobe and a broad groove on the anterior surface of the right lobe corresponding to the edge of the ribs, a "corset-liver" produced by the wearing of a belt. Marchand, Riedel, Rother and Schröder have emphasized the frequent association of "corset-liver" and cholelithiasis. Naunyn affirms that the single known general cause of the formation of gall-stones is the stasis of the bile brought about by habits of dress, pregnancy, etc. He further believes that the calculi are not produced by the thickening o the bile, but that pathologic changes in the mucosa of the gall-bladder lead to their formation. These changes, he holds, are inflammatory and are produced by the invasion of the bile-passages by germs from the intestine, the colon bacillus being the form most frequently found. The stasis of the bile is the factor which predisposes to the germ-invasion.

In all of my cases of biliary calculi there were pathologic changes in the wall of the gall-bladder. These consisted, for the greater part, in a chronic inflammation associated with a polypoid hyperplasia of the mucosa. In each of the two cases described above this condition was more marked than in any of the other cases, and in this polypoid mucosa an adenomatous polyp was found which in each case had become carcinomatous. In Case 1 it may have been carcinomatous from the beginning, but in Case 2 the greater part of the polyp was adenomatous in structure, the picture presented being that of an adenoma becoming malignant.

It is impossible to consider these facts without being inclined to look upon them as bearing upon the question of etiology of carcinoma. The circumstantial evidence is very strong that the hyperplasia of the gall-bladder mucosa may be the starting-point of a carcinomatous proliferation, that the hyperplasia may pass through the stage of adenoma to that of carcinoma. Case 2 undoubtedly shows this change. If the hyperplastic changes in the mucosa are due to the inflammation set up by the presence of germs or gall-stones, the etiology of primary gall-bladder cancer would then be explained under the head of proliferation following chronic irritation, and would be placed in the same category with many of the forms of epithelium of the skin in which chronic inflammation is believed to play an exciting rôle.

The second tumor in Case 1 represents a fairly common group of neoplasms, a teratoma of the ovary becoming carcinomatous through proliferation of its epithelial cells. A study of the malignant tumors of the ovary and testis would lead us to believe that this is of relatively frequent occurrence, but the cause of this proliferation, we are as yet unable to explain. The theories both of Thiersch and Cohnheim apply equally well. It is interesting to note that in this case the carcinomatous proliferation arises in the adenomatous portion of the teratoma, and that there is a well-marked succession of stages through adenoma simplex, adenoma papilliferum and adenocarcinoma to tumor areas bearing the type of carcinoma medullare.

The second tumor in Case 2 is also an example of an adenoma becoming malignant. The free mass blocking the narrowed lumen was structurally an adenoma simplex, but infiltrating the muscularis and subperitoneal fat is a tumor which is structurally an adenocarcinoma. Moreover, the neighboring glands of the intestinal mucosa are hyperplastic and the direct transition of their cells into tumor cells can be seen.

Three of the primary tumors found in these two cases can, therefore, be traced directly to a carcinomatous proliferation of the epithelial cells of adenomata, and the fourth one from its polypoid growth, its extension into the lumen and its origin from a mucosa so hyperplastic that it is adenomatous in type may most reasonably be thought to have a similar origin. This coincidence of origin is striking, but becomes still more so when we connect with it the fact that in the second case there was a marked glandular endometritis with the formation of adenomatous polypi, one in the fundus, the other in the cervical canal. No evidence of malignancy was found in these uterine tumors. Case 2, therefore, presents an adenoma of the intestine, one of the gall-bladder, and two of the endometrium; also a wide-spread adenomatous hyperplasia of the mucosa of the gall-bladder and uterus. This tendency to the development of adenoma is certainly very noteworthy, and the question at once arises as to its etiologic factors and the relation of these with those of carcinoma.

It would be desirable if the cases of multiple carcinoma could throw some light upon the general etiology of carcinoma. A survey of the relatively small number of cases reported in the literature brings out some striking facts in regard to the distribution of the multiple tumors. They fall into definite groups which in the order of the frequency of their occurrence are as follows: 1. Epithelioma following xeroderma pigmentosum (Kaposi). 2. Epithelioma following senile seborrhea (Schuchardt). 3. Chimney-sweep's cancer (English authors). 4. Tar cancer (English authors). 5. Paraffin cancer (Volkmann). 6. Lupus carcinoma (Richter, et al.). 7. Multiple mouth cancers following psoriasis linguæ, etc., (Schwimmer, Hutchinson, et al.). 8. Multiple carcinomata, one primary located in the skin, the other in the stomach, intestine, uterus or mamma. 9. Cases in which the primary tumors are found in the stomach, intestine, uterus or mamma, occurring sometimes simultaneously in the same organ or as a regionary recidivation, or coincident in any two of these organs. 10. Arsenic cancer (Hutchinson).

It will be seen from this list that multiple carcinomata are most frequently found in xeroderma pigmentosum and senile seborrhea, rarest in arsenic keratosis. Next to the arsenic cancer in rarity come the cases of multiple carcinoma of the internal organs. The chief rôle which the skin plays in multiple cancer is in harmony with the greater frequency of primary carcinoma of the skin, and in analogy to this the internal organs in which multiple carcinomata are most frequently found are those in which malignant tumors most often occur. This multiplicity occurs most frequently in the same organ; much more rarely is there a coincidence of primary tumors in different organs.

The relative rarity of multiple carcinomata of the stomach and intestine is, however, very striking when compared to those of the skin, in spite of the great frequency with which single primary tumors are found in these two places. Schimmelbusch and Bucher attempt to explain this as follows:

1. The stomach and intestine as a rule are not examined carefully enough at autopsy and many multiple primary tumors undoubtedly escape us.
2. The favorite seats of carcinoma in the stomach and intestine are so limited in extent that the chances for the production of multiple tumors are not great. An early confluence may take place, and it is possible that many so-called metastases of a primary tumor in the same organ are in reality multiple primary tumors.
3. The duration of life in carcinoma of the internal organs is so short compared to that in skin cancer that the longer duration in the latter case must favor the development of multiple tumors.

The absolute number of cases of multiple primary tumors in the gastro-intestinal tract is, nevertheless, large enough to make us believe that they will be found to be of more frequent occurrence than is now evident. Next to the stomach and intestine the mamma plays the most important part in multiple carcinoma. Double-sided carcinoma of the ovaries has been described, but it is most probable that in these cases one of the organs was secondarily affected. No positive evidence exists of the coincidence in both ovaries of primary carcinomata bearing different anatomic structures.

The association of multiple cancers of stomach and intestine with polypi is very striking. According to Klebs, multiple carcinomata of the stomach may develop from multiple polypi of the stomach. In many cases, according to Bucher, polypi are found near carcinomata. Handford describes a case of rectal cancer in which there were multiple polypi of the large intestine. One of the polypi showed at its base an infiltration of the intestinal wall and an atypic growth of epithelium, so that he looked upon it as a second primary carcinoma. Hauser found polypoid growths in five out of twenty-four intestinal cancers, and in four of the cases he was able to demonstrate the origin of the carcinoma from the polyp.

According to Schimmelbusch the cases of multiple carcinoma reported do not throw any light upon the etiology of carcinoma in general. He holds that the parasitic theory receives no support, and that the theories of Thiersch and Cohnheim may be equally well applied. Winiwarter and Michelsohm hold to the view of origin through the effect of the same irritant. Bucher rejects the parasitic theory, and also that of Cohnheim in so far as applied to carcinoma, and supports the theory of Thiersch of a regional predisposition; that the harmful agent, as tar, soot, etc., does not produce the carcinoma, but behind the effects of these irritants there lies some cell anomaly as yet unknown to us, which furnishes the conditions for the development of the new growth. Multiple carcinomata are, therefore, the result of local predisposition and are to be looked upon as analogous to Thiersch's regional recidivation.

Bucher, however, applies this theory only to the occurrence of multiple tumors in the same organ. If the theory of local predisposition best explains this condition, its application to the origin of multiple primary carcinomata in different regions of the body will bring us toward the old theory of cancer diathesis or, to what amounts to the same thing, a theory of multiple regions of predisposition. In our present state of knowledge we can go no farther. As to what the nature of this local cell anomaly may be we can not say more than that it seems to consist in a removal of the natural inhibition of cell growth, thus giving rise to an abnormal cell proliferation.

The two cases described by me do not give any special support to the parasitic theory; Cohnheim's theory can not be applied; the theory of unequal atrophy will not suffice, and Ribbert's theory of a primary granulation tissue process is not supported by the facts. We are thus thrown back upon the theory of multiple local predisposition, for want of anything better, and the second case especially seems to support this very strongly. The polypoid growths in the intestine, uterus and gall-bladder, with the extensive glandular hyperplasia of the mucosa of the last two organs, point clearly to some widespread anomaly of the epithelium of the mucous membranes. In the gall-bladder the tendency to hyperplasia may have been excited by the irritation of gall-stones; in the uterus the chronic inflammation present may have been the starting-point of the polypi found there. The carcinoma in the sigmoid flexure is located at one of the most favorite seats of intestinal cancer, but we can not explain this location. There is certainly a strong analogy between this case and those of multiple carcinomata of the skin in which the new growths never arise from normal skin, but develop, sometimes very quickly, out of slowly progressive chronic changes.

The theory of multiple seats of predisposition has also an apparently strong support in the following case which I shall mention very briefly:

Case 3.—Mr. R. V. C., aged 54, was admitted to the clinic of nervous diseases in the University Hospital on Oct. 5, 1898. His mother had "cancer" of the face, but otherwise his family history was negative. He had had numerous attacks of gonorrhea, and there was also a strong suspicion of syphilis. A clinical diagnosis of primary lateral sclerosis was made. The patient died on November 21, and the autopsy was conducted by me on the same day. The following brief extracts are taken from the extensive autopsy protocol:

Stomach: The mucosa of the stomach was thickened, especially in the region of the pylorus. Attached by a narrow pedicle just inside the pyloric ring there was a narrow pear-shaped polyp about two inches long by half an inch in diameter extending through the pylorus into the duodenum. The surface of the polyp resembled that of the stomach mucosa; on section the polyp was pale pink in color, of firm consistency and showing a slightly reticulated structure.

Intestine: In the mucosa of the anterior wall of the rectum there was a small polypoid growth about an inch in diameter. It is grayish-red in color and of fairly firm consistency.

Bladder: In the fundus of the bladder there was a small round polyp about half an inch in diameter, attached by a narrow pedicle. The bladder mucosa was greatly thickened.

The microscopic examination of these growths showed those of the stomach and intestine to be adenomata, that of the bladder to be a papilloma. The sections of the mucosa of stomach, intestine and bladder showed a fibroid hyperplasia; in the stomach a chronic interstitial gastritis with atrophy of the glands. Sclerotic changes with atrophy were found in all of the organs.

This case, therefore, presents in three different regions a chronic inflammation associated with the formation of a benign tumor representing a local overgrowth of the mucosa. No evidences of malignancy were found in these tumors, but if the patient had lived long enough the possibility of the intestinal polyp becoming malignant would be about twenty chances in a hundred; that of the stomach polyp about three in a hundred. This calculation, which is, perhaps, somewhat fanciful, is based on the statistics of Hauser and the reports of a large number of cases of cancer of these regions. The evidence regarding the origin of bladder carcinomata from benign papillomata is much less satisfactory, but the possibility of such an origin can not be denied.

In conclusion, the known cases of multiple carcinomata emphasize the relations between carcinoma and chronic inflammation of epithelial surfaces, do not give any additional support to the parasitic theory, and are not explained by the theories of Cohnheim or Ribbert, but lead to a wider application of Thiersch's theory of local predisposition. It does not necessarily follow that multiple primary carcinomata arising in the same individual should have no connection with each other; if the cause of the new growth could be shown to be a living parasite. Unfortunately, we are not yet in a position to give positive proof of this, and the study of the cases of multiple carcinomata does not give us any furtherance in this direction. Our present state of knowledge concerning the etiology of multiple primary carcinomata might then be expressed as a theory of multiple seats of a cell anomaly consisting in the removal of the normal inhibition of the cell leading to atypic overgrowth, and that in the production of this cell anomaly parasitic, physical, or chemic irritants may play the rôle of a primary exciting factor. The final missing link in our knowledge, be it a parasite or an inherent quality of the cell, itself, is yet to be discovered.

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VESICAL CALCULUS IN THE FEMALE.

WITH A REPORT OF FOUR CASES.

BY T. J. HAPPEL, M.D.

TRENTON, TENN.

In 1872, while attending medical lectures in New York, I witnessed an operation by Dr. Emmett for the relief of cystitis, which consisted in the formation and temporary maintenance of a vesicovaginal fistula. The proceeding at that time seemed to me a very radical one, but he stated that every other means of relieving the distressing trouble had been tried and had failed; hence the operation. He added that such cases yielded to the operation, if the fistula was not allowed to close too soon. This made a deep impression on my mind, as at that time the gynecologic fad was the closure of vesicovaginal fistulæ. This operation of Dr. Emmett was recalled to my mind when, in examining one of the latest works on surgery for light upon a case of vesical calculus in a female, I found the statement that some unknown surgeon had advised a very unscientific and unsurgical procedure for the treatment of such cases, of opening the bladder through the vagina and extracting the stone, and leaving the fistula thus formed for the *vis medicatrix naturæ* to dispose of. The very fact that the operation was spoken of as unscientific caused me to study it the more, and it was impressed upon my mind as a most common-sense procedure when one has a coexisting cystitis with which to deal, which would demand treatment after the removal of the stone.

The case which I then had in 1870 was brought to my office by a physician, with a request that I examine her with him. He reported a long-continued dysuria with cystitis; mucus, pus and muco-pus being discharged from the bladder, accompanied by much tenesmus.

I inquired whether he had explored the bladder with any instrument. He replied that he had not; nor had he under an anesthetic attempted a careful examination of the case, but had brought her to me. She was pale, anemic, with a face marked by pain; aged about 5 years. Chloroform was administered and a female catheter was introduced into the bladder. As soon as it had passed the urethra it impinged upon a calculus, the touching of which was followed, even though fully anesthetized, by a most violent tenesmus, everting the rectum and emptying it of its contents.

The presence of the stone was thus at once determined, and a further examination with the catheter used as a sound enabled us to decide that it was a large one for a child of her years. The question of removal was discussed and a date about one week later fixed upon as the time. Nothing but a suprapubic operation seemed admissible in her case, and she was sent home to be put on tonics and alkaline diuretics. The case was an unfavorable one, but to attempt to crush the stone was decided to be inexpedient. At the appointed time, under chloroform, the suprapubic operation was performed, and a stone measuring four inches in circumference was with much difficulty extracted from a very much thickened and contracted bladder. In enlarging the opening to remove the calculus, a minute opening was made through the bladder into the peritoneal cavity. The child never fully rallied from the shock of the operation and died in seventy-two hours. The stone was not weighed. The usual washing out of the bladder was done after the removal of the stone, and a drainage-tube was passed from the abdominal wound through the urethra and was confined, but before her death was in some way removed and had to be replaced. The incision at death was healing nicely.

The second case was a child not quite 2 years of age. In this case the small calculus could be seen when a violent effort was made in urinating.

The child was brought to my office and placed on the table and the vulva opened so as to expose the meatus, the slightest touch of which was followed by violent straining efforts to urinate. The small calculus was seen at the meatus, which contracted around it. Cocain was applied in solution, a nick was made in the opposing fold, and on the second effort the calculus was removed with a pair of mouse-toothed forceps, and the case was dismissed and has never had any further trace of trouble.

In February, 1897, I was consulted by Mr. W. in regard to his wife, who, from his report, was a facsimile of the woman referred to in the Bible, who had suffered many things at the hands of many physicians. He wanted a prescription for some kidney trouble which had existed for more than two years. Having heard his statement fully, I refused to prescribe, but asked for an examination of the case. I found the patient, a large fleshy woman of about 65 years, tossing and groaning in agony, having just attempted to urinate. She readily consented to an examination, and, placing her across the bed, I passed a female catheter into the urethra, striking the large calculus just at the entrance to the bladder. The pain produced by the examination was intense, and she begged for an immediate operation. I directed, as in the first case, tonics and diuretics for a week, but at the end of that time the weather became too cold and variable for one of her age and surroundings, so that another week elapsed before a favorable opportunity presented itself. In this interval, after examining many authorities, I determined, on account of the inflamed condition of the bladder, to perform the unscientific operation of removing the calculus per vaginam and leaving the fistulous opening through which the bladder was to drain and be washed out.

At the second date, with proper professional help, I made the operation determined upon, and reached a large calculus. In applying forceps the stone was crushed and fully one-half of it, in bulk, was lost in washing out. The bladder having been thoroughly washed out, the patient was put to bed and made an uneventful recovery, the bladder being washed out a few times only. In eight weeks the fistulous opening had closed.

The fourth case was in many respects similar to the third; but the formation of the calculus had been preceded by a chronic cystitis, supposedly of gonorrheal origin. The patient had treated this cystitis for years, with injections into the bladder and with other medicines. She had occasionally come under my observation, but not as a patient. She finally became a morphin user. In June, 1897, after a fall or hurt, all of her bladder symptoms became much more aggravated, and I suggested an exploration, telling her that there was probably a stone in the bladder. After much persuasion she consented to an examination of the bladder, and the presence of the stone was at once demonstrated. With difficulty, consent for an operation was obtained, and in ten days the same operation was done in this case as in the preceding, and the stone removed. In attempting to grasp it, a small piece was broken off; the bladder was washed out, to remove all fragments and detritus of all kinds. The fistulous opening closed slowly, and after what appeared to be an attack of acute cystitis, a small gravel, about the size of a pea, passed through the incision about one month after the operation. Two months later, a second fragment passed, and the fistula closed at once, and she has had, now about eighteen months since, no further trouble. The morphin habit has been abandoned and the patient is now actively engaged with her housekeeping affairs. Her bladder is contracted to about half its normal size, but she emphasizes the fact that she is well.

These two cases (the third and fourth above) furnish the points which I wish to make in this paper. Both women had passed the climacteric, hence bladder symptoms could not be attributed to "change of life." Neither had any rectal trouble. Both had suffered from cystitis. Both had found abundant white deposits in the chamber after urinating and had noted the accumulations, without thinking it necessary to make any report in regard to it. Both had taken medicine *ad nauseam*, but neither had ever had the bladder explored. Temporary relief in both cases had been obtained from some medicine, perhaps containing some preparation of an opiate; but this relief was of short duration. The first exploration revealed a large calculus in each bladder, which had evidently been the growth of several years. In each case the result of the operation was all that could possibly have been expected—prompt recovery, with almost no after-treatment, the fistulous opening closing too rapidly in the fourth case.

The question arises: Why not have dilated the urethra and washed out after crushing? My answer is, that to have dilated the urethra in these two cases would no doubt have resulted in incontinence of urine, and in the sacculated condition of the lining of the bladder it would have been almost impossible to have fully removed all the detritus, and the result would have been one or more nuclei for the formation of new calculi. This was demonstrated in the last case, where at least two fragments were retained, in spite of a thorough digital search and the flushing of the bladder with a gallon of water from a fountain syringe. In the third case the opening in the bladder was larger and the cystitis had not continued longer than three or four years, hence the mucous coat was not in as bad a condition as the last one, in which the inflammation had existed for twelve or fifteen years. Both stones were large; then why not have done the suprapubic operation, which is preferred by many?

In my opinion, the suprapubic operation, even though the stone be large, is not to be compared with the vaginal route where this canal is fully developed, as in the adult female, especially in cases of married women. In the suprapubic operation you have no natural drainage. The bladder must be flushed either through the abdominal incision or the urethra. In either case the outflow is unsatisfactory and the urine must be retained in a bladder already inflamed, where it acts as a still further irritant or must drain out through the abdominal wound at the risk of urinary infiltration, and of setting up inflammatory action in the site of the wound—while in the vesicovaginal route the urine flows out constantly at first, thus allowing no new irritation of the inflamed lining of the bladder, but on the contrary, permitting a free and ready escape of urine, pus, mucus and any remaining portion of the calculus. Thus the bladder is placed in a most favorable and scientific condition for a rapid recovery from its diseased condition superinduced by the presence of the calculus. In no other way can we obtain as favorable conditions for recovery. In the crushing operation, which can be done with more ease in the female than the male, no arrangement is made for drainage—nor is it possible to prevent at all times a fragment of the calculus from imbedding itself in the bladder walls, where it can not be and is not found till grave symptoms have developed, necessitating a new exploration of the bladder, when again it may not be located. The only drainage in these operations of crushing is obtained, as stated, through the urethra, which must be dilated to some extent, and which, if not overdistended, so as to allow the urine to escape continuously from a paralysis of the sphincter, at once contracts, and holds the urine and all other irritants in the bladder till expelled per urethram, or till drawn off and washed out again. The vesicovaginal route affords all the good that is presented in any of the other routes, with none of the drawbacks, and gives, above all things needed for the relief of a chronic cystitis, rest and freedom from irritants of all kinds.

These cases are not many, but the results in my hands have been such as to warrant me in the same procedure in future cases of the kind. Another lesson is impressed upon us by such cases as these in practice, viz., in all cases of chronic irritation of the bladder to explore it fully and freely with a sound. Some cases of irritable bladder may be due to the presence of some foreign body which the sound may detach and permit to escape. These explorations may detect the presence of a calculus which had never been suspected, in women especially, where such symptoms are so often referred to "change of life" or prolapsus uteri. No harm can result from the careful exploration of the bladder with a clean sound and where it can not be done without an anesthetic, it should be administered, and the bladder filled with borated warm water and then explored. In some cases it will be found that the bladder symptoms result from hemorrhoidal troubles; then the cause should be removed, but the bladder in each and every case ought to be carefully examined.

ADHERENT PLACENTA.*

BY CHARLES B. REED, M.D.

CHICAGO.

In a series of observations published on the third stage of labor where the placenta was delivered spontaneously, the time required for the completion of the delivery was carefully noted, and the results varied from a few minutes to thirty-six hours.

With these statistics before us, it is manifestly impossible to place a definite limitation on the third stage and to assert that all cases which pass the prescribed bounds shall be regarded as pathologic, and interference undertaken. In spite of the tendency of the last few years to interfere less and less in obstetric cases without positive indications, it may be safely said that if the placenta is not spontaneously delivered within two hours after the birth of the child, some pathologic condition is present which necessitates interference.

Usually the presence of hemorrhage or other symptoms will further an earlier diagnosis, and the question generally lies between two closely related conditions, an "adherent placenta" or "retained placenta," and the differential diagnosis can only be obtained by careful examination.

In "retained placenta" the structure is detached and lies within the maternal parts, from which, owing to some obstruction in front or insufficient *vis a tergo*, it can not be expelled without artificial assistance.

The adherent placenta, as its name indicates, is still attached to the uterine surface more or less intimately, either by its entire surface or by certain segments of it, this latter constituting the so-called "partially adherent placenta," which furnishes a very alarming form of postpartum hemorrhage.

The site of adhesion, according to Nyulasy, is most frequently the fundus, but very often it is near or involves the cervix, as in placenta previa, but there is no regularity in the selection of the site.

Frequency.—The usual difficulty in obtaining accurate statistics in obstetrics is nowhere better illustrated than in attempting to determine the frequency of the occurrence of "adherent placenta."

Comparatively few reports have been published from hospitals, and the general practitioner has contributed almost nothing. Then, too, the available reports are not always satisfactory, as for instance, the "Medical Report of the Society of the Lying-in Hospital of New York" (1897) shows that the placenta was manually removed 182 times in 9034 labors, or 1 in every 49.6 labors, which demonstrates that manual removal of the placenta is far more frequent there than elsewhere recorded, even if the placenta previa cases are included in the statistics, as doubtless they are.

In the Chicago Lying-in Hospital and Dispensary, the placenta has been manually removed only 6 times in 2529 cases, and only 4 times for "adherent placenta."

Judging from their figures, it would seem that the placenta is less frequently adherent than Dorland's and Hirst's reports would indicate, and that 1 in 500 or 600 labors would be more nearly correct. Howitz, however, in 1000 cases has seen no bad cases of adherent placenta.

Owing to the immaturity of the placenta and the absence of the usual degeneration, the placenta seems to be adherent more frequently in abortions than at term; thus Bedford Brown found 30 cases in 200 abortions, or 15 per cent.

Mortality.—All observers agree that the condition is extremely dangerous for the mother, the most frequent cause of death being sepsis, but hemorrhage plays no small part. In Winckel's 50 cases 9 died, or 18 per cent.

Hirst gives a mortality of 7 per cent., which he attributes to sepsis. The mortality from sepsis will always preponderate in those cases which are treated expectantly, while the hemorrhage will cause the greatest number of deaths in the recent cases.

Etiology.—The origin of the affection is somewhat obscure, but so many concurrent affections have been assigned as causes that it seems best to discuss the etiology under three separate headings:

1. The causes attributed to the placenta. 2. The causes attributed to the uterus. 3. The causes attributed to the uteroplacental connection. Among the causes attributed to the placenta, it is found that most authors give inflammation of the placenta the first place.

There is a diffuse form of inflammation which arises in the connective tissue, and the placenta becomes firm and pale. After the irritative proliferation produced by the inflammation subsides, the connective tissue contracts, compresses the villi, and may result in death of the fetus by diminishing the blood-supply, while fatty changes may occur in the placenta, which either becomes prematurely detached or abnormally adherent.

A second form arises in the arteries and adjacent tissues of the fetal placenta and gradually involves the entire organ. As the inflammation proceeds the tissues become indurated and fibrous, adhesions form between the placenta and uterine walls so dense that it is often difficult to distinguish the point of separation post-mortem. Placentitis is an extremely rare disease, and while many cases may and do pass unrecognized, yet other factors possess etiologic interest. In Brown's series he traced three cases to traumatisms, but these could probably be regarded as cases of placentitis. He also regards rheumatism as a cause.

Syphilis may give rise to inflammatory changes in the placenta, which would produce adhesions, but as many cases occur where neither maternal nor paternal syphilis can be traced, this can only be regarded at most as an occasional cause, as in Brown's two cases.

Placenta succenturiata has an etiologic importance from the fact that the main portion of the placenta could be delivered, and the connection between the parts being broken, the smaller portion might remain.

Placenta previa is the most common placental anomaly in connection with adherent placenta, which Chazan claims results from the partial loosening of the placenta before labor, whereby the normal mechanism of detachment is interfered with and manual removal is required. His second explanation is more plausible and shows that the placental site being farther removed from the point of greatest contraction, less power can be applied by the uterus in producing the detachment. Hence it is only relatively adherent, but this conforms more closely to our knowledge of the mechanism of the third stage.

Again, an abnormally thin placenta, from whatever cause, will be more difficult to expel, because it will double up as the uterus contracts, just as soft glue spread out on the hand will follow the contractions of the palmar surface. In the four cases herewith reported, the placentas exhibited this characteristic thinness.

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Among the causes attributed to the uterus, most writers mention endometritis, but some other factor must also be present, for endometritis is a very common condition and the placenta is very rarely adherent. Again endometritis is much more common in multiparæ, and adherent placenta shows no especial predilection therefor. A previous endometritis may, however, furnish the starting-point of a placentitis.

Atony uteri is probably the most important factor. This affection occurs in two forms. The first, affecting the whole uterus and manifest throughout the labor, is greatly improved by external manipulation, while the second form affects the placental site (Engel) and occurs in varying degrees of intensity, the most severe being sometimes called "paralysis of placental site," and forming a knob-like projection through the contracting surface of the uterus; it may lead to inversion.

The pathology of atony uteri is obscure, but a few of the conditions producing it, which in turn must become causes of adherent placenta, are primary pain, weakness, weak constitution, exhaustion, extreme uterine distension, excessive uterine exertion, as against some pelvic resistance, poorly developed musculature of the uterus, etc., but atony uteri occurs in sound healthy women, in protracted labors and in precipitate labors, so that the above factors are not the only ones concerned, and one feels obliged to consider Rokitansky's undemonstrated theory that nervous depression may be a cause of impaired activity at the placental site. "Paralysis of the placental site" might explain the frequent association of adherent placenta and inversio uteri, as in the Stone, Lee and Beckmann collections.

Indeed, the frequency with which adherent placenta is found in connection with inversio uteri is remarkable, and one can hardly avoid the belief that a causal relation exists between them. In Stone's series the placenta was adherent in 10 of the 25 cases reported, or 40 per cent. In Lee's collection of 148 cases he found the placenta adherent in 67, or 45.4 per cent. In Beckmann's collection of 100 cases the placenta was adherent in 25. In 21 others the inversion was said to be due to "traction on the cord" in attempts to deliver the placenta. It would not appear illegitimate to assume that placentas resisting so much traction were measurably adherent, and counting these the total would be 46 per cent., or a trifle more than Lee's. It has not been possible to find one factor, or set of factors, common to any large proportion of these cases.

Stone thinks a lack of contractile power in the uterus is responsible for both conditions, but what reason can be assigned for the lack of uterine contraction unless it be atony uteri or some form of defective innervation?

In the third etiologic class we find the old authors (like d'Outrepont, Simpson, et al.) proposing transudation, exudations, etc., which change into connective tissue.

Winckel mentions extravasations of blood into the decidua serotina and thence into the intervillous spaces, or they may arise from the vessels of the villi and afterward become changed into firmer connective tissue.

In opposition to this theory, Chazan says that we often find old blood-clots in the placenta and no trace of fibrinous organization. Godson, however, in 1896, reported the microscopic examination of placentas after various periods of retention, and in one retained in utero a few days only, the intervillous spaces were filled with altered maternal blood, organization had begun, strands of fibrin were present, but the connective tissue was not much altered, whereas, in another placenta, retained about six weeks in utero, the process was quite advanced, the maternal blood being organized, the villi degenerated, the connective tissue compressed. Hertzog shows that the maternal blood in the intervillous spaces is so different, even in a fresh specimen, that it is probably the cause of many of the emboli and thromboses which occur in pregnancy.

Nyulasy claims that the most common condition met with in extensive adhesion is a deposit of fibrin originating in the decidua and involving the opposing surfaces of the placenta and the uterus, the cement substance nearly always being a tough, fibrous material difficult to separate from the uterine wall.

The microscopic report of the curetted pieces from Nyulasy's case showed delicate connective tissue and decidual cells, the origin of the fibrinous cementing material not being known.

The principal objection to accepting an alteration in the uteroplacental connection as a cause of adherent placenta is the scarcity of definite anatomic proof of the existence of the pathologic change. Maier says he has never seen cases with exudate, and the report of the microscopist in Nyulasy's case was not complete in this respect. But Neumann's exhaustive investigation with microscopic data shows that alterations in the uteroplacental connection do occur, and are responsible for the adherence of the placenta in a certain proportion of cases. Langerhans finds neither the cell proliferation nor connective-tissue development so marked as one would expect in a condition resulting from inflammation. When the manual removal preserved the serotina, he found that it contained more intercellular substance than usual in the deeper layers and in the septum; the cells were smaller and mostly of spindle shape. The grandular ampullæ were defective in development—briefly, he found a tissue much firmer and more compact than usual. He believed that this condition was incontestably the cause of the adherence.

Consequences of retention.—With a mortality of at least 7 per cent. attending the affection, it is interesting to know what the consequences might be if the placenta should not be removed. Fortunately this condition has been studied by many observers and numerous facts have been obtained.

The subject is susceptible of division into two classes: 1. Where the placenta is partially detached. 2. Where the placenta is entirely adherent.

The two divisions cover all the stages of pregnancy and labor, with some modifications. In all cases of the first class there is hemorrhage, more or less serious, which requires the removal of the placental structure in order that the uterus may contract and the hemorrhage be stopped.

In the second class we find many different reports. The placenta may be retained for a period varying from a few hours, when it may be spontaneously expelled, to eight or nine months, as in Godson's case, when some pathologic condition, amenorrhea or menorrhagia, leads to an investigation and the difficulty is diagnosed. In the case reported by Gallant the placenta was retained a year and a second pregnancy with placenta previa occurred.

Whether the placenta grows or not during its retention after the expulsion of the embryo has developed considerable discussion, but the weight of evidence seems to show that unless it increases pathologically it can not be said to really grow, although Audebert and Sabrazes, following Clarence Webster, positively declare that the constituent placental elements do not remain inert in the uterine cavity like a foreign body, but continue to proliferate. It is more probable that the fetal elements remain stationary, or retrograde, unless altered by the maternal elements, which remain active under certain circumstances.

But sometimes the retained part exfoliates and cure results; at other times the uterine mucosa becomes inflamed and infection and hemorrhage necessitate an operation.

Hartman and Toupet have classically summarized the changes which may occur in the retained placenta or placental fragments, the most common being decidual endometritis, which is characterized by hemorrhage; chorionic villi are found in the discharge and relief is obtained by currettage. Then, too, the fragment may undergo sclerotic changes and contract, but it continues attached to the uterus and lives.

The fragment may remain adherent, the cells proliferate and form a polypus, as in the case reported by Doran, which he termed a benign deciduoma.

The retained portion may also give rise to hydatiform mole, which seems to correspond to myxomatous degeneration of chorionic villi, and finally, malignant deciduoma may take its origin from this retained fragment, with a fatal result.

So that aside from the constant menace from hemorrhagic and septic conditions, the retained placenta or a fragment thereof may at any time become the seat of a neoplasm which threatens the function of the uterus and occasionally requires hysterectomy for relief.

Godson's case was accompanied by amenorrhea, but in all of Klasson's cases hemorrhage was a marked symptom. In the third case reported by Gottschalk the woman retained the placenta in utero for three months after an abortion, without symptoms.

Diagnosis.—The diagnosis is easily made in recent cases attended by an obstetrician. By abdominal palpation two conditions may be observed; in one the uterus is large and soft, responds slowly to massage and is doughy to the touch, and here the placenta may be either entirely or partially adherent. In the second form the uterus is hard and moderately contracted below the level of the navel; this is the so-called "hour-glass" contraction, and may be present with adherent placenta, but the usual condition with these findings is the simple retention of an already detached placenta.

In cases attended by midwives or other incompetent persons, the history, or the protrusion of the cord will furnish a ready solution, even if the hemorrhage, which is usually marked in these cases, does not prompt to instant examination. External hemorrhage, may not be present, while internal hemorrhage exists behind the circularly adherent placenta to an alarming extent, as in Kuhn's case. If the history is unobtainable from difference of language, and the cord has been torn off by tractions in fruitless attempts to deliver the placenta, a thorough revision of the uterine cavity must be made. After the most rigorous attention to the hands, one is passed into the vagina and the finger beyond the os internum will at once detect the adherent or partially detached placenta. Sometimes, however, owing to spasmodic contraction of the internal os, the finger can not enter, and Gilis reports a case where relaxation did not occur until eleven hours postpartum, when the placenta was spontaneously delivered.

In these cases it is recommended to secure complete anesthesia, as in Gottschalk's case, and then pass first one, then two and three fingers, until access to the uterine cavity is obtained.

In cases of placenta succenturiata, confusion may arise from the detachment and delivery of the placenta major while the smaller part remains adherent.

An examination of the delivered portion will reveal on one side the severed mouths of the vessels at the point of separation from the smaller portion, if one membrane unites both parts of the placenta. This is known as Tarnier's sign, but it will be useless if the smaller portion is located in juxtaposition to the placenta major but not united, as the vessels in this case would not lie in the membranes.

This sign would also fail if the membranes were torn off close to the placenta proper, leaving the membranes which united the two masses attached to the segment in the uterus.

In old cases, without the history, the diagnosis usually can only be made after the patient is prepared for operation, and occasionally from a microscopic examination of the curetted fragments.

The indications for removal may be considered under two heads: 1, after abortion; 2, after labor.

1. *After abortion.*—If there is any hemorrhage, elevation of temperature or suspicious discharge, or if any fragments project from the uterus into the vagina the removal should be immediate. Otherwise, it is justifiable to wait and watch the case carefully. It is probable that the placenta will be discharged within a few days in the majority of cases. The presence of a suspicious odor or discharge is a signal for operative interference.

2. *After labor.*—The removal is indicated whenever the usual methods have failed (Winckel three to twenty-four hours), and sooner, if any symptom on the part of the mother (fever, hemorrhage, exhaustion or collapse) threatens her life.

Under the indications which have been given, the manual removal of the placenta is not only justifiable but imperative.

Chazan objects to the method advised by most operators, and claims that the separation is not in the line of least resistance; not where the division properly occurs. He believes that by the method usually described, the placenta is not separated in the serotina but, either at the expense of the uterine musculature or in the fetal placenta, an artificially created line of separation which may possibly perforate the uterus, and at best only results in bringing away string-like adhesions, which are part of the chorionic villi. He avoids the introduction of the hand into the uterus for fear of sepsis, and avoids contact with the placental site for the same reason. He says that in most of these cases the placenta is already partially detached, and his method, successful in twenty cases, is to grasp the loosened part with a thoroughly aseptic hand, and by slow steady traction secure the release of the adherent portion. In two of his cases the detached portion was central, and here he bored the finger through the middle, hooked it underneath, made traction and detached the placenta.

It seems probable that Chazan has been very fortunate in his cases, for the thin fibrous placentas which are sometimes present, like the three reported by Gottschalk and the four herewith presented, could not be treated thus. In these cases the placenta could be scraped off the uterine mucosa only with the greatest difficulty. Again, if the asepsis and antisepsis is rigorous, the introduction of the hand is not injurious and there is less danger of leaving a fragment of the placenta within. He does not describe how he treats those cases which are entirely adherent and have no loosened part to take hold of. The two cases with central detachment were probably fast becoming loosened by the Schultz method when he interfered.

In Kuhn's case the cavity formed by the detachment of the central portion was filled with blood, and by accident the operative finger perforated the median portion and an alarming hemorrhage resulted. The most of the placenta was removed at once, but the entire placental circumference was so closely adherent that it resisted four different attempts at removal, each attempt being accompanied by hemorrhage from the enlarged uterus, which could only be controlled for a short time with tampons. The patient finally died of sepsis, fifty-eight hours after a normal delivery. Unfortunately no post-mortem could be had.

The following method seems to fulfill all the indications: The external genitalia are thoroughly scrubbed with soap and prepared as carefully as for any serious surgical operation; a vaginal douche of 2 per cent. lysol is given and after giving the utmost attention to the nails, hands and arms, the hand is doubled up into cone-shape and guided by the cord (if present) to the placental site, counter-pressure being made with the external hand. The fingers are inserted between the placenta and the uterus, and the former carefully stripped from its base, leaving the least possible amount of placental tissue; it should then be removed with the hand, while the external hand secures vigorous uterine contraction by massaging the uterus, according to Credé's method. Deep anesthesia is necessary, using ether if the heart is weak.

If all the adherent portions of the placenta are not removed, and can not be with the fingers alone, as in Kuhn's case, the sharp curette is recommended by some writers. The utmost care is necessary in the use of the instrument at this time, as the uterine walls are thin and soft and the curette may easily penetrate to the abdominal cavity, or large portions of uterine tissue may be unnecessarily removed.

In Duhrssen's case, it seemed unsafe to continue with the curette, for this very reason, and after tamponning the uterus with iodoform gauze for forty-eight hours, the placental remnants were easily removed by the finger. On the whole, the tampon is much safer and equally as effective as the curette, if employed under extreme antiseptic precautions.

In case serious sepsis supervenes in an old case, or in a recent case, which has been expectantly managed the only recourse is in a vaginal hysterectomy, as in Duhrssen's case, where the uterus was removed for apparent defects in the wall and continuance of hemorrhage. If for any reason (condition of woman, lack of assistance, failure with fingers, etc.) delay of operation is required, the uterus must be tamponned with from three to five yards of iodoform gauze, until the adherent tissue in the uterus is loosened and thrown off.

Elevation of temperature is best controlled by diffusive stimulants and quinin. As soon as the placenta is removed, ergot may be administered and the uterus kept in contraction; the signs of hemorrhage must be looked for and the discharge carefully watched. If the heart shows signs of weakness, strychnin or digitalin should be given hypodermically. When a patient shows the effects of the hemorrhage, the normal salt solution should be injected under the breast to the amount of from one to three quarts. This must be done very slowly, keeping the reservoir at such a height that it will require ten minutes for each quart to enter. The patient should not be left until the danger of collapse or acute anemia is averted.

Case 1.—Mrs. M. (No. 929, Dr. De Lee), aged 37; Aug. 24, 1897; VIIpara, full term; previous labors easy; labor began 5:10 A.M.; temperature 99.2; pulse 76; membranes ruptured spontaneously, 9:27 A.M.; delivery spontaneous; Kristeller expression, 11:36 A.M.; head being down on perineum and no progress for an hour; after-pains every five minutes, strong; slight hemorrhage until forty-five minutes afterward when Credé was attempted in vain; large blood-clots but no placenta; uterus would rise up and become soft and boggy; Credé again in vain; woman acutely anemic; uterine massage, aortic pressure; fluids by mouth, strychnin solution 1-30; one quart saline into right breast; manual removal; stimulants; watched for twenty-four hours; in third stage two hours and thirty minutes; placenta adherent all around except at one point from which hemorrhage came; slow recovery.

Case 2.—Mrs. S. (No. 1234, Dr. De Lee), aged 25; Ipara; typhoid fever four years ago; confinement Jan. 27, 1898, second stage terminated at 12:45 P.M.; pulse weak, but regular; almost no hemorrhage until 1:30, when, on account of oozing, a fruitless attempt was made to expel placenta by Credé; maneuver was repeated at intervals of ten minutes, until 2:30 P.M.; at 3:00 P.M. she began to suffer from loss of blood and manual removal was indicated, so patient was put on table; strychnin solution, grs. 1-30 hypodermically; normal salt solution 1 quart, injected into right breast, also a few ounces by rectum; ether anesthesia, manual removal moderately difficult; 1 quart normal salt solution into left breast; placenta removed about 4:30 P.M., very thin and rather small; stimulants for twenty-four hours; recovery.

Case 3.—Mrs. R. (A.) (Case 1554, Dr. Reed), Italian; aged 42; VIIIpara; previous diseases negative; first menstruation at 15 years; menses regular; no pain; previous labors normal, eight days in bed; two miscarriages at three and five months; first labor at age of 28, last six years ago; present pregnancy normal; no edema; labor July 14, 1898, 2:45 P.M.; temperature 98.4; patient quite emaciated; pulse 90, good, O. L. A.; no internal examination; delivery spontaneous at 4 P.M.; after-pains every three minutes, strong; some hemorrhage; cord 80 cm., false knots; uterus 14 cm. above pubes, hemorrhage; Credé after twenty minutes; uterus massaged; abdominal aorta compressed; diagnosis of adherent placenta; Credé again in vain; salt solution per rectum; pulse rapid, patient restless, strychnin hypodermically; manual removal of placenta at 5:20 P.M.; uterus contracted well; adhesions quite intimate and separation difficult; placenta very thin and flat, a few white infarcts; abundance of fluids by mouth; ergot; temperature 100 on second day; recovery.

Case 4.—abortion.—Mrs. M., aged 40 (App. No. 3075, Dr. Bayer); first menstruation at 15, regular, scanty; family history good; previous labors normal; fifth month of gestation; dispensary summons Feb. 15, 1899; patient complaining of severe pain in back; uterus contracting, patient quite pale; abdomen thick and pendulous; woman generally ill-nourished.

Examination: Some effacement of os, one to two fingers' dilatation; os filled with a soft fluctuating mass, hard body high up. Diagnosis: Inevitable abortion. Clinical course: At 1 P.M. patient had a strong pain and a macerated fetus of about fourteen weeks was expelled; patient had a severe hemorrhage in from three to five minutes; Credé expression of placenta was attempted three times without effect; hemorrhage continued; diagnosis, adherent placenta; patient pale, pulse rapid, symptoms of collapse; manual removal of placenta at 1:30, pulse 140; uterus contracted slowly under massage; hypodermic of strychnin, 1-30, twice with an interval of forty minutes; brandy and strychnin by mouth; 1 quart salt solution injected into right breast; ergot, 2 drams, strong coffee and saline solution per rectum; placenta, small, thin and removed with difficulty; acute anemia, slow recovery.

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WHY IS THE PROFESSION POOR IN PURSE? AND HOW TO REMEDY IT.*

BY C. H. REED, M.D.

TOLEDO, OHIO.

A few days ago, speaking about present social conditions, one of our prominent physicians, located in a prominent part of this, our metropolis, said, "Only yesterday I heard of a doctor in this city who was found crying because he was hungry."

If any excuse were needed for discussing questions of this kind in a scientific body like this, such scenes as these, occurring among members and professional neighbors, are certainly sufficient.

Ours is the grandest, the noblest of all professions, save, perhaps, one, and its high aim, the relief of human suffering, physical or mental, should never be prostituted to the baser object, gain. Nevertheless, the present methods of securing a livelihood compel our devoting at least a part of our attention to the consideration of our purses. Necessaries we must have or die. Luxuries for our families and ourselves we should have, but the cases just referred to prove that not all can always have even the necessaries.

Why is this? Is it right that this condition should be? If the conditions of the social relation which produce such effects are wrong, and they must be, then these effects are avoidable. They need not be. Wrong is not a necessity.

If these troubles arise from the poverty of purses, the question naturally arises—why the poverty, and "how remedy it?"

Remedies! Why, doctors have as many remedies for hard times as old women have remedies for worms, and usually just as logic and about as effective. The physician who told me of, and deplored the condition of the professional brother found crying from hunger did not venture to explain the cause of, nor the necessity for, such deplorable distress, neither did he explain why it was any worse for a doctor to cry from hunger than for anyone else; but he has a remedy. He says, "I have been called a crank because I have advocated, in season and out of season, that physicians ought to, every year of their lives, charge larger and larger fees, thereby leaving those who are less able to pay for the younger men to make a living by treating them. I believe, as physicians, we ought to get together and 'divide up the day'. If as a class, we physicians had half sense, and would charge wealthy men what it is worth to carry the responsibility of their sickness, there need not be a hungry physician in Toledo; but here is the way the matter stands: If a physician were to charge a man who is worth $50,000 what he really ought to charge him, every other physician would gladly go into court for a dollar, and testify that the charge was exorbitant."

Now, honor is supposed to be the manly thing, but justice beats it. Instead of its being the depravity of doctors, are not the necessities arising from the financial condition of the country, this thing of which we complain so much, the incentive, the why such testimony is so easily had? If it be, then high and higher fees are not the cure, except for those who succeed in getting them. For others the effect would be less fees—except the old physician should distribute his large fees among them. But let no one imagine for a moment that all poor doctors are young doctors. By this plan it is possible our hardships could be lessened.

If all men have equal rights, as our Constitution declares they have, we believe, a question of justice arises here. It is well known that in order to learn to swim we must go into the water. So of the practice of medicine. All things else being equal, the experienced physician is more efficient than the inexperienced. Now, if all men have equal rights, must not this equality of rights extend to a choice of physicians? Is one to be denied the opportunity of calling to the aid of those most dear, his old and trusted family physician, and that, because, through no fault of his own, his income has not kept pace with the inexorable growth of the fee bill? Is he no longer to profit by the experience the practice in his own family has afforded the doctor? Is there an honorable, noble-hearted doctor living who would refuse him? It is evident that this remedy, put into practice, would do violence to justice and fail.

The author of a paper read before this society, published in the *Toledo Medical and Surgical Reporter*, February, 1898, attributes the cause of the physician's financial distress, the major part at least, to a different cause, and recommends a different remedy. With him the cause is carelessness in charging and collecting. He points out the great results following the neglect of little things and shows by figures that in strict attention to the little matters is the remedy to be found. We quote: "Suppose," says he, "that one, as most do, neglects to charge, and of course for that reason, to collect $1.43 a day or $10 per week. If, instead, he collected this and put it out at 8 per cent. interest for twenty-one years, he would at that time have the snug sum of $27,800, $10,920 actual collections and $16,880 interest on dividends."

This solution of the question of empty purses differs somewhat from the other. It looks more feasible because figured out so one can almost see the dollars staring him in the face. The first suggestion being so foreign to the principles of justice scarcely needed more than to be stated to be doubted. The last, being reduced to such a mathematic certainty, justifies a mathematic analysis.

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It is intended that we all shall reap the benefits from the remedy suggested, hence all must be considered in our calculations to determine its feasibility or value. So, because it is very probable, it is admitted that the average neglected charge is $1.43 daily or $10 per week, and that in twenty-one years the amount thus gathered would be the handsome sum of $27,800. We must remember, however, that this is the amount now lost and has nothing to do with that which we do collect. This is a surplus above ordinary receipts, to be saved for a reserve fund in old age.

By Polk's "Medical and Surgical Register of the U. S. and Canada" (1898), we find in round numbers, there are 116,000 doctors in the United States. If this estimate be correct, their total extra accumulations in the twenty-one years would then be, by collections $1,266,720,000, and by interest or dividends, $1,958,080,000, a grand total of $3,224,800,000. Now, when it is known that there is only about $1,200,000,000 of money of all kinds in the United States, what effect on our collections not forgotten, and upon the financial prosperity of other people, this would have becomes a mystery whose explanation must be left to the discoverer of the remedy.

The truth of the matter is, the profession is subject to conditions which, unaided, it can not control. The question is a scientific one, and its solution, like the completed solution of all scientific questions, can develop but one answer. This fact, that there is but one answer, may explain at least a part of the difficulty so many have in finding it.

The medical profession, whether considered as individuals or as a whole, like all individuals or governments, is a part of the universe. Because this is so we must be governed by or be amenable to the laws governing the universe. It is only in or by obedience to natural law that planets and stars can move harmoniously in their spheres, so it must be with man in his. The former are governed by natural law; men, by moral law. This recognizes the equality of man and governs in all his relations to his fellow-man. Moral law, however, emanates from the same infallible source as do those we call natural laws, hence, moral law must also be a natural law, and therefore, equal with any other natural law in authority. Moral law, therefore, can no more be suppressed by man than can be the law of gravitation or any other natural law. The violation of moral law then, must also entail a penalty, punishment, as surely as does the violation of any other of the laws of nature. The social conditions that make doctors cry for bread are the result, then, of wrong, of wrong business methods, of the violation of moral law. They are a necessary sequel of wrong and follow wrong methods as necessarily as effect follows cause, or disaster follows evil.

Money, the absence of which makes poor purses, is a material thing. It is made out of matter. It is a tool used in buying, among other things, bread. That all men may buy bread and none may cry from hunger, or that all may be and continue easy in purse, money must be sufficiently distributed, be of ample quantity, and remain, approximately at least, evenly distributed.

Though money is matter, unlike matter it is destructible, yet, like matter, in its distribution it is subject to natural law, and any change in its distribution can occur only in compliance with the two fundamental mathematic laws governing the distribution of all matter—subtraction and addition. Before addition, subtraction must be. Before some purses can be made plethoric others must be made anemic. Before the few can add millions to the contents of their purses, these same millions must be subtracted or extracted from the purses of the masses. Then, as our profession's work is almost wholly among the producing masses, as long as this process of making millionaires goes on, is the fact that we are poor in purse any longer a mystery? The cause remaining active, must not our poverty as long continue, and grow worse and worse? If we would have the relief for which we so constantly hope and so constantly strive, must we not first see to it that moral law regarding the equal rights of man is respected; that the producing masses are enabled to retain to themselves all they produce or earn, or its equivalent? This secured to them, they will be able to give value in return for value received from us. This secured to each member of society, neither we nor others need cry for bread or seek relief in a suicide's grave.

The cause of our profession's impoverishment diagnosed, the remedy is self-evident. A change in business methods that produce the conditions, this unequal distribution of wealth, must be made. There is no alternative. This, or the cry for bread in ever increasing volume, must go on. Business must be conducted in obedience to the mandates of natural or moral law, first principles, or the principles upon which is founded the social relation, the equality of man. This, nothing more, nothing less!

The eternal law of justice is the yardstick with which every transaction between man and man should be measured, and with it, must be measured. Let every law pertaining to the settlement of disputes be wiped off our statute books and every question pertaining to the business or social relation be adjudicated by the cardinal principles of democracy: "equal rights to all, and special privileges to none." No other law is needed. Our multiplicity of laws serves only to confuse, and most of them were made but to serve some selfish purpose, to gain some advantage over others, or another.

The underlying principle governing the whole matter is the fact that all men were born free and with equal and inalienable rights. No one disputes this fact. But if it be a fact, no man has any ownership in man and therefore has no right to his labor except in exchange for a full equivalent. Our agreements or bargains cut no figure in the question. "The sacred right of contract" is a myth and a snare. Man's rights are inalienable. No man has or can have any right in any way to injure any man. He has no ownership in him, his labor, nor his goods. Yet, notwithstanding this, the first thing we do with our child is to teach him to beat his playmate in a trade, chide him for his failure, and praise him for his success. Is it any wonder that the present deplorable and damnable social conditions of our country prevail? For them. who is responsible? Does not the earth bring forth an abundance for all?

No man has a right, more than any other, to the earth and therefore to the things necessary to enjoy life, liberty and happiness. That is, he has a right to only that which he himself earns, or produces. This being so, then every man must have an equal right with every other man to the opportunities to earn, or produce. The equal right to these is what the external law of justice allots to every man and requires that every man should not only have, but control. The non-compliance of our business methods with this immutable law must entail punishment by disarranging social conditions; the producing of millionaires, and, their necessary concomitant, paupers; by producing the inability for the many to obtain the necessaries of life or for the enjoyment of happiness; by producing the inability to pay doctors and with this, the necessary effect, that doctors, with other indigents, must cry for bread.

To remedy the poverty of their purses, physicians must become teachers of the people. They must teach, not hygiene less, but scientific economics more. They must teach the incontrovertible fact that to maintain equal distribution of wealth so all may be able to pay and all may receive pay, every man must be enabled to keep for himself all he earns or its equivalent. To do this we must teach that exchange must be even; that profit, the gain of one and the loss of another. is the whole cause of the excessively unequal distribution of wealth, and must therefore be eliminated from business methods; that usury of all kinds is robbery, pure and simple; that to mortgage the labor of the unborn to pay interest and bonds, debts of our creating, is in direct violation of every principle of honor or justice, is cowardly, dishonest, homicidal, and can result only in the further aggrandizement of capital and the greater impoverishment of the coming producers; that great riches gathered by present methods is prima facie evidence of either dishonesty or ignorance, and that their possessors merit, socially, only contempt. In short, we must teach that every man must be compelled to eat his bread in the sweat of his face, and no well man must be permitted to eat in the sweat of another's face, neither in the sweat of capital's face. We must teach that all tools used by individuals or corporations for enriching themselves, followed by the necessary effect of impoverishing others, must be owned and controlled by the people themselves. This we must teach because government ownership eliminates profit and with it its evil effects. Individuals and corporations can run business only for profit. But the government, because it would be as impossible for it to get rich off itself as for the individual, can not run business for profit, the demon at the bottom of the whole trouble. For this reason the government must own and conduct at least all business known under the name of public utilities. Except usury, the profits from these are among the most common and effective of all causes of unequal distribution of wealth. They are means by which the control of another's opportunity to live upon the earth is got and held. Business must be conducted on the co-operative plan. The co-operative plant must include every man as an equal owner. This done, profits, which then would consist of new products only, i. e., new additions to wealth, would be equally distributed among all the members of the corporation, that is all the people. No harm, but only good, could then come from profit or any gain. In this way, and only this, can business methods be made to comply with God's eternal fiat regarding the equal rights of man.

In this, and this only, is found, not a temporary remedy, but the cure for the poverty of purses; the people's and, with theirs, the doctor's.

By the will of William McMullin, Philadelphia, who recently died in Ireland while on a visit to that country, $500 has been received by the Episcopal Hospital of Philadelphia.

TRACHOMA TOXINS AND ANTITOXINS.

I. EFFECT OF THE TOXINS ON DIFFERENT ANIMALS. II. EFFECT OF THE TOXINS ON THE CONJUNCTIVA AND EYE. III. PRODUCTION OF ANTITOXIN. IV. TRIAL OF ANTITOXIN IN TWO CASES. V. RESULTS.

BY E. F. SNYDACKER, B.A., M.D.
CHICAGO.

In another paper (vide Journal, Feb. 4, 1899) the diplococcus of trachoma was described as seen in the tissues and on various culture-media. It still remained to study in detail the action of its toxins and to produce, if possible, an efficient antitoxin. A flask of bouillon was inoculated from a pure culture of the diplococcus and allowed to stand in the incubator for about two weeks. At the end of that time the bouillon was filtered through a Kitasato filter, a period of about ten days being consumed in this process. The filtrate and precipitate at the end of that time were placed in carefully sterilized flasks, and to each of them were added trikresol .5 per cent.

On November 23, at 4 p.m., 1 c.c. of the filtrate was injected into the flank of a guinea-pig, whose temperature at the time of injection was 99.75 degrees; the next day, at 9 a.m., the temperature had risen to 102.5, and at 2 p.m. to 103.5, where it remained for almost six hours and then gradually declined to where it had been before the injection.

When we consider the amount of the toxin used, the small size of the animal and its susceptibility to the various bacterial toxins. this reaction seems very slight, and still the fact that there was a reaction shows that in the economy of the animal doubtless some antidote to the poison was being created.

Larger amounts injected into different guinea-pigs were followed by increased reactions, till it was found that the injection of 4.5 c.c. of the toxins caused the death of a guinea-pig weighing 300 grams in about twelve hours. The injection of 2 c.c. of the toxins under the skin of a rabbit whose temperature at the time of inoculation was 100.25, was followed by a rise of 2.5 degrees, by a diarrhea and a loss of appetite; these symptoms disappeared at the end of three days.

An injection of 4 c.c. of the toxins into the peritoneal cavity of a dog caused a rise of temperature of only 1.5 degrees. The lethal dose having been well ascertained, on November 29, at 9 a.m., 1 c.c. of the toxins was injected into the arm of M. C., who was at the time receiving injections of strychnia for an optic atrophy; the temperature at the time of injection was 98.6. At 2 p.m. it had risen to 100, the patient complained of frontal headache; at the site of injection there was some pain and redness. At 5 p.m. the temperature rose to 101, the patient complained of malaise and headache, and there was local edema. The next morning the temperature was 101.5, and then gradually subsided to normal.

I watched with especial interest to see whether the toxins would have any selective action on the mucous membranes, but was unable to determine any at all. One point was of especial interest: the fact that the human subject was far more susceptible to trachoma toxins than animals. Where the injection of 1 c.c. of the toxins into such a small animal as a guinea-pig caused a rise of temperature of only 3.75 degrees, the injection of the same amount into a human being weighing many times as much as the guinea-pig caused a prompter and almost equal rise of temperature, while the injection of four times that amount into a dog caused a reaction of only 1.5 degrees.

EFFECT OF THE TOXINS ON THE CONJUNCTIVA AND EYE.

The injection of the toxins under the conjunctiva of rabbits and guinea-pigs was followed by a most marked reaction. The ocular and palpebral conjunctiva became red and swollen. There was marked chemosis, and the palpebral conjunctiva became thickened and spongy; there was a secretion of a thin, ichorous character; the cornea remained clear.

The injection of a few drops of the toxins into the anterior chamber of the eye of a guinea-pig was followed by violent reaction. There was infiltration of the cornea along the track of the needle, marked pericorneal and conjunctival injection, swelling of the lids, watery secretion, haziness of the anterior chamber and muddiness of the iris. These symptoms all gradually disappeared.

THE PRODUCTION OF ANTITOXIN.

Numerous methods have been employed in the production of antitoxins, and many theories advanced to explain their action. The whole subject is far from being on a scientific basis, and the results arrived at have been largely attained through empiric means. The outlines which Behring has appended to his book on "Blood-serum Therapy" contain so much of the subject in so brief a space that I am tempted to translate and incorporate them in this paper.

SCHEME I.—METHODS OF CONFERRING IMMUNITY AGAINST INFECTIOUS DISEASES.

A. Conferring immunity by means of the same toxic agents against which immunity is to be conferred.

I. (Abschwachung method.) Pasteur's method can be universally employed: 1. Conferring immunity by means of weakened cultures of living bacteria. 2. By means of their toxins. The methods of weakening are: *a*. By high temperature. *b*. By low temperature. *c*. By chemic agents. *d*. Exposure to air or sunlight.

II. Verdunnung's method can only be applied in a limited number of cases; consists of employment of: 1. Virulent cultures. 2. Full-strength toxins.

III. Combinirte method can be universally employed; consists of conferring immunity by the employment of method No. I, and following this by the employment of virulent cultures and strong toxins, according to method No. II, thus conferring high degrees of immunity.

B. Conferring immunity by means of toxic agents of different character than those against which immunity is to be conferred. (Doubtful utility.)

C. Conferring immunity by means of direct employment of immunizing agents. (Blood serum therapy.)

SCHEME II.—MEANS BY WHICH IMMUNITY IS CONFERRED.

1. By destruction of the living bacteria causing the disease.
2. Checking the growth of the bacteria causing the disease.
3. Destroying the power of the bacteria to produce toxins.
4. The destruction of the toxins which the specific bacteria are producing.
5. Conferring such high powers of resistance upon the various organs and living cells of the body that they can withstand the nerve and cell poisons produced by the specific bacteria.

SCHEME III.—CAUSES FOR THE STATE OF IMMUNITY.

A. Passive resistance of the organism. (Theory of the barren soil.)

B. Functional peculiarity of the organism:

1. Functional activity of the living portion of the organism. (Theory of active resistance.) 2. Functional peculiarity of the lifeless parts of the organism, as the fluids or secretions of the body.

On account of the greater susceptibility of the guinea-pig to the toxins of trachoma, also on account of the very large quantities necessary to produce systemic effects in other animals, it was deemed best to produce the antitoxin by means of guinea-pigs.

Inasmuch as the production of antitoxins of the various other diplococci, such as gonococci and pneumococci, has not been crowned with any marked success, the experiment of producing a trachoma antitoxin was entered upon as much through scientific interest, as through hope of practical results.

An animal weighing 327 grams was chosen, and on December 1, the first dose of 1 c.c. of trachoma toxins was injected into the flank of the animal; the temperature rose to 103, and by the end of the fourth day gradually returned to normal.

During the four days the animal lost two grams in weight, which it regained at the end of two days. The next injection given was 1.25 c.c. and the dosage was gradually increased, the injections being given at intervals of from four to seven days, each injection being administered as soon as the animal had fully recovered from the preceding injection, care being taken to weigh the animal at intervals to see that it was not losing in body weight, as Behring has shown that animals which fall off in weight during the injection of toxins do not produce efficient antitoxins.

At the end of seven weeks the injection of 5 c.c. of the toxins was attended by a rise of temperature of only 1.5 degree, while a control animal injected with an equal amount died in less than twenty-four hours. The animal was now given several injections of pure bouillon cultures of the diplococcus, which were followed by only a very slight reaction; an injection of 5 c.c. of a ten-days-old culture causing a rise of temperature of only .75 degree. At the end of ten weeks, 1 c.c. of serum was drawn from a blister which had been produced on the abdomen of the animal, and injected into the peritoneal cavity of another guinea-pig, and at the same time 5 c.c. of the toxins were injected into the flank of this animal. The temperature rose to 105, a severe diarrhea set in and lasted several weeks, the respirations became very rapid, a profuse discharge occurred from the nose and eyes—whether due to a selective action of the toxins on the mucous membranes or not, I can not say. Gradually the symptoms abated and the animal recovered.

Inasmuch as the control animal recovered, after a dose which had previously proven fatal to similar animals, and inasmuch as the lethal dose no longer caused a rise of temperature in the animal which had been chosen for the production of antitoxin, it was now deemed sufficiently immune, and accordingly killed, the blood drawn off and allowed to clot in a cool place, and about one-half ounce of serum drawn off into a carefully sterilized wide-mouthed bottle, and 5 per cent. of carbolic acid was added.

The first patient on whom the antitoxin was used was Matilda S., aged 12 years, presenting a most pronounced form of trachoma, the palpebral conjunctiva of both eyes, as well as the retrotarsal folds, being studded with large gelatinous nodules. The cornea in both eyes was badly involved, that of the left especially so, extensive ulceration having been followed by anterior staphyloma.

Vision at the time of beginning the injections of antitoxin was R. E., shadows; L. E., fingers at about six inches.

The records of the case, at the Eye and Ear Infirmary, read as follows:

R. E.: Conjunctiva full of large follicles; slight entropion; large central leucoma; diffuse haze of cornea; marked pericorneal injection; R. vision = shadows.

L. E.: Numerous follicles; much cicatricial tissue; entropion; corneal bulging; dense leucomaat lower inner portion of cornea; pannus; left vision = fingers at six inches.

It was an exceptionally good case on which to try the antitoxin, because the girl had never received any treatment whatever before coming to the infirmary. It was deemed best, for purposes of comparison, to try antitoxin on the right eye only, the usual methods of treatment, beginning with an energetic scarification of the conjunctiva, being employed in the left eye. One of the house surgeons of the Eye and Ear Infirmary had the left eye in charge; his treatment, after the scarification, consisted of applications of protargol and nitrate of silver to the conjunctiva.

The first application of antitoxin consisted of an injection of 1/3 c.c. into the upper retrotarsal fold. This was accomplished as follows: The everted lid was seized with a fixation forceps and raised by an assistant; a fold of mucous membrane in the retrotarsal fold was then picked up with a mouse-toothed forceps, into which the needle of a hypodermic syringe was inserted and the contents evacuated, forming a wheal which usually extended well along the base of the cartilage.

This injection was followed by redness, swelling and edema of the lids; cold applications were employed to reduce this reaction, and at the end of two days another injection of .2 c.c. was given. These injections were repeated at intervals of about three days and were given sometimes in the upper, sometimes in the lower, cul-de-sac. Usually each injection was followed by a reaction, which was allowed to subside thoroughly before the next one was given. After one week of this treatment the size and number of the trachoma nodules had visibly diminished. At the end of the second week the cornea showed marked signs of irritability, and photophobia, which had always been present, increased, so atropin was employed for a few days, which, together with hot applications, soon allayed the irritability. The injections were now resumed, but at longer intervals. At the end of the third week the large gelatinous follicles had almost entirely disappeared, and the right eye presented fully as much, if not more, progress than the left, which had in the meantime been treated along conventional lines. From the third week on, however, although the improvement continued, it was by no means so well-marked. It is true, the enlarged follicles all disappeared and the cornea became clearer, still some corneal haze and vascularity persisted; the lids showed some tendency to the formation of cicatricial tissue, and they by no means assumed the smooth yellow, glistening appearance characteristic of the normal lid.

What can be claimed for the antitoxin treatment in this case, however, is that it far surpassed the routine treatment; this perhaps is best shown by a record of the patient's vision, taken at intervals during treatment, which shows a far greater improvement in the eye treated with antitoxin than in the other eye. The following is copied from the house records of the case:

At time of entrance R. V. = shadows; L. V. = fingers at 6 inches.

February 2: R. V. = fingers 1.5 feet; L. V. = outlines.

February 13: R. V. = fingers at 5 feet; L. V. = fingers at 6 inches.

February 20: R. V. = 10/200; L. V. = fingers at 1.5 feet.
February 25: R. V. = 8/200; L. V. = fingers at 1 foot.
March 3: R. V. = 20/200; L. V. = fingers at 1 foot.
March 13: R. V. = 20/200; L. V. = fingers at 1 foot.
March 20: R. V. = 20/100; L. V. = fingers at 1 foot.
April 15: V. R. E. = 20/70.

While Matilda S. was receiving injections of antoxin, the remedy was also being tried on Sherman U., a farmer, aged 35, who presented a more chronic phase of the disease.

The man's condition on entering the infirmary, as described by the house records, was as follows:

R. V. = 20/70; L. V. = 20/200.

R. E.: Many small follicles scattered about conjunctiva; slight tendency to formation of cicatricial tissue, also entropion, beginning pannus, pericorneal injection.

L. E.: Many small follicles; cicatrization; entropion; corneal haze; beginning pannus.

This case was not considered as favorable as the other for the employment of antitoxin, and still it was tried in order that its result might be seen in the more chronic type of cases, this being the class with which the oculist more commonly comes in contact.

As in the other case, the right eye was selected for antitoxin treatment, while the left was given routine treatment by one of the house surgeons of the infirmary. Injections of ⅓ c.c. were given, as in the other case, on an average of about twice a week. After each injection the reaction was held in check by the employment of cold applications.

The lid gradually became smoother, the follicles disappeared and the general condition of the eye was much improved, the vision advanced from 20/70 to 20/50; the improvement in the right eye, however, as measured by progress in vision, was not nearly as marked as in the left eye; for while vision in the right eye improved from 20/70 to 20/50, that in the left went from 20/200 to 20/70. After the antitoxin had been tried and found effective in these two cases the question arose: Is the improvement due to the specific action of the antitoxin, or might not the reaction caused by the injection of any neutral fluid under the conjunctiva have a beneficial effect on the course of the disease? Furthermore, it is well known that any neutral blood serum has more or less of a bactericidal action, so why might not the antitoxin serum have acted in this manner?

To settle these questions, 10 c.c. of antistreptococcus serum, prepared at the Pasteur Institute, were procured, and three drops injected in the upper, and three in the lower, cul-de-sac of Florence H., aged 10 years, who was suffering from a most pronounced form of trachoma, the entire conjunctiva of both upper and lower lids being studded with enlarged sago-like follicles.

A very strong reaction followed these injections, the lids became greatly swollen and edematous; the conjunctiva became chemotic; the reaction was allayed in a short time by the use of cold applications. The injection of antistreptococcus serum was continued for about three weeks and then abandoned because, though the injections caused strong reactions, it was found that they did not influence the course of the disease in the least, and that while the disease in the left eye yielded to ordinary forms of treatment that in the right showed no improvement whatever.

At the end of four weeks Sherman U. had progressed so much and felt so well that he was discharged at his own request. The lids showed a marked and equal improvement in both eyes, but the vision had improved far more in the left than in the right.

It is doubtful whether the antitoxin treatment held its own in this case. Matilda S. is still under observation and is receiving injections of antitoxin about once in every ten days. In her case the antitoxin treatment proved far more efficacious than the routine treatment.

RESULTS.

As can be readily seen, these experiments are of more interest from a scientific than from a practical standpoint. They show quite clearly that the organism of trachoma produces specific toxins which cause local and systemic effects, and to whose action doubtless are due those disastrous local effects with which oculists are so familiar; they show that the body produces antidotes to these toxins, though the field invaded is so small that the systemic effects are not appreciable.

Has the trachoma antitoxin a practical application? That, from these few experiments can not be satisfactorily answered. The difficulty of obtaining the trachoma diplococcus in pure culture and the large quantity of toxins necessary to produce systemic effects in the larger animals, renders the production of antitoxin very difficult, still, when a more efficient antitoxin than that used in these experiments shall have been produced, far better results may be obtained and may well repay the difficulties encountered.

In the more chronic cases, where cicatrization has become well established, much can not be expected of the antitoxin, but in the early stage of the disease it certainly exhibits a specific and curative action.

Ill. Eye and Ear Infirmary.

Address.

THE MEDICAL PROFESSION.*

THE CAUSES OF ITS DIVISION INTO DISCORDANT ELEMENTS AND THE REASONS I AM NOT A HOMEOPATH.

BY WILLIAM E. QUINE, M.D.

PROFESSOR PRACTICE OF MEDICINE AND DEAN OF THE FACULTY, COLLEGE OF PHYSICIANS AND SURGONS.
CHICAGO.

Charity suffereth long and is kind.

(*Concluded from page 908*).

Replying to the statements of Professor Hale, allow me to say: No, sir. I never attempted to make my hearers believe that avowed homeopaths of to-day follow the methods of Hahnemann; but I have attempted to prove a little less than you admit to be true, namely: That perhaps 1 per cent. of avowed homeopathists *are sincere* and consistent disciples of Hahnemann, the remaining 99 per cent. using the name "homeopath" merely as a catch-penny.

I have good reason to know that the newspaper is a favorite weapon of attack with other homeopathic gentlemen than the one alluded to, for there they can tell any story they like with a feeling of certainty that only a small number of readers will know whether it is true or false, and there they can deprecate the "intolerance" and "prejudice" and "persecution" of the "dominant school," and do it so artistically as to elicit generally, an editorial thunderbolt against that "school." But I have never in my life known a "disciple" who was willing to go before a jury of his peers and debate the doctrines of homeopathy as set forth by the founder of the sect. It is interesting to remember the opinion of Professor Hale: that there are less than twenty homeopathic physicians in existence who follow the methods of Hahnemann. But then, perhaps, Hahnemann did not know what real homeopathy was.

Constantine Hering, editor of one output of Hahnemann's "Organon," a man of such renown that a medical college in this city is named in his honor, an ultra homeopath ostensibly, whose numerous "provings" are ridiculed by Hempel, also a writer of renown, on account of their fantastic and shallow absurdities, says on page 4 of the preface of the book mentioned: "What important influence can it have whether a homeopath adopts the opinions of Hahnemann? I am generally considered a disciple and adherent of his, but I nevertheless declare that since my first acquaintance with homeopathy in 1821, down to the present day, I have never yet accepted a single theory in the "Organon." It is the genuine Hahnemannic spirit to disregard all theories when they conflict with the proper care of the sick."

Now, gentlemen, if you want more absolute and complete repudiation of homeopathy than this, you will have to look further, for I do not know any language that will express it. And yet I have been invited to come here by friends who, a year ago were honored professors in the Hering Medical College of this city, and are now professors in the Dunham Medical College, and tell them and you why I am not a homeopath! I am not a homeopath, gentlemen, because I can not call myself "a disciple and adherent" of Hahnemann in one breath and repudiate every one of his precepts in the next. Ability of that kind is not given to every man, you know; and with humility and respect I ask your indulgence for my own defects of organization.

The *Northwestern Journal of Homeopathy* says: "The practitioners of homeopathy forty years ago who are now living can scarcely recognize the merchantable article called homeopathy at the present day,"

Dr. Wilde, vice-president of the British Homeopathic Society, writes in the London *Lancet* for 1877, as follows: "1. It is true that the views of Hahnemann are often extreme and incorrect. 2. That Hippocrates was right when he said that some diseases can be treated best by contraries and some by similars; therefore it is unwise and incorrect to use the title of homeopath. 3. That although many believe that the action of the infinitesimal in nature can be demonstrated, its use in medicine is practically, by a large number in this country, all but abandoned."

In view of the foregoing quotations and extracts—and did time permit I should cite three times as many, and all from representative authorities—can it be claimed by any man that homeopathy now has any creed at all? Is there *one* Hahnemannic precept upon which all disciples are united? There is nothing left for them to unite upon but the name "Homeopath"; but as long as that name has commercial value it seems to me highly probable that the medical profession will continue to be divided into discordant elements.

The present status of homeopathy is well set forth by the editor of the *Medical Century*, in the number for Oct. 15, 1895. This gentleman, Prof. C. E. Fisher, is an author of repute and at the present time is president of the American Institute of Homeopathy—the largest organization of homeopathists, I believe, in the world. No one is in position to speak with greater authority than he. Under the caption, "Whither are we Drifting," he writes as follows: "Drifting, drifting, drifting. Who's drifting, and whither? Why, we, the homeopathic profession of this country are drifting and who knows where? Have the readers of this journal attended the medical meetings lately? Have they read the journals recently? Have they talked with their colleagues on the street-corners or in the Club lately? And if so, have they seen, heard or read much, if anything, about homeopathy—the homeopathy of Hahnemann, for instance? Is it not true that supposed new treatments, new remedies, new fads, and new fancies occupy altogether too much of the time in medical gatherings, in the journals, and in our conversation with each other? We believe we will not be deemed pessimistic when we aver that such is only too true.

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*An address delivered before the faculty and students of the Dunham Medical College (Homeopathic).

"Is homeopathy a science? Then, why not stick to the text? Is '*similia similibus curantur*' a law? Then why not follow it? What need for antitoxins, palliatives—from whatever source—and proprietary remedies of whose formula we know nothing and, unfortunately, seem to care less?

"How often we hear the remark, 'I believe fully in homeopathy, but I am so broad-minded that I do not hesitate to take in all the good things that are offered me, no matter what their source.' This sounds amazing well, but if the thought be followed to its logic conclusion, what need will there be for a separate system of medicine, for the homeopathic profession and all those appurtenances that go to make it a formidable rival of the antipathic system? What need for a law indeed, that is only in part a law—a law that fails so often, if, indeed, it does fail, which we emphatically deny, that we have to grope about in the dark, as it were, without the light of science to guide us, following our vocation with the crudities and empiric methods of the drug clerk, the proprietary prescriptionist, and the omnibus dosist of the present day? Go to, with the vainglorious boast that you are 'too broad-minded' to adopt a dogma, a creed, a rule. A law is never a dogma. No mariner would attempt to guide his vessel into port by guess-work, or analogous reasoning as to which way his course should lie and what his relation to shore, and surely the medical mariner who essays to guide the human vessel into port from the troublous sea of typhoid fever, pneumonia, diphtheria, or other serious disorder, should not attempt this task without a chart and rudder to guide him and afford him complete control of his precious cargo as he tries to tide it through the storm of disease and into its harbor of recovery.

"If Hahnemann enunciated a law, and we believe it to be a law, we should prescribe according to that law. How many of us do so in other than the most careless and haphazard fashion? If we are to believe what we read and believe what we hear at the average medical convention, not one member of our profession out of a dozen knows what scientific, careful, accurate, '*similia similibus curantur*' prescribing really is. Something is wrong, and we are simply drifting, drifting, drifting, no one knows where."

My learned friend who thinks well of *Lac Caninum* as a remedy for diphtheria is doubtless correct as to the general proposition; but he is in error as to one point. Somebody does know "where." At least, if he does not know "where," he does know "whence." It is the editor of the *Medical Century*. This gentleman, in the number of his publication dated March, 1892, says:

"We venture to assert that had not our school drifted away from the practice of forty years ago it would have been dead and buried long since.

"We have drifted away from the practice of giving a pellet of the two-hundredth or higher, and waiting thirty or sixty days for its curative effects; from the prescribing a high dilution by smelling the dry pellets, those same pellets 'grafted' by shaking a thousand pure pellets with one, medicated by the the thousandth.

"We have drifted away from a belief in 'provings' made by taking a single dose of the one-thousandth, thirtieth or third even, and then recording all the symptoms felt by the prover—natural symptoms, cold, diarrhea, etc.—for the next thirty or sixty days!

"We have drifted away from carrying a pocket repertory to the bedside of the patient, and recording the symptoms in columns, and a weary search in said repertory until a mechanic similimum was found.

"We have drifted away from the days when our pseudo-surgery was a disgraceful farce, when we expected *silica* to open a felon or *hepar sulphur* to lance an abscess.

"We have drifted away from the narration of miraculous cures with the highest attenuations, which were not cures at all, but a spontaneous finale of a self-limited disease.

"We have drifted away from the days when our practitioners would sit by the bedside of a woman dying of uterine hemorrhage, hunting in a repertory for the 'indicated remedy,' while the vital fluid was ebbing away, without resource to the tampon or ergot."

That homeopathy is "drifting" then, seems to be a fact; and it is a pity that "no one knows where."

I trust, gentlemen, it has been made plain that the homeopathy of to-day is very different from the homeopathy of forty years ago, and that the "Causes of Division of the Medical Profession into Discordant Elements" are not as obtrusive as they were. I also trust that I shall give no offense in saying that what your writers term "drifting," a non-partisan writer might term "disintegration." The trend of evolution seems to be unmistakable. Can you doubt it when you are listening to essays at meetings of your State and National organizations on "How can We Best Advance Homeopathy?" "The Causes of Divisions in Our Ranks," and other suggestive topics? Things are not as they were. If there is any reason now except lack of outspoken honesty on the part of homeopathists why the name "homeopath" should be retained or why the medical profession should continue to be divided into discordant elements, I should be glad to learn what it is. I fully believe that homeopathists as a class still attach greater importance to the conception of "similars" than the other physicians do; and I also believe that there are a few, very few, sincere Hahnemannic homeopathists still in existence. Professor Fisher estimates, by implication, the number at less than one-twelfth of the entire number of those who bear the name. Professor Hale estimates the ratio of true to spurious at less than one to one hundred; and he also implies that the total number of homeopathists "in this and the old countries" is only two thousand. Hence, according to his figures, there are less than twenty honest and consistent Hahnemannic homeopathists in existence to-day. And if he underestimates the total number, and this should prove to be four thousand instead of two thousand; even then there would be less than forty genuine Hahnemannians on the face of the earth. I am well aware that Wesselhoeft places the total number of alleged disciples at six thousand, and that the late president of the Illinois State Homeopathic Society, Dr. A. A. Whipple, declares there are fifteen hundred registered in Illinois alone. No, you are in error, gentlemen. There are four thousand avowed homeopathists in the world, one thousand and forty-six of whom are registered in this State, and more than eight hundred of these are located in Cook County. Think of it! One-fifth of all the homeopathists in existence, and one-fourth of all the homeopathic colleges, are located in Chicago and its suburbs—and yet Chicago is the wickedest city in the world! Of these only about seventy, as implied by Professor Fisher, and only about eight, according to Professor Hale, are honest. And yet I am asked why I am not a homeopath!

At the meeting of the American Institute of Homeopathy, in 1880, a movement was inaugurated by gentlemen of this class to prevent the complete extermination of true homeopathy; and, accordingly the "International Hahnemannian Association" was organized and the following "platform" of principles adopted:

> Whereas, We believe the Organon of the Healing Art as promulgated by Samuel Hahnemann to be the only reliable guide in therapeutics; and
>
> Whereas, This clearly teaches that homeopathy consists in the law of similars, the totality of symptoms, the single remedy, the minimum dose of the dynamized drug, and these not singly, but collectively; and
>
> Whereas, Numbers of professed homeopaths not only violate these tenets but largely repudiate them; and
>
> Whereas, An effort has been made on the part of such physicians to unite the homeopathic with the allopathic school; therefore
>
> *Resolved*, That the time has fully come when legitimate Hahnemannian homeopaths should publicly disavow all such innovations;
>
> *Resolved*, That the mixture or alternating of two or more medicines is regarded as non-homeopathic;
>
> *Resolved*, That in non-surgical cases we disapprove of medicated topical applications and mechanical appliances as being also non-homeopathic;
>
> *Resolved*, That as the "best dose of medicine is ever the smallest," we can not recognize as being homeopathic such treatment as suppresses symptoms by the toxic action of the drug;
>
> *Resolved*, That we have no sympathy in common with those physicians who would engraft on homeopathy the crude ideas and doses of allopathy or eclecticism, and we do not hold ourselves responsible for their fatal errors in theory and failures in practice;
>
> *Resolved*, That as some self-styled homeopathists have taken occasion to traduce Hahnemann as a "fanatic," as "dishonest" and "visionary," and his teaching as "not being the standard of homeopathy of to-day," we regard all such as recreant to the best interests of homeopathy;
>
> *Resolved*, That for the purpose of promoting these sentiments, and for our own mutual improvement, we organize ourselves into an International Association, and adopt a Constitution and By-Laws."

Every fair-minded man, I take it, respects sincerity in others, no matter how widely he differs from them in opinion. I honor any man who will stand for his convictions and will not yield—will *not* yield—no matter how great the odds against him, as long as he believes the conviction represents a fact. But the professed homeopath who jeers at that man for holding true to the precepts of Hahnemann, and at the same time puts the slur of "old-school doctor" upon me for not accepting those precepts, is, in my view, merely a bird of prey that befouls both sides and plunders both. Let me give you another estimate of the relative number of such men in the homeopathic ranks.

Dr. James Bell, president of the International Hahnemannian Association, for 1892, says: "Our society numbers in active living members about 150, and it would be a generous estimate, I think, to double that number as representing in the whole world all those who may be called true Hahnemannians or are becoming such. If we have patients going to other cities, especially in the West and South, how rarely can we recommend a physician to them; and if the patients are going to Europe we know of but five or six men in the great cities to whom we can safely trust them."

In view of these various estimates made by eminent members of your own school as to the relative number of genuine and sham homeopaths, would it be impertinent for me to inquire what kind of homeopaths you are, gentlemen, and what kind you had in mind when you asked me to tell you why I am not one?

I honor the character of a true, consistent Hahnemannian. I may secretly think that he has "a wheel in his head," but I can not help admiring the sincerity and courage with which he does battle for what he believes to be the truth. I consider that man my equal in every way, except as to good sense. He is welcome to my fireside and to my table. I salute him as an honest man, and bid him God-speed.

But, as to the sham homeopath who merely uses the name as a trademark—excuse me. Young gentlemen, be honest; or, if you are not made that way, be lawyers. I trust it has been made clear that I do not regard all homeopaths with unfriendly eye. There are different kinds of "disciples," you know. St. John was one kind, and the disciple who liked silver was another. According to Professor Hale, less than 1 per cent. of Hahnemann's disciples are of the same class as St. John, and more than 99 per cent. belong to the other class.

Now, do not imagine I am here to claim that all "regulars" are angels of light, or that all homeopaths are fiends of darkness, for I am a "regular" myself, and I don't want to be an angel. And I know, and you know, that men are merely men, however they may be labeled, and that the very best of them have much need of indulgence and forbearance on the part of their fellows. I know, and you know, that a man can be a very regular doctor, and at the same time a regular ignoramus, a regular vulgarian, a regular drunk-a regular blackguard. I know, and you know, that that a man may call himself "homeopath," and yet be a broad-gauged, learned and successful physician, an honored citizen and a loyal friend. His library may be well stocked with standard "old-school" text-books, and his mind may be well stored with their contents. He may have spent years in Europe, perhaps, under the personal instruction of "old-school" teachers. He may have been well trained by these teachers in the use of all instruments of precision employed in the diagnosis and treatment of disease, and his judgment may be well trained, also, by studious observation in the wards of the great European hospitals, and in their inevitable attachments, the houses of the dead. He is ostensibly a homeopath. His patrons, with good reason, are devoted to him, and without good reason are deceived into being ardent supporters of homeopathy—these same patrons having no conception whatever of what the genuine article really is. He is a doctor of superior merit, and his admiring patrons begin to dream of making their sons just that kind of doctor, or, may be, the sons decide it for themselves. Thus homeopathy is being kept alive—the name—that is all. It has no standard creed upon which all its avowed adherents are agreed. The dictum that symptomatic treatment is all-sufficient for purposes of cure; the prohibition of local treatment for local diseases; the conception that a spirit-like power is imparted to medicinal and inert substances by processes of attenuation and trituration, and that this power is progressively increased by the progressive diminution of the amount of matter required for its production; the peculiar notions about "grafting" and olfaction; the limitation of the physician to the use of one single, simple medicine at a time; the fantastic "provings" and "cures" wrought by high potencies; the peculiar notions of pathology inculcated by Hahnemann; the doctrine that the "law of similars" is an "infallible" and "universal" and the "only law of cure," all these have been repudiated by the professed disciples of the "Master." Name one of the Hahnemannic precepts and I will name twenty disciples, representative men—leaders—who have repudiated it. The law of similars is just where father Hippocrates left it. There is no more difference of opinion between representative "new-school" and "old-school" physicians in relation to this question to-day than exists between individual adherents of either school concerning the germ theory of disease.

And what does the difference relate to, anyway? A mere theory of the mode of action of medicines in curing disease. That is all. Think of it! A theory —speculation—wind! A mere difference of opinion as to the *way* medicines produce their curative effects, is, in the year of our Lord 1899, and in free America, the ostensible reason why a profession that is called "liberal" should be divided into discordant elements! Oh, what a shame upon us all! What a shame!

Read the Code of Ethics of the American Institute of Homeopathy, and let the principles therein set forth sink deep into your hearts and take root. I find in this noble instrument the words: "Perfect freedom of opinion and practice is the unquestionable prerogative of the practitioner who is the sole judge of what is the best mode of treatment in each case of sickness entrusted to his care. No greater misfortune can befall the medical profession than the action of an influential association establishing a creed or standard of orthodoxy." Read it again. Do you think it is said in sincerity, or is it a sham show of liberality? Reflect on it. A sect founded on creed, estranged from the great body of the profession, and keeping up the estrangement still, on account of creed, whose colleges are established to maintain the creed, whose publications spit venom at those who do not accept the creed, whose societies are wrangling, and whose freshman students even are chattering about creed, through its national organization, declares that it has no creed nor any standard of orthodoxy. What is left of homeopathy? What is there to prevent me—should I desire it—from joining the "American Institute" to-morrow, and without changing my present views and methods of practice in any particular, being a good enough homeopath to meet the requirements of that organization? What is left of homeopathy? Answer each to his own conscience. "The name." And why is the *name* retained when every precept it stands for has been cast aside? Answer each to his own conscience.

Have you read the history of medicine to no purpose? Do you not know that this history is marked by the appearance and disappearance of sects, and schools, and systems, and that little excrescences appear upon the great body of the profession every now and then? Where is the dogmatic sect? Where is the empiric sect? Where is the methodic sect? Where is the mathematic sect? Where is the chemic school? Where is the Brunonian system? They have come and gone. Each has contributed something, perhaps, to the evolution of therapeutics, and having served its purpose has passed away. Now, contemplate the history of homeopathy—the progressive repudiation of one tenet after another until there is not left a single one to serve as a standard of orthodoxy. Can you not read the writing on the wall? Homeopathy has don a noble work; it has served its purpose well. Look back a hundred years to the time of its birth and contrast the methods of practice then in vogue with those which are in favor to-day, and tell me whether a stupendous revolution has not been wrought, and largely through the instrumentality of Samuel Hahnemann. Then the practice of medicine, as it appears to us now, was almost senseless savagery. Bleeding, bleeding, bleeding, for everything. Blistering, purging, vomiting, salivating the sick to death. Doctors were fined and imprisoned in those days for allowing a sick man to die without bleeding him. Brissot is said to have been driven from Paris, not because he ever failed to bleed a patient, not because he questioned the universal applicability of the lancet, but because he had the audacity to propose a new method of bleeding. The traditions of Hippocrates and Galen had to be duly honored in those days. It is related of Achilles that when sick he consulted the oracle and was informed that he must lose thirty pints of blood and then be plunged into the icy waters of the river! But Achilles made a dive for the back door and, with electricity in his heels, struck out for his life and never looked back till he reached the Plains of Troy. I can imagine him now endorsing with undisguised enthusiasm the sentiment of Chimmie Fadden—"To 'ell with the doctors!"

Look at the prescriptions of those times and you will find that many of them include from ten to sixty ingredients. Ask my own students whether they would rather be bled, blistered, puked, purged, and salivated, and then be compelled to swallow a pint of some decoction every two hours till dead, or take their chances with calcarea carbonica, high?

Hahnemann banished the lancet. Imagine the storm of indignation and abuse that assailed him when he questioned the infallibility of Galen and inveighed against bloodletting! Was he not a man of courage? He banished the lancet. He demonstrated that the sick could get well without any medicine at all. By withholding medicines and entertaining himself and his patients with high potencies he promoted, unwittingly it is true, the study of the natural history of diseases. He gave an impetus to, if he did not originate, the systematic study of the physiologic action of medicines. Assuredly, his so-called "provings" are little better than idiotic gibberish, but the underlying idea that led to these observations is recognized to-day as scientific. He compelled men to think. He assisted them to the discovery that active medicines are never neutral forces, but forces which do something, either good or harm. He taught prudence and accuracy in the use of these two-edged weapons—the prudence of small doses and the accuracy which belongs to simplicity in prescriptions. He gave a powerful impetus to pharmacy. His potencies were so easily swallowed, and still more easily smelled, that physicians were compelled to exert themselves to devise more eligible preparations of real medicines for administration to the sick; but notwithstanding the progress that has been made in this direction, it must be admitted that there is yet room for much improvement. Who has done more than this—who has done as much—for rational therapeutics? His conception of "potentization," fantastic and irrational as it was, and now repudiated by an overwhelming majority of his professed followers, as it is, and laughed at by "old-school doctors," as it always has been, has nevertheless proved a lever of resistless power.

Hahnemann came to the front in the very nick of time—or perhaps the times drove him to the front. All Europe was in an uproar when he was elaborating his peculiar doctrines. The French Revolution occurred in 1793, when he was 38. Napoleon began his Italian campaign in 1795, his Egyptian campaign in 1798, and crossed the Alps in 1800 to win his victory of Marengo. In 1805 the battle of Austerlitz was fought and in 1812, the year of America's second war with England, the cry of "On to Moscow!" reverberated throughout the continent of Europe. The whole civilized world was in agony. Those were times that stirred the souls of men. Soldiers and statesmen made history out of the blood and anguish of their fellows. Every mind was active. The very air was instinct with strange conceptions and destructive energies. Homeopathy was born. If Hahnemann had not been there do you doubt that somebody would have come forth and led a revolt against the existing methods of practice? Do you doubt that this new authority would have gone in the same direction as Hahnemann did and made himself sponsor for many errors and absurdities such as were included in the Hahnemannic system? But in spite of his absurdities; in spite of his rancorous abuse; in spite of his venomous falsehoods, he made men think. Some accepted his views in their entirety and called themselves homeopaths, and they have been busy ever since repudiating his errors or trying to convince themselves that these errors are true. The majority of physicians, while they fell away from the injurious and violent methods of practice formerly in vogue, were unable to accept the fantastic substitute which Hahnemann offered. They started anew and by studying the operation of medicines on man and on lower animals, in health and disease, not by the puerile process of noting and recording fleeting thoughts and sensations and fictitious symptoms, but by the arduous process of demonstration by means of electric, microscopic, chemic, and other agencies of precision, they are gradually acquiring accurate knowledge of the powers and limitations of the materia medica. They do not claim to have a finished system of therapeutics which enables them to cure diseases according to rules. They do not claim to have any infallible "law of cure," and they look askance at those who do. They are not "pathists" of any kind, and they repudiate and denounce the efforts of the "new school" to fix upon them a sectarian name. They neither uphold any particular method of cure, nor exclude any method of cure, whether "homeopathic," "allopathic," or "antipathic." They have no therapeutic creed. They remove the causes of disease when they can, and when they can not, they try to neutralize or counteract the effects. Whether medicines act by virtue of similarity or by virtue of dissimilarity they do not care a straw. They endeavor to guard against complications and to facilitate the evolution of the natural history of diseases. They search for and remove pathologic products. They endeavor to repair the damage that disease has done. Each is free to practice medicine in any way his conscience and his judgment approve, subject, of course, to the laws of the land. They are broad enough to invite the companionship of every honest physician. If you believe in the use of similars, all right. Come in! If you believe in the use of "dissimilars," all right. Come in! If you believe in potency and grafting, all right. Come in! If you don't believe in them, all right. Come in! Nobody cares a cent what you believe. These are questions to be decided each man for himself. For each man is free and beholden to no master. Each is the administrator of his own mind, the custodian of his own conscience, the architect of his own reputation, the lord of his own destiny.

The attitude of the "regular" profession toward homeopathy, as shown by the "Code of Ethics" of its national organization—the American Medical Association—is not as well understood as it deserves to be. It is boldly stated by some, and believed by many, that "old-school" doctors are prohibited by this Code from professional affiliation with their brethren of the "new school" on account of differences in doctrine, but this is not true. The Code does say that no one can be considered "a fit associate in consultation whose practice is based upon an exclusive dogma, to the rejection of the accumulated experience of the profession, and of the aids actually furnished by anatomy, physiology, pathology and organic chemistry." But is there such a homeopath in existence? Is there *one* whose practice is based on an exclusive dogma, to the rejection of the aids furnished by anatomy, physiology, pathology and chemistry? There is not one. So far as I know, these subjects are as well taught in homeopathic colleges as in others, and from exactly the same books—books written by old-school doctors, and with the aid of microscopes devised by old-school doctors No homeopath will stand before this audience and say that the physicians of his "school" are behind their "old-school" brethren in respect to their acquaintance with these subjects and their readiness and ability to utilize them in the diagnosis and management of disease. There is no reason in the "Code of Ethics" of the American Medical Association, then, why the medical profession should be divided into discordant elements. If this statement is not thought to be well supported by facts, permit me to strengthen it by quoting a preamble and resolution adopted by the Association in 1892:

> Whereas, Persistent misrepresentations have been made, and are being made, concerning certain provisions of the Code of Ethics of this Association, by which many in the community, and some even in the ranks of the profession, are led to believe those provisions exclude persons from professional recognition simply because of differences of opinions and doctrines, therefore,
>
> *Resolved*, That clause first of Article iv, in the National Code of Medical Ethics is not to be interpreted as excluding from professional fellowship, on the ground of difference in doctrine or belief, those who in other respects are entitled to be members of the regular medical profession. Neither is there any other article or clause of the said Code of Ethics that interferes with the exercise of the most perfect liberty of individual opinion and practice.

Hence, you may hold any opinion you like on any subject, and if you are a respectable man—and it isn't necessary to be terribly respectable either—you are eligible for membership in that organization. Examine these ethical rules side by side with those of the American Institute of Homeopathy and what difference do you find? None, absolutely none.

Why, then, does the medical profession continue to be divided into discordant elements? Ah! Because my friends of the "new school" will not give up their sectarian name. That is all. Some of them bear it honorably and loyally, believing in all sincerity that it stands for great facts; but they are very few in number, and getting fewer every year. Your national organization refuses to recognize *any* standard of orthodoxy. Belief in not *one* of Hahnemann's precepts is necessary to membership in that organization. Why, then, do they retain the name homeopath? Because it has commercial value. This value, probably, originated in the fact that more people survived disease under treatment by calcarea carbonica, high, than recovered after losing half a gallon of blood; and it is now maintained by giving credit to homeopathy for cures wrought by non-homeopathic measures. Homeopathy has its colleges and other property interests, which will not be allowed to go to pieces if it can be prevented. Political maneuvering, to get the Nation and the State to take this sect under its protecting and supporting wing, may be tried, as it has been tried. No effort will be spared to save the name. The books and periodicals and the teachers of homeopathy are doing the best they can to *prevent* unification of the profession; and this is *the* most powerful cause in operation to-day of "Division of the Medical Profession into Discordant Elements."

I freely admit, however, that the blindness of bigotry and irreconcilable anger on my side of the discord — lack of generosity, lack of everything that characterizes a Christian spirit has been, and is now, of great assistance to my homeopathic friends in keeping us apart. But my voice, small as it is; my vote, insignificant as it is; my influence, weak as it is—these are pledged to promote the unification of our beloved profession, which may easily be accomplished by a little forgetting and forgiving on both sides, and by an honest purpose on both sides to give play to the proposition that "Charity suffereth long and is kind"

Then let us pray that come it may,
As come it will for a' that,
When truth and worth o'er a' the earth
Will bear the gree and a' that.
And a' that, and a' that,
It's coming yet for a' that,
When man to man the warld o'er
Will brithers be and a' that.

CATARRHAL LARYNGITIS.*

BY HENRY R. SLACK, Ph.M., M.D.

Professor Chemistry and Physiology, Southern Female College; Secretary Georgia State Board of Pharmacy; Member American Medical Association, etc.
LA GRANGE, GA.

Fortunate indeed are the parents who have reared children, and are unacquainted with croup. Few diseases of childhood produce such distressing and alarming symptoms, and at the same time are so seldom fatal, as spasmodic croup.

I venture the assertion that nearly all have time and again had the following experience: shortly after midnight we are aroused from our pleasant slumbers by the violent ringing of the door-bell; and, on answering it, we find a half-dressed, badly frightened father. "Hurry, Doctor! My child has the croup, and I fear he will be dead before you can reach him—hurry!"

We in a few minutes reach the bedside, where all is consternation and confusion. The little four-year-old is on the mother's lap, breathing heavily, face congested and voice husky, with an occasional croupy cough that sends terror to the parents' hearts. The grandmother is busy mixing alum and honey, vinegar, salt and pepper, or dosing the poor little sufferer with syrup of ipecac, squills, etc., until, as Dr. Osler says, "Too often the poor child, deluged with drugs, is longer in recovering from the treatment than he would be from the disease." Finally, the little fellow begins to vomit freely, is bathed in a profuse perspiration, and so generally relaxed and deranged that it takes him days to recover.

It is with the hope of alleviating some of this suffering that I now submit the following prescription, which was suggested to me by Dr. Joseph Holt of New Orleans, and I have tried it many times with the happiest results:

℞.	Chloralis	gr. lxxv	5
	Potasssii bromidi	gr. xlv	3
	Ammonii bromidi	gr. xxx	2
	Aquæ cinnamonii	ad. ℥ii	62

M. Sig. Teaspoonful, and repeat in twenty minutes, if not relieved.

This is intended for a child about 5 years old. For younger children I diminish the dose slightly, though I find children bear chloral nicely in doses altogether out of proportion to their ages.

This prescription exactly meets the indications. The chloral relieves the spasm of the larynx; and the bromids allay the nervousness, so that the little patient is soon asleep, and awakes the next morning as well as usual, with little danger of an attack the next night. The first dose generally gives relief, and I have never failed to secure it with the second.

This prescription is of no benefit in true or membranous croup, and then we must promptly use diphtheria antitoxin, which has reduced the mortality of this dread disease from over 50 to about 13 per cent., and is justly classed as one of the greatest medical discoveries of the nineteenth century.

Dilatation of the Colon.—J. P. Crozer Griffith, in his paper on "Congenital Idiopathic Dilatation of the Colon," before the Association of American Physicians, Washington, D. C., May 2-4, classed dilatation of the colon as: 1. An acquired dilatation, oftenest the result of chronic constipation. 2. A congenital dilatation dependent on some form of stenosis. 3. A congenital idiopathic dilatation, i. e., not dependent on any discoverable organic cause. Since there is considerable difference among writers regarding the selection of reported cases of idiopathic dilatation, the author has reviewed all the public cases as far as known to him, and gave a synopsis of them in brief, putting in this list, however, only those which seemed to have some reasonable claim to be regarded as belonging to the category of congenital idiopathic dilatation. In a secondary list he mentioned other cases which ought to be excluded, and gave the reasons for this exclusion. He reported a case which came under his own observation, in detail, analyzing the symptoms of this and of the cases of the first list mentioned, he reviewed the symptomatology, diagnosis and treatment of the disease.

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*Read before the Medical Association of Georgia, Macon, April 20, 1899.

Correspondence.

The Serumtherapy for Syphilis.

Breslau, April 8, 1899.

To the Editor:—An interpellation was recently brought up in the German Parliament against Professor Neisser of Breslau, and against the manner in which he is experimenting with "antisyphilitic serum." This gentleman has again attracted the attention of the medical world; physicians, however, are divided in regard to the advisability of his aggressive type of research. Non-medical men, however, on the other hand, are irritated and criticise Dr. Neisser severely, hoping at the same time that just punishment will be the consequence of his great thirst for knowledge. To show the weakness of the layman's position, and to clear up to a large extent misunderstood facts, is the purpose of this discussion.

The controversy began after the publication of Dr. Neisser's paper, entitled "Was wissen wir von einer Serumtherapie bei Syphilis and was haben wir davon zu hoffen?"[1] The author recapitulates all investigations, clinical and otherwise, which have been made in regard to this topic. He speaks of the trials to cure syphilitic patients by injections of serum taken from other syphilitic sufferers. Chapter vi of the article treats of the possibility of producing immunity in nursing babies, in order to protect them against syphilitic mothers; the thought, however, of immunizing all people against the disease is discussed as of equal importance.

Prof. Neisser is the director of the university clinic for skin and venereal diseases at Breslau, and has ample material for experimentation at his disposal. The following eight cases have given rise to the attack upon this eminent man:

Case 1.—Clara G., 14 years of age, with psoriasis, from Feb. 2 to 6, 1892, received three injections of 4 c.c. each, with no reaction. Died eight months after treatment.

Case 2.—Clara J., 10 years of age, with scrofuloderma, from Feb. 6 to May 4, 1892, received injections of 5 c.c. each, subcutaneously, and has not shown syphilis for four years since treatment.

Case 3.—Valeska M., 16 years of age, with psoriasis, July 1, 1892, received 4 c.c. subcutaneously; temperature 38 C. The patient has not shown syphilis for more than four years since treatment.

Case 4.—Martha W., 24 years of age, with gonorrhea; received 4 c.c. subcutaneously, April 29, 1892. Observed for two years after treatment. No symptoms of syphilis appeared.

Case 5.—Marie P., 20 years of age, received 4 c.c., subcutaneously, from a patient with papular ulcerations April 29, 1892, and showed symptoms of syphilis in December, 1895.

Case 6.—Bl. P., 17 years of age, with ulcus molle. bubo inguinalis, on April 29, 1892, received 100 c.c. intravenously. Gonorrhœa became syphilitic April 14, 1893.

Case 7.—Anna Ch., 19 years of age, with ulcus molle, bubo inguinalis, May 6, 1892, received 30 c.c. intravenously, and May 10, 1892, 10 c.c. intravenously. Became syphilitic June 3, 1892.

Case 8.—Emilie N., 17 years of age, with gonorrhea, Feb. 15, 1892, received 30 c.c. intravenously; July 7, 1892, ulcus, August 24, papulæ ad genitalia et plaques ad tonsillum.

In all these eight cases a more or less large quantity of serum, taken from early and late syphilitic patients was injected. As half of the persons became afflicted with the disease, in spite of the serum treatment, a positive result can not be claimed for Dr. Neisser's investigation. The research has been carried on with a therapeutic end in view and not merely for the purpose of solving a theoretic question. It is simply another of those serum treatments which promise so well for humanity. As we know that blood has acted infectiously, it seems a risky matter to inject serum from syphilitic persons into a healthy circulation. From other bacterial diseases and even from experiments on syphilitic patients we know that serum free from cells is not dangerous as a carrier of infection. Dr. Neisser prepared the serum according to our latest methods, being, moreover, careful to allow the fluid to stand until a sufficient time had elapsed for the solid particles to settle. Centrifugation would have furnished a more certain way for making the serum free of cellular material. The question, whether the serum infected those last four persons, can be negatively answered.

All the eight persons were prostitutes, and as far more than 90 per cent. of this class of people acquire syphilis, a new possibility arises, namely, the persons in question may have acquired the disease before or after the injections were made. In woman it is often a difficult matter to diagnose primary lesions of syphilis. From the period of incubation we can gather no decisive facts, as great possibilities in time exist between primary lesions of syphilis and an intravenous injection of the poisonous matter. In the latter case we might expect tertiary symptoms much sooner; this conjecture, however, is not verified by Dr. Neisser's experiment.

Professor Neisser seemingly wrote the article in question rather hastily, failing to make concise statements which are secure against adverse criticism. He would have done better perhaps by leaving his results unprinted, or by following the example of those many men who have published much more dangerous work under assumed names.

Shortly after Dr. Neisser was so severely criticised by the newspapers, he sent a satisfactory report regarding the matter to the university authorities. At present he is quietly waiting for any possible reprimand from the ministerium before he will see fit to defend himself properly. The gentleman who attacked Dr. Neisser in Parliament, is entirely misinformed when he speaks of eight innocent little children being experimented on in a manner which places the cruelties of vivisection in the shade. Only, if his statement is correct, are we justified in claiming, with him, punishment for Dr. Neisser for the sake of clean and honorable methods of investigation.

Russell Burton-Opitz, M.D.

Beer Drinking in the Army.

To the Editor:—Through the energy and activity of certain temperance lobbyists, the army bill, approved March 2, 1899, contained certain provisions which were intended to prohibit the sale of intoxicating liquors to United States soldiers in their camps and garrisons. The wording of the enactment was:

> That no officer or private soldier shall be detailed to sell intoxicating drinks, as a bartender or otherwise, in any post exchange or canteen, nor shall any other person be required or allowed to sell such liquors in any encampment or fort or on any premises used for military purposes by the United States; and the Secretary of War is hereby directed to issue such general order as may be necessary to carry the provisions of this section into full force and effect.

So generally was the intent of the enactment understood that army officers at first accepted this legislation in the spirit in which it was framed; but they regarded it as a serious blow to the cause of temperance in the army. These officers for a dozen years have been fostering the organization of a post exchange at every military post. The exchange is an establishment in which the soldier may purchase at a reasonable price all the articles for which he usually spends his pay. Under war department orders an officer takes charge of the business of the exchange, and enlisted men are authorized to be detailed as salesmen. The profits are distributed pro rata to the various commands constituting the garrison, to be used as company funds for the improvement of the diet of the men. Among the articles authorized to be sold at the exchange were "beer or light wines by the drink." The propriety of this authorization was at first questioned by many officers, medical officers included. The argument was made that old soldiers habituated to the use of distilled liquors would not be satisfied with beer, but would get whisky at other places than the exchange, while young men who would not leave their barracks for intoxicants of any kind would be led into bad habits by the ease with which beer was to be had and the official sanction given to its use. But the experience of the past ten years has proved the wisdom of those who labored so earnestly to establish the exchange. From the statistics of the surgeon-general's reports, we find that the average annual number of admissions for alcoholism and its direct results among the white troops during the ten years, 1878–1887, was 64.28 per thousand of strength. This rate diminished during the next ten years, 1888–1897, in proportion as exchanges were established at the various posts, as follows, omitting fractions: 44, 46, 44, 44, 41, 37, 34, 32, 31, 30. In 1890 there were seventeen posts at which the rate exceeded 10 per cent. of the strength; in 1891 eleven, and in the following years, to and including 1897, ten, seven, four, five, two and two. Taking Willet's Point, N. Y., as a single illustration: This post in 1889 had an admission rate for alcoholism of 222.97 per thousand men; in 1890, when the exchange was established, 157.50, and next year only 70.46. Since the year 1893 no death has occurred in the army of the United States directly resulting from alcoholism. The influence of the post exchange has been manifested also in the lessened number of cases due to intoxication tried by military courts. In fact, the exchange has relieved the army of one-half of the drunkenness that formerly tended to the demoralization of individuals and to the occurrence of infractions of discipline, assaults, injuries and deaths. It has become the recreation, reading and refreshment room, in fact, the club-room of the enlisted men.

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[1] Archiv. für Derm. und Syphilis, B. 43 u. 144; ii, 434.

The passage of the prohibitory act was universally regarded by those who had the welfare of the army at heart as opening the way to the reestablishment of the conditions which existed prior to the installation of the exchange, when the nearest and generally patronized places of amusement and refreshment were the grog-shops and houses of evil repute which fringed each military reservation. Temperance enthusiasts hold that the proposed legislation does not involve a choice between the exchange and these low dives, but army officers who have lived all their lives in contact with the United States soldier have a better knowledge of what would be its results. Fortunately, however, the attorney-general has construed the law as prohibiting merely the assignment of any officer and the detail of any enlisted man to sell intoxicating drinks in the exchange. He holds that the meaning attached to any law by those who framed it or by those members of the legislature who discussed it prior to its passage can not control the construction of it. The requirement of the law that the Secretary of War shall issue such general orders as may be necessary to carry its provisions into full force and effect has brought out an order dated April 12, 1899, amending the exchange regulations so far as to authorize the sale of intoxicating drinks only by civilians employed for the purpose, and emphasizing the prohibition against the sale or use of ardent spirits in any branch of the exchange or in any encampment, fort or premises used for military purposes.

Whether beer may be used advantageously in civil life as an alternative to the use of spirits, is another question. The *Lancet* of April 1, 1899, considers the remedy in this instance to be at best only a shade better than the disease. It points to the signal failure of former enactments in England to discourage the drinking of spirits by encouraging the consumption of beer and suggests a study of the proceedings of coroners' and police courts, where brutality, crime and death, are so often associated with excesses in beer drinking. The successful results in our army are due to the military discipline which prevails in the post exchanges and which reduces to a minimum the possibility of the occurrence of dangerous excesses.

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Current Medical Literature.

Journal of Experimental Medicine, March.

1.—*Hemorrhagic Septicemia in Man Due to Capsulated Bacilli. W. T. Howard, Jr.
2.—*Bacillus Capsulatus (Bacillus Pneumoniæ of Friedlaender?) with Especial Reference to its Connection with Acute Lobar Pneumonia. Joseph J. Curry.
3.—*Report of Experimental Work on Dilution Method of Immunization from Rabies. Follen Cabot.
4.—*Study of Spinal Cord by Nissl's Method in Typhoid Fever and in Experimental Infection with Typhoid Bacillus. Joseph Longworth Nichols.
5.—*Thermal Death-point of Tubercle Bacilli in Milk and Some Other Fluids. Theobald Smith.
6.— Changes Produced by the Growth of Bacteria in the Molecular Concentration and Electric Conductivity of Culture-Media. G. N. Stewart.
7.—*On Supra-Arterial Epicardial Fibroid Nodules. J. Mason Knox, Jr.

Bulletin of the Johns Hopkins Hospital, April.

8.—*Analysis of Cases of Tabes in Johns Hopkins Hospital and Dispensary from its Opening in May, 1889, to Dec. 1, 1898. H. M. Thomas.
9.—*On Typhoid Septicemia, with Report of Two Cases, one of which was a Typhoid Infection Without Intestinal Lesions. August Jerome Lartigau.
10.—*Cavities in the Brain Produced by the Bacillus Aerogenes Capsulatus. Robert Reuling and Arthur P. Herring.
11.—*Acute Fibrinopurulent Cerebrospinal Meningitis, Ependymitis, Abscesses of the Cerebrum, Gas Cysts of the Cerebrum, Cerebrospinal Exudation, and of the Liver, Due to the Bacillus Aerogenes Capsulatus. W. T. Howard, Jr.

Annals of Gynecology and Pediatry, April.

12.—*Contribution to Study of Albuminuria After Ether Narcosis. Wassil Popoff.
13.— Home Modification of Milk. John Lovett Morse.
14.—*Serum Treatment for Diphtheria in the "Stefanie" Kinderspital (402 cases) Third Report. Johann N. Bokay. Translated by Edward M. Plummer.

Western Medical Review (Lincoln, Neb.), April 15.

15.—*How Shall We Cure Posterior Displacements of the Uterus? D. C. Brockman.
16.— Interesting Case of Complete Prolapsus Uteri. J. Rudis-Jicinsky.
17.—*Mechanic Treatment of Hernia. Rufus D. Mason.
18.— Vesical Calculus, with Report of a Case. H. H. Stoner.
19.— Some of the Legal, Medical, and Humane Aspects of Insanity. C. C. Goddard.
20.— Injuries of Head. Charles C. Allison.
21.— Some Things Every Doctor Can Do. W. O. Henry.
22.— Keratitis. B. C. Kelly.

Northwestern Lancet (Minneapolis, Minn.), April 15.

23.—*Some of the Aspects of Renal Inadequacy. H. A. Tomlinson.
24.— The Duty of the Physician in Medicolegal Examinations of the Insane. Wm. B. Lyman.
25.— The Treatment of Nasal Catarrh by the General Practitioner. John McLean.

Pennsylvania Medical Journal (Pittsburg), April.

26.—*Puerperal Eclampsia. Eli Coover.
27.— Cholelithiasis. C. A. Hamann.
28.— Influenza. I. R. Schoonmaker.
29.— Abortion. John M. Bertolet.
30.— Injurious Effects of Forced and Unnatural Breathing on Voice Production as an Art, and on Health of Individual. Carl Seiler.
31.— Placenta Previa. with Report of Cases. J. A. Patterson.

Denver Medical Times, April.

32.—*Intravenous Saline Infusion in Suppression of Urine and Collapse Due to Vomiting of Pregnancy. J. Riddle Goffe.
33.—*Early Tubal Pregnancy. H. D. Niles.
34.—*Acute Pneumonia. J. N. Hall.
35.— Treatment of Inevitable Abortion. E. O. Jones.
36.— Surgery in Country Practice. M. S. Chenoweth.
37.— Rational Treatment of High Temperatures. E. B. Jackson.
38.— Proper Method of Dressing the New-Born Infant. B. C. Hirst.
39.—*Two Rare Cases of Pelvic Cyst, with Remarks on Myomectomy. E. C. Dudley.

Dominion Medical Monthly (Toronto), April.

40.—*Acne Vulgaris and its Rational Treatment. Graham Chambers.
41.—*Traumatic Tetanus (or Lockjaw) as a Germ Disease, with Treatment by Internal Antisepsis—Report of a Case of Recovery in a Horse. W. R. Roome.

Merck's Archives (N. Y.), April.

42.—*Serum Treatment of Typhoid Fever. Horatio C. Wood, Jr.
43.—*On the Utility of Drugs in Typhoid Fever. Frank Woodbury.
44.— Pichi in Prostatic and Vesical Troubles. H. A. West.

Pacific Record of Medicine and Surgery, April 15.

45.—*A Further Report on a Case of Unilateral Hypertrophy of the Face, Hard Palate and Gums. D. W. Montgomery.
46.—*Three Cases of Puerperal Sepsis Successfully Treated with Anti-Streptococcus Serum. John F. Moran.
47.— Production of Certain Toxic Cases During Administration of Chloroform in the Presence of Naked Flames. A. B. McKee.
48.— Compound Fracture of Skull with Escape of Brain Matter. Henry Du Phelan.
49.— Case of Nephrolithotomy. Charles R. Harry.
50.—*Surgical Interference in Appendicitis (continued). Julius Rosenstirn.
51.— Law of Physician and Patient. Wm. C. Tait.

Colorado Medical Journal (Denver), April.

52.— Three Cases of Perineal Section; Imbedded Perineal Calculus; Some Specimens of Urinary Calculi. Wm. P. Munn.
53.—*Anesthesia and Septicemia. E. P. Hershey.
54.—*Some of the Fallacies Attending the Biologic and Chemic Examination of Drinking Water. J. A. Sewall.

Medical Sentinel (Portland, Ore.), April.

55.—*Gynecologic Training a Prerequisite for the Asylum Superintendent. E. Hall.
56.— Appendicitis. L. P. McCalla.
57.— Treatment of Chronic Ulcers of the Leg. John B. Corsiglia.

American Medical Compend (Toledo, Ohio), April.

58.— Removal of Diseased Parotid Glands. John S. Pyle.
59.— Importance of Keeping Nasal Cavities Clean and Aseptic in Chronic Nasal Catarrh. John North.
60.—*Rectal Diseases. C. E. Stewart.
61.— Rubeola. J. L. Baird.

Kansas City Medical Index-Lancet, April.

62.— Remarks on Serum Therapy. I. J. Wolf.
63.— Ovulation, Fecundation and Sexual Differentiation. W. G. Haning.
64.— Significance of Ocular Changes as an Aid to the General Practitioner in Diagnosis of Disease. W. H. Schultz.
65.— Puerperal Infection. Robert S. Spears.

Canada Lancet (Toronto), April.

66.— Recent Advances in Brain Surgery. Henry O'Neill.
67.— General Practitioner in Relation to the Insane. Ernest Hall.
68.—*Treatment of Diseases of Pigmentation. John V. Shoemaker.
69.— Corpulence and the Fatty Heart, with Cases. Thos. E. Satterthwaite.
70.— Diphtheria Antitoxin by the Mouth. John Zahorsky.
71.—*Relation of Chorea to Rheumatism. Robert B. Preble.

Oklahoma Medical Journal (Guthrie), April.

72.— Suprapubic Cystotomy for Prostatic Hypertrophy. T. A. Craven.
73.— Bowel Diseases Incident to Hot Weather. W. K. Harris.
74.— New Operation for Hernia. Emory Lanphear.

Southwestern Medical Record (Houston, Texas), April.

75.— Posterior Urethritis. J. L. Short.
76.— Nasal Obstruction and its Results. G. T. Swail.

Medical Fortnightly (St. Louis), April 15.

77.— Surgical Melange, Empyema of Chest; Abscess of Lung; Sarcoma, Popliteal Space; Sarcoma, Neck; Humerus Fracture United; Anal Fistulæ; Septum Nasi Deformity; Septi Nasi Protrusion. Merrill Ricketts.

Virginia Medical Semi-Monthly, April 14.

78.—*Carbolic Acid and Gangrene. Henry A. Leipziger.
79.— Jefferson and Vaccination. G. W. Drake.
80.—*Criticism of Whitehead's Operation for Piles. S. G. Gant.
81.— Disintegration of Phosphatic Calculi by Buffalo Lithia Water. J. Allison Hodges.
82.— Empyema of the Gall-Bladder. J. E. Summers, Jr.
83.—*Some Unusual Symptoms in a Case of Myxedema. Arnold Jolly.
84.— Some Useful Points in the Diagnosis of Diseases of the Stomach. Hugh McGuire.
85.— External Application of Cold Water to Allay Persistent Vomiting. Wm. Francis Mitchell.
86.— Movable Kidney. Lewis Schooler.
87.— Glaucoma. Robert M. Lapsley.
88.— Value of a Knowledge of Chemistry to the Physician. Thomas J. Hughes.

New York Medical Journal, April 29.

89.—*When to Operate for Appendicitis. Notes on Technics. Robert T. Morris.
90.—*The Technic of the Bottini Operation. Ramon Guitéras.
91.—*Report of a Necropsy in a Case of Acromegaly, with a Critic Review of the Recorded Pathologic Anatomy. Louis J. Mitchell and E. R. Le Count.
92.—*Prothymia: A New Faculty and its Localization. Wallace Wood.
93.— A Summer Fallacy. Ramsay MacNaughton.
94.— Case of Chronic Inflammatory Induration of the Corpora Cavernosa. W. R. Cochrane.

Boston Medical and Surgical Journal, April 27.

95.—*Personal Experience in Modern Operations for the Relief of Prostatic Obstruction. A. T. Cabot.
96.—*Traumatic Cerebral Edema; Its Pathology and Surgical Treatment. A Critic Study. J. W. Courtney.

Medical Record (N. Y.), April 29.

97.—*Insanity in Connection with Disease of the Ductless Glands. Allan McLane Hamilton.
98.—*Devious Manifestations of Epilepsy. Sanger Brown.
99.—*"The Temptation of Skill" (with Special Reference to Operative Gynecology). Eugene Coleman Savidge.
100.— Pyelonephritis and Ulcerative Endocarditis as a Complication of Gonorrhea—The Gonococcus Found in Pure Culture Upon the Diseased Heart Valve. Henry W. Berg.

Cincinnati Lancet-Clinic, April 29.

101.—*Treatment of Carbuncles. Milton P. Creel.
102.— Case of Sepsis Treated with Antistreptococcus Serum. Mark Millikin.

Philadelphia Medical Journal, April 29.

103.— The Debt of the Public to the Medical Profession. W. W. Keen.
104.—*Municipal Medical Inspection of Schools. Norvelle Wallace Sharpe.
105.—*A Case of Traumatic Epilepsy in which an Operation was Performed with Relief to the Present Time—Twenty-two Months After the Operation. W. H. Hudson.
106.— Acetosoluble Albumin in the Urine. A Brief Review of the Literature on the Subject and a Report of Two Cases. W. M. L. Coplin.
107.—*Syphilitic Gastralgia. Allen A. Jones.
108.— Dental Diseases and Trigeminal Neuralgia. Henry H. Burchard.

Medical News (N. Y.), April 29.

109.—*Bacillus Icteroides and Bacillus Choleræ Suis. A Preliminary Note. Walter Reed and James Carroll.
110.—*Cardiaphobia or Heart Fear. W. T. English.
111.— A Bacillus Resembling the Diphtheria Bacillus in all Cultural Characteristics, but not Producing Diphtheria Toxin. Louise Dudley Davis.
112.—*Experiment in Transplantation of the Entire Human Ovary. James H. Glass.
113.— Serum Treatment of Diphtheria in the New York Foundling Hospital During 1898. W. P. Northrup.

AMERICAN.

1.—Hemorrhagic Septicemia in Capsulated Bacillus.—Howard discusses cases of septicemia accompanied by hemorrhage into the skin and usually also in the liver, spleen, kidneys, heart, stomach and intestines, in which capsulated bacilli have been found the only or chief micro organisms. After reviewing the literature, he describes two cases which came under his own observation, in one of which, besides the clinic history, the results of autopsy and the bacteriologic examination, both microscopic and in culture experiments, are detailed in full. In this case he found a capsulated bacillus belonging to the type of the Friedländer species, but different from those already described, chiefly as to varying amounts of gas and acid productions, the coagulation of milk and reaction to Gram's stains and also to the results of animal inoculation. He concludes that hemorrhagic septicemia is not to be regarded as a distinct disease but rather as a toxemia and that it can be produced not only by capsulated bacilli, but by various other bacteria.

2.—Bacillus Capsulatus in Pneumonia, Etc.—Curry reports twelve cases of pneumonia, lung gangrene, diphtheria, tonsillitis, and one of otitis accompanying fracture of the skull in which a capsulated bacillus of the Friedländer type was found. He does not think, however, that its pathogenic relation was positive excepting in two cases, the one of gangrene of the lungs and that of otitis. He discusses the question as to whether acute lobar pneumonia can be produced by other organisms than the pneumococcus, and concludes that it can not, in opposition to a few investigators who have held that the Friedländer and other bacteria may sometimes produce it. It is an easy thing to overlook the pneumococci unless the examinations are very complete.

3.—Immunization from Rabies.—Cabot reports experimental work with the dilution method of immunization from rabies and compares it with the attenuation dried-cord method of Pasteur. He describes a modification of the method of Högyes of Budapest, which he thinks has some advantage, but his conclusions do not favor this method as opposed to the Pasteur plan. His conclusions are as follows: 1. He has simplified the dilution method by using a stock glycerin emulsion of the virulent cord, from which the desired dilutions can be readily prepared. The proportion of glycerin should not exceed one-fifth part, if it is desired to retain the full virulence of the emulsion. 2. There is some danger of giving rabies to animals in the dilution immunization treatment, a danger which is not present in the Pasteur method. 3. The dried-cord method does not rest solely on the principle of dilution, but is also based on the attenuation of virus. 4. The Pasteur method being entirely free from the element of danger which pertains to the glycerin dilution method and resting on a sounder experimental basis, is the one to be preferred.

4.—Nerve-Cells in Typhoid.—Nichol's paper gives the results of the study of certain changes observed by Nissl's method in three cases of typhoid fever and in a series of experimental inoculations of rabbits with the typhoid bacillus. In the human cases, which were of the severe type, the spinal cord and root ganglia were examined, and the same with the addition of the peripheral nerves in the experimental cases. His conclusions were:

1. The application of the Nissl method to the study of the motor cells of the spinal cord, and the nerve-cells of the dorsal root ganglia in typhoid fever, shows that the cells regularly suffer pathologic changes in the course of infection.

2. The alterations in the motor cells are more constant and of a severer grade than are those in the cells of the sensory ganglia. The more characteristic changes consist of disintegration, solution and destruction of the chromatic substance of the cell, starting from the axone hillock and proceeding toward the nucleus. Coincidently the nuclei of the affected cells seek the periphery. Alterations are also suffered by the nucleus and nucleolus.

3. While this central form of chromatolysis is the prevailing type of pathologic change, disintegration, etc., of the Nissl bodies situated in the periphery of the cell and in the dendrites, is also observed (peripheral chromatolysis).

4. In experimental infection with typhoid bacilli in rabbits, a similar change of lesions in the corresponding nerve-cells in the spinal cord and ganglia is encountered.

5. The main or central type of lesions discovered is identic with that found in man and animals after section, destruction, or even slight injury of the peripheral nerves.

6. The examination of the peripheral nerves arising from the lumbar segment of the spinal cord (the site in man and rabbit of the most profound changes) in rabbits inoculated with typhoid bacilli showed well marked evidences of parenchymatous degeneration.

7. It is probable that lesions of the peripheral nerves in typhoid fever in human beings are common and that the post-typhoid hyperesthesias and paralyses are due to this cause.

8. Restitution of the chromatic granules may take place in the affected nerve cells, the new foundation beginning about the nucleus and extending through the protoplasm.

5.—**Tubercule Bacilli in Milk.**—Smith finds the tubercle bacilli are not more resistant to heat than many other bacilli not producing spores. When, however, milk is used as the suspending fluid, the formation of a surface pellicle into which the bacilli are carried by fat globules may so shield them as to render their destruction more difficult. This fact, he thinks, explains the discordant results obtained by some observers. The conclusions of his paper are: 1. Tubercle bacilli, when suspended in distilled water, normal salt solution, bouillon and milk, are destroyed at 60 degrees C. in fifteen to twenty minutes. The larger number are destroyed in five to ten minutes. 2. When tubercle bacilli are suspended in milk, the pellicle which forms during the exposure at 60 degrees C. may contain living bacilli after sixty minutes.

7.—**Epicardial Fibroid Nodules.**—Knox concludes:

1. Fibroid nodules seated in the epicardium directly over branches of the coronary arteries of the heart are not uncommon. They may be present in large numbers and are found most frequently on the surface of the ventricles, but may occur over the auricles and even on the outer surface of the ascending aorta. They are rarely observed over the coronary veins.

2. While often resembling in gross and superficial appearances the nodules described by various writers, under the name of the "periarteritis nodosa," they differ from these in essential respects. They are seated outside of the adventitial coat and lie within the epicardium. They are composed of dense, fibrous, sclerotic tissue, poor in cells. In earlier stages of their formation they are richer in cells, both fibroblasts and lymphoid cells.

3. These supra-arterial nodules bear no definite relation to endarteritis, although they may be associated with this condition.

4. They are found with great regularity in the arterial wall immediately beneath the nodule, changes which indicated a weakening of the walls in this situation. In some instances the muscular coat was thinned and degenerated, but the most common and important change was reduction and often disappearance of the elastic lamellæ and fibers, the outer elastic lamella being the one frequently and intensely affected. These lesions were often limited to the segment of the same artery, being free from similar alterations, or presenting them only in a slight degree. It is suggested that the absence on the outer or epicardial segment of the firm support afforded to the artery on the inner or myocardial aspect by the surrounding tissues renders the former more liable to damage to the elastic tissue resulting from irregularities and increase of blood pressure associated perhaps with defects of nutrition.

5. In consequence of the weakening in the arterial wall the artery would tend to bulge at the affected spot toward the epicardium were this tendency not restrained. The formation of the dense supra-arterial nodule of fibrous tissue over the weakened area holds this tendency in check and may be regarded as an adaptive or compensatory change.

The question as to the immediate exciting cause of the new growth of tissue offers the same difficulties as that pertaining in general to similar growths of connective tissue. Some would, doubtless, attribute it to direct stimulation from the pressure and shock of the impinging artery, others to defects in the tissue, and still others to a disturbance of the neighborhood relations of the part. It is not deemed necessary to enter into discussion of the various hypotheses.

8.—**Tabes.**—Thomas analyzes the cases of tabes treated in the Johns Hopkins Hospital as to their causes, symptoms, etc. He finds that in a large proportion of cases the history of syphilis can be secured, but in others, no record of the kind can be had and this, with some other facts, leads him to doubt that syphilis is the only factor in the causation. His analysis of the symptoms is quite elaborate and can not be detailed here. In two cases general paresis developed while the patients were under observation.

9.—**Typhoid Septicemia.**—Lartigau discusses typhoid septicemia and reports two cases, both with autopsies and bacteriologic examinations, in which the bacillus typhosus was found. In the second case, the intestinal lesions usually met with in typhoid were absent.

10.—**Brain Centers from Capsulated Bacillus.**—Reuling and Herring report and illustrate a case of death following the third day after laparotomy from gunshot wounds in which there were found cavities of varying sizes in the brain, from .5 to 5 cm. in length in the margin of which there was found a bacillus identified with those described by Welch and Nuttall under the name of bacillus aerogenes capsulatus. No cavities were found in other organs, excepting in the uterus, where no bacilli were found. They are inclined to consider the changes largely post-mortem, the distribution of the organisms most likely occurring in the preagonal period. Vide JOURNAL, p. 1003.

11.—**Gas Cysts in Brain, etc.**—Howard reports a case in which gas cysts occurred in the brain, spinal membranes and liver. The bacilli that were found were the bacillus aerogenes capsulatus. Howard thinks that the presence of these in such great numbers in this case in the brain, and their rarity in the blood-vessels, etc., precludes the idea that they were postmortem invaders. Vide JOURNAL, p. 1003.

12.—**Albuminuria after Ether Narcosis.**—Popoff recapitulates the principal facts in the literature on this subject and reports some personal investigations. The general results from both appear to be that ether narcosis, while it may somewhat intensify an existing albuminuria and even produce a transient one, is not likely to do permanent injury in this way. From his personal researches and those of Wunderlich, Popoff does not consider the albuminuria from ether as due to nephritis, but rather to the physiologic action of the agent on blood-pressure.

14.—**Serum Therapy in Diphtheria.**—Bokay gives an elaborate analysis of his 402 cases, which, fairly and moderately stated, adds another testimony as to the value of antitoxin treatment in diphtheria. He compares his results as he gives them with those of others, both as regards general results and special symptoms and complications, so that his article is a valuable general discussion of the subject. In closing, when quoting the opinion of Purjesz, stated a year before, that "it is on the whole questionable whether the hour of serum therapy has yet struck," he adds that, for him, the accumulating clinical evidence shows beyond doubt that the "last hour of that effort to question the signal value of serum therapy in practical life has struck."

15.—**Uterine Retrodeviation.**—Brockman narrows down the ordinary available operations for retrouterine displacements to Alexander's operation and suspensio uteri. The reason Alexander's operation has often failed is that complicating conditions, adhesions, overheavy uterus, chronic inflammation, ovarian disease or pelvic tumor are not recognized, or that the normal condition and age of the round ligaments does not exist. In other words, this operation requires a simple, uncomplicated retrodeviation. In case of any condition requiring laparotomy, an existing backward displacement will be best relieved by a carefully done ventral suspension or shortening of the round ligaments. The paper closes with a protest against unnecessarily complicated, and frequently dangerous, operations that are too often, he claims, employed instead of the simpler and safer one.

17.—**Mechanic Treatment of Hernia.**—Mason details the ordinary mechanism of hernia, showing that upward and backward pressure is required to reduce it, but when reduced, it must be kept in place by downward and backward pressure. He gives diagrams illustrating his statements and figures the faulty and the correct truss.

23.—**Renal Inadequacy.**—Tomlinson of the St. Peter (Minn.) asylum reports the results of urinary examination of 1106 insane patients admitted in four years, with special reference to the questions of the functional capacity of the kidneys. In a large majority of the cases there was nothing in the history or symptoms on admission to indicate renal disease, and about 60 per cent. of them recovered entirely or sufficiently to enable them to live outside the hospital. The death-rate was approximately only 3 per cent. Yet in the whole number the specific gravity was reduced in 180, urea decreased in 597, albumin present in 492 (in the table, 204 in the text) and sugar in 200. It will be seen, therefore, that there may be serious apparent functional renal defect in these patients, which may later entirely disappear. In the experience of the asylum, when patients are admitted with marked signs of renal inadequacy the improvement in the mental state goes, *pari passu* with the restoration of the constituents of the urine to the normal relations, both as to quality and quantity. He reports several cases, illustrating the graver forms of renal inadequacy. In Tomlinson's opinion, renal inadequacy, independent of organic disease, as a temporary condition, is quite common in advanced life, and in some cases is congenital and probably due to some nervous weakness of the individual. In his experience, when the quantity of urine is decreased below 100 c.c., urea below 2 per cent., chlorids below 10 per cent., while the phosphoric acid is increased above 2 per cent. and the sulphates above 15 per cent., urinemia is impending.

26.—**Puerperal Eclampsia.**—Coover believes that puerperal eclampsia may sometimes be induced by atmospheric influences producing epidemics, and refers to his experience in confirmation of this view. In 1872 3 he traced an epidemic of this kind over a tract of country about one mile wide from Harrisburg to Baltimore, and another similar but more limited one in 1880 1. He would commence the treatment in well-nourished plethoric women with free bleeding, and if this is insufficient he would give 40 to 50 grains of chloral with a like amount of bromid per rectum, and repeat if necessary, every hour. In nervous patients without signs of albuminuria he would give, on the other hand, morphin hypodermically, and in any case a dose of calomel followed in a few hours by a brisk purgative. Inhalations of chloroform, ether, etc., are often of service. Between the attacks, Basham's mixture is a valuable blood tonic with very frequent pulse and high temperature. Norwood's tincture of veratrum viride in 6- to 12-drop doses, or tincture of digitalis in 10- to 20 drop doses are useful. Morphin, he cautions, is to be used only in the neurasthenic cases where the urinemic factor is not prominent.

32.—**Intravenous Infusion.**—Goffe reports a case in which intravenous saline infusions were used in a case of severe vomiting in pregnancy, which was not relieved by emptying the uterus. The patient's condition was desperate. She was pulseless at the wrist, cold in the extremities, while temperature elsewhere was 101. The median basilic vein in the left arm was opened and a current of normal salt solution at the temperature of 110 F. was allowed to flow into the vein. Her pulse came up strong and full, color returned to her face, breathing was natural, she dropped asleep and, when two quarts had been injected, beads of hot perspiration began to appear on the forehead and gradually spread over the entire body. The injection was continued until five quarts had been passed, and at this stage perspiration was exceedingly active. The time consumed in the infusion was forty-five minutes. The patient was then wrapped in blankets and covered with a rubber sheet. At the end of two hours and forty five minutes thirteen ounces of urine, the first passed in forty-eight hours, were withdrawn with the catheter. The nitric acid test showed 50 per cent. albumin. During the next twenty-four hours she passed eighty-three ounces of urine, and from this time on steadily improved until at the end of two weeks she was able to return to her home. At last accounts she was still improving. Goffe attributes the good results to: 1, the high temperature of the infusion, and 2, the large quantity employed.

33.—**Tubal Pregnancy.**—Nile's paper pleads for earlier diagnosis and operation in cases of tubal pregnancy. He tabulates the diagnostic points and compares them with those of miscarriage and peritonitis, and as regards the operation, objects to the vaginal methods, believing celiotomy and thorough flushing without drainage are almost essential to success.

34.—**Acute Pneumonia.**—Vide Journal, Nov. 5, 1898, p. 1115.

39.—**Pelvic Cysts.**—Vide Journal, February 4, p. 255.

40.—**Acne.**—Chambers describes the symptoms and pathology of acne, limiting it to a folliculitis or perifolliculitis following a hyperkeratosis of the epidermis, with comedones, thus excluding the drug acnes, etc. He usually commences treatment with an ointment of resorcin and sulphur, applied every night after shampooing the face with green soap, and washed off in the morning. The next indication is the removal of comedones and lancing of pustles, etc. When the face is so much improved, after two or three weeks' treatment that only a few papules remain, all that is required is an antiseptic wash, such as corrosive sublimate (1–700) or 1–1000 formaldehyde. Constitutional treatment will vary according to the circumstances. The bowels should be looked after, diet should be plain, without stimulants; tonics when debility and anemia are present, sometimes cod-liver oil, and plenty of fresh air and exercise. Cold sponging with vigorous friction is worth trying.

41.—**Tetanus.**—Roome discusses the nature of tetanus according to modern views, and reports a case in a horse treated with carbolic acid injections hypodermically, and carbolic acid and bromid of potash by the mouth in horse doses. The carbolic acid doses were increased until finally .5-dram doses and 1 dram of iodid of potash were given in solution three times a day. Local treatment was solution of carbolic acid washings. There was complete recovery in six weeks.

42.—**Serum Therapy of Typhoid.**—Wood remarks that serum treatment would apparently be especially applicable to typhoid fever, with its slow course and tendency to relapses. Weisbecker has tried the injection of human serum from patients convalescing from typhoid and reported favorable results, and Walzer had similar experiences. The difficulty, however, of obtaining this material is in the way of this method and he, therefore, calls attention to the experiments of Jez, who with an extract made from the glands of rabbits, which had been previously immunized to typhoid, macerated in a mixture of alcohol and normal salt solution, has been able to neutralize the toxin of the fever in man. He employed it in doses of from ½ to 1 teaspoonful *per os*, in eighteen cases, with practically uniform results. The temperature curve lost its continuous type and took on that of a remittent fever while the pulse became correspondingly slower and fuller. Simultaneously other symptoms underwent a marked change for the better and the patient was considered as convalescent the second or third week of the treatment. As Wood remarks, this method would seem to merit further trial, especially as it does not interfere with any other treatment.

43.—**Drugs in Typhoid Fever.**—Woodbury considers that the medicinal agents of most importance are antiseptics. Among them he includes quinin and alcohol, and calomel in full doses in the beginning of the attack. The drug he prefers above others is beta-naphthol, which has the advantage of being entirely free from any damaging systemic action in the doses required, namely, two or three grains every two hours. It is a noticeable fact that while this is being given the urine shows less tendency to fermentation and it is to be presumed that if the urine is less aseptic, the blood must also be similarly affected. Other remedies he mentions are hydrochloric acid in doses of 10 drops of the dilute acid every two hours, and the classic oil of turpentin.

45.—**Unilateral Hypertrophy of Face.**—Vide Journal, April 15, p. 820.

46.—**Antistreptococcus in Puerpal Sepsis.**—Moran reports three cases treated with success. In one case it required 20 and in another 40 c.c. at a dose to reduce the temperature. In the other 10 c.c. was sufficient to produce a reduction. He thinks that the general lowering of the temperature in from seven to twenty-four hours, with a corresponding reduction and steadying of the pulse, speaks well for this method.

50.—**Appendicitis.**—Rosenstirn finishes an article very full of literary references, on the surgical treatment of appendicitis. He thinks it safe to formulate the mode of treatment in this disease along the following lines: for every case, at first, absolute rest in bed and treatment as just described. If possible defer operation until after the acute stage. Operate immediand during attack: 1, if diffuse peritonitis has already set in and the patient is not already in agony; 2, if the appendicitic attack commences so violently that the immediate outbreak of diffuse peritonitis must be expected, then operate day or night, and arrange quickly, right on the spot, the best possible conditions for the operation; 3, if in spite of correct medical treatment no improvement sets in after forty-eight to seventy-two hours, as may be expected under ordinary circumstances, and unmistakable signs of the formation of an abscess are recognized; 4, if symptoms of an intestinal obstruction or ileus are present. For recurrent appendicitis, operations between attacks should be done: 1, if mild attacks come on frequently; 2, if the attacks are progressively more severe; 3, if after the attack there remains chronic invalidism such as serious gastric disturbances or constant pain, interfering with locomotion or work.

53.—**Anesthesia and Septicemia.**—Hershey objects to the use of anesthesia in curetting operations, thus involving the danger of septicemia. The depressing effects of the anesthesia should be avoided when the whole system needs stimulation and support against the dangers of septicemia.

54.—**Examination of Drinking Water.**—Sewall believes that the bacteriologic and chemic examination of drinking water is liable to various fallacies and can at best determine only the possibilities and probabilities of pollution. A knowledge of the source of supply, of the conduits and reservoirs, and the character and management of the filters, if such exist, are the best sources of knowledge as to the safety. Examinations, chemic and bacteriologic, should be made, but above all, the inspection of these special points should be insured.

55.—**Gynecologic Training.**—Hall, who in his writings elsewhere has urged the importance of gynecologic work in the asylums, reports twenty-three cases of insane women suffering from gynecologic diseases. Some of these were relieved by operation. He calls attention to the facts that both the patients and their friends were ignorant of their local troubles and 60 per cent. had been committed to the asylum without any mention of the disorder.

60.—**Rectal Disorders.**—Stewart calls attention to the frequency and importance of rectal disorders and remarks that considering these facts it seems strange that life insurance companies do not require rectal examinations as one of the conditions in assuming a life risk. Besides the possibility of fatal hemorrhage from piles, he refers to the frequency with which the rectum is the location of syphilitic lesions and of malignant disease. On these accounts also, rectal disorders should be carefully studied by every medical student and practitioner.

68.—Diseases of Pigmentation.—This paper is printed as an original, but appeared in full in the Journal, March 11, p. 533.

71.—Chorea and Rheumatism.—This paper also appears as original, but has been printed in the Journal, March 11, p. 529.

78.—Carbolic Acid Gangrene.—Leipziger refers to the lack of mention of this complication in surgical works, refers to the cases collected by Honsal, Broughan and others, and reports two personal observations. He concludes that: 1. Long continued use of even the weakest solutions are dangerous. 2. Encircling the part with the dressing is given as a predisposing factor. 3. Idiosyncrasy is possible and quite probable. 4. The general sale of the drug should certainly be restricted. 5. The use of carbolic acid solution as a dressing to injuries of the extremities might be discontinued in view of the efficacy and equal cheapness of many less dangerous antiseptics. (Vide Journal, April 1, p. 727.)

80.—Whitehead's Operation for Piles.—Gant criticizes Whitehead's operation, under which he includes all those methods that seek to excise the mucous membrane of the lower end of the rectum in order to destroy the so-called pile-bearing area and which has been elaborated by the orificialists. He summarizes the criticisms as follow: 1. It is not suited for ordinary or bad cases of piles. 2. It is difficult and bloody. 3. Patients are detained in bed from six to fifteen days longer than after the clamp and cautery or ligature operation. 4. Owing to tension, the post-operative pains are severe and may continue for several days. 5. Infection is frequent and terminates in a stitch or deep abscess and fistula. 6. Because of non-union, ulceration, stricture, and pruritus are common sequelæ. 7. The portion of bowel between the anus and the end of the retracted intestine loses its sensitiveness, and there is also an absence of the normal secretion. 8. The nervous and mental state of these sufferers is pitiable to behold, and many contract the morphin habit, while others turn up as chronic invalids in some sanitarium or asylum.

83.—Myxedema.—This paper appeared in full in the Journal, April 15, p. 814.

89.—Operation for Appendicitis.—Morris claims that operation for appendicitis should be made on first diagnosis under the following conditions: 1, as soon as the diagnosis of appendicitis has been made, when neighboring structures are still exempt, in order to prevent extension of infection; 2, in cases of wide-spread infection, to prevent its extending still further; 3, in cases where appendicitis is subsiding, in order to prevent exacerbations, tedious convalescence and post-infective peritoneal adhesions; 4, in cases where all evidence of acute infection has subsided, provided that accurate palpation shows that the appendix is the seat of chronic infection. After one or more acute attacks of appendicitis, we find hard concretions or entrapped fecal contents in nearly 20 per cent. of the cases, partial or complete mucous inclusions in more than 80 per cent. The reason why we are to operate as soon as the diagnosis is made in these cases is because the surgical death-rate is lower than the medical, with proper surgery, and the suffering of the patient is much less as is also the period for which he is disabled. He discusses certain matters of the technic and objects to iodoform gauze or simple gauze packing, and the leaving of infected appendices *in situ*. The plan of making long incisions and a partial evisceration of the patient is also objected to. He does not object to allowing pus to flow over the peritoneum provided it is cleansed out from time to time with peroxid of hydrogen during the operation.

90.—Bottini's Operation.—Guitéras describes the condition of prostatic hypertrophy and its general treatment, and gives an elaborate description of the method of Bottini's operation, with illustrations of instruments, etc. He believes that this is the procedure for this condition that exposes the patient to the least amount of danger, generally gives relief and diminishes the amount of residual urine.

91.—Acromegaly.—Mitchell and LeCount complete their paper, which was begun in a previous number. After a description of the tumor removed, which is one of the largest growths in the region of the hypophysis reported, and its nature, they conclude as follows:

1. The cases of acromegaly associated with true tumor of the hypophysis are certainly not as numerous as has been heretofore supposed.

2. There is not as much constancy in the pathologic condition of the hypophysis as there is in an enlargement of the heart, the thyroid gland, or the sella turcica.

3. Acromegaly does not depend, at least not solely, upon abolition of any function of the hypophysis.

4. A relationship between the thyroid gland and the hypophysis has already been amply proved.

5. It is not at all improbable that proliferation of the histologic elements of the hypophysis may be instituted in some cases by a primary enlargement of the sella turcica; in other cases, an edema or hemorrhage *ex vacuo*.

6. We have no reason for supposing that enlargement of the sella turcica may not be as constant an occurrence in acromegaly as the changes in other bones, or that it might not take place from a similar cause or causes.

92.—Prothymia.—Wood calls attention to a peculiarity which he has met with in the brains of certain animals, upon which he makes a rather forced generalization. The peculiarity consists of the swelling or bulging forward of the anterior metopic lobule in certain animals, and the reverse condition in certain others. He associates it with a tendency to come forward or advance, and the opposite condition with the opposite tendency.

95.—Prostatic Hypertrophy.—Cabot reports sixteen cases of orchidectomy and prostatectomy, including four of both in the same individual, and discusses the results. He does not think that his former conclusions, deduced in 1896, are borne out by his later experience. The two operations, instead of being as nearly equal as possible in their results are different in this respect, and he believes that prostatectomy offers a decidedly better prospect of relief than the other and is especially applicable in cases where the obstruction is due to the growth into the bladder of prostatic projections which encroach on the urethral orifice.

96.—Traumatic Cerebral Edema.—Courtney concludes his discussion of cerebral edema, which has been running through several numbers of the *Journal*. He says that a final summary of all the evidence at command simply serves to confirm the conclusions already advanced, and these may be recapitulated as follows:

1. That traumatic cerebral edema can find no place as a pathologic or clinical entity.

2. That it is primarily the inevitable sequence in time of that complex of pathologic conditions which we designate contusion.

3. That inasmuch as contusion of the brain and its meninges is most commonly met with as a concomitant lesion to the more macroscopic lesions designated hemorrhage and laceration, the primary seat and extent of its accompanying edema will be largely fortuitous.

4. That in the rare instances in which the application of a traumatizing force is expended in the production of a local contusion of the brain cortex or its meninges, the brain is of itself abundantly able to rid itself of the edema through its venous channels.

5. That in the remaining cases in which the contusion is primarily extensive in the cerebrum, or when it affects the cerebellum or bulb, the factors which enter into the mechanism of the production of the edema are such as to preclude the possibility of operative relief.

6. The contusion can, *per se*, easily cause death.

7. That death in such cases results from anemia of the bulb.

97.—Insanity and Ductless Glands.—Hamilton's paper discusses the mental symptoms accompanying certain diseases of the ductless glands, such as Graves' disease, myxedema, acromegaly. The use of thyroid extract in myxedema is well known, and it seems to have been of advantage in well-known cases of mental disorder. In exophthalmic cases he has used adrenal extract with benefit, and he believes that it can be sometimes used as a substitute for narcotics such as morphin and hyoscin.

98.—Epilepsy.—Brown reports five cases of epilepsy with special manifestations, one of which, following nightmare, is a notable one, as complete retention of consciousness was reported throughout the attack of grand mal. He believes that there is a dubious borderland between hysteria and epilepsy, but that positive manifestations of the more serious disorder will generally eventually appear.

99.—Operative Gynecology.—Savidge asks whether it is true that we operate too much. He goes over the various operations and their indications in detail, including the leading gynecologic operations and some that are not especially gynecologic, such as appendicitis. He believes that the operation for retrodeviation will become less frequent, and as regards appendicitis, he takes rather a conservative view.

101—Carbuncles.—Creel has relied on ecthol given internally, in doses of a teaspoonful, in cases of carbuncle, flax-seed poultices applied locally, emptying of pus, scraping out of dead tissue and cleansing with peroxid of hydrogen; after this a topic application of ecthol on absorbent cotton every four to eight hours. The average duration of this treatment in his cases was ten days.

104.—**Medical Inspection of Schools.**—An inspection, extending over a period of eleven weeks, was instituted and carried out under the sanction and co-operation of the St. Louis Board of Education, to demonstrate the importance of establishing adequate medical inspection over the local schools; the plan embraced the daily inspection of the pupils of ten schools. Each pupil found to be ailing or thought to be indisposed was brought to the notice of the inspector, who was furnished with the proper facilities for making proper examination, and in case of necessity making cultures from suspicious throat cases. No medical treatment was extended by the physician, but each case of illness was immediately reported to the principal, with proper suggestions for the disposal of the child found to be ill. An examination of the report, based on medical inspection of approximately 10,000 pupils, during one quarter, discloses 1600 cases of ailments and diseases; 1565 were reported for medical examination and of this number 156 were recommended for temporary dismissal on account of existing infirmity or contagious condition; 76 were suffering from the various infectious diseases, diphtheria, scarlet fever, measles and whooping-cough. Of the total ailments found, 49 per cent. were affections of the oral and respiratory tracts, while diseases of the skin numbered forty five, some of them being of a communicable nature.

105.—**Traumatic Epilepsy.**—Reporting a case in which operation resorted to four years after injury has given complete relief, Hudson calls attention again to the symptom of excessive hyperesthesia existing about the head after certain cases of cerebral injuries, as possibly indicating adhesions between the brain and dura; his experience in this and one other leads him to confirm this theory.

107.—**Syphilitic Gastralgia.**—Attention is directed by Jones to the importance of considering the etiologic relationship between syphilis and the painful gastric neuroses, unaccompanied by any organic gastric lesion or tabetic symptoms. Two cases are reported, undoubtedly specific, the gastralgic pains and symptoms responding readily to the administration of potassium iodid or the mixed treatment.

109.—**Bacillus Icteroides.**—Reed and Carroll report, with preliminary notes, the results of their study of the bacillus icteroides and that of hog cholera, and believe that the former is a variety of the latter and should be considered as only a secondary invader in yellow fever. They find that Sternberg's bacillus *x* presents marked differences from the foregoing both as regards its biologic character and its pathogenic action on animals. They reserve for a future paper a more detailed description of their methods.

110.—**Cardiaphobia.**—English proposes the term cardiaphobia or heart fear for certain symptoms that have been long observed in cases of functional and sometimes organic trouble of the heart. It may be either psychic or organic in its origin and nature, or both combined. Its prognosis is generally favorable, though each case must be considered by itself. The fact that it is more often found in functional than in organic heart trouble should be borne in mind. He condemns the bromids, but recommends chloral in full doses, and trional. Tonics must be administered to relieve the nerve outlay.

112.—**Ovarian Transplantation.**—Glass reports a case in which after double oöphorectomy, the patient suffered from aggravated symptoms of the menopause with complete loss of sexual feeling. Having at the same time a case in which one ovary was to be removed, he operated on both cases at the same time, the removed ovary being kept in a warm normal salt solution until it was transplanted in as nearly as possible its normal position in the first named patient. The recovery was uninterrupted and the patient informed him that six days after the operation she had a condition of sexual erethism which lasted for several days, and that since that time positive sexual feeling has been present. Menstruation occurred sixteen days after the transplantation and did not recur again for seven months. At this time, eight months after the operation, the patient had apparently regained her perfect normal health in all respects.

FOREIGN.

British Medical Journal, April 22.

Dangers of Delay. Mayo Robson.—The author protests in his address before the Nottingham Medico-Chirurgical Society, against certain conservative tendencies in surgery. Among the conditions in which he thinks this tendency does harm he mentions tuberculosis of the joints, cancer of the breast and other cancers, tuberculous peritonitis, which is easily relieved by a very simple operation of opening and draining the abdominal cavity if seen early. As regards appendicitis, he takes the radical view which favors early and general operation. Cholelithiasis, perforating gastric ulcer, perforating typhoid ulcer, dilatation of the stomach, stricture of the pylorus, intestinal obstruction, and ovarian and uterine tumors are other diseased conditions in which he advocates early operation as the simplest and best treatment.

Prognosis and Treatment of Acute Intussusception. George Heaton.—We have of late years come to consider intussusception as much more frequent in young children than was formerly believed, its rapid fatality having largely disguised or prevented its diagnosis. He does not believe in the treatment by bowel inflation, the dangers of which are the risk of overdistension and rupture, the impossibility of observing the complete reduction, and the loss of time. Abdominal section is the treatment par excellence. In some cases the operation is simple, in others it is very severe. In reducible cases the bowels should be replaced in the normal condition, which is fairly easy excepting in the last inch or so of intussusception. Here much care must be exerted to prevent injury to the swollen and edematous bowel. In cases that are irreducible or gangrenous the matter is very much more serious and the ideal method is to excise the whole of the intussusception and make an end-to-end union of the divided intestines. Unfortunately patients are rarely in a condition to stand so severe an operation. He reports four cases, recovery in all but one.

Peritonitis a Cause of Increased Peristalsis in the Rectum, etc. Charles W. Cathcart.—Attention is called to the possibility of increased action of the bowels from extra intestinal lesion in peritonitis, and three cases reported. In reviewing the literature, the author finds that this possibility has been too little mentioned and less importance attached to it than it deserves. He thinks we are justified in believing that as a result of irritation around the bowels (generally from peritonitis) the following symptoms may be produced: increased peristalsis, amounting sometimes to severe spasm of the small and greater portion of the large intestines, the relaxation of the sphincter, frequent evacuation and intense straining and tenesmus in severe cases where the rectum is involved, but he believes that from the knowledge gained in the study of these symptoms certain advantages may be derived, as:

1. Such cases as the first two described will be clearly understood and therefore promptly and efficiently treated when they present themselves.
2. The possibility that increased action of other parts of the intestine may be due to a cause outside and not inside the walls of the bowel may often help us to account for otherwise obscure symptoms in ways that we perhaps can not as yet realize.
3. The probability that colic may in like manner be caused by irritation outside as well as inside the bowel may be most valuable in helping us to form a diagnosis in a difficult case. Hitherto most of us have only recognized that many of the symptoms of peritonitis and of colic (intestinal, renal or biliary) are often very much alike. Now we may be prepared to believe that some of them are identic. This, instead of discouraging us, should have the opposite effect. We shall know what symptoms to accept as possibly common to several causes, and we shall not put too much stress on them. This will make us seek more eagerly for points in differential diagnosis. Thus, perhaps, symptoms which otherwise might have been missed or passed over as unimportant will be found lying ready to our hands as invaluable guides, when we understand how to look for and use them.

Centralblatt f. Gynecologie (Leipsic), 1899, No. 13.

Total Extirpation of Uterus on Account of Rupture during Delivery. A. Solowij.—The question of which route to choose in ablating the uterus in these conditions is elucidated by a case reported in which the uterus was extirpated per vaginam. The patient died the following day, and at necropsy incipient peritonitis was noted and also a tear in the peritoneum which was not discovered during the vaginal operation, but would have been if the abomen had been opened.

Deutsche Medicinische Wochenschrift (Berlin), April 13.

Leucocytosis and the Iodin Reaction in the Leucocytes. S. Kaminer.—As results of recent research the writer states that the reaction was only positive with existing leucocytosis, but that leucocytosis may exist in inflammatory diseases without the iodin reaction, and also that the reaction may be observed in cases without localized suppurations. Although all his tests with diphtheria toxin were positive, he does not consider that bacterial proteins can alone produce the reaction, but that it may be induced by other irritating substances introduced subcutaneously, if they are likewise of a chemotactic nature. He concludes by asserting that the iodinophilous substance in the leucocytes is a product of degeneration, that it originates in the leucocytes themselves and is not derived from any organ.

A Case of Myelogenic Leukemia. Death from Sudden Leukemic Infiltration of the Upper Air-passages. W. Hirschlaff.—After two months of weakness in the feet, and general depression, the patient came to the hospital with an enormous tumor of the spleen, with deep grooves to be felt in the surface; proportion of reds to whites, 6 to 1, with large preponderance of polynucleated mature bone-marrow cells, giving place as death approached to others not fully matured; night sweats and evening temperature 38 to 39 C. The soft palate, tonsils and throat suddenly swelled with a whitish appearance, resembling a diphtheritic pseudomembrane, with death from suffocation, in a few hours. The bone marrow was a grayish red with numerous hemorrhagic foci, and here and there, a distinct pyoid structure. All the glandular organs were hypertrophied and small white tumors were found all through the kidneys, peritoneum, liver and spleen. The hypertrophied condition of the spleen was due entirely to infiltration with the bone-marrow cells.

Munchener Medicinische Wochenschrift, April 11.

Influence of Physical Exercise on Temperature in Health and Disease. F. Pensoldt.—Further tests have confirmed the statements that a rise in the rectal temperature after an ordinary walk of an hour on level ground, indicates pathologic conditions. The subjects should rest half an hour beforehand and the temperature be taken at once after the walk. By this means the effect of exercise on tuberculous, anemic and convalescent persons can be determined and the precise point, in debilitated conditions, when health-promoting exercise becomes injurious overexertion.

Group Agglutination and the Behavior of the Bacillus Coli in Typhus. M. Pfaundler.—This is a study of the recently established fact that the indifferent normal serum of adults can agglutinate a whole series of pathogenic and other microbes, although strong concentrations may be needed to render them perceptible. The bacillus coli is agglutinated more strongly and frequently the older the person from whom the homologous serum is derived, which fact is probably due to some possibly slight morbid process in which the bacillus coli was involved. The group or family agglutinating property diminishes in proportion as the bacterial species differs from the species causing the infection, and is hence most marked in those most closely related to it; the bacillus coli in typhus; the vibrio Metschnikoff in cholera; the streptococcus in infection from the diplococcus lanceolatus. The curve of the agglutinating power is usually most pronounced with the bacillus producing the infection. The serum of a typhus patient agglutinates the bacillus coli in a much weaker dilution than nontypic serum. In Pfaundler's experience, in a fourth of the cases, the agglutination was more pronounced with the bacillus coli than with the bacillus typhi. This may be ascribed to a secondary complication by the bacillus coli, especially as clinical observation shows that the cases in which it occurs are mostly atypic. The close resemblance between these two species of bacteria, however, suggests that it is merely a group or family agglutinating property, which view is sustained by the existence of the phenomenon in cases and experiments in which secondary bacillus coli infection is positively excluded, and also by the fact that the curves rise and fall parallel to each other. The possibility of group agglutination imposes the necessity of caution that some relative of the actual infecting agent with a pronounced curve may not be mistaken for it, or that the location of the morbid process may not be incorrectly diagnosed, as when, for instance, the bacillus coli passes secondarily through the primarily affected intestinal wall into the bladder, or when the bacillus coli affects the blood so as to produce agglutination through lesions produced by some other primary infective agent, or even through a sound mucosa, as in Fraenkel's experiments with young dogs, which were fed typhus cultures per os until their blood possessed marked agglutinating power, although no indications of infection were observed at any time.

Extraction of Alexins from Leucocytes of Rabbits, by Means of Blood Serum from Other Animals. P. Laschtschenko.—This depends on a vital process and demonstrates the intimate connection between the bactericidal properties of the blood and the leucocytes. The effusion following the injection of aleuronate broth in the thorax or abdomen of rabbits and dogs is centrifugalized, and the sediment of leucocytes, rinsed with inactive rabbit serum, centrifugalizing again, until every trace of the fluid of the effusion is removed. The final sediment thus obtained, consisting of living rabbit leucocytes, is mixed with the blood sera of various animals and kept for two hours at a temperature of 37 C., when the leucocytes are centrifugalized out. The fluid remaining, containing the alexins produced by the leucocytes, the "extract," possesses enormous bactericidal power, destroying millions of microbes, especially the staphylococcus, in four to eight hours.

Treatment of Ozena with Citric Acid. Hamm.—After cleansing the nose citric acid is insufflated through a powder blower three times a day, mixed with saccharum lactis āā. All odor is dispelled at once, and sometimes for several days. The psychic effect of this thorough deodorization improves the general health, and the cure of the ozena may follow. Hamm has had several cases under observation for months, with no recurrence, although he makes no claim for the citric acid except its remarkable deodorant properties.

Wiener Klinische Wochenschrift, April 13.

Influence of Changes in Lumen of Vessels and in Blood-Pressure on Number of Leucocytes. A. Decastello and H. Czinner.—The writers announce as the result of much experimental research that strong irritation of sensory nerves (ischiadicus), produces a decrease in the number of leucocytes in the blood, owing to the reflex contraction of the abdominal vessels and retention of the leucocytes in them. It does not occur if the splanchnicus is divided. Direct irritation of the vasoconstrictors of a circumscribed region diminishes the number of leucocytes in the blood issuing from it. Ingestion of vasoconstricting substances (suprarenal extract) produces the same effect in a higher degree. The effect of shock is due to the same process. Dilatation of the vessels, as after dividing the splanchnicus, has no influence on the number of leucocytes. A lowered blood-pressure diminishes the number of leucocytes temporarily. The above effects were attained in a maximum of three to four minutes. The variations amounted to 20 to 30 per cent.

Multiple Cysticercosis. From Rokitansky's Clinic.—Over eight pages are devoted to a study of this subject and observation of a case of multiple cysticercus tumors under the skin, accompanied by epileptic seizures, in a young man who at one time had been in the habit of eating raw pork. Numbers of the tumors were excised as they appeared and the "hook wreath" found in them. A tenia solium was also evacuated. There is probably a tumor of the same kind in the cortex, which causes the epilepsy. The possibility of these tumors should be borne in mind in doubtful cases throughout the entire domain of internal medicine. A few of the tumors spontaneously subsided.

Annales de Dermatologie et de Syphiliographie (Paris), February-March.

Eczema Seborrheicum. C. Audry.—This affection, neither an eczema nor a seborrhea, Aubry describes as an autonomous, circumscribed disease of the skin, inoculable and contagious, chronic in that it is liable to return again and again, probably specific and parasitic, with a regular, abnormal or complicated course. He endorses sulphur as the specific remedy, combined with zinc oxid, boric acid, etc., as indicated.

Tardy Monosymptomatic Heredo-syphilis. Barthelemy.—A syphilitic father and healthy mother have two healthy children. A third seemed also healthy in every respect, until her 21st year, when a typic tertiary gangrenous gumma of the skin appeared. . . . Fournier and Besnier reported observations of women presenting syphilitic manifestations for the first time twenty odd years after their marriage with a syphilitic and the birth of healthy children: "cases of extraordinarily tardy conceptional syphilis." This possibility should be borne in mind in diagnosing doubtful lesions in women who have conceived, especially tumors of the breast. Besnier inclines to the opinion that a woman who has conceived from a syphilitic is syphilized, and urges study of this subject to determine whether such women can later acquire primary syphilis, which would settle the question. . . . The interval before marriage allowable to a syphilitic is being lengthened. Fournier says: "The later the better." "After three to five, still better six, years devoted to systematic treatment, the subject may marry and prove harmless to his descendants."

Presse Medicale (Paris), April 5.

Osmotic Pressure and Its Applications to Medicine. H. Vaquez and F. Bousquet.—In this review of our present knowledge of the laws of osmosis and their significance in pathology and therapeutics, the writers observe that it would be interesting and useful if all the research on the determination of the toxicity of the urine could be gone over again, with a view to osmosis. "It is accepted now that digestion commences and progresses under the constant influence of the difference between the osmotic force of the stomachal fluid and the plasma of the blood." "The blood, the lymph and the fluids of the tissues possess an osmotic tension increasing from the former to the latter. The intermediate fluid aspirates the lymph, which in turn attracts the blood, thus producing a vital circulus founded solely on physico-chemic phenomena and regulated by the differences in the osmotic tension between the various fluids of the organism, and regulating the conditions of nutrition and of the organic secretions." The molecular concentration of the serum, determined by cryoscopy or observation of the freezing-point, which is the simplest standard for the osmosis, is normally —0.56, but it varies in certain conditions. In one case noted it was —0.71, and in a case of chronic nephritis, —1.04. Physiologic salt solution, to be isotonic in these cases, would have to be respectively 11.9 and 17.3 per 1000. A weaker dilution would affect them as pure water or a concentration less than 5 per 1000 affects normal subjects. . . . The chief task of the kidneys is to maintain the blood at a certain composition. It is therefore possible to draw conclusions in regard to the modifications occurring in the blood from modifications in the composition of the urine (vide Journal, p. 900). Recent research by Winter, Dreser and Koranyi has established the possibility of determining in this way the relative amount of NaCl in the blood, the rapidity of the sanguine circulation in the kidney and a more exact knowledge of the mechanism of the secretion of the urine. A lower freezing-point for the urine indicates renal impermeability and comparing the variations from the normal freezing-point of the blood (—0.56), and of the urine (—1.50 and —2), solves various pathologic problems. Koranyi asserts that the latter figure remains the same while the former rises, in cases of affections of the heart with commencing insufficiency. This may prove a valuable means of differentiating urinary troubles due to mere disturbances in the circulation, from those connected with a renal lesion. Another important result of the study of osmosis is the realization of the necessity of using liquids in treating wounds, etc., which, combined with the capillary attraction of the dressings, establish an osmotic current outward. Further research is needed in this direction.

Revue de Chirurgie (Paris), April 10.

Metatarsalgia and Its Treatment by Resection of the Metatarsal Heads. M. Peraire and F. Mally.—The writers transfer "Morton's neuralgia" from the domain of medicine to that of surgery, claiming that radiography has proved the affection to be a "condensing osteitis," a fact unsuspected before. Seven observations are related and radiographed. Patients who had for years been unable to walk or to put their feet on the floor without agony, were entirely cured by the resection of the painful metatarsal heads.

Polyadenomata of the Large Intestine. Quenu and Landel.—Forty cases are recorded in literature and reviewed in this communication, with two personal, in which the intestines were the seat of numerous adenomata from the size of a pea to that of a pigeon's egg, sessile or pediculated, consisting of the hypertrophied glands of the intestinal mucosa and connective tissue, with or without a cylindric epithelium. The coexistence of one or more cancers in nearly half the cases is a noteworthy fact. They do not appear until long after the first symptoms of the "polyposis," as the Germans call it, and a number of the polypi may undergo cancerous degeneration. The adenomatous structure and the epitheliomatous are frequently observed in a single neoplasm. More than half the cases were under 31 and four under 16; the majority males. The three chief symptoms are a peculiar, obstinate, persistent diarrhea with blood and mucus in the discharges, unaffected by medication; hemorrhages and pain, although the latter may be absent. The polyposis should incline the question of surgical intervention on the cancer toward the negative, and even if there is no cancer, operations through the anus have only afforded temporary results. The polyposis sometimes involves the entire intestines and the stomach, but the point brought out in this review is that it is essentially an affection of the large intestine, and irradiates from the rectum toward the cecum. The conclusion follows that sequestration of the cecum and diversion of the course of the fecal matters is the route by which to seek to improve the conditions and even possibly cure the polyposis.

Revue Generale d'Ophthalmologie (Paris), March 31.

Retrochoroidal Hemorrhages After Extraction of Cataract. S. Bloom.—Micro-anatomic study of four cases establishes that these hemorrhages are due to local alterations of the walls of the veins of the choroid from phlebitis or periphlebitis, and that the rupture occurs during some transient exaggeration of the intravascular pressure.

Retinitis Albuminurica Gravidarum. Axenfeld.—The writer does not consider it necessary to terminate the pregnancy for this affection unless the sight is less than one sixth of normal. He also advises against the prevention of future conceptions on this account, as it does not necessarily recur with other pregnancies.

Zinc in the Eye. Vollert.—The prognosis of perforating wounds of the eye with fragments of zinc, calls for much reserve. This metal stands between silver and lead in respect to its phlogogenic properties, and in one case he followed, produced an inflammatory exudation around the foreign body with sclerosis of the vitreous body and retinitis. The retina atrophies in all its layers.

St. Petersburger Medicinische Wochenschrift, April 8.

Fibroma Molluscum.—In a case recently exhibited at the local medical society, the extent and size of the tumors constantly increased from above downward, with patches of pigment. E. V. Bergmann called attention to the pigmented patch, which under the microscope is seen to be a neurofibroma, the same as the rest macroscopically, in this affection, which is essentially a disease of the nerves, although the nerves produce no symptoms clinically. Nerve branches enter the tumors, twisting and spreading like the vessels in an angioma. Some of the tumors, especially on the neck, consist of nothing but nerves, as can be determined with osmic acid.

Societies.

COMING MEETINGS.

American Association of Genito-Urinary Surgeons, Niagara Falls, N. Y., May 25.
American Climatological Association, New York City, May 9.
American Laryngological Association, Chicago, May 22–24.
American Medico-Psychological Association, New York City, May 23.
American Orthopedic Association, New York City, May 16.
Arkansas Medical Society, Little Rock, May.
Association of American Physicians, Washington, D. C., May 24.
Connecticut Medical Society, Hartford, May 24.
Illinois State Medical Society, Cairo, May 16–18.
International Association of Railway Surgeons, Richmond, Va., May.
Kansas Medical Society, Topeka, May.
Kentucky State Medical Society, Louisville, May 16.
Louisiana State Medical Society. New Orleans, May 16-18.
Montana, Medical Association of, Butte, May 24.
Nebraska State Medical Society, Lincoln, May 9-12.
New Hampshire Medical Society. Concord, May 25–26.
New Mexico Medical Society, Albuquerque, May.
North Carolina, Medical Society of State of, Asheville, May.
North Dakota State Medical Society, Fargo, May 24-25.
Ohio State Medical Society, Springfield. May 10-12.
Ohio State Pediatric Society, Springfield, May 9.
Oklahoma Territory Medical Society, Oklahoma City, May 19.
Pennsylvania, Medical Society of State of, Johnstown, May 16.
Washington State Medical Society, Tacoma, May.
West Virginia, Medical Society of State of, Weston, May.

Marshall County Medical Society.—This society held a business session at Plymouth, Ind., recently, and elected the following officers: President, L. Johnson; vice-president, N. B. Aspinall; secretary and treasurer, J. H. Wilson.

Wells County Medical Association.—At the recent annual meeting of this association, held at Bluffton, Ind., officers were chosen for the ensuing year, as follows: President, I. N. Hatfield; vice president, L. A. Spaulding; secretary, S. A. Shoemaker; treasurer, C. L. Blue.

The American Laryngological Association.—This association will hold its twentieth annual meeting in Chicago, May 22, 23 and 24. Dr. W. E. Casselberry, Chicago, is president, and Dr. H. L. Swain of New Haven, Conn., secretary. All interested in laryngology are invited to attend.

Cumberland County Medical Society.—This society held its annual meeting at Bridgeton, N. J., April 11. Officers for the ensuing year were elected as follows: President, Ellsmore Stites; vice-president, Frank M. Bateman; treasurer, Jos. Tomlinson; secretary, Hamilton Mailly; censors, H. H. Oliver, Wm. L. Newall, H. W. Elmer, J. C. Applegate and Eph. Bateman.

Medical Association of Alabama.—At the annual session of this association, just closed at Mobile, the following officers were elected: President, J. O. LeGrande, Birmingham; junior vice-president, Samuel G. Gay, Selma; censors, E. H. Sholl, Birmingham, and Glenn Andrews, Montgomery; orator, Rhett Goode, Mobile. The next meeting will be at Montgomery.

Alumni Society of Sloane Maternity Hospital.—At the annual dinner of this society, New York City, April 28, the following officers were elected; president, George L. Broadhead; first vice-president, A. Ernest Gallant; second vice-president, Eugene Coleman Savidge; recording secretary, James D. Voorhees; corresponding secretary, Frank R. Oastler; treasurer, Edwin Sternberger; pathologist, James Ewing.

Congress of American Physicians and Surgeons.—At a recent meeting of the executive committee of the congress, the following officers were elected: President, H. P. Bowditch, Boston; secretary, W. H. Carmalt, New Haven, Conn.; treasurer, Newton M. Shaffer, New York City; chairman of executive committee, Landon Carter Gray, New York City; secretary of executive committee, W. K. Simpson, New York City. The next congress will meet at Washington, D. C., in May, 1900.

Northampton County Medical Society.—At the eleventh annual session of this society, Easton, Pa., April 21, the following were chosen officers for the ensuing year: President, Charles McIntyre, Easton; first vice-president, J. O. Berlin, Bath; second vice-president, D. H. Keller, Bangor; recording secretary, F. H. Erwin, Bethlehem; corresponding secretary, H. T. Edwards, South Bethlehem; treasurer, Amos Seip, Easton; censors, H. T. Lacair, Bethlehem, S. S. Aple, Easton, and A. A. Seem, Bangor.

Florida State Medical Association.—The twenty-sixth annual meeting of this association has just closed at Jacksonville, Fla. A large number of papers were presented by prominent practitioners of the State and, by invitation, papers by Drs. John B. Roberts and John B. Deaver of Philadelphia. The election of officers resulted as follows: President, J. H. Hodges, Gainesville; first vice-president, W. L. Huklett, Cocoa; second vice-president, G. W. Lamar, Quincy; secretary and treasurer, J. D. Fernandez, Jacksonville; librarian, J. Y. Porter, Key West. The next meeting of the association will be held at Orlando in April, 1900.

Mississippi State Medical Association.—In his presidential address, Dr. Kendrick advocated the establishment of a museum to which the members should contribute specimens and matters of medical interest. He also advocated the election of all members of the State board of health by the medical association, as, until the code of 1892 was adopted, the association selected all the members of the board except two, while now it selects only five out of twelve. He thinks this would be a powerful factor in stamping out and keeping out quacks and irregular practitioners, there being now nothing to prevent the governor from appointing a majority of irregular doctors on the board.

Detroit Academy of Medicine.—At the meeting held April 25, Hal. C. Wyman read a paper on "Gall-Stone Surgery." These stones have their origin in an irritative process, occurring in the gall-bladder due to a reflux of bile from the duodenum to the bladder, with the consequent disturbance of equilibrium in the bile elements. Hence the stone should first be sought in the gall-bladder, and later in the ducts. If the stone is in any of the ducts, it should, when possible, be pushed back into the bladder before the passages are open. The paper reviewed the methods used by the writer; his experience and methods were not materially different from other operators. Recurrences are more frequent than is generally supposed. To prevent these a change of diet is essential. Corn, rice, oats, fats, fruits, hot and cold distilled water, and fruits without sugar will be a useful preventive diet.

Wayne County Medical Society.—At the regular meeting, held at Detroit, April 20, Dr. A. J. Burdeno read a paper on "The Tongue in Disease." The tongue, he said, may be looked upon as one of the barometers of the body. We note its color, whether it is flabby, teeth-indented, dry or moist, and whether or not it is normal in motion and appearance. Partial coating may come from a carious tooth, from an enlarged tonsil, or possibly from a neuralgia of one of the branches of the facial nerve. When the tongue is entirely coated, there being no elevation of the patient's temperature, but existing constipation, the disturbance is in the alimentary tract, as a rule, and a calomel or podophyllin purge is indicated according to color of stool. These may be combined with hyoscyamus or belladonna and ipecac. Should these measures not clear up the tongue, we may consider the case one of impaired nutrition and an indication for the use of mineral and vegetable tonics. The tremulous tongue of typhoid fever is an indication of deep ulceration of Peyer's glands. The dry tongue of fever, when entirely involved, indicates nervous depression and may be due to sleeplessness. For this condition Dover's powder has given excellent results. The dry tongue is also said to be an indication for the exhibition of stimulants. If alcoholic stimulants are administered and the tongue becomes moist, the stimulant is to be continued, but if the tongue becomes more coated and more dry, alcohol should be replaced by digitalis or strophanthus and nux vomica. In advanced cases of diabetes the tongue is dry, clean and glazed. The dry tongue of old people may not indicate as great seriousness as in the young. The dry, smooth, glazed tongue of typhoid fever calls for the administration of turpentin. Other conditions of the tongue discussed by the author were the irritable tongue of dyspepsia and phthisis where extensive intestinal ulceration exists and in some cases of chronic alcoholism; the broad, pale, flabby tongue of atonic and anemic conditions, Bright's disease, and other chronic diseases; the swollen tongue, due to salivation; the tongue slightly coated and frothy at the edges in neurasthenia; the hemiatrophied tongue of locomotor ataxia; partially or wholly paralyzed tongue of hemiplegia or other paralyses, and the cold tongue of collapse.

Association of American Medical Colleges.—The next annual meeting of this association will be held in the Senate Chamber, Columbus, Ohio, June 5, 1899. The morning session, to be devoted to the discussion of educational matters, will be called to order at 10 o'clock. The secretary will, however, be in attendance an hour earlier to register members and transact routine business. The judicial council will be in session at the same time. The program will be:

1. Elective Course in Medical Schools. Prof. J. M. Dodson, Junior Dean, Rush Medical College, Chicago.

2. Condition of Medical Education in the South. Prof. G. C. Savage, University of Nashville, Nashville, Tenn.

The afternoon session will be the business session, and follow the order of business prescribed by the by-laws:

1. Reading the minutes of the previous meeting.
2. Roll-call of membership.
3. Reports of committees.

a. Report of the committee on the condition of medical colleges in the United States. E. Fletcher Ingals, chairman.

This committee was appointed under the following resolution:

Resolved, That a committee of three be appointed to ascertain the amount of work being done by the various colleges, members of this association, and to offer such amendments to the constitution as may seem fit for consideration and action, at the next meeting.

The members of the committee are the chairman, E. Fletcher Ingals, Prof. John C. Oliver of Cincinnati, and Prof. Thos. H. Hawkins of Denver.

b. Reports of special committees.

4. Secretary and treasurer's report.
5. Report of judicial council.
6. New business.

Under "new business" will come up the consideration of proposed amendments to the constitution.

7. Adjournment.

Medical Association of Georgia.*

Annual Meeting held at Macon, April 19-21, 1899.

ELIMINATION AND ANTISEPTIC TREATMENT OF TYPHOID FEVER.

Dr. T. Virgil Hubbard of Atlanta presented a paper on this subject, and said that while there may be some room for justly criticizing the size of the dose and frequency of administration, advocated by Dr. Woodbridge, there can be no doubt that to him belongs the honor of having combined a number of drugs for the treatment of typhoid fever, which, if systematically and continuously used, will reduce the mortality of this disease. While the author has used the same drugs, but in larger doses, and not so frequently administered, he is not prepared to say that his method of administration is not the better, for he has never used it that way, and he is not willing to criticize the Woodbridge plan before having tried it. The most conspicuous and pronounced opponents of the antiseptic and eliminative treatment of typhoid fever are almost without exception those men who have never systematically used it in even a limited number of cases, thus placing themselves in the absurd position of condemning this treatment without ever having given it a fair trial. A number of physicians will testify to the remarkable tolerance of the system to mercury, when under the influence of the poison of diphtheria, some having given as high as 300 grains of calomel in one week to an adult with diphtheria, without producing salivation or violent purgation. He would not attempt to offer any explanation of why this is so, but the fact remains. He has given a half grain of calomel to a typhoid patient every two hours for forty-eight hours without producing salivation or purgation. While the same tolerance does not exist in typhoid fever that syphilis and diphtheria furnish, yet it does not seem unreasonable to assume that there is some physiologic antagonism between the disease and mercury, which may account, to a certain extent, for its controlling influence. The treatment the author has used, as suggested to him by Dr. Stockard of Atlanta, consists in the administration of the following; Calomel, 0.5 grain; guaiacol carbonate, 2 grains; podophllyin, 1/20 grain; given in one capsule every two hours for twenty-four to forty eight hours, depending on the condition of the bowels. He continues this until he has secured four or five intestinal evacuations for two successive days, and then he leaves off the calomel and adds half a grain of menthol to the guaiacol and podophyllin. If, after discontinuing the calomel, there is any tendency of the bowels to become inactive, he administers a small dose of salts or Hundyadi water in the morning. He always endeavors to secure at least two or more evacuations, daily, depending on the temperature and tympanites. If, after four or five days of treatment, the temperature remains high or rises after having remained stationary, he again resorts to the calomel as above, for twenty-four hours, and it invariably reduces the temperature and results in a general improvement in the patient's condition. He continues the administration of the guaiacol, menthol and podophyllin throughout the disease.

Regarding the variation in size of dose and frequency of administration of the calomel, the common sense and good judgment of the physician must be relied on for the successful administration of this treatment. Timidity or skepticism on the part of a physician will too often result in failure, but the continuous and apparently heroic administration in the beginning of treatment is the *sine qua non*, and will invariably be rewarded by a favorable modification of the course and symptoms of typhoid fever.

With reference to diet and the general hygiene of the sickroom, typhoid patients can retain, digest and assimilate a larger amount of nourishing food with this treatment than with any other. The author is in favor of giving more food to typhoid patients than has been the custom heretofore.

INFANT FEEDING IN HEALTH AND DISEASE.

Dr. Gillham P. Robinson of Atlanta followed with this paper. The proper suggestions for infant-feeding and the rules governing substitute food should emanate from the medical profession rather than from the non-medical proprietors of commercial foods. The position occupied by the physician in comparison with that of the venders of patent foods is a very humiliating one and should no longer exist. He would not condemn the use of all commercial foods, as some of them are useful for children who have passed their first year, but what he condemns is the pernicious use of these foods by the profession simply because they may have agreed with some indvidual children, or because some old nurse advises it. The commercial foods are far from being reliable, and all of them, even when containing the percentages of fats and proteids claimed for them by their owners, may have these constituents reduced below the limits of nutrition, when properly diluted, for infant feeding. Physicians should refuse to be dictated to by proprietors of so-called infant foods, or by old nurses. They should think for themselves, prepare the food scientifically, be on the watch for improvement, and, above all, hold self-respect. He has no fear of the result when modified milk is used with care and accuracy.

SEVEN CASES OF DIPHTHERITIC CROUP, TWO ABORTED BY ANTITOXIN, AND FIVE CURED BY ANTITOXIN AND INTUBATION.

Dr. R. M. Harbin of Rome drew the following conclusions from his paper on this subject:

1. Numerous statistics prove that antitoxin has lessened the mortality of diphtheria one-half.
2, The remedy is never toxic in its effects, and never causes or increases albuminuria, if properly used, and does not interfere with the use of other remedies.
3. The dose of antitoxin in laryngeal cases should be from 1500 to 4000 units, according to the age and condition of the patient.
4. In weak, anemic and albuminuric cases, its administration should be more guarded, as the restraining effect on the kidneys, as in one of his cases, may be due to a faulty administration.
5. Antitoxin favors resolution of the membranes in cases subjected to intubation, lessening the absorption of toxins and rendering an early removal of the tube safe.
6. Antitoxin has a favorable effect on the mixed infections,
7. From a personal observation of three successful out of five tracheotomies and five consecutive successful intubations for croup, his preference is for intubation, except in rare cases.

ENDOSCOPIC TREATMENT OF CHRONIC URETHRITIS.

Dr. W. L. Champion of Atlanta, in a paper on this subject, presented a few facts relative to the treatment of this disease, which he hoped would result in the more general use of the endoscope. A careful study of the lesions of chronic urethritis, through the endoscope, will convince the most skeptic of the value of direct local treatment in these conditions. A large percentage of inflamed urethras remain uncured for months, and frequently years, when the proper endoscopic treatment would perfect a speedy cure. After several years' use of the endoscope in treating these conditions, it has been the author's good fortune to relieve many, if not from pain, from the mental anxiety produced on account of a chronic urethral discharge, or the probability of a stricture in the near future. It is only after careful study and some experience with the use of the endoscope that the various pathologic conditions can be recognized.

In chronic urethritis, not due to cicatricial stricture, his experience has been that in the majority of cases the seat of inflammation is in the middle urethra, or, more properly speaking, the lower part of the spongy portion. That the spongy portion of the canal is more frequently involved than the membranous or prostatic there can be no doubt, but he is convinced that in every case of chronic urethritis, the posterior urethra is more or less involved. This can be demonstrated by taking a patient with a few ounces of urine in his bladder, whose urethra is inflamed and bladder is not involved, and irrigating the anterior urethra thoroughly, then have the patient pass his urine in a glass, when shreds or filaments will be invariably noticed. The endoscope should not be used when the urethra is acutely inflamed, or so long as the urine appears cloudy from an abundance of mucus. The number of cases that respond to endoscopic treatment after other means have failed certainly demonstrate the value of the endoscope.

SOME FACTS IN REGARD TO THE MEDICAL COMPLICATIONS, SEQUELÆ AND TREATMENT OF TYPHOID FEVER.

Dr. H. A. Hare of Philadelphia contributed an address (by invitation) bearing this title, and it was read by Dr. Hurt in the absence of the author.

Dr. Hare shows conclusively that there is a decrease in the frequency and in the mortality of typhoid fever all over the world, which decrease is probably due to improved sanitation and a better knowledge of the methods which should be employed in the treatment of the malady. He protests against the use of the cold plunge-bath in every case of typhoid fever which comes into the physician's hands, on the ground that routine treatment is never rational, and, 2, because a certain proportion of patients present contraindications to its use, which are absolute, and a still larger class can be treated by properly modified hydrotherapy, with excellent results. In making this latter statement he is well aware that he is doing a dangerous thing, because a number of men, eminent in the medical profession, have given their support to the universal employment of the cold bath, and because there is a possibility that his own position in this matter may be misunderstood. In other words, a careless hearer might think that because he does not use the bath in every case, he does not use it in any case. This is exactly the opposite of the view which he wishes to take. As firmly as he believes that the plunge-bath is not for everyone, so does he believe that in some cases it is the best and only thing which can be employed with advantage. He insists that while the mortality of the disease has decreased independently of such treatment, hydrotherapy has saved a great number of lives, and, if properly employed, will continue to do so. The important points for the physician to decide when treating any case of disease are the remedy which is needed and its dose. In the opinion of those who have the largest experience, hydrotherapy is needed in every case of typhoid, and with this view the writer most heartily concurs. When it comes to the question of dosage, his point of view differs from that of some others; he believes that the mode of applying cold should be varied to the needs of the individual patient, and he has yet to see a case in which he has regretted the employment of the modified plunge-bath. What, then, are the modifications? The use of cold applied to the body of the patient, who is stripped, and who lies upon his bed, while the nurse gives him the necessary friction and massage. The water is to be varied in its temperature according to the persistency and degree of the fever. If the patient suffers from marked hyperesthesia of the skin, so that the cold and the rubbing make him actually wretched, the first so called spongings may be made with water at 70 degrees; later on, ice-water may be employed; or, if the fever is high and persistent, a piece of ice may be rubbed over the body instead of the use of water. In other words, the dose of cold varies with the needs of the individual. It is of vital importance that the nurse who employs this modified bath treatment should be trained to her duties.

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*Abstract of Proceedings.

During the past three months he has had fifty-eight cases of typhoid fever under his care, every one of which has required hydrotherapy; in only two has the persistency of the fever necessitated the use of the cold plunge, and in both of these, by a curious coincidence, hemorrhage from the bowel at once occurred. Almost without exception the temperature under the use of this form of cold falls from 2 to 4 and 6, or even 8 degrees, proving two points: 1, that if this form of cold is properly applied, it reduces the temperature satisfactorily and produces a good reaction; 2, if such a fall of temperature can be produced by mild means, why should we resort to the labor, the exhaustion, and the excessive effect of the actual plunge. He is firmly of the belief that the actual rubbing which accompanies the use of cold in the way he has described is of great advantage to the patient, because he believes that a gentle massage given to the patients suffering from typhoid fever, and who are practically taking the rest cure, is an exceedingly useful thing for the maintenance of health, and because by these frictions reaction is increased, and, as has been proved by Popischil, friction increases the loss of heat 80 per cent., and the loss of moisture through the skin, according to Weisroch, 50 per cent.

Dr. Hare next directed attention to a number of variations in the character of typhoid fever, which are apt to lead to late or erroneous diagnoses. He also dwelt upon temperature variations from the usual in onset.

The differential diagnosis is necessarily difficult in the early stages of the disease, although in general Jaccoud would have us believe that it is easy. It must depend largely on the absence of any history of malarial exposure, on complete development of most of the characteristic signs of typhoid fever, and, finally, on the absence of any signs of the malarial organism in the blood and the presence of the Widal reaction. In the well-developed stage of the disease variations from the usual temperature course are very frequently met with.

Two cases of apyretic typhoid fever have been recorded by Wendland. These were confirmed by autopsies and illustrate that temperature is not a true index of the severity of the disease.

With reference to typho-malarial fever, a subject about which great diversity of opinion exists, at the present time it may be asserted that a separate disease entity of this character does not exist, and this is done on the basis that recent discoveries in the natural history of these diseases, particularly the recognition of the malarial germ on the one hand and the Widal test on the other, has enabled us to make an absolute diagnosis in cases in which so positive a statement has heretofore been impossible. On the other hand, there is no doubt whatever that pure typhoid infection may result in the production of fever which closely follows the remittent malarial types, and is often associated with so much gastric disturbance and vomiting, and so lacking in the more prominent typhoid symptoms usually seen that the picture of remittent malarial fever is clear, while the true picture of typhoid fever is clouded.

SOME OF THE FALLACIES IN THE MODERN TREATMENT OF NOSE AND THROAT DISEASES.

Dr. **DUNBAR ROY** of Atlanta presented this subject. By fallacies he means the false recognition of pathologic conditions, and the wrong remedy for the condition when it is recognized. As to the use of sprays, they are exceedingly valuable in a large number of cases, but the indiscriminate use of them in every case that consults a physician is sometimes harmful and often injurious. There is such a thing as the spray habit, just as we find the cocain and morphin habits. This is brought about largely by specialists, who consider that it is necessary for patients to come to their offices every day or every other day and be "sprayed out," until it not only becomes a habit with the patient, but a mercenary habit with the physician. A spraying out makes the patient feel temporarily better, and in one whose nasal chambers have been closed, the sensation on opening up is delightful, but, unfortunately, there is a reaction and the opened condition does not last. Time has shown him the fallacy of much spraying.

There are two fallacies connected with the use of nasal sprays, which exist with undue frequency among rhinologists: 1. The pressure used in atomizing the liquids is frequently too strong, and the result is that the mucous membrane is injured through such traumatism, and therefore injury instead of benefit is the result. The mucous membrane in the nose is tender and sensitive, although it is sometimes sorely tried and withstands the onslaughts of many odoriferous particles, and for this reason the force of any spray should be well regulated. Some cases require a stronger spray than others, as, for instance, in atrophic rhinitis, where irritation of the mucous membrane is considered by some as the rational therapy. 2. It has become almost a universal habit to use some oily product as the base of spray medicaments in contradistinction to watery sprays formerly used, and this, too, done as a habit without proper discrimination. He holds that spraying of the nasal chamber is never justifiable unless there is a catarrhal discharge from the membrane, readily recognized on anterior rhinoscopic examination, or where there is an accumulation of mucus coming from the contiguous cavities, such as the frontal or ethmoidal sinus or the maxillary antrum.

The electrocautery is an exceedingly useful instrument in the domain of rhinology and laryngology, but like sprays it has been abused. In his earlier practice he used the electrocautery ten times where he now uses it once. Its great service in the nose is for the reduction of true hypertrophy of the membrane covering the turbinates, when this latter is pouring off an unhealthy discharge, or is so blocking the lumen of the nasal cavities as to prevent the passage of air thoroughly through the same.

Another error frequently committed is the removal of cartilaginous spurs and exostoses or bony spurs from the nasal septum. With more ripened experience he finds that fewer spurs should be removed from the septum, and only in those cases where other well recognized methods of treatment have been used and failed. His reasons for this are that after a spur has been removed from the nasal septum, one is obliged to have scar tissue as the result, and this will always give the patient a point where mucus and scabs will gather, to the constant annoyance of the patient, proving sometimes more annoying than the slight obstruction itself. Close discrimination and the knowledge of when to operate should be the aim of every physician, be he specialist or not.

There are fallacies in medicine of two kinds: 1, that which is the result of ignorance from the lack of previous training and study; 2, that which comes from making a snap diagnosis without minutely studying the case. Both classes are guilty, and in the long run the beneficent public will find out the physician upon whom they may depend.

MITRAL STENOSIS.

Dr. **M. F. CARSON** of Griffin, in a paper on this subject, pointed out that when one examines a well-marked case of this disease he notices, on inspection, that the apex-beat of the heart is in its normal situation, the meaning of this being that the left ventricle is not enlarged, although it may be diminished in size. This depends upon the fact that its work is lessened, owing to the auricle not being able to discharge so much blood into it as it does in health. But this only applies to cases of pure mitral constriction. In mitral regurgitation the auricle, which is overfilled at great pressure by the blood poured into it through the mitral orifice, discharges its contents again into the left ventricle with accumulated force, as soon as the ventricle ceases to contract and the latter hypertrophies to meet the abnormal strain. The author next referred to palpation, percussion and auscultation in the diagnosis of this disease, and divided the course of the disease into two periods; that of good compensation and that of bad, failing compensation.

The first and most essential point in the treatment of heart failure in cases of valvular disease is rest. The patient should be put to bed. This measure of itself sometimes gives excellent results. If venous congestion is very great, bleeding should be resorted to in mitral stenosis. Digitalis still holds the foremost place where the pulse is rapid, feeble and irregular, and in many cases its effects are very striking. The author believes it is useless to give this drug with a slow pulse, that is, where the pulse is beating at a rate which is normal to the individual in question, or below normal. If, while we add to the power of each contraction of the heart, we diminish the number of beats per minute, unless, indeed, when we begin to give digitalis the heart-beats are abnormally hurried as well as feeble, under such circumstances digitalis sometimes fails. Strophanthus may then be tried, but the latter drug is far less frequently effectual than digitalis. Digitalis may be combined with strychnin. Another favorite drug with the author, if the urine be scanty, is citrate of caffein. Abundant simple food in small quantities, often repeated, is most essential in the successful treatment of this condition.

THERAPEUTIC VALUE OF HYPNOTISM.

Dr. **John R. Rose** of Eastman read a paper on this subject, which will appear in a later issue of the Journal.

OPERATION FOR VARICOSE VEINS.

Dr. **Willis F. Westmoreland** of Atlanta demonstrated the technic of an operation for this condition. The object of the removal of these veins is simply to force the finest blood-current through the deeper veins. A number of methods have been suggested for this purpose, but the majority of them do not accomplish what the surgeon has in mind. In correcting or removing varicose veins, if the surgeon does not restore the circulation, if the blood-current is not sent back through the deeper veins, the condition for which the operation is undertaken is not corrected. The anomalous veins of the lower extremities are so great and frequent that he knows of no work on anatomy which deals with the anomalies that the surgeon encounters. The operation he proposes has for its object to send the circulation to the deeper femoral veins and the complete removal of the internal saphenous vein. If this vein is taken out completely, circulation through the deeper vessels would be restored. This operation is attended with no more danger than any of the other simpler operations that have been suggested. The length of the incision depends upon the length of the patient's leg. If the surgeon ligates all branches individually, it is a tedious procedure, and Dr. Westmoreland showed by colored drawings the method of clamping the individual veins instead of making double ligation.

CATARRHAL LARYNGITIS.

Dr. **H. R. Slack** of LaGrange read a paper on this subject, which appears in this issue on p. 985.

SURGICAL TREATMENT OF EMPYEMA.

Dr. **W. S. Elkin** of Atlanta considered this topic. The surgical treatment of empyema will depend upon the condition of the patient, the amount of pus present, and the pathologic condition of the lung at the time of operation, and consists of thoracentesis, thoracotomy, and thoracoplasty. The objects to be attained are the removal of the pus and the obliteration of the pus cavity by the safest and most perfect plan. Prompt surgical interference is just as imperative in these diseases as in lumbar, pelvic, and liver abscesses or pus in the peritoneal cavity. Thoracentesis is not in itself a surgical procedure that cures empyema, but a valuable and indispensable means of determining the presence of pus and improving temporarily the condition of the patient before thoracotomy is done.

The author presented a patient he had operated on at the Grady Hospital about six months ago, Estlander's operation as modified by Schede, and gave a full history of the case as taken from the hospital records. Thirty-eight ounces of thick, yellow, greenish pus were obtained from the right pleural cavity, July 16, 1898, and July 17, he aspirated below and to the outer side of the other puncture, removing 33 oz. of thick, greenish-yellow pus; July 18, 55 oz.; July 19, the same amount; July 20, 38 oz.; July 27, 22 oz. A total of 241 ounces was aspirated in twelve days. In the operation, portions of the ribs on the right side, from the second to the ninth inclusive, were removed, amounting to a total of thirty-six inches of rib, with excellent result.

CANCER OF THE BREAST.

Dr. **Samuel Lloyd** of New York contributed this paper: He has for many years declined to accept the embryonic cell theory as a satisfactory explanation for the cause of this disease, and it has been, to his mind, a strong argument in favor of some infectious element, that cancer should be on the increase. Locality seems to have a decided influence in the production of the disease, and some years ago he collected considerable data bearing on this point (editorial in *Annals of Surgery*), and there has recently been an article on the same subject, embodying the results of later investigations, in several numbers of the *Centralblatt für Chirurgie*. Perhaps more startling than this clinical experience, however, is the almost simultaneous announcement from the new York State Laboratory, from Dr. Armand Ruffer's laboratory, and from Dr. Bra of Paris, that they have discovered certain bodies in cancer cells which seem to be distinctive of the disease. More surprising still are the results of Bra, for he has advanced further than the other observers. In six personal observations, which increases the total to twenty-two cases of cancer of the uterus, mamma, ovary or rectum, or with epithelioma of the tongue or cervix, in which these parasites have been noted in the blood, he has succeeded in injecting animals with cultures of this fungus, derived from human cancer, in producing tumors with the typic structure of fibrosarcoma and carcinoma.

From the time he began to operate he performed the Volkmann operation, and he has one patient, operated on in 1885, who lived seven years without recurrence, and died of pneumonia in 1892. After Heidenhain's paper he made it a habit to remove the whole of the pectoralis major, except the clavicular portion, and, following the papers by Halsted and Meyer, he extended this to complete removal of the pectoralis major and the other structures advocated by those operators. He has one patient, the only one he can trace, who is now in the tenth year of freedom from recurrence following the incomplete removal of the pectoralis major. Within the past few years the importance of the complete or radical operation has been forced upon him more strongly than ever. It is frequently the case that the axillary lymphatics do not seem to be involved, and yet after the pectoralis minor has been cut through and the infraclavicular glands and fat exposed, it is very evident that they were infiltrated. In these cases any operation short of a careful exposure of the whole infraclavicular region would have left definite areas of infection, and this probably accounts for the number of cases where it is observed that the recurrence came just under the clavicle.

Every tumor of the breast should be removed as soon as possible, and time should not be wasted in vain attempts to absorb it. If there is reason to believe that the growth is benign, it may be cut into first, and then the operator may determine whether it is suspicious or not. But every suspicious tumor of the breast should lead to a complete extirpation of the breast at once. Age is no protection from cancer, and we should not forget that it may appear in early as well as in late life. Dr. Lloyd has operated for cancer, and the pathologic report has sustained the diagnosis, in a woman of 26, and in several between that age and 30.

RIGHTS AND WRONGS OF THE MEDICAL WITNESS IN COURTS OF JUSTICE.

Dr. **James B. Baird** of Atlanta presented a paper on this subject, which will appear in the Journal.

MOUTH–BREATHING.

Dr. **James M. Crawford** of Atlanta read a paper and reported a case of this condition, the paper to appear in full in the Journal.

COLD IN TREATMENT OF PNEUMONIA.

Dr. **J. D. Herrman** of Eastman, in his paper, pointed out that cold has been applied in the treatment of this disease by the Germans for a long time, and chiefly in the hospitals of this country. The cold must be applied continuously and persistently. Ice must be broken in pieces small enough to be put into a rubber bag with a small mouth; the ice bag, wrapped in a towel, is placed against the affected area, and is changed if the disease extends. The length of time that ice should remain is governed entirely by the wave of the temperature; if this fall to or near the normal point, the ice should be removed and again be applied should there be a tendency to elevation of temperature. The ice not only reduces the temperature, but checks the further spread of pulmonary congestion. He has reason to believe that it produces resolution in areas which are in the stage of exudation. He considers no age a bar to its use if the temperature warrants it. Next to ice, strychnia and digitalis are probably of the greatest importance. Ice has no injurious effect on patients with pneumonia. He has had good results from this mode of treatment for the past few years.

SYMPOSIUM ON ANESTHESIA.

CRAWFORD W. LONG AND HIS DISCOVERY.

Dr. **Louis H. Jones**, of Atlanta, in his paper in this symposium, stated that on March 30, 1842, Dr. Long administered ether to a young white man, named James M. Venable, for the purpose of excising a small tumor located on the back of his neck. The ether was given until the patient became insensible, and was continued during the operation, the patient showing no sign of pain, and after regaining consciousness refused to believe that the tumor had been removed until it was shown to him. A month or two later a second tumor was removed from the neck of the same patient, ether being again administered, but being discontinued after the patient became anesthetized and before the operation began. On this occasion Venable stated that he felt slight pain as the last cut was being made. The essayist read a copy from Dr. Long's journal of charges against James M. Venable for medical services, which we give below, and then cited Dr. Marion Sims, writing on this subject in the *Virginia Medical Monthly* (May, 1878), showing the work of the early co-laborers in this field.

James Venable to *Dr. C. W. Long*, Dr.
1842.

Jan. 28, sulphuric ether	$ .25
March 30, sulphuric ether and exsecting tumor .	2.00
May 13, sulphuric ether	.25
June 6, exsecting tumor	2.00
Total	$4.50

PHYSIOLOGY OF ETHER ANESTHESIA.

Dr. J. B. **Morgan** of Augusta, in his paper, said he knew of no cause of death from ether during the primary stage of anesthesia, but if the vapor be inhaled in a too concentrated form, there is usually in the beginning a momentary arrest of respiration and a decided sense of suffocation, evidently the result of the irritant action of the vapor upon the mucous membranes of the upper air-passages. In regard to the physiology of ether anesthesia, two conclusions are well established:

1. That the vapor of ether is dissolved in the blood of the pulmonary capillaries; it is then carried to the left side of the heart, and from there finds its way through the circulation to every part of the system.
2. That ether affects the nerve centers: 1, the cerebrum, then the sensory centers of the cord, next the motor centers of the cord, then the sensory centers of the medulla oblongata, and finally the motor centers of the medulla.

(*To be continued.*)

Medical and Chirurgical Faculty of Maryland.

Centennial Meeting held at Baltimore, Md., April 25–28, 1899.

About one thousand physicians registered at this meeting, and the additions to membership were over two hundred. The festival character of the occasion was quite as conspicuous as the literary. The exercises opened with a dinner at the Maryland Club, given by Dr. William Osler to the president, the trustees, and Mr. W. F. Frick, the founder of the Frick Library.

The Governor of Maryland opened the session in formal words, alluding in the course of his remarks to several of the most noted medical men of Maryland, and especially to Dr. Upton Scot of Annapolis, for sixty years a physician of large means in Annapolis and the first president of the faculty; to Dr. James McHenry, who was Washington's surgeon-in-chief during the Revolutionary War and later his secretary of war, the founder of West Point. and after whom Fort McHenry is named; to Prof. Nathan R. Smith, "the Emperor," the great surgeon of Maryland from 1827 to 1877.

PRESIDENT'S ANNUAL ADDRESS.

Dr. **Samuel Clagget Chew** in his address reviewed the events of the century since 1799, when, on June 3, at Annapolis, the medical and surgical faculty of Maryland, in accordance with an act of the Legislature passed at the preceding session, met and organized. He also passed in review the discovery of vaccination, first introduced into Baltimore by Dr. John Crawford in the summer of 1800, of ether and chloroform, of Bright's disease, of the bacteria of disease. "The proper work of medical science," said he in concluding, "in connection with its sister sciences, biology, chemistry and electricity, is to study diseases and the application of remedies, and it is for that end that the faculty is striving."

Following the address a lunch was served in the hall.

On Wednesday morning Professor **Keirle**, of the College of Physicians and Surgeons, gave a demonstration of the Pasteur methods in the diagnosis and treatment of rabies.

He was followed by Professor Welch of Johns Hopkins, who gave demonstrations of the principal forms of diseased organs and tissues and of the various pathogenic bacteria.

CEREBROSPINAL MENINGITIS.

Dr. **William Osler** showed cases of this affection, which he calls an "American disease." He pointed out that it prevails especially in country districts, and the descriptions given of it by country physicians have been particularly good. Two events of prime importance in connection with the recent history of the disease are the discovery of the parasite and of the value of lumbar puncture. The latter has a decided value in treatment and to some extent in diagnosis. The method of puncture was illustrated, the needle of the aspirator being introduced between the third and fourth lumbar vertebræ. If the serum is the least turbid it indicates inflammation; this is by far the most important element in the diagnosis. The fluid should be received in a sterilized vessel and cover-slips made for examination. The meningococcus is usually easily demonstrated. Chloroform is not often necessary. In coma, puncture has great value. It is perfectly harmless. It is an important point to enter the canal low enough. The speaker dwelt on the suddenness of the attack, persons being often attacked while at work or, if a child, at play. Herpes is quite significant, being more frequent than in any other affection. The retention of intelligence is an important feature. Leucocytosis is always present. Cerebral features characterize tuberculous meningitis, spinal and cerebrospinal meningitis; seventeen cases have been treated in the hospital during the present epidemic, with six deaths.

RECENT RESEARCHES ON MALARIA.

Dr. **Thayer** considered this subject, especially as to Italy and India. Inoculation with blood is always followed by the development of the disease and always of the same type. Laveran advanced the theory of mosquital origin. An example of insect production of disease is seen in Texas fever in cattle. The parasite has been found in the ticks. It is impossible to trace the complete cycle in the plasmodium malariæ—impossible to cultivate the organism outside the body. There are three types of parasites, some only of which give rise to flagellæ. The nature of these flagellæ is in dispute, but they seem to be concerned with the sexual functions of the organism and its reproduction. It was suggested that they might represent one of the sexual forms. McCallum of Baltimore has shown that only those forms fecundated by flagellæ can produce malaria. Ross's striking experiments in India were related.

In Italy investigators are all getting around to the idea of mosquital origin. Circumstances all favor the idea. Grassi narrowed the question down to two forms of mosquitoes. He experimented with one form especially (*the anoptele claviger*), and with it followed out the complete cycle of development in the walls of the mosquito's stomach. The proof is to be accepted with little reserve. We must now acknowledge that one individual affected may be the means of infecting others, and thus the disease is indirectly communicable. Is this the only mode of conveyance? The Italians are very strong in the belief that it is, and analogy renders this view exceedingly probable.

CANCER OF BREAST.

Dr. **Halsted** next exhibited some dozen cases of radical cure of cancer of the breast, the women being operated on at periods varying from three to ten years. All the cases are kept under observation and frequently seen or corresponded with. Notwithstanding the removal of the pectoral muscles (one or both), the movement of the arm was almost perfect. Skin grafting (always from the thigh) is now done in every case, and the grafts always take. In four cases the glands of the neck were involved; in two of these the patients are still living and well after five years. Sometimes the cicatrix involves the anterior axillary fold, interfering with the free motion of the arm; this is remedied by simply incising the fold and transplanting fresh skin into it.

HERNIA.

Dr. **Halstead** also showed a number of cases of hernia radically operated on; 500 cases have been operated on in the last ten years, 400 being inguinal. Ten years ago inguinal hernia was thought to be incurable. In almost every case it can now be cured without danger to the testicle. The success is due to the implantation of muscle in the ring, the latter being lined throughout with muscle. Surgeons all over the world are now realizing the importance of lining all wounds made in the abdominal walls with muscle. About one hundred and fifty cases are now operated on at the Johns Hopkins in a year, sometimes several in one day. One remarkable case shown was that of an old man of 84, operated on last summer for double inguinal hernia. Halsted uses a protective silver foil in dressing his wounds, and there is never any suppuration in them.

GYNECOLOGIC EXAMINATIONS.

Dr. **Howard A. Kelly** followed with a gynecologic clinic in which he demonstrated by means of the electric light and mirror, methods of examining the rectum and female bladder for purposes of diagnosis and treatment. Dr. Kelly used specula of greater or less length, through which the surface of the organs could be as plainly seen as that of the hand held before the eye. He also showed how simple it was to catheterize the ureter. He claimed that these instrumental means were available to the general practitioner and should be used in every case of disease of the lower bowel, bladder and ureter.

SOME LANDMARKS IN THE HISTORY OF OPHTHALMOLOGY.

Dr. **Hermann Knapp** of New York presented a paper on this subject. His remarks were directed to Young's discovery of the mechanism of accommodation of the eye, made about 1805, the scientific adjustment of glasses, the ophthalmoscope, and antiseptics as applied to eye diseases and operations.

DEBT OF THE PUBLIC TO THE PROFESSION.

Dr. W. W. **Keen** of Philadelphia presented this oration, showing what medical science had done to arrest the ravages of disease and epidemics. In most telling figures and terms, he brought into successive review the plague and Haffkine's preventive inoculations; cholera and yellow fever and the sanitary reforms which had shorn them of so much of their terrors; scurvy, almost a lost disease; typhus fever, of which he declared he had never seen a case; typhoid fever, still deadly in its blight because the public will not listen to the voice of sanitary physicians; smallpox, diphtheria, tuberculosis, hydrophobia, trichinosis, anesthetics and antiseptic surgery. Dr. Keen's conclusion was magnificent. "I would," he said, "that some great artist might paint a picture of the conquerors in medicine, as Fritel has painted the conquerors in war. Instead of spectral hills and a barren waste, the scene should be laid in a smiling valley. The stately procession should be led by Edward Jenner. He should be flanked by Joseph Lister and John C. Warren, followed by Simpson, Billroth, Livingstone, Ambroise Paré, Virchow, John Hunter, and many a modest but unknown hero who has yielded up his spirit in the performance of his duty. Instead of treading their way through lines of corpses, as do the great warriors of the world, they should march between lines of grateful men and women and a host of God's little children, who, on bended knee and with clasped hands, would reverently invoke Heaven's richest benediction upon their deliverers. Thus should humanity recognize its debt to the medical profession."

EUROPEAN MEDICINE ABOUT 1799.

Dr. A. **Jacobi** of New York spoke of the physicians and medicine of the last century, and traced the gradual rise in the social position of the physician, who, in consequence of the progress of science and the spread of Protestantism, gradually assumed the place of the priest and became the confessor of the family, the adviser of the commonwealth. Obedience to him was natural, sometimes absolute. What was formerly done or attempted by individuals will hereafter, he said, be accomplished by societies and institutions.

CANCER AS A PARASITIC DISEASE.

Dr. **Roswell Park** of Buffalo, in a paper on this subject, declared his abhorrence of the parasitic theory. He thought that the matter of etiology would soon be settled and as in tuberculosis and other affections, with the knowledge of the cause would come a knowledge of cure. The death-rate of cancer in all civilized countries is constantly increasing. He referred to the view held by some that the disease depends on the use of uncooked vegetables, as diet. The question whether the disease be local or general is all important. He referred to the importance of collective investigation of it, as is now being made in Paris, London, and in New York State; in the last an appropriation has been made by the authorities, for the purpose. The origin of cancer is, he said, now a purely biologic question.

NOSTRUMS.

Dr. H. C. **Wood** of Philadelphia, presented a paper on this subject, which may be read in full, in the Journal, April 29, p. 908.

Dr. Clotworthy Birnie of Tarrytown, Md., was chosen president for the ensuing year, and on motion of Dr. Wm. Osler, a committee was appointed to raise funds for a new building and for the endowment of the Library. The latter has now between 14,000 and 15,000 volumes.

Medical Society of the State of Tennessee.*

Sixty-sixth Annual Meeting, Nashville, April 11–13, 1899.

Governor **McMillan**, in an address of welcome, thought it much better to practice on the dead than on the living. He is not in sympathy with those who think it terrible not to bury the paupers, whom charity has kept alive for many years, who have no friends, and live at public expense, die at public expense, and are left without burial, except at public expense, but believes it better that the bodies of such individuals be turned over to the medical profession for study. Before the society adjourned a bill became a State law providing that the unclaimed bodies of paupers should be turned over to the medical profession.

SUBCUTANEOUS RUPTURE OF LARGE ARTERIES FROM CONTUSED WOUNDS.

Dr. J. A. **Crook** of Jackson presented this paper, which is to appear in the Journal.

GUNSHOT WOUND OF HEAD.

Dr. T. L. **Lanier** of Portland reported this case in a negro boy, caused by a bullet from a small pistol passing from the child's forehead to the region of the parietal bone near the back part of the head. After trephining, some spicules of bone were removed and the wound irrigated with bichlorid solution, 1:4000. Notwithstanding the operation was long delayed and the patient was at one time thought to be dead, the little fellow completely recovered. He is able to do manual work, although there is still complete paralysis of the right arm.

GUNSHOT WOUNDS OF ABDOMEN.

Dr. R. **Douglas** of Nashville reported seven cases of gunshot wounds and one stab-wound of the abdomen, in which the number of perforations varied from two to nine. Many of the cases were very irregular in symptomatology; in three there was only a small bullet-wound in the anterior surface of the abdomen, without shock, constitutional symptoms, pain or vomiting. He makes it a rule, after ascertaining that there has been penetration of the abdomen, to make an abdominal section. Neither the location of the wound nor the size of the missile can give assurance that there is not perforation or hemorrhage. Six of the seven cases recovered. He attributes his success largely to the time of operation, which was in every instance under five hours after the receipt of the injury; also to the promptness with which the shock was treated on the table. The bleeding points were immediately sought for and an intravenous injection of salt solution given. Dr. Douglas prefers wiping out the abdominal cavity to the use of irrigation.

PRACTICAL SUGGESTION REGARDING AMPUTATION OF FOOT.

Dr. **Jere L. Crook** of Jackson, instead of following the classic amputations described in the text-books, such as Hey's, Lisfranc's, LeFort's, Miculicz', Chopart's, Pirogoff's, Syme's, etc., believes that the operator should keep in mind the following ideas and purposes: 1, to save every bit of tissue possible; 2, to treat the foot as a whole; 3, to make the bone sections wherever sufficient soft tissue can be secured to cover the severed ends. The blood-supply of the flaps should be borne in mind. Many secondary amputations have been necessitated by failure to regard circulatory anatomy in the sweeps of the knife. The object of the paper was to induce the younger operators to not occupy their minds so much with the technic of the various classic amputations of the foot, but rather to pay attention to the salvation of as much of the foot as possible.

Dr. **Duncan Eve** of Nashville commended the conservatism of the paper, but could not agree with the recommendation to make an amputation of the foot without regard to the articulations, treating it as one bone, as suggested by the essayist.

VESICAL CALCULUS IN WOMEN.

Dr. T. J. **Happel** of Trenton presented a paper on this subject, printed in this issue of the Journal, p. 969.

UNIQUE CASE OF GUNSHOT WOUND OF ABDOMEN.

Dr. R. E. **Fort** of Nashville reported a case where a 32 caliber pistol ball had entered the left iliac region about two inches above a point midway between the crest and anterior superior spinous process of the ilium. There was considerable shock, subnormal temperature, pulse 100, extremities cold and a board-like rigidity of the abdominal muscles on the left side. The abdomen was opened in the median line, revealing slight hemorrhage and fecal matter in the abdominal cavity. Two wounds of the small intestine were found about six inches apart, which were repaired by purse-string sutures, reinforced by peritoneal Lembert sutures. In the sigmoid flexure there was a small wound of the mesentery on one side. By introducing a small silver probe it was found to enter the caliber of the gut in the 'deadly mesenteric" space. It being impossible to continue the operation through the median incision alone, a crucial incision was made to the wound of entrance in the abdominal wall. A longitudinal incision of the mesentery was made, in the middle of which was the mesenteric wound. The mesenteric fold was separated from the gut. Here a longitudinal wound was found, about three-fourths of an inch in length. This was closed by Lembert sutures, and the mesenteric wound closed with intestinal silk. The wound of exit was looked for, but without success. The author believed the ball had lodged in the caliber of the gut and gave instructions to save the feces, but when the order was given, three hours after operation, the patient had already had two large evacuations which had been thrown away, and it was not afterward found. The patient made a good recovery, being discharged well on the sixtieth day.

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*Abstract of Proceedings.

FUSIFORM ANEURYSM.

Dr. R. E. Fort also reported a case with a sixteen years history of syphilis, with a fusiform aneurysm of the right femoral artery in Scarpa's triangle, which had appeared ten months before. The tumor measured 10.5 by 7.5 inches. An incision was made from an inch within the anterior superior spinous process of the ilium, and an inch above Poupart's ligament, inward four inches, dividing the skin, fascia of the external oblique, fibers of the internal oblique and transversalis muscles, coming down to the transversalis fascia, which was picked up by tissue forceps, nicked and divided by blunt pointed scissors; pushing the peritoneum backward, the iliac fossa was exposed. After removing some enlarged lymphatic glands and adipose tissue, the artery and vein were exposed, the sheath was opened, and by blunt dissection with the handle of the knife, assisted by teasing with the aneurysm needle, a double No. 11 braided silk ligature was passed and tied, and the wound closed. The entire leg and foot were thickly wrapped in crude cotton and a loose bandage applied; hot-water bags and a fifteen-pound bag of shot were placed on the tumor. Collateral circulation was promptly established, and pain vanished; the tumor has diminished two-thirds in size and the patient is out of danger.

Philadelphia Neurological Society.

Meeting held April 24, 1899.

ANOMIA.

Dr. Charles K. Mills, in presenting a case of anomia made some remarks on the naming center. The patient was a male, aged 69, and for the past several years had been an inmate of the Philadelphia Hospital's department for the insane. He had been examined a few weeks ago and anomia found present. There was no disorder of hearing nor vision, and he was able to make proper use of the parts of speech except nouns. The interesting feature of the case is that he is unable to connect the proper name to the object. On asking him his name he replies correctly "Joseph Penny." On being requested to state his age he replies "Penny-Penny-Penny." Asked to name certain objects, as a tin box, leather purse, apple, he can not do so, but on being requested to write the names of these objects does so correctly. On being blindfolded and asked to smell an apple and then requested to name it, he replies "an orange." On being given a newspaper and then requested to point to certain words, as dollars, life, 2 per cent., he does so correctly, but on being asked to give the letters in the word "fed," he says "I, three, three, four." Asked if the first letter is a, b, or c, he says "no"; asked if the first letter is f, he replies "yes." The only letters he can not name correctly are w, x, and y. He has good command of verbs and prepositions. The loss of power to name objects is called by the Germans "optic aphasia," which, according to Dr. Mills, is incorrect. "Tractile aphasia" is also an incorrect term. Cases similar to this one suffer from hemianopsia. This patient is neither word-blind nor object-blind. The condition arises from the separateness of a concept center; or a condition resulting from separation of fibers from the concept center on their way to Broca's convolution. The symptoms point to these fibers being intercepted.

MULTIPLE NEURITIS FROM MERCURIAL POISONING.

Dr. John K. Mitchell presented the patient, a man of middle life, not addicted to drink or excessive use of tobacco, and without a history which would lead one to believe that the condition originated in any other manner than from the following cause: In March, 1896, being afflicted with vermin, he applied to the body two ounces of mercurial ointment, followed two days later by a similar amount. A few days afterward violent abdominal pain ensued, accompanied by a watery diarrhea, but with no symptoms of salivation. At the end of five weeks from the onset of these symptoms he was examined, and it was found that there was considerable tenderness along the nerve trunks of the forearm, accompanied by atrophy. There was complete loss of common sensation. The hands were contracted; both wrist and ankle drop were present. The skin of the soles of the feet and the palms of the hands was very dry. Several months after the poisoning occurred a peculiar bluish area developed in the region of the forehead, and has persisted until this time. This blue area is almost in the center of the forehead, somewhat oval in outline, and probably two to three inches in diameter. The treatment in the case consisted in confinement to bed for several weeks, with subsequent application of the galvanic current and massage. The reflexes have entirely recovered and there is no atrophy.

TREMOR DUE TO HYSTERIA.

Dr. Charles W. Burr presented a woman about 25 years of age, who eight years ago began to suffer from tremor, at that time confined to the right hand. The tremor is now general, and worse in the head. Four years ago she was operated on on both sides of the neck in the region of the spinal accessory nerve. The mental state is good and she is able to do general housework. The fields of vision are in good order, and there is no history of hysteric palsies. There are no hysteric zones. While the patient is at work the tremor is not apparent, but if startled by a sudden noise or strange face, the tremor is so violent as to compel her to drop any object she may at the time be carrying. The case is doubtless functional in origin, or in other words, hysteric.

Cincinnati Academy of Medicine.

Regular Meeting, April 17, 1899.

PITYRIASIS RUBRA PILARIS; ITS ANATOMY AND PATHOLOGY.

Dr. A. Ravogli gave a clinical description of a case which had presented itself at the clinic of the Ohio Medical College. The patient was a woman, 45 years old, Russian by birth, married and the mother of twelve children. On Aug. 4, 1898, while suffering from a slight general indisposition, she noticed pruritis and burning of the palms of the hands and soles of the feet. This was soon followed by a follicular eruption, involving extremities, face and body and predisposing the extensor surfaces over the flexor. The character of the early eruption was redness and undue prominence of the follicles of the skin, and was what he termed the primary or follicular type of the disease. Later there was a tendency for the redness to diffuse over large areas, for the skin to become thickened, indurated and covered with a furfuraceous desquamation, and for the folds and furrows of the skin to become unduly prominent. This stage he called the psoriatic type of the affection. The hairy surfaces became affected with pityriasis, and there was loss of hair from the scalp, eyebrows, eyelashes, axilla, pubes, and from the surface of the body in general. The palms of the hands and the soles of the feet became affected with a very extensive form of hyperkeratosis, and deep and painful rhagades or fissures formed over these areas. The eruption continued to spread until at the present time nearly the entire surface of the body is affected with the psoriatic type of the eruption. Small surfaces which were latest involved still show a follicular type. Small areas of about the size of a dime are scattered here and there and still show a normal condition of the skin. Pruritus was very marked and the entire surface of the body was covered with excoriations from scratching. Loss of weight and malaise and distress are associated.

Dr. M. L. Heidingsfeld followed with a pathologic demonstration of the case, illustrated with sixty microphotographs and lantern slides. He also gave a pathologic demonstration of a case of lichen ruber and showed essential differences between these diseases, refuting the opinion of Kaposi that these two diseases are one and the same pathologic entity. He showed pityriasis rubra pilaris to be essentially a disease of the hair follicles with hyperkeratinization about the hairs and within the follicles; the follicles were often lifted from their beds and extruded upon the surface of the skin covered with only the stratum corneum; cellular infiltration was limited to the subpapillary layer and mostly around the capillaries, the papillæ being entirely free. Elastic fibers were present in excess in the subpapillary layer of the corium, for the most part around the greatly hypertrophied arrectores pilorum. In lichen ruber, the pathologic process is papular, there being a very extensive infiltration of usually four or five adjacent papillæ. The subpapillary layer was not infiltrated; the elastic fibers were present in excess throughout the entire corium, and extended as a fine mesh-work into the tips of the papillæ.

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SATURDAY, MAY 6, 1899.

INTESTINAL IMPLANTATION OF URETERS.

Sequential to earlier publications, Maydl of Prague records five new cases of implantation of the ureters into the flexura coli for the relief of ectopia vesicæ, in all of which cases union was secured without complications. The result in each instance is noteworthy, in that the urine is retainable in the rectum for eight hours by day, and that at night the five individuals thus operated on enjoy ten hours of unbroken sleep. Albert, Roux, Simon, Holmes, Lloyd, Boari, Herczel, Rydygier, Trombetti, Rosenotti and Frank likewise announce the successful issue of cases operated by Maydl's method, and Krynski, Vignoni, Pisani and Fowler have all made successful rectal implantations, each by his own method. Transplantation of the ureters for the cure of exstrophy of the bladder is by no means a new method, but one to which experimentation upon animals and clinical research have lately called renewed attention. In lower animals the operation has almost invariably been followed by morbid changes in the kidneys, which have produced death.

In the Journal of January 28, Dr. Franklin H. Martin reported thirty-four rectal implantations in dogs, with four recoveries, and in the March number of the *Am. Gyn. and Obstet. Jour.* he reported three cases of intestinal implantation of the ureters of dogs, each case ending more or less promptly in *exitus letalis.* It appears from Martin's report that, in the first series, he employed his original method of burying the ureters between the rectal muscular coats for one inch before their penetration of the mucosa, and that in the second series the ureters were cut square across and inserted at random through a simple incision in the intestine. At any rate, Maydl's precautionary step of implanting a flange of the bladder-wall, with the ureter, was omitted. Up to the date of Maydl's recent publication, his method had been practiced by himself and his followers fourteen times, with two deaths from pyelonephritis. Maydl believes that the ascending intestinal infection of the two fatal cases might have been avoided, to a mathematic certainty, had he, instead of cutting the ureter square across, excised from the bladder an elliptic piece of its wall—*bas fond*—and implanted this into the intestine as a flange upon the end of the ureter. The purulent and necrotic processes which may accompany the wound healing, would thus not involve the ureteral orifice nor the tissue in its immediate vicinity, but would be found upon the edge of the flange. It is plain that stricture of the ureter and ascent of bacteria would be less likely to occur after application of Maydl's amended method, for the reason that the peculiar relations of the ureter to the bladder muscularis are not disturbed, the ureter and that part of the bladder through which it courses being removed together and intact.

Monclaire and Tizzoni, seeking even more assiduously to ward off intestinal infection of the kidney, modified Maydl's operation by dividing the flexura sigmoidea from the rectum, drawing down the flexura to the sphincter ani, and sewing it in the anterior rectal wall—thus emptying the ureters into a segment of bowel where fecal matter would hardly present itself. This laborious procedure seems superfluous, in view of Maydl's statement that no death has followed the application of his more simple method as recently perfected.

Maydl's record is indisputably good, but we predict that a somewhat longer series of successes than that which he has recorded will be required to convince American surgeons that no considerable danger of ascending pyelonephritis accompanies his operation. The method is one of complicated technic. It involves invasion of the cavum peritonei and could not be consistently employed except by one skilled to an unusual degree in plastic surgery of the abdomen.

It has been shown, moreover, that there develops in all cases of rectal implantation a more or less severe proctitis. It is known too that continence of urine is not always permanent after the operation. In view of these things it might be well to keep in mind, at least, pending the establishment of the Maydl operation, the simpler if less brilliant procedure originally suggested by Sonnenberg of Berlin, in 1882, and which of late has been receiving fresh attention. Sonnenberg's operation consists simply in loosening the ureters from the exstrophied bladder wall, drawing them down, and inserting them into the tip of the glans penis. The operation has now been ade about twelve times with no deaths. After this peration a urinal must be worn, but the soiling of he clothing and the misery of the drenching with rine are ended. The depending penis fits securely n the neck of the urinal and all the urine may be aught both by day, when the patient goes about, and t night, when the recumbent posture is assumed. ne of the most active nurses in Sonnenberg's clinic s a man on whom this operation was made sixteen ears ago.

Until some more satisfactory method for the relief f this dread condition is developed Sonnenberg's uggestions may well be considered by those selecting an operation for the relief of ectopia vesicæ.

ECENT OBSERVATIONS ON THE ACTION OF THE BACILLUS AEROGENOUS CAPSULATUS.

In 1892 Welch and Nuttall described a gas-forming bacillus (bacillus aerogenous capsulatus), which hey obtained from emphysematous tissues and blood f a man who died of aneurysm of the aorta. Gas ubbles were present in the internal organs, especially in the heart's flesh, liver, spleen, and kidneys. This gas burned with a pale bluish, almost colorless lame, ignition causing a slight detonation. Microscopic examination showed masses of bacilli, some legenerative changes, including disappearance of the nuclei of the cells of some of the organs, especially in he neighborhood of the gas cavities, in the walls of which the bacilli were often quite numerous.

Since their description a number of interesting reports, bearing upon the action of this organism in the living as well as in the dead tissues, have appeared (Dunham, Norris and others.) In their original paper Welch and Nuttall suggested that many of the deaths attributed to air embolism might prove to be cases of invasion of the gas bacillus. They referred especially to those cases of air embolism which have been reported as due to the entrance of air into the uterine sinuses during pregnancy and parturition. It will be recalled that there have been described not a few cases of uterine air embolism apparently caused by efforts at producing abortion by means of injection of fluid into the uterus, often with faulty syringes. Not long ago Perkins[1] reported a case in which death apparently resulted from air embolism after an attempt at criminal abortion. It was found on studying sections of the uterus in this case, that the tissue presented the characteristic lesions of gas bacillus invasion, together with the presence of bacilli which corresponded in morphology and staining qualities to the bacillus aerogenous capsulatus (Doblin).

Very recently Reuling and Herring[2] described an instance of gas cysts in the brain tissue, due without much question to the preagonal or post-mortem invasion of this bacillus. While changes due to this organism, or very closely related bacteria, have been described in almost every organ of the body, this seems to be one of the two first instances in which changes due to this organism have been recognized in the brain. The authors believe that in all likelihood such cases must have occurred before this one, but they have been explained on different grounds. As probable examples of such lesions they refer to the two brains described by Savage and Hale White, in an article entitled "Cases of Holes in the Brain." (Vol. xxxiv of Transactions of the London Pathological Society.) These brains were obtained from two general paralytics, and as the kidneys, liver, lungs, and heart muscle contained cysts, they refer to the changes with the term of "universal cystic degeneration." The illustration of one of the brains, accompanying their article, is stated by Reuling and Herring to present a picture almost identic with that of the brain reported by them. It appears also that the cysts in the other organs were very probably due to the action of gas-producing organisms.

It seems, therefore, probable, as emphasized by Welch, that certain cases in the literature described as holes in the brain are really due to the post-mortem development of the gas bacillus.

The bacillus aerogenous capsulatus not infrequently produces local emphysema in the living tissues, from which recovery takes place. In one case described by Fraenkel, local emphysema followed hypodermic injection, and death occurred two days afterward.

In the same number of the *Bulletin of the Johns Hopkins Hospital* as that in which Reuling and Herring's article appears, Wm. T. Howard, Jr., of Cleveland, Ohio, reports a fatal case (vide Journal, May 6, p. 989, ¶11) of acute fibrinopurulent cerebrospinal meningitis, with abscesses of the cerebrum and gas cavities in the cerebrum in the cerebrospinal exudation, and in the liver, due to a bacillus identic in cultural and other peculiarities with the bacillus aerogenous capsulatus of Welch and Nuttall. This bacillus was cultivated in pure culture from all of the organs. At the autopsy one-half a cubic centimeter of the meningeal pus was injected into the ear vein of a rabbit, then the animal was killed, and the cadaver placed in the incubator. After five hours the body was enormously swollen, the subcutaneous tissue being emphysematous, and the autopsy revealed the bacillus in the heart, blood-vessels, and all the organs. Microscopic examination of the organs of the patient showed bacilli like the gas bacillus, and careful search failed to disclose the presence of any other bacteria. Howard therefore concluded that in this case it is evident that the necrotic and other lesions, such as the exudations into the brain and the meninges, as well as the gas cysts, were due to infection by the bacillus aerogenous capsulatus.

The fact that this organism can produce pus is well known. Howard believes that the presence of the bacillus in such great numbers in the nervous system, as he demonstrated, and the relatively much smaller number in the blood-vessels and other organs, negatives the idea that this is an example of post-mortem invasion. The formation of gas cysts in the brain, the cerebrospinal exudate, and in the liver may probably be regarded as a post-mortem change. This case appears to be the first one in which this interesting bacillus has given rise to abscesses of the brain with meningitis.

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[1] Boston Med. and Surg. Journal, 1897.

[2] Bulletin of Johns Hopkins Hospital, Vol. 10, p. 62; Journal, May 6, p. 989, ¶10.

Howard found, on comparing sections of a gas cyst of the brain from the case reported by **Reuling** and **Herring** with sections of his own case, that the appearances agreed in every respect. **Howard's** case concerns a man 31 years old, who was operated on for urinary fistula following purulent infiltration into the perineum. Dr. **Allen** curetted the fistulous tract, which communicated with the urethra, inserted a catheter into the urethra, and allowed the wound to heal. A few days afterward the patient became unconscious, developed symptoms of meningitis, and soon died.

CAUSE AND THE REMEDY.

The motto of the **Journal** is *Tros Tyriusque mihi nullo discrimine agetur*, and its policy is to publish whatever can be of interest to the profession, so economic questions that have a bearing on its welfare fall readily into this category. It is understood, moreover, that the **Journal** is not editorially responsible for utterances of its contributors. Its columns are open to all shades and differences of opinion that can be with propriety discussed in a publication of this kind. It does not come within the editorial function to repress views that are in any sense within the proper limits of legitimate medical discussion.

It sometimes happens, however, that, following this rule, an article is published that contains statements of theories or expresses views that, in our opinion, call for editorial comment.

In the present issue there appears an article on a question that interests us all: how to remedy the financial evils from which so many of us suffer, and the author finds no relief except by practically abolishing the existing laws and institutions of society. He says: "Let every law pertaining to the settlement of disputes be wiped off our statute books and every question pertaining to the business or social relations be adjudicated by the cardinal principles of democracy, equal rights to all and special privileges to none. No other law is needed." If this view is accepted, if practical anarchy is the only remedy for existing evils, then the world is much worse off than has been thought even by those who are far from being optimists. All that has been gained in the social evolution of man is not to be thrown away because we have not reached perfection, and if present laws are not what they ought to be, the remedy is not in abolishing all law. If, as medical men, we suffer under present conditions, we need not wish to overturn society to help matters. The world is overfull in spots, and it is the glory of our profession that by reducing the death-rate and increasing the expectancy of life we have possibly had our share in bringing this about.

Dr. **Reed** asks: "Does not the world bring forth an abundance for all?" It does not, even now, do this in all regions or we should not hear of famines as we do, and with his remedy it would do so still less. Let his "eternal law of justice" prevail in the sense that all men have equal rights to everything, and the number of voluntary paupers would be infinitely increased. It is only hard necessity and law that makes us work. We do not work for pleasure, nor would we work at all but for the restriction of law, which prevents us from taking the means of living without work. This is a well-established fact, and we can not get around it, and the pessimism of the advanced socialists in regard to human institutions is all the more remarkable when considered in connection with their professed faith in human nature.

Our profession is also overfull, and this is not one of our glories or a matter of which to be proud, or upon which to congratulate ourselves. This fact is, indeed, the very fountain and origin of at least a large proportion of the evils that now afflict us. The medical profession in this country numbers about one to every 500 of the population generally, and the proportion is increasing. This is particularly the case in the great centers of population. We suffer directly from overcompetition, and in spite of this fact, which is patent to every one, we as a profession do everything in our power to increase the evil. Instead of making it more difficult to enter and crowd our ranks, as we might well do on scientific grounds alone, apart from any selfish or narrow considerations, we open and multiply the gates of entrance and let down the grades to make the professional ascent the easier. Every large city and many of the smaller ones are medical centers, the seats of one or more medical colleges, multiplying physicians. In one great medical center, it was shown two or three years ago that one in every five or six practicing physicians was some sort of a professor or instructor in a medical school, and it is safe to say that the number has not since decreased. Every year additional thousands of newfledged physicians are turned out of these multitudinous colleges to engage in the struggle for existence. Not every one can succeed under these conditions and some may cry for bread.

These general truths are not new; they are in the records of all times, but in our profession it may be said that they were never more felt than now. It is, nevertheless, our own fault to a very large extent. Our charity has begun and continued everywhere but at home. We establish dispensaries where even the well-to-do learn to get treatment gratis; we multiply free hospitals, we entice into the study of medicine many who would far better succeed in other lines, and thus annually turn out a surplus of doctors to compete in an already overcrowded profession.

The remedy is largely in our own hands and it is not to our credit as a profession that it is unused. It is not by overturning society that we can right matters, not even if we pool our issues with every breeder of discontent in this or any other land. There will always be some unmerited failures and some hardships, but when our professional spirit rises above sacrificing the many for the few by multiplying small medical colleges for advertising purposes, we shall see the beginning of the end of some of the evils of which we now complain, and the Golden Rule can be followed under existing conditions even better than under anarchy, with every man's hand free to do whatever his imperfect ethic nature may suggest.

GEN. LEONARD WOOD.

The London correspondent of the *Medical News*, in his last communication, says that General WOOD is decidedly the popular hero in London, and the record he has made in Santiago is quoted as a brilliant illustration of the value of combined medical and military administrative talent in such a situation. The fact is gratifying to his countrymen, whose opinion of him, as far as it can be formed of one who has not yet finished his career, is the same as that of his English admirers. It is hoped that it may be very long before Dr. WOOD's career is finished, and that our confrère will continue to reflect credit on his profession in whatever capacity he may be called upon to act.

COLORADO MEDICAL LEGISLATION.

The Colorado Medical Practice Act, which was noted in the JOURNAL of April 15 as having passed both branches of the legislature, was finally vetoed by the enlightened governor of that State. His objections to the bill in his feebly sarcastic veto message, as reported, are: that it admits "that the public health may be protected by three different systems of materia medica and therapeutics," that it makes the use of the title of "Dr." a misdemeanor even in D. D's., and veterinary surgeons; that it will not protect the public health, which is already good enough in Colorado, and, lastly, that nearly all advance in medicine has been made by physicians who were in opposition to their brethren—not by, "but notwithstanding the great body of its professors." The message reads as if it were written by a quack.

ACTIVE AND PASSIVE IMMUNITY TO ANTHRAX.

Having shown that sheep could be rendered immune to subcutaneous inoculation with virulent anthrax bacilli by previous treatment with blood-serum of infected animals, SOBERNHEIM (*Berliner Klin, Woch.*, March 27, p. 273) undertook to determine whether similar results could be obtained after spontaneous infection. The immunity conferred by treatment with the blood serum of immune animals or of those suffering from anthrax is both quickly acquired and quickly lost. Artificial protection would, therefore, be of use principally in the face of an epidemic. It was found, however, that this passive immunity could be combined advantageously with active immunity. With this object in view sheep were treated subcutaneously with a mixture of blood serum from infected animals and cultures of anthrax bacilli. The resulting infection was mild and the immunity considerable, the latter being still present a month and a half later. Further, the sheep were resistant not only to subcutaneous inoculation, but also to infection through the gastro-intestinal tract, the usual mode of infection under natural conditions. Similar results were obtained with animals treated with the blood serum of animals infected with anthrax.

SAND FILTRATION AND TYPHOID FEVER.

The majority of the informed and the thinking will agree with the *Philadelphia Record* in its statement "that there is enough knowledge already gleaned from past experience to clearly indicate that the true solution of the water problem in this city is to be found in sand filtration. The sooner this process (which is not patented) shall be adopted and put into operation the better. There is good reason to believe that the recent epidemic of typhoid fever, which has caused the loss of many lives, would have been avoided if sand filter-beds of sufficient capacity to purify the Schuylkill water had been put in operation before the beginning of the present year." In view of the facts it is difficult to understand how anyone having the welfare of the city and the interests of its people sincerely at heart could have deferred for an hour filtration of contaminated water-supply under the pretext of seeking information already in the possession of those who care to know. Statistics show that in several weeks the three most important causes of death in Philadelphia have been pneumonia, pulmonary tuberculosis and typhoid fever—all infectious diseases, transmissible more or less directly from the sick to the well. The remedies are two: 1, prevent the dissemination of the germs, through water, through air, through contact; and, 2, increase the individual resistance.

THE ILLINOIS MEDICAL LAW.

The new Illinois medical practice act that has just become a law is not in all respects what was desired or is desirable, but is certainly an improvement on what preceded it. The fact that a State examination is required from non-graduates of Illinois institutions is certainly an advance, though a somewhat halting one. It will be remembered that medical law reforms in Massachusetts started in a similar way, and that now that State is behind none in its scientific requirements for the practice of medicine. It is to be hoped that this is also only a first step in Illinois, where there are so many so-called medical colleges of varying grades of merit or demerit, but which have mostly at least managed to obtain recognition as institutions in good standing by the board of health. The raising of the standard of entrance requirements by the leading medical colleges has, as a contemporary (*Medicine*, February) remarks, made possible the existence of schools that are less exacting in these regards, and thus rendered possible the graduation of those whom the better colleges would not even admit, so that instead of there being an aggregate improvement there may be an actual deterioration in the average quality of the output of the medical schools. It is unfortunate that these inferior medical schools are thus favored by the new medical law. Much will depend on the State board of health and the courts in the efficient enforcement of the law, and it is to be hoped that these officials will so construe its provisions as to give the public as fair a measure as possible of the protection it needs.

X-RAY DANGERS.

A verdict of $10,000 has just been rendered against the owners and operators of the Roentgen X-Ray Laboratory in Chicago. The plaintiff had a stiff ankle, and a skiagraph was desired to ascertain the exact state of affairs in the joint. As a result of the examination, it was claimed, a necrosis ensued, requiring three separate amputations before the patient was entirely free from his trouble. It was held by the prosecution, and this view was evidently accepted by the jury, that the examination was improperly made, that the exposures were too long and that the subsequent disease of the limb was entirely the fault of the operators. Experts were employed by both sides and there was probably the usual conflict of testimony, so that, regarding any scientific disposition of the question, nothing practical will have been gained, and as the case will undoubtedly be appealed, its legal status is still in suspense. We already know that some inconvenient symptoms follow X-ray exposures occasionally, but we are very far from having found any constant law of these accidents, and the question of idiosyncrasy, which is only an admission of our ignorance, is always to be considered. Some people endure continued exposures to these rays without danger, others suffer, and this is about the extent of our knowledge. Experts for the prosecution ought, in such cases, it would seem, to be particularly guarded in the utterance of positive opinions or alleged statements of facts.

CONTAMINATION OF UNIFORMS IN THE AMERICAN ARMY.

Under the above title the *Lancet* (April 1) recalls the fact that twenty-one years ago it published the report of a commission on the contamination of uniforms provided by the Army Clothing Depot and Factory at Pimlico, when it was discovered that cut clothing given out to be made up by sewing-women at their homes was exposed to the infection of smallpox, scarlet fever, etc., in the houses where the work was done. Disinfection of all clothing made up outside the factories was therefore ordered; but experiments undertaken to determine the influence of disinfection on the texture of the cloth demonstrated a considerable deterioration in its strength and wearing capacity. Consequently, the amount of work given to outside workers was, and has continued to be, reduced to a minimum. These remembrances were called up by an item from a Philadelphia paper which showed that exactly the same problem had attracted the attention of the military authorities in the United States. Work is given out from the Schuylkill Arsenal to widows and daughters of soldiers and other deserving persons who have some moral claim on the government, and the price paid to such persons in America, as in England, is higher than the market wages. It is claimed that some women who received 75 cents per pair for making up trousers had turned the work over to a Russian sweater who had undertaken to make them for 30 cents per pair. The women are required to furnish a certificate from a factory inspector that their homes are in good sanitary condition, but manifestly this requirement does not involve any certification as to the condition of the sweater's establishment. On inquiry at the quartermaster-general's office, we learn that army clothing is made up mostly in New York and Philadelphia. In the former the rule is imperative that all work must be done at the factory. In Philadelphia, however, the custom has grown up, since the close of the Civil War, of giving out much of the work to deserving women. To protect the government and the clothing, frequent inspections are made to determine the sanitary conditions in each case and to prevent any illegal transfer of the work to others. The *Lancet* charitably allows that it would be gross injustice to conclude that all the work-women hand over their work to the sweaters. As a matter of fact, the discovery and publication of the one case in which this was done may be accepted as proof of the efficiency of the inspection system on which the quartermaster's department relies for the freedom of its clothing from household and sweatshop infections.

EXHAUSTION PARALYSIS IN EPILEPSY.

Exhaustion paralysis in epilepsy, of a temporary nature, is a peculiar and interesting phenomenon. In this condition we have the usual order of cause and effect reversed. The excessive functioning of the cerebral centers, seen in certain kinds of convulsions, produces an exhaustion of some centers, and a consequent paralysis supervenes which lasts from a few minutes to as many hours. The temporary paralysis is most marked in, or confined to, those parts most involved in convulsion. The condition was first recorded by Bravais in 1824, and later by Todd, who expounded the exhaustion hypothesis, and in his honor it was called "Todd's hemiplegia." Scattering notes on the phenomena appear to have been made in the eighteenth century. It is not entirely confined to the sequelæ of certain kinds of epilepsy, as the condition was first noticed by Pereboom in puerperal eclampsia in his own wife. Temporary paralysis is met with in many cerebral diseases, such as call for excessive fatigue of the cortical motor centers. We must not forget that it is essentially a fatigue of the motor cortex, and not of the muscular apparatus, as sometimes taught. A presentation before the N. Y. Neurological Society of an abstract of a monograph, covering a four-years study of the exhaustion phenomena following epileptic seizures, was made by Clark at the society's annual meeting in April. This author, from a study of literature and many cases of his own, concludes that temporary exhaustion paralysis has been physiologically proven by various experiments, and is pathologically in evidence after many so-called idiopathic epilepsies as well as those of hemiplegic or traumatic origin. The evidence presented in this syndrome study of local temporary paralysis, goes far toward proving that the general exhaustion seen after general major epilepsy covered by coma and sleep, is analogous. Clark lays great stress on the fact that careful study of these epilepsies on the dynamic side alone, will prove of great value; he adds his testimony to that of Jackson, Todd, and Raymond, that there exists a strong relationship between all epilepsy and the various paralytic states of the brain.

EDDYISM EXPOSED.

"Christian Science" is receiving more notice than it has heretofore, and in such a manner that it ought to open the eyes of its deluded followers, unless their brains are so befuddled with insane delusions that common sense can find no lodgement there. While such articles as those of Dr. C. A. L. Reed, Dr. Edmund Andrews (vide Journal, March 18, p. 578), and those of other medical men, are convincing to those who read them, the trouble is that, as they are published in medical journals only, they reach medical men alone, who need no convincing arguments to prove to them that "Christian Science" is void of both Christianity and science. However, others are now taking up the subject, and in the *North American Review* for March there is a strong paper by William A. Purrington on the "Legal Aspects of Christian Science," which is certainly most convincing and logic to an unprejudiced mind. Mr. Purrington makes good use of ridicule and sarcasm in showing up the absurdities and the commercialism which seem to be the foundation of the movement, and his paper contains plenty of food for thought for those who think. The *Arena* for May contains two articles which, while written in a different style and for different motives, are the most valuable additions to the literature of the subject thus far made, in that they give the inner secrets which the vulgar have never known before. They are published under the general caption of "Christian Science and its Prophetess," one with the subtitle, "The Facts of the Case," by Horatio W. Dresser, the other "The Book and the Woman," by Josephine Curtis Woodbury. Evidently the object of the former is in part to defend "Dr." P. P. Quimby, a mesmerist or "healer" who "cured" Mrs. Eddy, then Mrs. Patterson. Dresser is presumably a believer in metaphysic healing, phrenopathy, or something of the kind—at least a follower and personal acquaintance of Quimby—and from personal knowledge gives the beginnings, growth and inside history of Eddyism. He shows conclusively what has been printed before, that Mrs. Eddy took up Quimby's methods and theories and enlarged upon them, and that all the bosh about her "dreams" and "revelations" is, to use extremely mild language, fiction. The writer of "The Book and the Woman" was at one time not only a "scientist," but a confidante of Mrs. Eddy, and consequently in a position to learn more of the true inwardness of things than is the average follower. And she has made good use of the knowledge in the paper. She takes space to give the full name—Mrs. Mary Mason Baker Glover Patterson Eddy, names duly earned in her many—four—marriages. How it will be possible for the followers of "Mother Mary" to have confidence in her hereafter is hard to conceive, but as they are forbidden to read anything except what she writes or endorses, they may possibly never read these papers.

THE X-RAY AS AN AID TO DIAGNOSIS.

The study of skiagraphy should engage the closest attention of those who expect to reach distinction in this new field of science, for an amateur will be likely to fail to obtain correct results, both as to the photograph itself and also to determine what is actually before him. No novice can at first sight point out definitely certain dark shadows and state positively that one represents a definite lesion, while another is proof that some other process exists. Skiagraphy entails also a certain amount of familiarity with the art of photography: 1, to know just where to put the Crookes' tube (or its modification); 2, how long the exposure is required in a given part; 3, to know how to develop the negative; and 4, to know how to interpret the picture when it is finished. Experience is the greatest teacher in this as in other scientific studies. When fully understood there seems no limit to its application in medical, and especially surgical questions. These facts were fully demonstrated several weeks ago in Philadelphia, at the meeting of the College of Physicians, Section on General Surgery. The room was darkened and upon the screen were thrown certain shadows showing ununited fractures, dislocations, foreign bodies and morbid conditions of varied character. Of the pictures shown, probably none were more distinct than those of renal and vesical calculi. This becomes of the greatest importance, since it gives a guide to the surgeon in several ways: 1, whether to operate; 2, how many bodies are present (if in renal calculi); 3, how to locate the stone. In foreign bodies in the eye, a correct skiagraph will determine the exact position of the particle and guide the operator. While its influence is not felt to such a great extent in general medicine, let us hope that future improvements in the technic will throw more light upon certain morbid processes with which we at present are not familiar.

William Lee Howard, Baltimore, leaves for a trip to Europe, early in May.

Medical News.

The fifty-third annual commencement of the University of Buffalo, Buffalo, N. Y., was held April 25. The graduates in medicine numbered forty-eight.

Dr. O. Beverley Campbell, president of Central Medical College, St. Joseph, Mo., will sail for Europe this month. He will spend a year with Lawson Tait.

At its last session, the legislature of Minnesota granted the Minnesota State Board of Health $7500 per annum, for the next two years, for bacteriologic work.

A cablegram has been received by the surgeon-general of the marine-hospital service, stating that eight cases of yellow fever have developed in Vera Cruz, Mexico.

Dr. James Nevins Hyde, Chicago, has been appointed one of the editors of the *International Journal of Leprosy*, Berlin, which is to begin publication this month.

It is reported that a virulent type of smallpox has simultaneously appeared in various parts of Germany, the principal foci of which seem to be at Iserlohn, Hanover and Moczalo.

The Hospital building at the Iowa Institution for Feeble-Minded Children, at Glenwood, burned recently. There were about fifty inmates; all rescued. The loss was about $20,000.

Epidemics of cerebrospinal fever are reported at Manheim, Pa., and at Pana, Ill., in both of which places the boards of health are exercising every precaution to prevent the disease from spreading.

Dr. L. S. McMurtry, Louisville, Ky., attended the banquet tendered Dr. Reamy in Cincinnati in honor of his 70th birthday, and responded to the toast: "Our Guest, the Pioneer Surgeon."

Dr. Sidney J. Meyers, late acting assistant-surgeon, assigned to the 7th army corps with General Keifer, has returned and resigned his commission in the army. He will practice his profession in Louisville, Ky.

By a recent royal decree, persons holding diplomas of Doctor of Dental Medicine issued by the dental department of the University of Pennsylvania will be admitted to the theoretic examinations in dentistry in the Netherlands.

It is said that General Ludlow will at once expend $350,000 on the sewering and paving of Havana and other engineering work in that city, and when all the improvements have been completed the total will approximate $500,000.

New cases of smallpox in Pennsylvania have been reported as follows: Pittsburg, two cases; Altoona, one case; Uniontown, eight cases. In the latter place the government has ordered all mail thoroughly fumigated, while all freight and traffic business has been suspended.

Dr. Herman Spaulding, Chicago, has been certified as chief medical inspector of the health department by the civil service commission, as a result of the recent examination for that position. He will succeed Dr. George Hunt, who has held the position for some time.

The bill abolishing coroners' juries in all counties of New York except Erie (in which Buffalo is situated), and New York, Kings, Queens and Richmond, comprising the city of New York, also the bill making the office of coroner of a county a salaried position, has been signed by the governor.

The body of Dr. John Blair Gibbs, of the United States Marine Corps, brought from Cuba by the transport *Crook*, April 28, was buried on the following day in St. Mary's Cemetery, Portsmouth, N. H. Dr. Gibbs was one of the first Americans killed at Guantanamo (vide Journal, xxxi, pp. 1481, 1534).

Senator Henry D. Heller, M.D., of Hellertown, Pa., has been appointed by Governor Stone to the position of quarantine physician of the port of Philadelphia, to succeed Dr. Henry C. Boenning. Dr. Heller is a graduate of the Bellevue Medical College, New York, and has been in active practice for the past twenty years.

Dr. E. A. de Schweinitz has been appointed by the Secretary of State, a delegate to the congress on tuberculosis, which will meet in Berlin, May 24 to 27. Dr. de Schweinitz is dean of the Columbian University Medical School, secretary of its hospital board and chief of the biochemic division of the United States Department of Agriculture.

Medical legislation that was proposed in the last legislature of Minnesota, modifying the medical practice law and recognizing the osteopaths, after taking up a number of days in its discussion, was finally laid on the table and remained there at the close of the session. Minnesota has at present a good medical law, and this outcome is therefore fortunate.

A recent opinion handed down in the United States Supreme Court, in the case of Oliver Wendell Holmes, Jr., vs. G. D. Hurst, holds that copyright on a book the contents of which have been published serially without being previously copyrighted, is invalid. The case involved the copyright of the "Autocrat of the Breakfast Table," by Dr. Oliver Wendell Holmes.

In a recent suit for damages instituted against a hospital in Philadelphia, Judge Audenreid of the court of common pleas stated that as a hospital had no capital stock and was not organized for the business of making profit, he did not think a verdict would stand against it in case an autopsy was held without the consent of the relatives. A further hearing will be had in the case.

Some time ago J. Pierpont Morgan pledged $1,000,000 to the New York Lying-in-Hospital for the erection of a new building, provided the managers raised an amount sufficient to complete its endowment. It is now announced that the desired funds have been secured and the new building will be at once commenced. Mr. Morgan has made an additional gift of two city lots adjoining the city property already owned by the hospital.

According to reports, Dora England, a girl 22 years of age, residing in Newark, N. J., recently died in the city hospital from the effects of poisoning by Paris green, taken with suicidal intent. The girl was not discovered until two hours subsequently, when a leading "Christian Scientist" of that city was called in. It is further stated that the only means resorted to consisted in praying for the patient. A physician vas subsequently called in, but too late so save the ife of the patient.

Hereafter all resident physicians of the Philadelphia Hospital—"Blockley"—must be residents of Philadelphia. The students as well as the medical schools are up in arms over this change of affairs. As a rule there are 2000 medical students in Philadelphia each year, and Blockley is always a coveted place to many of those who are about to graduate. Twenty resident physicians are chosen annually, the term of service being fifteen months.

While on a recent visit to Pittsburg, Commissioner Levi Wells of the Food and Dairy Commission announced that the prosecution of butchers selling chemically prepared beef would be pushed with vigor by his department. The practice was found to exist also in Philadelphia. Packages containing the necessary chemicals to be used were found, the principal ingredient of which proved to be boric acid. Full directions for use were found on the packages.

An officer of the New York Fire Department, impressed with the difficulty which he had frequently observed in the resuscitation of partially asphyxiated persons rescued from burning buildings, has recommended that in connection with the first aid to the injured at fires, and particularly for those who are partially suffocated by gas or smoke, small tanks of oxygen be placed on the hook-and-ladder trucks of the department, which, in his opinion, would in many cases save life.

Governor Roosevelt has signed a bill just passed by the New York legislature, which authorizes the trustees of the Loomis Laboratory to transfer its real estate to any educational institution which they may select. During the past season the laboratory, against the protest of the authorities of the University of the City of New York, with which it was formerly connected, has been utilized by the medical department of Cornell University, and it will now probably be formally transferred to that institution.

On behalf of the trustees of the Medico-Chirurgical Hospital, Philadelphia, Mayor-elect Ashbridge conferred certificates of honor on several hundred trained nurses who had volunteered their services during the late war in the treatment of the soldiers brought to the Medico-Chirurgical Hospital. The certificates were illumined in red, green and gold, and signed by John C. Grady, acting president; William King, vice-president; Dr. J. M. Anders, secretary; L. Webster Fox, treasurer, and Drs. John V. Shoemaker, Ernest Laplace, W. Easterly Ashton, W. L. Rodman, W. E. Hughes and W. T. Pratt.

The State board of health of Delaware has established a laboratory in Newark, Del., at the State College, for the purpose of aiding physicians of the State in the diagnosis of typhoid fever, diphtheria, tuberculosis, hydrophobia, as well as other diseases which can be elucidated by examination of urine, blood, stomach contents, etc. The aim will also be to carry on original investigations with a view of furthering the progress of sanitary science in general, and bacteriology in particular. Professor Chester, the State bacteriologist, has been appointed director, and Dr. A. Robin bacteriologist and pathologist to the laboratory.

Prof. J. C. Webster of McGill University, Montreal, formerly of the University of Edinburgh, has accepted the chair of obstetrics and gynecology in Rush Medical College, Chicago, to succeed the late Prof. James H. Etheridge. He brings to this new field a wealth of experience with the superb training which characterizes the modern methods of the great University of Edinburgh, and it is believed that his coming will be a great incentive to the scientific spirit in the profession in this country, the results of which will be incalculable in their benefits to the people. Among others under consideration were Dr. Edward P. Davis, professor of obstetrics at the Jefferson Medical College, Philadelphia, and Dr. J. Whitridge Williams of Baltimore.

Commemorative of Centennial Anniversary.—The issue of the *Maryland Medical Journal* of April 29 is a souvenir number issued in commemoration of the centennial anniversary of the organization of the Medical Chirurgical Faculty of Maryland, and reflects great credit on the publishers. It gives a brief sketch of the faculty from its organization in 1799, and contains many illustrations of historic interest; among others: Baltimore in 1799; a facsimile of a newspaper account of the first meeting of the faculty, from the *Maryland Journal and Baltimore Advertiser*, June 11, 1799; photographs of the early presidents of the faculty; an illustration of the old Baltimore Hospital for the Insane, the site of which is now occupied by the Johns Hopkins Hospital buildings; facsimile of the diploma of Dr. John Archer (see Journal, April 29, p. 960); also one of a diploma of the Washington College of Medicine, of the *Baltimore Medical and Physical Journal*, the first medical journal in Maryland, and of the first page of the first number of the *Maryland Medical Journal*, with a number of other illustrations—anatomic plates, surgical instruments, etc.

Association News.

Columbus Meeting.—We are informed that the committee having in charge the Section dinners for the evening of June 6, at the coming meeting of the Association, are making active preparations for a very enjoyable time, and have adopted one form of menu card to be used at each of the Section dinners. On the first page it will contain the name of the Section, with the place and date of the banquet, and the emblem for this page will be the winged rod of Hermes, the messenger of the gods. The second page will contain the names of the officers of the Section and the hotel at which the dinner is being given, the third, the menu and the list of toasts, while on the last will be a cut of the State house.

Resolutions of Medical Association of Alabama.—At a meeting of the Medical Association of the State of Alabama, held at Mobile, April 18–21, 1899, the following preamble and resolutions, introduced by Dr. J. T. Searcy of Tuscaloosa, were referred to the board of censors, favorably reported by them, and unanimously adopted by the Association:

Whereas, At the meeting of the American Medical Association, held at Denver, in 1898, a resolution was adopted which, if carried into effect, would virtually exclude from membership a large proportion of its Southern members; and

Whereas, The said resolution was adopted without discussion, under a misconception of the views of the Southern Medical College Association; and

Whereas, The requirements stipulated in said resolution could not be legally carried out by the parties who would be excluded by its operation; and

Whereas, We do not believe the American Medical Association desires to exclude from membership men who have been its staunch supporters; and

Whereas, The elevation of the standards of medical education have always been one of the principal objects of the Medical Association of the State of Alabama, therefore,

Resolved, That this association fully endorses all legitimate and practical efforts in the direction of higher medical education.

Resolved, That the imposing of a time limit which could not be carried out by the members of the Southern Medical College Association, and also of a penalty in default of compliance therewith, was unjust, and in violation of the organic law and legal jurisdiction of the American Medical Association.

Resolved, That this association respectfully requests the American Medical Association to repeal the resolution in question, and to enact such measures only as can be complied with by the American Medical College Association and the Southern Medical College Association without violation of existing obligations to matriculated students, which obligations are enforceable by law.

Resolved, That a copy hereof be forwarded to the president and to the secretary of the American Medical Association, and also to the Journal of the American Medical Association, with the request that it be published.

Done at Mobile, April 21, 1899.

H. A. Moody, M.D., President.
Geo. P. Waller, M.D., Secretary.

Resolutions of Tennessee State Medical Society.—

Whereas, At the meeting of the American Medical Association in Denver last June, there was introduced and passed a resolution that hereafter no member of a faculty of any medical college, not requiring attendance on four full courses of lectures before graduation, and no graduates of such schools shall be permitted to register, at any meeting of the Association, either as delegate, permanent member, or member by application, and

Whereas, This resolution is in conflict with that part of the Constitution which defines membership in either of these capacities; be it therefore

Resolved, That it is the sense of the Tennessee State Medical Society that the resolution should be declared null and void by the Judicial Council of the American Medical Association; be it further

Resolved, That any attempt, at the coming meeting of the American Medical Association, to amend the constitution in that part defining membership, without allowing the colleges of the Southern Medical College Association to graduate students that have already matriculated, at the end of the third course, would be both unfair and unjust, since between students thus matriculated and the colleges there is an implied obligation that should not be violated.

The unfairness of such action as was attempted at Denver is the more apparent in that the Southern Medical College Association had already before them, awaiting final action, an amendment to their constitution, making requisite four graded courses of lectures before graduation, which amendment was adopted in December last, at the Memphis meeting.

Adopted April 12, 1899. W. D. Haggard, Jr., Sec'y.

Section on Obstetrics and Diseases of Women.—The preliminary program of this Section contains the following titles:

1. Pelvic Tuberculosis. Augustus P. Clarke, Cambridge, Mass.
2. Gynecologic Consideration of the Sexual Act. Denslow Lewis, Chicago.
3. Mothers of Yesterday, To-day and To-morrow. Women of the Past, the Present and the Future. Jno. S. Pearson, Louisiana, Mo.
4. Obstruction of the Biliary Ducts in Women. Edwin S. Ricketts, Cincinnati.
5. Cholecystectomy. Clinton Cushing, Washington, D. C.
6. Anatomy of the Suspensio-Uteri Ligament. J. Wesley Bovee, Washington, D. C.
7. New Method for Treatment of Retroversion of the Uterus. C. E. Ruth, Keokuk, Iowa.
8. Another Method of Uterine Suspension. Robt. T. Morris, New York City.
9. Three Years' Experience with Vaginal Shortening of the Round Ligaments for Retroversion and Flexions. Hiram N. Vineberg, New York City.
10. What Shall We Do with the Uterine Fibroid? D. Tod Gilliam, Columbus, Ohio.
11. Uterine Fibroids. Henry D. Ingraham, Buffalo, N. Y.
12. Indications for and Operative Treatment of Post-puerperal Sepsis. John B. Deaver, Philadelphia.
13. Treatment of Endometritis by Irrigation and Drainage. Augustus H. Goelet, New York City.
14. Pelvic Inflammation. O. Beverly Campbell, St. Joseph, Missouri.
15. Lymphatics of the Peritoneum. Byron Robinson, Chicago.
16. Surgical Significance of Certain Physiologic, Anatomic and Pathologic Peculiarities of the Peritoneum. H. D. Niles, Salt Lake City, Utah.
17. Colloid Carcinoma of the Ovaries. Chas. G. Cumston, Boston.
18. Management of Pregnancy Complicated with Abdominal Tumor. Rufus B. Hall, Cincinnati.
19. Clinical and Microscopic Differentiation of Sclerocystic and Cirrhotic Degeneration of the Ovaries, and Chronic Ovaritis. W. H. Humiston, Cleveland, Ohio.
20. Treatment of Ectopic Pregnancy, At or Near Full Term; the Child Living. L. H. Dunning, Indianapolis, Ind.
21. Early Ovariotomy, Its Practical Necessity. M. Rosenwasser, Cleveland, Ohio.
22. Lower Bowel as a Causative Factor in Diseases of Women. H. E. Pearse, Kansas City, Mo.
23. Prophylaxis of Uterine Cancer. W. W. Grant, Denver.
24. Prevention and Treatment of Cancer of the Uterus. A. Lapthorn Smith, Montreal.
25. New Operation for Cancer of the Uterus. F. H. Martin, Chicago.
26. Does Removal of the Ovaries Exert a Beneficial Influence on the Subsequent Progress of Malignant Disease? E. E. Montgomery, Philadelphia.
27. Total Extirpation of the Uterus, Its Appendages, Tumors, Etc., without Ligatures or Retention Clamps; Demonstration of a new Instrument for Hemostasis, with a Report of Clinical Cases. H. P. Newman, Chicago.
28. Study and Teaching of Obstetrics in our Medical Schools. Eliza H. Root, Chicago.
29. Necessary Abortion. W. C. Bowers, Decatur, Ala.
30. Association of Pelvic Diseases and Insanity in Women and the Influence of Treatment of the Local Disease upon the Mental Condition. H. A. Tomlinson, St. Peter, Minn.
31. Reciprocal Relations of Gynecologic and Neurologic Diseases. Chauncey D. Palmer, Cincinnati.
32. Relation of Uterine Disease to Some of the Insanities. C. C. Hersman, Pittsburg, Pa.
33. Chronic Volvulus Produced by Absorption of a Myomatous Tumor after Salpingo oöphorectomy: A Clinical Note. James F. W. Ross, Toronto, Ont.
34. Report of Some Rare Cases in Gynecology, with Remarks. J. N. Martin, Ann Arbor, Mich.
35. Treatment of Prolapse of the Uterus and Anterior Vaginal Wall after the Menopause. T. J. Watkins, Chicago.
36. Vaginal or Abdominal Section in Pelvic Surgery. B. F. Baer, Philadelphia.
37. Advantages of Vaginal Section in Surgical Treatment of Diseases of Women. J. Riddle Goffe, New York City.
38. What Becomes of the Patients after Vaginal Puncture and Drainage? Joseph Price, Philadelphia.
39. Intestinal Lesions Associated with Intra abdominal Operation, with Report of Resection of the Ileum in Five Cases. T. A. Ashby, Baltimore, Md.
40. The Exploratory Incision. F. F. Lawrence, Columbus, Ohio.
41. Celiotomy Itself. C. A. L. Reed, Cincinnati.
42. Treatment of Patients after Abdominal Section. C. L. Bonifield, Cincinnati.
43. Ovarian Dermoids. J. E. Cowles, Los Angeles, Cal.
44. A Rare Cerebral Lesion following Child-birth. Louis Faugères Bishop, New York City.
45. A New Technic for the Radical Excision of Non-malignant Rectal Strictures. Reuben Peterson, Chicago.
46. Treatment of Puerperal Eclampsia and Postpartum Urinary Lesions? R. R. Kime, Atlanta, Ga.
47. Reconstruction of the Pelvic Structures Incident to Lesions of the Perineal Tissues. Henry O. Marcy, Boston.
48. Operative Wounds of the Bladder in the Female, and Their Treatment. Frederick Holme Wiggin, New York City.
49. Repair of Extensive Lacerations of the Female Bladder and Urethra. I. S. Stone, Washington, D. C.
50. Treatment of Acute Tuberculosis of the Peritoneum. Henry T. Byford, Chicago.
51. Gonorrhea in the Female Child. A. D. Wilkinson, Lincoln, Neb.
52. Cesarean Section vs. Embryotomy, with a Report of Two Cases of Cesarean Section. T. J. Maxwell, Keokuk, Iowa.
53. Sixty-five Consecutive Abdominal Sections Without a

Death, with Clinic and Pathologic Reports. Hunter Robb, Cleveland, Ohio.

54. Analysis of the Mortality Following 641 Abdominal Sections. W. G. Macdonald, Albany, N. Y.

55. Analysis of Cases of Abdominal Section Done for Other Purposes than Hysterectomy. William Mosley, Baltimore.

56. Antenatal Pathology. J. W. Ballantine, Edinburgh, Scotland.

57. A Monstrosity, Its Causes and Sequellæ. S. K. Crawford, Chicago.

58. Ectopia Vesicale. Joseph Rilus Eastman, Indianapolis, Ind.

59. Nature, Cause and Treatment of Shock. Daniel T. Nelson, Chicago.

60. Address of Chairman. A. H. Cordier, Kansas City, Mo.

Other papers are promised by B. Sherwood Dunn, Boston; C. C. Frederick, Buffalo. N. Y.; W. E. B. Davis, Birmingham, Ala.; James T. Jelks, Hot Springs, Ark.; E. Gustav Zinke, Cincinnati; W. D. Haggard, Jr., Nashville, Tenn.

Section on Physiology and Dietetics.—Papers to be read in this Section, at the Columbus meeting, are:

1. Inhibitory Action of the Cerebrum. J. F. Peavy, Asheville, N. C.

2. Remarks on the Diet at or about the Period of Weaning. Louis Fischer, New York City.

3. Value of Water as a Therapeutic Agent in Connection with Other Remedies. M. F. Coomes, Louisville, Ky.

4. Some Dietetic Observations in the Gouty Diatheses. Edward P. Adams, Cincinnati.

5. The Sum Total of the Potentialities is an External Psychic Continuation, and is, of Itself, the Manifestation of Creative Power. E. C. Hebbard, Boston.

6. Diabetic Diet. Francis E. Carrol, Boston.

7. Dietetics in State Hospitals for the Insane. Frank C. Hoyt, Mt. Pleasant, Iowa.

8. Distilled Water as a Food. E. Cutter, New York City.

9. Dietetics in Chronic Diseases. J. E. Kinney, Denver.

10. The Carbohydrates of the Liver. A. M. Bleile, Columbus Ohio.

11. Dietetics in Health and Disease. Mary E. Green, Charlotte, Mich.

12. The Neurotic Diet. Henry C. Eyman, Cleveland, Ohio.

13. Digestive Ferments. A. Atkinson, Baltimore, Md.

14. Condensation and Sterilization of Milk by Refrigeration; a Revolution in the Milk-Supply of Cities. Henry O. Marcy, Boston.

15. Food and Drink. Elmer Lee, New York City.

16. Peripheral Resistance. V. L. Treynor, Council Bluffs, Iowa.

17. Medical Practice. S. K. Crawford, Chicago.

18. The Division of Chemistry of the U. S. Department of Agriculture; What it has Contributed to Dietetics and Physiologic Chemistry. C. D. Spivak, Denver.

19. Mental Fatigue. Edward Thorndike, Cleveland, Ohio.

20. Food and Water as Factors in the Cure of Disease. A. T. Cuzner, Gilmore, Fla.

21. Morphology of the Air. Ephraim Cutter, New York City.

22. Physiology of Sight. William Chatham, Louisville, Ky.

23. Influence of Opium Given in Infancy on After Life. T. D. Crothers, Hartford, Conn.

24. Interdependence of Physiology and Morphology and Their Educational Importance. James Weir, Jr., Owensboro, Ky.

25. Physiology of Mind. F. DeValette, Munich, Austria.

26. Thought as a Correlative Force. E. J. Bergen, Washington, N. J.

27. Cell Development. Joseph Smith, Latchford, England.

Other papers are promised by: D. J. Snyder, Columbus, Ohio; E. M. Hatton, Columbus, Ohio; J. F. Marchand, Canton, Ohio; Joseph Price, Philadelphia.

Section on Laryngology and Otology.—For the Columbus meeting of the Association, this Section will offer the following program:

June 6, 2 p.m.

1. Address of Chairman. Emil Mayer, New York City.

2. Recurring Membranous Pharyngitis. J. O. McReynolds, Dallas, Tex.

3. Report of a Case of Multiple Laryngo-Tracheal Stenosis. Thomas Hubbard, Toledo, Ohio.

4. Tuberculosis of the Pharynx, with a Preliminary Report of Tuberculous Infection of the Tonsils and the Lymphoid Tissue of the Pharynx. Clement F. Theison, Albany, N.Y.

5. Fibroid Tumors of the Nasopharynx. Wm. Scheppegrell, New Orleans, La.

6. Accessory Thyroid Tumors at the Base of the Tongue. J. Schadle, St. Paul.

7. Observations on the Asch Operation for Deviation of the Cartilaginous Septum. Max Thorner, Cincinnati.

8. Some Experiments in Throat Photography. J.H. Coulter, Chicago.

9. Value of Muscle-Training in the Treatment of Vocal and Speech Defects. G. H. Makuen, Philadelphia.

10. Prognosis of Laryngeal Tuberculosis. Robert Levy, Denver.

11. Treatment of Chronic Croup. Edwin Rosenthal, Philadelphia.

12. Lithemic Pharyngitis. J. S. Stucky, Lexington, Ky.

13. Parasitic Affections of the Pharynx. E. O. Sisson, Keokuk, Iowa.

June 7, 9 a.m.

JOINT MEETING OF THE SECTIONS ON OPHTHALMOLOGY AND ON LARYNGOLOGY AND OTOLOGY.

Subject for Discussion:—"The Relation of Ocular Diseases to Affections of the Nose and Neighboring Cavities."

14. On Some Points in the Symptomatology, Pathology and Treatment of the Sinuses Adjacent and Accessory to the Orbit. Charles Stedman Bull, New York City.

15. On Nasal Stenosis, in their Relation to Ocular Disturbances. D. Bryson Delavan, New York City.

16. On Eye Troubles, Attributable to Nasopharyngeal and Aural Disturbances. Joseph A. White, Richmond, Va.

17. On Diseases of the Accessory Sinuses, in their Relation to Diseases of the Eye. J. H. Bryan, Washington, D. C.

June 7, 2 p.m.

18. Disease of the Antrum of Highmore: A Study of One Hundred and Fifty Cases. L. C. Cline, Indianapolis, Ind.

19. Necrosing Ethmoiditis. W. W. Bulette, Pueblo, Colo.

20. Relation of Nasal and Accessory Cavities and Dental Lesions. D. Braden Kyle, Philadelphia.

21. The Determining Factor in the Symptomatology and Diagnosis of Infective Sinus Thrombosis. Fred Whiting, New York City.

22. Report of a Case of Brain and Metastatic Abscesses Following Suppurative Otitis Media. D. Milton Green, Grand Rapids, Mich.

23. Four Cases of Otitic Cerebellar Abscess, with Stereopticon Illustrations. B. Alexander Randall, Philadelphia.

24. Suppurating Mastoiditis, with Report of Cases. J. H. Bryan, Washington, D. C.

25. Diagnosis and Treatment of Middle-Ear Diseases, with a new Diagnostic Symptom of Eustachian Stricture. J. H. Farber, Dayton, Ohio.

26. Restoration of the Deaf Born. M. M. Stapler, Macon, Ga.

27. Treatment of Hypertrophic Catarrh of the Middle and Internal Ear. F. B. Tiffany, Kansas City, Mo.

28. Operative Interference in Chronic Suppurative Otitis Media. L. S. Somers, Philadelphia.

29. Concerning the Complications of Acute Purulent Otitis Media. S. E. Allen, Cincinnati.

30. Extension Massage of the Ossicles, with a new Aural Masseur. Hamilton Stillson, Minneapolis.

31. Conveyance of Infection Through the Medium of the Ear Syringe: A Remedy. F. C. Todd, Minneapolis.

32. Uncommon Causes of Pyogenic Infection of the Middle Ear. Robert Sattler, Cincinnati.

33. Anatomic Variations of the Nasal Chamber and Associated Parts. M. H. Cryer, Philadelphia.

34. Further Report on Submucous Linear Cauterization. Norval H. Pierce, Chicago.

35. The Atomizer and Its Use. G. V. Woolen, Indianapolis.

36. Notes on Some of the More Recent Remedies in Throat, Nose and Ear Practice. S. G. Dabney, Louisville, Ky.

37. "Colds." Ephraim Cutter, New York City.

June 8, 2 p.m.

38. Headaches of Nasal Origin. Carolus M. Cobb, Lynn, Mass.

35. Hypertrophy of the Turbinated Bodies, and their Relation to Nasopharyngeal and Middle-Ear Inflammations: with Deductions Based upon 1500 Operations. C. R. Holmes, Cincinnati.

40. Intranasal Angioma or Bleeding Polypus of the Septum. W. E. Casselberry, Chicago.

41. Carcinoma of the Nasal Passages, with Report of a Case. J. S. Goodale, Boston.

42. Sarcoma of the Nasal Passages. H. V. Würdeman, Milwaukee.

43. Angioma of the Nose. T. R. Chambers, Jersey City, N. J.
44. Adenosarcoma of the Septum. A. R. Barker, Cleveland.
45. Nasal and Aural Complications in Epidemic Influenza. Sargent F. Snow, Syracuse, N. Y.
46. Common Nasal Causes of Eye Symptoms. W. L. Grant, Fargo, N. D.
47. The Treatment of Nasopharyngeal Adenoids. Louis J. Lautenbach, Philadelphia.

Rates for Columbus Meeting.—Just as our last form is ready for the press we learn that the following action has been taken by the Western Passenger Association concerning the rates for the next meeting of the Association. The rate is to be one lowest regular first-class fare plus $2 for the round trip. This is to apply from points in the territory of the Western Passenger Association and Utah to Columbus and return, except that from points from which the local one-way rate to the Eastern gateways of the Western Passenger Association is less than $6, rates are to be made on the basis of a fare and one-third for the round trip to such gateways, added to the rate of one first-class fare for the round trip tendered therefrom, provided that where such one and one-third fare to Chicago is $2 or less, 50 cents additional is to be added to the return transfer.

Tickets are to be sold on such dates as will enable the passengers to pass through the eastern gateways of the above association on June 2, 3 and 5, and from points in Trans-Missouri territory east of the eastern State lines of Colorado and Wyoming, tickets will be sold June 1, 2 and 4; from points in Colorado and Wyoming they will be sold May 31, June 1 and 3, and from points in Utah they will be sold May 30, 31 and June 2. The tickets are to be good for return passage leaving Columbus up to and including June 13; the tickets to be limited to continuous passage in each direction, going trip to commence on date of sale and the return trip on date of execution. The tickets are also to be of the iron-clad signature form, which provides for execution by the agent of the terminal line at Columbus.

Public Health.

Immunity of Infants to Measles.—Jurgenssen asserts that very young infants are "immune," and cites a recent series of observations of forty-one exposed to measles. All over six months contracted the disease, while the twenty-five under five months were not affected.—*Deutsches Archiv f. Klin. Med.*, lxii, 3 and 4.

Rabies in Brussels.—In the *Tablettes Mensuelles* for February, 1899, of the Royal Society of Public Medicine and Medical Typography of Belgium, the secretary, Prof. U. Labo, gives prominence to a statement that during the past year and a half a veritable epizootic of rabies has prevailed in Brussels and its neighborhood. Although for several years this disease has been frequently reported in many of the provinces, and particularly in those bordering the Département du Nord (France), there were but 3 cases in Brabant in 1896. From March to the end of 1897 there were discovered 17 cases in Brussels and its suburbs. In 1898 the disease prevailed to a most unusual extent. Every week from 1 to 5 or 6 cases were reported. This extension is attributed to carelessness on the part of the authorities in carrying out the provisions of law for the suppression of the disease, particularly in certain localities where the canine population is large and vagabondish.

Health of Denver.—The annual report of the bureau of health for the years 1897 and 1898, just issued by the retired health commissioner, Dr. William P. Munn, furnishes the following interesting statistic data: The rate of mortality has decreased steadily since 1890, when it was 23.17 per 1000 of population, to 18.57, 14.28, 13.87, 12.06, 11.19, 10.48, 11.49 and 11.55 during the following years respectively. A résumé of deaths by classes gives the following figures: Communicable diseases, 698 and 670; general diseases, 142 and 156; diseases of the digestive system, 197 and 241; respiratory, 196 and 255; nervous system, 172 and 180; genito-urinary, 102 and 116; death by violence, 109 and 95; by poison, 40 and 43; during the years 1897 and 1898 respectively, of the communicable diseases, pulmonary tuberculosis stands at the head with a mortality of 924 during the two years, of which 779 contracted the disease elsewhere. Of general diseases, cancer of the stomach claimed 28 and 15 victims. Of diseases of the digestive system, cholera takes the lion's share, but there were only 35 and 39 deaths reported. Of the respiratory system, pneumonia leads with 124 and 153 deaths; circulatory system, valvular heart disease 81 and 97; genito-urinary, with nephritis 77 and 85; nervous system, cerebral hemorrhage 37 and 39; death by violence, surgical shock 19 and 12. Deaths by poison deserve a more detailed account. Alcohol caused 30 during the two years; morphin 10, carbolic acid 6, chloroform anesthesia 7, laudanum 5, rough on rats 4, opium 4, cocain, corrosive poison, ether anesthesia, strychnin, phenacetin, creosote, matches, cyanid of potassium, 1 each. The suicides by violence have used the following means: gunshot, 20 during 1897 and 1898; cutting throat, 1; hanging, 2; strangulation, 1; knife wound, 1.

Health Reports.—The following cases of smallpox, yellow fever, cholera and plague have been reported to the surgeon-general of the United States Marine-Hospital Service for the week ended April 29, 1899:

SMALLPOX—UNITED STATES.

Alabama: Tallapoosa County, April 14, prevalent.

California: Los Angeles, April 15–22, 6 cases.

District of Columbia: Washington, April 27, 1 case.

Georgia: Savannah, April 17, 2 cases, origin, Montgomery, Alabama.

Indiana: New Albany, April 15–22, 2 cases.

Louisiana: Shreveport, April 15–22, 3 cases; New Orleans, April 15–22, 9 cases.

Massachusetts: Boston, April 17–28, 6 cases.

Minnesota: Minneapolis, April 9–15, 1 case; St. Paul, April 9–15, 1 case.

New York: Buffalo, April 20, 1 case; Elmira, April 15–22, 1 case.

Pennsylvania: Allegheny County, March 30 to April 22, 4 cases; Cambria County, March 30 to April 22, 1 case; Blair County, March 30 to April 22, 22 cases; Fayette County, March 30 to April 22, 20 cases; Somerset County, March 30 to April 22, 48 cases; Washington County, March 30 to April 22, 1 case.

Rhode Island: Providence, April 21, 2 cases.

Texas: Galveston, April 1–15, 10 cases; Laredo, April 1–8, 17 cases.

Virginia: Newport News, April 14–19, 9 cases; Norfolk, April 13–26, 41 cases; Portsmouth, April 13, 10 cases.

SMALLPOX—FOREIGN.

Belgium: Ghent, April 1–18, 1 death.

Brazil: Bahia, March 18 to April 8, 8 cases, 1 death; Rio de Janeiro, March 3–10, 1 case, 7 deaths.

China: Hongkong, March 3–11, 3 cases, 1 death.

England: London, March 25 to April 8, 2 cases.

Greece: Athens, March 25 to April 8, 62 cases, 32 deaths.

India: Bombay, March 14–21, 10 deaths; Calcutta, March 4–18, 8 deaths.

Korea: Seoul, March 11, many cases and deaths.

Mexico: Mexico, April 9–16, 10 cases, 4 deaths.

Russia: Moscow, March 25 to April 1, 20 cases, 3 deaths; Odessa, April 1–8, 2 cases, 1 death; St. Petersburg, March 25 to April 1, 16 cases, 3 deaths; Warsaw, March 18 to April 1, 5 deaths.

Turkey: Constantinople, March 20 to April 10, 22 deaths; Smyrna, March 12–26, 1 death.

Uruguay: Montevideo, March 11–18, 1 case.

YELLOW FEVER.

Brazil: Bahia, March 18 to April 1, 13 cases, 7 deaths; Rio de Janeiro, March 3–10, 91 cases, 58 deaths.

Mexico: Vera Cruz, April 13–20, 4 deaths.

CHOLERA.

India: Bombay, March 14–21, 7 deaths.

PLAGUE.

Formosa: Tamsui, February 22 to March 8, 63 deaths.

India: Bombay, March 14–21, 1128 deaths officially reported. Probably 1900; Calcutta, March 3–18, 188 deaths.

Necrology.

M. S. Carr, M.D., Galesburg, Ill., died suddenly April 29. Dr. Carr was 75 years old and had been practicing medicine since he was 21. During the Civil War he was captain of the Fourth Illinois Cavalry.

Alfred C. Drury, M.D., Canton, N. Y., died April 22. He was a graduate of the Medical Department of the University of Vermont, class of 1874.

Seranus Bowen, M.D., Harvard 1876, died in Boston, Mass., April 7. . . Leslie Gillett, M.D., Beatrice, Neb., April 24, at the age of 63 years. . . N. F. Hall, M.D., Fulton, N. Y., April 24, aged 43 years. . . Frederick A. Hamilton, M.D., Chico, Cal., April 20. . . David A. Hengst, Denver, Col., April 24. . . William E. Kissane, M.D., N. Y. Univ., 1885, Brooklyn, N. Y., April 26. . . B. M. Rakestraw, M.D., Hicksville, Ohio, April 25, aged 81 years.

Resolutions on Death of P. L. Holland, M.D. (vide Journal, March 11, p. 563).—The following resolution was unanimously adopted at a meeting of the Chicago Neurological Society, April 25, 1899:

Whereas, The Chicago Neurological Society has lost by death Dr. Philo Leon Holland, a charter member, and the first one to read a paper before the society; and

Whereas, We, the members of this society, have lost in Dr. Holland a cherished friend and an honored colleague; therefore, be it

Known that we, as a whole and individually, sincerely mourn the untimely end of our comrade, and that his sterling integrity, high mental qualities and modest faithfulness to his aims and ideals will always remain a pleasant and inspiring memory, and be it

Ordered that this resolution be spread upon the minutes of this society and that copies be sent to the nearest relatives of the deceased and to the medical journals of this city.

Richard Dewey, Pres.
Hugh T. Patrick, Cor. Sec.

DEATHS ABROAD.

Alfred Graefe, formerly professor of ophthalmology at Halle, is dead. Science owes to this indefatigable worker the classic Graefe-Saemi "Handbook of Ophthalmology"; also the recognition and operative treatment of intraocular cysticercus, extraction by a meridianal scleral incision, extirpation of the lachrymal sac and exenteratio bulbi. . . E. Slitz, formerly professor of clinical medicine at Giessen, died recently.

Miscellany.

Kernig's Sign in Meningitis.—Before the Association of American Physicians, Washington, D. C., May 2-4, in a paper on this subject, Herrick of Chicago pointed out that Kernig, in 1884, noted in cases of meningitis an inability to extend the leg when the thigh was flexed at right angle with the body, and regarded this as peculiar to meningitis, and pathognomonic. Comparatively little attention was paid to the subject until revived by Netter in 1898. Dr. Herrick's personal observations show it to be so commonly present in meningitis that, though occasionally absent in this disease and occasionally found in other affections, it is a valuable diagnostic aid.

Athletics and the Heart.—In a paper on the "Immediate and Remote Effects of Athletics on the Heart," before the recent session of the Association of American Physicians, Stengel pointed out that athletics habitually cause some dilatation of the cardiac chambers at the time of indulgence in a trying sport, and the degree of dilatation is more marked in young and inexperienced athletes than in those well trained. Occasionally, acute dilatation, sufficient to cause marked symptoms, is observed. Under these circumstances a trained athlete may recover compensation within a few days. The effect of continued indulgence in severe sports is the development of some cardiac hypertrophy, and athletes who have thus enlarged their hearts frequently suffer symptoms of overcompensation, at least during some years after they have ceased to follow athletics.

Responsibility of Water Companies.—Floyd Davis, Ph. D., in his report of investigation of the Oshkosh, Wis., public water-supply, denounces impure municipal supplies in the following language: A system of works that supplies a city with water from a source that is unquestionably contaminated, like this (Lake Winnebago), without thoroughly purifying it, should always be met with the condemnation of the people. The forcing of water that may at any time contain the fatal germs of disease through mains to a helpless and unsuspecting public should certainly be ranked with the selling of intoxicating liquors to children or confirmed inebriates. An attempt to destroy human life by systematic distribution of poison would be met by the arrest and imprisonment of the offender. Why should not the delivery of impure and death-dealing water for drinking and other domestic purposes be met and handled in the same manner, so long as it is oftentimes as fatal to the consumer as the most deadly drug?

Modification of the Army Ration.—By general orders from the war department, dated April 1, 1899, the commissary-general of the army is authorized to reduce, on the recommendation of the chief commissary of the various departments, the amount of beef issued, and in lieu thereof, to issue the equal money value of the quantity of beef thus reduced in ham or other articles of sales. The restriction now existing in regard to the issue of fish when meat can not be furnished is removed, and the ration of fish will hereafter be issued in lieu of the ordinary beef ration when desired, and to the present ration two ounces of dried fruits are added. The paragraph of the regulations which specifies the kind and quantities of the articles composing the army ration is accordingly amended as follows: Meat components in lieu of the ordinary beef ration when desired; dried fish, 14 ounces per ration, 87 pounds, 8 ounces per 100 rations; pickled fish, 18 ounces per ration, 112 pounds 8 ounces per 100 rations; fresh fish, 18 ounces per ration, 112 pounds 8 ounces per 100 rations. Fruit components: dried fruits, 2 ounces per ration, 12 pounds 8 ounces per 100 rations.

Thyroid Extract in Cerebral Case.—Loving, Columbus, Ohio, has used thyroid extract in a man 18 years of age, a student of healthy parentage, but who, in 1896, without assignable cause, began to suffer from constant headache with severe exacerbations. Within six months he found his vision affected, soon to such an extent as obliged him to suspend his studies, and later, to interfere materially with movement from place to place. With the exception of an attack of typhoid fever in his 15th year, his history is uneventful and his habits correct. Examination by competent oculists disclosed no lesion in either eye, though the vision was about equally affected in both. At a consultation between the oculists, a neurologist and a surgeon, it was decided that the patient was suffering from an intracranial neoplasm, nature and precise location not defined—suspicion of syphilitic origin. He was treated with mercurials and iodid of potassium with no beneficial result, and after a rest of some weeks treatment was resumed with negative results; tonics used with no results. Thyroid extract was prescribed and continued with a few short intermissions for several months, when improvement soon became manifest, and the patient has now so far recovered as to be able to read and write with ease and comfort. He reported the case before the recent session of the Association of American Physicians, May 2-4.

Periodic Family Paralysis.—The case of a male, aged 18 years, who at frequent but varying intervals had an attack of paralysis, has just been reported by Mitchell of Philadelphia, before the Association of American Physicians. The patient goes to bed well but wakes in the morning helpless, paralyzed from head to foot, with total abolition of skin, muscle and tendon reflexes, loss of faradic and galvanic contractility, unchanged sensibility and unimpaired mind and speech. The attacks are hereditary in his mother's family, in which five cases are known. One of these has been seen by Mitchell. He described the others. Careful studies of the electric conditions and of urine, feces and blood, with attempts to determine their toxic effects, are given. The conclusion is that more than one kind of autotoxic material is produced, with selective actions on the skin nerves and on the spinal centers. Only three other undoubted cases of like kind have been recorded in America and about sixteen in Europe.

Uniform of Army Hospital Corps.—General Orders No. 80 from Headquarters of the Army, April 24, 1899, amend existing regulations in relation to chevrons, stripes for trousers, etc. Those affecting the uniform of the hospital corps now read as follows: Chevrons of emerald green cloth worn points down, above the elbow on the blouse, below the elbow on the overcoat; for hospital stewards, three bars and an arc of one bar inclosing a red cross; for acting hospital stewards, the same as for hospital stewards, omitting the arc; for privates of the hospital corps and all persons neutralized by the terms of the Geneva Convention, a brassard of white cloth, 16 inches long and 3 inches wide, with a cross of red cloth, 2 inches long and 2 inches wide, in center, to be worn on the left arm above the elbow. Service chevrons for enlisted men of the corps consist of a single stripe of emerald green facing cloth, ½ inch wide and 12 inches long, stitched on the outer edges with white chevron silk, and worn diagonally on both sleeves of the blouse below the elbow. To indicate service in war, the diagonal single stripe of emerald green cloth is piped on its outer side with orange facing cloth ⅛ inch wide. The stripes for the trousers are of emerald green cloth, 1¼ inches wide for hospital stewards, 1 inch wide for acting hospital stewards, and ½ inch wide for privates. No stripes will be worn on the field or khaki trousers. The badge on the cap for hospital stewards is a cross of white metal inclosed by a wreath of white metal; for acting hospital stewards and privates of the corps, a cross of white metal.

Army Medical News From Manila.—Major Samuel O. L. Potter, brigade surgeon 2d brigade of McArthur's division, reported to the surgeon-general, Feb. 28, 1899, on the condition of the regiments in his command. At the end of January the brigade was in quarters in the city of Manila, except the 1st Neb. Inf., which was in camp at McLeod's Hill, Santa Mesa. On the night of February 4, the outpost of this regiment near blockhouse No. 7 was attacked by the insurgents, and a general attack along the whole line of the brigade followed immediately. The regiments were called out from their city quarters to the line of the outposts, each leaving a detachment as an inside guard. On February 5 and 6 they advanced and occupied the pumping station and pipe line, extending across the country about eight and a half miles, a position which they held up to the end of the month. The battle casualties were 14 killed, 49 wounded, none missing. During this period the three regiments, 1st Colo., 1st S. Dak., and 1st. Neb., were in excellent sanitary condition. The food was the regular garrison issue and included fresh beef of excellent quality seven days in ten, with fresh bread and an ample supply of vegetables. The cooking is represented as having been particularly good for field kitchens. The water was from the city water-works, obtained either directly from the pipe line or hauled therefrom to the front. Detached parties sent out scouting in front of the line sometimes used surface water, but regimental medical officers did all in their power to put a stop to this dangerous practice. The clothing was excellent, and the shelter tents raised in most cases on bamboo platforms. Rice straw was used for bedding and was frequently changed. The ground in the vicinity of the sinks was carefully policed. The health of the brigade was better than at any time during the past four months, the percentage of sick being 8.5—6 in the Colorado regiment, 9.8 in the South Dakota and 10.5 in the Nebraska command. In a total of 274 cases present with the brigade, there were 52 cases of wounds and injuries, 61 malarial, 51 venereal, 38 intestinal, 27 rheumatic and 11 pulmonary. If the wounded and venereal cases were excluded, the sick list would have constituted only about 5 per cent of the command.

Pulse-Tracings.—Cushing's paper before the recent meeting of the Association of American Physicians discussed the interpretation of pulse-tracings. He finds that when the dog's heart is exposed and the ventricle is stimulated with single electric shocks, each stimulus that falls during the non-refractory period is followed by an abortive systole, which is sometimes sufficient to cause a distinct pulse in the arteries, but often fails to do so; the auricle is not affected by the stimulus, and continues to beat in its usual rhythm. The next contraction of the ventricle after the abortive systole is induced by an impulse descending from the auricle as usual, and therefore takes place at the exact time at which a contraction would have occurred had there been no abortive systole. The interval between this beat and the last normal one is therefore exactly double the pause between two ordinary contractions. If a sphygmographic tracing be taken, the pulse appears to miss one beat, and the intermission is found to be exactly twice as long as the interval between two ordinary elevations of the tracing. If the auricle be stimulated instead of the ventricle, the result at first appears the same, the ventricle contracts prematurely owing to the artificial impulse descending from the auricle, and there is either a very small undulation in the sphygmographic tracing or a complete intermission. If the duration of the intermission be measured, however, it is found to be less than double the pauses between two ordinary pulsations. In this way the examination of the sphygmogram of the dog enables one to at once determine whether the stimulus was applied to the ventricle or to the auricle, for in the first case the intermission is exactly twice as long as the ordinary interval between two pulses, while in the second case it is invariably shorter. Some consideration will show that the first proposition is true for any intermission of the pulse due to ventricular disorder; that is, any intermission of the pulse that is due to the ventricle only must be equal to twice the ordinary pause. Any intermission that is of shorter duration must, accordingly, be due to the disordered action of the parts of the heart above the ventricle, which determine the pulse rhythm. In cases of heart disease hitherto examined, the sphygmogram very often showed intermissions, which indicated that the ventricle alone was at fault, while in many others, it was perfectly certain that the intermission was due to disorder of the rhythmic parts of the heart. In some cases the pulse was so irregular that no certain conclusion could be drawn in the matter. The accurate measurement of the pulse-tracing in irregularity of the heart thus affords a means of diagnosing with considerable probability whether the ventricle or the rhythmatic part of the heart is at fault.

The Army Transport Service.—The army transport service, which was hastily called into existence in June, 1898, when the quartermaster's department of the army was required to provide vessels to convey an army of invasion to Cuba, has now attained a very mature development. Regulations governing the service have been published, and these show the thorough organization which has been perfected, by means of which 30,000 troops have been despatched from the ports of San Francisco and New York and landed in the Philippine Islands without criticism by the sensational papers of the day. The two cities mentioned are the home ports of the service each of which has its full staff of officers and employes and is provided with proper terminal facilities, including wharfage for ships, storage for freights and suitable and adequate offices. The personnel at each of these ports consists of a general superintendent and his assistant, a medical superintendent, quartermasters and commissaries, transport surgeons, a marine superintendent, a superintending engineer and assistants, a port steward and a chief stevedore. The duties of all these officials are defined. The medical superintendent is required to be an officer of the medical department of the army stationed with the general superintendent and acting as his assistant and professional adviser in all matters pertaining to the sanitation and hygiene of the transports and to the hospital and medical accommodation and service on board. He must make personal and minute inspection of each transport on arrival and prior to departure and submit to the general superintendent such recommendations relative to sanitation and hospital equipment as he may deem needful. He must make himself familiar with all the quarantine laws and facilities that might exist at home and over-sea ports, and be responsible for the competency and satisfactory service of the transport surgeons and all other employes of the medical department of the transport service. The transport surgeons are each assigned to a vessel to act as the medical officer of the ship. Their duties are outside of those pertaining to the medical officers of the troops on board. Special regulations are published for all the movements likely to be required on active service, as for embarkation, shipping of baggage, of horses, etc., and their debarkation. The duties and responsibilities of the personnel during the voyage are specifically stated and the general routine of life on board is prescribed, including the arrangement of the messes, the necessary sanitary regulations, the precautions against fire and the action to be taken when an alarm is given.

Military Hospital at Matanzas, Cuba.—The sanitary report of Major William B. Winn, brigade surgeon volunteers, military hospital, Matanzas, Cuba, rendered April 12, 1899, describes his hospital as excellently situated on the south slope of a gradual decline from the mountain ranges to the north facing Matanzas Bay, about one mile from the city. The drainage is purely surface, but owing to the favorable location is rapidly carried off to the bay, leaving the surface and soil free from contamination. Policing is always well and carefully performed. Hospital tents are used exclusively as quarters for the men, usually four, and not more than six, men to the tent, thus allowing the most liberal air space. The hospital consists of five wards in a stone building, and twelve pavilion tents properly floored. Carefully constructed shell walks lead to and between each ward and add greatly to the attractiveness of the grounds. Experience has demonstrated most convincingly, to the surgeon in charge, the superiority of the pavilion tent ward over the use of the old buildings as hospitals for the care of the sick, no matter how carefully disinfected or reconstructed. The food-supply is ample, nutritious and of the best quality. The water-supply, from the city reservoir, is pure and limpid, but before being used for drinking purposes, it is thoroughly boiled and carefully filtered, thus eliminating all possibility of contagion from this source. All wastes, kitchen garbage and excreta are collected in large tin containers, in which a disinfectant solution is constantly kept. These tins are regularly collected each morning before 10 o'clock, again thoroughly disinfected, carefully covered with hay and then carried in wagons to the dump in the bay, two miles from camp, where they are emptied and, after careful washing, are returned to the hospital. This system has proved most satisfactory and is believed to be the best and most practical method of disposition of refuse. The record of this hospital is one of unusual excellence, if judged by the death-rate—one death only (yellow fever civilian) in three months, with a daily average presence of sixty-five patients during this time. Two cases of yellow fever have been treated, the first from the Second U. S. Cavalry, the other a photographer, bought to this hospital in the last stages of the disease, as a sanitary measure and precaution against certain wide exposure in the center of the city, where he was ill. Both were isolated and no further case has resulted. Several cases of typhoid fever have been treated at the hospital. These undoubtedly originated within the One Hundred and Sixtieth Indiana or Eighth Massachusetts Volunteer Infantry at their camps in the United States and were brought to the island by the troops. Radical measures adopted at the hospital and within the camp, under the watchful direction of the general commanding the district, promptly checked further spread of the disease beyond those already infected before going into camp here. Too much praise can not be given the zealous and indefatigable sanitary precautions insisted upon by the commanding general, which the unprecedented record of the camp at Matanzas fully confirms.

Tumors of Cerebellum, Optic Thalamus and Frontal Lobe of Cerebrum.—J. Risien Russell, in the *Clinical Journal* (London) of April 12, reviews the differential diagnosis of these tumors, which, though widely separated in the brain, yet have important anatomic connections and clinical features in common. The growths in these three regions are alike to some extent, in their symptoms of ataxia and nystagmus; absent knee-jerk and anosmia are symptoms common in cerebellar and frontal tumors, while mental defect and loss of sphincter control are met with in growths in the frontal and thalamus opticus tracts. Incoordination and nystagmus, however, are far more frequent and pronounced with cerebellar tumors than with those in either of the two localities, and a special attitude of the head, the cheek down on one shoulder with the chin to the opposite side, is almost peculiar to cerebellar involvement. Anosmia, on the other hand, is not especially frequent in cerebellar tumor and naturally very frequent with that of the frontal lobe. Loss of knee-jerk, Russell finds from experience, is not especially diagnostic of any particular locality. Mental defect is chiefly characteristic of tumor of frontal lobes, and its early occurrence is especially diagnostic of this location. If aphasia be present, it indicates involvement of post-frontal regions, presumably in the left hemisphere. Loss of sphincter control, generally due to mental hebetude, is most common with frontal tumors. Fits generally point to cerebral disease; those of cerebellar origin rather resemble tetanus seizures than those of cerebral origin, and in any case are exceptional. Hemiplegia can only occur with frontal tumors from pressure on the Rolandic region or extension of the growth to the same, and the arm is usually most affected. When hemiplegia occurs from thalamic growths the same is likely to be the case, and curiously enough, when paresis occurs in man from cerebellar lesions, it is worst in the arm, reversing the experimental results in the lower animals, where the hinder limb on the side of the lesion appears to suffer most. Hemiplegia from these tumors is commonest with thalamic growths, less so with frontal and very rare with cerebellar tumors. Facial paralysis is a valuable indication in these locations of tumors. Tumors of the frontal lobes or of the thalamus can cause facial paralysis of the cerebral type, that is, involving solely or chiefly the lower half of the face. Cerebellar tumors can only cause this paralysis of the peripheral type, that is, involving the whole face, and this by pressure on the facial nerve between the pons and the internal auditory meatus. In such cases the paresis, if general, involves the same side of the body as that of the lesion, the cerebellar fibers not crossing like the cerebral ones. Frontal and thalamic tumors may also, exceptionally, cause facial paresis of the peripheral type, by general increase of the cranial pressure, but it is not so marked or frequent as that from those of the cerebellum. Defect of hearing is also more indicative of cerebellar disease than of the other localities. Russell does not value optic neuritis as a local diagnostic sign as much as formerly, though it is still of importance. In cerebellar tumor it generally appears early, is severe and attended with marked swelling of the discs. An inequality in the two sides points rather more to the cerebral than to cerebellar lesions. Alteration of the visual field is not significant of frontal or cerebellar tumors, and hemianopia is rarely noted in connection with those of the thalamus. It may be due to optic neuritis as well as to cerebral disease, and this should be kept in mind. Anesthesia, if present, would favor thalamic rather than frontal or cerebellar lesions, as it might occur from implication of internal capsular fibers. Cerebellar disease may cause paralysis of ocular muscles by pressure on the cerebral nerves, the sixth more frequently than the third, or it may be by secondary implication of the pons. Ocular paralysis is not apparently common with frontal lobe tumor except as a result of general intracranial pressure. The muscles most likely to suffer are the external recti, causing convergent squint. Conjugate deviation away from the side of the lesion, due to a simply irritative lesion of the eye muscle cortical center has been seen in connection with the frontal lobe tumors, but conjugate deviation toward the side of the lesion from paralytic injury of these centers is rare with these growths. Other slight ocular muscle defects, such as slight impairment of upward movement, etc., have been met with with frontal tumors, but their significance is not quite clear. Ptosis has been observed as a late symptom of thalamus tumors.

Washington, D. C.

Health of the District.—The report of the health officer for the week ended April 22 shows the total number of deaths to have been 95, of which 52 were white and 43 colored. There were four deaths from cerebrospinal meningitis, 2 from diarrhea and 1 each from diphtheria, measles and whooping-cough. At the close of the week there were 30 cases of smallpox, 19 of diphtheria and 37 of scarlet fever under treatment.

Bacteria in Milk.—The members of the special committee of the medical society, S. S. Adams, G. M. Koeber and E. A. de Schweinitz, have been studying the bacteriologic qualities of cow's milk used in the District. Recent reports of the results in April and May, 1898, and January, 1899, show that of 31 samples of milk secured at random from dairy wagons of the city, 1 showed 4000 bacteria per c.c.; 1, 2500; 5 between 10,000 and 15,000; 6 between 30,000 and 50,000, and the remainder from 50,000 to 150,000 per c.c.

Central Dispensary and Emergency Hospital.—The annual banquet of this institution took place on April 27. The six members of the attending staff were present, with thirty-one members of the assisting staff. At the annual meeting of the trustees, held April 28, Drs. J. Ford Thompson, D. W. Prentiss and H. L. E. Johnson were elected for three years as members of the attending and consulting staff. Miss Eva Simonton, superintendent of the hospital and nurses' training-school, has resigned her position and will make an extended tour in Europe to make a special study of hospitals and training schools.

The Public Service.

Movements of Army Medical Officers under orders from the Adjutant-General's Office to April 27, 1899.

Chas. L. Baker, acting asst.-surgeon, from the 2d army corps, Camp Mackenzie, Augusta, Ga., to Washington, D. C., reporting by letter to the surgeon-general.

Geo. M. Bradfield, acting asst.-surgeon, from Washington, D. C., to New York City, for assignment in the Dept. of the East.

Chas. Browning, acting asst.-surgeon, from New Orleans, La., to Havana, Cuba, for assignment in the Div. of Cuba.

Chas. R. Greenleaf, colonel and asst. surgeon-general U.S.A., from Washington, D. C., to Savannah, Ga., to superintend the sanitation of the camps near that city.

Edwin P. Hayward, acting asst.-surgeon, from Washington, D. C., to San Francisco, Cal., for assignment in the Dept. of California.

Randall R. Hunter, major and brigade surgeon Vols., sick leave granted.

Wm. L. Kneedler, major and brigade surgeon Vols. (captain and asst.-surgeon U.S.A.), honorable discharge from the volunteer service to take effect June 30, 1899; relieved from duty in Pinar del Rio, Cuba, to report to his proper station, West Point, N. Y.

Ira B. Ladd, acting asst.-surgeon, from Manila, P. I., to San Francisco, Cal., reporting to the chief surgeon for annulment of contract.

Clarence H. Long, acting asst.-surgeon, from Gainesville, Ala., to Havana, Cuba, for duty in the Div. of Cuba.

Thos. C. McCleave, acting asst.-surgeon, from New York City to San Francisco, Cal., for duty in the Dept. of California.

Sidney J. Meyers, acting asst.-surgeon, former orders amended so as to direct him to proceed from Camp Columbus, Havana, Cuba, to Savannah, Ga., thence to Louisville, Ky., reporting by letter to the surgeon-general.

Alex. Nettleroth, acting asst.-surgeon, from Matanzas, Cuba, to Ft. Thomas, Ky., reporting by letter to the surgeon-general.

William W. Quinton, captain and asst.-surgeon U.S.A., leave of absence granted.

M. W. Rainold, acting asst.-surgeon, from Savannah, Ga., to Havana, Cuba, for duty in the Div. of Cuba.

Frank Roberts, acting asst.-surgeon, to proceed to Marshall, N. C., reporting by letter to the surgeon-general.

Edw. P. Schreiner, lieutenant and asst.-surgeon U.S.A., from Plattsburg Bks., N. Y., to San Francisco, Cal., for duty in the Department of California.

Movements of Navy Medical Officers.—Changes in the medical corps of the U.S. Navy for the week ending April 29, 1899.

P. A. Surgeon G. H. Barber, detached from the naval academy May 1, and ordered to the "Monongahela."

Asst.-Surgeon R. C. Holcomb, detached from the naval academy May 1, and ordered to the "Monongahela."

Marine-Hospital Changes.—Official List of Changes of Stations and Duties of Commissioned and Non-Commissioned Officers of the U.S. Marine-Hospital Service, for the seven days ended April 27, 1899.

Surgeon Preston H. Bailhache, granted leave of absence for thirty days on account of sickness.

Surgeon W. A. Wheeler, granted leave of absence for twenty-seven days from June 4, 1899.

Surgeon C. E. Banks, to proceed to Vineyard Haven, Mass., New York City, and Baltimore, Md., as inspector.

P. A. Surgeon W. J. Pettus, to report to chairman of board of examiners at Washington, D. C., on May 16, 1899, for examination to determine fitness for promotion.

P. A. Surgeon G. M. Magruder, to report to chairman of board of examiners at Washington, D. C., on May 16, 1899, for examination to determine fitness for promotion.

P. A. Surgeon J. J. Kinyoun, to report to chairman of board of examiners at Washington, D. C., on May 16, 1899, for examination to determine fitness for promotion.

P. A. Surgeon J. J. Kinyoun, relieved from duty as director of the hygienic laboratory, Washington, D. C., and directed to proceed, not later than June 1, 1899, to the San Francisco quarantine station and assume command.

P. A. Surgeon C. P. Wertenbaker, to report to the governor of Virginia for special temporary duty.

P. A. Surgeon J. C. Perry, to assume temporary command of the service at Port Townsend, Wash., during the absence of P. A. Surgeon C. H. Gardner.

P. A. Surgeon M. J. Rosenau, upon being relieved from duty at Santiago, Cuba, to proceed to Washington, D. C., and assume charge of the hygienic laboratory as director.

P. A. Surgeon J. M. Eager, to proceed to Evansville, Ind., and Cincinnati, Ohio, as inspector, and to Louisville, Ky., as inspector of unserviceable property.

Asst.-Surgeon H. B. Barker, to proceed to Santiago, Cuba, and report to P. A. Surgeon M. J. Rosenau for duty.

Asst.-Surgeon M. H. Foster, to proceed to the Brunswick, Ga., quarantine station for special temporary duty.

Asst.-Surgeon L. L. Lumsden, relieved from duty as sanitary inspector on the U.S. transport "Logan," and directed to report to the medical officer in charge of the Savannah quarantine station for temporary duty.

Asst.-Surgeon L. L. Lumsden, to report at Washington, D. C., en route for Seattle, Wash.

Asst.-Surgeon Carl Ramus, to proceed to Norfolk and Portsmouth, Va., for special temporary duty.

BOARD CONVENED.

Board convened to meet at Washington, D. C., Tuesday, May 16, 1899, at 10 o'clock A.M., for the examination of passed asst.-surgeons to determine their fitness for promotion to the grade of surgeon. Detail for the board: Surgeon Chas E. Banks, chairman; Surgeon J. H. White, and Surgeon P. M. Carrington, recorder.

RESIGNATION.

Surgeon W. A. Wheeler, resignation accepted, by direction of the President, as tendered, to take effect June 30, 1899.

CHANGE OF ADDRESS.

Allen, H. H. R., from 21 W. 13th to 1320 N. Del. St., Indianapolis, Ind.
Brener, C. H., from Chicago to Colorado Springs, Colo.
Breniman, E. M., from 308 S. Robey to 642 Congress St., Chicago.
Baylis, W. F., from New Orleans to Estabutchie, La.
Brown, H. H., from 491 Dearborn to 838 N. Park Ave., Chicago.
Coen, C. M., from Chicago to Mendota, Ill.
Councill, M. S., from Odessa, Del., to Bryn Mawr, Pa.
Crume, G. P., from 240 Chestnut St. to 174 E. Chicago Ave., Chicago.
Corwin, A. M., from 691 Harrison St. to 301 Ashland Boul., Chicago.
Clements, G. E., from 757 W. Monroe St. to 398 Marshfield Ave., Chicago.
Clough, J. A., from Pepin to Spring Valley, Wis.
De Pew, F. L., from Mill Grove to Altamont, Mo.
De Vaux, F. H., from Davenport to 700 E. 6th St., Des Moines, Iowa.
Eskridge, J. H., from 831 43d to 4242 Halsted St., Chicago.
Foster, F., from Park Hotel to Protestant Hosp., Columbus, Ohio.
Goetsch, G. A., from 857 W. North Ave. to 103 State St., Chicago.
Gooch, W. H., from Goldsberry to Elmer, Mo.
Hegele, H. W., from 697 Jackson Boul. to 201 Lincoln St., Chicago.
Hilliard, T. R., from Chicago to Eau Claire, Pa.
Jacobson, T. T., from 306 Perry to 841 Woodland Ave., Cleveland, Ohio.
Jones, E. A., from Baltic, S. D., to Ft. Dodge, Iowa.
King, T., from Wingham, Ontario, to Hughes Bldg., St. Joseph, Mo.
Knowlton, C. D., from 18 Hancock to 574 Warren St., Roxbury, Mass.
Kay, A. E., from 1707 Harrison to 1481 Monroe St., Chicago.
Long, H. E., from County Hosp. to 158 W. 3d Ave., Denver, Colo.
Love, L, F., from 4107 Chester Ave. to 826 S. 49th St., Philadelphia, Pa.
Lyman, T. P., from 2159 Adams to 2124 Wilcox St., Chicago.
Lewis, Denslow, from 217 53d St. to 5100 Madison Ave., Chicago.
Moore, F. D., from 430 Claremont Ave. to 411 S. Oakley Boul., Chicago.
McKivitt, W., from St. Louis, Mo., to Milwaukee, Wis.
McElfresh, C. H., from St. Louis, Mo., to Dawson, Ill.
Monash, B. F., from Des Moines, Iowa, to 36th St. and Vincennes Ave., Chicago.
McGauran, G. D., from New York City to Lawrence, Mass.
Means, C. S., from Philadelphia to Towanda, Pa.
McLaren, J. L., from Santa Barbara, Cal., to Saginaw, Mich.
Prioleau, W. H., from 242 W. 43d to 31 W. 61st St., New York City.
Porter, J. W., from Atlanta, Ga., to 316 Sheely Blk., Omaha, Neb.
Potter, J. Y., from Chicago to New London, Wis.
Ramsey, F. P., from Chicago to Rapid City, Mich.
Reece, W. C., from St. Louis to Elvins, Mo.
Strohecker, S. M., from Chicago to 319 Franklin St., Reading, Pa.
Smith, W. F., from Chicago to Bippus, Ind.
Southall, P. T., from Amelia C. H., to Williamsburg, Va.
Straw, E. E., from Vinita, Ind. Ter., to Masonic Temple, Ashland, Wis.
Sharp, J. L., from New Orleans to Furrh, La.
Valentine, F. C., from 242 W. 43d to 31 W. 61st St., New York City.
Van Camp, J. E., from Plainfield to Carlisle, Pa.

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Original Articles.

TREATMENT OF ACUTE RHEUMATISM.*

BY HENRY B. FAVILL, M.D.

CHICAGO.

The task of discussing the treatment of acute articular rheumatism, as a climax to this exhaustive discourse, is inevitably rather thankless. Decided convictions as to the successful and satisfactory therapy, I have not. Too many times has experience contradicted and reversed previous conclusions to permit me to hold dogmatically to lines of procedure at all inflexible. Too thoroughly ground in upon me are the doubts and disappointments of clinicians, to allow me to harbor the hope of authoritative routine.

What I have to offer is a tentative and provisional interpretation of accumulated experience, which seeks to harmonize obvious conflicts in the line of advance of investigations in this field. The history of the subject is full of interest. The frequency of occurrence and ease of diagnosis have made this an inviting field for therapeutic measures. The consequences have, as usual in such circumstances, been more or less disastrous. The number of plans and agents which have traversed the scale from favor to disfavor must create the impression that treatment has been in the past unsatisfactory. That such is the fact, the therapeutic nihilism of many close observers abundantly evinces. The subject, however, is not for such reasons barren.

Without undertaking to deal with the detail of development of this subject, I wish to refer to the various points of view heretofore held, and to comment on the tendencies of treatment following such outlook.

With noticeable uniformity the more or less imperfect groupings of symptoms which have been called rheumatism have been attributed to altered conditions of the blood. The conception of constitutional character is quite likely most natural; in view of the clinic behavior of the disease, it would indeed be difficult to long regard it as local.

Morbific influence generally located in the blood has been accepted as at least a fixed factor in etiology. The genesis of the morbid material will afford endless discussion.

Only so far as it underlies therapeutics need I enter that territory. The earlier history of treatment shows at various times divers theories as to the nature of the poison. Removal, neutralization, or antagonism of the morbific substance distinguished the serial steps in the evolution of treatment.

Almost uniformly before about 1860, the measures of treatment were depurative: bleeding, catharsis, diaphoresis, emesis, blistering. Each of these measures has abundant testimony to show its value at some point. The grand result, however, as viewed from this distance must be regarded as at least questionable. On the whole, I believe patients were better untreated.

The next advance in practice is marked by the utterance of the lactic-acid theory, whose corollary was the alkaline plan of neutralization. Upon this territory therapeutics rested for a considerable period, and with distinct advantage and permanent improvement in method. It must be said, however, that the acid theory has not been substantiated, and that the general improvement in results must have another explanation than that implied at its adoption.

Then ensued the period influenced by Trousseau, as usual, most observant and sound. His dicta are to-day cardinal: "No case should be treated upon a predetermined routine." "Avoid congestions of the encephalon." "Beware the anemia which follows overuse of alkalies."

Then followed the period in which Flint was the conspicuous light. Close judicial observations of the natural history of the process without treatment, conducted by him, served to abruptly correct the theories of specifics. His conclusions are fundamental as a basis of comparison of various medicinal plans.

Soon followed the introduction of the salicyl element in various forms. In this was great promise, and its early history was such as to encourage the hope for a specific. That this hope has not been fulfilled does not belittle its value nor gainsay the fact that it, of all the drugs at our command, is the most efficient.

That the obviously imperfect compass of these theories may still within its limits have been sound, we can not dispute. The scope of such views is too limited to harmonize with advancing knowledge, and the deeper levels of causation must be explored. The more intricate reactions of physiology and biology will of necessity be invoked to clear up this obscurity. We are not materially nearer to a determining cause than our predecessors, but the lines upon which our progress will occur are better determined and the points in controversy more defined.

Have we to deal with a local or general condition? Mere multiplicity of lesions does not settle that point, nor do the whimsical shifts of site. The preceding essays, however, have clearly set forth the reasons for regarding it as constitutional. Next, is it septic or toxic? If toxic, is it from invaders, or is it autotoxic? In this field controversy must occur, and the issue can not fail to be momentous, especially as bearing on treatment. We must sharply discriminate between true sepsis, the manifestation of pathogenic germs in the tissues, and intoxication as an absorption from septic development in the intestinal tract, or other external site. And again, we must sharply discriminate between toxins from such infective sources, and toxins of metabolic origin.

The territory which must be examined to clear this obscurity is broad. We have little demonstrated knowledge upon which to found a pathology. Analogy and inferential conclusions are, on the whole, strong, and our views of the process are not seriously discordant with the past.

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*Read before the Chicago Society of Internal Medicine, April 27, 1899; vide Journal, February 11, p. 304.

A comprehensive view of this subject involves various postulates. To begin with, rheumatism is not of necessity arthritis. A glance at the clinic manifestations of childhood makes that evident. Endocarditis, chorea and arthritis are the trilogy of the rheumatic picture in youth, and in that relative order of frequency. It is not competent for me to here contend for this, as it seems to me, clear association of clinic conditions.

Could anything more strikingly illustrate the complexity of the problem of treatment? What have these in common, and where is the point of divergence which determines their various aspects?

Is it not a mistake to regard them as sequential? Is either especially the lesion of rheumatism? Are they not all clear expressions of the rheumatic state, infection or intoxication, the determining factor of whose morphology has not been made apparent?

It is difficult to separate and clearly define the various rheumatisms. Whereas the typic examples are well enough defined, the shadings and graduations, especially in the joint manifestations of the adult, are by no means simple of distinction. It seems to me it must be recognized that a certain kinship exists between the arthritis of acute rheumatism, and the various forms of chronic and recurrent joint and muscle morbidity, whose classification will range from subacute muscular rheumatism to typic gout. What this kinship is may well receive our attention.

How the characteristics common to the class become modified to present acute articular rheumatism, is the question for whose solution is awaiting the true therapy of rheumatism.

One need not cite too extensively the common features. Let us but consider the uniformity with which the group is associated, on the one hand with gastro-intestinal vice, and on the other with hepatic default. That there is a more or less definite association of type with each of these visceral conditions, I believe, but that is here beside the question. Is it sound to recognize the association, and may we consider the sequential, if not the causal, relation established?

My belief in this would constitute my second postulate. I recognize the relation as one of intoxication, either derived from the intestine, by absorption of noxious products there developed, which process should be called autotoxic, or an intoxication engendered in the process of defective transformations of food after absorption, especially in consequence of hepatic failure, which I would distinguish as metabolic. Upon this broad territory we find arranged the changeable pictures of joint, muscle and nerve maladies, and from this foundation we may erect specific structures of disease, which result from the introduction of one or many new etiologic factors.

It is forced upon us that the behavior of acute rheumatism is like that of the other infections. All new light seems to emphasize that view. Nevertheless, the underlying conditions of autogenetic intoxication must be recognized as of fully co-ordinate influence. I dwell upon this, because I consider that it is the side of the problem to which the therapeutics can bring some measure of correction. To be sure, the same relation may be assumed in some degree as to other infections, but by no means with the same directness. The clinic relationships in the rheumatic group are striking. Take for example tonsillitis, for the moment not questioning as to its exact type. Assume, if you like, as is argued, that it is the gateway of infection that may determine rheumatism. Is it not always associated with a pronounced biliousness, and is not biliousness a pre-existing intoxication? Though difficult to demonstrate, I am disposed to think that the line between tonsillitis and an attack of rheumatism may be determined by the relief of the biliousness, hence my emphasis of the underlying toxic state.

In the early stage of acute arthritis, the prime consideration is the relief of pain. The graphic description given in the earlier part of this discussion (see Journal, pp. 304 et seq.) can but demonstrate the destructive effect of this process upon the nerve centers. The logic point of therapeutics, however, is elimination. I have no doubt as to the influence upon duration and complications of depurative measures. Fortunately the efficiency of our most valuable drug is in both of these directions.

The salicyl element, particularly in the salicylate of soda, is, in rheumatism, par excellence, an analgesic. In many conditions besides rheumatism it is a pronounced eliminant. Is not its superiority over other analgesics due to this fact? I can not accept the theory that it acts in rheumatism as an antiseptic. I am inclined to think that its especial value, over, for example, the coal-tar group, lies in its influence upon destructive metabolism, the promotion of which must underlie elimination. Thus is grounded my belief in salicylate of soda in the early stages of rheumatism, given in profusion while necessary to relieve pain; more moderately when the effect is directed toward elimination; but given to its effect, almost without regard to dosage, though for brief periods. Its heroic pressure, for long periods has properly fallen into disfavor.

What can be considered a limit as to amount is hard to say. One to three drams, however, in twenty-four hours, is perhaps a fair statement. This limit is determined by the relief of pain. Other analgesics will occasionally answer. I have seen the pain of acute rheumatism cut short by a single dose of antipyrin. As a rule, the coal-tars are a disappointment, and not safe in large quantities. Exceptionally, both the salicylates and coal-tar products are not well borne, especially by reason of cerebral manifestations, which are disquieting. Under such circumstances pain must be relieved, and if necessary by opium in some form. Pain, however, may be much palliated at times by local attention; warmth, counter-irritation, immobilization are, singly or combined, indicated.

Whether to irritate by blister, liniment or cautery, will depend upon the type of the case in hand, though generally speaking, the cautery is most efficient. It is, on the whole, not often that such measures are necessary. Warmth to the parts involved, and reasonable attention to the general warmth of the patient, must be regarded as indispensable. So far as I am informed, the new process of extreme dry heat is not of value in acute febrile conditions.

As a rule immobilization of a joint, even in the acute stage, will afford appreciable relief. Plaster of Paris is our best agent, because of its permanence and cleanliness, though not at all times practicable

Being not a familiar resort, its use in such circumstances is rather slow of adoption, but its value is undoubted.

Much of the acute rheumatism has not severe pain, and in most cases it is relieved within a few days. The conditions then become asthenic and pursue a tedious course, wherein the bodily depression is gradually augmented by an anemia of toxic origin, while the local manifestations are likely to be complicated by more or less trophic change. From this point the treatment is full of perplexity. The insidious effects of the specific toxemia become indistinguishable from the autotoxemia, which I regard as more or less constant.

The low fever, the grumbling joints, the deteriorated blood, form a familiar picture to which are added various irregular manifestations of toxemia, as urticaria, erythema, renal complications, etc., and not infrequently at this stage an outbreak of the disease afresh, in the heart. What to do as these phases pass along, to prevent or mitigate the dangers which we know to exist, is always a problem. Intestinal foulness is a constant feature of this stage; hepatic torpor is an important factor in determining this foulness. Elimination is the watchword, by skin, kidneys, intestines, and by liver. Not only must no avoidable accumulation be permitted. but the activity of the emunctories must be invited.

It is during this period of intoxication without pain that the alkaline treatment becomes most useful. Why, I can not say. Unquestionably it promotes *final* excretion. To what extent does it promote the processes which necessarily precede excretion? The value of alkalies in many toxemias, even those strictly of metabolic origin, is well known. That this value lies in the neutralization of acid, is open to doubt; that its influence is in promoting elimination, can not be made clear. But there is no doubt of its value, given boldly in many conditions of the later stages of the disease. It is possible to abuse the method. Trousseau pointed out the objectionable anemia which too much alkali induces. The use of alkalies should not be uninterrupted, nor should the current blood state be ignored. Along this line also, the phosphate of sodium is of use. Given in dram doses in plenty of hot water, its customary influence upon the liver, and the general improvement in intestinal conditions, are most effective in certain cases.

Mercurials, which were the standby of our forefathers, are on the whole not satisfactory. If given, however, my experience would lead me to prefer occasional pronounced effects, rather than the sustained effect which I seek in other conditions.

Of all questions involved in the therapeutics of rheumatism, the greatest is: Can we influence by treatment the tendency to the development of grave complications, particularly in the endocardium? My personal observation does not lead me to a conclusion on this point. My hospital experience does, however, lead me to great distrust of the conclusions deduced from the hospital records, commonly cited in this argument. I need hardly emphasize the great inaccuracy of such data in general. Hence the statistic presentation of the case, which is not only discordant, but presents upon each side variations of a small percentage, I am not at all disposed to be guided by. Able men declare that the heart development is less likely under the salicylates. As able men declare the alkalies have the same protective power.

Logically, if the rheumatic poison, no matter what its source, is at all antagonized by either of these plans, the endocarditis and pericarditis, which are not complications, but co-ordinate developments of the disease, will be influenced by either in proportion to its efficacy. Personally, I believe: 1. That the selection of remedies should not be by routine, but according to the type presented. 2. That the cases will be appropriate for one or the other treatment. 3. That the cases with pain are best started upon the salicyl treatment. 4. That most cases are better, after the subsidence of pain, upon an alkaline treatment. 5. That the usual plan, recognizing the value of both salicin and alkali, of combining them in treatment has the disadvantage of exhausting one's resources, as neither should be continued indefinitely.

When the heart complications do occur, the plan of procedure is not usually materially modified. The indication is for quiet. Bodily quiet, cardiac sedatives, vascular relaxation, constitute our indication.

Morphia and aconite are the best and safest cardiac sedatives. Veratrin is very valuable, but very potent. These, when exhibited, usually provide all the vascular relaxation necessary. However, at times more is needed. Carbonate of ammonium, iodid of potassium, nitroglycerin, are all of great service in reducing blood-pressure, and hence their favorable effect upon the circulation, too often regarded as heart stimulation.

The tendency occasionally manifested to congestion of the encephalon must be regarded. Long ago, Trousseau argued against quinin on this ground. Later it has come to be rather accepted that the salicylates must have similar restriction. General principles apply. We all hesitate to further congest a smouldering encephalon. The nerve manifestations are our only guide. These may mislead, but we have no better.

If the symptoms be interpreted as indicative of cerebral irritation, the salicylates should give way to the alkalies.

A mild grade of nephritis is very common in the course of rheumatism. It is rare that it is significant, in its recent development, but its treatment should be, if possible, alkaline.

Frequently cutaneous eruptions come and go in the course of the disease. They need perhaps no treatment, but the effect of treatment upon them ought to be instructive as bearing upon the coexisting toxemia. For example, one sees occasionally repeated crops of hives. It is not without its significance, that the same remedy that is efficacious in general is also so here.

Pilocarpin is almost a specific for this condition. May it not be that this stimulation of pancreas has a more than casual importance in this question? I am disposed to think it is another item of value in the determining of the part played by intestinal vices.

Concerning dietetics I care to say little. When one has taken into consideration the peculiarities of the intestinal and hepatic conditions that may be present, and has attempted to proceed in accordance with the general proposition that infectious processes are usually overfed, he finds himself reduced to a milk and farinaceous diet, and, I believe, on the whole more safely so. That more elaborate methods become necessary in the recuperation is hardly for me to discuss.

There is no doubt that the treatment of rheumatism is to only a limited degree curative, though abundantly palliative. The average duration has not been materially affected by any so-called plan.

This does not warrant inactivity in the premises. Skilful use of the means at hand is imperative. It is incumbent upon one to know their various relations, and then to adopt as a guiding principle Trousseau's rule: "No case should be treated by predetermined routine."

Right in the face of this sage advice, and while accepting it fully, I venture to outline a routine, which I would apply to a typic case. Inasmuch as one may never see a typic case, the stultification may not be so great.

1. Empty the bowels thoroughly, preferably with a sharp mercurial.
2. Administer salicylate of soda to its full analgesic effect; if it is not well borne by the stomach, its equivalent, oil of wintergreen. If it is contraindicated by cerebral conditions, use antipyrin, or the coal-tar preparation best adapted. If these are contraindicated, by condition of the heart or nervous system, use opium. At all events control pain.
3. As the pain is controlled by such means, aided by local measures, particularly heat and immobilization, gradually draw away the salicylate element and saturate the system with alkali, continued until the active process seems controlled.
4. Finally, while giving alkali, or after it, administer iron, providing the conditions of bowels and liver permit.
5. At all times, and incessantly, strive to promote intestinal hygiene, by mercurial, cholagogue, or saline, with the conviction that upon the processes here represented, the disease, its duration, and complications largely depend.

Impatience with the tediousness of the course, leading to ill-considered and premature activity, must be avoided.

The most discouraging behavior will swing around into satisfactory convalescence, often in the briefest period. One may well question whether his efforts have, to any considerable degree, influenced the course. When one considers the relief of suffering in the acute stages; the specific measures of treatment appropriate to the heart conditions; and finally, if he shares the view that the general toxemia is an important element, and more or less amenable to corrective measures, he will, I think, be satisfied that there is abundant scope for his most discriminating judgment.

Lavage of Esophagus.—Dr. I. Boas gives (*Die Therapie der Gegenwart*, March, 1899) the following indications for washing out the esophagus: 1, to remove foreign bodies or particles of food; 2, in all forms of diverticulæ; 3, to remove the accumulated mucus in stenosis of the esophagus, and 4, to remove the broken-down tissues of ulcerating tumors. When the esophagus is impermeable, the washing can be performed by the regular stomach-tube. When the esophagus is permeable, it becomes necessary to shut off the cardiac end of the esophagus before lavage can be accomplished. Dr. Boas has devised such an instrument. It consists of a stomach tube with an end and side opening at both extremities. To the proximal side opening is attached a tube with a funnel. A tube of a smaller caliber runs inside the whole length of the large tube, ending a little distance beyond the distal and proximal extremities of the outer tube. To the proximal end of the inside tube is attached a bulb, and to the distal end a rubber bag. After the tubes have been introduced into the esophagus, the rubber bag is inflated with air by pressing the bulb, and thus, shutting off the cardiac end of the esophagus, lavage can be performed.

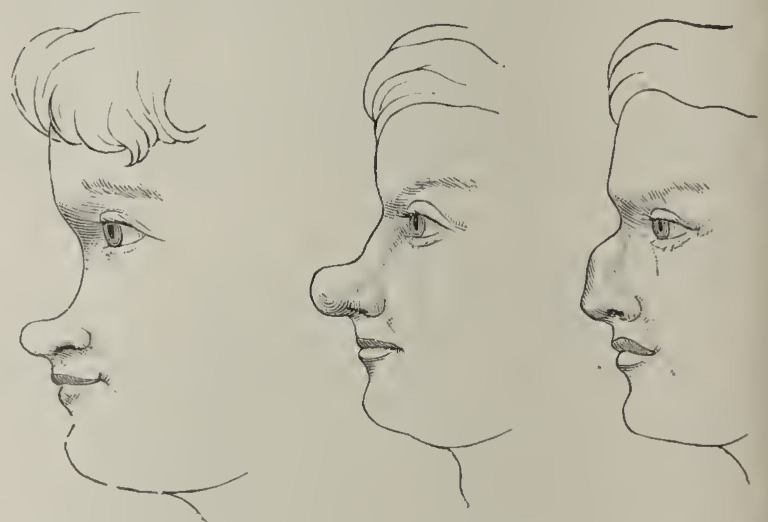
DISFIGUREMENTS OF NOSE AND MOUTH.*

AND THEIR SURGICAL TREATMENT.

BY JOHN B. ROBERTS, M.D.
Professor of Surgery in the Philadelphia Polyclinic, and the Woman's Medical College of Pennsylvania.
PHILADELPHIA.

Much more can be done for the relief of nasal and oral disfigurements than is realized by those who have not given attention to this branch of surgery. The public also is to a large extent unaware of the resources of modern surgery in these disfigurements.

Treatment is very desirable, because the deformity is often conspicuous and a source of great annoyance to the patient and his friends. In many cases this esthetic reason for treatment is, however, subordinate to the necessity of correction in order that proper respiration, proper speech and perfect mastication may be attained. In some conditions, as in complicated harelip, there may be great difficulty in nourishing the child because of the interference with suckling. Mouth-breathing, nasal intonation and imperfect mastication may give rise to mental and physica characteristics, which are often undesirable and which can in many cases be prevented or improved by a early recourse to surgical correction of the malformation. It is only necessary to refer to the dull an heavy facial expression of a child whose obstructe nose causes a perpetually open mouth, and to mention the shyness which often belongs to adolescent who have some facial disfigurement which they thin makes them unduly conspicuous.



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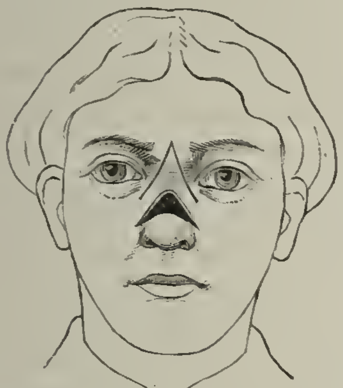
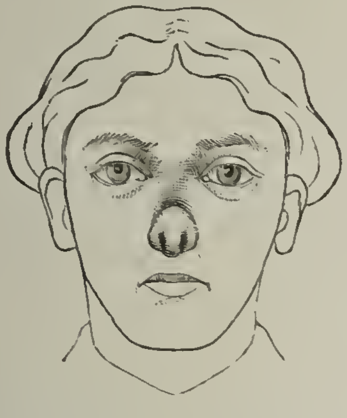
*Read at the Meeting of the Florida State Medical Association, Ap 19, 1899.

Many of the worst deformities of the nose and mouth are due to congenital defects, but injuries, syphilis, burns, the unskilful use of caustics, and gangrene following infectious diseases, are not unusual causes of the conditions under consideration.

There are many forms of disfigurement in the nose which can be subjected to surgical treatment with great satisfaction. There is the nose with the sunken bridge, due to want of full development of the bones and cartilages. This is sometimes called the saddle-back nose. A more marked deformity, of a somewhat similar kind, but made worse by the greater caving-in of the bridge of the nose and the turning up of the tip, is found after syphilitic destruction of the cartilaginous and bony interior. Bent and twisted noses are often the result of fracture received in the early periods of life. The lobe of the nose may become tuberous or bulbous from development of a new growth in its tissues, or from hypertrophy due to acne rosacea. The angular nose is produced by an abnormal development of bone or cartilage at or near the junction of the inferior border of the nasal bones and the cartilaginous nose. The Oriental type of nose seen in the Hebrew race sometimes amounts almost to a deformity. All these conditions can be modified by surgical procedures. The application of caustics for the obstruction of supposed malignant growths near the nostrils is often followed by destruction of the ala and cicatricial distortion of the upper lip. Much can be done to relieve this grave disfigurement by utilizing the skin of the cheek or a portion of one of the fingers.





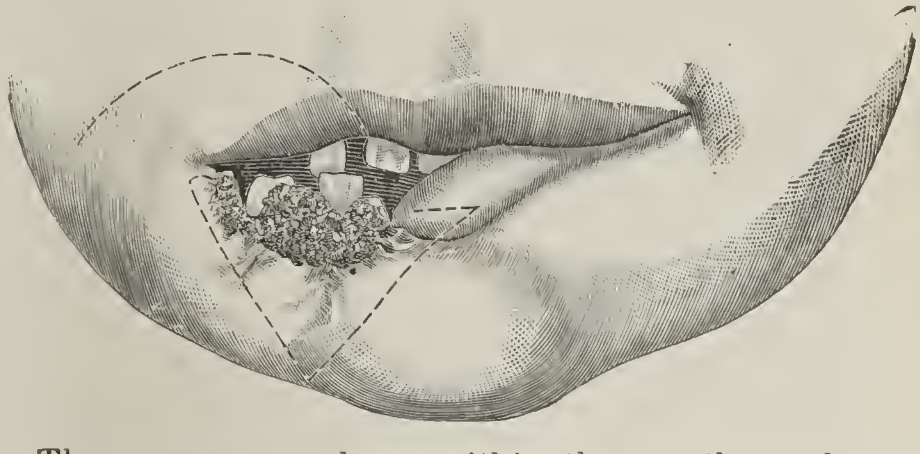
The uncomely disfigurement called epicanthus, in which there is a fold of skin extending over the inner portion of the commissures of the eyelids is not a very uncommon deformity. It requires operative treatment by the removal of a portion of the skin over the bridge of the nose.

Burns of the face and nose due to falling against a hot stove or into the fire cause sloughing and distressing disfigurement of the nose and lips. Much can be done by employing flaps from the forehead, cheeks or arm, to replace the destroyed portions.

The most common oral deformity is harelip. This condition has so many varieties, and may be combined with so many complications, such as cleft palate, protrusion of the intermaxillary bone, and flattening of the nostril, that many pages might be written on its successful surgical treatment. A somewhat similar fissure or notch is occasionally seen in the lower lip. Very rarely the fissure of a harelip extends upward through the cheek to the orbit.

The pathology of these conditions is readily understood when it is remembered that the lower part of the face is formed in the embryo by the coalescence of the branchial arches. A similar failure of coalescence of these arches may cause a lateral fissure extending from the corner of the mouth outward toward the angle of the jaw.

All of these deformities of the lip should be remedied by plastic operations during the early months of the child's life. The devices which are necessary to close these fissures and, in the case of bad fissures of the upper lip, insure proper length of the lip on the deformed side are very numerous.



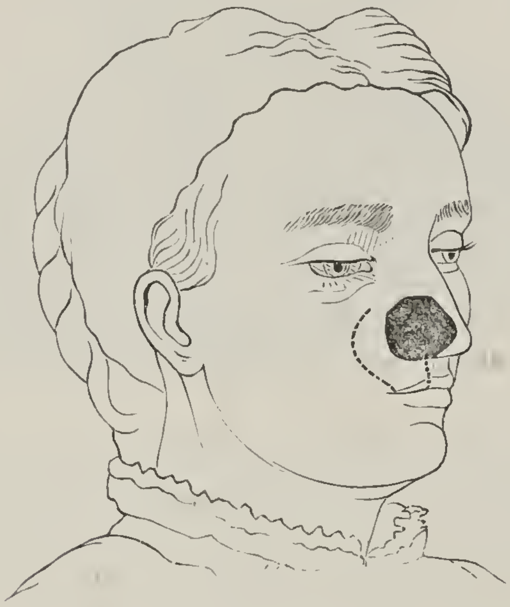
The mucous membrane within the mouth, at the base of the lip, will sometimes be so great as to cause what is called double lip. Excision of this superfluous tissue will make a very great change in the appearance of the mouth. The protruding or pouting lips, similar to those seen normally in the negro race, may often be greatly improved by an operative attack.

The destruction of a great or small portion of the lip by sloughing, from burns or the use of caustics, makes all varieties of deformity. The mouth may be almost occluded by such cicatricial contraction; and, as a result in the young the development of the jaw may be deficient because the patient is not able to masticate. In a similar manner failure in proper development of the jaw and mouth may occur from ankylosis at the temporo-maxillary joint in young children.

One of the most disfiguring conditions of the mouth is that produced by burn of the lower lip and chin, which may, by contraction of the scar tissue, cause turning down of the lip. This eversion of the lip is often so great that the saliva dribbles from the mouth, the teeth of the under jaw are continually uncovered and the mucous membrane of the lip becomes greatly thickened. If the burn has extended down the front of the neck, the chin is often pulled down upon the chest so that the head is continually bent forward.

Very distressing deformities were formerly produced by sloughing of the tissues of the cheek and lip from the toxic effect of large amounts of mercurials. These cases of sloughing from ptyalism are very rare at the present time. It was not unusual to see great loss of tissue at the side of the mouth, causing a large irregular opening in the cheek.

The methods of relieving the disfigurements of the nose and mouth, which have been thus hastily mentioned, are those which pertain to plastic surgery in all parts of the body. Some special means are occasionally used because of the particular indications to be met. In simple cases, such as uncomplicated harelip of moderate degree, the edges of the cleft are merely freshened and the raw surfaces brought together by sutures. At the present time this is done without the use of pins. Ordinary silk sutures are more satisfactory and make less scarring. In many conditions flaps are cut and moved by a sliding process into the gap which must be filled up. The normal elasticity of the skin permits a flap so cut to be stretched into a shape very different from that which it had when dissected from the underlying tissues. The skin must not be put so much upon the stretch as to make pressure upon the small blood-vessels in the base and thereby lessen their caliber so that the circulation of the flap is diminished. The surgeon will often find it necessary to take out stitches which have been inserted because he notices the pallor produced in the flap by the tension exerted by the suture. Instead of sliding a V-shaped, elliptic, or irregular flap, rotation of a flap retaining its attachment to the rest of the skin by a narrow pedicle may be more efficacious. This method of repairing gaps in the tissues is necessitated when the uninjured skin must be obtained from a point at a considerable distance from the gap to be filled.



The apposition method and that by sliding a flap are possible when the skin to be moved is near the gap to be filled, as in sliding the skin of the cheek forward to close a notch in the lips, or in lifting up an everted lower lip by making a V-shaped incision in the good tissue below. The rotation method is necessary, for example, when a portion of lower lip is to be made out of the upper lip or when the middle of the upper lip is to be turned up to make a columella for the nose. A flap may be turned upside down, as when a flap is taken from the skin, periosteum and bone of the forehead and turned downward to be pushed under the skin of the dorsum of the nose in order to build up a nasal bridge. In a somewhat similar manner a defect in the cheek at the corner of the mouth may be repaired by a flap taken from the skin of the side of the neck, which is then turned upward and thrust through a buttonhole made along the jaw, so that the cutaneous surface of the flap from the neck presents inward toward the mouth to take the place of mucous membrane.

Skin-grafting by means of small particles of skin or long shavings made with the razor is very valuable in covering raw surfaces left by the sliding, rotation or inverting of flaps. The work of the mechanic artist is sometimes required to make artificial substitutes of celluloid, rubber, or aluminum. These are then employed to take the place of missing portions of the nose or mouth, or are inserted under the skin so as to lift up the integument and give the surface the normal contour. Such substitutes are constructed after plaster-of-Paris models have been made of the deformity.

It is rather difficult to describe in a short paper the various means of correcting particular disfigurements. A few characteristic operations may perhaps, however, be mentioned as examples of the general character of this surgical work. The saddle-back nose may be improved by making an incision through the skin and slipping a planoconvex portion of celluloid under the skin so as to fill up the hollow and make the line of the dorsum of the nose straight or nearly so. The foreign body being aseptic, causes no irritation, and the incision being properly sutured gives practically an unnoticeable scar.

Another way of doing the same thing, valuable in some cases, is to separate a portion of the nasal process from the upper maxillary bone by means of a chisel introduced through the nostril. If this is done on both sides of the nose the pieces of bone may be pressed upward and forward so as to elevate the bridge of the nose; and may be held in this position unti union occurs, by pins thrust transversely under them. Increased height to the nasal bridge may be given by turning down a cutaneous flap from the forehead, or by displacing toward the middle line flaps taken from the cheeks on each side of the nose.

Another method of accomplishing the object is to turn down from the forehead a flap, consisting o integument, periosteum and a small layer of bone, and to thrust this osteoplastic flap through a buttonhole of skin at the root of the nose. It remains permanently underneath the skin, covering the depression which was to be filled. The ala of the nose may be constructed from the tissues of the cheek, by cutting a flap obliquely downward and outward from a point near the infraorbital foramen. A tip of the nose may be made by two such flaps. A portion of a finger may be utilized to replace absent nasal tissue, but the color of the skin is not apt to be quite the same as that of the rest of the nose. It is therefore usually better to use the tissue of the face when it is possible to do so.

The nasal columella may be constructed with ease from the tissues in the middle of the upper lip. The diminution in size of the lip produced by the maneuver is not objectionable, because in such cases the nose is apt to be smaller than usual and the diminution of the size of the lip gives the less prominent nose relatively greater projection. The general deformity is therefore made less conspicuous by taking from one part and adding to the other.

An angular nose is easily remedied by an incision on the bridge and chiseling away the redundant bone or cartilage. I think it is better to make the incision a little to one side than in the median line of the nose.

Twisted and crooked noses can be corrected by remedying the deflected septum by intranasal operation, separating the soft tissues of the nose very freely from their bony support, bending or twisting the nose into a better shape, and retaining it in this situation by pins or plugs.

A turned-out or everted lip is drawn into position by sliding upward a V-shaped flap from the skin of the chin, aided perhaps by the removal of an elliptic piece from the mucous membrane of the lip.

A hypertrophied lip is made narrower by cutting out a V-shaped portion of its entire thickness. Its thickness also may require diminution by excising a wedge-shaped portion extending from the right to the left side of the lip. The section removed is somewhat similar in shape to one of the lobes of an orange.

A notch in a lip is repaired by moving upward or downward the entire thickness of the lip, which is released by incisions made parallel to the vermilion border and some distance from it. It is usually possible to construct a considerable portion of one lip from the other lip, if it be intact.

When considerable portions of the cheek have sloughed away, making the mouth very irregular at one or other commissure, flaps from the cheek may be needed. If there is a large opening in the cheek at the side of the mouth, it is possible to turn up a flap from the skin of the neck so as to cover the opening. Many other illustrations of this kind of oral surgery might be mentioned, but those given are perhaps sufficient.

1627 Walnut Street.

Treatment of Prolapsus Uteri.—J. Gmeiner draws the following conclusions from a study of all the cases treated at the Prague gynecologic clinic in the five years before 1897; most of them followed to date. 1. Non-complicated retrodeviations: in case of virgins, abdominal intervention on the round ligaments; in case of married women, vaginal or abdominal fixation of the round ligaments. 2. Retrodeviations complicated with adherences: the abdominal route is the only one to be recommended; detach adherences, re-establish the organs in the normal relations and fasten the uterus to the wall. 3. Retrodeviations complicated with prolapsus and relaxed conditions in the perineum: intervention via the vagina, fastening the round ligaments to the anterior wall of the vagina, concluding with colpoperineorrhaphy,—*Ztft. f. Heilk.*, xix, 2.

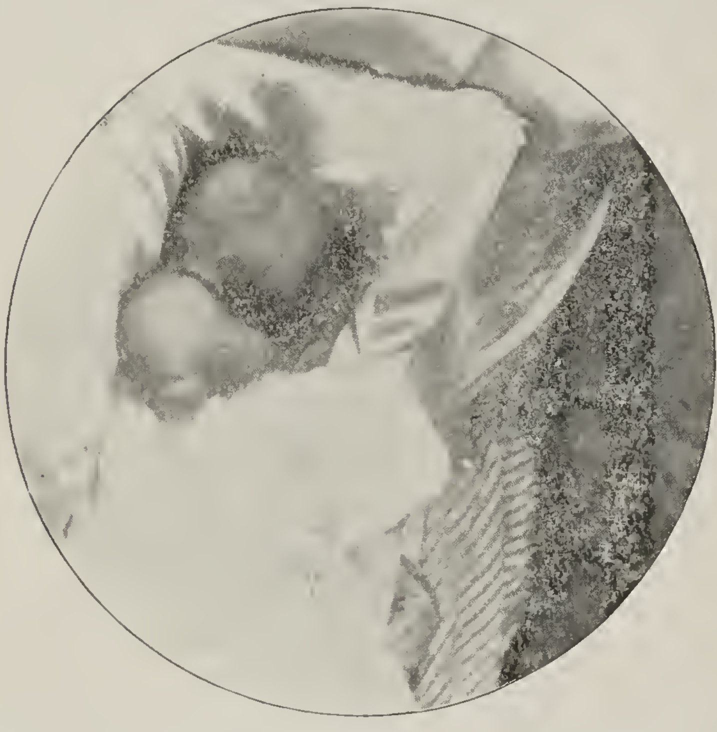
CONGENITAL ATROPHY OF CEREBELLUM.

A RARE CASE.

BY C. G. HUBBARD, M.D.
HORNELLSVILLE, N. Y.

The cerebellum is enough of an unknown country that every case that throws any light on the functions of this organ should be placed on record. While our physiologists have explored every part of the cerebrum, and with substantial unanimity have assigned to each region its work, yet their opinions as to the functions of the cerebellum are as wide apart as are the poles of the earth. Between the views of the earlier scientists, who gave the cerebellum the control over all animal motions, and those of recent date, who assign to that organ as humble a sphere of influence in the body, almost, as the appendix, there is every variety and shade of opinion. The following case, while not unique, is rare enough to be of interest:

On Aug. 14, 1898, I was called to see Mrs. M., in labor at the seventh month. She was 37 years of age and the mother of six children, five of whom were born at the seventh month of uterine life. Two of the five children are living. I found the labor well advanced, and it terminated within four hours, without instrumental aid, the child being a female, weighing five pounds and thirteen ounces, and well formed in every part, except that from the lower part of the occipital bone there hung a sac three inches long, $2\frac{3}{4}$ inches wide and one-half inch thick at the base. The sac was filled with cerebrospinal fluid and communicated with the cranial cavity through a nearly circular opening in the bone about one inch in diameter. Its upper border was on a line drawn horizontally from the lower margin of one ear to that of the other, with the head in a perpendicular position. The lower border of the opening just touched the foramen magnum, but there was no loss of substance of any part of the spine. The most dependent portion of the sac was very translucent, but it did not rupture, although some of the fluid oozed through the walls of the sac. The remainder of the head was well formed, but its bones were more movable than usual. The child was bright and active. Artificial food had to be used, as the mother had no milk, but the food did not appear to agree with it, and the child lost two pounds in weight within two months, again regaining one pound afterward, weighing five pounds when three months old. After correspondence with eminent specialists it was thought best to tap the sac and thereby lessen the pressure on the brain. This was first done when the child was one week old. Drs. J. E. Walker and C. S. Parkhill kindly aided, and the sac was aspirated and six ounces of fluid withdrawn. After the sac was emptied there was found to be quite an absence of brain substance. Fully one square inch of bone was lacking. The finger could be swept around under the bone within the cranial cavity, one-half inch beyond the margin of the opening in every direction except downward. All thoughts of removal of the sac were abandoned when the size of the opening was discovered. An antiseptic pad was applied and pressure attempted, to prevent refilling of the sac, but within two days the sac was as full as before tapping. The fluid withdrawn was highly tinged with yellow and loaded with albumin. Eight days after the first tapping, the operation was repeated and the same amount of fluid drawn off, and thereafter once a week for three weeks the sac was tapped, with similar results. After the third tapping the child lay in a semi-comatose state for two days, refusing all food, but finally rallied and became as bright as before. The fluid became gradually lighter in color after each tapping, until it looked like water, when the child was a month old. The sac became more circular in shape instead of being flattened from above downward as at first. Its walls grew thicker until all danger of rupture subsided. It was thought that the loss of so much albumin must interfere with the nourishment of the child, and as there were no symptoms of brain pressure a longer time was allowed to elapse between the tappings. After the fifth tapping the sac was undisturbed for two weeks when, on the withdrawal of the fluid again, a marked increase in the atrophy of the cerebellum was noticed. A probe was passed an inch beyond the margin of the opening up underneath the bone. All measurements of the depth of the cavity in the brain were made outside the sac, which was pushed back into the cavity, and nothing was passed into the sac but the fine aspirating-needle under antiseptic precautions. Between the sixth and seventh tappings three weeks intervened. This last operation so irritated the child that the withdrawal of the fluid was thereafter abandoned.



The head was well shaped and comely until the tappings of the sac ceased, when the head began to enlarge and present the appearance of hydrocephalus, which became very marked until December 28, when the child died, aged four months and fourteen days.

A partial autopsy was held, but no permission could be obtained from the friends to remove any portion of the brain. Over two quarts of fluid were removed from the cranial and spinal cavities. The opening into the occipital bone was centrally located directly over the foramen magnum, touching the latter at its upper margin. The cerebellum was so atrophied that its right hemisphere was scarcely half an inch in diameter, the other hemisphere a trifle larger. The cerebrum was also atrophied, but not to so great a degree. Although the meningeal membranes lined the sac throughout the whole of its extent, and consequently had been punctured seven times by the aspirating-needle, yet no evidences of meningitis could be detected by the eye.

The history of this case does not seem to indicate that the cerebellum has a dominating influence in maintaining human life. We do not say that the organ is not essential to life, but here is a child living for months with but a remnant of the cerebellum left, and yet no signs of paralysis, spasm, convulsions, loss of function, nor organic activity, in any part of the body. The head did not enlarge until the tappings were stopped. The hydrocephaloid enlargement might have taken place had the tappings continued, but the case certainly encourages surgical interference in hydrocephalus, to prevent enlargement of the head. Had there not been cerebellar disease and the consequent atrophy, and had the child been well nourished, the sac could have been amputated and the opening in the occipital bone been filled by the transplanting of bone from a lower animal, but such an operation was not justifiable with a progressive disease of the cerebellum, in an anemic child. The illustration given is not well executed, but it gives some idea of how the child looked. It is a view of the back of the head, with the child lying in the crib, and the size of the sac in relation to the head can be seen.

WOMAN.*

FROM A DOCTOR'S SENTIMENTAL STANDPOINT.

BY I. N. LOVE, M.D.
ST. LOUIS.

There is no subject to which I would rather respond than the one assigned me; indeed, a very considerable part of my life, more than twenty years, has been given up to responding in a feeble way to the needs of those represented in this assignment. I did not know until a short time ago that those for whom I speak to-night were to be present. It embarrasses me to a degree, for I am not constituted in a manner to praise and compliment gracefully in the presence of those involved. It would be impossible for me to say anything new, were I to try—certainly not along the lines of rhetoric. From the earliest ages, poets have sung of woman their sweetest songs, and orators have presented their most glowing sentences and finely-rounded periods, and I could not hope to cope in an oratoric way with those who have gone before me in the consideration of this subject, or those who have preceded me this evening in the discussion of other topics. I shall rather select to talk with you for a few minutes in an offhand, man-to-man way, on the always interesting theme of woman.

Ladies, I think the gentlemen are to be congratulated for their wisdom in having arranged for you to remain with them, which reminds me, by the way, of a friend who, detained in a similar way, prior to going home to the partner of his joys and sorrows, concluded to telephone and soften the asperities of the wifely greeting. A heavy rainstorm had arisen in the meantime, and the telephonic communication having been established, a companion asked him if he had been able to get his wife; simultaneously there came a fearful clap of thunder, the lightning struck the wire, the transmitter and our friend were knocked "blooming silly," and the latter cried out, "Yes, I've got her, that's she."

Woman is truly always interesting, herself, and able to make things interesting for us, but those who have given the subject any study will admit that when it comes to considering her from the standpoint of her disposition, her impulses, we know but little of her, for to understand is to equal; indeed, the majority of us are like the man whose little boy said to him, "Papa, did you know mamma long before you married her?" and who replied, "No, my dear boy, I did not; and we have been married a long time and I don't know her yet." But, however little we know of her possibilities, we do know that all of the best interests of humanity, all that pertains to the well-being, to the perpetuity and continuity of the race, is centered in woman. Medical men and physiologists know that with the continuing of the species, man has but little to do. He may furnish the fructifying force, but woman furnishes the material elements that go to build up the successors in the evolution of our race. In other words, the vital spark that woman receives is microscopic and infinitesimal; she it is that furnishes the life-blood that permits growth, development and the perfect new being. The product that hath been blood of her blood, flesh of her flesh, and bone of her bone is as much a part of her as either half of her body would be. When we realize this physical fact, we realize that woman makes up 90 per cent. of the whole scheme of life, and surely it is our duty to guard and protect her to the fullest, and to help her to work out to the best advantage her own salvation, for it is our salvation too. Should we discuss woman, in her entire career, from the cradle to the grave, we would find her always the same, never wavering in her loyalty to those she loves.

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* A Response to the Toast to "Woman" at the Annual Banquet of the National Wholesale Druggists' Association, at the Southern Hotel, St. Louis, Nov. 1, 1898.

Woman herself is the chief detractor of her sex, and John Oliver Hobbs—a woman by the way—has said, that every dinner, every lunch, every call where women meet is a field of Waterloo, and indeed that Waterloo begins for woman from the moment she disappoints her mother by not being a boy, and it ends—only when her dearest friend drops a wreath on her coffin. I am inclined to think the severest female critic of woman is the woman who is neglected or not appreciated. A Russian author with an unpronounceable, sneezing name said of a woman of this type that she was severe on her sex because she had never been asked for anything save a pinch of snuff.

Woman as wife is worthy of our most thoughtful study. In this connection I feel that a man is not a completed man until he gets a wife. I have bachelor friends who are good fellows, but a man has to be full to an unusual degree of red blood-corpuscles, and have a liberal development of mammary glands, full of the milk of human kindness, who does not grow more and more selfish as the years pass, if he lives as a bachelor. In southern Sweden it is the law of the railroads that the bachelor shall pay one and one-half fare in traveling; indeed, I think the bachelor should be made to pay double fare wherever he goes, and the married man should be permitted to travel on half fare, for it takes man and wife to make one. In fact, a man who is not married is only half a man, unless he can give evidence of devotion to a mother or a sister; if so, then he is entitled to all honor. But woman in her completeness, in her crystallized perfection, presents herself as mother. Of all the words of tongue or pen, there is no word so sweet known among men as the simple word "mother." No matter how that honor may have been conferred, whether in the regular way, whether according to or against the laws of God or man, the position is sacred. Poets and the literary geniuses of the world have exhausted themselves in paying tribute to woman as mother, and who does not feel that the whole vocabulary contains no word so inspiring, so comforting, so sweet as "mother"? We can not properly discuss this subject without touching upon the interests, the rights of woman, and I claim that any man worthy the name of man should be willing to grant to woman every right that she may ask, especially the right to equip herself to engage in any calling agreeable to her. But the higher class of men and women should get together more frequently and discuss seriously the best interests of woman. It is to the advantage of all concerned to help in the higher education, the complete education, of woman, commencing at the beginning and going all down the line. The best interests of woman call for that development of our school system, public and private, which will engraft manual training departments, whereby every girl, no matter what her station, will be taught in all the elements of domestic economy. In the public and in the private schools there should be a department devoted to the equipment of girls along the lines of home-making. In many parts of our country this work has been undertaken under the direction of the brainy women of the respective communities. I have an abiding faith that our high-grade women will develop this feature of school life to the fullest. While every department of work in the business and professional world should be open to woman, if she desires to enter and become a money-earner, I yet feel that the best good of humanity, and woman in particular, will be subserved if she confines herself to those departments of work which are closely related to the home. It is to be hoped that through the medium of manual training in our schools, public and private, housework, homework will be rendered so respectable that all classes of girls and young women will be disposed to engage in it rather than to enter the factory, the shop or the counting-room. While the entire business world should be opened to woman, still that kind of work which will give experience that more generously equips in the direction of home-making and child-rearing is to be preferred. Woman's normal place is that of bread-maker rather than bread-winner. There can be no question that the best work for women along these lines is that of teaching, nursing, and the practice of medicine and midwifery. The woman that is properly educated and especially trained to become a teacher, to become a trained nurse, or to become a physician is in good form for serving humanity, for advancing the best interests of the race, and in addition, the work in which she is engaged the better equips her and prepares her as a home-maker, as a mother of the rising generation. I have often thought that dentistry and pharmacy were especially well adapted to the deft and graceful hand and the painstaking mind of woman.

There is no tribute of praise too strong to give to woman. Surely one who has known her as daughter, sweet, loving, devoted and true, one who has known her as wife, a true friend, never wavering, more helpful and comforting when the clouds of adversity are near; surely one who has known her as mother, ready always to wipe away the boyish tear with the word of comfort, the word that inspired endeavor, ambition, ready to receive at the close of the day the tired, weary one, and listen to his evening prayer, surely there are no words warm enough for him to express his appreciation of woman. God only knows how many of us old boys, growing bald, and perhaps gray, hunger for a hug from that dear old mother, a chance to lean a weary, aching head upon her breast—not but that we can get comfort from our dear life partners—but the spaces we long for are filled by darling curly heads that need them more than we do.

The man that is worthy of the name of man knows that a good, pure and true woman is too good for the best man that ever walked the earth. The man who is experienced in the ways of the world knows, I venture the view, that the most unfortunate woman in the lowest realm, away down beneath the very crust of society, is better, considered from all standpoints, than the average man. The man who knows the world through and through, knows that the majority of men are poorly equipped to meet the responsibilities that are associated with domestic life. And he knows thoroughly, and to the fullest, that it is the duty of all strong, earnest, honest, good men and true, and the more intellectual ones of the world, to strengthen women along every line, to open up every possible avenue for her usefulness, and in the most generous way give her the freest chance, and the fullest praise.

There is much sentiment indulged in with regard to woman, and while music, poetry, and art are the food of life, yet marriage needs more substantial rations, and we should study to help the young of both sexes to realize this.

At an earlier hour I might have been disposed to discuss this question from a facetious standpoint, but now I am serious, for this is a really serious hour in the morning.

Time out of mind we have had woman discussed unfavorably as mother-in-law and step-mother, but as a physician, going in and out of homes for twenty years, I desire to present a plea in behalf of both the mother-in-law and the step-mother. If the men who are brought in relation to them, and the children, would appreciate to the fullest the situation of the step-mother and the mother-in-law, they would realize, as I do, that they are both better a hundredfold than is generally thought.

Woman as widow should receive our admiration and sometimes our sympathy, but she does not always do so. It has been said that the widow wears mourning from one of three motives: devotion, remorse or diversion, but sometimes as ornamentation. Speaking of the widows, reminds me of the story of a good and kindly, sympathetic, motherly old gentlewoman, who was riding down town the other day in a street-car. She saw on one of the front benches one of her sex in deep mourning, crying bitterly. Upon a kindly impulse she went to her and gave her her sympathy, asking her what was her trouble, and the widow responded: "Oh, I have been married three times in succession, and each time I have lost my husband, and he has been cremated, and now I am alone in the world." The good, motherly old soul gave her the words of comfort that she was so well prepared to give, and withdrew. Passing down the aisle toward her seat, she saw in the corner a younger, attractive woman, also crying bitterly, and she said to her: "My dear, what is your trouble?" "Oh," she replied, "I am crying to think that the lady there in front has had three *husbands to burn* and I have never had any." So it goes, woman as widow, however great her sorrow, is the subject of joke and humorous remarks.

Another type of woman that has been severely criticized is the strong-minded woman who goes out to attend to public affairs, and leaves her husband at home to rock the cradle, and look after domestic concerns. But such women should not be criticized or condemned. I claim that the woman who places her husband at home taking care of the baby knows her business, and the husband who accepts such assignment is not worthy of any higher position in life, and his only chance for moving the world lies in the fact that the hand that rocks the cradle is alleged to accomplish that heroic task.

The light and frivolous woman who blondes her hair and paints her cheeks, and who apparently cares equally for the fall of a leaf or the fall of an empire, who interests us, but whom we enjoy much as we do a headache, is better than she looks. Yes, even the coquette is a being who wishes to please, and she requires great abilities, infinite pains, and a gay and airy spirit, for she is often the "stirring element amid the heavy congeries of social atoms; the soul of the house, the salt of the banquet."

Ever and anon the woman who is extravagant and bankrupts her husband is paraded, but I insist that all women are naturally close and economic, and if they appear the reverse it is in response to the desires of their husbands, whose vanity takes the form of wanting a handsomely bedecked wife.

We have heard of the irritating, nagging wives, who harass their husbands like Xantippe worried Socrates, but I insist, as suggested by *The Philistine*, that Xantippe and those like her were wise. They knew that their husbands were lazy, lounging louts, and that they needed prodding and irritating treatment to drive them out of the house and stimulate them to proper endeavor. If Socrates had not had his Xantippe he would never have accomplished anything in the world. And probably Xantippe was loafing on her job or Socrates would not have lost his path and taken the deadly hemlock route to the happy hunting ground.

But with Elbert Hubbard I would sing the praises of the average woman, "the woman who does her work, who is willing to be unknown, who is modest and unaffected, who tries to lessen the pains of earth, and to add to its happiness—she is the true guardian angel of mankind!"

No, woman, taking her all in all, is equipped in a more generous way for meeting her obligations, arising to emergencies and changed conditions, and has a greater capacity for suffering, more courage, a hundred times over, than man ever had. Nobody knows this better than a doctor. If the average man had to meet one-half the amount of pain and danger to life that woman faces when she faces maternity, there would soon be a termination of the race.

Let us then hope that woman, and particularly the American woman, will go on from day to day and from year to year, advancing, developing along the lines of education and physical perfection, until she will be even nobler and stronger than she is to-day. But, wherever we find her, we will find her a home-builder, a home-protector. As a bread-winner she is graceful, successful, but as a representative of the home interests she is ideal. She knows now, as she never did before, that no beauty equals the beauty of health, and this is best secured by following proper rules of diet, hygiene and exercise.

I hope I will be pardoned for entering a protest here against the bicycle for woman, unless it can be used with extreme caution. The wheel is like alcohol —good in some cases if used very temperately, but the trouble is that the temptation is great to use both in excess, particularly on the part of emotional and impulsive people. Good, old-fashioned walking is a superb exercise, but the game of golf, from every standpoint, is unsurpassed. Speaking of woman and the bicycle, I sometimes think, when I see a bifurcated bloomer on the wheel, that the fool-killer neglects his business. However, if most of us were to be elected to the office, full performance of duty might force us to commit suicide.

Drummond said truly: "The greatest thing in the world is love," and woman is to be envied for her power and ability to love. Rule out of life, love, and it is a barren waste. The greater the love, the greater the life. Surely then, woman—capricious, coy, whimsical and hard to please, possibly, when being fondled and dawdled in the lap of luxury—when the emergency comes that tries men's souls, has her highest pleasure in loving, in working, living, suffering, dying, if need be, for others. The love of money is probably the root of much evil, the want of money the root of much more, but the lack of love is the very warp and woof of most of the evil and misery woven into the lives of men.

A cultured, sweet, pure, gentle-voiced, companionable, congenial, loving, lovable woman is better to be gained than great riches. "Better than fame, serener than hope, she is more than love, she is peace. She is unforsakable, and will never forsake." The man has never lived, but simply existed, who has never indulged in the luxury of the love of one such woman. And if he possesses her as "sweetheart-wife" the days and nights of his life (no matter what else may come) are spent in straying through imperishable beauties, through dawns surrounded by candors of hope; the breath of babbling brooks caresses him; he is enveloped in the sorceries of a sempiternal spring; the winds, articulate with song, choir to the skies ululations and messages of praise; each vista holds a promise; the horizon is a prayer fulfilled; he sees grief collapsed and joy enthroned, and from bending bough and every bird and blossom, he catches the incommunicable words of love.

"More light; more light," said Victor Hugo. Humanity needs to be fed on light, and as woman is he union of sweetness and light, representing the higher life, we must needs help her in her highest possibilities. Woman, the light of the home, the ight of the world, each and every one of us can say, where'er we may roam:

> Lead kindly light
> Amid the encircling gloom;
> Lead thou me on.
> The way is dark,
> And I am far from home;
> Lead thou me on.

Yes, motherhood represents the purest, sweetest ove in life, and it is the maternal instinct which laces woman higher than "the idle angels who loaf round the throne."

Let us have a care then, that in the coeducation of omen with men, and in welcoming them into all the usy realms of this work-a-day world, we do not train hem away from their own best good. It was this aternal instinct which inspired many of our brainy, omanly women to noble endeavor along the lines of ormal school, kindergarten, and other educational ork, which means more for the betterment, the building of American homes than all the "suffrage riekers" who ever mounted the rostrum, and who couldn't even let an echo have the last word. An old-fashioned friend near me says, "What about woman suffrage?" Why, woman suffrage is all right if woman wants it; and if she wants it, she'll get it, for she always gets what she wants; and if she becomes a voter, you may be sure that she will vote gracefully and well. Whether a voter or not, she will always be, as daughter, sweetheart, wife, mother, our best friend, and go on advancing in knowledge and power, and ever be the queen of the home, and stand for the good, the true and the beautiful, enunciating the sentiment:

> Let man rule the world,
> 'Tis nature's plan,
> While woman, by her sweetness,
> Governs man.

Yes, let woman go on, aspiring to be a home-maker, home-keeper and bread-maker, rather than law-maker or bread-winner, in the future as she has in the past, writing over the portals of the home wherein she presides, "Let all who come within leave care behind. When ye enter here, ye enter peace." Let her have carved over the fireplace in the living-room of her home the legend, as suggested by James Lane Allen in his beautiful little brochure, "The Aftermath," "Good friend, around these hearthstones speak no evil word of any creature."

And now, in closing, let me present another thought from Elbert Hubbard: "Here's to us all; may we earn a little, spend a little less; be kind; be honest; be true; have a few friends, and these without capitulation, who take us as we are." Here then again, last and best of all, is to woman, the queen of our lives; she is responsible for our being here; she makes our staying here endurable; she is always, as comforter and helper, ready to soothe the pillow of suffering on which we lie, and as we drift out on the dark and unknown sea that rolls around all the world, we can feel that 'twas woman only, God bless her, that made life worth living.

CEREBELLAR TUMOR OR MASTURBATION?

BY RICHARD C. CABOT, M.D.

PHYSICIAN TO OUT-PATIENTS, MASSACHUSETTS GENERAL HOSPITAL, BOSTON, MASS.

H. R., 15 years old, a native of New Brunswick, entered the Massachusetts General Hospital, Sept. 14, 1893. His family history showed a decided tubercular taint; two brothers had died of phthisis, one of meningitis, and one in infancy from unknown cause. Two members of his mother's family and three members of his father's also died of phthisis. His parents, five brothers and two sisters are living and well. Until the present illness, he had always been well and had had no children's diseases. A year and a half ago a weakness and awkwardness with the right hand were noticed; six months later, frontal headaches began to trouble him at school, and he seemed weak and nervous. He was taken out of school, but without relief to the headaches; cold and draughts seemed to increase the pain; the headaches now came on about once a week and lasted a day. His brothers are also subject to headaches.

Eight months ago, spells of retraction of the head began to appear, with some arching of the back, but without stiffness of the muscles. The attacks lasted from one to two hours, were accompanied by headaches, and were relieved by application of warmth.

At this period the patient began to seem less bright and the headaches came oftener. Three months ago he began to have trouble in walking, would stagger as if drunk, and several times fell while walking. His staggering was mostly toward the right. This difficulty and the mental dulness have progressively increased, and his hand has begun to tremble in writing; he now can not drive a nail as he used to do. There have been no gastric symptoms until two months ago, when vomiting began, coming unexpectedly, not preceded by nausea, and without any constant relation to the taking of food. This came once or twice a week at first, but has steadily increased in frequency since. Eye symptoms began about three weeks before he entered the hospital, his eyes growing steadily weaker so that he can no longer read. Double vision has been noticed several times in the last month, lasting a few minutes each time. During the attacks of retraction of the head, above mentioned, his eyes look glassy and unnatural. His hearing is very good, but roaring in the ears has been complained of lately. During one of the attacks of vomiting and retraction of the head, about three weeks ago, he was at times "out of his head" for most of one day, and, to his parents, seemed to be unconscious for a few minutes. During such spells he always breathes quick and hard, and gets dark in the face. No true convulsion has been seen at any time, no vertigo complained of; his appetite is good; his bowels regular; he sleeps a great deal and very heavily; has been growing fast and getting fat for the past year. His disposition is becoming irritable and faultfinding.

Physical examination.—When seen at the hospital he was a well-developed and well-nourished boy, bright looking, and with rosy cheeks; his pupils large but equal, and reacting normally. The eye-muscles moved normally; the tongue came out straight, and there was no facial asymmetry; two small glands were palpable over the right clavicle; there was a cog-wheel respiration at the top of both lungs; the thorax was negative; the muscular power was good and equal on both sides, but there was marked ataxia of the right arm, and the abdominal reflexes were less marked upon the right; knee-jerks were increased; the sensation was everywhere normal, the liver dulness reached up to the fourth interspace, the lower border not felt; the abdomen wholly negative.

He stayed a week at the hospital, taking extra diet, hypophosphites, cod-liver oil. Once during his stay, it was noticed that the head was somewhat retracted. It could be bent forward, but this hurt him. He was quite conscious and bright at the time, and the symptoms passed off in a few hours. There was occasional vomiting after meals. The staggering gait was very marked, but he managed to get about the wards. His urine was occasionally passed involuntarily, and at times he had trouble in starting the stream. The diagnosis of cerebellar tumor, probably solitary tubercle, was made by Dr. Cutler. He was seen in consultation by Dr. A. T. Cabot, who advised against operation, and thought he might improve under constitutional treatment. He left the hospital Sept. 21, 1893. Nearly five years later, May 20, 1898, he walked into my office, a picture of health. He now works on an express team and has not missed a day's work in two years. His most interesting statement is best given in his own words: "There was one thing I ought to have told you folks down to the hospital, but I did'nt. I used to abuse myself a lot. After I went out of the hospital I left it off, and just as soon as I did I began to get better. Now I am all right, except I still stagger in the dark, and my eyes are not first-rate." The vomiting and head retraction had ceased soon after he left the hospital. He has grown up into a well, strong boy. His right hand is still slightly weaker than the left, and he thinks his right leg is also weaker. His gait is nearly, if not entirely, normal. He reads small print well; examined at the eye and ear infirmary, June 2, nothing wrong was found in the fundus. A letter from him, received March 24, 1899, says that he is perfectly well and hard at work.

Can all the symptoms of this case be explained by the masturbation? Can a solitary tubercle of the cerebellum have been absorbed or encapsulated? So far as I know no autopsy has yet been reported, showing the remains of a healed solitary tubercle of the brain, but that such a thing is possible is certainly suggested by the like fate of tubercular processes elsewhere in the body.

SOME REFLECTIONS UPON CELLULAR PHYSIOLOGY AND PATHOLOGY.*

BY AUGUSTUS A. ESHNER, M.D.
PROFESSOR OF CLINICAL MEDICINE IN THE PHILADELPHIA POLYCLINIC; PHYSICIAN TO THE PHILADELPHIA HOSPITAL, ETC.
PHILADELPHIA.

Modern research and investigation have shed much light on the intimate nature of disease processes, but there is a good deal of virgin soil yet to be tilled. Life may be looked upon as a manifestation of the activity of the cell (or of an aggregation of cells), which, if expended in a proper manner, represents the condition of health. Perversion of this activity, through influences acting from either within or without, leads to disease; while permanent inhibition (destruction) results in death. Normal cellular activity (function) implies a proper relation between waste (catabolism) and repair (anabolism), the replacement of used-up and worn-out material by fresh nutritive pabulum, together with the elimination of the products of disintegration—normal metabolic or nutritional equilibrium. Failure in either of these processes, as well as defect in quality of the nutritive pabulum, gives rise to derangement of this metabolic equilibrium, resulting in the one instance in inanition, in the other in intoxication. The latter, besides being intrinsic, may also be extrinsic. In any event the derangement of nutrition is attended with alteration of function, which, however brought about, adds in turn to the nutritive disturbance. Cells differ among themselves in their activity and reactivity, in their affinities and antagonisms, in their susceptibilities and resistances, in accordance with qualities, properties and attributes either derived from parent cells (heredity) or acquired through the influence of environment or other extraneous factor.

Disease may thus be viewed as primarily the expression of a perversion of nutrition, with derangement of function, and also with alteration in structure. The nutritive perversion may arise from changes taking place within the body, or result from the operation of agencies introduced from without. Thus nutritive disturbance and functional derangement may result, on the one hand, from failure in the elimina tion of waste products of metabolic activity generated in ordinary amount, or the retention of such products in consequence of their generation in excess (autointoxication); or, on the other hand, from the action of poisons that gain entrance into the body in various ways (heterointoxication). Disease may be caused besides by certain physical agencies of extraneous origin, such as violence, extreme heat or cold; and as a result of the invasion of micro-organisms (infection) and the unfolding of their activity (intoxication). Physical agencies give rise to disease directly by reason of their destructive effects, and indirectly by rendering favorable the conditions for infection and bacterial activity. Destruction of tissue means loss of function and deranged metabolism, and altered nutritive conditions. Bacteria act in part as foreign bodies, in part as parasites, and often in most important part as producers of toxic substances; and in each of these ways they cause modifications in cellular activity and in cellular metabolism. Derangements of nutrition may, if profound or if long maintained, give rise to structural alterations, and these in turn to organic change.

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*Read before the College of Physicians of Philadelphia, May 3, 1899

Applying the foregoing considerations to the process or complex of symptoms that we designate inflammation, we would say that any irritant, local or general, infectious, chemic, mechanic, gives rise first within the range of its activity to modification in the nutrition of cells in a larger or smaller area, and as a result of the metabolic disturbances thus generated other irritating substances are set free, that induce further changes, as manifested by local or general heat, vascular constriction and dilatation, cellular multiplication, exudation of fluid, swelling, discoloration, pain, acceleration of heart beat and of respiration, and other well-known symptoms. The results and the products of irritation by aseptic and non-toxic materials differ from those due to septic and toxic substances, and both of these in turn from those due to infectious agents, by reason of differences in chemic affinity and activity, both in quantity and in quality, and in accordance with the localization or dissemination of the infective agents (micro-organisms). The resulting inflammatory changes in local cellular metabolism and activity give rise to the local heat, the local vascular changes, the local increase in cells and exudation of fluid, the local discoloration, swelling and pain; while absorption into the general circulation of the products of the local metabolic abnormity gives rise to the pyrexia, and, alone, or perhaps in conjunction with this, to the acceleration of heart beat and of respiration, the thirst, the headache, the delirium, the convulsions, the coma and the other symptoms, in accordance with the chemic affinities and activities of the metabolic products generated and the cellular area attacked. The inflammatory process is sometimes unattended with pyrexia, and the explanation of this apparent paradox must be sought in the chemic affinities and activities of the metabolic products generated, and reciprocally the reactivity of the nervous mechanism attacked. Bacteria are foreign bodies and, finding lodgment in any tissue, give rise to independent local lesions and processes. Some of the products of cellular activity cause hyperplasia, just as certain nutritive conditions are conducive to the continued existence, activity and multiplication of micro-organisms. Other of these products cause cellular necrosis and degeneration, just as many micro-organisms are destroyed by the products of their own vital activity and so-called self-limited diseases are in part terminated.

Going a step further and applying the considerations brought forward to our present conceptions of immunity, we would assume that in the natural, hereditary or congenital variety the cells of the body have been endowed, by transmission from the parent or parents, with a certain physiologic activity, in consequence of which, through themselves directly (phagocytosis) and indirectly through the fluids by which they are surrounded (blood, lymph, serum), or substances that they generate (alexins, antilysins, antitoxins), they either repel the invasion of pathogenic bacteria, or failing in this, they counteract the effects of the noxious products to which these give rise. In acquired immunity, on the other hand, the modifications in cellular metabolic equilibrium that are responsible for bactericidal and antitoxic activity are induced through the agency of the chemic substances generated by the specific micro-organisms, either through the disease itself or through inoculation or vaccination or antitoxication. The cells are made by exercise under appropriate stimuli to evolve a latent function.

The nutritive, metabolic and cellular processes that we have been considering briefly apply equally to normal and to morbid states and with especial fittingness to the disorders that we are in the habit of designating functional or idiopathic. Sleep may thus be looked upon as resulting from the action of certain metabolic products upon the higher cellular elements of the central nervous system; narcosis from perhaps others of like kind; thought from the action of other metabolic products; sensation and volition and voluntary action from the operation of still others; and so on, *ad infinitum.* We have long passed the threshhold of a specific pathology; it is time that we recognized that we are moving in the domain of a specific physiology. In partial confirmation of this proposition it need only be pointed out that many of the states named, normal or abnormal, can be induced, at least in some degree, by various medicinal agents.

Derangement of the normal metabolism affecting especially the cellular elements of the nervous system may result in wakefulness, in delirium, in insanity, in neurasthenia, in hysteria, in chorea, in epilepsy, and other cognate disorders. Whether the neuron is motile or not is unimportant in this connection. It is probable that it is, as contractility is an essential attribute of all living things. The terminations of neurons are, moreover, not in absolute contact, but rather in approximation, and it is likely that no disturbance of function results from such changes in relation of end-brushes as is constantly taking place. That which is of real importance is the influence that is responsible for all the functions of the neuron, including its contractility, and that is its nutritive state. We would not say that darkness is responsible for the lower temperature of night merely because the two are associated, when we know that it is the withdrawal of the influence of the sun to which both phenomena are due. No more should we, therefore, make the motility of the neuron an essential factor in the physiology or the pathology of the nervous system, as that is but one manifestation of the activity of the nerve-cell. Neurons must vary in size and shape and relation and chemic affinity and activity in accordance with their nutritive and metabolic condition, and it is changes in this state that are responsible for the variations in functional activity in both health and disease. Changes have been demonstrated to take place in the ganglion cells of fatigued animals and of those subjected to various infectious and toxic processes. Such changes, if long continued or of sufficient intensity, may give rise to permanent structural alterations, such as have also been found after infections and intoxications in both lower animals and men. In this way chronic degenerations arise and death results.

A quotation from a paper[1] read some years ago seems not inappropriate at this point:

> Every cell inherits from its parent cell a certain lease of life, at the end of which physiologic death occurs. This period, however, may be influenced by external conditions. Premature death is pathologic. We can not recognize a pathologic longevity. Similar laws apply to the human individual, the composite of a vast aggregation of cells of widely differentiated function. The life of man may be divided into three periods: that of evolution, of growth, of development; that of maturity, of perfection; and that of involution, of decline. The first begins with birth, the last ends with death.
>
> During the period of growth and development, tissue-change and destruction—catabolism—are more than offset by tissue construction and repair—anabolism. Nutrition exceeds waste. Building-up is more active than tearing-down. With the activity of life comes the demand for the highest differentiation of function of which the organism is capable. This represents the perfect individual. For a time, a condition of equilibrium is maintained. Sooner or later, however, the tide begins to turn. The equilibrium is disturbed. Waste exceeds repair. The cellular assimilative function becomes impaired, the constitution of the nutritive fluids defective. Tissues and organs are imperfectly furnished with the materials for their maintenance. Vascular changes occur. In a vicious circle, one baneful influence reacts upon another. The entire organism is reduced to a condition of deterioration. Finally, the state of nutrition falls to so low a level as to be insufficient for the purposes of life, and functional activity comes to a standstill. This is the physiologic process, as it occurs at advanced age, and constitutes the condition of senility. Occurring at an earlier period, however, the process becomes pathologic, recognized clinically by signs and symptoms which may be conveniently included in the designation "premature senility."
>
> As the component parts of the organism depend for their sustenance upon the nutritive elements of the blood, so will their functional stability be governed by the quality and quantity of the circulating medium. Thus, we would be led to look to the blood as containing the excitant which induces the earliest changes. The function of the cell once impaired, the deleterious action of the blood would be augmented by the retention of matters which it was the part of the cell to remove, and the addition of products from the degeneration of the cell.

Other aspects of the results of derangement of metabolic equilibrium have been dwelt upon recently by Riesman[2], who refers to the products generated in consequence of certain neoplastic and hyperplastic processes and the symptoms resulting therefrom. For this condition he proposes the appropriate designation "metabolic toxemia." So-called internal secretions and their derangements are to be considered in the same connection.

A most valuable contribution to this subject, from the chemic point of view, has been made by Chittenden since this paper was written, in a communication on "Autointoxication," presented to the Pathological Society of Philadelphia on April 27, 1899.

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[1] A. A. Eshner: Arteriocapillary Fibrosis. Transactions of the Philadelphia County Medical Society, 1891.

[2] Internal Secretions; Metabolic Toxemia. Phil. Med. Jour., Feb. 4, 1899, p. 270.

Dr. W. W. Ashton, Alexandria, La., has been appointed by the State board of health as resident inspector at New Orleans.

SUBCUTANEOUS RUPTURE OF LARGE ARTERIES FROM CONTUSED WOUNDS.*

BY J. A. CROOK, M.D.

JACKSON, TENN.

In the treatment of this subject I shall not discuss injuries to the arteries as they usually occur, complicated with grave lacerations of the skin and soft parts, but will limit the scope of this paper to those cases where the force of the injury is so directed against the artery as to rupture its walls, while the skin and soft parts remain practically intact.

As an introduction to the subject, I present the following case: James W., colored, age 23 years, brakeman, while coupling cars at Grand Junction, Tenn., 1 A.M., May 21, 1898, had his right arm caught between the bumpers, the soft parts contused below and above the elbow, the neck of the radius fractured, the vessels ruptured, the skin remaining intact with the exception of slight abrasions of the cuticle in a few places. He was at once attended by a physician, who stated that he would be disabled for some three or four weeks. He arrived in Jackson about 4 A.M., when Dr. J. L. Crook called to see him and dressed the swollen arm in hot antiseptic dressings.

About 10 A.M. we found him suffering greatly, the arm and hand being cold and enormously swollen. There was complete absence of the radial pulse, nor could any pulsation be detected in the ulnar artery. We diagnosed the case as rupture of the brachial artery with great injury to the subcutaneous tissues and probable fracture of the neck of the radius. On account of the enormous distension of the arm, caused by effusion of blood in the intercellular tissue, we could not make a positive diagnosis of the fracture.

To relieve the great swelling and tension I made several punctures into the tissues with a keen narrow bistoury at various points along the under side of elbow and arm and on the back of the hand, which allowed the effused blood to flow out freely until the tension and pain were relieved. The arm was then bathed in hot bichlorid water, wrapped in layers of cotton wrung out of hot bichlorid solution, dry lint applied over this, and bandaged with sufficient support to restrain hemorrhage. The patient expressed himself as being greatly relieved and said that his arm was very comfortable.

I stated to him that it was highly probable he would lose his arm, that the arteries were ruptured and the soft parts and capillaries so badly injured that it was hardly to be expected that sufficient circulation would be carried on to save its life. His reply was that he would never consent to having his arm "cut off," "that he could work his fingers and had some feeling in them."

The next day there was some improvement in the arm, there was feeble capillary circulation down to the metacarpo-phalangeal joints, but no circulation in the large vessels. I continued the same line of treatment, and the condition of the arm remained about the same, only showing a little more sign of returning life, for several days; some blisters, however, appeared near the wrist and along the forearm, but the thumb and all the fingers began to shrivel and assume the condition of dry gangrene back to near the metacarpo-phalangeal articulation. The patient was free from fever, comfortable, with a good appetite, and quite cheerful. We had strong hopes of saving all but the fingers. It seemed that the hot bichlorid packs had exerted a salutary effect, the condition of the arm remaining almost stationary for two weeks, the few blisters mentioned being the only sign of developing mortification except at the finger tips.

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* Read before the Tennessee Medical Society, Nashville, April 11, 1899.

But on visiting him June 15, sixteen days after the injury, we saw that our efforts to save the limb had failed, that the forces of life were withdrawing to a point including a portion of the elbow-joint, and the hand and arm were in a condition of gangrene. On the morning of June 20, twenty-one days after the injury, the line of demarcation being plain, the patient was removed to the Presbyterian Hospital and I amputated the arm above the elbow at the junction of the middle and lower thirds. The patient made a rapid and uneventful recovery.

In reviewing the literature at my disposal I was astonished to find that so little had been written on the subject of rupture of large arteries. Neither Gross nor Wyeth mention such injuries, and the "American Text-book of Surgery" devotes only a few lines to its consideration. In this age, owing to the vast multiplication of railroads and other means of rapid transit, such injuries are likely to be of frequent occurrence. Hence they must prove an interesting type of traumatism, fraught as they are with such grave consequences to the limbs and lives of the victims, and with such great responsibilities to the surgeon.

In the *Railway Surgeon*, May 31, 1898, and subsequent issues to July 26, 1898, there appeared a translation of a continued article by Felix Lejars, in which he reports a case almost identic with this case, caused by two wheels of a loaded cart passing over the right arm and producing attrition of the right brachial artery. In this case a dry gangrene developed in the thumb and fingers, almost exactly as first appeared in the case I have reported. But as the soft parts were not so badly damaged, Dr. Lejars was enabled to save the arm, with loss of thumb and fingers. The radial pulse appeared, though feeble, four months after he had amputated the fingers. Above the elbow, a vertical cord could be felt strewn with nodules that seemed to be the obliterated artery (vide cut of this case, *Railway Surgeon*, May 31, 1898, p. 8). Dr. Lejars collected thirty-four cases, only four of which involved the brachial artery, besides his own—those of Cusco, Moré, Hulke and Lawson. About one-third of these cases involved the popliteal and one-third the femoral arteries, showing such accidents to occur most frequently in the lower limbs. Such injuries are caused by severe contusions, such as being caught between the bumpers, as in my case, or from severe pressure, as the passage of a wagon-wheel, in Dr. Lejars' case. Under such circumstances, it can readily be perceived that an artery filled with blood may have its friable coats ruptured without any laceration of the skin or soft parts. These lesions may be of different degrees of gravity, as a total rupture, rupture of the middle and inner tunics, or of the inner tunic alone. It is important to remember that while in some of these lesions the subjacent circulation is obliterated from the first, others manifest themselves by a slow coagulation which may require several days to complete.

The clinical picture presented in cases of immediate obliteration will materially differ from that seen in those where obliteration is retarded. In the first instance, the symptoms are well marked. If the traumatism has been severe there will frequently be considerable shock—general and local. Absence of the pulse in the region below the site of rupture is an important sign, and was plainly manifested in my case. It is well here to emphasize the importance of search for the pulse in all severe contusions of the limbs to ascertain if the circulation is impeded. Coldness of the limb is always present and its temperature is appreciably lower than that of the sound one. There will also be a diminution of sensibility, though the zone of cutaneous anesthesia does not always correspond with the cold areas. These symptoms, associated with swelling, distension and pain incident to the pressure from effused blood, can hardly be mistaken by a careful observer.

The diagnosis is not so clear when the signs of obliteration are tardy in appearing. In a case reported by Hulke, he states that "there was no sign of arterial lesion until the third day, when the forearm and arm were swollen and strewn with red and green spots nearly to the shoulder." Verneuil corroborates this testimony in reporting a case, saying: "A man received a contusion of the groin; at first the circulation in the leg kept up and the phenomena of obliteration did not appear until twenty-four hours after."

But whether the obliteration be rapid or slow, the injury is grave and generally followed by gangrene of greater or less severity. However, it occasionally happens that healing occurs after arterial attrition, leaving no other effect than a slight weakness of the limb.

It is hardly necessary to say that we should exercise great caution in giving a prognosis in these cases. The reasons for this are obvious. If the middle and inner tunics only are involved, it may be followed by a large aneurysm, or secondary hemorrhage from sloughing of the other coat.

The treatment should be conservative, every effort being made to restore life to the limb and prevent gangrene, which is so imminent. To this end, the entire limb should be thoroughly cleansed and rendered aseptic by antiseptic solutions, attention being given to every abrasion in the cuticle lest it be the point of entrance for infection. This treatment should then be followed by enveloping the limb in hot antiseptic packs, wet and dry, over which thick layers of dry cotton are applied, supported gently by a bandage. If indicated, as in my case, I should not hesitate to make punctures into the cellular tissues to relieve the tension and allow the effused blood to escape. It may sometimes be beneficial, if the case is seen early, to open up the limb, evacuate the effused blood and ligate the ruptured vessel. After the artery is secured, if there is much shock, the saline infusion would certainly be indicated. Later on in the case the treatment will depend on the condition of the limb, and the character of the gangrene. If it be dry and localized, we should wait for nature to complete the line of separation. If moist and rapid, amputation high enough to include only sound tissue in the flaps is the only resource.

The health officers of San Francisco have ordered a detention of the transports at that place for a period of sixteen days, owing to the development of smallpox among the passengers. The transports were bound for the Philippines.

MISMANAGEMENT OF THE EYES OF READERS.

BY NORBURNE B. JENKINS, M.D.

The exact fitting of reading lenses to the eyes of studiously inclined persons past middle age, is either one of the most simple or one of the most complicated things that the oculist is ever called upon to do. In the absence of astigmatism and of a difference in the refraction of the eyes, the fitting of reading lenses is a matter of no difficulty. When there exists 0.5D. or more of astigmatism in one or both eyes, and a difference of 0.25D. or more in the refraction of the eyes perfectly fitting lenses for reading are seldom obtained.

Commonly but little care is given to the fitting of reading lenses to the eyes of persons above 40 years of age. Ordinarily the weakest convex lenses with which the patient is able to read the smallest print at a distance of 22 cm. (8.5 inches) from the eyes, are prescribed. In many cases such lenses can not be used with comfort.

For the sake of economy the shopkeeper is frequently the first to be visited by the sufferer with "failing eyesight." Here he is usually given glasses of a number supposed to correspond with his age, or frequently the customer selects for himself such glasses as will improve the near vision, which is often at the expense of comfort. In the absence of astigmatism of 0.5D. or more, and a difference of 0.25D. or more in the refraction of the eyes, for a shilling the purchaser may obtain perfectly fitting reading glasses, provided they are sufficiently weak.

The comfort to be derived from perfectly fitting reading lenses is best understood by persons, who by using them, are enabled to read for hours without inconvenience. The evil consequences of the persistent use of imperfectly fitting reading glasses are many, and include asthenopia and amblyopia. The persons, who, by reason of improper glasses, use but one eye in reading, are more numerous than is generally supposed.

Provided there is present no disease, no astigmatism of more than 3.5D. and no hyperopia of more than 5D., the following surprising statements are probably true: Most persons, from 35 to 55 years of age, have a vision, either with or without accommodative effort, of 6/3 to 6/6 (20/10 to 20/20), when looking through perfectly fitting reading lenses at distant test type; many persons, past 55 years of age, have a vision, in the entire absence of accommodative effort, of 6/6 (20/20), when looking through perfectly-fitting reading lenses at distant test type.

It is probable that from 40 to 80 per cent. of persons have, in one or both eyes, 0.5D. or more of astigmatism; and that from 30 to 70 per cent. of persons have a difference of 0.25D. or more in the refraction of the eyes. Latent ametropia sometimes exists as late in life as the sixty-fifth year.

Few persons past 40 years of age are given lenses for the correction of astigmatism. Many with astigmatism of 0.5D. or more have their lenses changed every two or more years, and go through life without any part of the astigmatism being discovered.

From experience it may be observed that many persons, with complicated ametropia, undergo the examinations of several oculists, no two of whom prescribe the same lenses, notwithstanding the refraction of the eyes is purely mechanic, the lenses only supplying the defects in the conformation and size of the eyes, which should be found to be the same in all examinations, if properly made.

The following proposition may show the need of the cylindric lens in the correction of the astigmatic eye: A given eye of a presbyope, of say 60 years of age, is perfectly fitted for reading with a compound lens + 3S. combined with + 1C. axis 98. With this lens reading for hours is comfortable. Such an eye can read Jäger No. 1 at 22 cm. (8.5 inches). with no weaker simple lens than + 4.5D., with which reading for more than half an hour is not comfortable. The mean strength or convexity of the compound lens is 3.5D., a gain of 1D., or, according to the rule as to years and diopters, a gain of about five years in favor of the compound lens.

In conclusion, it may be well to add that an improper astigmatic correction, or an antigmatic correction on a non-astigmatic eye, is more injurious than a spheric lens on an astigmatic eye.

WHERE ARE WE AT?*

BY AP MORGAN VANCE, M.D.

LOUISVILLE, KY.

In the last several months there has been much discussion pro and con of the commission evil, i. e., the mutual arrangement between the general practitioner and the specialist for a division of fees accruing from work which has been referred from one to the other. It would seem that this discussion followed an article in the *Colorado Medical Journal*, last July, by Dr. Melville Black, a specialist of Denver, Colo., who under certain conditions advocated the payment by the specialist to the practitioner of a portion of the fees obtained by him from patients referred.

Feeling that this society is representative and should not be behindhand in anything pertaining to our work, I thought it fit to bring this matter up for discussion to-night. If any of us are guilty of these practices, the free discussion of them may do us good in causing us to see the error of our ways; if we are innocent, the result of the discussion may do good to others. I will quote Dr. Black's paper in full and give some of the ideas of other men from different sections on the subject, with some comments of my own, as we progress Dr. Black's paper is as follows:

SHOULD THE GENERAL PRACTITIONER RECEIVE A FEE FOR REFERRING CASES TO THE SPECIALIST?

It may seem to a certain few that such a subject should be left out of print. I do not consider it a delicate question, nor one that is best discussed *sub rosa*. I believe that in a certain number of cases the physician should receive a fee for referring cases to the specialist.

The general practitioner is called upon to render every kind of medical and surgical service. If he sees fit to send certain cases to a specialist he displays a magnanimity unparalleled in other fields of labor. We will admit that in many instances his training and equipment are inadequate in some of the departments now presided over by specialists. The advancement of medicine and surgery has made it difficult for any one man to keep abreast of the entire field. He frequently recognizes that his knowledge in some one department is deficient. He is honest and tells the patient so. The patient is sent to a specialist. There are many instances where the practitioner has found it advisable to administer to his patient for several days before it is possible to refer him to a specialist. Again, in his anxiety for the welfare of his patient he may make several visits in the endeavor to cause the latter to consult the specialist, or may lose valuable time in going with him to the specialist. In any event he expends a certain amount of his time for which the patient will not compensate him. The patient and his family have long looked upon him as their friend and medical adviser. They never think of paying him for aught except actual professional services. They would not consider such services professional, and he would gain their displeasure if he were to present his bill for the same. In case he has treated the patient for a few days he would better erase any and all such charges for professional services from his books, because the patient considers that he has received no benefit from this treatment; that his physician did not understand his case or he would not have sent him to someone else. Therefore, if this bill is presented, no attention is paid to it, and if payment is pressed, the next time a physician is needed someone else is called in. Now, who is to compensate this physician? There is but one answer—the specialist. If the specialist does not pay him for the time he has expended, no one else does. The specialist can easily learn from the patient the extent of the services rendered by his physician. The latter should then be compensated accordingly.

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*Read before the Louisville Medico-Chirurgical Society, March 10, 1899.

There are many times when the family physician is asked to recommend a specialist. He is not called upon for services nor does he find it necessary to see that the patient goes where directed. He is not inconvenienced, nor does he spend any of his time upon the case. Here it is not incumbent upon the specialist to pay the practitioner for his kindness.

Many an obscure practitioner gains standing and even prominence through the specialist. Specialists to whom he refers cases make it a point to speak well of him whenever the opportunity is afforded. This is the only honorable way in which the specialist can return many favors and acts of kindness shown him by the general practitioner.

We all make mistakes, even the general practitioner. What he has done for a given case may not meet with our approval. A hasty word or sign of disapproval may ruin the reputation of this physician in the eyes of the patient. Hence many cases are not referred because of some such former experience. Again, the time expended on a case has been considerable, to say nothing of the mental worry. To refer the case may mean that all this goes for nothing. The man to whom the case is referred forgets to even say thanks. A few such experiences tend to sour the general practitioner against specialists in general.

The object of this paper is to draw a closer bond of union between the general practitioner and the specialist; to call the attention of the specialist to his duty whenever it is plain.

I do not recommend that physicians be paid a stipulated percentage of all fees received from cases referred by them. I should consider this a great wrong. What I do advocate is that when a physician has expended his time and energy in getting a patient to come to us, or has prescribed for the patient without compensation, it should be our duty to pay the physician a reasonable fee.

Melville Black, M.D.

I have studied this paper very carefully. I agree with the author that this matter should be openly discussed, but can not agree with him in his conclusions. I think he is honest in the matter and believes he is right, but he is all wrong. If he will simply apply the Golden Rule to the case, it is settled at once. Let Dr. Black put himself in the patient's place and I am sure his conclusion will be different. Why the specialist is called upon to convert himself into a combined detective and collecting agency for the benefit of the practitioner who has had the patient first, and knows exactly how much service he has rendered, and is backed by the legal and moral right to collect for himself, I am unable to see. Any consideration of policy about doing this is a matter to be decided by himself. I think the Doctor is simply "whipping the Devil around the stump," in the special proposition he makes. I take it this is also the idea of Dr. Charles Lyman Greene of St. Paul, Minn., expressed in the following letter:

FEES FOR REFERRING PATIENTS TO CONSULTANTS.

150 Lowry Arcade, St. Paul, Minn., Oct. 16, 1898.

To the Editor of the New York Medical Journal:

Sir:—In your issue for October 8, you referred editorially to a paper written by a western man, who advocates the payment by the consultant of a commission to the general practitioner for referred cases. Such a proposition would not ordinarily be deemed worthy of notice, and I am very glad to see that it has in no respect received your editorial approval, though I am somewhat disappointed that it did not meet with the rebuke it so richly deserves. It has been whispered about for some time that certain men were accustomed to bid in this way for practice, but few of us have imagined that any man would be bold enough to openly advocate the introduction of such a shameful commercial method into a profession whose very foundation is the trust and confidence of its patrons.

If this writer's ideas were to be adopted, we should behold the edifying spectacle of a thoroughly degraded profession bidding, the one against the other, for reference of cases. The most unscrupulous man with the longest purse would, presumably, command the largest practice. With the advent of any such system the dignity of the profession of medicine would be forever lost. At present, the patient assumes that when his family physician refers him to a specialist he, the family physician, is acting solely for the best good of his patient, and that the man to whom he is referred is selected because he is, in the opinion of the physician, the one best qualified to advise or treat him. This is recognized and appreciated by the patient as an unselfish act, and it is one of the many which serve to bind him closely to his medical adviser. Supposing that a patient knew that his reference was made in return for a substantial fee, can it be assumed for a moment that his regard for his physician would remain the same? Most certainly not, for it is evident that he would have no confidence in the specialist who purchased him, and he would have lost all regard for his family physician, who sold him.

The only way in which this delectable arrangement can be carried on is in the sneaking, underhanded way which characterizes it at present; for, in spite of the many evidences of commercialism creeping out from time to time, in spite of the shameful spectacle furnished by one of the leading members of the profession in Germany, who now seeks to fatten upon the proceeds of a patent upon other men's ideas, in spite of the fact that commercialism of the rankest quality pervades our national association, nevertheless the great body of the profession of this country will cling to the old ideals, and its best men will continue to do a practice based upon merit and not upon purchase or advertising.

Behrings may grow rich upon the unclean proceeds of patent rights, but Tyndalls, Faradays, Pasteurs, Listers, and Sims's will always predominate, and their spirit of noble and unselfish generosity will pervade the work of our profession. In short, the great body of the medical profession to-day is clean, and so it desires to remain.

Charles Lyman Greene, M.D.

In the editorial referred to by Dr. Greene, in part, after mentioning the main points in Dr. Black's paper, Dr. Foster says.

We fear it can not be denied that the picture of unrequited and unappreciated services drawn by the writer is one that has its original in the experience of many a struggling and thoroughly deserving physician, but we question if the remedy proposed is just or would prove satisfactory to anybody concerned, except, perhaps, the untutored patient. The general practitioner's selection of the specialist does work to the latter's benefit, but if it is made conscientiously, it is not governed in any degree by a desire to do the specialist a good turn; it is made solely in the interest of the patient, and nobody else should be expected to pay for the attendance that led up to it. While this is the case, however, the specialist certainly has a duty to perform, provided the man first consulted has so managed matters as to enable him to perform it. As things go, there is too much turning of patients over to specialists. If the case admits of doubt at the outset as to whether or not a specialist's services are required, a consultation may be asked for, and in the course of the visit the specialist, except in rare instances calling for continued manipulative treatment, should give the patient to understand that he will not take exclusive charge of the case, but will meet the family physician in consultation as often as may be necessary. There is no good reason why the great majority of cases should not be as efficiently managed, so far as the routine treatment is concerned, by the general practititioner as by the specialist, and the latter should forego taking them away from a competent colleague simply because they come under one or another of the headings in the literature of his specialty.

The second condition pictured by Dr. Black is that in which the patient consults his physician, not with the view of getting his advice concerning his ailment, but simply and avowedly to avail himself of the physician's knowledge of specialists. When that is the state of things, Dr. Black thinks the specialist is under no obligation to pay the practitioner. The selection of a specialist is, however, in itself a valuable service to the patient, and under certain circumstances, we think, it ought not to be rendered without recompense.

I do not know how it is in Dr. Foster's section, but with us it is certainly the privilege and practice of the physician to decide in what way he will receive the aid of the specialist, i. e., by turning the patient over to him entirely, or admitting him as a consultant only. The latter method, in my experience, is the more common, working often to the latter's disadvantage, as he is usually held responsible for the outcome of the case.

I will next quote some letters of Drs. Black and Greene, which further elucidate the subject:

150 Lowry Arcade, St. Paul, Minn., Nov. 9, 1898.

To the Editor of the New York Medical Journal.

Sir:—Since writing the letter published in your issue of October 29, I have received a letter from Dr. Melville Black of Denver, Colo., inclosing a reprint of the original paper which formed the basis of the editorial contained in your issue of October 8. Dr. Black expressly disclaims any intention of advocating the payment of fees for reference of cases, save in exceptional instances where a certain amount of service has been rendered by the general practitioner prior to the reference of the case, it being assumed, quite wrongly, I think, that otherwise the family physician would not be able to collect the fee for his services.

In justice to Dr. Black I would ask you to publish my reply to him under date of November 7. I am glad that the Doctor's position is very nearly in line with the general sentiment of the profession, but I am very glad, indeed, that my original letter was written, because I have since learned that this payment and collection of commissions is far more general than I had formerly believed. It is not carried on openly, but wholly in a subterranean way. It seems to depend upon the curious belief that the physician has a property interest in any patient who comes to his office for advice. I sincerely hope that the *N. Y. Medical Journal* will use its great influence to wipe out this stain upon our profession. Now that the matter has been brought to light and is in danger of being brought to the attention of the laity, there can be little question as to its ultimate fate. Charles Lyman Greene, M.D.

(Dr. Black to Dr. Greene.)

Dr. Charles Lyman Greene, St. Paul, Minn.

Dear Doctor:—Please find enclosed a reprint of the article you so kindly criticised in a recent number of the *N. Y. Medical Journal*. I feel sure that you have not read the article, or your remarks would not be so unjust. You have evidently based your letter upon the editorial in the *Journal* of a few weeks ago. I am inclined to think that if you will read that editorial again, and more carefully, you will find that it did not altogether disapprove of my position. I fully agree with you in all your letter contains relative to paying physicians commissions for referring cases. It was not my intention to make such distinctions as individual cases warranted. I believe that I made that point plain in my paper. This paper was copied almost entirely in the *Medical Record*, with a very favorable editorial comment. I am sorry you did not see that editorial, as it would have given you a better idea of my position. I trust you may see that you have been somewhat hasty in your comment, and that you will take appropriate steps accordingly.

Very sincerely yours,
Melville Black, M.D.

(Dr. Greene to Dr. Black.)

Dr. Melville Black, Denver, Colo.

Dear Doctor:—I beg to acknowledge, with thanks, receipt of your reprint, and hasten to acquit you of the major portion of my original charge. I feel very strongly, however, that your position is unsound, and that its adoption, even along the lines indicated, would serve to open the way to a very dangerous form of professional competition. The doctor should certainly be paid for all material services rendered his patients, and I am very sure that he can, and generally does collect from them for any service of the sort mentioned by you. If he does not, I hardly see how he can expect any one else to make his loss good. Certainly the man receiving the case can not safely do so, for the practice of medicine must, like Cæsar's wife, be above suspicion. I think the matter will be thoroughly ventilated in the near future, for I have learned, much to my astonishment, that the actual buying and selling of cases has already come to be far from uncommon, even in high places. It gives me great pleasure to learn that our views are in accord upon the major proposition at least, and I trust you will see the danger and impropriety of any action which might in the smallest degree infringe that rule of conduct which should govern the consultant in his relations with the general practitioner or his fellow specialists. Yours very truly,

Charles Lyman Greene, M.D.

Dr. Robert T. Morris of New York is next heard from, writing a letter to the editor of the Journal of the American Medical Association, excited by an editorial in that journal. (Vide Vol. xxxi, Nov. 12, 1898, p. 1183; Nov. 26, p. 1314; Dec. 31, p. 1581.)

Dr. Charles Lyman Greene replies to these (vide Journal, xxxi, Dec. 3, p. 1376); and Minnesota is again in evidence in two other letters to the same journal, which I think to the point. (Vide Journal, xxxi, Dec. 10, 1898, pp. 1428, 1429; xxxii, Jan. 7, 1899, p. 39.)

An editorial in the *Medical Record* (Sept. 3, 1898), called forth by Dr. Black's paper, says in part:

> Dr. Black aptly says that many an obscure practitioner gains standing and even prominence through the specialist. Specialists to whom he refers cases make it a point to speak well of him whenever the opportunity is afforded. This is the only honorable way in which the specialist can return many favors and acts of kindness shown him by the general practitioner. On the other hand, many a specialist can either damn a practitioner with faint praise, or by some remark or even by some mannerism convey to the patient the fact that his treatment previously received at the hands of the practitioner has been far from right. That this is often done, no one who has had much experience with specialists will doubt. The trouble arises from the fact that the two medical men can not always look at a given case from a common point of view. Here lies one evident danger of specialism—that of seeing a case only from the individual standpoint. "The specialist," says Dr. Holmes, "has only one fang with which to seize and hold his prey, but that is a sharp and cruel canine."
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> A practical difficulty in the arrangement of the scheme proposed is to find a basis on which an equable settlement could be made. Dr. Black does not recommend that physicians should be paid a stipulated percentage of all fees received from cases referred by them. Such an arrangement might lead to greater evils than those it aims to avoid.
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> In our view, much of the difficulty existing between the different classes of the profession at the present time is due to the fact that every man who reads the papers thinks that he knows at least half as much as the doctors. Between the various domestic remedies mentioned on the "only woman's page" of modern journalism, the semi medical lectures delivered in so many places, etc., the public has become demoralized, and the specialist has been placed in a position which he, if he be a right-minded man, is the last to claim. It would certainly do much to lessen the friction between him and his brother i there could be some well understood principle of relative compensation which would be of universal application. In general it may be said that most practitioners are on good terms with most specialists. Personal friendships do much to lessen th friction between those who are in a sense rivals, and it is a pit that those elements of character which underlie personal friendship can not be broadly extended to all the relations of thos who practice the healing art.

I have endeavored to give both sides of this question, as far as I could by reading the opinions expressed by representatives of different localities, and will close with the statement that I am convinced tha we are, to say the least, not above suspicion, and greatly fear that almost every one of the differen phases of this evil could be found to exist right her in our midst.

I have been approached several times, but hav never allowed a full-fledged proposal to materialize foreseeing what was coming I have bluntly shut th gentlemen up, feeling that such a proposition woul be a personal insult to me, as much as I would fe that I had insulted a man if I was the proposer.

The remedy to be applied is a "horse of anothe color," and I sincerely hope a feasible plan will b developed in the free discussion which I feel shoul at this time follow the introduction of the subject.

DISCUSSION.

Dr. **Wm. Bailey**—This is a question of great importance, as it pertains to the honor of the profession. I believe that honesty is the best policy, and certainly no man of honesty will want or receive a fee for any service that he has not rendered. I see no reason in the world why the general practitioner, when a case comes under his charge and he gives it the necessary attention to determine first whether it is a case within his realm or that he can successfully treat, if he does it honestly and conscientiously, whether he does the patient any good or not, is not entitled to a fee for the time and attention given; and any fee that any man ought to receive he ought to be willing to make in the regular charge to the patient. I can not conceive how any honest man would receive a fee from the specialist that he would not be willing for the patient to know was coming to him and right by virtue of the time and attention he had given to the case. It is a mistake to have people think that the doctor is only entitled to pay for service that does good. I think we would be deprived of a large source or part of our revenue if we limited it to cases where we actually do the patient much good. We even are entitled to a fee perhaps when the service has been an injury, provided it was the best we knew how to do. As long as a case is under my charge and I am going to give it attention, I am always willing to let it be known that a charge will be made, and shall endeavor to collect a suitable fee according to that service. I can not conceive of any circumstance under which I would feel that I had any right to expect or to receive from the specialist any part of a fee for service that he should render the case.

I do not believe it always necessary that a patient referred by the general practitioner to the specialist should pass entirely out of the hands of the general practitioner. This would be a mistake. We send our patients, for instance, to a distance to seek aid that we are not able to give them. The specialist under such circumstances could not continue the service that may be needed beyond what can be made by his operation; and it would be perfectly proper for the general practitioner to continue the supervision.

So far as the operation itself is concerned, and the immediate supervision of the case at the time of the operation, the general practitioner should give way to the specialist, and not embarrass the surgeon in the immediate management of the case because of any lien or interest he retains, but when it passes beyond the field of the specialist again, by right he ought to give the case back to the general practitioner who has referred it.

If we would pursue such a course we would not find any difficulty; if we would do unto others as we would have them do unto us, we would have no trouble. A course like this would remove much of this difficulty, and if it is as prevalent as indicated by Dr. Vance's paper, it is an alarming state as to the morale of the profession. I am sorry to hear it intimated that even in this part of the country the evil exists to the degree suggested. Personally, I have known of no such thing.

Dr. **H. H. Grant**—I have had no one approach me, as the paper read by Dr. Vance indicates is the habit among general practitioners, to ask for a division of the fee. I think it is scarcely the expectation of any of my friends in the profession from out of the city to bring patients here with the expectation of a division of the fee. The greater part of what is contained in Dr. Vance's paper must have been the result of an appeal to specialists who do office practice, rather than to the general surgeon. I can scarcely see how any self-respecting surgeon could for a moment entertain a proposition to do an operation and regulate the charge for it with the expectation of dividing his fee with the man who brings the patient.

It may not infrequently happen that in case a general practitioner has had a patient under his care for a considerable time, who subsequently needs surgery, and who has received much medical attention from the general practitioner previous to coming under the care of the surgeon through the direction of such general practitioner, when the time comes for a settlement it may be considered wise to present the bills together; that is, the general practitioner's bill and the surgeon's bill may be presented together, with the definite understanding on the part of the patient that both bills are to be paid in one, that the bill includes charge for the services of both, and then such division of that bill may be made between the surgeon and the general practitioner as they may choose to make. In other words, I would be distinctly opposed to any conditions of trade prior to operation, or of paying anybody a commission upon business, or of any intimation under such circumstances that special concessions would be made, but after the patient comes directly to the hands of the surgeon, through the aid of any general practitioner, and a good fee is paid for the operation, I can not see any reason why, if it appears wise, the bills may not be presented together and such division be made as may be indicated by the personal relations of the two physicians concerned. In the letter read, Dr. Morris says that not infrequently where he has collected a small fee he has occasionally divided it with the general practitioner. It is a question entirely of the personal relations between the two.

We all appreciate the facts, as Dr. Bailey has related them. Our first duty is to the patient; this applies with equal force to the surgeon, specialist or general practitioner. I do not believe there is a doctor in the city of Louisville, or a reputable man anywhere, certainly no member of this society, who does not first consider the welfare of his patient; and many of us work earnestly and faithfully for the alleviation of suffering without the expectation of any reward. When it comes to the point of actual division of the fee obtained from any patient, in my judgment the only way in which it can be done is as I have outlined. That this can be wrong in any way I do not see; but anything that tends to interfere with either the benefits accruing to the surgeon or the general practitioner, or anything that interferes with the welfare of the patient, needs condemnation.

Dr. **J. A. Ouchterlony**—In reply to the remarks made by Dr. Grant, I do not see that there is any propriety in the bill being sent in conjointly unless the two medical men, the general practitioner and the specialist, are in partnership. The mere fact that they have been in the case together seems to me no reason why they should send in a joint bill. The physician should send in a bill for his services, and the surgeon or specialist should send in one for his. Each should be paid for the service he has rendered and no more. I can not conceive why the physician should receive part of the fee paid the surgeon for services rendered by the latter simply because the case has been referred to him. But the main point in the paper seems to be that there is a practice prevalent of physicians being paid by specialists to whom they have referred cases. I am very sure that this practice is somewhat prevalent in this part of the country as well as elsewhere. A number of years ago a physician, now deceased, said to me: "What do you get from surgeons when you send them cases?" I asked what he meant, and he said: "Why, don't you make them pay you when you send cases to them?" I replied that I most assuredly did not. He then remarked: "They ought to be made to pay, they get much bigger fees than we do." "Well," I said, "that is their good fortune, if we want to get equally large fees we must practice surgery." That was the first time the subject had ever been brought before me in that bold way. That certain physicians from a distance sometimes hawk their patients about after bringing them to the city to be operated upon, I am well aware. How often it is done I can not say, but I have known of instances where the doctor would bring a patient to some surgical friend of mine, then all of a sudden the doctor and his patient would disappear and turn up in the office of some other surgeon. The first question of the doctor is: "What are you going to charge?" When the fee was mentioned the visiting physician would say; "How much is there in that for me?" The surgeon referred to was not a very good financier, though a very honest medical man, and said "nothing." The end was just what I have mentioned. Now it is a not uncommon thing for these doctors from a distance to try and make the consultant, whether he be physician or surgeon, cut his fee down as far as possible, and then they will say, "I will pay it." That has happened to me. The doctor paid me the fee. What may be charged the patient afterward in such cases I do not know. I take it for granted the doctor did not charge the patient any more, but there was a possibility that he might have done so. It is very deplorable that such things should happen, but there is no use closing our eyes to the fact that they do occur, and I do not see how we could possibly legislate such a state of things out of existence. The only way is to elevate the morale of the profession by seeing to it that those who are already in it and occupy high places should set a good example, and as far as possible exclude men who are applicants for degrees from entering the profession unless we are satisfied that they are men of good moral character. Poverty is very demoralizing, and often men will do things under stress of poverty that they would not do otherwise. Still, we can not make them honest by legislating, any more than we can make them virtuous, and I do not see where the remedy is to be found except in that rather remote, indirect way that I have mentioned. I am sure that the various surgical friends of mine present must have met with the same experiences that some of the letters read set forth.

Dr. **J. G. Sherrill**—I do not like to believe that this evil has grown so prevalent as it seems from some of the letters read, but that there is such an evil I am fully aware. There are three things to be considered in this connection, viz., the surgeon or specialist, the physician, and the patient. The medical profession has through centuries attempted to keep on a high plane, and the interests of the patient have been protected in many ways. The physician is many times the patient's adviser and friend, and whenever you commence to introduce the commercial spirit in matters of this kind, the relations between the patient and physician are materially changed and you are bound to lower the plane of the profession. Moreover, if the physician renders the patient any service he should be paid in accordance with the work he does. If this physician then finds that he is unable to successfully treat the case, whether from lack of appliances at hand, or from lack of sufficient practice to acquire adequate skill in certain lines, he turns the patient over to a surgeon or specialist; then if the surgeon operates upon or otherwise treats this patient, he is in his turn worthy of a fee, and this fee should only be in accordance with what his service has been to the patient and what the patient is able to pay. Frequently all of us do work for patients who are unable to pay anything, and our charges must be made in accordance with the ability of the patient to pay, and some patients must pay more to make up for the deficit of others who are unable to pay anything. If the surgeon includes in his bill sufficient to cover the amount due the practitioner, without notifying the patient, it places him in a very unfavorable position; the patient goes away with the idea that the surgeon has overcharged him, that he is demanding more than he really ought to receive for his services, while the surgeon is not getting any more than he should, if as much, and the physician gets a fee without the knowledge of the patient, the physician being paid for his attendance upon the case out of the amount collected by the surgeon. In this way the surgeon would often either rob himself or be compelled to rob the patient to present the practitioner with a commission. If this practice should extend and become general, you can readily see how it would be looked upon by the patient—he would have no respect either for the surgeon or the practitioner. If the patient were to know that his physician was guilty of such a practice, he would certainly send for another doctor, and if any surgical work were needed, if the surgeon previously employed were known to be guilty, he would certainly send for another surgeon; and this is exactly what he should do. If this practice becomes at all general the people are certain to know it and great harm will be done not only to the individual, but also to the profession. The people will not only have less confidence in their physician or surgeon, but will have less faith in the medical profession at large. I can see only one way to remedy the evil, and that is for every honest professional man to frown upon the practice, and when they have proof of the existence of such a state of affairs, I believe it to be their duty to report it in open meeting. I do not believe he ought to keep it hidden; it should be brought to light in a plain, open-and-above-board manner before the society, letting the profession know what men are doing things in this way. I believe we can stop it by this means quicker than in any other way.

Dr. L. S. McMurtry—I am satisfied that the evil of paying commissions for the referring of cases is more common in eastern cities than it is with us. I have had a rather extensive experience in special practice, and a considerable proportion of the cases I have are referred to me by other physicians. Individual experiences may give some light as to the condition of affairs in our own bailiwick, and I have never had but one proposition to pay a commission. I have had the physician in the case write me a letter stating that he had a case of a certain character that he was contemplating referring to a specialist, and asking point blank how much I would allow him of the fee if he would refer the patient to me.

Two years ago I met in Europe a distinguished surgeon of one of our eastern cities, and conversing on various phases of professional life, he told me that this matter of paying commissions for the referring of cases was very common in his city, that, whatever I might think of it, the surgeon was compelled to do so, and he said that he did it. He is a man of distinction in the profession. I was very much surprised, and it led me to believe that the practice is very much more common in the large cities of the East than it is with us here. I believe the practice is exceptional here, though I have good reason to know from certain methods of observation suggested by Dr. Ouchterlony, that such instances do occur here, but I think they are rare.

In regard to the letter of Dr. Morris, it is an excellent illustration of what a humorist he is. I refer to his illusion to $5,000 and $2,500 fees. Dr. Morris is a very versatile writer and is ofttimes humorous.

There are other phases touched upon by Dr. Vance that are great evils, and they should receive consideration from gentlemen engaged in special lines of practice, and I know what I am going to allude to now is familiar to every gentleman in the room, that is, that the practitioner who refers the case to the specialist is directly interested in serving his friends among whom he practices, in having charged the lowest fee for the specialist's services, with a desire to befriend his patient, and is led to make statements which are not exactly correct. This is done with the idea that the specialists get larger fees than they really do. Many practitioners think that specialists in every department get larger fees than they do. They have an idea that we charge according to some standard that makes no discrimination, consequently they begin to prepare for it as a service which they imagine they should render to the people who are under their care. This is likely to work a great injustice, because a man in excellent circumstances, one who is able to pay a regular fee, such a fee as would be fair and just to the specialist, may be pictured by the practitioner as unable to pay a reasonable fee, and in this way the pay is not compensatory for skilled work.

In regard to the paying of commissions downright, simply having it understood with certain physicians that if they will bring their surgical cases to certain surgeons they will be paid so much for each one—I do not believe that occurs with us here except in rare instances. In regard to the charges of the physician and those of the consulting surgeon or specialist, I agree with Dr. Bailey that each one should charge his own fee and collect it. This is the better policy; it is better for both the physician, the specialist and the patient; it makes a better impression, and everything that is in the way of perfectly open, frank and straightforward dealing with the patient is the best policy. Naturally every patient, and almost every physician who has a patient to refer, wants to know beforehand what the surgeon's charges are going to be. It is puzzling to know what to say to them. You do not know what the case is, and the physician himself has perhaps only a general idea as to whether any operative treatment will be required; yet he wants to know before the patient is referred to you what will be your charge. One single visit may be required, or the case may require a protracted course of treatment; it may be an operable or an inoperable case; no one can say before the patient is examined. Whenever it is possible, after seeing the patient and the course of treatment has been determined on, it is best to state just what the charges will be.

If the surgeon or specialist cultivates the commission business it will become known, not only to his colleagues, but to patients. The practice is indefensible and is certain to injure the reputation of those who engage in it. When the physician and surgeon, the physician and consulting physician, or the physician and the specialist are working jointly, each should be paid for his services in proportion to the means of the patient, and their bills should be rendered separately; everything in connection with the transaction should be open and above board, and it will be better for the reputation of the profession and the individuals connected with it.

As to the remedy for these evils said to exist, I do not know that anything can be said more than has been stated by Dr. Ouchterlony. The cultivation of a professional spirit and opposing commercialism and insisting upon honest business methods, is the only way to do this. The cultivation of a high order of professional sentiment and the hearty co operation of physicians, surgeons and specialists, will do more toward correcting the evils that exist than anything else. The interchange of views upon this subject is certain to do much good. It will have a tendency to elevate the medical profession in all of its business aspects.

Dr. Jas. B. Bullitt—The subject under discussion is an evil which is so potent, and I might say patent, that I am sure everyone present is aware of it. The whole subject is so foreign to all ethic principles that it would seem to scarcely permit of anything being said. When we remember the Hippocratic oath, and take into consideration the medical profession since its inception, from the early days when mysticism represented the whole of the medical profession, the tendency of the profession has always been one of utmost honesty. The profession has always been made up of those who should command proper respect in the community in which they lived. The whole thing hinges upon honesty, and I believe that Dr. Vance has struck a very hard blow which should make a dent, but whether the reverse side of the shield will be any better for the dent which he has made I am unable to say.

It is quite true that surgeons have an opportunity of verifying what he has said, that frequently propositions are made, or more than half made at least, looking toward a division of fees, as has been charged in the papers quoted by Dr. Vance; and the reason that these propositions have continued to be made is because they have not met with the reception with which they deserved. It takes two parties to perpetuate an evil of this kind, and if the surgeon or specialist is unwilling to accept a case and in return pay a commission therefor, such a practice could not exist; but this certainly has not been the case. Perhaps we would as well not speak of where such a practice does not exist, but speak of the section in which we live; it is a matter quite patent to all who have knowledge of such dealings, that there are men who will not only divide fees, pay commissions, etc., but who will make direct overtures for the reception of such fees on the ground that if the patient were sent to others a division of the proceeds would not be allowed.

Division of the fees, spoken of by Dr. Grant, might be regarded as proper under some circumstances, although as indicated by the remarks of several of the gentlemen, I believe it would be an impolitic arrangement; it would be an arrangement which would allow a man to indulge in this practice which we are trying to avoid. In much that has been said tonight, and in the papers quoted by Dr. Vance, we are led to believe that the fault lies not so much with the surgeon or specialist as with the general practitioner. This is perhaps not true. While the practice may be encouraged on the one hand, it is also permitted on the other, and therefore I believe it would be wise to cast the beam out of our own eye before attempting to cast the mote out of the eye of the general practitioner. As regards the ultimate remedy for such an evil, as suggested by Dr. Ouchterlony, it does not exist. Medical legislation, as proposed by Dr. Morris, would be absolutely inadequate; it would simply direct attention to the evil and might be productive of good in this way. Such a paper as Dr. Vance has read is calculated to do the same thing; attention should be called to these practices, and the search-light should be turned on them, with the hope that the evils will be discontinued.

If a division of the fee is made, it always results in detriment to the surgeon and to the financial gain of the physician, rather than always to the detriment of the patient. I mean that it is a very much easier matter for the surgeon to take a certain amount out of his pocket and give to the practitioner in a case of this kind than it is to make the patient pay a larger fee. We know it is a difficult matter to get patients, in this section of the country at least, to pay large fees, fees which we believe our services are justly deserving of, and if we were to further divide this fee with the general practitioner, it would work to the detriment of the surgeon always.

Dr. Wm. Cheatham—In twenty-two and a half years of practice in the city of Louisville, I have never had the commission proposition made to me but once. In this instance a gentleman from a distance wrote me regarding a case, asking what his commission would be. In reply to my letter refusing to consider the matter, he gave a very satisfactory explanation, and I believe he was sincere in it. He has since been a good friend of mine. I know such practices exist, but this is the only experience I have had.

Dr. H. A. Cottell—In all my experience with specialists—and I am a sort of half specialist myself—I have had such a proposition made to me but once. A certain gentleman sent a patient to me to be treated for some nervous affection and suggested in return that a percentage of the fee collected would not be refused. Much of this sort of thing is going on among a certain class of doctors, men who could not gain entrance to this society.

The subject has been most admirably presented by Dr. Vance and has been most wisely discussed. That the evil exists there can be no question, but I do not believe it exists in high circles; there ought to be a remedy, and the plan suggested by one of the writers, of having the American Medical Association frown down upon it, is a most excellent idea. It has always seemed to me that we ought to have in Louisville—I know several attempts have been made to establish such an institution—a strong representative medical society that would fix the ethic aspects of matters of this kind, that would discipline its members if they broke over the rules, a society to which every reputable man of the city might belong, and to which he would wish to belong. Such an organization as that would do a great deal in the way of correcting abuses such as these. The spirit of commercialism is bound to enter our profession; we may hold ourselves above it, which we ought to do as far as possible, but it is in every line of business, and so long as medicine is considered as a business, men will be found who would be willing to prostitute it for business purposes.

Dr. T. C. Evans—I am thoroughly in accord with what Dr. Bullitt has said, that the fault lies more with the surgeon and specialist than with the general practitioner. So far as the local condition is concerned, my experience is that the general practitioners who have a good business of their own are not engaged in dividing fees. The practice is almost entirely with what might be called "shysters," who stand in with some of the surgeons who stand high in the profession; these surgeons say to those on the outside: "For all the cases you bring to me for operation I will give you a certain percentage of the fees collected." Such things exist here as well as in neighboring States. Only a short time ago I was in one of the towns of the central portion of the State, and a physician there told me of an offer that had been made to him by a Cincinnati surgeon. I was particular to ask him if only the gentleman in Cincinnati had suggested a division of fees, and he said the same offer had been made him from Louisville, viz., if he would send his patients to a certain surgeon he would get a proportion of every fee. Within the last year I was approached in a similar manner by a man who was recently graduated from one of the medical colleges here. He did not expect to practice medicine; by occupation he was a stock trader, and lived in the western part of the State. He came to me with the plain proposition as to what per cent. I would allow him on business he might send me. I told him I would not give him a cent. He said he had been to see several surgeons who offered to give him 25 per cent.

In regard to Dr. Morris' paper, I should say that he is rather innocent, and he surely has not traveled over the city of New York. We all know that the commission evil has not only extended to the surgeon and general practitioner, but it even extends to undertakers as well. As to the gentlemen who speak here, they assume an innocence that is not genuine; I am sorry to say that this is true.

Dr. Louis Frank—Probably those of us who practice surgery are more familiar with it than those who practice general medicine, but we all know that the practices outlined in Dr. Vance's paper exist. There is hardly a surgeon in Louisville who has not been approached in some manner for a division of fees. As to the cause which has brought about this state of affairs, it is due to the active competition, the commercial spirit, which has invaded the practice of medicine, particularly among surgeons. This practice is not confined to one section of the country, certainly not to Louisville, though I know it does exist here, from letters I have received from parties out of town; it is not an uncommon thing for general practitioners out of the city to write to the various surgeons and obtain prices upon work that is to be done, and ask what commission will be paid them for each case sent, etc. The entire blame for this state of affairs, the division of fees, from the first falls upon the surgeon himself. I do not believe it is so largely the fault of the general practitioner, but equally so of the surgeon, and if there was less of the commercial spirit and more of the true professional spirit this reprehensible practice would be entirely done away with.

Dr. J. M. Ray—I have never had any personal experience in the division of fees, but there is one phase of the subject that has not been touched upon, with which I am somewhat familiar and of which I have illustrations too numerous to mention. It is the custom which is prevalent in this part of the country for the doctor to write to two or three different specialists with reference to a patient and get their opinions, after giving a description of the case, and also getting their prices for certain operations thought to be required. Take operations about the eye, for instance, enucleation. A patient desires that an eye be removed for the relief of some pathologic condition; the doctor in charge writes to two or three men and gets their price for such an operation. I have within the last two or three weeks had an experience of this kind in which a man wrote me to know what I would charge for a certain operation; in the letter he also stated that he had already written to two other gentlemen and had their prices for the same work, and he went on to say that he was a friend of mine, that the patient was a personal friend of his in whom he was much interested, and would like to know if I would not, through my personal relationship with him, perform the operation and take a smaller fee than the gentlemen who had previously been consulted with reference to the matter. I answered him very promptly that I would not, under any circumstances, perform the operation for him any cheaper than others had offered.

Another practice similar to that is where the doctor brings a patient to your office, and in the presence of the patient tells you that the patient is a personal friend of his, that he wants you to make the fee as small as possible, that he (the doctor) will pay it, and then after the service is rendered, for the doctor to take you to one side and say that he expects you to charge what you think is right, that he will pay it and settle with the patient himself. And it has been my experience in two instances where I know that the doctor has charged the patient more than the fee he paid me at the office.

Another feature is that a doctor from a distance brings a patient to the specialist's office, and especially does this occur with those of us who are connected with medical colleges, where we are to a certain extent anxious to obtain a first class quality of clinical material, and the doctor being aware of this, will frequently bring cases that are perfectly able to pay a fee, with the explanation that the patient is absolutely unable to pay a fee, but is willing to present himself before the class of students and have the operation performed. In the presence of the patient the doctor gives you a statement of the patient's financial standing, and under the circumstances you feel called upon to perform the operation at the clinic without charge. On several occasions I have heard afterward that the doctor's expenses, etc., were paid by the patient, and in fact I have been told that the patient paid the doctor a fee in addition to his expenses to and from the patient's home. These are simply cases of imposition which the consultant is perfectly unfamiliar with at the time, an arrangement between the patient and the doctor to get the operation performed without the payment of a fee therefor. We are possibly all imposed on in this way, and the fault is not always with the doctor entirely, but with the patient. I know patients are prone to go from one doctor to another, and they will tell you that Doctor So-and so charged them a much smaller fee than he really did. I know of many instances of this kind. I have been surprised, based upon information received from patients, that the doctor they mentioned charged such a small fee, which I knew was much less than he was in the habit of charging for the work in question.

As far as the commission evil is concerned, I have had absolutely no experience with it personally.

Dr. August Schachner—Personally my views are those expressed by Dr. Grant, if I understand them correctly. One speaker criticised his position, intimating that it was perhaps a barrier behind which a lot of work could be done which was not exactly correct, and there is a little truth in that criticism. But after all we can not make anyone honest, and our relations to one another, to patients, etc., depend upon our own honor and honesty, and it is in regard to this question as with all others: if a man has not much honor and honesty, he may practice almost any amount of trickery without being found out, at least for a time.

Referring to the point brought out by Dr. Sherrill, we can not make any hard and fast rules which will apply to all cases. The first duty of the surgeon or the general practitioner is to his patient. Again, upon this, as upon all other ethic questions, sometimes the man who talks the loudest, longest and most eloquently against certain practices may be the one, if the truth were known, who may be subject to the severest criticism.

Dr. T. S. Bullock—It is impossible for any of us who practice surgery to deny a knowledge of the existence of the commission evil. My experience has been different from that of some of the speakers. The general practitioner has in every instance that has come to my personal knowledge been the active agent. Propositions have proceeded entirely from him. That it is an undeniable fact that these propositions are made, I know from personal experience, and as Dr. Bullitt has said, the best evidence that they are accepted is that they continue to be made. I agree with Dr. Bailey that the remedy for this evil rests with the individuals themselves, and if every practitioner of medicine and every surgeon be actuated by a sense of honor and honesty, the evil would soon be stopped. If the individual's sense of honor is not acute, he will not live up to the ideal that we should all have. All should consider propositions to divide fees a direct personal insult.

Dr. T. L. Butler—My experience has been quite different from those whom I know have been in surgical practice for more than twenty years. Some of them have said that they have never been approached, others state that the commission proposition has been made to them once, etc. I have only been in practice nine years, and such a proposition has been made me many times.

One point made by Dr. Vance does not seem to have been discussed very much, that is the evil of having runners. I have this feature to contend with more than anything else. In two instances that have come under my personal observation, within the last few months, the runners have been the surgeons themselves.

GRADUATES of the regular medical colleges of Cincinnati, for this year, numbered 72; from the Ohio Medical College, 40; Miami, 16; Cincinnati College of Medicine and Surgery, 11; Laura Memorial Medical College, 5. About twenty received appointments to hospitals as internes.

THERAPEUTIC VALUE OF HYPNOTISM.*

BY JNO. R. ROSE, M.D.

EASTMAN, GA.

Hypnotism to-day holds a position in medicine similar to that of electricity before the day of Tripier and Apostoli, before the days of the meter and rheostat, for while the force and its therapeutic applicability are known and can be proven, yet all means of exact dosage are wanting and therapeutic success or failure seems to be in the majority of cases the result of personal experience and individual adaptability, which state of things would go far to explain the different results obtained by different men.

The knowledge of hypnotism seems to date back to the very cradle of mankind, for Egyptian and Greek priests practiced it under the name of "temple sleep," while in the sacred books of Persia and India we frequently find it referred to in the form of autohypnosis, as the following extract from the Persian "Oupneksat" will prove, where it says: "To arrive at the bright contemplation one must, like the turtle, draw all the senses within, close eye, ear, mouth and nose; then Brahm appears with his Atma and like the rivers with the sea we are at one with the world-light." Evidently an autohypnosis similar to the plan followed by the Hesychasts of Mount Athos during the thirteenth and fourteenth centuries. In the "Upanishads," the philosophic commentary on the Vedas, we read of a deep magic sleep in which the manifold makes room for the unity of things, the Nirvana. But even verbal suggestion was known in the Orient, and among the Hebrews one healing by words was called a Shem, the psalms of David and proverbs of Solomon alluding to it in several places, while its existence among the Hindoos and Persians is proven by the following passage in the "Zend-Avesta:" "Many cures are made through herbs and trees, others through water and yet others through words; but the safest cures are through words."

Regarding the temple sleep, practiced by the ancient priests of Æsculapius at his temples in Pergamos and Epidaurus since long before his time, Hippocrates says: "After the soul has been loosened by this sleep, not especially from the body but from the gross service of its component parts, it withdraws within itself as within a haven to guard against storms. It sees and knows then everything happening on the inside and pictures to itself the conditions as if with different figures and colors and defines clearly the condition of the body. Everything," he says in the third book of his De Vita, "that happens in the body the soul sees with closed eyes."

The cobweb festoons of mysticism that nearly obscure the germ of truth the foregoing quotations contain were instrumental in hiding the true nature of these phenomena for ages, and the time when science dared apply the broom does not lie more than a half century behind us.

Since the beginning of history, along the lapse of centuries we occasionally come across records of events that must either be accepted as interventions of a more than human power or rejected as undeserving of credence or else explained as results of hypnotic hallucination, in which category we must place the miracles of Buddha, of Moses and of Mohammed; the healing powers of the apostles and early christians, the mystic powers of the Rosicrucians, magicians, witches and Indian fakirs and the reputed acts of such men as Albertus Magnus, Paracelsus, Cagliostro and others. The first authentic account we have in modern times of the virtue of suggestion in the cure of disease comes to us from the middle of the seventeenth century when one Valentine Greatrakes of Affane, Ireland, an uneducated man, astonished Great Britain by the miraculous cures he worked by the simple laying on of hands, and a century later we find John Joseph Gassner, a Catholic priest of Swabia, performing miracles of healing in a similar way. It is well worthy of note that in this man we find the prototype of the "Christian Scientists" and "divine healer" of to-day in so far as he professed to cure through the inspiration or the workings of religious faith. Gassner, however, although there seems to be no doubt of his own sincerity, unknowingly used hypnotic sleep and suggestion as his remedy, while his followers of to-day rely entirely on the psychologic effect of their mysterious claims.

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*Read before the Semi-Centennial meeting of the Medical Association of Georgia, April 19-20-21, 1899.

The year 1733 marks the birth of a man whose destiny it was to shine with such brilliancy that though he himself was in the wrong and defended a false theory, he yet became the beacon that showed the truth to others. Friedrich Anton Mesmer studied medicine and took his degree at the University of Vienna, then one of the best medical schools in Europe; of studious habits, with a capacity for investigation, yet with his mind tainted by the prevalent mysticism of the times, it was not to be wondered at that he soon evolved a medical theory of his own, in which, failing to recognize the value of suggestion, he ascribed to the action of magnets the phenomena which are now known to be due to hypnotic influence. Meeting in 1776 with Gassner, who was performing the same cures by means of simple manipulations, he soon discarded his magnets as superfluous and from his fertile mind evolved a new theory of animal magnetism, better known as mesmerism. That he made use of all the arts of the quack in order to influence the imagination of his patients there can be no doubt, but neither can it be denied that his treatment abounded in results that must have appeared miraculous to his contemporaries, and though after his death some of his pupils succeeded in producing nearly all the phenomena of mesmerism by gentle manipulation, causing sleep without the mysterious surroundings resorted to by Mesmer himself, it was not until 1841, when James Braid of Manchester, England, began the study of mesmerism with the view of disproving its pretentions, that light began to shine on these mysterious phenomena. His investigations disclosed the fact that a peculiar condition of the nervous system could be induced by a species of mental concentration during which the subject was in a state of automatism and subject to the operator's control; these investigations were published in 1843 under the name of "Neurohypnotism," the first time, I believe, that name is found in literature. He entirely disproved Mesmer's theory of an imponderable magnetic fluid acting through the operator on the patient and explained the phenomena on physiologic grounds. Braid was followed in 1848 by Grimes of this country, with his theory of electrobiology, which created so much attention at the time that, if my information is correct, one of its advocates, Dr. Dods, was called before Congress to deliver a series of lectures that were subsequently published in New York under the title "The Philosophy of Electric Psychology." Another account of Grimes' theory we find in a work published in London in 1851, by Buchanan, entitled "Darlingism, falsely called Electrobiology."

In 1851 also appeared the English edition of Reichenbach's "Researches in Magnetism," a work that will amply repay the time spent on it by the student and which contains, so far as I know, the best exposition of Odyllic force, the supposed universal force of nature. Liébault of Nancy published, in 1866, his "Sleep and Similar Conditions," which may well be regarded as the first scientific treatise on modern hypnotism. He was followed in 1873 by Czermak of Germany, with his observations on hypnotic experiments with animals. Charcot of Paris began his hypnotic clinics at the Salpetrière in 1878, which were of great value in the study of hysteric conditions during hypnosis. Heidenhain of Breslau published a valuable work on animal magnetism, in 1880, and it was he who elaborated and yet simplified the most plausible theory in explanation of the phenomena under discussion. In 1883 appeared another champion of hypnotism, in Bernheim of the University of Nancy, who, following in the footsteps of Liébault, in that year published a paper on "Suggestion." The means and method employed by him and Liébault differed so radically from those of Charcot and others, with results so far beyond expectation, that the article, published in book form with additions, in 1884, aroused considerable attention, and Nancy soon became the Mecca of a number of earnest students and investigators. In 1886 appeared Professor Beaunis' work on "Artificial Somnambulism," followed in 1889 by Liégeois' admirable collection of experiments in "Hypnotism and the Civil and Criminal Law."

This gives but a meager outline of a literature that to-day has its contributors in almost every section of the civilized globe, most prominent among whom are Krafft-Ebing of Vienna, the author of "Psychopathia Sexualis"; v. Schrenk-Notzing of Munich; Germain-Sée, lately deceased, of Berlin; Wetterstrand of Stockholm; Lombroso, Tamburini and Serpilli of Italy, and many others. In our own country, the leaders of our profession have generally occupied a position of agnostic caution toward these phenomena, and since the day of Grimes and his theory of electrobiology, I know of but one work of original research, that of George M. Beard of Boston, who, in 1881 published his "Trance and Trancidal States in the Lower Animals," following the lead that had been given eight years before by Czermak. For the rest we must look to the medical periodicals for literature on this subject, and as far as I have been able to find, there is no superabundance of material; in the majority of instances there are but short, timid accounts of successful hypnotic treatment, while in many of the more extensive articles the subject is handled in a manner that shows strong bias against it. The latest one I have come across is by Prof. Sidney Kuh of Chicago, on "The Medico-Legal Aspect of Hypnotism" (*Am. Journal of the Med. Sci.*, December, 1898). I never saw a better illustration of "Damning with faint praise," and the author arrives at conclusions regarding the dangers of hypnotism in general which really exist only in the method employed, while he tries to sustain these conclusions by evidence that will not bear a critic review. Besides this professional literature our country is flooded with a different kind that is of absolutely no scientific value and is published simply for the gratification of the love of mystery among the masses.

Of the many theories that have been advanced for the explanation of hypnotic phenomena, there are but three that require consideration. Rumpf gave us the physiologic theory in which cerebral hyperemia and anemia are supposed to cause these strange conditions, while Preyer in his chemic theory, inclines to the belief that mental concentration gives rise to a peculiar cerebral metabolism with production of new chemic combinations that cause somnolence and loss of will-power—a case of leucomain poisoning in fact. The theory that has found the largest number of followers is based upon psychophysiologic conditions and finds it defenders in Schneider and Heidenhain of Germany, and Durand, Liébault and Bernheim of France; Charcot, who of all investigators is best known in this country, through his contribution to Pepper's "System of Medicine," formulated no theory but engaged solely in practical work.

Hypnotism is a peculiar mental or psychologic condition not necessarily resembling sleep, which may be present in one of three different states—lethargy, catalepsy and somnambulism—a classification borrowed from Charcot, but for therapeutic purposes we utilize only the latter, in which, however, we also find cataleptic symptoms due, as Bernheim has pointed out, entirely to suggestion. The three principal phenomena of somnambulism are catalepsy, anesthesia and suggestibility, and as before stated, different theories have been advanced to explain them. Perhaps the most plausible one is what is known as the theory of inhibition, which was first clearly stated by Heidenhain; according to him the phenomena are caused by inhibition of the ganglion cells of the cortex and the higher brain-centers, the inhibition being brought about by gentle, prolonged stimulation of optic, auditory or peripheral nerves. According to this view that portion of the brain devoted to voluntary movements and volition in general is, as it were, thrown out of gear, and the acts that follow in the hypnotic state are automatic and depend on sensory impressions made by the operator. It is conceded that striped muscular fiber reacts normally only to stimuli generated in or passing through the center of volition, each stimulus traveling over a motor nerve-tract to its destination. Now, this center being inactive, it is easy to understand that any position given to the body calls for no volitional effort to make a change, and any position given will therefore be retained by the subject, hence catalepsy. The center of perception, however, being unaffected, a position of the body associated with any special act will call forth hallucination of that act whenever the body assumes that position, simply a phase of postural suggestion. Such a state of inhibition, however, is found in mental conditions that as yet have not been included in hypnotism, but which I believe may well be regarded as states of momentary or temporary hypnosis. We all know that sudden excess of emotion coming in the nature of a nervous shock does sometimes cause temporary catalepsy or aphasia or even amnesia; we speak of a person as "paralyzed by fear, or dumb with surprise," figures of speech that hide a mine of truth and express a mental state that can well be explained by a temporary inhibition of will-power, an absence of mind, in fact, while that peculiar mental quality which counteracts or prevents this inhibitory action of shock has long been known as "presence of mind," proving that the genius of our language with unerring instinct classified these phenomena long before science was ready with an explanation.

The anesthesia found in the hypnotic state is explained on the same lines, the channels in this case being the sensory nerves. We know that normally a sensory irritation, if sufficiently strong, gives rise to a reflex which we call pain, provided the irritation reaches the center for consciousness; but sometimes it happens that for some reason or other this irritation flies the track and is switched off to the spinal centers, which then set up a motor reflex resulting in muscular twitching, spasm or even contractures. If the higher cerebral centers, included in the center for consciousness, are in a state of inhibition during deep hypnosis, it is impossible for the organism to recognize pain, and if any reflex at all is set up it must travel in motor channels. Such, indeed, is the experience of Chambard and Charcot, with gentle stimulation or irritation, while others, principally among them Bernheim, have placed themselves on record as unable to elicit any motor reflexes except through suggestion. I have tried very patiently to follow the experiments of Charcot, but during deep hypnosis I have never met with a muscular reflex upon gentle irritation that could not be referred to some accidental suggestion; while in the lighter stages of sleep, before all spinal reflexes are abolished, almost any sudden, strong, peripheral irritation will result in muscular reflex without pain. This is in line with Vulpian's experiments on a decapitated frog, and proves the independent, automatic action of the spinal centers; for in hypnosis the higher centers are in abeyance, and the deeper the sleep the lower are the centers dominating the organism, till in lethargy he is kept in a state of simple vegetation through control of the centers in the medulla and cord.

The reasoning faculties are only apparently set aside during hypnosis or else the sometimes strong and apparently intellectual resistance to undesirable suggestions is the result of instinctive cerebral action; nevertheless they are greatly interfered with and react only to strong stimuli. The lower brain, therefore, but little restrained by the intellectual centers capable of discriminating, of accepting or rejecting, shows a great willingness to at once translate visual or auditory impressions into action, apparently glad to be free from this restraint of the intellect or will-power, and in that way the many queer hallucinations depending on suggestibility may be accounted for. Let me for example say to a hypnotized person that he is about to step on a snake, and the impression traveling over the auditory nerve to the sensory center for hearing, calls into life the mind-picture of a snake, which has been stored there by the long and close association of sound and sight; this picture is at once reflected to the retina and causes the subject to see a snake right under his feet; to him this mental snake is as real as any he has ever seen, and he will jump back with every evidence of horror.

It is safe to say that almost every investigator has a method of his own for producing hypnosis, and this at first confuses the student who tries to find the best; it will soon appear to him that all can be referred to three great classes—the fixation method of Braid and Charcot, the method of verbal suggestion of Liébault and Bernheim, and third, a combination method of these two. In the first method the subject is, by means of a slight nervous shock, at a moment of mental concentration and expectancy, thrown into a condition of somnambulism or sometimes even catalepsy or lethargy; it is applicable principally to persons of unstable mental equilibrium, as found in hysteria and allied neurotic conditions, while in persons of normal nervous organizations it is apt to fail. This method is undesirable for several reasons; it is applicable to only one class of subjects with anything like certainty (Charcot claims about 25 per cent.), and besides it can be easily imagined how a nervous shock, however slight, administered to a person with an unstable nervous organization, at a moment of mental tension, may result in all kinds of undesirable mental and nervous phenomena, such as fainting, convulsions, insanity, or even death, a line of reasoning that is proven by actual experience. The method of verbal suggestion is the ideal method of producing hypnosis and it has only one objectionable feature that might make it undesirable for the busy physician. It sometimes requires the expenditure of much time and the exercise of unlimited patience before the subject can come under the control of the operator, Bernheim citing a case where he succeeded only after more than seventy fruitless trials, an exercise of patience that surely deserved success. It is, however, applicable in all cases, without fear of evil consequences; in fact, granted plenty of time and patience in both subject and operator, there will be found but few who do not finally come under the latter's influence; Liébault found 27 in 1011 cases, and Wetterstrand reports 97 failures in 3148 cases. For the physician who has no time to waste in fruitless experiments, the combined method will be found the most convenient, and the more the element of shock is eliminated the less element of danger will it contain. In a normal subject there is never any danger, provided the operator knows his business and is himself normally constituted, but even in hysteric and neurotic subjects all unpleasant results can be prevented or overcome by the confidence and knowledge born of experience. Subjects suffering from cardiac lesions or epilepsy should never undergo the psychic excitement of hypnosis except at the hands of one fully conversant with its power of control, for to lose one's presence of mind in such cases is apt to result in unpleasant experience to the operator and danger to the subject.

When hypnosis is produced, the patient may be in a condition of sleep so slight as to be unperceived by himself, or he may be in a stage of deepest somnambulism, or anywhere between the two extremes; the best classification of the different stages of hypnosis has been given by Bernheim, who divides it into two principal classes depending on the condition of the patient's memory after waking; each of these he divides into stages, nine in all, and gives the tests for their recognition. All, except perhaps the first, are of therapeutic value, since in them the subject is open to suggestions, the therapeutic agent used in this treatment. Total anesthesia frequently exists in the deeper stages of sleep without suggestion, and it was this phenomenon that first attracted the attention of physicians and surgeons even before the days of chloroform.

Dr. Charpignon collected and published the following operations under hypnosis: Amputation of breast, by Jules Cloquet in 1829; amputation of leg, by Loisel of Cherbourg, in 1845; extirpation of parotid gland, by Loisel of Cherbourg, in 1846; double thigh amputation, by Fanton and Toswell of London, in 1845; amputation of arm, by Joly of London, in 1845; removal of tumor of maxillary bone, by Ribaud of Poitiers, in 1847; Broca and Follin reported to the Paris academy, in 1859, an operation for perirectal abscess, and Guerineau of Poitiers, in the same year, a thigh amputation, all done during hypnotic sleep.

That in spite of these glorious results obtained more than half a century ago, such a remedy should have fallen into disuse and even become a *terra incognita* to a large number of the profession can be explained only by the quicker and more satisfactory results obtained by chloroform and ether, remedies that came into use about that time and before the anesthetic properties of hypnotism had become generally known. No modern writer on this subject has ever suggested this remedy in capital operations, and for very good reasons, for the degree of sleep necessary for the abolition of all motor and sensory reflexes can not be obtained in every case; but I wish to say that in all minor surgery requiring anesthesia, and especially in the minor surgery of gynecology, it is the remedy without a rival. By its help I once divulsed the sphincter for irritable ulcer of the rectum without the patient interrupting her conversation with a friend present; she simply felt nothing. But this is not by any means my experience in every case, for suggestions of painlessness frequently fail in operations on the rectum requiring wide stretching, and the patient may show signs of uneasiness, emit groans or have stertorous breathing with a somewhat confused memory of suffering on awakening. It is well known that wide stretching of the sphincter is a powerful stimulant, especially to the respiratory center, which respiratory reflex is not always overcome even in deepest chloroform narcosis; hard, harsh or stertorous breathing is also a common symptom of severe suffering, so I have come to the conclusion that the apparent suffering in these cases is due to autosuggestions brought on by the respiratory reflex, due to stretching of the sphincter; if such is the case it ought to be overcome by proper suggestions, and I am only waiting for material to test this matter thoroughly.

Plastic operations on the perineum and cervix, under hypnosis, must be seen to be appreciated, for when we bear in mind that in that condition the operator not only controls his patient's thoughts but her muscles as well; that when he places her in the lithotomy position she has no desire to move without his permission; that she does not get tired in this position within any reasonable length of time, say an hour or two if necessary; that at the same time she may appear to have all her faculties about her, and at the operator's desire may converse with any one present; that, though the surgeon plies his painful task of cutting, trimming and stitching, the patient is supremely unconscious of pain or suffering; that the number of assistants is reduced and leg-holders or other contrivances are done away with; yes, that the patient herself may be made to assist in the operation by holding instruments handy for the operator's reach; when we bear this in mind, I say, then we may form a faint idea of the value of hypnosis under such conditions. Nor is this picture an imaginary or suppositious one, for I have tried it myself, in trachelorrhaphy, amputation of cervix and perineal operations, both denudation and flap varieties, with the happiest results. Not only is the operation done without pain to the patient, but in this class of cases post-hypnotic suggestions are of great value in producing rest, quiet and relief from pain during convalescence. I am in the habit of letting my patients sleep for six hours after such an operation, when they awake at the appointed time feeling refreshed and easy without a trace of nervousness or nausea. This latter will be appreciated by all who have been doing perineal or rectal operations under chloroform, where the resulting nausea frequently puts the sutures to a severe strain.

(*To be continued.*)

Correspondence.

International Congress Against Abuse of Alcohol.

Hartford, Conn., May 6, 1899.

To the Editor:—In these times of great international gatherings it will be news to many persons that the alcoholic problem has been the theme of seven great continental meetings in Europe, held at intervals of two years, since 1885, the seventh having been held in Paris, April 4 to 9. From the first they have been made up of a large number of physicians, clergymen, teachers and reformers generally, and have steadily grown in interest and size until the Paris gathering, which assumed in reality the proportions of a great world's congress.

Sixteen hundred and forty members were registered, which included over one hundred physicians and six hundred professional men and women, government officials, laymen, reformers and society delegates.

The topics discussed have been very complete, ranging all the way from the most passionate appeals to give up alcohol, with terrifying pictures of its effects on body and mind, up to the most critic chemic analysis of different alcohols and the most exhaustive statistic balancing of figures and reports.

The Belgic minister of justice, whose position corresponds to that of the chief justice of the U. S. supreme court, presided at several sessions.

Dr. Legrand, a noted specialist and superintendent of lunatic asylums on the Seine, was the president; the French minister or secretary of State occupied the chair at two meetings, while a number of very high functionaries presided at the different meetings and expressed themselves with much earnestness.

Invitations to attend this congress were sent to every known leader and writer on any phase of the alcoholic problem in the world, responses being received from nearly two thousand persons. I was appointed to muster the American contributors and delegates to this meeting. Three physicians, two editors, one army officer, three teachers and clergymen appeared to represent America, and about twenty papers were offered. The congress committee seemed to be very cautious, and only gave abstracts in French of a few of the leading papers offered, and were clearly able to discriminate their value.

Among the American papers which attracted considerable attention were those of Drs. Davis, Mason, Brower, Kellogg, Sheperd, Manly, Hughes, and Crothers. The president announced that the American contributions and papers showed most positive proof that they led all the world in this field, as they did in other things. This was more than a compliment, as the forthcoming volume of Transactions will show. Of course, the moral and ethic sides of the subject were most prominent.

A cardinal and two bishops of the Roman Catholic Church made eloquent speeches, and official representatives of the governments of France, Belgium, Germany and Switzerland spoke at some length. The congress was divided into sections which held separate meetings, and the general session was held in the afternoon and early evening. The meetings were all held in l'Ecole de Médecine, and the various halls and amphitheaters were crowded.

One very significant fact brought into prominence was that France consumes more spirits than any other nation in the world. The rate for 1898 was 13 liters to each person, including wines, beers and strong liquors. In one province of France there is a saloon for the sale of wines and spirits for every three male persons. Insanity, pauperism and crime are increasing so rapidly that the governments are alarmed.

The following table was given as authentic, to show the actual amount of spirits, including wine and beer, consumed by each person in the different countries:

Country.	Liters per capita.
France	14.19
Belgium	10.50
Germany	10.50
British Isles	9.25
Switzerland	8.75
Italy	6.50
Holland	6.25
United States	6.10
Sweden	4.50
Norway	3.50
Canada	2.50

To show the changes, Sweden in 1849 drank 21 liters a year to each male inhabitant; in 1898 this had fallen to 4½ liters to each man. This result has been attributed entirely to education and agitation, with government control.

Several of the Paris papers were very pronounced in their editorials on the need of this congress and the danger of alcohol. The *Figaro*, not a temperance paper, but one of the great influential dailies, announced in headlines the following:

> Alcohol is death to the race. Alcohol will kill emperors, as it has killed the native tribes of every nation of the world. Alcohol means disease, means tuberculosis, means decay, sterility, impotence; it is another word for wickedness, cruelty, vice, and insanity; it means misery and the downfall of nations, and the best way to prove patriotism and to be useful to one's country is to fight against alcoholism.

The medical journals made only brief references to the congress, and later some of the papers read will appear. A daily bulletin was published, giving abstracts of all the papers and some of the discussions. The Transactions will appear in a huge volume later.

One of the many new topics was the influence of climate on the poisonous action of alcohol. Some alcohols become rapidly intoxicating in certain climates, other climates repel the intoxicating action. Some drinks are dangerous at different seasons of the year, and so on. Another topic was the influence of food in early life, predisposing to alcoholism later. Tuberculosis following the injury from alcohol and its fatality was the theme of considerable discussion.

The subject of asylums for inebriates was treated at some length, the fact being brought out that Switzerland has more asylums of this class in proportion to its extent than any other country in the world. England has recently opened several asylums for the reception of criminal inebriates, and passed laws giving judges power to commit to them rather than to prisons. Hypnotism came in for a large share of attention, and the bath cures and other measures were mentioned at some length. A great deal of enthusiasm gathered about the instruction of the young in temperance physiology, and many papers and discussions followed.

It would be impossible to give any clear idea of the many topics presented and the intense enthusiasm of all the discussions which followed, and a great deal of it would have but little medical interest except physiologically. From this point of view the congress was really one of the most significant gatherings of the closing years of the century. It shows that Europe is becoming alarmed, and that a deep conviction is growing that the evils from alcohol must be taken up as a great sanitary and medical topic. The recognition of the medical side of this evil, and the physical means required to cope with it, showed a great advance.

While this gathering was not particularly notable for new facts, it gave greater eminence to old theories and greater prominence to the need of more accurate study of this evil. There was something very stimulating in this hearty union of all classes for the study of the evils of alcohol; while many different societies and church associations have conflicting theories of the causes of and remedies for alcoholism, they all argue that certain general physical causes are traceable to it and can be removed.

The leading continental physicians and teachers are very emphatic in calling alcoholism a disease and urging medical treatment. The continental physicians appear to have much influence with laymen on matters of social and sanitary science, and hence are put forward prominently as leaders.

In the sectional meetings physicians were given a deferential hearing, more so than clergymen, and several French and Swiss physicians displayed unusual oratoric powers. A congress of this kind would be a great help to clear away the confusion which hangs over the subject in this country. Hundreds of physicians would welcome a general scientific study of this subject, and a public sentiment that would encourage efforts to find causes and remedies for this evil.

The foolish unfounded theories which cling to this topic are fast disappearing in Europe, and wine and beer drinking is as freely condemned as the excessive use of stronger spirits. Physicians, above all others, should teach the facts, and not be taught by laymen, or fear the popular opinions of persons who have little or no accurate knowledge.

T. D. Crothers, M.D.

Competitive Examinations.

Cincinnati, Ohio, May 2, 1899.

To the Editor:—The letter of Dr. Bayard Holmes in last week's Journal (see April 29, p. 927) meets with my hearty approval. I am and long have been convinced that a written examination, as an exclusive means of determining qualifications in any department, is fallacious. As a means of determining the ability of candidates for hospital interneships, it is strikingly defective. I have no objection to written examinations as *one* way of finding out what a person may know, but they ought to occupy a subordinate place in the general plan of investigation. The reform method should embrace all that is now included in the written examinations, plus test exercises in the laboratories, in the mortuary and at the bedside of the sick. When this comprehensive plan is adopted, examining bodies may ascertain approximately what candidates may or may not know, and that is more than can be said of the present method.

Another pernicious feature of the present system is the preliminary coaching to which intending applicants for hospital positions are subjected. If the mere cramming process were all of it, it would be bad enough, but it is not. In more than one city of my knowledge students are requested at the time of matriculation to declare their intention of going in for interneships, and great rivalry exists between schools to score the largest winnings before these more or less farcical concerns. Students who enter for the race are coached from the beginning, not with the object of giving them a broad, symmetric and logic medical education, but with the object of making them familiar with the peculiar views of individual members of the examining body. Lists of old questions are a part of the stock in trade of professional coachers. Students are encouraged to miss regular lectures that may not have a direct and apparent bearing on the prospective examination. They are then permitted, in certain cities, to go up for the examinations at the end of their junior year, returning to their respective schools for the finals, a twelvemonth later. They then get their diplomas after an actual attendance at the colleges, of probably less than two years, all told. When they go to their State licensing bodies for registration they all present certificates of actual attendance on four full courses of lectures in four separate years! How can these things be? Who knows? But what it is, and this that is, is a matter for the licensing bodies. It would not be in the least malapropos on the program of the coming meeting of the Confederation of State Examining and Licensing Bodies. It might not be amiss if Dr. Bayard Holmes' own organization, the Association of American Medical Colleges, would also throw its search-light in this direction. It would certainly be fruitful of better results than the recent endeavor to ostracize first-class medical college men who conducted three-year schools and were honest enough to say so.

R.

Revision of Pharmacopeia.

Philadelphia, May 1, 1899.

To the Editor:—In accordance with instructions given by resolutions passed at the National Convention for Revision of the Pharmacopeia of the United States of America, held in Washington, in 1890, I herewith give notice that a general convention for the revision of the pharmacopeia of the United States of America will be held in the City of Washington, D. C., beginning on the first Wednesday in May, 1900. It is requested that the several bodies represented in the convention of 1880 and 1890, and also such other incorporated State medical and pharmaceutic associations, and incorporated colleges of medicine and pharmacy, as shall have been in continuous operation for at least five years immediately preceding this notice, shall each elect delegates, not exceeding three in number; and that the surgeon-general of the army, the surgeon-general of the navy, and the surgeon-general of the marine-hospital service shall appoint, each, not exceeding three medical officers to attend the aforesaid convention.

It is desired that the several medical and pharmaceutic bodies, and the medical departments of the Army, Navy and Marine Hospital Service, shall transmit to me the names and residences of their respective delegates, so soon as said delegates shall have been appointed, so that a list of the delegates to the convention may be published, in accordance with the resolutions passed at the 1890 convention for the revision of the pharmacopeia, in the newspapers and medical journals in the month of March, 1900.

Finally, it is further requested that the several medical and pharmaceutic bodies concerned, as well as the medical departments of the army, navy and marine-hospital service, shall submit the present pharmacopeia to a careful revision, and that their delegates shall transmit the result of their labors to Dr. Frederick A. Castle, 51 West Fifty-eighth Street, New York City, secretary of the Committee of Revision and Publication of the U. S. Pharmacopeia, at least three months before May 2, 1900, the date fixed for the meeting of the convention.

H. C. Wood, M.D.

President of the National Convention for Revising the U. S. Pharmacopeia, held in Washington, D. C., A. D. 1890.

No Smallpox in Uniontown.

Uniontown, Pa., May 6, 1899.

To the Editor:—Under the caption of "Medical News," in the Journal of May 6, you state Uniontown has eight cases of smallpox and that the government has ordered all mail fumigated, and that the freight and traffic business has been suspended.

I have been practicing medicine at this place for the past fifteen years and during all that time this is the first that I have ever heard that we had any smallpox. Allow me to correct your statement and say that there is not and has not been any smallpox at this place for the past twenty years.

Very respectfully, Jacob S. Hackney, M.D.

[The correspondent who furnished us the item referred to will not repeat the offence.—Ed.]

Current Medical Literature.

Titles marked with an asterisk (*) are noted below.

Chicago Medical Recorder, April.

1.—*Value of Resection of Sympathetic Ganglia of Neck in Cure of Epilepsy. Carl Beck.
2.—*Remarks on Histopathology of Syphilis. Maximilian Herzog.
3.—*Extragenital Chancre. L. Blake Baldwin.
4.—*Remarks on Primary and Secondary Syphilis. David Lieberthal.
5.—*Gummata and Chancre Redux. Henry G. Anthony.
6.—*Treatment of Syphilis. R. R. Campbell.
7.—*Seven One-Minute Points on Syphilis of the Nervous System. Hugh T. Patrick.
8.—*Reports on Surgical Cases. Weller Van Hook.
9.— Case of Aortic Aneurysm. O. T. Freer.
10.— Cystic Kidney. W. F. Dickson.

Archives of Ophthalmology (N. Y), March.

11.—*Pathology of Amblyopia Following Profuse Hemorrhage and of that Following Ingestion of Methyl Alcohol, with Remarks on the Pathogenesis of Optic-Nerve Atrophy in General. Ward A. Holden.
12.—*Introduction of Iodoform into the Anterior Chamber of the Eye in Tubercular Iritis. N. J. Weill.
13.— A Case of Melanosarcoma of the Choroid. Matthias Lanckton Foster.
14.—*Electromagnets for Use with the 110-Volt Direct-Current Lighting Circuit. A. B. Kibbe.
15.—Clinic Contributions. Kaspar Pischel.
16.— Clinic Observations on a Case of Partial Incomplete Coloboma of the Iris. Arthur Gloor.
17.— Two Cases of Iridotomy Under Discouraging Conditions. F. M. Wilson.
18.— Clinic Experience with Haab's Powerful Electromagnet. Herman Knapp.
19.— Restoration of Conjunctival Cul-de-Sac in a Case of Total Symblepharon, by Means of Thiersch Skin Grafts. Charles H. May.
20.— Law of Listing and Some Disputed Points about its Proof. Carl Weiland.

Alienist and Neurologist (St. Louis), April.

21.— Outline of Psychiatry in Clinic Lectures. C. Wernecke.
22.—*Insanity Defined on the Basis of Disease. C. H. Hughes.
23.— Degeneracy Stigmata as a Basis of Morbid Suspicion. J. G. Kiernan.
24.— Imbecility and the Insanity of Imbecility Before the Law. C. H. Hughes.
25.— Case of Bilateral Athetosis, with Some Unusual Symptoms. Given Campbell.
26.— Syphilis and Insanity. Edoardo Collotti.

Annals of Otology, Rhinology and Laryngology (St. Louis), February.

27.—*Remarkable Case of Plastic Operation on the Face; Formation of Eyelids and Total Restoration of Nose. Carl Beck.
28.—*Trachoma of the Conjunctiva and its Relation to Diseases of the Nose. Dr. Zeim.
29.—*Nasal Insufficiency Due to Exaggerated Prominence of Anterior Arch of Cervical Vertebræ. James E. Newcomb.
30.— Delusional Insanity Resulting from Auditory Concussion. L. R Culbertson.
31.— Bilateral Aural Lesion Following Traumatism. James F. McCaw.
32.— Treatment of Uncomplicated Suppuration of the Middle Ear. H. A. Alderson.

New Orleans Medical and Surgical Journal, May.

33.— Signs and Tests of Death. Justin Herold.

Peoria Medical Journal, April.

34.—*Erysipelas-Phlegmonous. J. W. Hensley.
35.—*Myxedema. F. C. Robinson.
36.— The Doctor as a Collector. J. E. Coleman.

Southern California Practitioner (Los Angeles), April.

37.—*Management of Pulmonary Hemorrhage. Norman Bridge.
38.—*Intubation of the Larynx. B. F. Church.
39.—*The Pineal Gland or the Third Eye. B. M. Davis.
40.— Intestinal Obstruction. J. B. Murphy.
41.— Hypertrophy of the Pharyngeal Tonsil and its Relation to Ear Troubles. H. Bert Ellis.
42.— Nutmeg Poisoning. Walter Lindley.

Medicine (Detroit), May.

43.—*Ignaz Philip Semmelweis, Discoverer of Cause of Childbed Fever.
44.—*Contagiousness of Puerperal Fever as Set Forth in an Essay by Oliver Wendell Holmes.
45.—*Contagion and Infection in Nervous and Mental Diseases and Degeneracy, and Measures of Prevention. Richard Dewey.
46.—*A Late form of Gonorrheal Cystitis in the Female. Gustav Kolischer.
47.—*Etiology, Prevalence and Treatment of Hysteria. U. O. B. Wingate.
48.— Border-Line of Insanity. James C. Patterson.

Archives of Pediatrics (N. Y.), May.

49.— Meningitic Typhoid Fever; Acute Yellow Atrophy of the Liver; Two Cases of Thigh Friction in Infants. J. P. Crozer Griffith.
50.—*Recent Advances in Surgery of the Skull. Seneca D. Powell.
51.—*Report of Twenty-five Cases of Laryngeal Diphtheria Treated by Antitoxin and Intubation. Theodore J. Elterich.
52.—*Successful Treatment of Chorea with Trional and Sulphonal. J. Howe Adams.

Medical Mirror (St. Louis), April.

53.—*Arteriosclerosis. James T. Whittaker.
54.—*Syphilitic Chancre of the Conjunctiva. Flavel B. Tiffany.

Fort Wayne Medical Journal-Magazine, April 1.

55.— The Revival of the Dead. William P. Whery.

St. Louis Medical and Surgical Journal, May.

56.—*Toxicity of Tobacco and a Method of Eradicating It. Heinrich Stern.
57.—*Odorless Iodoform. A. H. Ohman-Dumesnil.
58.—*A New Operation for Hernia. Emory Lanphear.

St. Paul Medical Journal, May.

59.—*Fistula Colli Congenita. J. Collins Warren.
60.—*Nephrectomy for Renal Tuberculosis, with Report of a Case. Edward Reynolds.

Canadian Journal of Medicine and Surgery (Toronto), May.

61.—*Clinical Report on Three Cases of Unusual Interest. Thomas H. Manley.
62.—*Remarks on the Treatment of Clubfoot, based on the Personal Experience of Three Hundred Cases. B. E. McKenzie.
63.— Correlation of Insanity and Crime. Ezra Hurlburt Stafford.

Hot Springs Medical Journal, April.

64.—*Treatment of Syphilis. R. R. Campbell.
65.—*Seven One-Minute Points on Syphilis of the Nervous System. Hugh T. Patrick.

Tri-State Medical Journal and Practitioner (St. Louis), April.

66.— Great Bells of Edinburgh. Joseph Bell.
67.—*Toxicologic Chemistry in Gastric Diseases. John Zahorsky.
68.— Pediculosis. A. H. Ohman-Dumesnil.

Western Clinical Recorder (Chicago), March.

69.—*Acute Articular Rheumatism. Arthur R. Edwards.
70.—*A Case of Interstitial Tubal Pregnancy, Operated in the Fifth Month Before the Occurrence of Rupture. O. G. Pfaff.
71.—*Treatment of Acute Endocarditis by Sulphuretted Saline Baths. E. Arman Fletcher.
72.—*Surgery of the Kidney. Bayard Holmes.
73.—*Weather Affections. W. Stuart Leech.

Southern Practitioner (Nashville, Tenn.), May.

74.—*Immunity and Susceptibility. I. A. McSwain.
75.— Chronic Gastritis. W. C. Bilbrow.

Medical Register (Richmond, Va.), April 15.

76.—*A Consideration of Tuberculosis and Lateral Curvature of the Spine, with Reference to the Treatment and Ancient and Modern Spinal Support. A. M. Phelps.
77.—*Oxaluria—Its Clinic Significance. Robert F. Williams.

Texas Medical News (Austin), April.

78.—*Intermittent Fever. A. Schirman.
79.—*Report on Balantidia Coli (Intestinal Infusorium). A. Schirman.

Toledo Medical and Surgical Reporter, May.

80.—*Examination of the Eyes of School Children. B. L. Milliken.
81.—*Hypodermic Treatment of Pulmonary Tuberculosis, with Clinic Reports. Charles Wilson Ingraham.
82.—*Creosote in Phthisis Pulmonalis. L. H. Warner.

New Yorker Medicinische Monatschrift, April.

83.—*Syphilis und Gesichtslähmung. Joseph Fraenkel.

Medical Herald (St Joseph), April.

84.—*Ventral Hernia Following Operations, and Its Prevention. E. E. Montgomery.
85.—*A Clinical Report of Cases of Abscess of the Liver. Edwin Frazer Wilson.
86.— Report of Regular Surgical Clinic at the Augustana Hospital, Chicago. A. J. Ochsner.
87.— Address to the Graduating Class of the Ensworth Medical College of St. Joseph. W. J. Bell.
88.— Some Causes that Contribute to Failure in the Treatment of Nasal Catarrh. John A. Hale.

Pediatrics (N. Y.), May.

89.—*Pathogenesis of Gastro-enteric Disease in Infants. John Zahorsky.
90.— Infant Feeding. A. W. Kratzsch.
91.— Colic. Philip F. Barbour.
92.—*Note on Epidemic of Malignant Scarlet Fever Occurring at Clearfield, Pa. S. D. Bailey.

Medical Age (Detroit), April 25.

93.— An Address to Graduates. Donald Maclean.
94.— Operation for the Correction of a Rectocele, a Cystocele, Displaced Uterus and Lacerated Cervix. Barton Cooke Hirst.
95.—*Antiseptic Treatment of Typhoid Fever. A. G. Ellis.
96.— Mydriatics and Myotics in General Practice. J. A. L. Bradfield.

Maryland Medical Journal, May 6.

97.— Radical Treatment of Chronic Suppurative Otitis Media. H. O Reik.
98.— Gelsemium Semper-virens. Noble P. Barnes.

Cincinnati Lancet-Clinic, May 6.

99.— Tubercular Annotations. H. H. Spiers.
100.— Apples for Constipation. Geo. J. Monroe.

Medical Record (N. Y.), May 6.

101.—*Some of the Objections to the Neuron Theory. Stewart Paton.
102.—*The Third Hitherto Undecided Disease of the Ovary: Myxomatous Degeneration. Mary A. Dixon Jones.
103.—*Intussusception in an Infant Nine Months Old: High Rectal Injection: Recovery. W. P. Northrup.
104.—*Appendicitis or Salpingitis with Complications and a Report of Some Unusual Cases. Thomas H. Hawkins.

Boston Medical and Surgical Journal, May 4.

105.—*Abuse of Medical Charity: The Passing of the "Charity" Hospital and Its Dispensary. Agnes C. Vietor.
106.—*Cases of Dislocation of the Os Magnum. Samuel L. Abbott.
107.—*Inversion of the Uterus. H. E. Marion.

Medical Review (St. Louis), May 6.

108.—*Therapeutic Value of Soluble Silver. John Zahorsky.
109.— Capsulo-tenectomy. Frank W. Hilscher.

Medical News, May 6.

110.—*On the Use of Antistreptococcic Serum in Infection by Streptococcus. A. T. Bristow.
111.—*Unusual Localizations of Tuberculosis. Aldred Scott Warthin.
112.— Eclampsia from the Surgical Standpoint. George L. Broadhead.

New York Medical Journal, May 6.

113.— Report of a Case of Removal of the Gasserian Ganglion with the Second and Third Divisions of the Fifth Nerve, Hartley-Krause Operation. John F. Erdmann.
114.—*Gastrodiaphany in the Infant. Henry Koplik.
115.—*Treatment of Syphilis. Boleslaw Lapowski.

116.— Prevention of Hay-Fever. Edward W. Wright.
117.—*Gold in the Treatment of Anemia and Malnutrition. J. P. Sheridan.
118.—*Position in Sleep. A Principle in Neurologic Therapy. Wm. Browning.

Philadelphia Medical Journal, May 6.

119.—*Malaria with Typhoid Fever. J. M. Da Costa.
120.—*Two Cases of Morbus Hemorrhagicus Nervosus. William Pepper and Alonzo E. Taylor.
121.— Report on the Condition of the Second Army Corps, From Sept. 29, 1898, to March 17, 1899.
122.— Acute Inflammation of the Tympanic Cavity. S. McCuen Smith.
123.—*On a Source of Danger to Röntgen Ray Experimenters. M. I. Wilbert.
124.—*New Test for Morphin. A. M. Kotzebue.
125.— Hat Pin in Male Bladder. Herman B. Sheffield.

1.—See abstract in Journal, March 25, p. 661.

2.—This paper was printed in full in the Journal, April 25, p. 802.

3.—See abstract in Journal, March 11, p. 543.

4.—Ibid, p. 544.

5.—Ibid, 543.

6.—Ibid.

7.—Ibid, p. 544.

8.—Ibid.

11.—**Amblyopia from Hemorrhage.**—Holden has experimentally investigated the blindness observed after profuse hemorrhage, which has been accounted for variously. He operated on two healthy dogs and later examined the eyes microscopically. The pathologic conditions were edema of the nerve-fibers and ganglion-cell layers of the retina, and some ganglion cells beginning to show signs of degeneration. This will explain the ordinary cases of amblyopia following hemorrhage. In those unusual ones in which the sight disturbance takes the form of a central scotoma, while the ophthalmoscopic changes indicate retrobulbar neuritis, some special explanation is required which can not be given except after pathologic investigation of each particular case. He also investigated the suddenly developing amblyopia which has been observed after ingestion of methyl alcohol, and finds that it comes under the same catagory, as due to the nutritive disturbances in the ganglion cells of the retina.

12.—**Iodoform in Anterior Chambers of Eye.**—Weill has experimented in the University Eye Clinic at Zurich on the effects of the introduction of iodoform into the anterior chamber, and he finds from his clinic observations and histologic examinations, that sterilized iodoform is slowly absorbed in the anterior chamber even if the boundaries of the same are diseased; that it undoubtedly exercises a mitigating influence in tuberculosis, and that it may bring about a temporary retardation of tubercular invasion and afford sufficient time to build up the general system to better resist the infection; its use does not preclude other remedies, but on the contrary, needs them as adjuncts, and it is applicable in both chronic and acute cases.

14.—**Electromagnets.**—Kibbe describes a magnet which he has devised as a substitute for the Haab magnet as less cumbersome and expensive and more convenient.

22.—**Insanity Defined.**—Hughes reviews some of the attempts to produce a satisfactory definition of insanity and offers the following as his contribution to the total. He says: "We need never be at sea before any court, before any jurist, in giving our views of insanity as *a disease primarily or secondarily involving the brain of the individual so as to produce in him a change in the natural habits of thought, feeling or action—a change of his normal, natural mental expression by which, and by reason of the disease underlying all, he is placed out of harmony with his surroundings, with his natural self or with his normal family type of mind.*

27.—**Plastic Operation.**—Beck reports a remarkable case of plastic surgery in a girl of 14 years, suffering from inherited syphilis, in which there was total destruction of the nose, including the bony septum, both lower eyelids and the central portion of the palate. Persistent treatment relieved the acute symptoms of the disease, and after a failure to remedy the condition by operation, she came into Dr. Beck's hands. The first stage was the removal of the diseased right conjunctiva and transplantation of a graft of the oral mucosa into the wound; this succeeded only partially. The left lower eyelid was then restored by a tongue-shaped flap dissected from the left temple with success. Next the whole scar on the right cheek was excised and the same kind of flap taken from the right temple inserted to restore the removed tissue and form the right eyelid. The formation of a nose was accomplished by two flaps from the cheeks, forming its inner lining, and a triangular flap from the forehead, turned down and cut off afterward at its base. Unfortunately a little portion of this flap died out and a small opening remains at the root of the nose. An attempt was made to close this by bringing the tissue nearer together, but without success. Each stage of this operation is illustrated. The case is an interesting one and its success, though not complete, is, in its way, a triumph for surgery. The girl has rallied from the operations and it is hoped that there may be some future minor improvements which will perfectly restore her face.

28.—**Trachoma.**—Ziem, discussing the causation of trachoma, holds some views on climatic or telluric conditions, such as excessive heat and sunshine; dust and vapor, directly affecting the eye; mold, in malarial districts especially; swamp air, affecting the whole respiratory system through the nose, the conjunctiva becoming affected either by continuity or vascular connection; and by means of some agent entering the digestive tract, possibly in the drinking water, so that it is carried to the eye through the circulation. Each of these causes is discussed separately. He thinks that the intimate connection between trachoma and nasal catarrh is established, and this explains certain peculiarities in its manifestation better than other theories. These views affect his treatment of the disease, and he has made it rather dietetic and hygienic, even when local scarification is carried on. He believes that much can be done by proper measures of public hygiene, drainage, ventilation, foresting, etc.

29.—**Nasal Insufficency from Bony Prominences.**—Newcomb calls attention to the fact that in some cases, as shown by Mendel and others, there may be serious nasal obstructions due primarily to bony prominences in the rhinopharynx, generally accompanied by adenoids. He believes that in this case it is advisable to remove the adenoids, but without encouraging a too hopeful feeling as to the results. Usually as the patient grows older the projection becomes proportionately less in size and may cease to give any trouble.

35.—**Myxedema.**—Robinson reports a case of typic myxedema in a woman aged 52, the first symptom dating back about ten years. Iodid of potassium relieved some of the symptoms, but under thyroid there was very decided improvement. Death occurred from intercurrent trouble, diagnosed as gall-stone and treated by an "irregular," with morphin injection.

37.—**Pulmonary Hemorrhage.**—Bridge discusses the subject of hemoptysis and its treatment. He objects to the usual methods of giving ergot, salt, etc., and thinks that morphin, preferably with atropin, hypodermically, is the best remedy. The patient should be kept quiet and in a recumbent position. Ice on the chest has no special value.

38.—**Intubation of Larynx.**—Church discusses the methods of intubation and the indications for its use. He believes that it should not be delayed too long or until the severe symptoms appear.

39.—**Pineal Gland.**—Davis touches up a bit of popular science, namely, the statement that has gone about in the papers, that man once possessed a third eye, by means of which he was able to see above his head. He describes the anatomy of the pineal gland, its development in the various orders of life, and shows that, in mammals at least, it is simply the rudiment of a primitive organ that is now useless, like the vermiform appendix and some others. The old theory that the pineal gland was the seat of the soul would require the belief that the soul had its greatest development, or at least required the most space, in the lower animals and in the early periods of embryonic development. Very few conclusions are warranted as regards the pineal gland. Its prominence in all forms of animals would indicate that it must have been once of some importance. Its early appearance and rapid development rather indicate that it is very primitive and has long since become rudimentary. The presence of nerve-fibers and their subsequent disappearance, and a few indications of its having been an eye like organ, suggest that it was originally some kind of a sense organ and probably one affected by light. What its present function is, it is hard to say.

43 and 44.—**Puerperal Fever.**—With the historic sketch of Semmelweis is also noticed the well-known paper by Dr. Oliver Wendell Holmes, which antedated any publication by the German physician and which calls attention as emphatically to the contagious nature of puerperal fever. The difference between Holmes' paper and that of Semmelweis is that one was distinctly polemic and from clinic observations only, while the latter based his theories on experiments. The author of the sketch here given does not admit that Holmes made any discovery at all and, therefore, the question of priority between Holmes and Semmelweis need not be raised. [Holmes, however, has the distinction of having first called public attention to the danger, and it really matters little whether he verified his conclusions by logic deductions or by experiments. We are a little apt in science to overvalue physical experiments.—Ed.]

45.—**Nervous and Mental Diseases.**—Dewey's paper calls attention to the facts of mental contagion and degeneracy. He does not value the legal remedies that have been proposed, the regulation of marriage, etc. The danger is mostly in those cases that are not pronounced degenerate, but are near the normal line. We have no reason to despair because we, observing more closely, see more degeneracy and insanity at the present time.

46.—**Gonorrheal Cystitis.**—Kolischer remarks on the symptoms and appearances in cases of gonorrheal inflammation of the vesical mucosa. These cases are not easily treated by the ordinary methods of washing out the bladder or even by the instillation of strong solutions of nitrate of silver. The method he adopts is to fill the bladder with water, then introduce a sharp curette through the operative cystoscope, scraping the membrane and curetting the ulcerated surface. After this the bladder is washed. With proper after-treatment (careful instillation of nitrate of silver), a cure is usually easily affected. In obstinate cases it may be necessary to use the nitrate of silver pencil or galvanocautery. He cautions against the use of cocain, as the bladder thus treated sometimes absorbs very rapidly, and suggests the use of morphin suppositories if necessary, or even general anesthesia. This treatment, he claims, is uniformly successful and removes a constant source of danger, the secondary infection of the ureters and kidneys.

47.—**Hysteria.**—Wingate describes some of the symptoms of hysteria and gives his ideas as to its treatment, which must be largely of a prophylactic nature. He suggests that the question may be raised as to whether, considering the marked heredity in these cases, marriage should be prohibited. He thinks that in many cases the famous advice of Punch (he has it Puck) should be followed. The problem of treatment is restoration of function of the nerves and is best brought about by a complete change of surroundings and building up the system in every possible way. He condemns the use of hypnotism, it being a sort of induced hysteria itself. He gives details as to special symptoms.

50.—**Surgery of the Skull.**—Powell describes the dangers of concussion of the brain from the gouging or biting instruments, and his own appliances and technic. His electric saw and its management are illustrated by half-tone cuts.

51.—**Diphtheria Antitoxin.**—Elterich briefly reports twenty-five cases of laryngeal diphtheria treated with antitoxin, twenty-one of which were also intubated. There were five deaths, all of cases complicated with heart failure, pneumonia or sepsis, a ratio of 20 per cent., which, considering the class of cases, may be considered very favorable. Antitoxin was injected in three cases on the first day, three on the second, nine on the third, five on the fourth, three on the fifth and two on the seventh. The tube was worn two and a half days on the average. Antitoxin should be used as early as possible, and, if so, may often avoid the need of intubation. This ought not be delayed too long. Restlessness and constant dyspnea are indications for its performance. The tube should be allowed to remain in the throat till the diphtheritic membrane has disappeared and expectoration has become thin and viscid.

52.—**Treatment of Chorea.**—Adams discusses the treatment of chorea by various drugs, and mentions a case of his own in which great improvement followed the giving of trional in two-grain doses every four hours. He has tried it since in other cases with equally good results. In his opinion trional and sulphonal thus administered are next to arsenic in the treatment of this disease.

53.—**Arteriosclerosis.**—Whittaker's article is a comprehensive one, covering the whole subject of the nature, etiology, symptoms and treatment of atheromatous arterial disease. Age, syphilis and alcohol are, in his opinion, its most active causes, but many other elements enter into its etiology, and all of these are to be considered in its prophylaxis and treatment. The ability to adjust work to the changes of advancing life, regulation of diet, oxygen in the way of fresh air and outdoor life, drugs, baths and exercise judiciously used to relieve the overtaxed vessels and heart, and mental exercise to keep the faculties in practice are all of use. That there are more rust out than wear out, as Grant said of horses, is true of men also.

54.—**Chancre of Conjunctiva.**—Tiffany gives the general facts as to syphilitic chancre of the eye, and briefly reports two cases that came under his personal care. One of them is illustrated.

56.—**Tobacco.**—Stern describes the toxic action of tobacco and details a method suggested by Gerold of Halle to prevent the injurious action of the tobacco elements. He uses a decoction of 15 grams of tannic acid, boiled with 1.5 kilograms of water until the weight is reduced to 1 kilogram, and 30 grams of the essential oil of origanum are added. The mixture is then filtered and cooled to 16 C., when it is spread over 8 kilograms of tobacco leaves, which are then subjected to slight pressure and moderate heat. Stern has found tobacco thus treated to be comparatively innocuous in its effects.

57.—**Odorless Iodoform.**—Ohmann-Dumesnil recommends the odorless iodoform (Johnson), the difference of which from the ordinary iodoform is in the absence of hydrogen. Besides being non-irritating as well as non-offensive, it possesses all the good qualities of ordinary iodoform in a still higher degree.

58. **Hernia.**—Lanphear suggests a new operation for hernia in which he first lifts out the spermatic cord and testicle from their natural position and places them in an artificial sac made from the hernial sac, enclosed with catgut sutures in such a way as to prevent too much pressure on the cord, and pushes the whole into the abdominal cavity. He then completely obliterates the canal as is done in operation for inguinal hernia in the female. The possibility of atrophy of the organs thus treated, he admits, but he has also seen it follow after Bassini's operation. The possibility of a suppurative orchitis or epididymitis was thought of, but the rarity of such inflammation of these structures is such that the danger can scarcely outweigh the advantage gained. Thus far he has had only the best results with this operation.

59.—**Fistula Colli Congenita.**—Warren describes an interesting case of congenital fistula or branchial cleft of the neck, which was treated by extirpation. The tube was extremely elastic and appeared in length and caliber not unlike the appendix veriformis. Its upper end was closed. There was very little difficulty in its removal and the author suggests that in other cases radical extirpation is to be preferred to the more common method of producing irritating inflammation in the effort to obliterate the canal.

60.—**Renal Tuberculosis.**—Reynolds reports a case of nephrectomy in a woman 44 years old, in which the left kidney was removed successfully. He thinks that, while the case is not an exceptional one, being one of three in his experience, he finds so much skepticism in regard to the unilateral character of renal tuberculosis that he thinks every carefully observed case that has done well after operation for a sufficient length of time should be reported. He believes, in regard to the diagnosis, that the examination of all cases of urinary disease in women should consist of, besides the history, a careful digital and bimanual palpation of the kidneys and the abdominal portion of the ureters, of the genital organs and of the bladder and vesical ends of the ureters (per vaginam), also a cystoscopic examination of the bladder, preferably in the knee-chest position. If any inflammatory condition of the mucous membrane is found, that must first be disposed of, but if none is present, the whole bladder should be examined carefully, special attention being given to the trigonum; each ureter should be catheterized and the resulting specimen submitted to an expert. If pus is found in the sediment from either, it is well to use an inoculation test on guinea pigs. The existence of pus in the ureteral urine means calculus, tuberculosis or simple pyelonephritis. Stone may possibly be detected by the sound or by a skiagraph, though these are not absolutely certain. Tuberculosis, if the tubercle bacilli are not detected, may be proved by inoculation experiments. Simple pyelonephritis must be diagnosed by the exclusion of the other conditions.

61.—**Dermoid of Scrotum, etc.**—Manley reports a case of an enormous dermoid of the scrotum in a man aged 60, that had developed since his 53d year. The tumor measured 28 inches over its antero posterior diameter and 24 inches over the lateral. On operation the usual contents of a dermoid were found: hair, calcareous matter, etc. Recovery. He also reports two cases of umbilic hernia, one in an old woman, and one (congenital) in a newborn female infant, which contained all the principal abdominal viscera.

62.—**Clubfoot.**—McKenzie furnishes an illustrated paper on clubfoot. He concludes, on the basis of the cases observed by him, that the prognosis is good in ordinary non-paralytic cases, that in children restoration to the normal in form should be possible and approximately so as to function; that restrictive methods by dressings or apparatus should be as little used as possible. Persistent manipulation is useful. Operative treatment should be thorough, leaving no deformity, and intelligent and persistent after-treatment is an essential. Age is no bar to treatment. The prognosis in paralytic cases will vary with the nature and degree of the paralysis.

64.—See ¶ 6, p. 1045.

65.—See ¶ 7, p. 1045.

67.—**Gastric Toxins.**—Zahorsky reviews the subject of the gastric poisons, more especially those of animal origin, leucomains and ptomains. Other chemic poisons, such as acids, proteoses, glycerids, etc., have their origin, physiologic or pathologic, in the organism, and should be considered. The excretion of leucomains by the gastric mucosa is a matter for more careful study than it has received, and it is probable that many gastric irritations are due to this cause, and evidence that gastric ulcer may be originated in this way is accumulating. Bacterial poisons, endogenic and ectogenic are important, and in this connection Zahorsky mentions tyrotoxins and butilotoxins, the endogenic bacterial products pointed out by Bouchard, etc. Tetany has also been attributed to poisons generated in gastric dilatation. The general subject of gastric toxicologic chemistry is assuming immense proportions and has only begun to be studied.

69.—See abstract in Journal, February 11, p. 305.

70.—**Tubal Pregnancy.**—Pfaff reports and illustrates a rare case of interstitial tubal pregnancy extracted successfully in the fifth month, before rupture. He remarks that Lawson Tait, with all his experience, had seen but one similar case, and claims that his specimen has the distinction of being the only one not secured post-mortem.

71.—**Sulphur Baths in Endocarditis.**—Fletcher reports two cases of acute endocarditis, resisting other treatment, cured by baths at a sulphur spring sanitarium. He says he used the word "cured" advisedly.

72.—**Surgery of Kidneys.**—Holmes discusses the surgery of the kidneys, injuries, hydronephrosis, pyonephrosis, abscess, tuberculosis and tumors. He illustrates each condition with brief statements of cases, and reports, slightly more in detail, two cases of adrenal tumor. The surgery of the kidney has advanced more than that of most organs within the past two years, and its surgical disorders have been more recognized. In all pathologic conditions with the existence of one healthy kidney, operative treatment is possible. Pyonephrosis, partial cystic degeneration, and stone no longer require nephrectomy, which is left for such conditions as carcinoma, sarcoma, tuberculosis, and irreparable injuries of the ureter.

73.—**Weather Affections.**—Leech objects to the common diagnosis of la grippe for so many of the common disorders dependent on weather changes. He calls them dengue, and says that this makes up fully 90 per cent. of the cases thus diagnosed. He reports five cases.

74.—**Immunity.**—McSwain's paper treats of immunity, the normal resistance of the healthy organism, which may be embarrassed or impaired by heredity, or can be destroyed or injured by various disturbing influences, such as alcohol, acute disease, climate, habit, etc. There is also an acquired immunity due to habitude, and that produced artificially. The duty of the physician is: 1, to maintain the normal immunity by hygiene, sanitation and preventive medication; 2, to restore lost immunity by building up the systemic resistance and destroying or counteracting the infections. The future of scientific medicine, McSwain sees in organotherapy: we must first accurately diagnose the infection, and then discover and utilize the antitoxin.

76.—**Tuberculosis and Lateral Curvature.**—Phelps reviews the history of the treatment of Pott's disease of the spine and illustrates it with many cuts. The diagnosis and symptoms are described. The condition is usually a curable one for the time, and if the child outgrows the strumous predisposition, recovery may be permanent. The treatment is described in detail, with illustrations of apparatus.

77.—**Oxaluria.**—Williams reports three cases of oxaluria and concludes that the appearance of oxalates in the urine, aside from the ingestion in food, is indicative of a derangement of digestion or metabolism, caused in many cases by functional nervous irregularities that may or may not cause general nervous symptoms. If these are present it is not certain that they are due to the oxaluria. The condition producing the latter may simulate Bright's disease, as in two of the cases reported. The renal excretion of oxalates, too, may, if continued, cause irritation producing albumin and casts with lessened urine, and if unchecked may lead to kidney disorders, in time to Bright's disease. In all suspicious cases of apparent Bright's disease with oxaluria, the diagnosis should be reserved until this symptom has been treated and results observed.

78.—**Intermittent Fever.**—Schirman reports three cases in which he inoculated healthy individuals with substance taken from the herpes in a subject of malaria and produced the disease. He claims that it may be accidentally transferred from one individual to another, as cases have occurred from sleeping with a patient during the sweating period of the attacks. As substitutes for quinin, he says, the following domestic remedies have been of service in his hands: convallaria majalis, helianthus annuus (sun-flowers) in infusion of the dried stem, 1 part to 8 of water, a tablespoonful three times a day, and syringia vulgaris (common lilac) in infusion of the fresh leaves (four to six in a teacupful of water, one or two cups a day taken). All these are easily obtained and can be easily prepared when needed, and have given him satisfactory and positive results.

79.—**Balantidia Coli.**—Schirman gives a report of a paper by Professor Degis of St. Petersburg on balantidia coli, a ciliated infusorium, as a cause of diarrhea, intestinal ulceration and sometimes of death. The organism apparently originates in swine and is swallowed or inhaled by men. The treatment should be directed to the conditions of the intestines; bismuth and tannalbin are recommended.

80.—**Eyes of School Children.**—Milliken pleads for the utilization of the oral method of teaching to a larger extent than is now practiced, especially in the earlier years of school life. The greater use of the blackboard with lectures, thus avoiding close eye application, would prevent much mischief in the future life of the pupils who suffer from any degree of ocular defect. He insists on the need of the earliest possible discovery of any existing ocular weakness in school children.

81.—**Tuberculosis.**—Ingraham's paper is a recommendation of bromin-iodin comp., a preparation claimed to be a chemic union of bromin (¼ gr.), iodin (1 gr.), phosphorus (1/100 gr.), thymol (⅔ gr.), in one fluid dram sterilized oil. He reports cases treated.

82.—Warner reports two cases of tuberculosis treated with creosote, two minims, guaiacol, one minim, in liquid peptonoids, 1 to 2 tablespoonfuls every four hours, with great improvement.

83.—**Lues and Facial Paralysis.**—J. Fraenkel reviews the opinions of authorities on the question of the association of syphilis and facial paralysis, and reports two cases which would seem to support the view, not universally held, that facial palsy may be an early syphilitic manifestation. In the first case specific disease was unsuspected until the patient asked as to the possible causal relation of a suspicious intraurethral abscess following exposure 2½ months before. In both cases specific treatment was followed by a remarkably rapid cure. Fraenkel considers these cases not altogether conclusive as to cause and effect, but rather suggestive. In any case it is a good rule in every instance of facial paralysis in young individuals, to keep the possibility of syphilis in mind, and to make careful search for any traces or history of the disease, in order to have the benefit of such knowledge in the treatment.

84.—**Ventral Hernia after Operation.**—Montgomery believes that this is often unavoidable, the general poor health of the patient hindering recuperation, or the requirement of drainage or vomiting after the operation may favor its occurrence. For its prevention he has been employing a figure of-eight stitch passing through the aponeurosis of one side, then up and through those of the other, then crossing the wound and emerging on the side it first entered. The other end is then threaded and passed up through the skin of the other side. This stitch crosses in front of the aponeurosis and brings the edges accurately together, while a second portion holds the skin and fascia. If tied properly it gives good results. A mistake is sometimes made in taking out the stitches too soon. They should remain at least eight days, and in weak or debilitated patients and those who have nausea and vomiting after operation they should remain still longer.

85.—**Liver Abscess.**—Wilson reports three cases of abscess of the liver, two of them confirmed by autopsy, occurring in Collumbus, Ohio. In only one case had there been a history of antecedent dysentery, but in another the autopsy showed scars of healed ulcers in the large intestine. In this case also ameba coli were found in the stools and the pus. He thinks that tropic liver abscess is either more common in Ohio than has been supposed or that he has had more than his share of cases.

89.—**Gastro-Enteric Diseases in Infants.**—Zahorsky discusses the subject of toxins in the economy, their nature, physiologic action, and origin, and their relation to the gastro intestinal lesions of infancy. Their greatest source is from bacteria, and they may be ectogenic or endogenic. The great majority of the severer forms of enteric disease, however, are due to endogenic intoxication. Too much stress has been laid on infection from milk; there are abundant other sources of infection; uncleanliness of surroundings is as, or more, frequently the source. Intestinal putrefaction processes due to the colon bacillus and other inhabitants of the bowel is the cause of the majority of cases of enterocolitis. It can be controlled by dieting to some extent, but a true infection of the intestinal wall tends to run a more or less definite course when the tendency to spontaneous recovery is present. The prognosis of putrefaction irritation depends on the destruction of intestinal cells.

92.—**Malignant Scarlatina.**—Bailey gives a history of an epidemic of malignant scarlatina, with a mortality of 40 or 50 per cent. originating in an old tenement where scarlet fever had occurred and disinfection was neglected. There were 200 to 300 cases in all, starting from this, some of them fatal within a few hours. The invasion stage was particularly severe and many who survived it died later from septic infection, etc. In this later stage much good was derived from constant applications of lead water and laudanum in inflammatory conditions of the throat and neck, and Bailey thinks this a most important part of the treatment. The other remedies that gave the best results were hot mustard foot baths, cold and tepid spongings to the head, sedatives, diuretics, diaphoretics combined with gradual stimulation when needed, and antiseptic unguents. Drugs were only used when positively indicated; in the early stage, tincture of aconite root, citrate of potassium, acetate of ammonia, and chloral, as the symptoms demanded. Salicylic acid in small, often repeated doses was useful, and, he thinks, prevents complications. In very few of the recovered cases were there bad sequelæ.

95.—**Antiseptic Treatment of Typhoid.**—Ellis' paper is largely a quotation from an address by DaCosta, in which he praises the effects of certain drugs in typhoid, especially the double bimuriate of quinin and urea, and betanaphthol. The former was used hypodermically (amount not given). It is extremely soluble; its injection causes no pain and forms no abscesses. Da Costa believes it especially useful in mixed malarial and typhoid cases. Betanaphthol, DaCosta finds beneficial and the sign that it is doing its good work is its deodorizing the evacuations. It is less disturbing to the kidneys than salol, and he uses it almost as a routine treatment.

101.—**Objections to Neuron Theory.**—Paton reviews the questions that have been raised by Apathy, Bethe and others, as to the correctness of some of the more recently accepted views in regard to the finer structure of the nervous system, and also refers to the possible fallacy of staining methods on which these views have been based. He raises the question especially as to whether fibrils directly connect the cells with each other and with the intercellular substance, and believes that the assertion that the nervous system is made up of separate units or neurons and the structural and functional independence of the nerve cells, as assumed nowadays, is an untenable theory.

102.—**Myxomatous Degeneration of Ovary.**—This author discusses myxomatous degeneration of the ovaries, and in concluding her paper questions the correctness of the theory of the internal secretions of the organs, maintaining that the evils following their removal are due more to the loss of function and long-continued and extensive disease of the organs before their ablation rather than to any deficiency of special secretions in the system.

103.—**Intussusception.**—Northrup reports a case of intussusception in an infant nine months old, reduced by high rectal injection. He refers also to another similar case in a seven months' old child, reported by Dr. Neff. He believes from these and other similar experiences that in recent cases in intussusception moderate pressure (three to five feet) of warm water (105 to 108 degrees) prolonged to full distension is justifiable and advisable.

104.—**Appendicitis.**—Hawkins, in discussing appendicitis, favors the early operation and reports several peculiar cases where the diagnosis as to whether appendicitis or salpingitis existed was rather doubtful. He discusses the question whether appendicitis may not be complicated and infect the tube, and vice versa.

105.—**Abuse of Medical Charity.**—Vietor treats of the abuse of medical charity by hospitals and dispensaries and discusses the remedies, one of which seems to be sought in an extension of the provident system of the in- as well as of the out patients, requiring a fee in all hospital cases and allowing physicians to treat their own cases in such. At present the system of the charity hospital pauperizes the community and robs the medical profession of its earnings. The plea that they are required for teaching purposes is a poor one, as it necessitates the impoverishment of the person who receives the educational facilities.

106.—**Dislocation of Os Magnum.**—Abbot reports four cases of dislocation of the os magnum, and remarks that very little notice of these accidents is given in works of surgery. He finds the best treatment to be the use of Bond's splint, by which the bone drops into its place without any painful handling and remains there as long as may be required, without disabling the fingers or thumb or causing pain.

107.—**Inversion of Uterus.**—Marion reports two cases of inversion of the uterus which appeared in his practice in labor, and both of which were reduced immediately without mention of the accident and without affecting the recovery. He believes that it occurs much more frequently than is commonly reported, and that many cases reported due to post-partum hemorrhage are complicated with this condition.

108.—**Soluble Silver.**—Zahorsky discusses the question of the therapeutic value of silver in Credé's ointment, etc., and concludes that the value of the remedy is still somewhat in suspense and that while it certainly deserves a more extended trial it should not be relied on exclusively.

110.—**Marmorek's Serum.**—Bristow reports fourteen cases in which he has used antistreptococcic serum, and concludes that cases of cutaneous or so called idiopathic erysipelas may be quickly terminated by the early use of this preparation, the initial dose being 10 to 20 c.c., according to the severity of the case, followed by additional doses if necessary. More than two or three doses will rarely be required. In phlegmonous erysipelas it seems to prevent its extension, but has little effect on the sepsis already produced. As regards other diseases due to special germs, the Marmorek serum may be of value as regards complication by the streptococcus, but can hardly influence the original disease. As regards puerperal cases, the results he has obtained are not encouraging. He does not believe that any serious risk is run in introducing large quantities of the serum into the system, and thinks that it is better to give rather too much than too little, considering the fact that the serum has not yet been standardized as to strength. The average dose is 10 c.c., and 20 c.c. will often be required, while the daily quantity of 60 c.c. may be needed.

111.—**Tuberculosis.**—Warthin reports a number of rare localizations of tuberculosis in the system, including complication with sarcoma, carcinoma, primary tuberculosis of the mamma, nose, lobe of ear, heel, brain, Graafian follicles, placenta, Fallopian tube, and artificial anus. The last case he gives in detail.

114.—**Gastrodiaphany in the Infant.**—Koplik describes a new instrument by which he has succeeded in making examinations of the stomach in infants under one year old. The improvements introduced are mainly those guarding against possibility of accident by breakage, overheating, etc. He does not advise the use of this in children past twelve months, as the terror it would incur would defeat its object. He has employed it mostly in children below the age of six months, and considers one year the limit of its usefulness.

115.—**Treatment of Syphilis.**—Lapowski continues his article, noted in the Journal, April 29. In one form of syphilis, the malignant stage, mercury should not be used in any form, while iodin is of great value. Iodid of potassium has been almost exclusively used, but it has been suggested recently to replace it by iodid of rubidium, which is more agreeable and easily administered. The mixed treatment of iodin and mercury is carried on most successfully by administering iodin for a certain period, say two or three weeks, and then after an interval of five or six days proceed with mercury, as the iodin will be eliminated by the time the mercury comes in contact with the internal tissues. Where kidney affections exist in syphilitic patients, it is advisable to place the patient under the influence of iodin and avoid the mercury. In late cases, where the cause of the kidney affections can be attributed to the syphilitic virus, mercury can also be used. The kidneys are to be especially investigated in pregnant women with the disease, and mercury to be absolutely excluded if they are found affected. Where the kidneys are healthy, in these cases, vigorous treatment by inunctions is advisable. Besides the main remedies of iodin and mercury in syphilis, other measures, mineral springs, hot and cold baths, are useful, and surgical treatment may even be employed in some cases, as in the secondary lesions of the bones. In any case hygiene is of the utmost importance, and the patient's general health must be carefully looked after, bodily and mental fatigue should be guarded against, as possible causes of late syphilis of the nervous system. As regards diet, caution should be used against anything that might excite diarrhea during mercurial treatment. In local treatment asepsis is a prime requisite, and all irritating preparations and methods should be avoided. The paper discusses the question of the possibility of a complete cure, and leaves the matter rather in doubt. Chronic intermittent methods of treatment should be avoided.

117.—**Gold in Anemia.**—This is a "write-up" for Mercauro.

118.—**Positions in Sleep.**—Browning classifies sleepers according as they have the head high or low during slumber. In the first division he includes the medium class, those who use simply an ordinary pillow. These are generally normal individuals and do not require further consideration. The second class are those who sleep with their heads high. In this category are found cases of excitement, mental overactivity, mania, also many who do not present any special nervous disturbances. The third class comprises those whose habits are to sleep with the head lower than the average, sometimes without either pillow or bolster. This class includes nearly all cases of mental and nervous depression, sufferers from melancholia, anemia, etc. The third type is the most important because most frequent in the sick, and the indications for remedy in their case are tonics and excitement. The second class, on the other hand, are the direct reverse, stimulants are required, tonics and excitement are contraindicated.

119.—**Malaria and Typhoid.**—DaCosta reviews ten cases of malaria with typhoid fever responding to the Widal test, as well as showing microscopic evidence of the malarial organism in every case, either of the tertian or the estivo atumnal type. The cases may or may not have had malarial chills before the typhoid condition developed; the chills were peculiar in that they did not occur early in the fever malady; more often appearing exceedingly late in the disease, or with a relapse; only in one case was the malarial chill observed early in the course of the typhoid. A peculiarity of these mixed cases was that they were all of long duration, invariably passing beyond the fourth week; one protracted case was marked by the absence of chill and no abrupt alterations in temperature, but in this case the malarial organism was demonstrated by blood examination. Where the course of typhoid is characterized by great irregularity of temperature, with or without chills, by frequent relapses, or pursuing a protracted course, examination should invariably and persistently be made for the malarial corpuscles.

120.—**Morbus Hemorrhagicus Nervosus.**—The first case was that of a woman, aged 38, of decidedly nervous temperament and hysteric history, in which case the onset of the hemorrhages was uniformly characterized by vesical and systemic disturbances, sensations of extreme cold, headaches, decided mental depression and other prodromes; after twenty-four to thirty-six hours, burning, itching and pain was felt in the areas to be involved, deep subcutaneous mottling accompanied by severe pains gradually appearing, and the ecchymosis gradually fading. It was observed that the areas involved were always symmetric, the ankles, the inner aspect of the thighs, or perhaps the deltoid regions were at times the site of the hemorrhages. Hemoptysis, epistaxis, hematemesis were at times observed, but the visceral hemorrhages were curiously enough not preceded or accompanied by pain. Attacks in this case were precipitated by intense emotions of fright and anxiety. Constipation was persistent. Blood examination was practically negative. The second case was also a young woman, but presenting no hysteric manifestations—indeed, she was strong and perfectly healthy, excepting that persistent constipation had been present since childhood. The hemorrhagic condition was first observed in the sixth year. The recent attack in the twenty-fifth year began with a persistent swelling of both feet and ankles, pitting and of a deep red color persisting for months; then the purpuric phenomena appeared, followed by gradual diminution of the erythema nodosum. At various times visceral as well as subcutaneous and submucous hemorrhages have occurred. The stomach, kidneys, genital tract, mouth, nasal passages, and even the rectum were involved; arthritic symptoms and signs have never appeared; fever was often present; an ulcerative tonsillitis and stomatitis existed for five months, but this condition cleared up after the administration of thyroid extracts. Under the thyroid treatment the frequency and severity of the ecchymotic attacks were diminished, but such treatment entailed great loss of flesh. Prodromes were always present in this as in the previous case.

123.—**Danger to the Roentgen Ray Experimenter.**—Wilbert calls attention to the danger attending the continued inhalation of the irritating atmosphere so frequently observed in the close and poorly-ventilated X-ray laboratories. Ozone has great affinity for oxidizable gases. Electric currents of high tension being forced through the air heat nitrogen to or above its ignition-point, when it will readily unite with ozone or oxygen present, forming the oxids of nitrogen, a mixture of which is highly injurious when inhaled, producing the various respiratory irritations, and even chronic affections. In arranging such a laboratory, perfect ventilation is an important consideration.

124.—**New Test for Morphin.**—Kotzbul observed that if to a quantity of pure water morphin be added to the extent of making a solution of even one to one million, and then two drops of a 10 per cent. solution of phosphomolybdic acid introduced, an exceedingly delicate, hardly perceptible, yellowish-white precipitate will be formed as with all alkaloids. A half dram of strong ammonia c.p. added gives a decidedly blue solution, best seen by placing a graduate containing the solution on a sheet of white paper. Thallin behaves similarly, only the reaction in this case is more delicate, showing a blue color up to a dilution of almost one to two million. Any of the salts of thallin or morphin can be used for this reaction. Under similar conditions atropin, strychnin, quinin, quinidin, cocain, caffein, pilocarpin, hyoscin and cinchonidin fail to give anything like the same results.

FOREIGN.

Lancet (London), April 22.

On the Pulsus Paradoxus, with Special Reference to its Occasional Occurrence on One Side Only. Thomas Harris.—The writer reports a case of so-called pulsus paradoxus, or that form of pulse which becomes small or imperceptible during the act of inspiration and which has been considered as symptomatic of indurative mediastino pericarditis, though incorrectly, as Harris shows. In his case the symptom was unilateral and he reports it in detail. The old explanation of the symptom, that it is due to adhesion between the anterior part of the chest wall and the aorta, causing a narrowing of the main arterial stem, is not satisfactory, and in Harris' case, while there were extensive adhesions, he is inclined to think that the phenomenon was probably caused by the greater length and narrowed lumen of the left subclavian artery as compared with that of the innominata and that adhesions in the mediastinum would have more effect on this narrow artery in the production of kinking of the vessel than would adhesions in the larger innominate artery. He does not insist, however, on this explanation, though it does seem probable to him. (See also Journal, February 25, p. 443.)

Criticism of the More Commonly Employed Tests for Albumin in Urine. P. G. Cammidge.—The author discusses and criticizes all the customary tests for albumin, and concludes that of all those so far introduced, salicylsulphonic acid seems to be most convenient and freest from objections. It is cleanly, fairly cheap and certain and may be carried around conveniently, and is applied to the urine direct, without heating or any special apparatus. By means of it all forms of albumin and most albumoses are precipitated at once, the latter being readily distinguished by their solubility on heating. It does not precipitate phosphates, urates, uric acid, bile, alkaloids or drugs, and works equally well with an alkaline or acid urine. The greatest objection to it is its precipitation of nucleoproteids, and its great delicacy, and the best check to these two possible fallacies is by the supplementary use of Heller's test in doubtful cases.

A Second Case in which Recurrent Mammary Cancer Disappeared after Treatment by Oophorectomy and Thyroid Extract. G. Ernest Herman.—The author reported a case last year in which recurrent mammary cancer had disappeared after oöphorectomy and treatment with thyroid extract and he now reports that the patient is still well and has gained in weight. He also adds that the tumor was examined microscopically and its malignant nature determined. He now reports a second case similar to the first, in which both ovaries were removed on July 12, 1898, and she was put on thyroid extract, 5 grains three times daily, which she has continued to take ever since. The result seems quite as favorable as in the first case reported. He believes that the combination of the operation with the thyroid treatment is far more beneficial than either of them alone, and that this combination has gained results which have not been approached by any other treatment of recurrent mammary cancer. A cure can not be positive until all chance of relapse has passed, but it is a great thing, as he says, to make a cancer disappear without direct surgical treatment.

Bromid of Strontium in Epilepsy. Antony Roche.—The writer believes that bromid of strontium is especially effective in epilepsy. He generally gives it in an infusion of quassia, commencing with a dram a day, giving 40 grains at the most threatened period and 20 grains twelve hours after. If the fits recur with this dose he increases it to 1.5 drams, and so on, and he has frequently given as much as three drams a day without any more serious symptoms than a bromid rash, which is generally controlled by small doses of arsenic. He believes that if the patient finds no inconvenience from it except the rash, the bromid should be continued indefinitely. It is desirable in each case to find the smallest dose that is effective, and stick to that, also to see that the medicine is pure and no other bromid salt is substituted.

Australasian Medical Gazette (Sydney, N. S. W.), April.

Chronic Morphinism, Treated with Sodium Bromid. J. C. Verco. This author reports a case of chronic morphinism treated with sodium bromid in doses of 45 and 30 grains, aggregating as much, sometimes, as four drams in twenty-four hours. The patient was, of course, thoroughly brominized during the treatment, which lasted over ten days and required two weeks more to recover from it. The morphin habit, however, was broken off. A peculiar feature was the mental disturbance, delusions, hallucinations, etc., which existed for nine or ten days, but which in its inception, the author thinks, antedated the treatment, but was possibly aggravated by it.

Semaine Medicale (Paris) April 19.

Fever in Convalescence of Typhoid Fever. Potain.—Among the causes that may induce fever are coprostasis, the return to solid food, "febris carnis" and its aggravated form, resembling chronic enteritis in its symptoms, inflammation of the kidneys, biliary passages and other organs and suppurations. The slight recurrences of fever which Potain calls "reiterations" are merely after-claps of the primary infection. The complications occurring in convalescence are caused by Eberth's bacillus alone, or by a combination of bacteria, or a secondary infection. There are also cases in which the fever seems to be absolutely without a cause, as in Parson's case of three weeks of typhoid fever with a perfect convalescence until the eighty-fifth day, when an inexplicable idiopathic fever appeared which lasted until the 272d day. ["Starvation fever" might be added to the above.—Ed.]

Presse Medicale (Paris), April 19.

Treatment of Pseudo-arthrosis and Certain Fractures with Internal Metal Prothesis. J. Potarce.—The writer describes a couple of cases in which the pseudo-arthrosis resulting from an old fracture of the clavicle and humerus was resected and the smooth, clean stumps of the bone brought together and held with a nickel plate and four screws. The plate was removed in thirty to forty days under chloroform and the consolidation found perfect. Animals operated on in the same way are still wearing their nickel plates encysted under the periosteum without reaction or discomfort.

Bulletin de l'Academie de Medecine (Paris), April 11.

Congenital Torticollis Cured by Subcutaneous Tenotomy. P. Berger.—An extreme case of retraction of the right sterno-cleido-mastoid, causing scoliosis and asymmetric deformity of the face and skull, was cured by simply cutting the sternal and clavicular origins of the muscle separately, from below outward, through a couple of puncture holes, without an incision. A plaster cast, massage and modeling manipulations completed the cure of the deformity, which had evidently occurred during birth, which had been a pelvic presentation. The liabilities to deformities of this kind with this presentation should be remembered by the obstetrician, as massage and modeling at the time will frequently restore the conditions to normal.

Annales de la Soc. Med. Chir. de Liege, March.

Sanitariums for the Tuberculous Poor. Malvoz.—The writer concludes a review of what has been accomplished to date in this line with the statement: "Those who are not following the progress of this benevolence from day to day in Germany, have no conception of the extent in which this great country is in advance of all others in respect to the prophylaxis of tuberculosis. She already has thirty large sanitariums for the people and will soon have a hundred in operation, as the sick-insurance societies and the Red Cross are co operating with the local authorities to establish them wherever needed.

Centralblatt f. Chirurgie (Leipsic), April 22.

Plastic Surgery of Bladder. M. Rutkowski—Still another means of relieving ectopia vesicæ is described, with a case successfully operated on. A loop of the ileum was drawn out; a portion six centimeters in length cut out of it and the intestine then sewed together again. The excised portion was slit lengthwise at the lowest point, when it formed a square flat flap hanging by a mesenterial stem, and this flap was applied and sutured to close the defect in the bladder. The subject wears a urinal and a truss to compress the urethra, with which he can retain his urine for three-fourths of an hour.

Centralblatt f. Gynecologie (Leipsic), 1899, No. 14.

Plastic Utilization of Uterus in Prolapsus. E. Wertheim.—Inspired by W. A. Freund's method of closing a vesicovaginal fistula by pivoting the uterus down into the vagina and using its wall for the plastic flap, Wertheim has applied the same process to a couple of cases of severe prolapsus with cystocele. The anterior fornix was incised, the uterus drawn down into the vagina after opening the plica vesico-uterina, and both corners of the incision sutured up to the collum. The anterior vaginal wall was then freshened and the posterior surface of the corpus uteri sutured to it, with smooth recovery. The uncovered anterior wall of the uterus presented at first a red granulating surface which gradually decreased in size.

Munchener Medicinische Wochenschrift, April 18.

Influence of Certain Drugs on Formation and Excretion of Uric Acid. K. Bohland.—The importance of this subject in relation to the treatment of gout is demonstrated by the results of numerous tests on healthy persons, which establish that one to three grams a day of tannic acid materially diminish the formation and excretion of uric acid. The same effect is attained with secale cornutum, atropin, and still more pronounced with quinin. The tests failed to confirm the assertions that the number of leucoytes in the blood increases and diminishes parallel to the amount of uric acid eliminated.

Janus (Amsterdam), May.

Bacteriologic Analysis of the Water at Djeddah. Stékoulis.—There has been no outbreak of cholera at Djeddah for four years, and yet the best drinking water obtainable contains 100,000 bacteria to the cubic centimeter, among which is constantly noted a vibrio resembling that of cholera in every particular (150 to 200 per c.c.), except that it does not reduce nitrates nor produce indol. It caused fatal vibrionic septicemia in the small animals inoculated, and killed seven out of every ten young rabbits ingested with it, with a fulminating choleraic intestinal affection; but the populace drink the water with apparent impunity.

Societies.

COMING MEETINGS.

American Association of Genito-Urinary Surgeons, Niagara Falls, N. Y., May 25.
American Dermatological Association, New York City, Juue 6.
American Laryngological Association, Chicago, May 22-24.
American Medico-Psychological Association, New York City, May 23.
American Orthopedic Association, New York City, May 16.
Association of American Physicians, Washington, D. C., May 24.
Connecticut Medical Society, Hartford, May 24.
Illinois State Medical Society, Cairo, May 16-18.
Indiana State Medical Society, Indianapolis, June 1.
Indian Territory Medical Association, So. McAlester. June 6.
International Association of Railway Surgeons, Richmond, Va., May.
Kentucky State Medical Society, Louisville, May 16.
Louisiana State Medical Society. New Orleans, May 16-18.
Maine Medical Association, Bangor, June 7.
Montana, Medical Association of. Butte, May 24.
New Hampshire Medical Society. Concord, May 25-26.
North Carolina, Medical Society of State of, Asheville, May 30.
North Dakota State Medical Society, Fargo, May 24-25.
Oklahoma Territory Medical Society, Oklahoma City, May 19.
Pennsylvania, Medical Society of State of, Johnstown, May 16.
Rhode Island Medical Society, Providence, June 1.

Congress to Prevent Abuse of Tobacco.—The second international congress will meet at Paris in August, 1900.

Warwick County Medical Society.—The election of officers, at the recent meeting of this society, held at Boonville, Ind., resulted as follows: President, E. A. West; vice president, D. A. DeForest; secretary, W. A. Hewins.

Jefferson Alumni Dinner.—On May 15 the Alumni Association of Jefferson Medical College, Philadelphia, will give a dinner at the Art Club. Provost Harrison and others of the University of Pennsylvania will make addresses.

Posey County Medical Society.—The officers for this society, elected recently at Mt. Vernon, Ind., are: President, J. B. Williams, Grafton; vice president, J. W. Powell, Mt. Vernon; secretary and treasurer, T. W. Wilson, New Harmony.

International Congress of the Medical Press.—This congress will convene at Paris, July 27 to 29, 1900. The committee of organization consists of Cornil, president: Lucas Championniére and Laborde, vice-presidents; Blondel, secretary, and Cézilly, treasurer.

American Gastro-Enterological Association.—At the close of the annual meeting, recently held in Washington, D. C., the following officers were elected for 1900: President, Max Einhorn, New York; first vice-president, John C. Hemmeter, Baltimore; second vice president, D. W. Booker; secretary and treasurer, Charles D. Aaron, Detroit.

Linton District Medical Society.—The twenty-seventh annual session of this Missouri society was held at Mexico, May 4.

The election of officers resulted in: President, L. O. Rodes, Mexico; vice-presidents, T. J. Tainter, Warren, and David Nowlin, Montgomery; treasurer, Martin Yates, Fulton; secretary, E. S. Cave, Mexico.

Southwest Missouri Medical Society.—This society, at a recent meeting held in Springfield, Mo., elected the following officers: President, H. B. Freeman, Joplin; vice-president, F. P. Fuson, Mansfield; secretary, C. E. Fulton, Springfield; treasurer, K. C. Shuttee, West Plains; corresponding secretary, J. W. Love, Springfield.

Texas Medical Association.—The recent session of this association, held in San Antonio, April 25-28, was the thirty-first annual. The committee on legislation was instructed to concentrate its efforts to have the Legislature pass a law creating a State board of medical examiners and let all other proposed legislative reforms go by default at present. The plan is to push one reform at a time.

Prince George's County Medical Association.—The physicians of Prince George's County, Md., May 2, at Upper Marlboro, perfected the organization of this association. Dr. Charles A. Wells of Hyattsville, was elected president, M. D. Hume, vice president, French Owens, Marlboro, secretary, and L. A. Griffith, treasurer. The annual meeting will be held in May of each year, at Upper Marlboro.

Wisconsin State Medical Society.—The fifty-third annual session of this society closed May 5, at Oshkosh. About one hundred physicians were in attendance, and the following were chosen officers for the coming year: President, W. T. Sarles, Sparta; first vice-president, C. W. Oviatt, Oshkosh; second vice-president, A. F. Fuchs, Loyal; secretary, C. S. Sheldon, Madison; treasurer, S. S. Hall, Ripon.

Association of American Physicians.—The fourteenth annual meeting of this association was held in Washington, D. C., May 2-4, and the following officers elected: President, E. G. Janeway, New York; vice-president, William H. Welch, Baltimore; recorder, I. Minis Hays, Philadelphia; secretary, Henry Hun, Albany, N. Y.; treasurer, J. P. Crozer Griffith, Philadelphia; councilor, William T. Councilman, Boston. Abstracts of the leading papers read at this meeting appeared in the Journal, May 6, pp. 985, 1013, 1014.

Washington Obstetrical and Gynecological Society.—The 299th meeting of the society was held on the 5th instant. Dr. Bromwell read the essay of the evening, entitled "Cerebral Complications of Mumps." He reported two cases, one a young woman, white, age 18, who developed meningitis during an attack of mumps, and died. No post mortem was permitted. The other, a child aged 11, developed meningitis during an attack of mumps, but eventually recovered. The symptoms in the gland disappeared with the onset of the cerebral symptoms, reappearing when the cerebral symptoms subsided.

Medical Officers of Confederacy.—The Association of Medical Officers of the Army and Navy of the Confederacy will meet during the present month at Charleston. Dr. J. B. Cowan, General Forest's medical director, is president and Dr. V. G. Hitt of Atlanta, secretary. All surgeons, assistant surgeons, contract surgeons and hospital stewards who served in the Army and Navy of the Confederacy, are eligible for membership. The objects of the association are social, fraternal, and for the preservation of medical history. Each member is expected to read a paper on such medical subjects as came within his experience during the war. Stenographic reports of all discussions at meetings will be made.

German Congress of Internal Medicine.—The seventeenth congress was held at Carlsbad, April 11 to 14, with 347 members enrolled, and the advantages of a resort and watering-place for a scientific gathering of the kind were found to be "immense." The principal features of the congress were the addresses on leukemia and leucocytosis and on insufficiency of the cardiac musculature. Löwit, in the former, claimed to have discovered the parasite of myelemia—the "hemamœba leukemiæ magna"—and of lymphemia—the "hemamœba leukemiæ vivax"—but did not reveal his methods. The addresses on the heart musculature demonstrated that almost nothing is settled yet in regard to our knowledge of the pathogenesis and anatomy of the heart. Schwalbe observes "everything is afloat again." Schrötter's address was a valuable summary of our clinic knowledge.—*Deutsche Med. Woch.*, April 20.

Association of Military Surgeons of the United States.—The president of this association, Lieut.-Col. J. D. Griffith, medical director Missouri National Guard, has issued a circular announcing the next meeting for Kansas City, Mo., September 27-29 next. The meeting was to have been held in Kansas City in June, 1898, but was postponed on account of the war with Spain. The recent war, in which so many of the members of the association took a prominent part, makes the coming meeting interesting to a most unusual degree, and it is earnestly hoped that there may be a large attendance. Many questions have been solved by the war, and many new questions have arisen, hence the program will be most interesting. Col. Chas. H. Alden, assistant surgeon-general U. S. A., having felt compelled by the stress of events to resign as chairman of the literary committee, Brig.-Gen. Geo. Cook, surgeon-general (retired) of the New Hampshire National Guard, is announced as his successor in the chairmanship of this committee, and will have charge of the program for the coming meeting. Those willing to contribute papers for the meeting should address Gen. Cook, 16 Centre Street, Concord, N. H.

New Hampshire Medical Society.—The program for the 108th annual session of this society, Concord, May 25 and 26, contains the following:

1. Insanity in Its Relation to Crime. Chauncey Adams, Concord.
2. Report on Surgery. H. L. Stickney, Newport.
3. Report of a Few Surgical Cases. George P. Morgan, Dover.
4. Tympano Mastoiditis. Emdon Fritz, Manchester.
5. Some Forms of Paralysis Observed in Country Practice. Chas. H. Cutler, Peterborough.
6. Vaginal Hysterectomy and When Indicated. Noel E. Guillet, Manchester.
7. Tubercular Disease of the Urinary Apparatus. J. M. Gile, Hanover.
8. Multiple Pregnancy; Report of Cases. A. W. Shea, Nashua.
9. Report of Case of Puerpural Eclampsia with Complications. Edmund E. Hill, Suncook.
10. Theory vs. Fact. William F. Wallace, Plaistow.
11. Odds and Ends. A. F. Wheat, Manchester.
12. Pneumonia in Children. W. H. Aldrich, Marlborough.
13. Hemostasis in Intrapelvic Surgery. A. C. Heffenger Portsmouth.
14. Rationale of Medicine. S. W. Roberts, Wakefield.
15. Embolism of Mesenteric Vessels. O. W. Goss, Lakeport.

Medical Society of the State of California.

Twenty-ninth Annual Meeting, Monterey, April 18-20, 1899.

TOXIC BASIS OF INSANITY.

Dr. H. E. Sanderson of Stockton, in this paper, first reviewed the historic phases through which theories of insanity had passed and then took up a consideration of the more modern beliefs. The introduction of the microscope into the careful study of the anatomy and pathology of the brain has shown its tissues to be subject to the same pathologic changes which we find occurring in other organs and tissues. The cortex of the brain, so largely composed of neurons, is found to be degenerated in most cases. It is well recognized that diseases very profoundly modify many forms of insanity. The predisposing cause is probably an inherited instability; the more direct causes are general disease, artificial living, traumatisms, shocks, etc. Religious excitement may increase the liability to become insane and alcohol plays an important part in the problem of causation. He called attention to the historic cases of Pitt and Ben Johnson, in both of whom, in their later years, periods of insanity were interrupted by epochs of lucidity when they had attacks of gout. The inference was suggested that during the time of insanity the toxic elements affected the brain, but when the action was directed to some other region the brain regained its normal tone for the time being and lucidity resulted. On this hypothesis insanity would simply be a perverted cell action due to toxemia. In many of the insane there seems to be a connection between nephritis and insanity. One-half to three quarters of the insane exhibit nephritis. There seems also to be a parenchymatous degeneration of the cortex similar to that of the kidneys.

The true cause of insanity must remain unknown for some time, owing to the great difficulty in making experiments, but it is probably caused, certainly in the majority of cases, by toxins, either of bacterial or auto-origin. Sexuality, anemia, operation do not influence toward insanity. Animal extracts have been used with good results, especially the thyroid extract in doses of not to exceed 60 grains per day, in puerperal and climacteric insanities. All measures which tend to increase elimination and improve the tone of the individual are indicated in the treatment.

OBSESSIONS.

Dr. Leo Newmark of San Francisco presented a paper on this subject, saying there are certain cases occasionally met with which present features of interest. He referred briefly to certain peculiar mental phases, as imperative conceptions, etc., but stated that a case of true obsessions is one in which the patient himself realizes that the ideas are merely ideas, untrue in themselves and having no basis in fact, and is anxious to rid himself of them. A case in point was cited: A young man when in the society of women under circumstances where it was impossible to retire, would immediately feel peristalsis in excess and have a desire to go to stool, which would culminate in an evacuation of the bowels; if he knew that he could retire, then there was not the desire. When away from the society of women he was perfectly normal. Three ounces of paregoric, taken before voluntarily joining some women, as an experiment, did not check the bowel action. The condition has no influence on the mind tending toward insanity, as these patients generally imagine to be the case. They are neuropaths, and suggestion, though it may give relief, does not cure, for they are subject to relapses at any time.

DIAGNOSIS AND MODERN TREATMENT OF PULMONARY TUBERCULOSIS.

Dr. Geo. L. Cole of Los Angeles read this paper. Some things should make one watch for the disease; repeated attacks of grip; with chronic cough the sputum should be very carefully examined, not once but many times; with pleurisy and effusion, the aspirating needle should always be used; any loss of weight not accounted for should be suspicious; an increased pulse-rate should demand careful examination and watching. The physical examination should be most careful and thorough. It is well to have the patient hold his hands above the head, when the space under the scapula may be better examined. The diagnosis by means of tuberculin is a safe and justifiable procedure. The use of potassium iodid is also useful in many cases. Many cases recover without any treatment; with treatment, therefore, a case has a much better chance of recovery. Dr. Cole had used tubercular serum; in some cases he had found it to be of great value, in others it seemed to do harm. It generally made the patient feel more comfortable in any event. Several cases had returned to their normal weight and habit and did not exhibit any symptoms or signs of tuberculosis, nor could any tubercular bacilli now be found in the sputum. He thought they were cured.

He has also used the antipneumonia and antierysipelas serums. In a case of erysipelas he found that 10 c.c. had no effect, but a larger amount seemed to check the disease and made the patient feel much better. The disease was arrested on the third day. In a case of pneumonia he had used some 70 c.c. of the serum altogether. The affected lung did not solidify, and six hours after the injection the patient felt much better, and in a few days made a good recovery. Though yet in the experimental stage, and while one case was not enough to draw any conclusion from, the serum treatment was certainly very promising and worth an extended trial.

Dr. Herbert K. Moffitt of San Francisco said that too much care could not be given to the question of diagnosis; that many mistakes were made by not knowing what to look for, or not paying attention to looking for the things which should be noted. A regular plan or course of examination should be adopted and adhered to in all examinations. In all sick persons an examination of the lungs should be a routine procedure as much as examination of the urine. Inspection should be thorough and careful; percussion is more valuable and much information may be gained through its aid; by the use of inspection, percussion and auscultation, we should get a good idea of the actual condition of the chest. Attention to little things should not be forgotten, as, for instance, the side on which the patient sleeps, as this may alter the findings of examination. The sputum examination is most valuable, but the diazo reaction of the urine should not be forgotten. The use of tuberculin is valuable; the injection of sputum into animals is also valuable; care should be taken in looking for bacilli in sputum, as often there are only a few. When tuberculin is used, the dose should not be extremely small; 5 to 10 mg. should be used at first, and increased to 20 if necessary. The X ray examination may be of value in showing the size of the area involved. It probably does not reveal the presence of the disease before it could be detected by other means.

Dr. Chas. G. Levison called attention to a method he has used for some years, to avoid the delay in examining sputum. He stirs the sputum in a little water and thus dissolves out the mucin, the lung-tissue being precipitated to the bottom of the vessel.

Dr. Wm. Ophuls had one objection to the tuberculin test; it is too sensitive. The presence of a small caseated spot will give rise to the reaction. A student of Koch's has reported using the tuberculin in a large number of cases in a hospital; it is remarkable that the reaction was noticed in a great number of these cases which were in the hospital for some other trouble. It is probable that in all of them there was some tuberculous lesion, but that they were all phthisical is not to be believed.

Dr. Philip Mills Jones of San Francisco had made some experiments with the X-rays, and followed the work of a number of investigators in Germany, in order to ascertain whether they possessed any therapeutic value. Some cases of undoubted tuberculosis had rapidly and steadily improved and now did not exhibit any symptoms of the disease, nor could any bacilli be found in the sputum. The cases were too few in number to draw any conclusions, but it seems a promising field. A case of lupus which had resisted all treatment for the past seven years very promptly healed up and seems to be perfectly well; time alone can show the truth or falsity of this result. As an aid to diagnosis, there can be no question of the value of X-ray examinations. He has seen a number of cases where consolidation of one or both apices was noted by an X-ray examination, and in which there was absolutely no symptom or indication of the condition.

Dr. J. Henry Barbat had worked with Dr. Jones in two of the cases which seemed to be cured, had examined a large number of patients with the Doctor, and could substantiate all that Dr. Jones said. The exposure to the X-rays was made for from three to twenty minutes twice a week; the unexposed areas were protected by means of a screen of sheet lead. Two of the cases are now absolutely well; whether the cure was due to the X-ray exposure, to tonic treatment or to spontaneous cure, is impossible to say; but they are well.

Dr. J. Denis Arnold of San Francisco pointed out a very early sign not to be forgotten—the peculiar wax-like edema of the mucous membrane of the trachea and larynx, often noted before any symptom calls attention to the presence of tuberculosis.

Dr. Cole, in closing the discussion, said he had asked a number who had made use of the X-rays, whether they were of valuable aid in the diagnosis. From the reports he had concluded that no lesion could be thus detected that could not be made out in other ways. In examining the sputum, it is well to allow it to stand for twelve to twenty-four hours, and thus avoid the necessity for using the centrifuge.

TYPHOID FEVER, WITH DEATH IN ONE WEEK FROM ONSET—AUTOPSY FINDINGS.

Dr. Wm. Fitch Cheney presented this paper. The case occurred in a man of 25, who could speak nothing but Italian, and when first seen could not understand any questions asked. The history was obtained from friends of the patient. When seen, Feb. 12, 1899, he was delirious, had been well up to the Tuesday of the previous week; then went to bed feeling sick. By Thursday he was delirious and was removed to the Lane Hospital. Seen one hour after admission he was pale and cyanotic, with an anxious look and objected to being touched. He coughed frequently; the respirations were 56, pulse 128 and dicrotic, and temperature 106. There was marked dulness over the right lung. Diagnosis: lobar pneumonia on account of the rapid onset, high fever, cough, right lung dulness, etc. There was, however, no rusty sputum and the abdomen was so distended that the liver and spleen could not be well made out. Under cold baths every hour the temperature fell somewhat, but the other symptoms did not change. The following day did not show any change, and the enormously swollen abdomen looked suspicious. The Widal reaction was obtained; leucocytosis of 17,500. The bowels had not moved and did not, in spite of enemas of soap and water and turpentin. Sweating appeared and the man grew lower and lower till he finally died one week after the onset of the disease. Autopsy showed almost every solitary gland along the entire intestine affected; this was doubtless the reason for the extreme toxicity of the disease; there were no ulcers; the liver and spleen were greatly enlarged.

LITHOLAPAXY.

Dr. **George Chismore** exhibited an improvement in his instrument for litholapaxy, the principal improvement noted being an appliance to be used for crushing the very hardest stones. It consists in an additional handle which is attached to the handle of the instrument; when in place and the stone located in the jaws of the lithotrite, it may be tapped or pressed with this handle; for larger and firmer fragments a rack and pinion arrangement for squeezing is applied, and for the verv hardest stones a percussor may be attached which, by means of an automatic device, strikes a severe blow upon the jaw of the lithotrite and can crush any stone. The shattering effect of light, quick blows is beautifully illustrated in this device.

VESICAL TUMORS.

Dr. **Granville MacGowan**, of Los Angeles, presented a report of ten operative cases of vesical tumors. He said that the improvements in the cystoscope now make operations on the interior of the bladder easy. The cleansing and emptying of the bladder produces very great relief. Patients are prepared for a number of days with urotropin; neighboring parts are shaven and the patient prepared as for any capital operation. Chloroform is preferred as an anesthetic. Incision is made to the layer of connective tissue over the bladder; a small incision, crosswise, is made into the tissue and the bladder opened by a long straight knife, all bladder tissues being cut through at once, a pair of long thin artery forceps dropped into the bladder alongside of the knife, and with blunt scissors the wound is enlarged. A suture is then passed near to the middle of the bladder, through the wall of the bladder and the transversalis fascia, the rectus muscle and the skin on each side, from one and one-half to two and one half inches from the edge of the wound. Assistants manage these retractors. The wound may be now enlarged if necessary, and the bladder explored with the finger. The Watson speculum is gently introduced. The Pezzer catheter is used and is of inestimable advantage. The most common cause of death following operations on the bladder is uremia, due to the refusal of the kidneys to do their work.

Dr. **Geo. Chismore** said he had formerly doubted the statement made at a meeting of the society some years ago, to the effect that all tumors of the bladder eventually become malignant. Since that time he had noticed that all of his cases sooner or later developed malignant disease and died. He now thinks that these cases will all die of cancer. It is well, therefore, to operate very soon and do a radical operation. We see epithelioma of the skin cured, and the same result may be achieved with the bladder.

Dr. **MacGowan**, in closing the discussion, agreed that these growths if left alone, would eventually develop into malignant growths.

HYPERTROPHY OF PHARYNGEAL TONSIL AND ITS RELATION TO EAR TROUBLES.

Dr. **H. Bert Ellis** of Los Angeles, in his paper on this subject, called attention to the anatomy of the neighboring structures and to the classical essay of Wm. Meyer. The symptoms were then reviewed and attention called to the frequent occurence of nocturnal incontinence in adenoid cases. There is generally disturbance of the digestive organs. The causes are many and various. Frequently it is congenital; may follow many diseases; may be caused by malnutrition. Race, sex, climate, seem to have little to do with the affection. It is largely a lymphoid hypertrophy. Small cysts may be found in the masses. Deafness is due to the rarefaction of the air in the Eustachian canal. Acute otitis may be caused by a retention of the Eustachian secretions, owing to mechanic interference of the large mass. From 57 to 90 per cent. of the deaf mutes in asylums are found to have enlarged pharyngeal tonsils. The most satisfactory method of examination is by means of the finger; a little practice soon teaches one the technic. Operation should be undertaken at once. In young subjects a general anesthetic should be employed, bromid of ethyl seems to be the best. Gottstein's curette is first used, and the forceps then made use of to remove any tissue that may remain. The character of the growth will determine the instrument to be used.

Dr. **A. B. McKee** of San Francisco referred to the effect on the mind, so often noted, in these cases of adenoid enlargement. He considers the acute middle-ear trouble due to infection, often to some infectious disease. There is often enlargement of the glands and probably a tendency to scrofulous disease. Examination can generally be made by the eye and is more satisfactory than with the finger. He prefers not to use an anesthetic, except when the patient is very young, and he then prefers bromid of ethyl. He has never had a serious hemorrhage and thinks it occurs after the use of the forceps, a piece of mucous membrane having been torn away.

OCULAR NEURASTHENIA.

Dr. **E. J. Overend** of Oakland read his paper on this subject, holding that the term asthenopia is too narrow to include the kind of case in which the asthenopia is but one sign of a general neurasthenia; these cases are common. The nervous system in these cases is weakened, and as the eye makes a great drain on nerve forces, the use of the eyes aggravates the neurasthenia. The normal eye is being heavily overworked and this may tend in some cases to produce neurasthenia. Many cases wander from oculist to oculist without benefit, when all that is really needed is rest that will cure the general neurasthenia. Suggestion may be very valuable. Much harm may be done by unjustified operation in many of these cases.

Drs. **K. Pischel** and **A. B. McKee** referred to the difficulty in which the specialist is placed by the general practitioner who sends a case to the specialist hoping that he may find something connected with the eyes to account for some perplexing symptoms, and in which the oculist is unable to find any disturbance of the eyes.

MALARIAL FEVERS OF THE SACRAMENTO AND SAN JOAQUIN VALLEYS.

Dr. **Philip King Brown** of San Francisco presented this paper, the result of a careful study of the blood in a large number of persons, both patients in the city and persons living in these localities. He said that the disease was pretty well limited to these localities, as most of the cases found in the city had recently come from these regions, often for the sole purpose of being treated for the disease. The disease was first reported by General Emery, in 1846. Old records are not very reliable, but the disease seems to have developed with, and to have been rare before, the advent of hydraulic mining. Hematozoa are always present in the blood; there are three forms of the disease, and three forms of the hematozoa are found, each coinciding with one form of malaria. There may be two of the organisms present at one time, though they are not interchangeable forms of the same germ. The particular peculiarities of the three forms of the disease, and the direct connection between them and the forms of organisms, were fully pictured by Dr. Brown. The tertian is the most common form of the disease in California. There may be a double tertian, one generation of germs ripening every twenty-four hours. Following a paroxysm there are but few germs to be found in the blood. The quartan variety is not so common. The estivo-autumnal fevers are least common. They exhibit irregular paroxysms; the fever may be continuous and blood parasites are found in multiple groups. Ten to fifteen days may pass without a chill, and the onset may not be in the form of a chill. The disease in this State is mild; it is six to ten times as common as typhoid, but the death-rate is much lower. No case of the third variety is known to have originated in San Francisco; this form is generally fatal. The continued, or so called typhoid type, the estivo-autumnal form, is said to be water-borne, but there is no proof that this is the case. Chinese and negroes are but little susceptible to the disease. The diagnosis of malaria is very often made on insufficient grounds, and much good quinin is wasted. Out of 263 cases in which the blood was examined, and in which the patients thought they had malaria, only ten showed the parasite in the blood. Malaria may complicate typhoid, but there is no such thing as typhoid malaria. Mountain fever is a misnomer; it has been thought to be typhoid by some and malaria by others; it is undoubtedly malaria. It may persist in spite of large doses of quinin, but the organisms can be found in the blood. Specimens of blood showing the three forms of the organism were shown under the microscope.

Dr. **Geo. A. Hare** of Fresno said that in the section of the San Joaquin Valley in which he resided a great many cases of mistaken diagnosis are reported, as malaria was not so common as thought to be. He deplored the fact that so many cases were wrongly diagnosed, for the reason that it prevented numbers of people from settling in these valleys. Doctors, when first settling in the valleys, reported very many cases of malaria, but as the years passed by they found that they did not have so many cases of true malaria.

Dr. Sherman of Merced said that all suspected cases should be submitted to the blood examination. Patients go away from the valleys perfectly well, settle in other regions, and then develop malaria. The disease is not nearly so common as is thought to be the case; it is more common during the irrigation season; rarely occurs except in the summer and fall.

Dr. Wm. Fitch Cheney of San Francisco called up the position of the mosquito in connection with the disease. Dr. Sherman has said that the disease is most common during irrigation, and that it is uncommon where there is running water. This has been demonstrated by Ross. Mosquitoes are found in great numbers near the irrigating ditches. The parasites seem to undergo some change in the interior economy of the mosquito. It is possible, by capturing the mosquitoes from malarial regions, and letting them out in the room of a person who is free from the disease, to inoculate such a person with the disease. It is not claimed that the mosquito is the only factor, but that he is the most important one. Certain regions in which mosquitoes are found are free from malaria, but it is demonstrated that all varieties of mosquito do not carry the disease. Autointoxication may simulate malaria closely. Tuberculosis may be confused with malaria, and sepsis is probably often so mistaken.

Dr. J. Henry Barbat thought no person should be treated for malaria till the presence of the parasite in the blood had been demonstrated. He cited several cases in which the symptoms pointed strongly to malaria, but in which blood examination entirely cleared up the diagnosis.

Dr. Thos. W. Huntington of San Francisco has had seventeen years' experience in the Sacramento Valley, and had noted that a large number of persons brought into the hospital for injuries, from malarial districts, exhibited the disease some days after coming into the hospital, even though they had been quite free from all symptoms before that time. Apparently the patient had the elements of the disease in his body, and all that was needed was a slight injury, lowering the tone of the individual, to bring out the symptoms of the disease.

NAILS IN LEPROSY.

Dr. Douglas W. Montgomery of San Francisco reported a case of marked deformity of the nails (onychogryphosis) in anesthetic leprosy. The patient, 69 years old, was a Hindoo by birth and a laundryman by occupation. He entered the San Francisco pest house in 1881. He was born in Madras and lived there till 20 years old; subsequently lived in Singapore, Hongkong and San Francisco. He had worked all the time as a laundryman and always with Chinamen, had had smallpox and a bad venereal sore. There was no further history, except frequent intercourse with Chinese women and a general loose life. For eight or ten years he had had no sexual desire whatever. There was no history of leprosy in the family and no idea when or where contracted. He first noted swelling of the hands about twenty years before seen, while in Virginia City, Nev.

When examined he showed no indication of any paralysis or atrophy of the face; no indications of leprosy on the cutaneous surface generally; no lymphatic nodules demonstrable; lower extremities normal; knee jerks present; right ulnar nerve slightly enlarged; fusiform enlargement of the nerve above the epitrochlear groove; tenderness along right median; fingers of right hand slightly flexed and beds of the nails beginning to hypertrophy. In other respects, save for commencing contraction of the palm, the hand was normal. On the left side the median nerve was not demonstrable; large fusiform swelling of the ulnar above the epitrochlear groove; sensations of touch, heat and cold ceased at the junction of the middle and lower thirds; sensation of pain ceased at the wrist; shape distorted; thrown back upon the wrist. The fingers were greatly deformed and the nails looked like solid horns.

He died July 9, 1895. The post-mortem was not a complete one; we simply removed the brain and cord, took off the hands and feet, and removed the ulnar nerves at the elbows. The brain was wet, but otherwise normal; cord normal; no evidence of syringomyelia; ulnar nerves sclerosed and thickened; left nerve showed but few nerve-fibers remaining; no lepra bacilli found. The case was seen late, at a time when self-cure had probably taken place; therefore no blotches were observed. The ankylosis of the fingers was true bony ankylosis, the joint spaces being filled with a dense bony mass.

Dr. F. B. Carpenter of San Francisco had seen very many cases of leprosy while living in the Hawaiian Islands some years ago, and it was quite common to see ankylosis, but not true bony ankylosis. He had seen one case of enlargement of the nail similar to the present case, but generally there was atrophy and the nail dropped off. This was a case of leprosy in spite of the absence of the lepra bacillus.

TWO SUCCESSFUL CASES OF AMPUTATION THROUGH THE HIP JOINT BY WYETH'S METHOD.

Dr. Chas. G. Levison of San Francisco presented this paper, to appear in the Journal.

TRANSPLANTATION OF THE OVARIES.

Dr. J. F. McCone of San Francisco presented a preliminary report. He had experimented a good deal with dogs and rabbits and found that the post-operative changes found to occur in the uterus and appendages, with their train of unpleasant symptoms, did not occur when a piece of ovarian tissue was planted in the abdomen after removal of the ovaries. He found that he could transplant the ovary from one variety of rabbit to another variety and the animal possessing the transplanted ovary would, or rather could, become pregnant.

Prof. Jos. Le Conte of the University of California pointed out that it is not necessary that the Fallopian tubes grasp the ovary in order for them to get the ovum. We do not understand how the ovum does reach the tube. The Doctor has successfully shown that the ovarian tissue may be planted in any part of the body and still preserve the uterus and the sexual functions. He is not at all sure as to the result when dog's ovaries are transplanted to the rabbit.

Professor Le Conte was asked for an expression of opinion on the much vexed question of vivisection. He said the trouble arose because the two sides do not really understand each other. Those who object have more sentiment than judgment. All life should be held sacred, but it should receive consideration commensurate with its elevation. It is better to kill a thousand dogs than to needlessly sacrifice the life of one man.

INTESTINAL ANASTOMOSIS.

Dr. J. Henry Barbat of San Francisco read a paper on this subject, which will appear in the Journal.

INTRAVENOUS INJECTIONS OF MERCURY IN THE TREATMENT OF SYPHILIS.

Dr. F. Dudley Tait of San Francisco read a paper on this subject, to appear in the Journal.

CASES OF DOUBLE SYNCHRONOUS AMPUTATION OF THE LOWER EXTREMITIES.

Dr. Thos. W. Huntington of San Francisco reported three cases, and his paper will appear in the Journal.

The officers for the ensuing year are: President, George Chismore, San Francisco; first vice-president, G.W. Davis, San Francisco; second vice-president, E. E. Kelly, San Francisco; secretary, Philip Mills Jones, San Francisco; treasurer, Thos. Ross, Sacramento.

Chicago Neurological Society.

Meeting, March 24, 1899.

Dr. Richard Dewey, the president, occupied the chair.

CONTAGION AND INFECTION IN NERVOUS AND MENTAL DISEASE AND DEGENERACY, AND MEASURES OF PREVENTION.

Dr. Richard Dewey, in presenting this paper, said in part: We do not ordinarily think of nervous maladies as contagious or infectious, though they are literally so to some extent. It is, however, concerning mental contagion and infection that the writer wishes to speak. Mental and nervous disease may be and often is conveyed through the influence, direct or indirect, of mind on mind. Nervous disorders, like hysteria and chorea, may spread from a single sufferer to an indefinite number of persons. The understanding of the precise modus operandi awaits the completion of combined investigations by physiologic and pathologic psychologists. The work of mental contagion is accomplished in a number of ways; it is immediate and direct or slower in its working, involving a period of incubation and gradual evolution; or again mental contagion and infection are spread by the process of procreation and inheritance. Examples of direct mental contagion are the epidemics so often recorded in history, especially in the Middle Ages, like those of flagellation, tarantism, the dancing manias and the convulsive epidemics, many of which phenomena continue in recent times.

Degeneracy may be considered one of the results of infection and it is true that the human ovum or spermatozoid may be regarded as a microbe of all degenerative diseases, and this fact renders propagation of nervous and mental diseases by extension from generation to generation the most serious morbific influence with which we have to contend.

Mental contagion in its slower working is illustrated by insanity, hysteria and chorea affecting members of the same family or inmates of the same house and slowly developing, like the *folie à deux* of the French writers, which indeed often includes three or four victims in one house or family—I have seen five members of one family affected at the same time.

Inheritance in mental and nervous infection is so well known that it does not need to be dwelt upon at length. In all cases where nervous and mental infection or contagion occurs, we must recognize that the individuals are for the most part constitutionally predisposed.

In considering the question of prevention, one is reminded of the complaint which is often heard at the present time, that we are fostering mental disease and degeneracy by elaborate care of its victims, which promotes the "survival of the unfittest," and it is often urged that measures which would promote the speedy removal of those capable of propagating nervous disease and insanity would be justifiable. A juster view, it seems to the writer, is that, although the conditions of degeneracy, insanity and nervous disease are unfavorable today, they are in reality less mischievous than in former ages. To admit that our condition is growing worse would be to ignore the known and certain tendency of both mind and body to free themselves from disease under improved conditions. It is nevertheless true that it is of the utmost importance to society to find remedies for what we all admit is one of the great evils of our time. If we inquire what may be done to stem the rising tide of disease and degeneracy propagated from mind to mind, we hear various replies. The remedies suggested are: Enaction of laws for permanent sequestration of all victims of such disease or defect; the providing of "euthanasia" for all incurables; likewise such restriction as would render it impossible for degenerate individuals to propagate their kind, as by refusing permission to marry; or by surgical procedure removing the essential organs of reproduction.

Most of these suggestions of legal remedies are crude and impracticable; they contravene fundamental principles and come under the head of class legislation. In enlightened communities application of law to cases of this kind would only be permitted where clearest and most unmistakable lines could be laid down; and in these diseases and defects it is a matter of impossibility to draw universally satisfactory lines.

Laws have been enacted and enforced in recent times regulating and controlling the contagion of diphtheria, smallpox, etc., and when equally definite principles of diagnosis and treatment have been attained in these diseases, some measure of legal control may become possible, but to-day if a law were enacted giving power to permanently imprison, to restrict and castrate certain insane, imbecile, epileptic, inebriate or degenerate beings, if we endeavor to think out the steps by which such a board would proceed, we see the futility of such legislation. It is the degenerate or insane person who is close to the normal line, and who is perhaps at different times upon both sides of it, who can be controlled by no law and yet produces in every sense the most evil by his existence in the community.

For the present, the efforts that physicians and scientific men can make to enlighten the public mind seems to be the only resource. The ignorance of the masses upon these subjects is the reason why such deplorable conditions of mental sanitation exist. These evils, like those of prostitution, venereal disease, intemperance, are a perpetual scourge to the welfare of society and yet defy the utmost ingenuity of the law-making power to control, except where they become amenable to the plain provisions of the common law. But a citizen of even moderate intelligence, who would resist a compulsory law, if brought to see the workings of inheritance, of contagion and infection in mental disease and defect, would in many cases voluntarily avoid the penalties imposed by nature. It is probable that if the time ever arrives when legislation forbidding marriage, requiring castration, or providing a peaceful death for incurables, could be enacted, the time would also have arrived when it would not be needed.

Public opinion will not tolerate legislation which risks the oppression of innocent persons, neither will any measure which is harsh or brutal be countenanced, even against the most worthless and imbecile; nor will law be favored which trifles with human life, even the life of the most useless and degraded. For these reasons legislation contemplating permanent imprisonment, forbidding the right to marry and to give in marriage of any person because it is probable his or her offspring will be insane or degenerate, or proposing that an innocent citizen shall submit to a surgical operation contrary to his will, must at present fail of enactment or, if enacted, fail of enforcement. Ten men will agree that right of marriage should be denied in such a case, or that the individual should be emasculated, but let one of the ten be touched in his person or family by such a regulation and he will set it at defiance, and the courts would often sustain him in doing so. There is a general opposition in human nature to being made virtuous by "act of Congress." Thus the propagation of disease seems to go onward unimpeded, and it may be that our race is thereby becoming more and more degenerate and incapable. But in taking so dark a view do we not lose sight of certain saving agencies in the unwritten laws of evolution and devolution? If we must admit that our benevolence and easy tolerance of defective humanity permit in some measure the survival of unfit persons, still this fact may be regarded as an incident in the larger movement which makes for universal health. The study and comparison of conditions can but convince the candid mind that they progressively improve and any evil incident to our fostering of the unfit is a negative quantity compared with the whole trend of sanitary and hygienic thought and action. Imbecility, inebriety and insanity tend to extinguish themselves even without the aid of intelligence and justice, and when we add these agencies we have a force which, working in harmony with natural laws, can purify and lift the whole fabric of society. It is, therefore, by education and instruction disseminated earnestly and incessantly throughout the community that we have our chief means of combating these injurious agents, and not by attempting to regulate by statutes things which must be left to the growth of intelligence and mental and moral rectitude in the community.

Dr. Sanger Brown—Dr. Dewey describes two kinds of infectious influences that are quite distinct. Some of the most striking illustrations of the former are, as he has stated, afforded by the history of Europe during the Middle Ages, when thousands rapidly, almost suddenly, became affected with a powerful frenzy which impelled them eagerly to horrible suffering and even death. To this infection it would appear that both adults and children of all classes were pretty generally vulnerable. Though the influence of thorough education and enlightenment has gone some way in establishing an immunity against this sort of infection and modifying the violence of the symptoms, the patronage bestowed upon "Christian science" and osteopathy shows that a considerable susceptibility yet remains, even among individuals who have achieved more than the average of social and commercial success.

A peculiar and practical paralysis of the reasoning faculties in certain directions, whereby the sufferer enthusiastically and sincerely accepts the most palpably absurd statements as facts, forms a prominent feature in the pathology of this condition. Mankind en masse is far more susceptible than in isolation, for the accomplished orator can frequently commit an audience almost unanimously to a course quite contrary to common sense, by the employment of arguments which the individuals composing the audience would not entertain for a moment being alone. In their earlier and more virulent stages, these epidemics frequently result in considerable loss of life and transposition of property, then they gradually subside, without, however, protecting the survivors from similar subsequent attacks.

A well-educated individual, with sound and well-trained reasoning faculties, can never be a genuine victim of this disease, though he may from various motives successfully simulate the symptoms.

Regarding the second division of the paper, which refers to the slower and more subtle forms of infection emanating from a highly complex civilization, and poisoning the minds of individuals spoken of as degenerates, there is certainly much to be said. I think I may say that the term "degeneracy" has come into such frequent use of late that there is always more or less uncertainty as to what is meant by it. In general terms perhaps it nearly always implies a certain disproportion between the various parts of the nervous system (for here we are only concerned with functions of the nervous system), whereby the individual is unable to respond to his environment in a normal manner. If this be accepted, then "degeneracy" is evidently a relative term, for as the environment is constantly increasing in complexity, there will be more and more individuals relatively who will fail to respond to it satisfactorily—more will fall by the way. It is true that educational, mechanic and business methods have been improved and simplified, but notwithstanding this the tax levied upon individual energy has steadily increased. And while some very high types are being developed, the process is horribly destructive and, I am sorry to say, I can not share the sanguine hopes of the essayist that progress is being made toward a condition of more comfort and security.

Dr. Harold N. Moyer—In a general way, I agree with Dr. Dewey's statements; regarding some of them, perhaps I might differ, particularly as to the proposition as to whether degeneracy is increasing or not. Degenerates have always existed, and if we read the histories of peoples and countries, we find most extraordinary examples of degenerate nations. We are led to think that it is increasing, because of the very great study that has of late been devoted to this branch. Insanity, a subdivision of degeneracy, is probably no more common now than it was formerly. Our knowledge of it has very much increased. As Dr. Brown has said, civilization is becoming enormously complex; the number of points at which the individual touches others in our modern civilization is very great. Any aberration of mind is at once apparent and unfits us for the place occupied. In a simpler condition of society such would not be the case. Many a case of mental disease in our rural districts never sees an asylum, perhaps never comes under the charge of a physician. Such patients live in the family. Their environment is, in a social sense, exceedingly narrow. That factor has to be borne in mind when we come to estimate the increase or decrease in insanity. Take, for example, the savage races, the insane person probably, unless his mental aberration is exceedingly marked and leads to absolute violence toward others, attracts little attention. The same thing is true of animals; insanity is not at all uncommon in the lower animals. In the domestic animals it is frequently noted. In the elephant a well-recognized form of mental aberration is observed by those men who have to care for elephants in India. The rogue elephant is excluded from the tribe. The recognition of degeneracy in its various forms leads us to think it is increasing.

Another element must not be forgotten, namely, that the average longevity of civilized communities has increased enormously in the last thirty or forty years; that less people die before middle life, and a much larger proportion of the people now live in an age when degeneracy of a certain kind manifests itself most strikingly.

Regarding the efficiency of legislation in the cure of these evils, I can not but be in hearty accord with the essayist; and yet the tentative efforts that have been put forth show that there is an increasing recognition on the part of communities of some of these facts. Legislation, after all, is but an expression of a fairly well-settled conviction in the mind of the public at large. When facts or theories have reached a point where they are accepted by more than a majority of the community, they will always find expression in legislation. Legislation, however, can never be in advance of public opinion. In proportion as it is based on well-recognized opinions of a community, in so far is it effective. At the present time nothing is to be looked for from it, because these opinions are not disseminated in the community; when they become so, perhaps legislation will be effective.

Another unrecognized tendency is toward socialism; individualism is becoming less and less a factor in legislation and in government, and the immense complexity of modern civilization is gradually forcing us into a modified state of socialism. It is increasingly recognized in certain countries; there is much socialistic legislation in Germany, not a little in Switzerland, and tentative efforts are apparent in the legislation of many of our Western States.

Dr. J. J. M. Angear—Perhaps those of us who are teaching in this line are liable to look at one side of the picture too much. The view I have taken of insanity is that it frequently begins with family troubles, generations back, and these family troubles frequently arise from mismating. Young, uncultured men of poor circumstances look for the hands of the cultured and refined daughters of wealthy men. Where such a young man succeeds, the young woman has been reared in the parlor and not in the kitchen. She has been taught to play on the piano rather than on the wash-tub, and by and by, when it is too late, we find that she realizes the fact that she is out of her sphere, and he recognizes the fact that his wife is better adapted to study poetry, painting and music, than to care for children, etc. I have met with a great many such causes of insanity. What is the real cause in such cases but worry—domestic trouble of one kind or another?

Then, again, I have been led to look at insanity as a disease arising from civilization, as being largely due in many cases to undue aspirations, a reaching after the unattainable, and financial reverses. On the board of trade many are doing business on borrowed capital, carrying hundreds of thousands of dollars on their shoulders, and to say that they must not carry their business home to bed with them is next to an impossibility. A man is to-day a millionaire; to-morrow he has not a penny; but he rallies; he borrows, as it were, from the future, his mental strength and business energy, and some of his friends loan him some capital and he is again acquiring property and amassing wealth, but he is carrying a greater burden than ever. That is a condition we can not ignore; we see it; we realize it every day. Every physician meets with evidences of excess—excess of dress; excess at the table, and, above all, sexual excess. It is this which is breaking down the men and women of our time. They fail long before they ought to. This is the present picture. Somebody has said that the trouble is our neuropathic patients do not come to us soon enough; they ought to have come to us (medical profession) two hundred years ago, then perhaps some of these troubles could have been prevented. If we have poverty or loss of social position staring us in the face, is it not reasonable to find more than one individual in a family affected with the same thing? If the father is affected, perhaps the son will be the next, or a daughter, and we have three or four individuals in the entire family suffering from precisely the same cause; this is no evidence of infection. The matter of heredity is naturally in the background of that picture, and not so far back either. Education is not going to remedy this, unless it is specific education—to bring the young people to look at life as it really is, and to let them be looking after the future if they expect to be the center of a family; study adaptability more than wealth and position.

The line of descent of insanity may not have occurred precisely in this way, but there was a constant mental irritation or psychic friction kept up, and in the next generation there were neuroses, and in the subsequent generation psychoses, and the next generation is landed fairly and squarely in the domain of insanity, so that legislation is not going to accomplish much in this direction. There is no legislation that can prevent a man from carrying two or three hundred thousand dollars on his shoulders, and taking it home with him and making bed-pillows of that great debt, which is wearing not only on his physical but also on his mental nature, and the result is that if it does not show itself fully in the present generation, it will in the next, or the next.

Dr. Sydney Kuh—There is one phase of this question which is generally neglected in such discussions, and that is, that those who have proposed methods for limiting the spread of degeneracy, methods which Dr. Dewey has justly characterized as brutal and impractical, forget entirely that the number of those who are afflicted with the milder types of degeneracy is large; that they are not useless or harmful members of society, but are, on the contrary, not infrequently unusually useful. If we were to limit the spread of degeneracy we would remove all of those, and their removal would be a great loss. Let me mention a few examples. The first four kings of Bavaria were all degenerates, and yet did more for their country than the average sane crowned head of Europe. This is particularly true of Louis II, who did so much to promote art. Only recently, in a very amusing article in one of the current magazines, on certain forms of degeneracy, I read a short report of the life and history of a man who spent part of his life in defending a most absurd theory, namely, that the earth was hollow; that there was an immense hole at either pole, the hole I think, being 10,000 miles in circumference, through which one could enter; that the inside of this hollow body was inhabited and that the inhabitants spoke Hebrew. I happen to know one of the descendants of this man. His son was a poet of more than local fame; the grandson was a teacher at our naval academy, an unusually brilliant man, and an epileptic. The great-grandson, with whom I was intimately acquainted, is now a practicing physician out West. The young man was unusually gifted, but had a slight moral warp. Nietzsche, one of the greatest philosophers of our day, is decidedly a degenerate. A young woman whom I know quite well has a mother who suffers from chronic melancholia; one sister is in an insane asylum; a second or youngest sister committed suicide after the first attack of what would have probably developed into circular psychosis. This young woman suffers from circular psychosis, and in her lucid intervals has made valuable contributions to literature and has displayed unusual talents in other directions. While I do not believe that every man of genius is necessarily insane, there is hardly any doubt that a certain amount of eccentricity—and who can draw a sharp line between eccentricity and degeneracy?—is frequently associated with genius. As I said in my opening remarks, in limiting the spread of degeneracy we would deprive the human race of a large number of its more gifted members.

Dr. Harold N. Moyer—If I understand Dr. Dewey correctly, in his paper he deals with contagion and heredity as causes of degeneracy. I would like to ask him if he has formulated any idea as to the probable efficiency of those two causes?

Dr. Dewey (closing the discussion)—I mentioned three ways in which contagion and infection were operative, but I did not consider any one of them as exclusively the cause in reference to degeneracy. It can not be doubted that degeneracy is slowly brought about by conditions that are born with the individual, and we usually understand by that term persons who are so unsymmetrically developed in brain and mind that they are incapable of adapting themselves to their environment, and that this lack of symmetry and development is born with them. It would be a very interesting question to discuss as to whether identic conditions may not be the result of post-nasal circumstances, and whether or not degenerates, who were perhaps born normal, have become "degenerate" from external causes, yet I do not feel that we have any reliable data on that subject, and I do not know that I have seen it discussed. I have considered degenerates as coming under the head of those who were not certainly affected by any contagion, but were, if you will permit the term, "infected"; that is, there was a process of disease resulting from the act of procreation, analogous to infection, something derived from one or the other or both parents.

My paper was much condensed, and there is a good deal I would like to have said in that direction. Dr. Walker brought out a valuable suggestion with reference to the education and the proper care of children to prevent or counteract the tendencies existing in early life, and I believe much can be accomplished by judicious care and training of children that are defective. But there is hardly a glimmer of intelligence on this point in the minds of the average parent. This is one of the points on which education is needed.

If I had more time at my disposal I should like to have touched upon what might be called epidemics of insanity that prevail at the present time. I believe the crazes of spiritism, osteopathy, "Christian Science," hypnotism to a certain extent, and magnetism are precisely the same thing, differing from the different circumstances that exist to-day, but that they are of the same nature as the more severe and terrible manifestations of epidemic madness that existed in the earlier days.

In reference to legislation, I doubt very much whether anything practical can be accomplished by the enactment of any law, still I do welcome tentative efforts. We see them made continually, and they are the means of attracting attention to these matters, and leading to more correct views in reference to them by the discussion they bring out. In Michigan a law was enacted two years ago, creating a board which was to have charge of all idiots and castrate them, remove the ovaries in certain cases in which the board deemed it necessary or proper. There was a law enacted in Kansas one time, and at the State institution many boys were castrated, and the superintendent who did the operation reported the most marvelous results in transforming these individuals.

"Boarding out" the insane is done to a considerable extent in this country, particularly in Massachusetts, and in the older countries, such as Switzerland and Belgium, where it is a very extensive business, getting the insane to board in the families of the peasantry, or those who are willing to take them. This is a vicious thing and should be prevented by law. A child brought up with an idiotic or insane person must necessarily be influenced by it. While it is considered bad to put the insane in large institutions, where they suffer from being thrown together, yet considering the good of the community and the means at command, it is the only thing that can be done, and as a result of that evil, which is being recognized throughout the country, there is a strong movement to provide hospital treatment for the acute and curable cases, to separate them as much as possible, and give them the best chance to get well.

Dr. Angear.—With reference to your experience, do the insane enjoy each other's society any better than they would the society of the sane?

Dr. Dewey—There are always a few insane persons in every institution who seem to be well adapted to each other and get along nicely and do well; with others, as far as one can judge, it is a matter of indifference. A large majority are unfortunately affected by being massed with others that are like themselves, or are even worse than themselves.

New York County Medical Association.

Stated Meeting, April 17, 1899.

RECURRING LARYNGEAL STENOSIS AFTER INTUBATION.

Dr. Louis Fischer presented a communication on this subject, in which he referred to and endorsed the opinion of the late Dr. O'Dwyer, that in the large majority of instances this condition was the result of traumatism. Such injury might result from the use of improperly constructed intubation tubes, of tubes of a size not adapted to the individual or from allowing calcareous deposits to form on the tube. A very common cause was unskilful or rough manipulations in connection with the operation of intubation. According to O'Dwyer, the lesion which was responsible for keeping up the stenosis was just below the vocal cords, or in that portion bounded by the cricoid cartilage, and where there was normally a constriction. Prolonged laryngeal stenosis would seldom occur if tubes of proper size and construction were used, if they were introduced with sufficient gentleness, and if it were made a routine practice to remove it every two or three days. A point worthy of note was that calcareous deposits did not form on rubber tubes. He had employed with much success in these cases, a method of intralaryngeal treatment of the ulcer which had been suggested by O'Dwyer. It consisted in the use of tubes coated with medicated gelatin. The best results were obtained by immersing a rubber tube in a hot solution of gelatin containing either 25 per cent. of alum, 20 per cent. of ichthyol, or paraffin medicated with 3 per cent. of iodoform or europhen.

EXTRAUTERINE PREGNANCY.

Dr. Herman J. Boldt read a paper on this subject, dwelling more especially on the advanced cases. Specimens from both a late and an early extrauterine pregnancy were exhibited. The need for greater care in making the diagnosis in the early cases was shown by the history of the patient from whom the specimen was taken. She was a widow, who had menstruated regularly, but had flowed at short intervals for sixteen days. Before she had been seen by him, she had consulted six other physicians, all of whom expressed the opinion that her fainting spell had resulted from loss of blood. On examination, the portio vaginalis had been enlarged and succulent, and there had appeared to be an accumulation of fluid in the pelvis. On performing abdominal section, he had found internal hemorrhage still actively going on, an interstitial pregnancy, and a large rupture extending from the horn of the uterus for some distance into the tube. The important symptoms of early extrauterine pregnancy were: a missed menstruation, intermittent hemorrhages (the blood often being of a peculiar chocolate color, the passing of pieces of decidua, moderate enlargement and softening of the uterus and decided tenderness of the mass.

The treatment of the advanced cases was a serious matter. If the fetus was alive, the patient should be kept under constant and skilled supervision until the first signs of labor, and then the abdomen should be opened. He preferred to operate as soon as possible after the seventh month. If the patient did not come under observation until after the death of the fetus, it was well to postpone operation until it was comparatively certain that the circulation in the placenta had ceased. If this was not done, there was danger of very profuse hemorrhage occurring.

Dr. J. E. Janvrin spoke of the pioneer work that he had done over ten years ago in the treatment of the early cases. Up to 1886, he, along with a number of other practitioners, had attained a fair amount of success by the use of electricity, but in that year he had treated a case by this method, and the woman had suddenly died within twenty-four hours after the third electric treatment. The autopsy had shown the cause of death to have been the rupture of a small blood-vessel on the surface of the affected Fallopian tube. This had led him to wholly abandon the electric treatment of ectopic gestation, and to raise his voice in favor of laparotomy in all such cases. Laparotomy was indicated, because at the same time as it enabled the physician to make a positive diagnosis it afforded the best opportunity for effective and sound surgical treatment. He had not lost any cases of tubal pregnancy in which he had been allowed to operate early.

The chief symptoms and signs of extrauterine pregnancy were: 1, missing one or more menstrual periods; 2, irregular discharges of blood from the uterus; 3, the discharge of shreds of decidua; 4, slight nausea; 5, slight enlargement of the areola of the breasts; 6, slight enlargement of the uterus, associated with displacement of this organ toward the unaffected side, and the presence of a globular and semifluctuating mass on the other side; 7, marked pulsation of the artery of the unaffected tube, and 8, very marked sensitiveness of the mass itself on pressure.

Dr. Andrew F. Currier discussed the deformities likely to exist in the fetus in a case of advanced extrauterine pregnancy. He said that he had been unable to find on record any cases of fetal deformity earlier than the fifth or sixth month, and called attention to a fact that he thought was but little known or appreciated, i. e., that a not inconsiderable number of these fetuses had been delivered alive by abdominal section. In a series of nineteen cases collected by Champneys the mortality had been 61.1 per cent. The most common deformities were asymmetry of the face and head and clubfoot. The cause of these malformations seemed to be the absorption of the membranes by the peritoneum, thus depriving the fetus of the protection ordinarily afforded by the membranes and the amniotic fluid.

Dr. Edward A. Ayers said that in advanced cases of extrauterine pregnancy the fetus had but a slight chance for life. He had previously reported a series of 101 cases occurring in recent years, with only 20 children still living. The maternal mortality was even now as high as 38.5 per cent., and the reason for this was found in the fact that the management of the placenta in such cases constituted one of the most difficult problems in all surgery. In operating, the vaginal route would hardly be selected except in those cases in which the fetus was not very large and lay well down toward the vagina. As it was practically impossible to determine at the outset whether the fetus was within or without the peritoneal cavity, the primary incision should be made down near the pubes. As the placenta in the extraperitoneal cases often extended forward and pushed the peritoneum upward, it was possible by such a low incision to avoid opening the peritoneal cavity at all. The operator should endeavor to control the circulation by ligation of the ovarian and uterine arteries before attempting to remove the placenta. In some cases the placenta was attached to the abdominal wall, rendering it liable to be divided by the first incision. In other cases it would be found attached to the intestine, or perhaps to the bladder, so that its removal at the primary operation would be out of the question. In view of the many difficulties that beset the operator in this class of cases, the speaker said that he had undertaken a series of experiments with the object of ascertaining if it were possible in practice to control the placental circulation and prevent the decomposition of the placenta for some time by means of certain substances injected into the placenta through the umbilic vein. He had already published the results, which had certainly been encouraging and which had demonstrated, at least, the possibility of postponing the process of decomposition in the placenta for a number of days.

German Congress of Surgery.

Held at Berlin, April 5–8, 1899.

CONDITIONS OF SUCCESSFUL OPERATIONS FOR EPILEPSY.

Kocher of Berne referred to the modern loss of confidence in these operations, as the formerly accepted percentage of 70 per cent. recoveries has been shown to be erroneous, and Graf and Braun's latest statistics claim only 2 to 4 per cent. cured. Comparing the ultimate results of various methods, it has been found that recoveries are much more frequent when the dura mater has been incised (14 per cent. immediate recoveries without, and 54 per cent. with incision of the dura mater). This fact confirms what he has always claimed, that epilepsy is due to a general or local exaggeration of the intracranial pressure. Opening the dura establishes a safety-valve which regulates this pressure. He has witnessed cases in which mere incision cured not only the epilepsy but a spasmodic paresis. In his six cases of permanent recovery over three years) he finds that the membrane over the trephined spot has remained soft and yielding, while in all the cases of recurrence the defect is closed with a hard, rigid substance. In eighteen cases of complicated fracture of the skull the soft parts were injured sufficiently to form a safety-valve except in one case, and this was the only one affected with epilepsy. Epilepsy can be produced in guinea-pigs by repeated slight blows on the head with a hammer, which increases the intracranial pressure, but if the dura mater is incised, it is impossible to induce epilepsy in this way. These facts explain the effects of cerebral cysts. In one case he had to keep a cyst drained for three years before a final cure was obtained. The ventricles can be punctured and drained without an incision, by drilling through the skull and inserting the needle of an aspirating syringe. Other speakers corroborated his statements by their experience of recoveries persisting when the membranes had remained soft.

[The same foreign mail brings us accounts of research by Chipault and Berezowsky which establish that the dura mater is able to reproduce bone, and hence that it is necessary to remove the subjacent dura mater with the bone, in trephining, to ensure a permanent opening, or, as Tuffier suggests, evert the membrane and fasten it to the pericranium. In one case he cut out the center, leaving only enough membrane for the eversion, and in another he cut four triangular flaps for this purpose, leaving an X of the membrane across the hole to prevent hernia.—Ed.]

Bergman called attention to the "spasmophilous alterations" in the brain which some consider the foundation for all cases of epilepsy. "It is hereditary in nine-tenths of the cases, and whether congenital or acquired, bars a successful operation."

LAMINECTOMY FOR SPONDYLITIC PARAPLEGIA.

Trendelenburg reported that his experience with unoperated spondylitic paraplegia had been a mortality of 82 per cent. in twenty seven cases, while of eight patients operated on (one case of seventeen years' standing), one died six months later, one relapsed after temporary improvement and one was unaffected. Three are cured and two are still under treatment. In three he noted indications of inflammation in the foramen and in five there was compression of the cord from the deformed vertebræ. There was usually spasmodic paralysis and disturbances in the functions of the bladder and rectum and in the cutaneous sensibility. He resects the laminæ through a flap incision, commencing at the upper part of the hump, and continuing resecting one lamina after another until the cord is its natural color, and not bluish. The recovery may not be final until after a year. The acute stage is a counterindication to intervention.

TUBERCULOSIS OF THE SYMPHYSIS PUBIS.

Bungner described the symptoms caused by this rare affection as commencing with inguinal pains like neuralgia, followed by an abscess in the hypogastrium behind the muscles of the abdominal wall, leading to fistulæ in the pubic or perineal region. It has sometimes been mistaken for a hernia or lipoma. The prognosis is favorable.

TRAUMATIC COXA VARA.

Sprengel is of the opinion that the traumatism can be incriminated if the trouble commences abruptly and with much pain, and is unilateral. He referred to cases in which a slight traumatism had produced separation of the epiphyses, which healed in an abnormal position, shortening the limb and producing a syndrome simulating coxa vara. As the movements of the hip are hindered in most cases of coxa vara by the lack of space between the convexity of the femoral neck and the cotyloid margin, Mikulicz merely resects the projecting portion of the convexity of the neck.

INVETERATE LUXATIONS OF ELBOW.

Bunge has treated thirteen cases with reduction by means of a couple of lateral incisions, breaking up all adherences and denuding the ends of the bones for several centimeters from the articular surface, and following with orthopedic treatment. Eight are cured. Hoffa reported success in treating habitual luxation of the patella by taking up a fold in the capsule according to Le Dentu.

PECULIAR ADHERENCES IN ILEUS.

Gersuny stated that he found in twenty illeus laparotomies a special adherence of the mesentery between the descending colon and the sigmoid flexure, producing a volvulus or crooking the colon, with more or less complete obstruction. Seventeen were women, which inclines him to the opinion that the adherences may be caused by escaping menstrual blood, forming a fibrinous deposit at the spots least affected by the movements of the small intestine.

Rehn called attention to the frequency of biliary calculi in ileus, and urged the importance of examining the gall-bladder during intervention.

CONGENITAL LUXATION OF HIP-JOINT.

One session was devoted almost entirely to this subject, and the experiences related show that the hopes of a few years ago in regard to the success of manipulative reposition have not all been fulfilled. Hoffa had only three "irreproachable reductions" out of forty-two unilateral luxations (Lorenz method). In all the other cases except two there has been a forward transposition of the head of the femur, but the functional results are better than might be expected. He insists on the necessity of fastening the limb in inward rotation instead of outward, which prevents backward luxation, and recommends five months for the plaster cast. He treats inveterate cases with subtrochanterian osteotomy unless in very young subjects, in which case he induces the formation of a pseudoarthrosis. Comparing various bloodless methods, he reserves Mikulicz' slow reduction by means of a plaster cast applied every day, for a few hours, for children under 2 years. Lorenz limits the bloodless operation to children under 7, if unilateral, and under 6, if bilateral. He has a record of 360 reductions and has found the effects of treatment satisfactory in more than half the cases from an anatomic point of view. The accidents were gangrene of the member in a girl of 13, after manipulative reposition, ten fractures of the neck of the femur and two of the pelvis, paralysis of the sciatic and femoral, the latter subsiding more rapidly than the former, and three deaths, one during anesthesia and two within twenty-four hours. Reposition was impossible in twenty-two cases, all over 6. He operated on 260 subjects, with four deaths from septicemia. The ankylosis that results in persons over 10 is a great disadvantage, especially if bilateral. It occurs even in aseptic conditions, and there is also danger of a vicious growth of the pelvis.

The luxation occurred at once in fifteen cases in which the femur had been given a position too much like the normal. Lordosis disappears completely in most cases. The results have been very favorable in regard to bearing fatigue. The subjects limp for a long while, until the muscles have entirely regained their normal equilibrium. Schede and Petersen use a dynamometer in applying extension. In most of their 165 cases there is only a transposition of the head, but they have had perfect results in eight unilateral and two bilateral cases. They have been very successful with subtrochanterian osteotomy in cases of pronounced incurvation of the neck. They immobilize the upper part by a nail driven into the trochanter major, and fastened in the plaster cast. To prevent ankylosis Mikulicz advises retaining as large a cartilaginous surface as possible (see Journal, p. 935).—*Semaine Méd.*, April 12, 15, 19; *Deutsche Med. Woch.*, April 13 and 20.

Orleans Parish Medical Society.

Meeting held at New Orleans, La., April 22, 1899.

HEART AND BRAIN INVOLVEMENT IN APPARENT ACUTE ARTICULAR RHEUMATISM—RECOVERY.

Dr. E. M. Dupaquier detailed this case. The patient was an Italian, 45 years old, of sturdy build, with an excellent personal history. When first seen, on the fifteenth day of his attack, the temperature was 102.4 F.; the right knee was inflamed and there were abarticular pains above and below the left wrist, on which was a red spot the size of a dollar. The urine was normal; the tongue was broad and heavily coated. The stomach was emptied with ipecac, the bowels with Rubinat water. Betanaphthol and salicylate of sodium (6 grams in three doses in twenty-four hours) were administered, the former as an intestinal antiseptic. An exclusive milk diet was prescribed. On the second day the pains diminished considerably and temperature fell to normal, but the third day it rose to 102.5 F., the swelling of the knee increased, the neck became stiff—a phenomenon which was then attributed to involvement of the fibrous tissues about the vertebral articulations—there was delirium, somewhat hurried respiration (30 to the minute), with a pulse of 120, weak and irregular. There was no murmur on auscultation; the heart beat was ill-defined, the sounds lacked clearness, there was pain over the precordia, the veins in the neck pulsated.

Here then were signs that might mark the beginning of endo- or pericarditis. The salicylate was discontinued immediately and four drops of fluid extract of digitalis given every hour instead. Further, counter-irritation was resorted to. For this Dr. Dupaquier prefers the actual cautery, as the most rapid and sure means of accomplishing the desired effect, making ten applications of a one half inch button over the precordia, three-fourths of an inch apart. Four hours later the cardiac signs were unaltered; the pleuræ and lungs were normal; the delirium was more marked; the eyes were injected, the stiffness of the neck had increased, and temperature was 103.

A condition of cerebral rheumatism, of congestion of the cerebrospinal meninges, was undoubtedly present; revulsives were plainly indicated; ⅛ gr. tablets of elaterium were given at hour intervals until four had been taken, producing free purgation; mustard was applied to the limbs. Digitalis was kept up; water was administered freely every hour. The patient grew quiet and perspired more freely.

The same treatment was kept up throughout, especially the flushing out with fluid. For a week fully a gallon each of milk and of water was taken every twenty-four hours. At the end of the twelfth day under treatment, the cardiac, cerebral and articular symptoms were gone; slight febrile temperature existed, for which quinin, strychnin and benzonaphthol were given with good effect.

Attention was called to the necessity of dropping the salicylates on the occurrence of cerebral and cardiac complications, which are neither prevented nor cured, but are often aggravated by them.

NAUSEA IN CASE OF PNEUMONIC INFECTION.

Dr. Dupaquier also related this case, in which consolidation of the lower lobe of the left lung was ushered in by a chill, a rise of temperature to 104 F., and nausea, with vomiting. The nausea and vomiting were marked and persistent symptoms throughout the disease, which ended fatally. Long before the termination, tachycardia with arhythmia, albuminuria and symptoms of meningeal involvement had shown the gravity of the condition. The gastric symptoms, of central origin caused by profound hemic alteration, are of grave prognostic value when persistent and not limited to the brief period of invasion; when they occur, the prognosis should always be reserved.

ACUTE ARTICULAR RHEUMATISM.

Dr. Hermann B. Gessner called attention briefly to the treatment for this condition, recommended by O'Conor of Buenos Ayres, in the April issue of the *Annals of Surgery*. (See Journal, April 15, p. 839, ¶ 48.)

Dr. M. J. Magruder read of a girl of 8 years, who presented at the beginning pain and swelling about the shoulder with a temperature of 101. On the second day the shoulder was less painful, but the temperature higher and accompanied by headache. Higher temperature, severe head pains, sleeplessness, crying, stiffness of the neck were present on the third day. The fourth day was marked by a severe convulsion. Further details of the case were not known to him, as it had passed under the care of another physician, but he did know that the child died three or four days later with symptoms of cerebrospinal meningitis.

Dr. J. A. Storck had, during the present year, seen several cases of rheumatism presenting cerebral symptoms and large, flabby tongues. He has used quinin salicylate and potassium bromid with good results.

Dr. E. Denegre Martin spoke of a case treated by him, in which an improvised steam bath at home had given relief after the failure of active treatment with drugs. In several other cases seen since he had been equally successful with this treatment, which gives better results than drugs, and without disturbing the stomach. He warned against subjecting weak patients to a prolonged bath, which might cause serious depression.

Dr. Hamilton P. Jones related his own experience with rheumatism. Three years ago he spent five weeks in bed with a severe attack which involved all but the temporomaxillary joints, and was attended with fever which ranged from 103.5 to 104.5 F.; during this period he lost thirty pounds. Finally, he went to Hot Springs, Ark., where a series of thirty-five baths, associated with free ingestion of water effected a cure. Two months after his return indulgence in a single glass of beer was followed by an attack involving the knee. He then began taking steam baths daily with good results. Later he went in for Turkish baths, of which he took about 300 in a year. Rheumatism had been relieved without taking any drug but bicarbonate of sodium, and he had escaped organic lesions.

Dr. John F. Oechsner believed that physiologic rest of the joint, obtained by immobilization with splints or gypsum bandages, is of great value in the treatment of acute articular rheumatism; a case in point was cited.

Dr. J. P. Conn had immobilized the right wrist of a young woman under his care, with the result that he expected to have to give a general anesthetic in order to break up adhesions.

Dr. Dupaquier, closing the discussion, said that Dr. Magruder's case shows how careful we must be with such cases occurring in children. He had seen a case in which a child that had suffered with a tonsillar trouble was thought to have post-diphtheritic paralysis; in reality the child was suffering with a rheumatic attack attended with little swelling. The association of tonsillitis and pain in the joints makes the diagnosis of rheumatic disease in children. Dr. Dupaquier uses immobilization at times, but not in acute cases. As for the steam bath, it is dangerous when cardiac complications exist; death occurred in a case known to him.

Philadelphia Pathological Society.

Meeting held April 27, 1899.

AUTOINTOXICATION.

Dr. R. H. Chittenden of New Haven gave an address on this subject, confined for the most part to the consideration of hypoxanthin, xanthin, adenin, allantoin, and uric acid, all of which bodies he considers have close chemic relationship, and arise during the processes of normal metabolism. Katabolic changes are characteristic of individual cells, and under normal circumstances are not important, but during disease they doubtless play an active rôle in the production of pathologic conditions. These bodies thus become of special interest to both the physiologist and the pathologist. The processes which bring about the formation of these products are closely interwoven, and a perversion in one set of cells sets up a disturbance, or causes a perversion in cells situated elsewhere. Thus a removal of the thyroid, or suprarenal bodies alters the vital power to such an extent that profound symptoms ensue, therefore, many of the normal excretory products are noxious to the body which produces them in health. Autointoxication, therefore, is a wide-spread possibility, arising from products of its own metabolism, and one within the reach of every organ, tissue, and cell within the human system. Being so, it is unicellular as well as multicellular, and from this reason the processes taking place within each cell must be considered. A perversion of metabolism may result in the formation of toxic substances not common to the individual.

What evidence have we that the normal waste products are poisonous? It has been proven that some of these poisonous products may be found among the alloxuric bodies. They are all closely related chemically. Regarding their toxic properties, Minkowski gave to a dog 4 grams per body weight, the substance known as adenin, which in one case gave rise to nausea and vomiting, and in another instance caused inflammation of the kidneys and stomach. Given hypodermically it causes an increased pulse-rate. Its principal action is, however, exerted on the gastric mucous membrane. Experiments go to show that its action does not come on at once, but after an interval of several hours. Autopsies on dogs to which adenin has been given disclose considerable injury to the kidney structure, with desquamation of the epithelial cells, and peculiar spots in these organs, confined for the most part to the tubuli uriniferi, and of the loops of Henle. The interstitial tissue shows evidences of acute nephritis. The uric acid is greatly diminished. Hypoxanthin, when given to dogs in doses of 4½ grams produced no symptoms of poisoning referable to the gastro intestinal tract. The evidence goes to show that it becomes rapidly transformed into uric acid and allantoin, the decomposition products being respectively 77 per cent. uric acid, and 4 per cent. allantoin. It remains a question whether hypoxanthin is not first changed to uric acid, and subsequently to allantoin. All experiments with these bodies fully demonstrate that a limited number of experiments may lead to false results. In all cases we should specify the animal used, owing to the difference in the tissues in man and those of the lower animals.

Guanin given to dogs in doses of 6 grams produced little results. In larger doses it is toxic. The results, however, prove that it is not converted into uric acid or allantoin, and that it is not readily transformed at all, and upon this property its toxic property doubtless depends. The body known as xanthin, while not toxic to a large extent, becomes so upon the advent of the introduction of the methyl group, such as trimethyl-xanthin, which is toxic. Given to frogs it causes rigidity of the muscles and increased reflex activity. In the dog it is changed into mono-methyl-xanthin.

Carnin, while not toxic, causes fluctuation of the heart.

One reason there is so much misunderstanding in regard to these alloxuric bodies is due to the faulty methods pursued by different experimenters. The tendency at the present time is to lay too much stress on the toxicity of these products of normal metabolic activity. In certain diseases, however, they may play a prominent rôle. The symptoms ordinarily observed in nephritis, for example, may be due to retention in the system of these alloxuric products.

Regarding the origin of urea, it appears to be chiefly formed in the liver. Its immediate antecedent seems to be ammonium carbonate, from which it appears to be derived. In the case of dogs, however, urea has been formed although the liver had been removed. As to the origin of acetone, one observer says it supervenes on the decomposition of fats. It is a product of cell metabolism and is found in large amounts in the urine in certain cases of diabetes. Acetonuria thus arises from cell perversion. Acetone is only toxic in very large amount. Diabetics fed on carbohydrates alone, or on glycerin, rapidly succumb.

The chemic products in the intestinal tract due to the life of micro-organisms, undoubtedly do cause autointoxication in many instances. It has been demonstrated that phenol, indol, and skatol, are all toxic. Indol is no doubt due to the life of the colon bacillus. Indol in toxic amounts manifests its influence on the heart, and on the liver, the latter organ showing degenerative changes. In sufficient amounts the absorption of these aromatic substances—indol, phenol, and skatol—may give rise to many symptoms occurring during the course of disease. Thus we have the production of toxins arising from faulty metabolism. It will be observed, therefore, that no one group of products arising from faulty metabolism is responsible for the production of autointoxication. Cholin will cause a fall of blood-pressure and embarrassment of the respiration.

Dr. Judson Daland thinks these products of the normal body might be a prominent factor in such diseased processes as typhoid fever. He detailed certain other diseases which he had treated in which he thought that the alloxuric and other waste products had been disturbing factors. He also thinks the estimation of such bodies in the urine as indican and acetone will give us an index of the amount of other waste products being formed in the system.

Dr. F. Savary Pearce spoke of a case of neurasthenia in which there had been present glucose in the urine, and on its disappearance the symptoms of neurasthenia had disappeared.

Dr. A. A. Eshner regarded the subject as necessarily very complex. Two causes he considered as being potent, the one a deficiency of elimination, the other excessive production.

Dr. Alfred Englebert Taylor has endeavored to obtain certain leucomains from the urine, but in many instances the results have been negative. In one case of pernicious anemia, however, he has been rewarded by finding putrescin and cadaverin.

Cincinnati Academy of Medicine.

Meeting of May 1, 1899.

CASE OF ANEURYSM OF THE AORTA.

Dr. G. A. Fackler presented a man, past middle life, who had had syphilis twenty years before. He thought that the descending part of the thoracic aorta was involved, a pulsating tumor being present in the back in the neighborhood of the left scapular angle. The heart itself was enlarged, but the only murmur coming from the heart itself was a systolic bruit over the pulmonary area. The second sound at the base was accentuated. The patient had entered the Cincinnati Hospital complaining principally of hoarseness. Laryngoscopic examination showed paralysis of the left vocal cord. Tracheal tugging was not present. Dilatation of the veins over the chest was marked, especially on the left side. The lung tissues in the neighborhood of the tumor showed signs of pressure by means of numerous small crackling râles present.

Dr. A. M. Brown recommended frequent and slight bloodletting as a remedy for sleeplessness and pain.

Dr. J. L. Cleveland thought that morphin would control the pain, act as hypnotic and at the same time act as a cardiac stimulant.

Dr. Louis Schwab, coroner, spoke of the cases of sudden death coming under his official experience within the past few weeks, both of which cases had died of ruptured thoracic aneurysm without external signs, and in one of which foul play might have been suspected without an autopsy. He thought that in every case of sudden death an autopsy should be made to determine the underlying cause of death.

Dr. Wm. Judkins spoke of the rôle of excessive bicycle riding as a cause of aneurysm.

Medical Association of Georgia.

Annual Meeting held at Macon, April 19–21, 1899.

(Concluded from p. 999.)

ETHER VS. CHLOROFORM.

Dr. William H. Elliott of Savannah pointed out in his paper the chief danger in the administration of chloroform as paralysis of the heart, the risk being greatest at the beginning of the inhalation; the more concentrated the vapor, the greater the danger.

In ether, on the other hand, the chief dangers are not during the inhalation, but after, and come in the form of respiratory or genito urinary complications, especially suppression, and occasionally there is unaccountable collapse. Should a fatal result ensue, it would be more likely to be charged to disease than to the anesthetic.

To sum up: He is satisfied that chloroform is the pleasanter, quicker and more satisfactory anesthetic. He thinks most of the dangers can be avoided by the skill and care of an administrator who realizes that anything which can put to sleep, can kill. To the careless or inexperienced he would recommend ether. Some years ago, at a meeting of the National Association of Railway Surgeons, a test vote was taken on the subject of anesthetics. The question came up by chance and the attendance at the moment was not large. The vote resulted in sixteen in favor of ether, and 100 in favor of chloroform.

ADMINISTRATION OF ETHER AND HOW TO MEET ITS DANGERS.

Dr. Samuel C. Benedict of Athens followed with a contribution in which he reviewed the methods of administration and later discussed the proper way to meet the dangers to the patient arising from such administration so as to guide him to a safe awakening.

TECHNIC OF RECTAL EXAMINATION.

Dr. James P. Tuttle of New York delivered an address (by invitation) on this subject. Among the symptoms which suggest rectal examination, he called attention to the following: 1. Vague pains or aching about the pelvis, sacrum, or coccygeal region and shooting down the left leg. 2. Flatulence, with indigestion, loss of appetite, and irregularity, or constipation of the bowels. 3. Tendency to diarrhea, especially in the morning. 4. Sense of constriction or weight about the pelvis. This is especially important in males. 5. Spasmodic or periodic dysuria without adequate cause in the genito-urinary apparatus. 6. The presence of mucus, pus, shreds, or blood in the dejections. 7. Irregular menstruation or dysmenorrhea, especially in young women and school-girls. 8. Picking of the nose, scratching of the abdomen, restlessness at night, and constipation in young children.

Before the actual examination of the rectum is begun, certain subjective symptoms should be inquired into and their suggestions as to the probable cause he borne constantly in mind. Among these may be mentioned :

1. The habitual state of the bowels—whether regular, constipated or diarrheal. If constipated, is the stool, when it appears, soft and consistent, of normal shape, tape like, or hard and ball like? Is it clean or covered with mucus or tinged with blood? If diarrheal, is it watery, free and painless, or scanty mucus, and attended with pain and subsequent exhaustion?

2. Pain—when does it occur, at, before or after stool; how long does it last; what is its nature—acute, cutting, burning or a dull ache? Where is it experienced—at the anus, the sacral region, about the pelvis, in the inguinal region, or shooting down the leg, or is it, as often happens, in the uterus, neck of bladder or urethra?

3. Itching and spasmodic twitching of the sphincter.

4. Discharge—what is its character—bloody, mucous, watery, purulent, or fetid? Is it alone or mixed with fecal matter? When does it occur, at, before, after, or independent of the stool?

5. Protrusion—when does it occur; is it brought on by long straining or upon slight exertion; is it pronounced; does it disappear spontaneously, or is it difficult to restore; is it hard or soft, smooth and general, or localized and nodular? If down at the time of the examination, the direction of the rugæ, whether circular or running up and down, should be carefully observed, as in these we have the pathognomonic distinction between complete and partial procidentia.

6. What are the habits and history of the patient? Has there been much use of enemas; is he in the habit of sitting long at the shrine of Cloacus, with his pipe and paper as companions; is there an unsatisfied sensation after stool, a feeling of something more to come away; is he the victim of pederasty; has he a history of gonorrheal or syphilitic infection; or has he hereditary tendency to tuberculosis or malignant disease?

Dr. Tuttle then described, in detail, methods of examination and treatment of various diseases of the rectum, and if they be systematically followed out by all physicians, intractable and incurable rectal diseases would soon become things of history instead of nightmares to the profession.

ALBUMINURIA, INCLUDING ORIGINAL INVESTIGATIONS, AND ITS RELATION TO DISEASES OF THE EYE.

Dr. Alex. W. Stirling of Atlanta read a paper dealing with the relationship of albuminuria to eye diseases, saying that in this the oculist first and chiefly considers albuminuric retinitis. It would be a great oversight to entirely omit other affections which are equally closely related to it and are dependent on the same cause. They may very well be divided into those which depend on lesions of the visual apparatus: 1, outside the brain, among which is albuminuric retinitis itself; and 2, within the brain. Among the former are edema and hemorrhage into the lids and conjunctiva; hemorrhage into the optic nerve and into the orbit. Embolism or thrombosis of the central vessels of the retina is probably less uncommon than has been supposed. Iritis and cataract are probably little if any more common in albuminurics than in the general population.

Among intracranial lesions, hemorrhage into the nuclei, or trunks of the nerves supplying them, has been said to produce temporary paralysis of some of the external muscles of the eye, Uremic amblyopia is more frequently met with. It is probably the result of extreme cerebral anemia due to vascular contraction, caused by the irritation of poisonous matters in the circulation. The resulting blindness usually affects both eyes, and may be incomplete and transient, or absolute, vision returning only after some hours' duration, though it may be delayed for three or four days. The pupils generally react to ight, which indicates the cortical origin of the attack, but occasionally they do not, and then the nerve or optic ganglia are involved. In these latter cases the optic disc is likely to be ound swollen. When recovery of vision does not fully take place, there must be some organic lesion, and post-mortem examinations have shown that apparently functional cases have ometimes had their origin in small hemorrhages. It should also be noted that central amblyopia is not infrequently accompanied by other nerve symptoms, such as hemiplegia.

ACUTE OBSTRUCTION OF THE BOWELS.

Dr. F. W. McRae of Atlanta contributed a paper on this subject, to appear in the Journal.

REPORT OF TWO INTERESTING CASES.

Dr. W. D. Travis of Covington presented this report, which will also appear in the Journal.

The following officers were elected for the ensuing year: President, F. W. McRae, Atlanta; vice presidents, St. J. B. Graham, Savannah, and H. B. McMaster, Waynesboro. Atlanta was selected as the place for holding the next meeting, the third Wednesday in April, 1900.

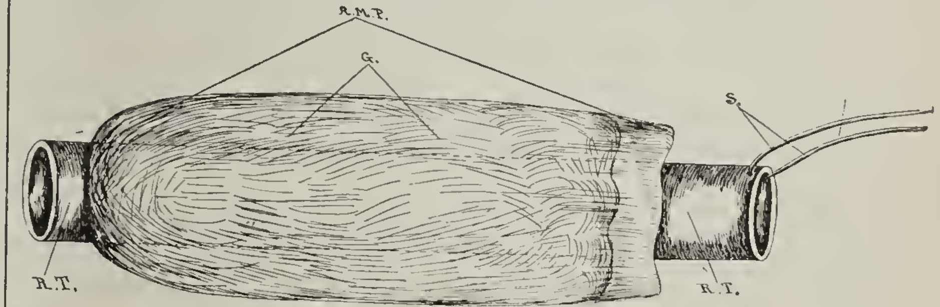
New Instruments.

A New Rectal Tampon.

BY J. RAWSON PENNINGTON, M.D.

CHICAGO.

The success of a rectal operation depends quite as much on the dressing and after-treatment as on the operation itself. My purpose is to call attention to the construction and application of a rectal tampon which, so far as I know, is new. I have observed that one of the principal sources of pain after operations for hemorrhoids is the protrusion and swelling of small tabs of skin after the ligature, or the cauterized surfaces after the clamp and cautery, has been used. This post-operative complication can be prevented to a great degree by the skillful application of a properly constructed rectal tampon. Where it is properly applied, anodynes are rarely necessary. It not only lessens pain, but is one of the best possible protections against hemorrhage. It also provides for rectal drainage, and is one of the best dressings that can be applied.



Author's rubber-covered rectal tampon.

The tampon may be made by taking a piece of $\frac{5}{8}$ or $\frac{3}{4}$ inch rubber tubing (RT) about $4\frac{1}{2}$ inches long, depending on the condition in the case, and attaching a string (S) for anchorage to the distal end. A sterilized male rubber pouch—condom—(MRP) after the closed end has been cut off, is tied near the rectal end. The tube is then wrapped with sterilized gauze (G) or cotton until it is as large as desired. The rubber pouch is then pulled over this filling, which completes its construction.

To insert the tampon, a bivalve speculum is introduced into the rectum, opened, and the tampon pushed into position between the blades. The speculum is then removed, when the rectal walls adjust themselves snugly to it.

Among the many advantages over the gauze-covered tampon are:

1. It is neater and cleaner.

2. There is but little or no pain on its removal, as the granulations can not penetrate or adhere to the rubber wall as they do the gauze.

3. The tender granulation sprouts are not interfered with or broken off during its removal, hence little or no hemorrhage, thereby leaving the wound better fortified against septic infection, and the healing process is greatly enhanced.

4. Defecation is also much less painful.

Every surgeon doing much rectal work knows that in removing rectal tampons covered with gauze the pain is most excruciating; that all manner of injections and soakings are resorted to to lessen this pain, but with little or no effect.

Besides, the tender granulation sprouts are broken off during its removal, thus causing the wound to bleed, and sometimes quite profusely or even dangerously. This not only renders the wound more liable to septic infection, but retards the healing process, which lessens the chances for a perfect result.

It is important that the rubber be of a reliable make. The goods I use are made by the Miller Rubber Co. of Akron, Ohio.

Columbus Memorial Building.

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SATURDAY, MAY 13, 1899.

RELATIONS BETWEEN ALIMENTARY AND DIABETIC GLYCOSURIA.

There is considerable contrariety of opinion as to the significance of glycosuria as it appears variously in relation with the taking of certain foods, the use of certain drugs, exposure to certain gases, the coexistence of definite disease of brain, pancreas and liver, and finally apart from any appreciable textural or organic alteration. Glucose in appreciable amounts can scarcely be looked upon as a physiologic constituent of the urine, and its appearance must be considered as evidence of a defect in metabolism, and its transiency or permanency and its association or not with other phenomena of greater or less gravity, will constitute an index of its significance. If we were asked to attempt a distinction between glycosuria and diabetes, we would base it on the analogy between albuminuria and nephritis. The one is a symptom of the other, a most distinctive symptom it is true, but it may exist independently. It is an interesting question whether this independence is a matter of degree rather than of quality, and many attempts have been made to furnish a satisfactory reply. Some have held that, excepting toxic glycosuria and the lactosuria of gravid and nursing women, the appearance of sugar in the urine following the ingestion of starch may be viewed as diabetic, unless special conditions have been operative, such as high temperature, deficient elimination of heat, cessation of muscular activity; while on the other hand the appearance of sugar in the urine after the ingestion of glucose, may be, but is not necessarily, a sign of abnormal carbohydrate metabolism. In an endeavor to determine whether such a distinction could be maintained, Strauss, an assistant in the clinic of Professor Noorden at Frankfort (*Berliner Klin. Woch.*, March 27, p. 276), undertook a systematic study of the reaction to equivalent amounts of grape sugar and of starch displayed by persons who had manifested a tendency to alimentary glycosuria after the ingestion of sugar.

In eight of eleven cases alimentary glycosuria followed the ingestion of starch as well as of sugar. Four of the eight were in alcoholics, still in the stage of acute intoxication; one was in an imbecile; and three presented pneumonia. As a rule, the amount of sugar in the urine was less after the ingestion of starch than after that of glucose. Exceptionally, the conditions were reversed, as when the administration of starch coincided with augmentation of the tendency to alimentary glycosuria. In two cases of pneumonia, one of influenzal origin, the other of croupous type, glycosuria was induced by the administration both of sugar and starch, and was attributed to the febrile infection.

It was found that in individuals with a transient tendency to alimentary glycosuria this tendency was of shorter duration following the ingestion of starch than following the ingestion of sugar. Individuals predisposed to alimentary glycosuria suffered, with relative frequency, a diminution in their tolerance of carbohydrates after abundant ingestion of such substances. In no case were the limitations of glucose assimilation increased when the injurious influences capable of diminishing the tolerance of carbohydrates were no longer manifestly operative.

Alcoholics, so long as they were under the direct influence of alcohol, were found largely predisposed to alimentary glycosuria. In four cases of chronic alcoholism, spontaneous glycosuria, that is upon a mixed diet, was observed coincidently with renewed indulgence in alcohol. In none were there any symptoms indicative of delirium tremens, while in all glycosuria appeared in the stage of intoxication. In three the glycosuria was ephemeral, while in the fourth it persisted for three or four days with a mixed diet rich in amylaceæ. In a fifth case ephemeral spontaneous glycosuria was a probable result of alcoholic intoxication. In one case it was possible by the administration of large amounts of alcohol to revive the disappearing tendency to glycosuria upon an amylaceous diet. In only a portion of the cases of alcoholic intoxication in which the urine was free from sugar could glycosuria be induced by administration of starch or glucose. An alcoholic and epileptic whose urine was free from sugar after convulsive seizures exhibited glycosuria on the following days upon administration of glucose while under the influence of alcohol. In cases of persistent alcoholism the activity of carbohydrate metabolism appeared to grow progressively less.

The important practical question is raised whethe in any considerable proportion of cases the alimentary glycosuria may be looked upon as a precursor of true diabetes mellitus, and the answer is based upon extensive empiric evidence. Such a relation is thought not to exist, as alimentary glycosuria is the mildest manifestation of diabetic glycosuria and for this reason offers hope of being kept stationary, of remission and of definite disappearance. From a prognostic point of view a distinction is to be made between individuals who exhibit alimentary glycosuria as a result of temporarily acting injurious influences and those who in consequence of permanent derangement of their capacity for assimilating carbohydrates are permanently predisposed to alimentary glycosuria. The former are free from suspicion of future diabetes, whereas the possibility of development of diabetes in the latter must be kept constantly in mind, especially when alimentary glycosuria follows not only the ingestion of sugar, but also that of starch.

RATION OF THE UNITED STATES NAVY.

Adversity is not without benefit to man in whatever condition of his environment. The lesson may be bitter, but all the more effective and enduring for the scars that remain. The holocaust of the Windsor Hotel in New York awakened the community to a realization of the danger to life concealed by luxurious appointments; and the revelations of the character of the food imposed on the Government in the late war have attracted attention to the subsistence of soldiers and sailors that no amount of dispassionate appeal by the sanitary officers could ever have accomplished. Whatever the explanation of the evidently objectionable food—for which, if thorough investigation fixes the responsibility, due process of law should promptly bring condign punishment—the profession at large and especially the officers of the medical department are now concerned in knowing definitely what should constitute a soldier's ration. The question is in a measure simplified by the experience of the sister service. There is no complaint of insufficient or unfit food in the navy. "Jack" has always had enough to eat, and when the ship's cook is expert, the officer-of-the-deck makes his inspection so thorough as to extemporize a luncheon, and, on expeditionary service, officers and men are fed contentedly from the same allowance. The naval requirements, however, are such that provision has to be made for service in every climate. The vessel that starts for the Pacific Station may go to Behring's Sea or Samoa; commissioned for a cruise in the Mediterranean, she may enter the ice-bound Baltic or skirt the coast of Africa and summer at Loando—or she goes through the Suez Canal to Ceylon and Manila and returns home around Cape Horn. Wherever called she carries her provisions with her, and the ration is elastic enough to meet whatever emergency. Variety is obtained by alternative substitutes; the quantity is the maximum. No sailor need ever leave the mess-table hungry. Probably no individual ever consumes the whole allowance, and hence the messes are permitted to commute a certain percentage—to the extent of not more than one out of every four men in each mess of enlisted men—of the rations to which they are entitled, for the purchase of fresh meats, vegetables and fruits whenever in port. Through the courtesy of the bureau of subsistence, the following statement of the components of the ration shows their variety. There are in fact *four* distinct rations, to-wit: No. 1. Salt pork, or fresh meat, or preserved beef, with beans or peas, or fresh vegetables of equal value, or rice. No. 2. Salt beef, or fresh meat, or preserved meat, with flour and dried fruit, or fresh vegetables of equal value. No. 3. Preserved meat with butter and rice, or beans, or peas, and desiccated mixed vegetables, or canned vegetables. No. 4. Preserved meat with butter and desiccated tomatoes, or canned tomatoes. Biscuit or soft bread, flour and rice, tea or coffee, and cocoa, and sugar are issued daily, with a weekly allowance of pickles, molasses and vinegar. Of these four rations, which have been established by law and promulgated in the circular of the paymaster-general of the navy, and approved by the secretary of the navy, Nov. 15, 1884, *eight lawful variations* are permitted, and meet every requirement. "Dried fruit may be either dried apples, peaches, raisins, currants, prunes, figs, dates or any other. Preserved meat comprises roast or compressed beef, Chicago corned beef, fresh mutton or any other canned preserved meat, ham, bacon, sausage, salt fish, and any other salted or smoked, preserved meat." "The daily allowance of fourteen ounces of biscuit (hard bread) can be varied by the substitution of one pound of soft bread or one pound of flour—may be either wheat, rye, corn meal, oatmeal or hominy—or one-half pound of rice," and "the daily allowance of two ounces of coffee may be varied by the issue of one-half an ounce of tea or two ounces of cocoa."

The naval ration has the approval of the medical officers of the navy, but it is purchased, inspected and issued by the bureau of subsistence and accounts, which combines the several functions of three departments in the army—subsistence, pay and quartermaster's—and notwithstanding this triple care and responsibility, no question has ever arisen as to the satisfactory performance of all these duties. The admirable system of rigid inspections and the prompt condemnation of improper articles are believed to explain the freedom from objection of the navy ration. The selection of the special variety of food items for the occasion of climate or other cause is authorized by the commanding officer, after consultation with the pay officer and upon the advice of the medical officer. In general terms, the three essential considerations are: 1, the supply of unexceptionable articles of food—unquestionably *good* meat, *good* vegetables, *good* bread; 2, the judicious adaptation of these elements to climatic conditions; and 3, the proper preparation of food items for consumption.

The board of army medical officers, Colonel **Woodruff**, Lieutenant-Colonel **Smart** and Major **Craig**, likewise found the authorized army emergency ration to fulfil all the requirements of the system for the limited period for which it was devised and, suitable as well for the Antilles and the Philippines as for the United States, the quality of the articles—hard bread, bacon, pea-meal, coffee or tea, salt, pepper and tobacco—being the prime consideration. In the navy this is secured by the rigorous system of inspection, both at the time of receipt and of issue. New combinations, professedly aiming at greater nutritive value, patent processes of preservation and cheapness to the government, are of less concern in the aim to obtain good food and have it properly prepared. The well-fed man, private or officer, fights better, resists climatic influences, remains well and vigorous, and recuperates more rapidly from disease or injury, than the enfeebled, dispirited dyspeptic, who, if he lives, becomes a chronic pensioner upon the government, and entails an infinitely greater ultimate expense than the cost of good food, whatever it be at the outset.

SUSCEPTIBILITY OF THE ENDOCARDIUM TO INFECTIOUS PROCESSES.

One of the earliest facts learned by medical students is that rheumatism and scarlet fever are exceedingly prone to produce secondary changes in the endocardial covering of the valves of the heart, and while physicians universally recognize this fact, which they have learned early in their medical career, we fear that too frequently they fail to recognize the additional fact that other micro-organisms than those which produce these two maladies are not rarely the cause of marked endocardial change.

Recently **Thayer** and **Blumer** reported a case in which pure cultures of the gonococcus were found in the valves and blood. Cultures taken during life showed colonies of the gonococcus, which would indicate that the blood-stream affords a favorable course for the transmission of these organisms from one part of the body to another. This fact is all the more interesting because it is well known that while septic infection of the entire body may occur, it is often impossible to obtain infecting micro-organisms from the blood when they may be readily obtained from various organs of the body. **Councilman** and others have reported similar cases.

Still more recently **Berg** has reported a case (*Medical Record*, April 29) of pyelonephritis and ulcerative endocarditis occurring as a complication of gonorrhea, the gonococcus being found in pure cultures upon the diseased heart-valve. In this interesting paper of Dr. **Berg**'s may be found a number of references to this very important subject, and the interesting fact is pointed out that in most cases where a heart lesion has been found complicating gonorrhea, this lesion has been preceded by gonorrheal arthritis, probably not because the development of an arthritis was but a step toward endocarditis, but because the tissues of the joint and endothelium lining the heart are tissues peculiarly prone to infection. At first it was thought that these cases of endocarditis complicating gonorrhea were really due to a mixed infection, but careful observation by trained bacteriologists, working with the more recent methods, has proved, as it did in the case reported by Dr. **Berg**, that the gonococcus itself is quite capable of producing this grave cardiac lesion.

Not only may a disease which is largely localized in its character, as a rule, produce such wide-spread damage as that which we have just named, but other maladies producing a more general infection, yet chiefly limiting their activity to one portion of the body, often do likewise. Thus, as has recently been pointed out in Dr. H. A. **Hare**'s little book on the "Medical Complications and Sequelæ of Typhoid Fever," acute endocarditis may arise during the course of this disease as the result of direct infection of the endocardium by the bacillus of **Eberth**. **Carbone** reported a case of this character as long ago as 1892, in the *Gazetta Medica di Torino*, in which a young woman with the classic symptoms and lesions of typhoid fever suffered from an endocarditis, the typhoid bacilli being found in her endocardium, and cultures of this bacillus, when injected intravenously into various animals, produced the same lesions in their hearts.

Not only may the endocardium be attacked by the bacillus of **Eberth**, but it is also a matter to be recalled that **Rattone** found the bacillus of **Eberth** in pure culture in the arterial walls of four cases of typhoid fever, and that **Haushalter** and **Vaques** have also found the bacilli in the walls of the veins.

HYDROCEPHALUS AND HYPOPLASIA OF THE ADRENALS.

In the absence of any well-founded hypothesis as to the cause of hydrocephalus, and the futility of the examinations of the hydrocephalic brain for the purpose of explaining this condition, **Czerny**[1] injected solutions of Berlin blue into the cerebral ventricle of young rats, and watched for the first place at which the solution emerged from the cerebrospinal canal. He observed that the color first appeared in a lymph-vessel which sends a branch to the adrenals, and then leads to the lymph-glands of the pelvis. This led him to investigate the condition of the adrenals in hydrocephalus.

In five cases he found that the adrenals were macroscopically quite normal. Microscopically, however, he found to his great surprise, that in every case there was a complete absence of the so-called medulla of both adrenals. The cortical layers were separated from each other only by a few large veins. In order to avoid mistakes, he examined the adrenals of twenty infants with normal central nervous system, with the result that in all the cases both adrenals were found to contain the usual amount of characteristic medullary substance. Retrogressive changes and remnants of such were not demonstrable in the adrenals of the hydrocephalic infants, and Czerny therefore regards the conditions as due to anomalies of development.

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[1] Centralblatt für Allg. Path., etc., Bd. x, 1899.

The literature does not, according to Czerny, contain any reference to such changes in the adrenals in hydrocephalus, and this he attributes to the fact that Lomer and Weigert, and others who have examined the adrenals in hydrocephalus, neglected to make microscopic sections. The condition of the adrenal in hydrocephalus, according to Czerny, does not, as already stated, lead to any very marked diminution in the size of the organ, such as would be readily recognized with the naked eye.

Czerny is therefore inclined to believe that these changes which he finds in the adrenals in cases of hydrocephalus permit the inference that there must be a certain relation between the two pathologic conditions, and while the degree of hydrocephalus in his five cases varied in the widest possible limits, the adrenals always presented the same changes, namely, an arrest in development, which must have taken place much earlier than the beginning of the accumulation of fluid in the ventricles of the brain.

It is quite evident that subsequent investigations must establish the degree of constancy between such changes in the adrenal and hydrocephalus. The animal experiments which first led Czerny to investigate the adrenals do not seem as yet to have furnished him with any evidence of direct communication between the lymph-vessels of the adrenal and the ventricles of the brain, and whether such communication should be found to exist is of any essential importance, as regards the outflow of cerebrospinal fluid under conditions of increased pressure, would also be a problem for further study.

RATES TO THE COLUMBUS MEETING.

By reference to the "Association News" in this issue and in previous issues of the Journal (see pp. 843 and 1012) it will be seen that for a large part of the country a one-fare rate for the round trip has been arranged for by the committee on transportation. The Central Passenger and the Western Passenger Association have each granted a one-fare rate for the round trip, with the exception that the latter, that is, the Western Passenger Association adds $2 to each ticket. The territory covered by the Central Passenger Association is practically that bounded on the east by a line drawn from Toronto through Buffalo and Pittsburg; on the south by the Ohio River, including towns on both sides of the river; on the west by a line drawn from Chicago to Burlington, Iowa, and the Mississippi River between Burlington, St. Louis and Cairo. The Western Passenger Association includes practically all the points west of this to Colorado, but these rates will apply from Utah. We presume that the same rate will apply from the Pacific Coast, but we have no definite authority for this statement. On the whole, the committee on transportion and the American Medical Association are to be congratulated on these rates, for while a part of the territory has only been granted a one and one-third rate, still the great bulk of it has been given the half rate.

STATE OF THE VERMIFORM APPENDIX IN TYPHOID FEVER.

According to the Swiss correspondent of the *Lancet*, Fräulein Hoffenhausen details in a graduation thesis the results of a histologic study of the vermiform appendix in thirty fatal cases of typhoid fever. In most instances the appendix exhibited changes similar to those present in the large intestine—principally inflammation of the mucosa, with cellular infiltration. Less commonly specific lesions were found, but not of sufficient intensity to occasion pronounced or characteristic symptoms.

PHILADELPHIA PARADES AND PRACTITIONERS.

The *Philadelphia Medical Journal* enters a protest against parades, especially when they block traffic for three-quarters of an hour, as was the case in Philadelphia the day the Grant statue was unveiled. The editor says he is not opposed to parades, per se, but speaks in the interest of the poor unfortunate who must stay in bed and suffer while the soldiers and bands march on. These invalids require attendance, "doctors must be on the go; consultations must be met; hospitals must be visited; operations must be performed and women must be confined." While we agree with the *Journal* that these parades are a nuisance under such circumstances, and that an opening should be made for physicians when making urgent calls, still we can not help suggesting to our confrère that he might find a remedy by going to some city where the people are not so slow in their movements.

A LAYMAN'S VIEW.

Once in a while the newspapers take a common-sense view of medical affairs. Referring to a recent verdict in the courts of Chicago, which has been mentioned in these columns, the Columbus, Ohio, *Press-Post* editorially makes the following just comments: "The allegations of the petition filed against the surgeons who used the Röntgen ray were that the ray set up decomposition in the tissues through which it passed. In the face of a strong array of witnesses—scientific men—who declared that the result in the case was the direct development of disease in the ankle prior to the use of the Röntgen ray, and that so far as known definitely the new light never had such deleterious effect on the tissues of the human body, the jury awarded the plaintiff $10,000 damages. This verdict is the decision of men who are not scientists and is against the weight of evidence of men who are. For this reason the verdict is likely to be set aside in the higher courts. It seems hardly fair, moreover, to give such a verdict to a man who voluntarily submitted to treatment by a scientific discovery that is still in its experimental stage, even though he did suffer severely as the direct result of it."

INCREASE OF CANCER.

The statements made by Prof. Roswell Park, Buffalo, N. Y., in a paper published a short time since in the *Medical News*, in reference to the progressive and rapid increase of cancer in this country, would not seem to be borne out by recent statistics furnished by the health department of New York City. According to the official figures reported by the department, there were in the first quarter of the year 1899 (thirteen weeks) 503 deaths from cancer, an average of 38 9/13 per week, while in the second quarter of the year 1898 there were 511 deaths from the disease, an average of 39 4/13 per week. Instead of an increase, therefore, there was an actual as well as a relative decrease in the deaths from cancer, the estimated population of the city on April 1, 1899, being 3,550,053, against 3,438,899 on Oct. 1, 1898. The maximum mortality from the disease in any one week during the first quarter of 1899 was 50 deaths, in the week ending March 25, and the minimum, 27, in the week ending January 28. The maximum mortality during the second quarter of 1898 was also 50, in the week ending July 30, and the minimum, 33, in the week ending September 17.

"A NOTED DIVINE" AND "CHRISTIAN SCIENCE."

There is so much of the solemnly serious and dreary drudgery in this life of ours that when something funny happens, it is as the oasis to the weary traveler crossing the dreary desert. These funny things give one courage to go ahead in the grand work of living, and make one realize that this is not so bad a world after all. These exuberant thoughts are called forth by reading a heavy editorial in the *Indian Medical Record*, on "Christian Science." While the editorial is logical, full of sound reasoning, common sense and all that, the funny part comes at the close, when the editorial writer quotes "a noted divine, the Rev. John Alexander Dowie of Chicago," who criticizes "Christian Science" in most scathing terms, charging that it is antichrist, unchristian, unscriptural, self-contradictory, illogical, absurd and mercenary to the very core. While this is very funny, how much more funny would it be to see the editor in question when he finds out who this "noted divine"—Dowie—is. Evidently Eddyism is better known in India than Dowieism, hence the *Record* is excusable. The fable of the pot calling the kettle black isn't "in it" with Dowie and Eddy fighting it out. We shall watch our foreign exchanges with interest to see what the noted "divine," Mother Mary Mason Baker Glover Patterson Eddy, has to say about Dowie. The "Phrenopathist," the "Rational Mind Curist," the "New Thought" healer, the "Spiritual Healer," the Dowieist, the Eddyist, *et hoc genus omne*, are calling each other names to such an extent that there is danger the people who are believing in these things will get their eyes open, and have courage to speak the truth and say "What fools we mortals be!"

PROCTOLOGISTS.

We are at a loss to know whether or not to feel offended at this sarcastic reference to one of our young societies by the *British Medical Journal.* In its issue for April 29, under the caption "Specialism in the United States," it says: The development of medical specialism in the United States suggests that in that enlightened republic a condition of things may in time be brought about like unto that which prevailed in ancient Egypt, where the human body was, as it were, pegged out in claims, each of which was allotted to a particular class of specialists. Among the most recent indications of this tendency may be noted the formation of an "American Association of Proctologists," which is to devote itself to the cultivation of rectal surgery, a field which it appears has been "very much neglected by the physician and the general surgeon." This interesting body is convened for the first time to debate *circa ardua recti* at Columbus, Ohio, during the forthcoming annual meeting of the American Medical Association. A body whose scientific enterprise extends somewhat higher is the American Gastro-Enterologic Association, which will hold its second annual meeting in Washington on May 2, immediately after the meeting of the Association of American Physicians.

HEALTH IN MICHIGAN.

The president of the Michigan State Board of Health, in his biennial address, reviews the work of the board and dwells with excusable pride on the record it has made and the standing it has acquired in the estimation of sanitarians. While some useful lines of work have had to be discontinued for lack of funds, in the main the board has gone steadily on in its operations and its results have not decreased. The health of the people has steadily improved, the death-rate for 1898 being only 12.5; and the vital statistics of the State show a constantly diminishing number of deaths from nearly all of the communicable disorders. While not all of this can be charged, perhaps, to the labors of the board, it is nevertheless entitled to much the largest portion of the credit. It is gratifying to note that since the board began its active campaign against consumption six years ago there has been a reduction in the death-rate of 11 per cent. from this cause. The board was the pioneer in this work and now other States and municipal bodies are taking up the matter, and hospitals for consumptives are being built and inspection of foods liable to convey the disease is beginning to be compelled. In

Michigan these measures are yet to be enforced by law and the State board of health is now advocating the passage of laws in the legislature to this effect. The reduction in the tuberculosis mortality is credited largely to the leaflet sent out first in 1891, and to the other educational influences emanating from the board. These may be greatly increased and the reduction in deaths from this cause be made still greater by the passage of the bills now advocated.

STATE SCHOOL OF HEALTH.

The daily press has announced within the last week or two the proposition to establish at the University of Illinois a course in public medicine similar to that already inaugurated in the State of Ohio. It has also stated that every health officer in the State would be compelled by law to take the course at the beginning of his term of office. It does not appear, however, that this last statement is authorized, as no legislation requiring such a compulsory course has been enacted. The attendance of health officers would be, for the present at least, entirely a voluntary matter. It is true that such a course has been recommended or suggested by the State board of health and it is quite possible that it may be inaugurated in the near future, following closely, it is probable, the line of work of the similar course in Ohio. If municipalities can be induced to require their health officers, many of whom are uninstructed laymen, and still others physicians who would be more efficient for a little addition to their special knowledge in this department, to take the course or show certificate of qualification from the school, much good would be done. At present, there is a large amount of unnecessary and harmful ignorance on these subjects, and this may sometimes be found in the holders of official positions.

THE DISPENSARY ABUSE.

The Governor of the State of New York has signed a bill, which therefore becomes a law, and it is to be hoped that it will help to prevent one of the well-known abuses of medical charity. It provides that all dispensaries shall be incorporated and governed by rules and regulations framed by the State board of charities, by which body they shall be controlled. Each dispensary must have a license and must properly guard against unworthy applicants, any violation of this rule on the part of the dispensary or its patients being made a misdemeanor subject to a fine of from $10 to $250. Such a law properly enforced will be of inestimable service to the profession, and indirectly to the public in enforcing a better standard of self-respect upon those whose example is at present demoralizing. When millionairesses can take advantage of charity without rebuke, what can be expected of those less wealthy, who follow their example. Justice to genuine objects of charity, to put it in a purely disinterested way, requires that they should not have to wait or perhaps lose their chances of relief by the crowding in of those who ought to go elsewhere. According to an editorial in the Brooklyn paper, the New York free dispensaries are a regular resort for out-of-town patients who are thus able to spend the money for a railroad trip that ought to be paid to their local physician. According to this paper's informant, a score of dispensary patients come daily from towns along one single line of railroad. Undoubtedly similar conditions exist in the vicinity of other great cities. As members of the medical profession we must not forget that in a measure we are ourselves responsible for these abuses. The multiplication of dispensaries has not always been a pure charity on our part, it has been too much the result of a demand for clinic material in our over numerous medical schools. A law like that in New York, thoroughly and impartially enforced, might disturb some of these institutions but it would be none the less a blessing to our profession.

THE BATTLE OF THE CLUBS.

The "Battle of the Clubs" has been almost a standing head in the London *Lancet*, to such an extent has the medical benefit society movement permeated English society. Here we have less of the evil, for evil it is both to the profession and the public, but it nevertheless exists. One of the latest evidences of its existence we notice in a paragraph in the *New Yorker Medicinische Monatsschrift* for April, quoted from a German-American drug journal. It says: "A still more striking case of the low estimation of the medical profession is afforded by the Manhattan Medical Service Company. For the sum of $2 a year any person between 15 and 45 years of age can partake of the benefits of this society. These consist in the privilege of obtaining an office prescription of the company's physician on the payment of 25 cents, which will be put up without further cost by the company's druggist. The physician receives only 7 cents out of the 25, while the druggist pockets 18. In surgical cases the physician gets 15 cents, but must himself furnish the plasters and bandages. If the patient is bed-ridden, the society's district physician will attend him or he can be received in its hospital." The estimation of the value of an office consultation and prescription at 7 cents is low enough in all reason, and the question arises, does not this come under the new dispensary law of New York State, or is it an attempted evasion of it? In any case, it would be well for some physician who has the honor of the profession at heart to call the attention of the State board of charities to this rank undervaluation of professional services. It is, perhaps, only one of the bad results of the overcrowded state of the medical profession, due to a suicidal overproduction of physicians, a malignant proliferation of both teaching and student elements in medical education.

EPILEPSY WITH LESION OF UNCINATE GYRUS.

One of the greatest sources from which we derive physiologic knowledge of the cerebral cortex is from the varied convulsive phenomena of epilepsy. The symptoms that give us the strongest aid toward defining cerebral function are the aura and the order of muscular invasion of an epileptic fit. An illustration of the great interest to be derived from the study of such matters is well displayed in the case of epilepsy reported in the winter number of *Brain*, by Jackson and Colman, in which there was a fairly constant tasting movement and "dreamy state" in the epileptic fits, which at times constituted the entire attack. At autopsy a very small patch of softening in the left uncinate gyrus was found. Champing movements of the jaws, and an appearance of tasting are seen in mild epileptic fits, and in fact may constitute the entire attack of epilepsy in rare instances. But few of these cases have shown the result at autopsy that Jackson and Colman report. No lesion was found in their case except in the left uncinate gyrus, which is Ferrier's taste region. As far as the observers' report goes, it appears that the epileptic phenomena preponderated on the right side. Jackson and Beevor also recorded a similar case in 1889, which presented a tumor in the right temporosphenoidal lobe. Jackson placed on record a very suggestive class of epilepsies known as uncinate group of fits, in the *Lancet*, Jan. 14, 1899. It is a matter of extreme regret that this case of epilepsy of the taste region did not come to autopsy early enough to get the specimen in proper preservation for future microscopic study.

INFLUENCE OF TYPHOID FEVER ON EPILEPSY.

There are very few subjects of greater interest than the influence of acute infectious disorders on chronic disease processes. That this influence is often a very positive one is well known to every physician of large experience in the treatment of acute and chronic maladies, and it is also a well-known fact that an attack of acute infectious disease often results in the development of some chronic pathologic condition. In the *Revue de Médicine* for February 10, 1899, Didé has contributed an interesting paper upon this subject in which the well-known fact is pointed out that the oncoming of an infectious disease often produces convulsions of an epileptiform character, and on the other hand that the development of an acute infection may indefinitely postpone symptoms of a chronic malady which have previously been frequent in their occurrence. Thus in epilepsy, in the earliest stage of onset the convulsions are apt to be increased in frequency and severity but as the disease progresses they become less severe and less frequent, so that by the time the illness is well developed, the ordinary convulsions cease and remain absent for so long a time during convalescence that both the patient and his friends are cheered with the belief that his severe acute illness has been a blessing in disguise. Unfortunately, only too frequently it is but a temporary remission, produced perhaps by exhaustion of the nervous centers, and no sooner is perfect health restored, at least so far as the typhoid infection is concerned, than the epileptic paroxysms return with a vigor equal to that manifested before the acute illness. Didé believes that the convulsions which occur during the early stages of the disease are the result of the toxemia. In those cases of epilepsy which seem to arise for the first time as the result of an attack of typhoid fever, he thinks that they are due to cellular changes produced in the nervous centers by the action of the poisons developed during the course of the disease. The whole subject of the relation of infectious processes to chronic maladies, particularly those of the nervous system, is of the greatest possible interest, and requires more accurate clinic and statistic study than has heretofore been accorded it.

VISIONS.

The origins of hallucinations of sight, resulting in visions, and those of hearing called voices, are very interesting studies. Morton Prince of Boston, in an experimental study of visions, published in the winter number of *Brain*, has deduced some interesting points about visions. His experiments were made upon a hysteric neurasthenic, in whom he was able to establish three personalties, or three conscious states, by hypnosis. Prince divided the visions produced into those of conscious or unconscious visual experiences, those newly created from past experiences not visual but from some other sense experience, and those without known past experiences. The visions did not confine themselves to the one class; frequently two classes were associated at the same time. Probably, as Prince contends, Joan of Arc and many other religious enthusiasts had read or heard of some particular act or scene, and then in their own way created some individual visual interpretation of it; this in turn served as a basis for the vision. All possible combinations may exist, so that it may be quite impossible to define any particular thing to which one can directly trace the vision. This fact is very suggestive in the possible explanation of many dreams, which at times seem never before to have figured in one's experience. The condition may be made to cover the hallucinations of sight and hearing of the clairvoyant and trance medium. Such studies give us many medicolegal points in the disordered consciousness of epileptics, where passing thoughts in the normal state become the criminal acts in the so-called psychic attacks. From Prince's study we infer that ideas long sought for and dwelt upon may ultimately appear to the prophet or genius of arts as inspirations. Undoubtedly most people would read the experiences of their subconscious states without having the slightest inkling that it had to do with themselves, as many impressions of the different sense organs never arise into normal consciousness and are not known or remembered. This study of Prince's is very instructive, and quite in accord with our present day psychologic studies on consciousness and its disorders.

ARTIFICIAL SUPPURATION IN THE TREATMENT OF PYEMIA AND OTHER ACUTE DISORDERS.

Harvey observed that in cases of general infection the advent of local suppuration was attended with amelioration of the constitutional symptoms. Fochier was, in 1891, led to induce suppuration artificially under like conditions; at first using for this purpose an acid solution of quinin sulphate, later 10 per cent. solution of silver nitrate, and finally, oil of turpentin given by injection beneath the skin. The results were entirely satisfactory. Numerous observers in different countries have employed this measure with equally satisfactory results in the treatment of such varied conditions as pyemia, septicemia, typhoid fever, erysipelas, osteomyelitis, scarlet fever, pneumonia, etc. FOCHIER originally thought that the artificially induced abscess attracted noxious matters, including bacteria, but the pus-collections were, as a rule, found to be sterile. Subsequently CHANTEMESSE attributed the favorable results to a hyperleucocytosis, but he failed to find the number of white blood-corpuscles increased. By others it has been believed that antitoxins were developed in connection with the formation of the abscess, and that to these the salutary effects were attributable. The results can not be questioned, and sufficient evidence has accumulated to justify the application of the principle in suitable cases. An illustrative case is reported by MENKO (*Berliner Klin. Woch.*, February 27). A woman, 43 years old, developed symptoms of general pyemia, including arthritis, neuritis, phlegmasia alba dolens, chills, pyrexia and delirium, following a gynecologic operation performed without sufficient antiseptic precautions. Other measures failing, the conditions growing worse, and the prognosis appearing gloomy, 30 minims of oil of turpentin were injected into the calf of the left leg. Subcutaneous injections of morphin were required to overcome the resulting pain. After three days, redness, and after three days more, fluctuation appeared at the site of injection, and puncture disclosed the presence of pus. The result was remarkable. There was at once improvement in the symptoms, with recrudescence, however, as the abscess subsided. Accordingly, a second injection—again of 30 minims of oil of turpentin,—was given beneath the insertion of the left deltoid muscle, seventeen days after the first. By the following day redness and heat were evident, together with swelling. Improvement again set in and now progressed to ultimate recovery.

Medical News.

DR. AUSTIN FLINT, New York City, the well-known authority on diseases of the brain, is reported seriously ill with pneumonia.

DR. CHARLES JEWETT of Brooklyn, N. Y., is to succeed Dr. Alexander J. C. Skene, as president of the Long Island College Hospital.

BAGDAD is said to be a mecca for physicians, since, with a population of 130,000, there are but three resident physicians with a European training.

DR. DONALD MACLEAN has resigned his commission in the medical department of the United States Army and resumed practice in Detroit, Mich.

IT IS said that Dr. Lewellys F. Barker will succeed Dr. Simon Flexner at the Johns Hopkins Medical School, Baltimore, as professor of pathology.

HOWARD UNIVERSITY, Washington, D. C., held its annual commencement exercises May 12. The graduating class from the medical department numbered nineteen.

PROF. EDWIN KLEBS, Chicago, has opened a free clinic at 398 Morgan street, for the poor who are suffering from consumption, scrofula and sundry diseases.

DR. L. C. CARR, brigade surgeon U.S.A., in command of the military hospital, Santiago, Cuba, has been in Cincinnati, his former home, for the past few days on furlough.

OUT OF seventy-eight applicants (five colored) who appeared before the Louisiana State Board of Medical Examiners on May 1 and 2, thirteen (two colored) or 16.66 per cent. were rejected.

DR. GEORGE T. VAUGHAN of the marine-hospital service, professor in Georgetown University, Washington, D. C., has been ordered to Berlin to attend the International Tuberculosis Congress.

RECENT commencements have been held at the following institutions: Medical College of Virginia, Richmond, with a class of 23; Miami Medical College, Cincinnati, 16, and St. Louis Medical College, 27.

GOVERNOR ROOSEVELT, of New York State, has signed the pure beer bill, which forbids the use of any substitute for hops or pure extract of hops in the manufacture of ale or beer. (See JOURNAL, February 18, p. 387.)

IT IS stated that William O'Donnell, Newburg, N. Y., during a severe spell of coughing, recently, expelled a tack which he had swallowed eight years previously. The tack had been in the lung, where it had become encysted.

AT THE competitive examination held at the University of Pennsylvania, Philadelphia, for five positions on the resident staff of the Mercy and Roselia hospitals of Pittsburg, eighty-five candidates presented themselves. Among the competitors were representatives from Jefferson Medical College, Philadelphia; Johns Hopkins, Baltimore; College of Physicians and Surgeons, New York City; as well as those from the University of Pennsylvania.

DR. WILLIAM OSLER will leave Baltimore for London on May 31. As Cavendish Lecturer for 1899 he will probably select cerebrospinal meningitis as his theme, dwelling particularly on the late investigations made during the present epidemic.

DR. J. J. KINYOUN, Washington, D. C., of the marine-hospital service, and professor at Georgetown University, has been relieved as director of the laboratory of hygiene, and directed to proceed at once to San Francisco and assume charge of U. S. Quarantine Station.

CEREBROSPINAL fever, which has been for some time prevalent in the vicinity of Lancaster and Manheim, Pa., has more recently invaded the neighboring district, including Ephrata. Six deaths have so far been announced, and several persons are still affected with the disease.

IN CONSEQUENCE of the notoriously dirty public hacks used at night in Washington, D. C., the chief of police has directed the officers to investigate the sanitary condition of all public vehicles, with a view of improving the service and lessening the possibility of the spreading of disease.

The new floating hospital of the St. John's Guild was launched with appropriate ceremonies in Brooklyn, May 1. It is the gift of Mrs. Augustus D. Juillard, built at a cost of $35,000, and will be used during the coming summer in addition to the old floating hospital. The set of flags for the new craft, which were presented by Ex-Mayor William L. Strong, were hoisted by a detail of sailors from the United States receiving ship, *Vermont*.

A brigade hospital has been established at Iloilo, P. I. It occupies two buildings, formerly private residences, one accommodating convalescents and members of the hospital corps, the other, and larger, containing a ward of fifty beds, offices, dispensary, operating-room, store-rooms, kitchen and dining-room. A small, isolated building has been provided as a smallpox ward. The entire capacity is seventy-five beds. Major E. R. Morris, brigade-surgeon, vols., is in command of the establishment.

Relative to an order concerning candidates for positions on the staff of resident physicians of the Philadelphia (Blockley) hospital (see Journal, May 6, p. 1009), the mayor stated that as this institution is supported only by the taxpayers of the city, therefore only those candidates should be eligible who contribute toward its support. However, the medical colleges took an entirely different view of the matter, and their representatives waited on the mayor in order to have the order abolished, and he decided to rescind it.

Dr. T. D. Crothers of Hartford, Conn., and Dr. C. W. Shepard of Brooklyn, N. Y., were given a public reception at the medical society rooms, London, April 13, by the English society for the study of inebriety. Dr. Norman Kerr presided, and speeches were made by Drs. Morton Smith, Haywood and others, after which a dinner was served. The National Temperance League Society also gave them a dinner while in London, on their return from the recent congress for the study of abuses of alcohol, held in Paris.

The annual commencement exercises of the medical department of Tulane University of Louisiana were held on May 3. There were eleven graduates in pharmacy, including one woman. Of 102 applicants for graduation 85 were granted diplomas, 17 or 16.6 per cent. failing. The valedictory address, on "Prevention of Disease in Man," was delivered by Willoughby E. Kittredge, A.B. (Tulane) M.D. Prof. Edwin Anderson Alderman, D.C.L., president of the University of North Carolina, delivered the annual address, taking as his subject the industrial and social conditions of the South at the present day.

At a meeting of the Board of Trustees of Columbia University, held May 1, it was announced that a gift of $10,000 had been received from the New York Chamber of Commerce, to be known as the Waring Municipal Fund, in memory of the distinguished sanitary engineer, George E. Waring, Jr., and a like sum from Isaac E. Dyckman, in memory of his uncles, Dr. Jacob Dyckman, a graduate of the class of 1810 and of the class of 1813 of the College of Physicians and Surgeons, and James Dyckman, of the class of 1811, for the foundation of a fellowship in biology.

Extensive improvements are being made for the enlargement of the laboratory of hygiene and bacteriology of the University of Pennsylvania. The first floor of the new wing will seat upward of 200 students, about twice the size of the present one. This floor will be utilized as a lecture-room. On the second floor will be a class-room for the study of elementary bacteriology. This room will be utilized by both dental and medical students. The laboratory was the gift of Mr. Henry C. Lea. The new wing and all the departments of the laboratory will be under the entire supervision of Dr. A. C. Abbott.

The annex to the Charity Hospital in New Orleans—the Richard Milliken Memorial Hospital for children—was dedicated on May 4. Mayor Walter S. Flower, on behalf of the donor, Mrs. Richard Milliken, formally presented the building to the board of administrators of the hospital. Addresses were made by Dr. E. S. Lewis, vice-president of the board, and by Governor Murphy J. Foster, ex-officio president. The total expenditure for the erection and furnishing of this addition was $101,000; the capacity is 160, distributed into eight wards. The annex contains, besides the wards, a surgical dressing room, electric room, plaster and orthopedic room, sterilizing room, dressing and waiting rooms, sun-room and an operating-room, with two raised galleries around it to accommodate a medical audience.

Surgeon-General Sternberg has approved a plan for the establishment of a school at the Washington (D. C.) barracks, for the instruction of hospital-corps men in the preparation of food for the sick and wounded in the army. The work will be carried on under military regulations, with a view of organizing an efficient corps of men for the preparation of such food. The experiment is being made under the actual direction of Capt. W. F. Lippett, assistant-surgeon. Capt. W. C. Borden, surgeon in charge of the hospital of the barracks, is co-operating in the work. Authority has been given for the employment of an expert civilian cook. In case the plan proves successful, similar schools will be established at other military posts.

In artificially preparing the substance known as vanillin, by a large chewing gum establishment of Philadelphia, there occurred an explosion sufficient to wreck several buildings and fatally injure three persons. At the coroner's inquest one witness stated that a part of the process consisted in pouring into a large tank of benzol both sulphuric acid and sodium carbonate. Chemic change quickly ensues with the evolution of quite high heat, often rising to a temperature of 186 degrees. In order to keep excessively high temperature from occurring ice is used about the tank. On the morning in which the accident occurred, after the chemicals were mixed, effervescence occurred so rapidly that it boiled over, and having such a high temperature caused a terrific explosion of several hundred gallons of benzol, benzin and gasoline, stored in the building.

An Unusual Honor to an American Surgeon.—Dr. Frederic S. Dennis of this city, is the worthy recipient of the honorary degree of Fellow of the Royal College of Surgeons, England. This degree of F.R.C.S., Eng. has never been conferred before on an American, as a candidate in course must have been a member for twenty years, and only two are conferred on the members each year. There are two or three men in this country who have the degree by examination, one of whom is connected with the Johns Hopkins University in Baltimore. The many friends of Professor Dennis will join with us in our congratulations for this well-deserved distinction.—*Medical Record*, May 6.

Association News.

Section on Ophthalmology.—Contributors of papers will confer a favor by forwarding to the secretary, Dr. C. H. Williams, 15 Arlington St., Boston, Mass., as early as possible, an abstract of their contributions, so that satisfactory arrangements can be made for a discussion of the same.

For Columbus Meeting.—The committee on transportation, of the New York County Medical Association, is arranging for rates, train service, etc., for the Columbus meeting of the American Medical Association, June 6-9. Those intending to go and desiring to take advantage of such arrangements as can be made will kindly address, as soon as possible, Dr. Parker Syms, chairman of committee, 50 West 47th Street, New York City.

General Business Committee.—The first meeting of this committee will be held on Monday afternoon, June 6, at 5 o'clock, in the Columbia Rifles Armory, seventh floor of the Great Southern Hotel, Columbus, Ohio; subsequent meetings in the same place at 5 p.m. on each day of the meeting. It is very important that all the members of the committee should attend the meetings, in order that the business of the Association may be properly transacted. L. Duncan Bulkley, M.D., secretary General Business Committee.

Railroad Rates for the Columbus Meeting.—The committee on transportation of the American Medical Association presents the following, as the final rates agreed upon in the different territories for the Columbus meeting:

The New England Passenger Association, Trunk Lines Association, Southwestern Passenger Bureau and Southeastern Passenger Association grant a rate of one and one-third fare for the round trip on certificate plan.

The Central Passenger Association has granted a one-fare rate for the round trip. The Western Passenger Association has granted a one-fare rate plus $2 for the round trip. In the latter territory, where the rate for passage to the eastern gateway is $6 or less, the rate will be one and one-third fare for the round trip, provided that where one-third fare to Chicago is $2 or less, 50 cents addition will be added to the cost for return transfer. (See Journal, May 6, p. 1012.)

Tickets will be on sale in the various railroad territories on time, in advance, sufficient for reaching Columbus, the place of meeting, by continuous uninterrupted trip. Delegates should notify ticket agents in advance, in order to secure the certificate platform.

H. L. E. Johnson, M.D.,
Chairman Transportation Committee.

Section on Cutaneous Medicine and Surgery.—The preliminary program of this Section comprises the following papers:

June 6, 3 p. m.

1. Chairman's Address. Wm. Thos. Corlett, Cleveland, Ohio.
2. The Nature and Treatment of Cancer of the Skin. A. Ravogli, Cincinnati.
3. Alopecia. Delos L. Parker, Detroit, Mich.
4. Smallpox and Its Early Recognition. J. L. Hess, Cleveland, Ohio.
5. Notes on the Use of Hydrogen Peroxid in Dermatologic Practice. L. Duncan Bulkley, New York City.
6. Discussion. The Treatment of Lupus. (a) Lupus Vulgaris, (b) Lupus Erythematosus.

June 7, 2:30 p. m.

7. Presentation of Cases. A Case for Diagnosis. B. Merrill Ricketts, Cincinnati.
8. Report of a Case of Herpes Gangrenosus in the Third Generation. A. W. Brayton, Indianapolis.
9. Notes of a Case of Pityriasis Rubra Pilaris. Joseph Zeisler, Chicago.
10. Personal Observations of Impetigo (Impetigo Bullosa) in the Fifth O. V. I. J. S. Windisch, Cleveland, Ohio.
11. Cutaneous Electrolysis. Fred J. Leviseur, New York City.
12. Practical Observations on Prurigo Hiemalis. S. S. Thorn, Toledo, Ohio.
13. Discussion. The Treatment of Eczema. (a) Constitutional, (b) Local.

June 8, 2:30 p. m.

14. Clinic Presentation of Cases. Demonstration of an Eruption Produced by Small Doses of Quinin. Arthur H. Bowen, Columbus, Ohio.
15. Contagion in Leprosy as Observed in San Francisco. Douglas W. Montgomery, San Francisco.
16. Some Questions Relative to the Diagnosis of Anesthetic Leprosy. J. G. McDougal, New Lexington, Ohio.
17. Report of Pathologic Findings in the Lesions of Tertiary Syphilis. R. G. Perkins, pathologist to Lakeside Hospital, Cleveland, Ohio.
18. Chancre of the Lip in a Child Seven Months Old, Probably Acquired Through a Feeding Bottle. L. Duncan Bulkley, New York City.
19. Malignant Syphilis with Report of Cases. C. Travis Drennen, Hot Springs, Ark.
20. The Employment of Mercury in Tertiary Syphilis. A. H. Ohman-Dumesnil, St. Louis, Mo.
21. Discussion. The Management of Syphilis.

Section on Stomatology.—The complete program of this Section for the Columbus meeting of the Association is as follows:

1. Chairman's Address. G. V. I. Brown, Milwaukee.
2. The Human Face and Jaws as a Danger Signal of Systemic Defect or Disorder. J. G. Kiernan, Chicago.
3. Cocain and Eucain, their Relative Toxicity. A. H. Peck, Chicago.
4. Epithelial Structures in the Peridental Membrane. Frederick Noyes, Chicago.
5. Infectious Ulcerative Stomatitis. John S. Marshall, Chicago.
6. Oral Surgical Operation (with illustrations showing remarkable results). G. V. I. Brown, Milwaukee.
7. Some Points on Etiology, Pathology and Treatment of Persistent Pyorrhea Alveolaris. G. T. Carpenter, Chicago.
8. Interstitial Gingivitis (so-called Pyorrhea Alveolaris), giving the result of original work, with large microphotographic illustrations showing the progress of the disease from the beginning to the Exfoliation of the Teeth. Eugene S. Talbot, Chicago.
9. Syphilitic Infection from Dental Instruments, with Cases. W. L. Baum, Chicago.
10. Therapeutics of Inflammation. W. B. Hill, Milwaukee.
11. Professional Education and Ethics. A. E. Baldwin, Chicago.
12. Neuralgias Due to Progressive Lesions of the Periosteum. M. H. Fletcher, Cincinnati.
13. Treatment and Positive Cure of Pyorrhea Alveolaris in Connection with Restoration of Normal Articulation. W. G. A. Bonwill, Philadelphia.
14. So called Pyorrhea Alveolaris. Ephraim Cutter, New York City.

Dr. Bonwill will hold clinics independent of the meetings of the Section, to those who wish to meet him.

Public Health.

Smallpox a Predisposing Cause for Tuberculosis.—Hervieux has noted that only 3 per cent. of 360 persons who have had smallpox and been followed to date have escaped tuberculosis.—*Presse Méd.*, April 19.

Dental Care for School Children in Russia.—The Russian Association for the Promotion of the Health of the People has appointed a committee, Dr. Limberg chairman, to organize a system for caring for the teeth of the children in the schools of St. Petersburg and eventually throughout the country. The aim at present is to have a dental office for every 150 students. —*St. Petersb. Med. Woch.*, April 8.

Philadelphia Mortality Statistics.—The number of deaths occurring in this city for the week ending May 6, was 477, a decrease of 24 over that of the previous week, and an increase of 32 over the corresponding period of last year. The following were the principal causes of death: Apoplexy, 22; nephritis, 34: cancer, 12; tuberculosis, 57; heart disease, 38; appendicitis, 3; paralysis, 5; suicide, 3.

Mortality Statistics from the Philippine Islands.—Major H. W. Cardwell, chief surgeon, First Division of the army corps operating in the Philippines, has sent to the surgeon-general at Washington, D. C., a translation of a report by Sr. del Busto, president of the bureau of statistics of the "Junta de la Reforma Municipal" at Manila during Spanish rule, and director of the experimental station and chief of the school of agriculture for Manila. The report is based on the official Spanish reports and contains the best information available for the five years ending with the year 1898. It shows for each of the many provinces the population, the number of inhabitants per square kilometer, the number of deaths annually, the average number of deaths per week and the ratio of deaths to population. From it we learn that Manila has the densest population, 162 per square kilometer, but in the total number of its inhabitants, 315,571, this province is exceeded by Cebu, which is represented as having 504,706, and by Iloilo, 472,798, the latter with 225, the former with 120 per square kilometer. The percentages of mortality in these three provinces are: 2.62 in Manila, 2.44 in Iloilo and 2.24 in Cebu. The average rate of the whole of the provinces, with a population of 6,211,706, is given as 2.71. The highest rate, 5.39, is found in Cagaya, which has a population of 96,357, scattered at the rate of 6 per square kilometer. This is the only province which has a death-rate exceeding 5 per cent; and in addition to it only one province, Isabella de Luzon, has a rate in excess of 4 per cent. On the other hand, the rate in some localities is very low: 1.04 in Marianas and 1.08 in Commandancia P. M. de Burrias, both thinly peopled, the former with 9770 and the latter with only 1753; but Abra, which has a population of 49,702, has a death-rate of only 1.20. These statistics show the Philippines in a better light than they are viewed by sanitarians and by people generally in the United States.

Medical Practice in Illinois.—Under the provisions of the law now in force in this State, non-graduate applicants for a license to practice medicine and surgery are examined by the board of health, and if found qualified are granted certificates. This law will be repealed June 30, 1899, after which date each applicant must present a diploma. A final examination for non-graduates in medicine will be held at the Great Northern Hotel, Chicago, June 21-24, 1899, commencing at 9 A.M., June 21. The examination will be in the following branches: Anatomy, physiology, chemistry, materia medica, pathology and bacteriology, surgery, theory and practice of medicine, obstetrics, gynecology, hygiene and medical jurisprudence. The fee for the examination is $20, which is returned if the applicant fails. Applicants must comply with the requirements set forth in the resolution adopted Oct. 5, 1897, or must furnish evidence of having attended at least two courses of lectures in a recognized medical college. Applications should be accompanied by two letters of recommendation signed by licentiates of the board, and the fee should accompany the application. Under the provisions of the law in force, certificates are issued by the board to graduates of medical colleges in good standing, as may be determined by the board. The fee for such certificate is $5. On and after July 1, 1899, all applicants—except graduates of medical colleges in Illinois in good standing, as may be determined by the board, who *may* be granted certificates without examination—will be required to present a diploma from a legally chartered medical college in good standing, as may be determined by the board, and pass an examination. This examination will embrace those general subjects and topics, a knowledge of which is commonly and generally required of candidates for the degree of doctor of medicine by reputable medical colleges in the United States. The fee for this examination is $10 and for a certificate $5. All applications for a certificate under the present law must be in the office of the secretary of the board on June 30, 1899, accompanied by the proper fee. Applications for an examination should not be made until July 1. Applicants who desire to be registered under the present law should forward their diplomas by express, prepaid, to the secretary of the board at Springfield, for verification. Applications should be accompanied by two letters of recommendation signed by licentiates of the board. In the case of physicians residing in other States, the letters can be signed by members of the State board of health or of registration and examination, or by physicians of national prominence. While the board has not adopted any rules relative to the examination and will not do so until the regular quarterly meeting on July 11, it is probable that the subjects in which such candidates will be examined will be the following: Anatomy, physiology, chemistry, materia medica and therapeutics, pathology and bacteriology, surgery, theory and practice of medicine, obstetrics, gynecology, hygiene and medical jurisprudence; the examination to be in writing. It is probable also that the first examination will be held in Chicago, July 26, 27, 28 and 29. It is thought that *all* applicants (who must be graduates of medical colleges in good standing, as may be determined by the board) will be required to pass an examination.

Health Reports.—The following cases of smallpox, yellow fever, cholera and plague have been reported to the surgeon-general of the United States Marine-Hospital Service for the week ended May 6, 1899:

SMALLPOX—UNITED STATES.

Alabama: Mobile, April 29, 1 case.
California: Los Angeles, April 22-28, 1 case, 1 death.
District of Columbia: Washington, April 28, 1 case.
Florida: Jacksonville, April 22-30, 9 cases.
Illinois: Chicago, April 17-29, 2 cases.
Louisiana: New Orleans, April 22-29, 16 cases, 1 death; Shreveport, April 22-29, 2 cases.
Maryland: Baltimore, April 30 to May 2, 2 cases.
Massachusetts: Boston, April 17-26, 9 cases.
Michigan: April 22-29, present at two places, Benton Harbor and Kalamazoo township.
New Mexico: Las Cruces, April 27, many cases.
New York: Buffalo, April 29, 1 case.
Ohio: Cincinnati, April 21-28, 15 cases, 2 deaths.
Pennsylvania: Erie, May 2, 1 case; Pittsburg, April 22-29, 1 case.
Texas: Del Rio, April 18, 1 case; Galveston, April 15-22, 8 cases.
Virginia: Newport News, April 25 to May 1, 4 cases; Norfolk, April 25 to May 2, 4 cases, 1 death; Portsmouth, April 25 to May 2, 15 cases.
Washington: Spokane, April 22-29, 2 cases.

SMALLPOX—FOREIGN.

Brazil: Rio de Janeiro, March 11-24, 11 deaths.
China: Hongkong, March 11-25, 4 cases, 3 deaths.
Colombia: Barranquilla, April 1-8, 2 cases.
England: London, March 8-15, 3 cases.
Formosa: Tamsui, February 10 to March 10, 86 cases, 2 deaths.
Greece: Athens, April 8-15, 16 cases, 5 deaths.
India: Bombay, March 28 to April 4, 10 deaths; Calcutta, March 18-25, 6 deaths; Madras, March 11-25, 1 death.
Korea: Seoul, March 11-18, smallpox present.
Mexico: Chihuahua, April 8-22, 3 deaths; Mexico, April 16-23, 16 cases, 5 deaths.
Nicaragua: Bluefields, April 15-22, 1 case.
Russia: St. Petersburg, April 1-15, 30 cases, 8 deaths.
Turkey: Constantinople, April 10-17, 10 deaths: Smyrna, April 8-15, 1 death.

YELLOW FEVER.

Brazil: Rio de Janeiro, March 10-24, 112 cases, 88 deaths.

CHOLERA.

India: Bombay, March 28 to April 4, 3 deaths; Calcutta, March, 18-25, 17 deaths.

PLAGUE.

Formosa: Tamsui, February 10 to March 10, 201 cases, 123 deaths.

India: Madras, April 18-24, 1 death.

Book Notices.

Annual and Analytic Cyclopedia of Practical Medicine. By CHARLES E. DE M. SAJOUS, M.D., and One Hundred Associate Editors, assisted by Corresponding Editors, Collaborators and Correspondents. Illustrated with Chromo-Lithographs, Engravings and Maps. Vol. III. Philadelphia, New York and Chicago: The F. A. Davis Co. 1899.

The third volume of this practical work is fully up to the standard of the former ones. The subjects covered are from "Dislocations" to "Infantile Myxedema," many of which are elaborately gone into and in every instance are brought up to the times by liberal quotations from the latest literature. While the peculiar method of placing the quotations in narrow columns, and the monotonous way of repeating "literature of '96, '97, '98," may seem unnecessary and far-fetched, still, when one becomes used to it, this objection will vanish. The papers of most importance are "Dislocation," and "Fractures"—two papers coming in different parts of the work under their respective letters—by Lewis A. Stimson and Edward L. Keyes, Jr.; "Dysentery," by Simon Flexner; "Dysmenorrhea," by Andrew F. Currier; "Eclampsia," by Egbert H. Grandin; "Endometritis," by Henry T. Byford; "Epilepsy," by W. B. Pritchard; "Hernia," by W. B. Coley; "Hip Joint Disease," by Reginald H. Sayre; and "Hypnotism" by J. T. Eskridge. This latter is an especially well-written statement of the subject, the author taking a conservative view both as to the beneficial effects as well as to the dangers of hypnotism. Other papers could well be included in the above list, for many of them are quite elaborate descriptions, and all are well prepared, as might be expected, considering the excellent names which are signed to them. The volume is to be commended as one containing a thorough modern statement of the subjects which it contains.

Anatomy of the Central Nervous System of Man and of Vertebrates in General. By PROF. LUDWIG EDINGER, M.D., Frankfort-on-the-Main. Translated from the Fifth German Edition by WINFIELD S. HALL, Ph.D., M.D., Professor of Physiology in the Northwestern University Medical School, Chicago, assisted by PHILO LEON HOLLAND, M.D., Instructor in Clinical Neurology, and EDWARD P. CARLETON, B.S., Demonstrator of Histologic Neurology, same institution. Illustrated with 258 Engravings, 6½ by 9½ inches. Pp. xi-446. Extra cloth, $3.00. Philadelphia: The F. A. Davis Co.

This translation of the fifth edition of Edinger's well-known work will be of value to the English-speaking students and should be well received. The only changes that have been made, as the translators state, are the designation of chapters instead of "lectures," as in the original, this requiring an occasional change in diction and the omission of a few passages that were deemed non-essential. The illustrations appear to have been all retained and are well executed. The index is especially full and complete. The translation appears well done and the publishers have brought out the work in good style.

Manuale di Organoterapia, del Dott. By EMILIO REBUSCHINI. 16mo. Pp. viii-441. Milano: Ulrico Hoepli. 1899.

This little work, the latest of the voluminous Hoepli series of publications, gives a very fair summary of the facts and theories of modern organotherapy, from Brown-Sequard's first publication down to the present time. It is, as might be supposed, more a compilation than a critic review of the subject, but the views of each author and investigator are given as fully as required, and the reader can form his own judgments. The compiler's literary research appears to have been quite thorough, and to any one who reads the Italian it may prove very useful, and save extensive references to works and memoirs scattered through medical literature and often difficult of access.

Chemistry: General, Medical and Pharmaceutic, including the Chemistry of the U. S. Pharmacopeia. By JOHN ATTFIELD, F.R.S. New (16th) Edition. In one royal 12mo volume of 784 pages, with 88 illustrations. Cloth, $2.50 net. Philadelphia and New York: Lea Brothers & Co.

The progress of chemistry at the present time is such that a revision of text-books is required every few years. This is not specially true of chemistry, but of all branches of science, and especially of medical science. This sixteenth edition of Attfield's well-known manual, therefore, meets a need and, as it is especially adapted to medical students, it should meet with all the favor that did the former edition. The revision has been thorough, and yet, by the omission of superfluous material, it is not more cumbersome, while fully up-to-date. The index is especially full, occupying over sixty pages, which fact greatly enhances its value for reference.

Pathology and Treatment of Sexual Impotence. By VICTOR G. VECKI, M.D. From the author's second German edition, revised and rewritten. Philadelphia: W. B. Saunders, 1899.

In the main this is a well-written scientific work. It is only in certain details that it is open to the criticism that the author in his preface anticipates and resents. We may be a little puritanic still in this country, but this is better than the too free adoption of what we may call Continental as opposed to American and English moral standards. We need not go further on this point than to say that in one or two therapeutic recommendations, the author is certainly open to legitimate criticism. Apart from the matter mentioned above, the work can be recommended as a scholarly treatise on its subject, and it can be read with advantage by many practitioners. It is not designed for a popular work.

Clinical Lectures delivered before the students of the Imperial Moscow University. By N. A. ZACHARIN, M.D., Late Professor (emeritus) of Clinic Medicine and Director of the Therapeutic Faculty Clinic of the Imperial Moscow University; honorary member of the Imperial Academy of Science at St. Petersburg. Translated from the fifth Russian edition by ALEXANDER ROVINSKY, M.D. Boston: Damrell and Upham. 1899.

This is somewhat of a novelty to American readers, being a translation of a Russian medical work, though there is a Russian medical literature that might profit us with a larger acquaintance. Dr. Zacharin's name is known to us from his connection with the case of the late Emperor Alexander, which made it familiar to the whole civilized world. Judging from these lectures, he appears to have been a scientific physician, well up in modern ideas and undeniably an able and successful teacher. His work is well worth the attention of American physicians.

Necrology.

WILLIAM W. GODDING, M.D., the surgeon in charge of the Government Hospital for the Insane, Washington, D. C., died at that institution on the 6th instant, after an illness of but a few days. Dr. Godding served continuously as chief of the hospital for twenty-two years, was a man of great force of character and ability in his profession and at the same time a public-spirited citizen, always active in the affairs of the capital. In his particular field he did much to develop the institution which was under his care, and the splendid hospital, in its efficiency and smooth administration speaks for his ability. He was born at Winchendon, Mass., in 1831, receiving the degree of Bachelor of Arts from Dartmouth College, in 1854, and the degree of Doctor of Medicine from Castelton College, in 1857. He engaged in general practice for two years and then became assistant physician in the New Hampshire State Asylum for the Insane, where he continued for three years, married, resigned from the hospital and re-engaged in private practice at Fitchburg, Mass. In 1863 he returned to the specialty of mental diseases, in the capacity of assistant physician in the Government Hospital for the Insane, at Washington, and after a service of seven years in that institution, was made Superintendent of the Massachusetts Hospital for the Insane, at Taunton. In 1877, on the resignation of Dr. Chas. H. Nichols, he returned to the Government Hospital for the Insane, as executive and medical head of that institution. He was for a number of years professor of mental diseases in the medical department of Columbia University.

Marcus W. Allison, M.D., Hagerstown, Md., died suddenly April 28, aged 56 years. During the Civil War, he served in the Confederate Army and after the war studied medicine, receiving his degree of M.D. in 1869, after which he practiced in Terre Haute, Ind., for a year, and then located in Hagerstown.

Merritt A. Boas, M.D., St. Louis Mo., died as the result of an operation for peritonitis, April 28. Dr. Boas was a member of the faculty of the College of Medicine and Surgery, St. Louis, and was 46 years of age.

Francis Brodske, M.D., Racine, Wis., died April 30, aged 38 years. He was a graduate of the Columbian University, New York, and of the Bohemian University in Prague, and a member of the Wisconsin State Pension Board.

Wm. A. Gorton, M.D., Providence, R. I., superintendent of the Butler Hospital for the Insane, died in Boston, May 2. Dr. Gorton was born in 1854 and in 1876 was graduated from the medical department of the University of New York, afterward serving as resident physician of Bellevue Hospital. In 1878 he was appointed physician at the prison at Auburn, and in 1885 superintendent of the Danvers Hospital in Massachusetts, leaving that institution three years later to accept the superintendency of the Butler hospital.

J. Marion Mathes, M.D., Sullivan, Ind., died May 5, at the age of 58 years. During the Civil War he was a member of Company D, 21st Indiana Infantry, and his death is attributed to the effects of a wound received during the war.

Leon A. Schaeffer, M.D., Kansas City, Mo., surgeon for the Firemen's Relief Association of that city, died of pneumonia May 1. He received his degree of M.D. from the University Medical College in 1894, later doing post-graduate work in New York City. He was 57 years of age.

Willard Parker Bowser, M.D., N. Y. University Medical College, 1877, of Brooklyn, N. Y., died in that city May 4. He was a Canadian, born 49 years ago, and after being a resident in New York City for some years, returned to Canada and later practiced in London, Eng., then in Brooklyn.

William Russell, M.D., oldest graduate of Harvard, class 1826, died in Barre, Mass., May 6, aged 99 years. He never wore an overcoat and was an inveterate whist player, attributing his long life to his methodic habits.

Charles Weber, M.D., Reading, Pa., died May 1. Dr. Weber was a graduate of the University of Tubingen, Germany, and came to this country fifty years ago. For a time he practiced in Philadelphia.

Joseph J. Kirkbride, M.D., Philadelphia, eldest son of the late Dr. Thomas S. Kirkbride of the Pennsylvania Hospital for the Insane, and for twenty years connected with the outpatient department of the Pennsylvania Hospital, died recently. The Doctor was a graduate of the University of Pennsylvania.

Llewellin Beaver, M.D., Reading, Pa., a graduate of the Pennsylvania Medical College, class of 1841, died May 2, aged 84 years . . . Gaston C. Bordis, M.D., Plattenville, Assumption Parish, La., May 1, aged 52 years . . . Henry H. Fessler, M.D., Williamsport, Pa., a graduate of Jefferson Medical College, April 9, aged 64 years . . . John S. Helm, M.D., Peru, Ind., May 1, aged 73 years . . . Henry Izard, M.D., Meridian, Miss., April 28, aged 65 years . . . Jedediah H. Kingsley, M.D., Rome, N. Y., April 26, aged 77 years . . . Benjamin Munday, M.D., late of the U. S. Medical Corps, Richmond, Va., May 4 . . . John Pence, Carlinville, Ill., April 26, aged 31 years . . . George H. Williamson, Delphos, Ohio, May 1, aged 45 years.

Deaths Abroad.

Dr. Frederick Carl Christian Ludwig Büechner, the German "Darwin," died May 1, in Darmstadt. His "Force and Matter" was published at Frankfort in 1855, and in it the theory of the ultimate indestructibility of force and matter is broached. His other contributions in book and periodical form were extensions of the same line of thought. His "Facts and Theories of Naturalistic Life of To-day," was published as late as 1887. Prof. Büechner was born March 29, 1824, at Darmstadt, and was the second son of a distinguished physician of that town. In 1843 he went to the University of Giessen, where he first studied philosophy, but afterward, in compliance with the wish of his family, turned his attention to medicine. He took the course in this subject in the College of Medicine at Strasburg, returning to Giessen in 1848 to take his degree of doctor. He then continued his studies at the Universities of Würtzburg and Vienna. He returned to Darmstadt, and, after practicing medicine for some time there, settled at Tubingen as a private lecturer, being also appointed assistant clinic professor. He was deprived of this position, however, by the authorities, in consequence of the philosophic doctrines propounded in "Force and Matter." He thereupon returned to Darmstadt, and resumed practice as a physician.

Miscellany.

Correction.—In the address on "The Medical Profession" (see Journal, May 6), read *Homeopathic News* instead of *Medical Century*, and 1872 for 1892, near the end of first column on page 981.

Journals Wanted.—Although several parties have responded to our request for back numbers to complete volumes of the Journal for a State library (see Journal, p. 956), we still need Vol. ii, No. 19, Vol. iii, No. 4, and we will be glad to pay 25 cents each for these copies.

Roosevelt Hospital.—This New York City institution, in its twenty-seventh annual report, calls attention to its need of boilers for heating, a disinfecting plant, a cold-storage device, and a crematory for garbage. The receipts were $170,637.13 and the expenditures $148,237.45, the balance being $22,060.32. The total number of patients was 3293; the cured were 1552 and the improved 1103.

Naphthalin Cushions for Wounds.—N. Jakowlew recommends as a dressing for wounds and ulcers a gauze bag filled with naphthalin until it makes a cushion two or three centimeters thick. Rubber or wax paper is applied over the cushion, and a starch bandage. It is not renewed until soaked through with the secretions, when the naphthalin will be nearly all evaporated. Especially beneficial in ulcus cruris.—*St. Petersburg Med. Woch.*, April 15.

Urotropin in Cystitis.—McGee reports his experience with urotropin as a vesical antiseptic in the *Bull. of Cleveland General Hospital* (Vol. i, No. 1). One great advantage is its nontoxic action in ordinary disease. As much as 30 grains may be given, and larger doses have been employed. He concludes by describing it as safe, active and efficient, with an exceptional power in changing abnormal alkaline urine to a clear acid and aseptic condition. It appears to be an almost ideal urinary antiseptic.

Lowering Water Levels and the Public Health.—The Belgian Government has been investigating the effect on the public health of lowering the water level in rivers and canals in the course of public works. Only one of the seventeen local medical committees appointed reported an unfavorable effect, and this might have been due to another cause. The rest, while theoretically disapproving, could not actually report any increase in malarial or typhoid affections.—*Semaine Méd.*, April 26.

Infusion of Oak Bark in Night Sweats.—Dr. M. Litten calls attention (*Die Therapie der Gegenwart*, March, 1899), to the use of the infusion of oak bark in the night sweats of phthisis, leucemia, diabetes, etc. He used the infusion with success during many years of active private and clinic practice. The preparation is very simple. Take an even tablespoonful of the powdered bark and pour a cup of hot water over it. Let it stand for a quarter of an hour, then strain through cloth. When cool let the patient drink it slowly.

Hebra's Refrigeration Treatment of Lupus Erythematosus.—The inflamed surfaces are treated with a refrigerating mixture of equal parts of absolute alcohol, sulphuric ether and spiritus menthæ pip., applied on cotton, frequently renewed without compression or friction. The success has been so striking in the six cases in which it has been tried (one dating from twenty-five years, no relapses in any case during the nine months), that he calls attention to the method without waiting for further confirmation.—*Vienna Med. Woch.*, 1899, 1.

Revulsion in Tuberculosis.—The last number of the *Archives Cliniques de Bordeaux*, which has suspended publication, is devoted to a study of the influence on the kidneys of the application of cantharidized blisters to the thorax; urine was normal. No inconveniences were observed in any case, and Professor Arnozan agrees with Grancher that small blisters applied repeatedly are one of the best means of arresting the progress of chronic pulmonary tuberculosis, although if the urine proves abnormal on preliminary examination, some other revulsive than cantharides should be employed.

Physiologic Colored Rings Observed Around Flames.—L. Demicheri calls attention to certain colored rings observed around a small bright flame suddenly lighted in a dark room. The colors are reversed from the order noted in Newton's refraction rings, as the red is outermost, with yellow, green, and sometimes a violet ring toward the center. He considers them a phenomenon due to diffraction. They also occur with the crystalline lens taken from lambs, cows and fishes, and are easily studied with an electric light painted black except for a small circle.—*Anales de Oftalmologia*, April.

Dionin in Phthisis.—Dionin is a combination of hydrochloric acid and ethylether morphin, and is represented by the formula $C_{19}H_{23}NO_3\ HCl+H_2O$. Dr. Schröder reports (*Die Therapie de Gegenwart*, March, 1899) a series of twelve cases of pulmonary tuberculosis in the second and third stages, treated symptomatically, mainly for cough, with dionin. The hacking cough was mitigated in all cases and entirely disappeared in some; sleep was longer, more restful and refreshing. Dr. Schröder considers dionin superior to codein and morphin as far as cough is concerned, but not as an analgesic.

Pathology of Various Human Races.—Thirty years of experience in the Dutch East Indies have convinced van der Burg that there are no diseases peculiar to certain races, but that it is merely a question of hygiene and environment. He tabulates in the *Weekb. v. h. Nederlandsch Tydschrift*, No. 11, the results of comparative observation of natives and Europeans in various affections, and demonstrates that the race is no protection. He notes the fact that advanced stages of tuberculosis in Europeans are accelerated and rapidly terminate in that climate, but that the incipient stages or the phthisic diathesis may never develop further.

Laparotomy for Tubercular Peritonitis.—In the *Bull. of Cleveland General Hospital* (Vol. i, No. 1), Crile reports seven personal observations of laparotomy for tubercular peritonitis and a number of others communicated to him by different physicians. He also goes over the history of the subject quite extensively and discusses the theories of the effectiveness of this measure. He believes that this surgical treatment of tubercular peritonitis now rests on a solid foundation, more than 80 per cent. of recoveries having been reported. When no contrary indications to operation exist, every case of tubercular peritonitis ought to be operated on as soon as fully diagnosed.

Gunshot Wounds of Abdomen.—Stepp reports a case of gunshot wound with intestinal perforation (*Bull. of Cleveland General Hospital*, Vol. i, No. 1), operated on twelve and one-half hours after the injury. The small intestines were found wounded in four different places with long ragged wounds. About eight inches of the intestines were examined at a time, no more being exposed to the atmosphere at once. The contents of the intestines were stripped away from the opening, clamps applied on either side, the edges trimmed and uninterrupted coaptation suture of No. 1 catgut applied, and over these the ordinary interrupted Lembert suture of the same material. The patient made a good recovery. He closes his paper with a reproduction of Vulliett's conclusions from an analysis of 355 cases.

Consumption of Quinin in the U. S.—The official figures of the treasury bureau of statistics show that there were imported last year into the United States 1,539,056,750 grains of quinin. As there were practically no exports of the article, this means something like twenty grains for every man, woman and child in the country. In 1897 the average import price in the United States was a trifle more than 16 cents an ounce. The statement comes from Washington, also, that during the past year, or thereabouts, more than 125,000,000 grains of quinin have been consumed by American soldiers suffering from various types of southern fevers. In some instances men who were in the hospitals in Cuba and Porto Rico were dosed regularly with 300 grains a week. Hardly an individual, it is said, failed to take the drug during some period of his service, either as a curative or preventive. Furthermore, the claim has gained credence that Americans consume one-third of the quinin of the world.

Final Fate of That Artificial Cornea.—The rock-crystal cornea inserted and held in place with hooks in an eye blind from leucoma, the other from lime (see Journal, xxxi, p. 1001), remained in place eight months with eminently satisfactory results, the subject able to see persons and objects and do light work. At the end of this time the prothesis pulled out as the face was being wiped with a towel, probably a hook caught on the upper lid. There was no trace of membrane nor exudation on the crystal or metal when seen. The eye was redder; several large conjunctival vessels were noted on the spot where the prothesis had been. The leucoma at that point was much more transparent, and it had grown thinner and flatter all over. Tension diminished. There was vision, movements of hands near by and good projection of light. If the hooks had been bent at right-angles they might not have pulled out so soon, but it was only a question of time, as the leucoma had ceased to afford a support for the hooks. A lighter prothesis might have remained longer in place.—Th. v. Schroeder: *St. Petersburg Med. Woch.*, April 1.

Pennsylvania Hospital Report.—The 148th annual report of the contributors of this institution shows that the past year has been one of great activity and advancement of this hospital in part due to the large number of soldiers treated (360). The number of new cases who received treatment in the out-patient department was 14,241, and 52,412 visits were made. During the year 16,691 patients were admitted to the receiving ward, of whom 3664 were transferred to the wards of the hospital. The hospital ambulances were in service 1496 times and the police patrols made 1306 trips. The entire cost in maintaining the Pine Street department was $113,640.78. Expenditure for the insane department in West Philadelphia was $210,878, of which $66,770 went toward defraying the support of free patients, and those who were able to pay only part of the cost. During the year the Ayer Clinical Laboratory has been erected, and a complete electric-light system has been established in connection with the hospital. Receipts from contributions and legacies were $735,000, and expenditures $324,000. A portrait in oil of Dr. Jacob M. DaCosta, who has been on the staff of the hospital for thirty-four years, has been presented by his son, Charles Z. DaCosta.

Not a "Legal Practitioner."—The supreme court of Ohio holds, in the case of State, on the relation of one Eberts, against the Ohio State Medical Board, that one who entered on the practice of medicine after the taking effect of the act of May 5, 1868, "to protect the citizens of Ohio from empiricism," etc., without graduation from a school of medicine or procuring a certificate of qualification from some State or county medical society, and had not practiced continuously for ten years before the passage of the act of May 2, 1885, is not a "legal practitioner," within the meaning of section 4403c of the act of Feb. 27, 1896, "to regulate the practice of medicine."

Liable for Improper Treatment.—The true relation between the company and its employes, as it understands it, the court of civil appeals of Texas says, in the case of the Texas & Pacific Coal Company vs. Connaughton, was this: In consideration of a reduction of the wages of all the men employed, and the profit to be made by the company, it bound itself to furnish medical treatment to such of them as should get hurt or become sick while working for the company. It should, therefore, the court holds, bear the loss of improper treatment, since the law implies in such cases an undertaking to give proper treatment. The question of whether due care had been used by the company in the selection of the physician, the court considers eliminated from the case by reason of these facts.

Control of the Army Hospital Corps.—Up to the present time the administration of the hospital corps of the army has been held in the surgeon-general's office and the war department, but, presumably on account of the difficulty of managing affairs in distant commands, an order from the war department, May 2, 1899, charges the officers commanding the division of Cuba, the department of Porto Rico, the department of the Pacific and the troops in Hawaii, with the full control of the transfer from the line, enlistment, re-enlistment and discharge of members of the hospital corps of their commands, and with the detail of acting hospital stewards, provided that the allowance of acting hospital stewards and privates of the hospital corps, as fixed for each of these commands, be not exceeded except by special authority; and provided, also, that privates shall, whenever practicable, be required to pass a satisfactory examination under regulations prescribed by the respective chief surgeons of the commands above specified, before they are detailed as acting hospital stewards. Hospital stewards, however, are appointed as provided by existing regulations, after examination under direction of the surgeon-general.

Anastomosis or Fistula Gastrocolica.—The abnormal communication between the stomach and colon transv., that occurs occasionally in cases of ulcus or carcinoma of the stomach from a perforation into the intestine, which has become attached to the organ by adherences, has only been diagnosed seven times intra vitam, although forty odd cases are on record. None of the cases was cured by an operation. Unruh is therefore pleased to report two cases in which the fistula was correctly diagnosed and one cured by surgical intervention. The colon formed a V, with the point adhering to the posterior wall of the stomach in the lesser curvature, the distal portion of the intestine collapsed. The adhering point and perforation were not disturbed, but the intestine was cut each side of the perforation and a few inches below, leaving a small V still adherent. The ends of the four stumps were closed with rows of stitches, and an anastomosis made between the distal and proximal portions of the colon, several inches below the sewed-up ends. Fecal vomiting without the symptoms of complete intestinal occlusion, and the evacuation of undigested food per anum are reliable symptoms. The introduction of air or a colored fluid into the rectum is a means of differentiating the trouble. One of the subjects complained of pressure when a rectal injection was made. Unruh recommends abstention in case of carcinoma, but advocates intervention when the fistula is caused by an ulcer or tuberculous lesion.—*Deutsche Med. Woch.*, April 29.

"No Funds" No Defense.—Mr. Justice Hirschberg holds, speaking for a special term of the supreme court of New York, in the case of Kent vs. the Village of North Tarrytown, that, if it is incumbent on the municipal authorities to raise money to defray expenses incurred by the board of health, although no provision exists in the village charter for that purpose, it can hardly be contended that want of funds is a sufficient answer in an action for services lawfully performed under employment by the board in the direct discharge of its official duties, and expressly adopted and ratified by the municipality. The restrictions of the charter as to expenditures for general purposes do not, and, from the peculiar and uncertain nature of the requirements of the case, can not, apply to expenditures in the prosecution of the work of the health department. The municipality is subject to the statutory liability, and while there may be no funds, because there has been a failure to levy and collect the necessary amount, or to appropriate a sum to meet the liability, such action is not a condition precedent to a right of recovery.

Discontinuance of the Military Hospital at Greenville, S. C.—The division hospital at Greenville, S. C., established Nov. 10, 1898, was discontinued April 27, 1899. The surgeon-in-charge was Major John L. Phillips, brigade surgeon, volunteers. The sick cared for in this hospital were members of the 203d N. Y., 4th N. J. and 2d West Va., constituting the 1st Brigade, and the 5th Mass., 4th Mo. and 201st N. Y., constituting the 2d Brigade of the 2d Division, 2d Army Corps. It consisted of a central administration building, four wards of forty beds each and a dining-room and mess kitchen. During its occupancy, 726 cases were treated, among which were 101 venereal, 97 mumps, 96 acute bronchitis, 89 croupous pneumonia (both lungs invaded in 19 cases) 70 influenza, 67 measles, 25 typhoid fever, 5 scarlet fever and 2 diphtheria. All cases of contagious diseases were isolated and treated in tents. Measles and mumps came almost exclusively from the West Virginia regiment, which command, recruited in the mountains of the State, furnished as many cases of venereal disease as all the other regiments combined. The cases of typhoid fever were contracted before coming South. No case of the disease was admitted after the middle of December, and the last cases admitted, three within a few days of each other, were from the last regiment to leave Camp Meade, Pa., about November 18. Twenty-five deaths occurred at the hospital, 23 soldiers and 2 civilian teamsters. The causes of death were croupous pneumonia 16, and 1 each from typhoid fever, acute ascending myelitis, acute endocarditis, acute fibrinous pericarditis, epithelioma of bladder, cardiac dilatation with anasarca, acute nephritis, injury from crushing by machinery, and empyema after surgical oper-tion. One half of a ward, twenty beds, was equipped for surical cases and proved ample for their accommodation. Most f these cases came from the venereal ward. Resection of ib was done in three cases of empyema. Of fractures there vere 16 cases, and of gunshot wounds 9; with two exceptions hese wounds were the result of carelessness in handling firerms. Medical supplies were abundant and of good quality. 'he cost of each patient per day was about 45 cents. Major 'hillips closes his report by congratulating himself that no omplaint against the hospital or its management was at any ime submitted.

Can Assume Treatment Was Proper.—In an action brought to ecover damages for injuries received from an electric wire, the ourt of errors and appeals of New Jersey holds that there vas no error in a charge that, if the plaintiff had employed a esponsible and reputable physician, he (the plaintiff) had a ight to assume that the treatment was proper, and could not e kept out of damages because with a better physician he ight have had better results. If he used reasonable care to elect a reputable doctor, the court insists, appealed case of ew York and New Jersey Telephone Company vs. Bennett, it vas enough.

"Prescription" Defined.—Upon a trial of an indictment for the tatutory offense of unlawfully commencing the practice of edicine without first filing a State license, the supreme court f New Jersey holds that, a witness having testified to a relevnt conversation with the defendant, in the course of which the efendant gave to him a bottle, and a card upon which was vritten "a copy of the contents of the bottle," these exhibits vere properly admitted without proof that the contents of the ottle was a medicine. The objection to the introduction of he card because the witness was permitted to characterize he writing on the card as a "prescription," upon the ground hat it was a conclusion of the witness, the court does not conider rested upon a very substantial foundation, under the cirumstances. It says that it was not the act of the defendant hat was thus characterized, but a bit of writing then in court. n this context, the court continues, case of Mayer vs. State, he word "prescription" has long since passed from its general nd etymologic meaning to a concrete and substantive use—ot even participial—standing not for the act, but for the thing, -wit, a written medical recipe. But even in its participial ense, this witness, who was a medical practitioner, the court dds, would have been permitted to employ it.

Causes of Azoospermia.—From examination of the generative rgans, at a thousand necropsies, with special study of the 25 cases in which azoospermia was noted, chronic alcoholism as responsible for a large proportion and venereal affections r a third. We note the following points: In 22 cases the terility was due to epididymitis, and the testes were normal most of these; in 12 to bilateral interstitial orchitis. Even cases in which two-thirds of the testicular had been substiuted by fibrous tissue, spermatozoids were still noted in the xcretory passages. The cases of certain syphilis presented ilateral lesions of the testes with few exceptions. Simmonds alls attention to the frequency of stricture of the vas deferens 3 cases, complete sterility in 10), of stenosis of the tubules the epididymis, and to the ectasia of the spermatic ucts which they entail, peripheral from the constricted spot, hich fill up with a milky fluid. Even the slightest pathogic modification of the excreting passages is enough to oblitrate the passage and permanently injure the testes, although is astonishing how long spermatogenesis persists under these nditions. The only possible explanation is reabsorption of e secretion in the testes. The cases were rare in which the erm production was definitely abolished and the testes atrohied. Resection of the vas does not induce atrophy of the stis unless other formations are resected with it—confirmed by experimentation. Only six out of the large number with genital tuberculosis were sterile. Six out of 15 cases of callous degeneration of the vesicle were accompanied by a sterilizing lesion of the testis. In 8 cases of incomplete descensus no spermatozoids were found in the corresponding vesicle and the testis was microscopically degenerated. Hydrocele, varicocele and spermatocele do not cause azoospermia, but it was noted on the side affected, in six cases of inguinal hernia, although the opposite side was normal. We can accept fifteen to sixteen years as the limit of puberty. The functioning capacity of the testes has no age limit. The spermatozoids may retain their vitality in the vesicles for a long time. In the case of a man of 73, whose testes had been removed fourteen days previously, the vesicles were crowded with motile spermatozoids.—*Deutsche Arch. f. Klin. Med.*, Vol. lxi.

Discontinuance of the Military Hospital at Anniston, Ala.—The 2d Division of the 4th Army Corps was encamped during the past winter at Camp Shipp, Anniston, Ala. The regiments comprising it were the 2d U. S., 2d Ark., 3d Ala., 3d Tenn., 4th Wis., and 4th Ky. The hospital, when established in October, 1898, was a tent hospital, but wooden buildings, having a capacity of 250 beds, were soon constructed. The surface drainage was excellent. Water was supplied from the city waterworks. Pit closets were used. These were eight feet deep and disinfected by quicklime. All wastes were collected in covered barrels and hauled away daily. The hospital proper consisted of a hall 200 feet long, with a solarium at the end opposite to the main entrance. Connected to the hall by small corridors were four wards at equal intervals on each side. These were 60 feet long, 24 feet wide and 10 feet to the eaves, with ventilation by the ridge. They were heated by two large stoves for each ward and were quite comfortable in the coldest weather. There was one building for a property-room and one for a bath-room. One ward was fitted up for surgical cases. There was also a separate building, with a capacity of fifty beds, for typhoid fever cases, and two small isolated wards for cases of measles and mumps. A small room was built for disinfection by formaldehyde. There was a general mess-hall for the members of the hospital corps and convalescent patients, with a special-diet kitchen, quarters, offices and storehouses. The staff and employes consisted of a commanding officer, an executive officer, four acting assistant-surgeons, a quartermaster, who was a line officer from one of the regiments, a hospital steward, 10 acting stewards, 150 privates of the hospital corps and 23 female contract nurses. The detachment of the hospital corps was organized into a company, which facilitated matters very much in the way of discipline. The guard was furnished from one of the regiments, the hospital having its own guard-house. A trained cook was in charge of the special-diet kitchen. The average daily cost per patient was about 28 cents. The cases treated were mostly of a serious character, as trivial cases were retained for treatment in the regimental hospitals. They numbered 1009, of which 33 ended fatally. There were 93 cases of typhoid fever, with 14 deaths; 40 of pneumonia, with 10 deaths; 13 of cerebrospinal meningitis, with 7 deaths; 2 of endocarditis and 2 of appendicitis, with 1 death from each of these diseases. Among the non-fatal diseases there were 178 cases of measles, 83 of mumps, 146 of remittent fever, 69 of intermittent fever, 61 of venereal diseases, 45 of rheumatism, and 34 each of bronchitis and influenza. Thirty severe typhoid fever cases were received from the hospital of the 3rd Corps, and as the slighter cases of this disease were retained to convalescence in their own corps the rate of fatality of the 93 typhoid fever cases above mentioned is made to appear higher than it really was. The death-rate of the typhoid fever cases admitted directly from the regiments was only 9 per cent.; that of cerebrospinal meningitis was 53 per cent. The officer in command of this hospital was Lieut. Marshall M. Cloud, asst.-surgeon U. S. A.

The Public Service.

Movements of Army Medical Officers under orders from the Adjutant-General's Office, to and including May 4, 1899:

William B. Banister, captain and asst.-surgeon U. S. A., now acting as chief surgeon 2d army corps at Augusta, Ga., is relieved from his station, Fort Keogh, Mont.

James L. Bevans, acting asst.-surgeon from St. Louis, Mo., to San Francisco, Cal., for duty in the Dept. of California.

Wilson T. Davidson, acting asst.-surgeon, from Brackett, Texas, to Havana, Cuba, for assignment in the Div. of Cuba.

J. Ryan Deveraux, acting asst.-surgeon, from Washington, D. C., to Governor's Island, N. Y., for duty in the Dept. of the East.

Charles L. Furbush, acting asst.-surgeon, from the hospital ship "Missouri" to Havana, Cuba, for duty in the Div. of Cuba.

Robert W. Guiler, acting asst.-surgeon, from Camp Mackenzie, Augusta, Ga., to Havana, Cuba, for assignment in the Division.

Verron J. Hooper, acting asst.-surgeon, will report for duty to the commanding officer U. S. transport "Sedgwick" now at Savannah, Ga.

John P. Kelly, acting asst.-surgeon, from Warrington, Fla., to Havana, Cuba, for duty in the Division.

James M. Kennedy, captain and asst.-surgeon, U. S. A. from mustering out duty at Augusta, Ga., to San Francisco, Cal., to accompany the 4th U. S. Cav. to Manila, P. I.

John R. McDill, major and brigade surgeon vols., honorable discharge from volunteer service to take effect June 30, 1899.

William O. Owen, major and surgeon vols. (captain and asst.-surgeon U. S. A.), honorable discharge from volunteer service, to take effect June 30, 1899; to proceed from San Francisco, Cal., to St. Louis, Mo., as attending surgeon and examiner of recruits at that place.

Josiah W. Richards, acting asst.-surgeon, from duty on the transport "Conrad" to report to the superintendent army medical transport service at New York City.

Robert C. Rind, acting asst.-surgeon, from the general hospital Fort McPherson, Ga., to Governor's Island, N. Y., for duty in the Dept. of the East.

D. M. Roberts, acting asst.-surgeon, from Fort Thomas, Ky., to Governor's Island, N. Y., for duty in the Dept. of the East.

Henry A. Shaw, captain and asst.-surgeon, on sick leave at Worcester, Mass.; relieved from duty at Savannah, Ga., to report at San Francisco, Cal., for service at the general hospital at that place.

Victor E. Watkins, acting asst.-surgeon, from the general hospital Fort McPherson, Ga., to Governor's Island, N. Y., for duty in the Dept. of the East.

Timothy E. Wilcox, lieut-.col., chief surgeon vols., leave of absence extended to July 31, 1899.

By orders from the commanding general, Department of Porto Rico, April 21, 1899, certain acting asst.-surgeons have been assigned to accompany troops to the United States: Joseph G. Wilson will accompany Light Battery C. 7th U. S. Art., and J. A. Escobar, Light Battery U. of the same regiment. Six medical officers are directed to report at Ponce to the commanding officer 19th U. S. Inf. to accompany that regiment. On arrival in the United States they will report by letter to the surgeon-general at Washington, D. C.: H. E. Sears, now at the Hospital San Juan; John E. Morris, with Troop I, 5th U. S. Cav. at Ponce; H. C. Cline at Adjuntas; Frank J. O'Hare at the general hospital, Ponce; Henry C. Mure at the vaccine station, Coamo; John J. Gilhuley at El Morro, San Juan.

Movements of Navy Medical Officers.—Changes in the medical corps of the U.S. Navy for the week ending May 6, 1899.

Medical Inspector M. C. Drennan, ordered to additional duty at the marine recruiting rendezvous, Philadelphia, Pa.

P. A. Surgeon W. C. Braisted, detached from the naval hospital, Newport, R. I., and ordered home to be ready for orders for sea duty.

Asst.-Surgeon J. J. Snyder, detached from the "Wabash" and ordered to the naval hospital, Newport, R. I.

Medical Director A. L. Gihon, retired, granted leave for one year, with permission to leave the United States.

Surgeon J. H. Steele, ordered to temporary duty at the recruiting rendezvous, Baltimore, Md.

Asst.-Surgeon S. B. Palmer, detached from the "Annapolis" and ordered home.

Asst.-Surgeon W. M. Garton, detached from the naval hospital, New York City, and ordered to the "Annapolis."

Surgeon J. D. Gatewood, ordered to the bureau of medicine and surgery for temporary duty.

Medical Inspector C. H. Gravatt, detached from the "New York" and from duty as fleet surgeon of the north Atlantic squadron, and ordered home to wait orders.

Medical Inspector P. Fitzsimons, detached from the "Brooklyn" and ordered to the "New York" as fleet surgeon of the north Atlantic squadron.

Surgeon G. E. H. Harmon, detached from the "Amphitrite" and ordered to the "Brooklyn."

Surgeon J. M. Edgar, detached from the "Richmond" and ordered to the "Amphitrite."

Surgeon G. P. Lumsden, detached from the "Franklin" and ordered to the "Richmond."

Surgeon S. H. Dickson, detached from the "Massachusetts" and ordered home to wait orders.

Surgeon J. G. Byrnes, detached from the Norfolk navy yard and ordered to the "Massachusetts."

P. A. Surgeon F. W. Olcott, ordered to the "Texas."

Asst.-Surgeon G. D. Costigan, detached from the "Indiana" and ordered to the naval hospital, Chelsea, Mass.

Asst.-Surgeon M. S. Elliott, detached from the "Texas" and ordered home to wait orders.

Asst.-Surgeon J. H. Payne, detached from the naval hospital, Chelsea, Mass., and ordered to the "Indiana."

Marine-Hospital Changes.—Official List of Changes of Stations and Duties of Commissioned and Non-Commissioned Officers of the U.S. Marine-Hospital Service, for the seven days ended May 4, 1899.

Surgeon W. A. Wheeler, department letter of April 2, 1899, granting him twenty-seven days' leave of absence, amended so that the said leave shall take effect from May 5, 1899.

Surgeou W. A. Whceler, department letter of April 20, 1899, accepting his resignation to take effect from June 30, 1899, amended so that said resignation shall take effect May 31, 1899.

Surgeon S. D. Brooks, relieved from duty as member of board convened to meet at San Francisco, Cal., May 2, 1899, for the examination of candidates for appointment as asst.-surgeon in tho service.

P. A. Surgeon G. M. Magruder, granted leave of absence for fourteen days.

P. A. Surgeon T. B. Perry, detailed as member of board convened to meet at San Francisco, Cal., May 2, 1899, for the examination of candidates for appointment as asst.-surgeon in the service.

P. A. Surgeon C. P. Wertenbaker, to rejoin station at Wilmington, N. C.

Asst.-Surgeon Hill Hastings, relieved from duty at Seattle, Wash., and directed to proceed to Astoria, Ore., for the purpose of establishing a U.S. quarantine station at or near that point.

Asst.-Surgeon H. C. Russell, relieved from duty at Louisville, Ky., and directed to proceed to Cairo, Ill., and assume temporary command of service.

Asst.-Surgeon H. B. Parker, detailed as quarantine officer of the port of Santiago, Cuba.

Asst.-Surgeon L. L. Lumsden, to proceed to Seattle, Wash., and assume command of service.

Asst.-Surgeon J. F. Anderson, granted thirty days' extension of sick leave from May 1, 1899.

Asst.-Surgeon L. D. Fricks, relieved from duty on U.S. transport "Sedgewick," and directed to assume temporary command of service at Savannah, Ga.

Asst.-Surgeon J. W. Kerr, to proceed to the San Francisco quarantine station and report to the commanding officer for temporary duty.

Hospital Steward E. B. Scott, to report to acting asst.-surgeon in charge, Savannah quarantine, for duty and assignment to quarters.

Hospital Steward N. C. Comfort, relieved from duty at Cincinnati, Ohio, and directed to proceed to Louisville, Ky., and report to commanding officer for duty and assignment to quarters.

CHANGE OF ADDRESS.

Adams, J. S., from 1205 Spruce to 319 S. 18th, Philadelphia, Pa.
Burns, E. W., from Honesdale, Pa., to Board of Trade Bldg., Scranton, Pa.
Butterfield, F. A., from 167 Dearborn St. to 126 State, Chicago.
Brown, S. F., from Calif. Bldg. to 1646 Court Pl., Denver, Colo.
Brewster, B. H., from Petrolia to Foxburg, Pa.
Bradley, C. D., from 131 Dearborn Ave. to 230 Hampton Ct., Chicago.
Bartholomew, J. N., from 51 Lincoln to 421 Center St., Chicago.
Beck, C., from 174 Eugenie St. to 522 Dearborn Ave., Chicago.
Brown, H. D., from Detroit to Stockbridge, Mich.
Barrett, E. J., from Honolulu, Hawaii, to Palmer House, Chicago.
Crews, G. B., from 2934 Gallup to 2417 W. 32d Ave., Denver, Colo.
Corwin, G. P., from Wasioja, Minn., to Santa Monica, Cal.
Collie, J. A., from Chicago to Williams Bay, Wis.
Coles, V. H., from 1813 West End Ave. to 1722 Cedar St., Nashville, Tenn.
Colburn, J. R., from 119½ S. Spring to Wilcox Blk., Log Angeles, Cal.
Clayton, C. F., from 600 W. 59th to 4145 Central St., Chicago.
Couch, E. E., from Milwaukee to Port Washington, Wis.
Cochran, C. C., from Curran to Hamilton, Ill.
Drayton, H. S., from 12 E. 17th St. to 70 5th Ave., New York City.
Durkee, A. C., from Chicago to Joliet, Ill.
Davis, E. A., from Richmond to Hicks Ford, Va.
Fanner, J. C., from 1315 Clinton to 502 Masonic Temple, Minneapolis. Minn.
Field, G. A., from Moorland to Callender, Iowa.
Faris, J. W., from St. Louis to Caruthersville, Mo.
Greenly, T. W., from Lake Placid to Loon Lake, N. Y.
Goggins, R. J., from Chilton, Wis., to Hobart, Ind.
Green, R. E., from Chicago to Ft. Madison, Iowa.
Gale, J. A., from 3815 Gilpin St. to 1670 Broadway, Denver, Colo.
Hill, F. E., 1702 W. Jackson St. to Johnson Bldg., Muncie, Ind.
Hendrick, F. A., from 1111 Lorain to 2508 Superior St., Cleveland, Ohio.
Henderson, R. K., from Louisville, Ky., to Fleetwood, I. T.
Hoffman, Adolph, from 6041 Vernon Ave. to 489 62d St., Chicago.
Johnson, F. W., from 626 John to 517 Central Ave., Cincinnati, Ohio.
Klebs, Dr., from 4419 Indiana Ave. to 69 22d St., Chicago.
Kycs, E. S., from New Orleans to Mandaville, La.
Lefschitz, A. H., from St. Louis, Mo., to 478 S. Morgan, Chicago.
Lundgren, C. E., from 571 Leonard to 476½ State St., Brooklyn, N. Y.
Lydston, from 1095 N. Clark St. to Hotel Luzerne, Chicago.
Marsh, W. C., from Quincy to Albion, Mich.
McCormick, C. A., from 1537 Harvard to 2146 Wilcox, Chicago.
Newman, R., from 64 W. 36th to 148 W. 73d, New York City.
Nichols, C. L., from Chicago to Karbach Blk., Omaha, Neb.
Pickett, W. H., from Chicago to 6th and M Sts., Louisville, Ky.
Parker, C. H., from 4704 St. Lawrence to 4102 Lake Ave., Chicago.
Palmer, T. D., from Denver to Canon City, Colo.
Porterfield, E., from 405 Ogden Ave. to 529 Van Buren St., Chicago.
Pirosh, B., from 43 McAlester Pl. to 348 S. Hermitage Ave., Chicago.
Piper, E. D., from Austin to 982 W. Congress St., Chicago.
Pickels, W. H., from Chicago to 212 Ridgewood Ave., Joliet, Ill.
Prentice, G. L., from Chicago to Pleasantville, Iowa.
Rutherford, J. F., from Hotel Highland to 210 S. Broadway Albuquerque, N. M.
Riche, H. G. from New Orleans to Marksville, La.
Rich, R. G., from Chicago to Fayette, Iowa.
Richards, C. H., from Chicago to Prittwood, Ill.
Reynolds, H. R., from 350 Ashland Boul. to 661 Congress St., Chicago.
Stogal J. B., from St. Louis, Mo., to 478 S Morgan, Chicago.
Senn, E. J., from 447 E. North Ave. to 25 Astor St., Chicago.
Spencer, N. W., from Omaha, Neb., to Walnut, Iowa.
Schmidt, O., from Chicago to Campbellport, Wis.
Schrender, L. S., from Shelly, Minn., to Grafton, N. D.
Stevens, F. W., from Bloomington to 780 Sawyer Ave., Chicago.
Sholars, L. A. from New Orleans to Rosepine, La.
Turner, D. A., from Chicago to De Lamar, Neb.
Tufts, F. S., from 6016 Princeton to 7606 Butler St., Chicago.
Taylor, P. K., from New York City to Kingston, R. I.
Tenney, L. P., from Galveston to Crockett, Texas.
Van Hood, E., from New York City to Ocala, Fla.
Wing, D. E., from 4740 Madison to 4822 Lake Ave., Chicago.
Westerchulte, F. H., from 684 W. North Ave. to 27 Humboldt Boul., Chicago.
Wheaton, C. L., from 436 Lincoln to 95 Evanston Ave., Chicago.
Williams, C. B., from Galveston to Mineral Wells, Texas.
Wagner, T. H., from Silver Cross Hosp. to 315 Jefferson St., Joliet, Ill.
Wilson, E. R., from Charleston to Cades, S. C.

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Original Articles.

FURTHER REMARKS ON EROSIONS OF THE STOMACH.*

BY MAX EINHORN, M.D.
NEW YORK.

In 1894 I published a paper[1] on erosions of the stomach and their treatment. Under this name I described a condition in which aside from various subjective symptoms of gastric origin, there are always found in the wash-water of the stomach one to four small pieces of gastric mucosa. In the paper referred to I gave a history of seven cases of this affection that had come under my observation. Since the publication of my paper, C. Pariser[2] has written an exhaustive article on the same subject corroborating in most points my observations. Pariser has seen three cases of erosions of the stomach in one year, and therefore concludes that the affection under consideration is by no means rare. There are but very few points in which Pariser does not apparently agree with my views; they are, however, of minor importance and perhaps based on a different conception of some of the symptoms. In the clinic picture of erosions I laid stress on the circumstance that the pains are of a slight nature, thus differing from ulcer of the stomach. Pariser says that in his cases the pains were described as "unbearable suffering." I must say that I still hold my old view and yet Pariser is also right, for slight distress coming on constantly with great regularity soon after meals is often very wearing and sometimes even unbearable for the patient. It is *not* the intensity of the pain, but its steady nature which effects this. With reference to etiology, Pariser assumes that chlorosis may play a great part. I do not deny that many of these patients are either anemic or chlorotic, but I rather believe that the condition of the blood is a sequel to the gastric trouble and not the primary factor.

Hemmeter[3] apparently does not believe in erosions of the stomach as a special disease, for he says: "The conclusion seems justifiable that very tiny exfoliations and erosions occur in all stomachs, and in adult life perhaps at all times. . . When this process reaches such an exaggerated type as described by Einhorn, it is very probable that the mucosa is made less resistant by some well-developed gastric disease—one of the forms of gastritis, carcinoma, etc.—for his patients suffered from pains, emaciation, weakness."

Hemmeter's conception of my cases is perhaps not quite correct; there was carcinoma in none and gastric catarrh in but few of the cases. The clinic picture, however, and the objective features were very similar in all of them, and we decidedly hold that erosions of the stomach form a special disease, which may be accompanied by various other affections.

Chas. G. Stockton and Allen A. Jones[4] describe erosions of the stomach as a special disease, and put it next to the chronic gastric catarrh. With regard to the local treatment advocated by me, these distinguished writers say: "We have used these measures, together with lavements of solutions of boric and tannic acids and potassium permanganate, sometimes with apparent benefit; in one case after six months' treatment we saw not the slightest improvement. Attention to the general health, and to that end strychnin, arsenic, malt and cod-liver oil, fresh air, sunlight, mountain climbing and other invigorating exercise, may be recommended." It is evident that these views agree with mine in regard to treatment.

Inasmuch as there has been so very little written on erosions of the stomach, I deem it of interest to give you my new experiences with regard to this malady. Since my first report I have met with sixteen additional cases of erosions of the stomach and will describe a few of them in detail, referring to the others in a cursory way and summarizing the principal symptoms in a table.

In February, 1894, Sam W., 40 years old, presented himself. He had enjoyed good health up to twenty years before, when he came to America and was compelled to work much harder than he was accustomed. He had been in the habit of eating very fast and had lived irregularly. His digestion then began to trouble him. About six years ago he lost his wife, the shock of which still further impaired his health. From that time on he began to complain of gastric symptoms. Rumination developed very soon after and it still prevails. For the last five years the patient suffered a great deal from slight pains in the epigastrium quite soon after the ingestion of food, and from water-brash two to three hours after meals. Marked constipation was present, as well as a continuous feeling of weakness and fatigue, and the patient has lost about ten pounds.

Present condition: The patient looks somewhat delicate, but not greatly emaciated; his tongue is only slightly coated. The chest organs are intact. Palpation of the abdomen shows a slight tenderness in the epigastric region. The stomach extends to almost a hand's width below the navel (splashing sound); liver not enlarged, kidneys not movable. The knee-jerk is present; the urine does not contain any sugar or albumin. Examination of the gastric contents one hour after Ewald's test-breakfast shows the presence of free hydrochloric acid, the acidity being 90. In the fasting condition the stomach is empty. On washing the organ four small particles of gastric mucosa are found

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*Read before the American Gastroenterological Association, May 2, 899, Washington, D. C.

[1] Max Einhorn: Clinical Observations on Erosions of the Stomach and heir Treatment. Medical Record, June 23, 1894.

[2] C. Pariser: Ueber Hemorrhagische Erosionen der Magenschleimhaut. ledicinische Revue, April, 1897.

[3] Hemmeter: Diseases of the Stomach, p. 126.

[4] Chas. G. Stockton and Allen A. Jones: System of Practical Medicine by American Authors, Vol. iii, p. 183. Philadelphia, 1898.

Table of Cases of Erosions* of the Stomach Observed from June, 1894, to December, 1898.

Number.	Name.	Age.	Principal subjective symptoms.	Duration of disease.	Condition of gastric contents.			Other diseases present	Treatment.	Result.	Remarks.
					HCl.	Acidity.	Mucus.				
1	C. S.	48	Pains began about one hour after meals, lasting 2 or 3 hours; off and on att'cks tachycardia.	2 years.	+	100	No	. . . . .	Meals frequently; alkalies; rest.	Cured . .	
2	Miss Mary W. .	28	Slight pains pretty soon after meals; weakness.	8 years. .	+	72	No	. . . . .	Spray with nitrate of silver and intragas. galvanization	Cured . .	
3	George E. F. .	40	Slight pains after meals. Weakness.	5 years. .	+	64	No	Anemia. .	Spray with nitrate of silver.	Greatly improved.	During the 5 years of sickness pat. had off and on exacerbations of his trouble, lasting 1 to 2 mos., in this event pains were more severe.
4	Alfred H	39	Constant belching; slight pains after meals; weakness; occasionally sleeplessness.	6 years. .	+	60	No	. . . . .	Spray with nitrate of silver.	Cured after 2 to 3 months tr'tm't.	Patient gained about 20 pounds in weight, remained well for over 2 years; an acute attack of perforative appendicitis ended his life.
5	Edgar C	42	Slight distress later on after meals; headache; constipation.	18 years.	+	48	No	Hypersecretion of stomach.	Spray with nitrate of silver; intragastric galvanization	Cured after 4 months tr'tm't.	Patient gained over thirty pounds in weight.
6	James O	47	Frequent belching; bad taste; bloated feeling and slight distress in gastric region.	About 3 years.	+	40	Considerable quantity present.	Gastritis chr. alcoholica.	Lavage and spray with nitrate of silver.	Improved.	Patient was a habitual drinker, and improved during abstention from alcohol; soon returned to his old habits and all symptoms returned.
7	Miss Pauline F.	23	Frequent belching; distress in gastric region.	18 mos. .	+	32	No	. . . . .	. . . .	. . . . .	Have seen patient 3 times for diagnostic purposes; do not know further progress of the case.
8	Morris J	46	Frequent belching; distress in epigastrium after meal; occasional diz.; severe headaches.	12 years.	+	28	Present in considerable quantity.	Lues. . .	Spray with nitrate of silver.	Greatly improved.	The attacks of headaches were usually accompanied by a papu. eruption of the skin.
9	Jacob K	50	Slight distress soon after meals; frequently palpitation of heart.	5 years. .	+	26	Present in consid'ble quantity.	. . . . .	Lavage and spray with nitrate of silver.	Greatly improved.	
10	Mrs. H	34	Slight distress soon after meals; occasionally nausea.	7 years. .	+	24	No	Chlorosis.	Spray with nitrate of silver.	Cured . .	
11	Franz B	35	Distress after meals; occasional nausea and vomiting; frequently anorexia.	5 years. .	+	24	No	Pulmonary tuberculosis.	Spray with nitrate of silver; guaiacol carbon.	Temporary relief.	Patient died later from profuse pulmonary hemorrhages.
12	Daniel F.	28	Distress after meals; anorexia; frequently belching; recently vomiting.	3 years and 9 months.	0	4	Present in considerable quantity.	Pulmonary tuberculosis.	Spray with nitrate of silver; guaiacol carbon.	Temporary relief.	When patient first consulted me (latter part of 1894) but a very slight lesion discovered at apex of lung; a month later lung affection made rapid progress, and patient died about 5 mos. later.
13	Mrs. Johanna B.	Abo't 60	Slight distress after meals; occasionally colicky pains, dizziness and diarrhea.	6 years. .	0	Neutral.	No	. . . . .	Fluid ext. of condurango; ferratin.	Improved.	

*The diagnosis of gastric erosions in all the cases mentioned in this table was made after the constant repeated finding of several pieces of gastric mucosa in the wash-water of the stomach.

in the water. This observation was made on several other occasions. The diagnosis of erosions of the stomach was in this way established. He was treated for quite a while by spraying of the stomach with a 1/1000 solution of silver nitrate and by intragastric galvanization, these two methods being employed alternately. To overcome the rumination he was told to endeavor to suppress the regurgitation of food whenever possible. He was also given alkalies—half a teaspoonful of bicarbonate of soda two hours after meals three times daily. After two months' treatment all the symptoms disappeared. Rumination no longer occurred, and in the wash-water of the stomach no particles of mucous membrane could be found. The patient had also gained considerably in weight, and has remained well since.

In April, 1895, Gustav D., 38 years old, was seen. He had been troubled with gastric symptoms for the last five or six years. He chiefly complained of discomfort (or very slight pains) in his epigastric region very soon after having taken food. His appetite was quite poor, and his bowels were either constipated or diarrheic. Vomiting appeared but rarely, more frequently during the summer on days when the patient either was exposed too much to heat or had partaken of coarser articles of food. He had lost about ten pounds, and at times felt quite weak and despondent. Physical examination of the chest and abdominal organs revealed nothing of special interest. There was a very slight tenderness in the gastric region, but no distinct pain on pressure. The splashing sound could be produced, extending to about one finger's width above the navel. The examination of the stomach one hour after Ewald's test-breakfast showed the presence of HCl, with a total acidity of 56. A remarkable feature of this case was the great abundance of mucus found in the stomach. Thus almost half of the chyme obtained after the test-breakfast consisted of pure mucus. The examination of the stomach in the fasting condition showed that the organ was empty; after lavage had been applied, several pieces of gastric mucosa were found in the wash-water. Washings of the stomach in the fasting condition during the following week always revealed the same phenomena: the presence of several particles of gastric mucosa in the wash-water. After treating this patient with gastric lavage, spraying the stomach with a 1 to 2 per 1000 solution of nitrate of silver was employed continuously every other day for about three weeks. At the end of this time the symptoms had greatly subsided, and particles of gastric mucosa no longer appeared in the wash-water.

While in most cases of gastric erosions the local treatment is attended with such good results, I shall describe a case in which the same plan of treatment failed to produce any apparent improvement:

R. H. D., June, 1895, about 58 years old, had been troubled during the last three years with slight pains and uneasiness half an hour to one hour after meals. He had tried different remedies and all kinds of diet, but without avail. The uneasiness appearing after meals prevented him from taking sufficient nourishment, and he had consequently lost a great deal in weight. His bowels were regular, his appetite good, and with the exception of the symptoms just described he felt quite well. Physical examination did not reveal anything abnormal; the gastric region was but slightly painful to pressure. Examination of the stomach one hour after Ewald's test-breakfast showed the presence of free hydrochloric acid and an acidity of 60; no mucus. On washing out the stomach in the fasting condition, from five to six small pieces of gastric mucosa were found in the wash-water. The patient was treated for about a month with spraying of the stomach with a 1/1000 solution of nitrate of silver, alternating with the application of intragastric galvanization, but the small particles of gastric mucosa continued to be found in the wash-water. He was then put on large doses of subnitrate of bismuth (1/2 dram three times daily) and on a diet consisting principally of milk, for about three weeks, but the slight pains did not cease, and the small particles of gastric mucosa were still present in the wash-water of the stomach. The patient left for the country, and after staying there two to three months, the symptoms disappeared. However, I have not examined the stomach by means of lavage, and can not therefore say whether the erosions have really entirely healed.

On the preceding page is a table of the remaining cases that have come under my observation since my first publication on the subject:

Epicrisis: In examining the cases described in detail, as well as those contained in the table, we see that erosions of the stomach are met with in connection with the most varied states of gastric secretion. Thus, in some a normal degree of acidity was found, in others hyperchlorhydria prevailed, while in still others there was either hypochlorhydria or achylia. Two of the cases mentioned in the table are of interest, inasmuch as they were complicated with tuberculosis of the lungs. In fact, in one of these the gastric symptoms were for several months the only complaints of the patient, and no pulmonary lesions could be detected; the latter became more apparent later on, and the patient died half a year after the lung affection became manifest. In this patient achylia gastrica existed, although microscopic examination of the small particles of gastric mucosa showed that gastric glands were present.

In another case (Morris, J.) there was a previous history of syphilis. Here it is worthy of notice that the exacerbations of the gastric and intestinal symptoms were usually accompanied by papulous eruptions of the skin, as if the process of erosions—or exfoliations of patches of mucous membrane within the stomach—corresponded to the external eruption of the skin. Antiluetic treatment was not of much benefit in this patient.

In four cases the symptoms of chronic gastric caarrh with considerable amounts of mucus were present, and it may be rightly inferred that the latter plays a certain part in the etiology of the erosions. With reference to anemia, I mentioned above that his most probably is due rather to the gastric lesion nd the impaired nutrition dependent on it.

With reference to the symptomatology of gastric erosions, the cases here described harmonize with the clinic picture I laid down in my first article. Besides the objective finding of gastric mucosa, there is almost always some distress (or slight pains) soon after the ingestion of food. Frequently a feeling of weakness is met with. Some other symptoms may be encountered, viz.: anorexia, nausea, vomiting, constipation, diarrhea, dizziness—either always present or appearing in attacks. But none of these symptoms is constantly found, nor are they characteristic of this affection, as they are found in the most varied ailments of the stomach.

The treatment consisted in most cases of spraying the stomach with a 1 to 2 per 1000 solution of nitrate of silver; in some, especially in those accompanied with hyperchlorhydria, intragastric galvanization was also administered. The local treatment is almost always followed by good results; in one case only, the one related above in detail, there was no improvement whatever after these remedial procedures, nor did a milk diet and large doses of subnitrate of bismuth effect an amelioration of the condition. An entire rest from business and a prolonged stay in the country finally brought on the desired change. In two of the cases observed no local treatment was applied, as there were other conditions of greater importance which had to be looked to.

The diet should be arranged to correspond with the state of gastric secretion after the general well-known rules. Very coarse articles of food and highly-seasoned dishes should, however, always be avoided.

Lastly, the following points which I suggested in my first article may here be again mentioned: "Cold ablutions, light gymnastics, outdoor life, are to be warmly recommended. Of medicaments, condurango and nux vomica are frequently, and a good, easily assimilated iron preparation always, appropriate."

20 East Sixty-third Street.

AQUEOUS SUPRARENAL EXTRACT.*

ITS SURGICAL AND THERAPEUTIC USES.

BY JOSEPH MULLEN, M.D.
Member American Medical Assn., Oculist and Aurist, St. Joseph's Infirmary, etc.
HOUSTON, TEXAS.

I will not attempt to note and describe the history for the past year of the experimentations, hesitations, and progress of the branches of medicine to which this section is devoted; but rather, instead of dealing in generalities, and a mass of accepted and non-accepted observations, I shall take up just one substance, describe it, note its physiologic action, and especially its local application to diseases and operations of the eye, ear, nose and throat, i. e., the aqueous extract of the suprarenal gland of the sheep.

This preparation, owing to its remarkable local, as well as its constitutional effects, has attracted considerable attention both at home and abroad. Many observations have been made, and many times verified by competent observers, so that the use of the aqueous extract both locally and constitutionally, particularly the former, has long ago passed from the experimental to that of the practical clinic stage. Its field of usefulness has greatly increased within the last eighteen months, so that a few physicians have administered it internally for its constitutional effects, with very gratifying results.

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*Report of Chairman, Section on Ophthalmology, Otology, Rhinology and Laryngology, Texas State Medical Association, April, 1899.

The most surprising thing in reference to the use of the capsule is that so few physicians, comparatively speaking, use it, while those who are familiar with its use would sorely feel the need of it. The extract is dispensed to the profession (Armour & Co., Chicago), in the form of scales resembling pepsin scales in general appearance, but quite brown in color and distinctly animal in odor. It readily absorbs moisture when exposed to the air. It dissolves very quickly in water at the ordinary temperature, making a solution the color of coffee, the shade depending on the strength of the solution. It also undergoes putrefactive changes very quickly unless dissolved in a saturated boric acid, salicylic acid, or carbolic acid solution—one minim to the dram. These substances do not injuriously effect the properties of the suprarenal extract. Dr. W. H. Bates[1] prefers a cold boric acid solution filtered before using. I prefer to use sterilized water to a dram of which one minim of carbolic acid is added, the latter acting as a local anesthetic and mild antiseptic. I never filter, because the process is long, causing a great waste of the extract, and so far as I have observed does not accomplish anything. M. D. Lederman[2] suggests as a stable solution 10 grains of the extract to 1 dram of 25 per cent. glycerin-water-solution, allowing it to stand for forty-eight to fifty-two hours, shaking it occasionally and then filtering through common filtering paper. This gives a light amber-colored solution ready for use. C. L. Vansant[3] recommends the following solution as a preservative: Five grains of the capsule, 11 grains of boric acid and ½ ounce each of camphor water and distilled water, then filter.

Chemic nature.—Prof R. H. Chittendon[4] believes in the existence of two distinct bodies physiologically active, possibly "sphygmogenin," named by Frankel, producing increased blood-pressure, the other paralyzing the heart muscles and causing death from asphyxia. Drs. Corona and Maroni[5] are also of the opinion that there are two active principles in the adrenal gland, owing, they say, to the physiologic effects produced on frogs. In proof of this the experiments of Langlois are of interest. He observed[6] that after daily sublethal doses of the toxins of diphtheria or other pathogenic bacilli were given an animal there occurred after a time a hypertrophy of the suprarenal capsule, apparently an effort of the organism to neutralize the poisons being constantly introduced, and the two active principles are antagonistic in their action.

Muhlmann has extracted pyrocatechin from the suprarenal tissue; strange to say the medullary substance is the only portion of the gland which produces an active extract.

By far the most interesting observations are those upon this subject by Abel and Crawford.[7] Professor Abel isolated the blood-pressure-raising constituent, and classified it as an active sulphate, a pyridine base or alkaloid, demonstrating that it was not pyrocatechin nor a close derivation, as stated by Muhlmann. Dr. Wagner produces a substance which he calls ischemen, and asserts it to be permanent and concentrated.[8]

Physiologic action.—The adrenal capsule is physiologically active, both systematically and locally. Systematically its effects are principally on the circulatory and nervous systems. The intravenous injection of the extract produces an extraordinary rise of blood-pressure, which depends upon the stimulation of the vasoconstrictor nerves, the cerebral centers and ganglia in the blood-vessels.[9]

Dr. Cyon says it also paralyzes the vagus nerve and the cardiac depressors; on the other hand, it stimulates the central and peripheral ends of the accelerators; it momentarily stimulates the pituitary body, producing temporary retardation of the heart-beats. Oliver and Schaler assert the rise in blood-pressure depends on the direct action of the extract on the muscular coats of the blood-vessels, and possibly on the heart also.[10]

From the foregoing its use is at once suggested in cases of sudden cardiac failure or shock. Mankowski[11] has induced chloroform narcosis in fifteen dogs, and after the cessation of the heart and lungs for thirty seconds he injected a solution of the extract into the jugular vein and rescued the animals. Gottlieb[12] administered overwhelming doses of chloral and afterward revived the paralyzed circulation by giving the adrenal extract. Drs. Corona and Maroni[13] say that the red blood-corpuscles are not altered by the extract. Frogs which they injected developed, in twenty-four to forty-eight hours, general paralysis or tetanic convulsions. Given hypodermatically it produces great pain in the heart and chest, and the face becomes livid; respiration slightly affected.[14]

Local action.—When applied to any mucous surface it produces more or less profound ischemia, depending on the strength of the solution and the manner and time of application. Locally applied it is never followed by any constitutional manifestations.[15] The bloodless condition of the mucosa is unmistakably due to the local action of the extract on the vasoconstrictors of the capillaries, constricting them and inducing bleaching of the surface. This remarkable action was first observed by Velich[16] and afterward confirmed by Darrier, Barraud, Dor,[17] Bates and others. It will temporarily produce blanching of an inflamed mucous membrane frequently in degree akin to that of the eye of a cadaver.

No injurious effects to the tissue follow the continuous application, nor is there any danger of contracting a habit, as the action of the adrenal extract is purely local on mucous surfaces, no absorption taking place sufficient to produce any evidence of constitutional effects. The pupil, accommodation, and intraocular tension are in no way affected. It has absolutely no action on the skin, nor does it possess any anesthetic properties wherever applied. Its action is wholly but strongly astringent; hence its efficacy in preventing hemorrhage during an operative procedure on mucous membranes. The depletion is complete. Maurange first recommended it for the prevention of hemorrhage in eye operations. Its local effects are enhanced by a preceding application of cocain or antipyrin[18] solution. When applied locally for either therapeutic or operative purposes, it should always be preceded by a 5 per cent. solution of cocain so as to secure the combined anesthetic and enhanced effects of the cocain and extract. The adrenal capsule has of itself no anesthetic properties, being purely astringent, and then only when applied to mucous surfaces. The astringent action begins in from thirty to forty seconds, and lasts from one-half to three hours, after which interval the mucous membrane returns to its normal condition. The solution of the capsule is not at all irritating, but rather imparts a cooling sensation to the conjunctiva.[19]

In the eye its use is always preceded by the instillation of a 5 per cent. cocain solution; ten minutes afterward the extract is also put in, and in fifteen minutes the surface is ready for operation; when complete anesthesia and ischemia have taken place[20], it seems to heighten its effects, which might be expected from the local use of any drug.[21] As is well known, cocain produces on mucous surfaces a contraction of the capillaries, while the extract of suprarenal capsule increases its action to such an extent that when the tissues are incised no hemorrhage occurs, while without the extract bleeding takes place and the anesthetic effects of cocain pass away with the flow of blood. The action of the suprarenal on the arterioles is further supplemented by contraction of the subconjunctival connective tissue pulling the membrane down upon the sclerotic, preventing, even f the hemorrhage be slight, the extravasation of blood beneath the conjunctiva.

These physiologic effects materially increase the clinic usefulness of the extract. It bleaches the vesels in the pterygium and conjunctiva, making the ine of demarcation between the two quite distinct, solating the former so its removal is readily accomplished. It, however, does not immobilize the tissues o that the suturing becomes difficult. It also greatly essens secondary swelling, and in some unknown manner kindly influences more rapid healing, so that he sutures may be taken out earlier and the parts eturned to their normal condition.[22]

When using the extract for tenotomies, proceed the ame as in removing a pterygium till the capsule of Tenon is reached, then instil more cocain solution, fter which the suprarenal capsule is used as before. n this way repeated testing of the muscle can be made until sufficient has been cut for the purpose ndicated. It is surprising, when proceeding in this manner, to see the ease to the operator and the comort to the patient with which the tenotomy is xtended, and especially is it advantageous as there is ery little hemorrhage or pain.

The swelling after excision of pterygii and tenotomies seems to be milder than when cocain alone is sed, especially when cracked ice is applied to the arts after the operation. When operating on the rainage apparatus of the eye, cocain solution is first istilled into the conjunctival sac, and then a small uantity of the same solution is injected into the lachymal sac and nasal duct. This is followed by a simir instillation and injection of the extract. Fifteen inutes after, the canaliculus can be opened and the ricture of the nasal duct incised. The operation is most bloodless and painless, a decided improvement ver the use of cocain alone.

Its application in removing meibomian cysts is as follows: Interpose between the lid and eyeball a piece cotton saturated with cocain, to be followed by a milar pledget with solution of the adrenal capsule, aving the latter *in situ* for at least ten minutes. When using this drug in nasal work I always prerred to introduce the extract directly into the tissues the galvanic current. Experience has demonstrated is to insure a more prolonged and thorough effect the drug. It may be effectually applied with a ece of cotton saturated with the extract and placed the tissue to be operated on. This former method application intensifies, as well as lengthens, the esthesia and anemia of the combined action of cocain d the suprarenal extract. It furthermore prevents to a decided degree, the secondary swelling, and influences a more kindly healing of the parts. The local use of the suprarenal capsule is not only of service in operations within the nasal chambers, but is of incalculable advantage in combination with cocain, in applications with the galvanocautery, and also where chromic acid is applied to the mucous membrane. The induced anemia of the nasal mucosa permits the cautery to penetrate into the tissues more deeply down to the periosteum. I have used this preparation for over two years in all my nasal operations,[23] and I have yet to see any bad or ill effects follow its use. The extract is extremely serviceable in aborting acute coryza by reducing turgescence of the turbinal tissue, and maintaining this condition until the circulation re-establishes itself either naturally or as the result of atropin, etc. I have also found it extremely serviceable in controlling an acute paroxysm of hay-fever by nasal application. When a pledget of cotton saturated with the solution is interposed between the pressing turbinal and septal tissue, the astringent effect is so intense as to produce a pain in one or more teeth of the same side. This occurs in a goodly number of cases. Ear pain occurs less frequently. Oozing follows a nasal operation some three or four hours, and ceases in several hours. This is the only bleeding I have observed after the use of the suprarenal capsule.

The therapeutic principle on which the physiologic action of the extract of suprarenal capsule depends is the contractile power of the extract on the small arterioles and the basement membrane, thereby retaining in the tissues the cocain, increasing the ischemia and immediately preventing, as the tissues are incised, the hemorrhage occasioned, dissipating the local anesthesia and washing away the absorbed cocain. In operations within the nasal chamber, cocain rarely remains in the tissues longer than the blood, and passes away as the blood flows from the nose. We are also furthermore aware of the embarrassment and delay occasioned by the hemorrhage, which is frequently profuse, obscuring the field of operation, rendering frequent mopping with cotton necessary in order to keep the nasal chambers free from blood and clear for operation and observation.

Major operations within the nasal cavity, which would ordinarily call for the administration of a general anesthetic and entail the danger and inconvenience accompanying its administration, and the tendency to secondary hemorrhage afterward, now become primary. Instead of these drawbacks we are enabled to operate with very little inconvenience to the patient and with far more ease to ourselves, and with no danger at all of being called up at midnight to stop a profuse secondary hemorrhage from the nose. The patient is also relieved from the disagreeable features and dread of inhaling chloroform or ether, and after the operation, is enabled to go home and carry out your instructions intelligently; in other words, the extract reduces a major nasal operation to one of minor importance. I have observed that after the use of the suprarenal capsule extract, healing of the operated parts follows more quickly, and also there is less swelling than when cocain is used alone or when the operation is done under general anesthesia. There is undoubtedly less post-operative swelling than when the extract is not used, and less danger of the secondary hemorrhage that frequently follows nasal operations. We have also failed to observe in cases in which the extract of suprarenal capsule had been used any symptoms of cocain poisoning.

I have never seen the slightest evidence of cocain toxemia. The rationale of this entire absence of the latter, when the extract is used, I am unable to give, but it is unmistakably a fact.[24]

The method of applying the adrenal capsule to the throat is always with a mop, preceding it by cocain solution. In doing operative work in the pharynx I spray or mop the field with cocain, after which I inject Schleich's solution, and then apply the suprarenal capsule. After waiting the required time for the bleaching of the mucous membrane, I proceed.

While it is of some service in removing enlarged tonsils and adenoids; in mitigating pain and controlling hemorrhage, its use can be dispensed with for these purposes as being quite unnecessary with the ordinary means at our command. Inflammations of the pharynx, tonsils, and larynx can be controlled, benefited and frequently aborted by the early use of the capsule extract, especially when used with appropriate treatment.

It is especially serviceable in acute laryngitis, and following the application of cocain I have frequently aborted acute attacks with its assistance. It also prolongs the anesthetic effects of cocain in any painful inflammation of the throat. It is likewise of benefit in those cases of pharyngitis with involvement of, and consequent to occlusion of, the Eustachian tube. It reduces the swollen membrane, permitting easy ingress to the tympanum of medicated vapors, etc. Its use is also grateful in enlargements of the lingual tonsil, either for the application of the cautery, tonsillotome or snare. Its field in diseases of the ear is indeed small, owing altogether to anatomic structure.

Dr. J. H. Thompson[25] writes favorably of its use in cases where granulations protrude through drum perforations and fill the canal and interfere with proper cleaning and medication of the ear. I have used it in acute myringitis with fair results; it is of very little use, as is also cocain, in paracentesis of the drum. Nor does it do any good in furunculosis either in aborting the furuncle or modifying it.

I append the following report of cases to demonstrate the varied operations in which the extract can be beneficially used.

Case 1.—J. F., aged 34, double pterygii, both extending from inner canthi well up on the cornea. Couching done. Operated with cocain and extract; no bleeding; anesthesia quite complete; very little post operative swelling and union by first intention.

Case 2.—Mrs. C., aged 26, had chalazion of the lower lid, and was very nervous. Interposed a small pledget of cotton between the lid and eyeball for five minutes, and then substituted one saturated with the solution of the extract and allowed it to remain ten minutes; complete dissection of cyst; some oozing but no pain.

Case 3.—Mr. A., aged 52 years, had stricture of nasallachrymal canal. He was quite old-looking for his age, and had been treated ineffectually by lavage of the lachrymal sac. I injected the lachrymal sac and canal through the punctum with cocain solution and followed it with a solution of the extract. There was no hemorrhage and only slight pain. A permanent probe was inserted.

Case 4.—Mrs. A., aged 23 years, had acute catarrhal otitis in the left ear, the drum bulging perceptibly. I performed paracentesis after instilling cocain and a solution of the extract. The patient experienced pain, but I think not as much as if cocain only were used. The hemorrhage was as great as if the adrenal had not been used.

I have operated on a number of furuncles with the hope of modifying the pain, but with complete failure for the amelioration of pain during incision.

I use the aqueous extract of the suprarenal capsule exclusively in all nasal operations, and have done so for over two years with the most gratifying results, and I append a few cases which have been elsewhere reported.[26]

Case 1.—In Mrs. P., aged 48 years, diagnosis of inflammatory glaucoma due to pressure of the enlarged anterior end of the middle turbinal of the right chamber.[27] The patient was extremely nervous and dreaded any operative procedure. General anesthesia was out of the question, as she had fatty degeneration of the heart. The hypertrophy was rather large, and occluded the superior and middle meati. A 5 per cent. solution of cocain with two drops of carbolic acid to the ounce of the solution, was introduced into the tissues by cataphoresis. Ten minutes later a five-grains-to the-dram solution of the aqueous extract of suprarenal capsule was also introduced by the same process, and fifteen minutes allowed to intervene before the enlarged end of the turbinate was removed with a cartilage knife without the patient being aware or at all conscious of any pain. The operation was also completed without any hemorrhage. The patient was ordered to apply ice externally for three or four hours. There was practically no secondary swelling and absolutely no secondary hemorrhage. The patient recovered from the glaucomatous attack.

Case 2.—Mrs. N., aged 23 years, had catarrhal inflammation of the ethmoidal sinuses, a condition existing for eight months and associated with very severe frontal and supraorbital neuralgia. Her general system was very much depressed, and she had almost reached a state of neurasthenia, being extremely nervous, very irritable, and with almost complete loss of appetite. A resection of the anterior end of the middle turbinate bone was decided on in order to secure thorough and constant drainage of the ethmoidal cells after exploration of the cavity. The same method of application was used as in Case 1, but not, however, using cataphoresis, as the patient was operated on at home and not in my office. The resection of the anterior end of each middle turbinal was done a week apart, and in neither instance was there any hemorrhage, but slight oozing during or after the operation, and but very little pain. The ethmoidal cells were also opened at the same sitting, with local anesthesia, and the former drained, washed out and packed with iodoform gauze. The patient made an uneventful and rapid recovery from the operations.

Case 3.—Mrs. C., aged 26 years, had reflex nasal cough dependent on pressure of the middle turbinal bone on the septum nasi. Her general health was fair, rather nervous neurotic temperament and somewhat anemic. The anterior end of the middle turbinate was also resected in this case for the relief of the cough of which she complained. The suprarenal extract was used as in Case 2. There was slightly more pain than in either of the two previous operations, possibly due to the exquisitely painful condition of the parts from the pressure having been exerted for at least ten days. There wa also some slight oozing of blood from the nose for four or five hours after the operation. The removal of the turbinate effected complete cure of the reflex nasal cough.

Case 4.—Mr. A. S. K., aged 21 years, had supraorbital neuralgia of the left side. He had suffered more or less constantl from the pain since his fifth year, the neuralgic attacks bein worse in damp and low countries and in rainy weather, an being better in high altitudes and during the dry season The condition was due to the rather large septal spur nea the posterior one third of the middle turbinate bone on th left side. He has always enjoyed good health and lives principally an out door life. The combined solution of cocain an the suprarenal extract was applied in this case by the aid o cataphoresis. There was slight hemorrhage (oozing) severa hours after the operation, but he suffered no pain while th septal spur was being removed. Result, cure of neuralgia.

Case 5.—Mr. D., aged 29 years, had occlusion of the righ nasal passage dependent upon deflection of the nasal septum Cocain and the suprarenal capsule solutions were used as i former cases, with the difference however, of being allowed t remain a longer time in contact with the nasal mucous membrane. In operating, the nasal punch was used, and the septum was completely broken up and softened in its deflecte portion. This was followed by practically no hemorrhage, bu the patient experienced considerable pain, only, however, ju for a second while the punch penetrated the cartilaginou septum. The operation was followed by desirable results.

Case 6.—H. J., aged 10 years, had aural neuralgia, found be due to nasal spur and hypertrophic rhinitis of the rig nasal cavity. The cocain and suprarenal capsule were appli as formerly, and the nasal spur removed, as well as a sma bunch of turbinate hypertrophic tissue. The removal of the was accomplished without any hemorrhage and only slight pain, to which the little patient did not offer marked objection. The result was the entire disappearance of the aural neuralgia.

The post-nasal space, fauces, pharynx and larynx offer an excellent field for the use of the extract, particularly in the many hypertrophies encountered in these regions. Its application can not be made so prolonged and direct to the parts as in the nasal chambers, but sufficiently so to utilize its remarkable astringent effect, locking the cocain in the tissues and preventing hemorrhage. I shall report a few of the operations done with the extract in these cavities.

Case 1.—Miss D., aged 24 years, had elongation of uvula. She had a dry, tickling cough for five months. The redundant mucous membrane was amputated without pain or bleeding and very little secondary swelling.

Case 2.—G. S., aged 10 years, had hypertrophied pharyngeal tonsils. Cocain solution, 4 per cent., was applied to the tonsils, fauces and pharynx, followed by suprarenal extract. Both tonsils were removed with only slight pain and moderate bleeding.

Case 3.—Mrs. F., aged 42 years, had enlarged lingual tonsil, which was removed with the lingual tonsillotome; no pain nor hemorrhage.

Mrs. J. R. S., aged 55 years, had adhesion of left posterior pillar of the fauces to the posterior wall of the pharynx. There was also a large mass of cicatricial tissue filling up the lateral wall of the pharynx. Cocain was topically applied, and the extract solution, after which I injected Schleich's anesthetic solution in different portions of the pillar and cicatricial mass. The operation was almost bloodless and painless. These two advantages modified the difficulty of the operation and saved considerable time, rendering my work comparatively easy. Francis J. Quinlan[29] reported, before the New York Academy of Medicine, the removal of a fibroma of the nasopharynx by means of the cold snare, under the local influence of cocain and suprarenal extract, without exciting bleeding.

I have reported only this small series of cases, hoping they will illustrate and demonstrate the many forms of operative procedures in which the use of the adrenal extract is of undoubted utility, and also wishing you will pardon deflection from the custom of my predecessors. The extract then increases the anesthesia of cocain; with cocain it produces ischemia of the mucous membranes; it also in some way modifies operative swelling; it materially enhances rapid healing of the parts. I have never seen any evidence of cocain toxemia when the extract had been used.

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THE GIANT MAGNET.*

ITS USE IN THE REMOVAL OF FOREIGN BODIES FROM THE INTERIOR OF THE EYE.

BY WILLIAM A. FISHER, M.D.
Professor of Ophthalmology and President of the Faculty, Chicago Eye, Ear, Nose and Throat College; Attending Surgeon Illinois Charitable Eye and Ear Infirmary.
CHICAGO.

Cases have been recorded in which pieces of iron or steel have been tolerated in the eye for a considerable length of time, some being encysted and remaining quiet, but they are so rare that we can not attach any weight to them regarding prognosis or treatment. We must assume that a foreign body in the interior of the eye is sure of its destruction, if left alone, and, in all probability, of causing sympathetic inflammation and loss of the fellow eye. The removal of the foreign body, however, will by no means insure the saving of the eye. A foreign body, when extracted, may be so large and the destruction so great as to insure loss of the eye. In such cases enucleation should be done at once. The foreign body may also be very small and yet cause complete destruction of the eye. In any case of a foreign body in the eye we must remove the offending substance if we hope to save the organ. Most foreign bodies enter the eye through the cornea and cause the lens to become opaque. Assuming that foreign bodies must be removed, if in the interior of the eye, in order to save any vision, or the globe itself, we look for the best way of removing them. The literature is full of reports of magnet operations; much good has come from the small magnet, and it is indispensable in some cases. The Haab magnet has its place, but we must often use the small magnet in connection with it. When we have a piece of iron or steel in the anterior chamber, the small magnet will do us good service, and the operation is a simple one. The Haab magnet's principal mission should be to get the foreign body into the anterior chamber, when it can be removed with the small magnet.

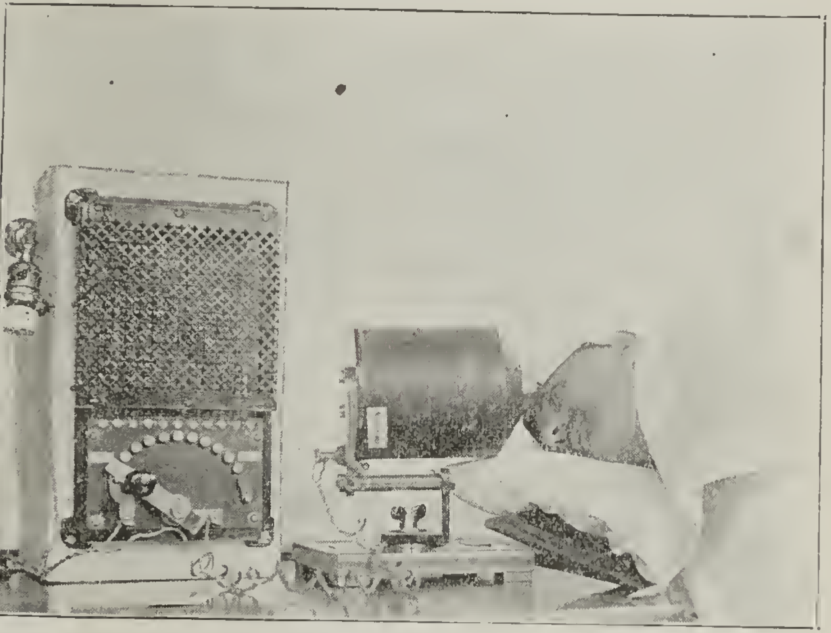

Fig. 1.—Position of patient and magnet for operation.

I exhibit this giant magnet to-night, not to show the brilliant results I have had with it, but to correct an erroneous idea that some of my confrères have of it and its workings. I have had the same ideas and came by them honestly, for I can not see how anyone can have a correct idea of the workings of this magnet from what has been written. Like many things not common in the market, too much is expected of it. We have reports of operations with the Haab magnet that are startling, and one would think that the only thing necessary to record a brilliant operation would be a patient with a piece of metal in the eye and a Haab magnet that we could place close to the patient, touch the button, and remove the piece of metal from the magnet. In fact, we have a report of two cases where the magnet was successful in removing metal from the interior of the eye where the eye and the magnet were separated two inches from each other. In these two cases the patient was slowly moved toward the magnet, and when the eye was separated two inches from the magnet, the metal flew from the eye to the magnet. I can not say that such magnets have never been made, but the ones now on the market have no such power. If they had that much attraction and no rheostat, I would not like to subject one of my patients to such a force. From all accounts that I can find of this magnet, they must have originally been made without a rheostat. In the description of its use we are told to place the patient in an operating-chair which is freely movable in all directions, then gradually approach the magnet with the patient. No such thing is necessary with this magnet. We place our patient in a comfortable position in an operating-chair, or on an operating-table, arranging the magnet and patient so the tip of the magnet will be in the line along which you expect to draw the foreign body. When all is ready and the tip of the magnet is in contact with the cocainized eye, we gradually turn on the current. By having a rheostat no more force need be used than just enough to attract the foreign body.

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*Read before the Chicago Ophthalmological and Otological Society, April 9, 1899.

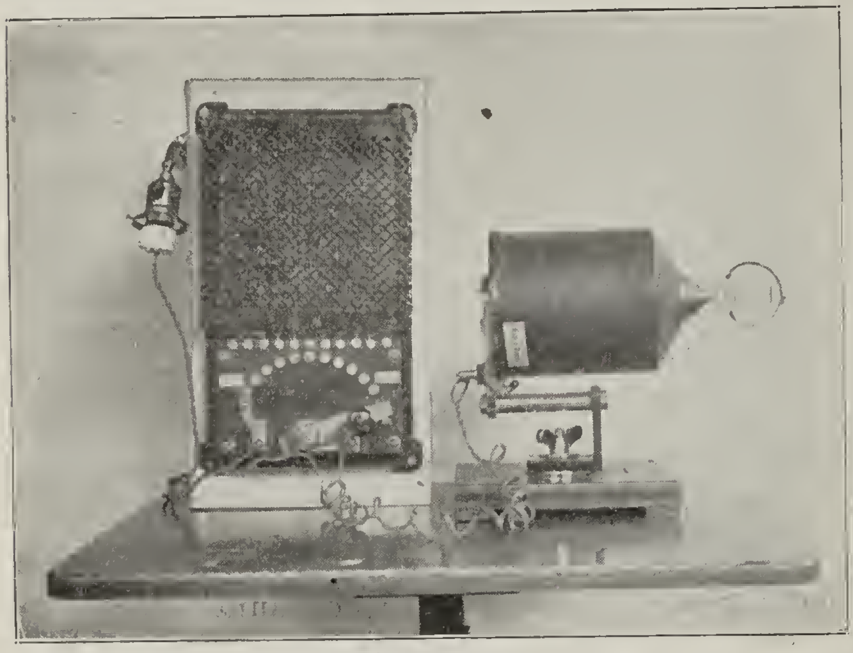

Figure 2.

Many think the magnet impracticable if the metal in the eye happened, as is often the case, to be a long piece of iron or steel, and lying crosswise to the magnet. (Fig. 2.) In such cases the attraction of the magnet might draw the foreign body crosswise through the eye and force it into the tissues and make extraction impossible. The first motion a piece of iron or steel would make that was lying crosswise in the eye would be to turn itself and the point of the metal would approach the magnet. (Fig. 3.) If we insert a long piece of iron or steel crosswise in the posterior part of a rabbit's eye, place the tip of the magnet against the eye opposite the metal, and gradually turn on the current till we make the metal approach the magnet, we find the metal not crosswise, but the point of the long piece of metal attached to the magnet. In using this magnet we do not adhere to the rules as they are given us, for here we have a rheostat and the ones described must have been made without a rheostat. We place the patient and magnet in position, then touch the tip of the magnet to the cocainized eye before using any electricity. If the metal entered the eye back of the lens, we should, if possible, enlarge the opening and put the oval tip of the magnet into the opening and gradually turn on the current. If successful, we should find the metal adhering to the magnet. If we fail the first time, we can turn off the current, and quickly turn on and off, and in this way dislodge the metal. If we can not find the original opening, there is no objection to making an opening in the sclera back of the lens. If we succeed in removing the metal in this manner, we are less liable to destroy the vitreous than we would be if we introduced a small magnet into the vitreous, especially if we introduced it more than one time, or in more than one direction, as we usually do. If the foreign body is removed in this manner, the vitreous is not churned up, but a tract made in its entrance and another in its exit. There is certainly no objection to using the Haab magnet for diagnostic purposes, providing we are prepared to remove the foreign body, if we find one. The only objection that has been registered against using this magnet for diagnosis is that we might dislodge the foreign body. If the only objection we can find is dislodgment of the foreign body, then I prefer dislodging and removing it.

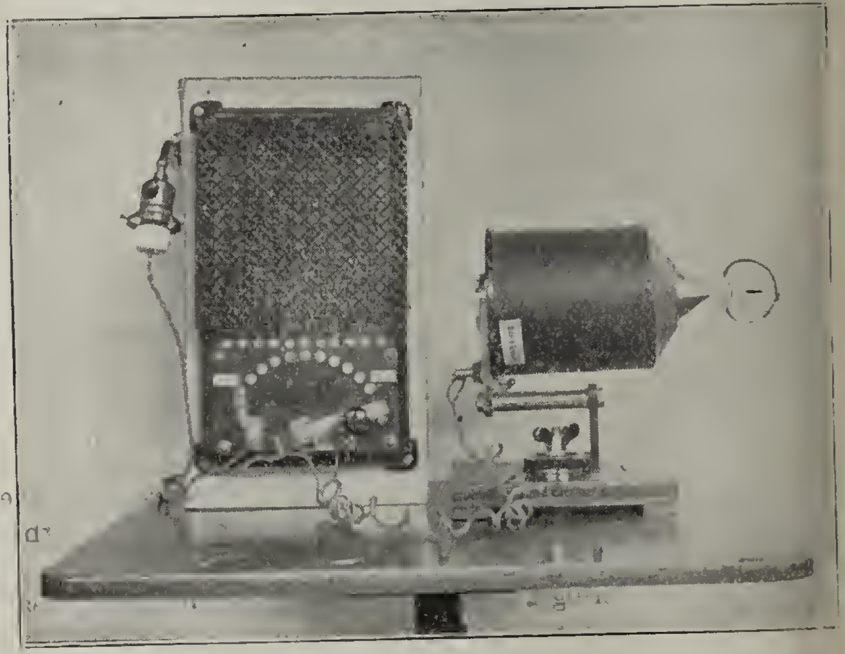

Figure 3.

If we suspect a foreign body in the eye and the lens is clear, we would not think of applying the tip of the magnet to the cornea, for we might injure a sound lens. If we have a clear lens we apply the tip of the magnet to the sclera behind the ciliary body. If we dislodge the metal we find the sclera adhering to the magnet. In such a case, make an opening in the sclera, and extract the foreign body. If the lens is opaque, I can not see any objection to using the magnet for diagnosis, and placing the magnet in contac with the cornea. If no metal be found, no harm can come from the use of the magnet. In such cases dilate the pupil and cocainize the eye, place the tip o the magnet in contact with the cornea at the sclerocorneal junction, then gradually move the rheostat til the iris bulges forward. Now turn off the current, and place the tip of the magnet in position to draw the metal through the pupil into the anterior chamber. When the metal is in the anterior chamber the operation is a simple one. Make an incision over the foreign body with a Graefe knife or a keratome, and extract with a small magnet. In operating with the giant magnet we should have a non-magnetic eye speculum and fixation forceps. If we operate through the sclera, we should have two non-magnetic retractors to hold the wound in the conjunctiva open.

Choice of anesthetics must be left to the behavior of the patient. Cocain will be sufficient in most cases. All magnets of this kind should have a rheostat, and the magnet should touch the eye before applying any electricity. The rheostat should always be moved slowly in order not to use any more force than is necessary.

DISCUSSION.

Dr. **Henry Gradle**—I wish to cite the case of a young girl who had a chip of iron enter the sclerocorneal junction, penetrating through the lens. She came to me a few hours after the injury with a large rent in the lens capsule the external wound still open. I immediately made an iridectomy, extracted the lens, entered a small magnet, but could not get the foreign body. Cyclitis set in. A few days later, partly for diagnostic purposes and partly with the vain hope of accomplishing something, I placed her against the field pole of a ten-horse power motor, not differing very much in strength from this large magnet. She felt nothing. On bringing the eye in contact with it there was no visible change, but on enucleating a few days later the chip of iron was found displaced in such a way that I attributed its displacement to the application of the magnet. The foreign body was found in a position which it could not have reached by following a straight path or by subsequently sinking.

Dr. **William H. Wilder**—It seems like inflicting unnecessary injury on the eye to draw a piece of steel forward, then around the lens, possibly injuring the posterior capsule, then through the suspensory ligament, making a rent in it, and then, in addition, running the risk of tearing the iris for the purpose of bringing the foreign body into the anterior chamber. I really can not see the rationale of having the foreign body make such a wide excursion with imminent risk of wounding important structures of the eye, when it is positively demonstrated that it is in the vitreous chamber.

Dr. **Ware**—I think we can determine very largely where the foreign body is located by the pain that it causes to the patient, by the impact of the foreign body against the eye toward the magnet. It strikes me that in an eye that is already inflamed and sensitive it would be difficult for a patient to localize the exact spot where the pain is.

Dr. **Fisher** (closing the discussion)—In regard to the statement of Dr. Wilder, of wounding important structures in extracting a foreign body with this magnet, it is not necessary to use enough force to cause serious injury to any of the important ocular structures, particularly when we have a rheostat to regulate the current. He spoke of drawing the foreign body hrough the posterior capsule. I stated in my paper that this hould not be done unless the lens was already opaque. A forign body can not be drawn through the lens, but by using nough force to draw it through the zonula one can see the iris bulge, then turning off the current, turning the magnet around, and coaxing the foreign body into the anterior chamber. In his way very little or no damage is done. Haab, who has probably extracted more foreign bodies with this instrument han anyone, uses the same method which I have demonstrated o-night. Reasonable care must be exercised in doing this opration, and not enough force should be used to injure importnt structures of the eye.

ACUTE OBSTRUCTION OF THE BOWELS.*

BY FLOYD WILCOX McRAE, M.D.,

Professor of Gastro-Intestinal, Rectal, and Clinical Surgery, Atlanta College of Physicians and Surgeons; Surgeon to Grady Hospital; President Medical Association of Georgia.
ATLANTA, GA.

I shall deal with acute obstruction of the bowels from a surgical standpoint, for I am convinced that the few cases which recover without operative interference but emphasize its importance. The results of operations for the relief of the various conditions that produce obstruction are all the while improving. These results, however, are not what they should be. The mortality is too great. When physicians come to a full realization of the importance of prompt and active interference, when they become willing to call immediate surgical aid, then will the mortality be reduced still further. So long as we are content to leave the cases to nature, and content ourselves with pumping our patients full of water or air, and giving them all sorts of drastic purgatives, just so long will we send more and more of these unfortunate victims to untimely graves. These are dangerous agents, and as a rule, they only serve to intensify the condition, produce greater shock, and an earlier demise.

Carefully prepared statistics show that less than 25 per cent. of these cases are amenable to medical treatment. Shall we, then, in the face of such statistics, confronted with such a mortality, persistently employ medical measures for four, five, six, eight, ten days, or longer, hoping for the improbable, but simply hastening the inevitable? It is only necessary to appreciate correctly the causes of acute obstruction to be convinced of the utter futility of medical treatment in any but exceptional instances.

By comparing acute obstruction from intra-abdominal causes with like conditions due to strangulation of an external hernia, a better understanding is had.

Leaving out individual idiosyncrasies, the pictures presented by the two conditions are almost identic. This is notably true of the internal herniæ, whether the hernia be into the duodeno-jejunal, pericecal, or intersigmoid fossa, or through the foramen of Winslow, slits in the omentum or mesentery, or underneath bands of adhesions or diverticulæ. While hernia of the diaphragm is a parietal hernia, it is really an internal hernia, and should be so classed. Kinking of an intestine, volvulus, foreign bodies, gall-stones, enteroliths, tumors within the intestinal wall, strictures, pressure from intra-abdominal growths, enteritis, peritonitis, or appendicitis, may cause an acute obstruction. Intussusception is also a frequent cause of obstruction, but typic cases present such a clear-cut picture as to make the diagnosis easy and positive. We must not be led into the error of looking for the characteristic symptoms of intussusception in the other forms of obstruction.

There is one cardinal symptom of all the varieties of acute obstruction; that is, failure to get a passage of either feces or gas. The lower bowels may be emptied by enemata, but it is impossible to get a through action. There is usually sharp pain, accompanied with nausea, vomiting, and not infrequently, marked signs of shock. These symptoms may be intermittent, or progressively increase to stercoraceous vomiting and profound collapse. The temperature in the beginning is normal or subnormal. When the obstruction is due to or associated with inflammatory conditions, there is elevation of temperature. The pulse is usually increased in frequency, but diminished in volume and force. The facies abdominalis is frequently well marked. The skin is at first cool and pale, then moist, later bathed in perspiration. The clinic picture is the exact analogue of a strangulated external hernia, minus a visible tumor.

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*Read before the Medical Association of Georgia, Macon, April 20, 1898.

Intussusception presents the additional symptoms of a sausage-like tumor in the abdomen, small mucous or bloody mucous stools, and occasionally the head of the invaginated gut may be felt per rectum.

The diagnosis of obstruction is comparatively easy; a correct differential diagnosis, quite difficult. A history of appendicitis, typhoid fever, laparotomy, or abdominal traumatism would naturally lead one to suspect strangulation by adhesions or by a band of organized lymph; of occasional short, sharp attacks of pain, associated with nausea and vomiting, followed by sudden and complete relief, hernia into one of the normal peritoneal fossæ. The location of the pain, tenderness on pressure and muscular tension, are also of some value. Increased peristalsis of visible coils of intestine and local meteorism are of diagnostic importance in cases seen early, before there is general distension. It is not only of great importance to make an early diagnosis of obstruction, but to locate the obstruction as well.

The increased peristalsis of visible coils of intestine which uniformly stops at the same place would naturally lead to the conclusion that the obstruction was near that location, and while this sign is of more importance in chronic obstruction, it is also of value in acute obstruction. The determining the location of the obstruction is very helpful in arriving at a definite diagnosis. Valuable time should not, however, be wasted in trying to make diagnoses that are often impossible. The pathology of acute obstruction is of very great interest. The shock, the nausea, the vomiting, and the manifold and grave symptoms produced by acute obstruction of the bowels can not be accounted for by the simple constriction of the lumen of the gut. In most cases a profound impression is made at once upon the sympathetic nerves and carried by them to the great abdominal brain. Changes take place in the intestinal wall, and also in the intestinal contents, very rapidly. The micro-organisms, many of which are under ordinary conditions saprophytic, become under these conditions, dangerously pathogenic Fermentation takes place rapidly, and ptomains are formed within the intestines; these produce irritation and pathologic secretion, and this combined influence still further poisons the local tissues, and by absorption and transmission, the entire nervous system. The intestinal wall, that in its normal state prevents the passage of micro-organisms into the surrounding tissues, becomes disorganized, and allows them ready passage into the peritoneal cavity, the liver, spleen, etc. In cases seen late it is often impossible to differentiate between obstruction and a beginning peritonitis from other causes.

The treatment of no condition more thoroughly tests a surgeon's skill and judgment than does that of acute obstruction of the bowels. The surgeon who operates for the relief of obstruction should be prepared to deal with any one or more of its various causes. He must have at hand the necessary mechanic aids, and have his head and hand trained to meet intelligently and treat skilfully whatever he may find. Acute strangulation by a Meckel's diverticulum is frequently mistaken for appendicitis. Surgeons of note and large experience in abdominal work have several times made this mistake. They have diagnosed appendicitis, and operated for it, when the trouble was of an altogether different character, requiring an entirely different procedure for its relief.

The method of dealing with the obstruction will depend largely upon its character, as well as upon the length of time intervening between the onset of the disease and the resort to surgical interference. Early operations are simpler, and promise much better results than do late ones. It is such a simple measure to break up adhesions or bands that may be causing obstruction, to deliver an incarcerated intestine from one of the peritoneal fossæ, or to release it from the embrace of a Meckel's diverticulum when the operation is undertaken early, and the results of these early operations are so gratifying, that one would hardly seem justified in resorting to the more dangerous and far less effectual medical measures. An intussusception can be dealt with more safely, more scientifically, and with greater facility, intraperitoneally than it can per orum or per rectum. The intussusception can be reduced, if reduction is possible, or where it is not, an immediate resection may be done while there is a fair chance of success. If the lower bowel is distended with water or air it is always a question whether the pressure will be exerted upon the intussusceptum or wasted upon the healthy bowel. Even where the full force is brought to bear upon the condition, it is the exceptional case that is relieved. Nor are these procedures free from danger. The intestinal wall rapidly becomes thinned and weakened, and has been ruptured by very moderate pressure. Three feet of hydraulic pressure has caused rupture of the infantile intestine. It is impossible to estimate correctly the amount of pressure which the weakened, incarcerated intestine will bear, and it is therefore unscientific and dangerous to have recourse to these methods, unless one is prepared to go ahead and operate if relief is not immediate and complete. A careful study of the statistics of successful operative cases shows that the best results have been obtained in the late cases by the establishment of an artificial anus, either temporary or permanent. Mr. Treves has shown very clearly in a recent paper published in the London *Lancet*, why this is so. He has shown that it is simply a further exemplification of the great principle of drainage. The intestine is filled with the most poisonous material. Its walls are thinned and distended with gas, and it is incapable of resuming its normal functions, even though the obstruction be removed. The establishment of an artificial anus, even though the obstruction remain untouched, allows the escape of this dangerous pent-up material, and permits the intestine to assume more normal conditions. Sometimes, and not infrequently, nature thus aided, completes the cure. When this happy result does not take place, the surgeon may undertake further operative procedures under far more favorable conditions than could possibly have obtained at the time of the primary operation. It is often a question with the surgeon as to whether he will allow the affected gut to remain, or do a resection. Where the gut, after being released, rapidly resumes its normal color, and where it has not lost its gloss, there is no question about leaving it intact. But where the circulation returns very slowly, leaving discolored and abnormal looking patches, and where the peritoneal covering has completely lost its luster, the intestine should be watched carefully for some time, and if there is not constant improvement, it should be at least anchored to the abdominal opening, so as to be readily accessible in case of a breaking down. Where the gut presents a gangrenous appearance, where it is completely denuded of its peritoneum, and where there is practically no return of circulation after removing the constriction, then a resection should be done, when the conditions are favorable; or an artificial anus established in the more desperate cases. When resection of the bowel is done, the resected ends may be united by simple suture, or by the intervention of one of the mechanic aids. Mr. Treves claims in the paper above referred to that sixteen years ago he used a collapsible rubber bag practically identical with that recently introduced to the profession by Dr. Halsted, but that his experience with the instrument demonstrated its worthlessness. Where time is an important element, as it always is more or less in these operations, an end-to-end anastomosis with the Murphy button can be done in a very few minutes. The Murphy button to date has given better results, and has been more largely used, than any other mechanic device. The LaPlace intestinal anastomosis forceps, however, are even more ingenious than the Murphy button, and the operation may be done almost as quickly as with the Murphy button, and without the disadvantages of pressure necrosis and its consequent dangers, even though remote they be, or the leaving of a foreign body within the intestine. Theoretically, this instrument seems to be a decided step forward, and it has been used very successfully, both on the lower animals, and on human beings. A Meckel's diverticulum should be cut off, and the resulting opening in the intestine closed in the usual way. Obstruction due to general peritonitis does not offer very much to the surgeon. Without operation, however, the condition is absolutely hopeless. Where the cases are seen early, and the general condition permits of operative interference at all, brilliant and gratifying results may be obtained. The faithful, conscientious surgeon will not withhold his helpful hand in desperate cases for the sake of his statistics. Each life thus saved is as a brand snatched from the burning, and is a surgical triumph far-reaching in its consequence.

631½ Whitehall Street.

PHYSIOLOGIC RHYTHMS.

THE PRACTICAL VALUE OF THEIR RECOGNITION IN TREATMENT OF FUNCTIONAL NEUROSES.

BY WILLIAM LEE HOWARD, M.D.
BALTIMORE, MD.

All the normal rhythms are physiologic, are the expression of organic activity, but there are many which are gross exaggerations in their intensity, and some unphysiologic in their morbid expression; but rhythms, diurnal, weekly or monthly, which demonstrate an alteration in either the psychic or physiologic conditions, and as such, must be studied and utilized when treating psychic or functional disturbances.

Every living cell, and the multifarious resultant products and ultimate complete organizations due to the activity of cells are controlled, governed and developed through rhythmic action. Sunlight and darkness, the ebb and flow of tides, the regularity of the seasons, the periods of growth and decline, activity and rest, fecundation and sterility, exaltation and depression, nutrition and decay have a law of regularity and alteration fixed and immutable. These coarser variations in the rhythms which are a part of our environment are duly acknowledged, and our habits adapted accordingly.

The nutritive variations in individuals are as sundry as the numerous vocations, habits, environments and hereditary influences which contribute to make up the human social fabric. The central nervous system is particularly sensitive to nutritive changes and irregularity. A faulty or undeveloped gland disturbing the nutritive conditions under which the neuron normally responds, will destroy the harmonic action of the entire nervous system. Daily food rhythms are organically based, but habits, customs, social or business demands oftentimes ignore the periodic necessity of recognizing them, and the result is some form of nervous revolt, which can only be quieted by a prompt and absolute obeisance to the neglected claim of a somatic regularity.

All rhythms depend on variations in the stimuli, and changes in the physiologic condition of the system will produce these varying stimuli. Hence, if there is a slight disturbance in the normal physiologic habit, it will often only be demonstrated in an altered rhythm, which altered rhythm may so disturb the psychic centers as to culminate in one of the distressing and annoying functional neuroses.

All cells, in order to preserve function and complete their cycle of activity, must be constantly stimulated. It is a normal necessary process. Food is a stimulant and does the least harm to the elements, as these elements are undergoing a constant and regular disintegration which nothing can prevent. In studying neurasthenics it is generally found that through some occupation, habits, or social demands, the normal nutritive rhythm has been disturbed, and the regular physiologic demand for its stimulant food is demonstrated by fainting attacks, extreme weakness, pallor, cold perspiration, rapid, weak pulse and a sense of general nervousness, although the patients will say they have eaten heartily, though irregularly. These individuals will be found to be somewhat hungry during these attacks, for they are really suffering from exhaustion due to lack of nourishment. This absence of nutriment is the result of neglecting the regularity of the human system, and although food has been forced into the stomach, it has been passed along the intestine undigested, and the weakness, the nervous depression, is partly due to autointoxication through faulty metabolism and non-assimilation. Such cases are often seen among newspaper writers, society persons and actors, all those whose lives and occupation are distinctly antithetic to physiologic periods of rest and activity, nutrition and decay. Fortunately, man's nervous system is so pliable, so adaptive, that changes in habits will bring about certain variations in organic activity, so that the man of nocturnal habits will have his diurnal rhythms reversed but regular. Only will this fortunate condition prevail as long as man recognizes that he must obey the physiologic rhythms, and that his nights are physiologic days, and days physiologic nights, and not attempt to force upon nature the third habit of crepuscular conviviality.

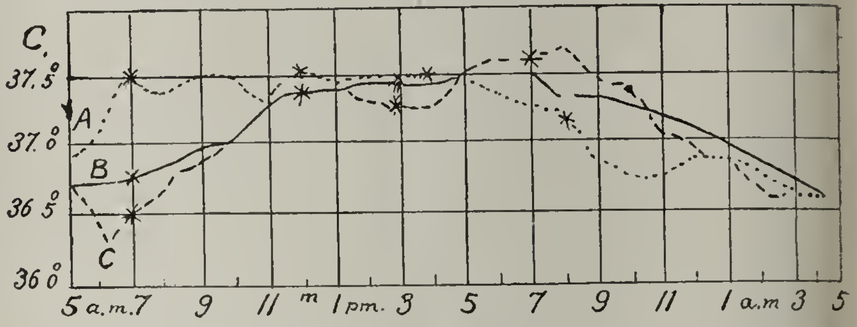
It is too often the inability to recognize these facts that leads to alcoholism and drug habituation in brain workers of the night. There are many such workers who will have regularly, diurnally, a sense of feeling uncomfortable, "nervous," unstable, irritable. These individuals have disturbed the normal rhythm of their system, but do not recognize the fact. Such persons will resort to stimulants for temporary relief, thereby aggravating the cause, and from temporary relief the conditions soon demand a habit; and what could have been at the commencement physiologically adjusted, is now a psychic and somatic wreck wallowing between the banks of drug empiricism on one side and disheartened and pessimistic periods of perversity on the other.[1] When the normal rhythms have been disturbed and interrupted, any attempt to restore the physiologic norm by means of drugs is useless and unscientific. As Donaldson[2] says: "The real difficulty in properly utilizing the rhythms produced by drugs depends on the fact that while the normal rhythms involve a mutually dependent variation in several systems, the drugs tend to have an unequal action, and are highly selective as to the system which they affect. Thus a physiologic reaction which, to be normal, demands a subdivision of labor is assigned in too large a measure to one system which, being unsupported by its neighbors, ultimately suffers harm."

Illustrative of the importance of recognizing the diurnal rhythmic disturbance is the following case:

P. L., a man 35 years of age, whose occupation had always been that of a newspaper writer, began to have a disturbed, distressed, unstable, restless period about four o'clock in the afternoon. This was first noticed about five years ago, and had gradually increased in its intensity. His hours were the reverse of the normal hours for activity in man. He went to work about seven o'clock in the evening and finished about three o'clock in the morning. His habits were careless, not reckless. He generally slept until about 11 A.M., at which time he felt rested and refreshed. He had noticed that the increasing restlessness was sadly interfering with his mental work, and with an intellectual perturbation which worried him came the necessity of stimulation. A resort to stimulants first became a relief, then a habit, and then a necessity. This latter condition only aggravated the nervous tension until he was unable to go through his night work without frequent stimulation. He ardently desired relief from his baneful necessity, but dreaded with horror those distressing hours about 4 or 5 P.M. Several times he had passed over these distressing hours without any artificial assistance, and afterward felt well and strong, and throughout the night had no desire for stimulants or necessity for their aid. He felt certain if he could pass over this veritable *faire le diable a quatre*, if he could avoid the anticipation of the depressed feeling, he would be mentally free and physiologically independent of extraneous aids.

His daily life, the periods of rest and activity, the variations in nutrition, were just the reverse of the normal state, so it was not surprising to find the analogue of the morning lowered vitality about four o'clock in the afternoon. If he wished to prevent a state of chronic alcoholism he must, he felt certain, avoid these horrible hours, these irresistible periods of depression, which were constantly and forcibly increasing in intensity through the added irritation of alcoholic stimulants. Other diurnal rhythms appeared to have adapted themselves to his mode of life.

He was directed to come to me about three o'clock daily, or before he felt any symptoms of the depression, and I then had him eat lightly of beef and eggs and drink several glasses of milk. With the ingestion of food was associated suggestion, both in the hypnotic and waking state. In this manner the dreaded hours were safely and pleasantly passed over and the association habit of alcoholic relief, which would have soon merged into the genesis of a fixed habit, and from this fixed habit to a pathologic state, was fortunately interrupted, and the continuity of morbid expectancy successfully broken.



- - - - Temperature curves showing the regular variations during the twenty-four hours. * indicates a meal; ——— B, and - - - - C. Jürgensen; A . . . . Jäger. (From Landois.) In the two curves most similar the body temperature is highest about 7 P.M., lowest about 4 A.M.

Any external stimuli, any change in the fixed habits of life, or variation in the normal growth and decay period of daily existence, tends toward an unstable equilibrium of the whole nervous system, and exposes a rich neurotic soil on which are soon planted formations of morbid associations, which associations by repetition gradually, but persistently, grow into uncontrollable habits that can scarcely be distinguished from pathologic states.

In the successful treatment of neurasthenia or of dipsomania, morphinomania and allied drug habits, a thorough interpretation of physiologic processes is absolutely necessary. The factors which cause a daily increase in body weight, along with its accompanying regular rhythm in body temperature, the onset of fatigue at different though fixed hours of the day, and the lessened ability to work, especially mentally, during these ebbing rhythms, must be taken into thoughtful consideration in treating disturbed nervous states and habit neuroses.

There are certain sensitive individuals, individuals of a pronounced nervous instability, who are ever the constant victims of the sway of impulse and the license of passion. These unfortunate persons have their psychic natures disturbed by declining atmospheric pressure, high temperatures and dark gloomy days, but they are benefited by suggestion, sleep, food and increasing atmospheric pressure.[3] All these facts only accentuate the effect external stimuli have on the general nervous system, and the effectiveness with which voluntary impulses act on the centers of the spinal cord. "The so-called automatic actions of the nervous system are but a series of responses to stimuli more or less marked" (Donaldson). As Lombard has shown, even the intensity of the knee-jerk greatly depends on the general condition of the body and the time of day. We know from numerous experiments that reaction-time, both simple and complex, is longest in the afternoon and shortest in either the morning or the early evening.[4]

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[1] "Pathologic Impulse to Drink—Alcohol as a Secondary Factor in Dipsomania," William Lee Howard, Medicine, February and March, 1898.

[2] The Growth of the Brain, Donaldson.

[3] "The Physiology of Strength and Endurance." Popular Science Monthly, June, 1898, William Lee Howard.

[4] Ostanikow and Gran: Neurolog. Centralbl., 1893.

There are a large number of external stimuli which have more or less influence in disturbing physiologic processes and so directly affect the nervous system, which it is necessary to constantly bear in mind. The influence in the monthly rhythm in women has long been recognized, as well as the periods of fertility and menopause, and their analogues in man, adolescence, virility and senile impotence; but there are other rhythms, those of the atmosphere and temperature, spoken of above, which have a great influence on certain neurotic temperaments and on those whose biologic adjustment has been faulty.

The regular increase of crime against property in winter is only an indirect result, through the social and economic influences of temperature, but the increase of crimes of passion and indecent assaults during the months and years when the temperature is highest is the direct effect of the temperature.[5] The crime of rape is most numerous in June and least so in November.[6] We are all acquainted with patients whose biologic conditions are such that they offer the feeblest resistance to diurnal variations. The presence of the sun or its absence exerts a marked influence on the physical and psychic organism of certain individuals. This class of barometric individuals exhibits at night a relatively unequilibrated, emotional and restless condition associated with lessened mental inhibition. Such changing states caused the alienist of old to attribute nocturnal intensification of insane symptoms to the coincident appearance of the moon, which there is no reason to believe has ever any other influence on insane patients than that of a sensorial stimulus of a mild and customary kind (Kellogg).

A consideration of the above facts will enable one to see how dependent the habits and actions of man are upon environment and the conditions which are necessary factors in keeping this physical world in a position to support sentient beings.

We too often treat the nervous system as an isolated independent entity and forget that it is one of several, mutually dependent on each other for their common existence, which common existence is controlled to a great extent by external forces and stimuli, over which we have no guidance or rein, but to which we must ever bear a listening attitude and respectful submission.

CURE OF INTERNAL HEMORRHOIDS.

BY JAMES A. GARDNER, M.D.
BUFFALO, N. Y.

Undoubtedly there have been sufficient schemes advanced to cure internal hemorrhoids to rival in number the so-called "cures" of cancer. The trouble is so annoying and painful that the poor sufferer, trying each, turns from one to another and finally throws all aside as useless. The treatment of internal hemorrhoids divides itself into two classes, medical and surgical.

As regards the medical treatment, as a rule the patient has taken his druggist's advice and used all the different "cures" he has in stock, and finding no relief here he goes through the list advertised in the newspaper. He then turns to the physician. By this time the pathologic condition is such that the soothing ointment of his doctor does but little good. In the majority of cases, if the patient presented himself during the earlier stages, proper application of ichthyol would reduce the inflammation and effect a cure. Most remedies contain opium and belladonna, whether advertised as such or not, and therefore give but temporary relief. Oftentimes, when a patient consults the physician, there is some reason why there can not be surgical interference. If the tumor protrudes, it must be replaced as soon as possible, the pain being most severe with the tumor outside of the sphincter. The congestion may be reduced by cold applications, cold sitz baths or chopped ice. Following this the tumor should be well lubricated with olive-oil and then gently pushed back in place. Occasionally it is impossible to do this and an anesthetic must be used, and once the spasm of the sphincter having been removed it is, as a rule, a simple matter to replace it. This is but temporary relief, and at the next movement of the bowels the tumor will probably return. Astringents, cold applications, with rest in the prone position, are now in order. The cold application is best made by injection; this not only contracts the blood-vessels but will also render fecal matter of such consistency that it will irritate the inflamed surface but little. This treatment does not have the extended use it should. Cold water enemas are by all means the best palliative measure.

When piles become troublesome and detrimental to health, either from their tendency to bleed or prolapse, surgical treatment is the only course to pursue in a majority of cases, as affording a complete and permanent cure. Before advising an operation, make sure that the hemorrhoids are not caused by some disorder higher up, stricture of the bowel, cancer, disease of uterus or bladder, enlarged prostate or cirrhosis of liver. Hemorrhoids of pregnancy rarely need surgical interference. A number of methods have been advanced for the cure: 1. Electrolysis. 2. Nitric acid. 3. Dilatation of sphincter. 4. Crushing. 5. Whitehead's operation. 6. Injection of carbolic acid. 7. Clamp and cautery. 8. Ligature.

Of these it may be said that the first four methods enumerated are but very little used to-day. A man whose hobby is electricity will use electrolysis. Those who are rather timid will use the second and third method. The fourth method, which is not that of up-to-date surgery in the first place, has the very serious objection of liability of secondary hemorrhage. The fifth method gives an excellent result if successful, but unfortunately statistics show many failures. The sixth method is advocated by many physicians because it does not lay the patient up, but the course of treatment is long and tedious, extending over many weeks. This method consists of a 25 per cent. solution of carbolic acid in glycerin and water. Four minims are injected, with a hypodermic syringe, into the center of the pile, and may have to be repeated on several occasions. If care is not used, sloughing and ulcers will result. Usually but little pain follows.

We now have left the two most popular methods, each of which has many advocates. Those in favor of clamp and cautery contend there is not the danger from hemorrhage, nor the after-pain; the operation can be performed with more dispatch than by the ligature method. On the other hand, the advocates of the ligature method believe the simple ligature is easier handled than the cumbersome clamp. If properly applied there is no danger of slipping and therefore no hemorrhage. The cautery needs the whole attention of one assistant and often will not work at the moment it is needed. The slough which follows is longer in healing than with the ligature method, where the mucous membrane may be partially drawn over the top of the stump with fine silk, leaving but little raw surface.

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[5] Criminal Sociology, Ferri, 1898.

[6] Des attentants a la Pudeur sur les Petites filles. P. Bernard, Thèse de Lyon, 1886.

In their technic both operations resemble each other in a great many points. The patient having been properly prepared, and anesthetized and placed in the lithotomy position, the surgeon dilates the sphincter slowly but so completely that it will not regain its tone for two or three days. A soft sponge with string attached is then passed into the rectum above the site of operation to prevent descent of any fecal matter that preceding enemas may not have brought away. Now each pile is in turn seized with a tenaculum and pulled out from the wall to make it more prominent. The mucous membrance at its base is dissected away with curved scissors. If the clamp is the method preferred, it is now applied, the blade being transverse to the axis of the gut and fitted into the dissected surface at the base, then screwed up and that portion of the tumor outside of the clamp excised. The raw surface is seared with the cautery, at dull red heat, and the clamp slowly removed.

In the ligature method a double ligature of catgut is passed through the base of the pile and each half is tied separately; the pendent portion is then removed with scissors. Care must be taken here not to cut so close to the ligature that it will afterward slip. With fine silk the mucous membrane may now be drawn over the stump as much as possible. Each pile is taken in turn, whether by clamp or ligature, after which, the sponge having been removed, the surface is dusted with some of the numerous dusting powders; modoformol seems to have given the best results in my hands. An opium suppository now being inserted, a pyramid dressing of gauze is applied, held in place by a T-bandage. After-treatment consists of opiates in addition to the suppository, when necessary, for twelve hours. Catheterization is necessary as a rule. The bowels should be kept quiet for three days and an enema of olive-oil given preceding the movement.

149 Franklin St.

FIFTY-ONE MASTOID CASES. *

FIFTY OPERATIONS, INCLUDING FOUR BRAIN ABSCESSES AND ONE PERFORATION OF THE SIGMOID SINUS.

BY D. MILTON GREENE, M.D.

Eye, Ear, Nose and Throat Surgeon to U. B. A. Hospital and Holland Home for the Aged; Lecturer to U. B. A. Training School for Nurses.

GRAND RAPIDS, MICH.

For convenience and to prevent the necessity of giving in detail the histories of a long list of cases, which would add no interest to this report, I have divided the fifty-one mastoid operations into two classes. Class one includes those which presented nothing unusual for cases of suppurative mastoiditis. Class two includes all cases not included in class one.

In class one are thirty-six operations. Of these, twenty-four followed acute suppurative otitis media. Only twelve had chronic suppurative otitis. The operations were all performed with chisel and mallet. In six cases an opening was made from the antrum into the tympanum. In only five was there swelling over the mastoid process, two of which were in children aged eighteen months and two years respectively. All had a temperature ranging from 99 to 104, and all recovered. In thirty-one the diagnosis was made from the quantity and persistency of the aural discharge, temperature, chills, pain, and especially the swelling and protrusion at the upper and posterior wall of the tympanum and auditory canal. This class, therefore, presents nothing of special interest, except the fact that a diagnosis was made in each case, operation performed, and pus found in the cells and antra with the exception of three cases. In the cases where pus was not found, the cells and antra were intensely congested, and I believe the operations were beneficial by their depleting effect on the parts, thereby cutting short the inflammatory process. No damage was done by the operation in any case.

In class two there are fifteen cases, each of which presents points of special interest. This includes one patient not operated on, who died, and autopsy was made confirming the diagnosis.

Case 37.—Mr. D., aged 48, gave a history of chronic aural discharge by spells for thirty years, from his left ear; swelling in temporal region for several weeks, extending mostly above and anterior to the ear; temperature 102; pulse 100. There was evidence of pus formation, though the swelling was tense and no fluctuation. I incised the swelling and found a hole in the skull communicating with an extradural abscess located in the middle fossa. The abscess cavity was thoroughly curretted and drained and the case recovered.

Case 38.—Miss B. had chronic aural discharge which had resisted years of treatment. She took cold from a draught of air on the side of her affected ear, had chills, pain over mastoid and in ear, and temperature ranging from 99 to 102; no external swelling, edema nor redness over mastoid; tympanic walls at posterior superior portion swollen. The membranes of the auditory canal at the upper and back part were swollen and inflamed. Operation, on fifth day. revealed pus in the mastoid antrum, which was freely opened and scraped. A week later a retropharyngeal abscess formed, marked by a severe chill and temperature of 105, and when opened discharged a half ounce of pus. The patient recovered in six weeks.

Case 39.—J. S., aged 38, had pain in the left temple extending from the ear forward over the face and brow. This continued for about three weeks. He had no discharge from the ear, but his wife said he had some several years before. He improved after the first week and went to work for several days, when he was again obliged to quit work and take to his bed. At the end of three weeks from the time he was taken, he began to be delirious by spells. When asked a question he would try to answer it, but would always say something other than an answer, as for instance: "Mary" (his wife's) or some other familiar name.

A brain specialist was called, and advised the family physician and family to call me to see if he might not have some ear trouble, which had given rise to the temporal pain. When I called I found him as stated above, but also with his left eye turned outward, pupils quite large though reacting to light, temperature 98, pulse 50. I could not get a good view with the ophthalmoscope, on account of his restlessness and struggles to get out of bed, but there was choked disc to some extent; bowels constipated. He had vomited some for three days whenever he drank water. He took no food, was quite emaciated but strong. Pus was seen behind the drumhead, which was slightly inflamed in Shrapnel's membrane, and there was a little offensive pus in the auditory canal. There was no local swelling or signs of any kind over the mastoid, and no motor paralysis excepting of the internal rectus. He had difficulty in standing, with tendency to fall to the left. He was anxious and excited, grasping for the bed-clothes constantly and was determined to lie on his back or left side, constantly turning his face to the right as though hunting for something on that side.

I diagnosticated brain abscess. As the brain specialist believed no abscess existed and told the family so, stating that if I thought there was I could operate, but must take all responsibilities, I opened the mastoid and found about a dram of greenish pus. I then extended the scalp incision upward and backward three inches exposing the skull an inch above and one inch back of the temporo-parietal suture. With a three-quarter-inch trephine I opened the skull an inch and a half above and an inch back of the external auditory meatus. There was no pulsation felt in the brain. With an aspirating needle on a hypodermic syringe I drew off a half-dram of pus. I then opened the membranes and incised the cerebral substance to the depth of about half an inch and evacuated two or three ounces of greenish pus, intensely offensive. The operation lasted but a few minutes, and the cavity was packed with iodoform gauze and the patient put to bed. There was considerable hemorrhage from the pia mater and capillaries of the scalp and bone; pulse was weak and rapid. The patient recovered from the anesthetic (chloroform) without vomiting. Operation was performed at 2 P.M., and at 8 P.M. he was perfectly conscious, answered questions, rose up in bed, took a tumbler of water in his hand and drank. Twenty-four hours after the operation the pulse ran up to 170 and temperature to 105, with all the symptoms of meningitis. He died forty-four hours after operation.

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* Read before the Western Ophthalmologic Association, Feb. 10, 1899.

Case 40.—Mr. A., aged 33, had earache nine months ago, followed by profuse purulent discharge which has continued in spite of all treatment. There were no external mastoid signs, but swelling at the posterior superior tympanic wall, and membrana tympani was half destroyed; ossicles necrotic. I removed the ossicles in April, but the discharge continued, so in July I opened the mastoid, which contained pus and softened bone. He recovered with the formation of a new drum membrane, which had been entirely removed in the first operation; has good hearing for the voice, in the operated ear, but not for a watch; had facial paralysis, from which he recovered in two months.

Case 41.—Miss J., aged 9, had earache, followed by purulent discharge from the left ear for about four years. On examination I saw a dark body in the auditory canal and tympanum, removed it and found it to be hard coal. When and how it got in the ear no one knows. The ossicles were necrotic, so I removed them. Discharge finally ceased for a time, but soon recurred. After fruitless efforts with months of treatment, I opened the mastoid, found the cells soft and full of pus, curetted, and the case made a rapid recovery. She too had facial paralysis, from which she recovered in six weeks.

Case 42.—Mr. V. V., aged 19, called at my office on account of a profuse discharge from his right ear, and especially because he was unable to open his mouth. He had no pain. There was some swelling below the tip of the mastoid. The auditory canal, near the drumhead, and the back wall of the tympanum were swollen and red. Pus was profusely pouring from the ear, so that the auditory canal would fill in ten minutes. He complained of feeling dizzy when he attempted to stand. I operated as soon as he could be prepared, and made in the soft parts, in addition to the regular section for mastoid operation, an incision obliquely upward and backward so as to get free access to the mastoid. On opening through the external plate the cells were found to be entirely destroyed by the suppurative process, and the whole mastoid process was full of pus. On attempting to scrape it out, the inner plate was found to be soft, and readily broke down over an area three-fourths of an inch by one inch, evacuating thereby an extradural abscess containing about an ounce of pus. The sigmoid sinus was in plain view for fully one inch. The tympanum was entered by chiseling away the wall between it and the mastoid, from the opening in the latter. The case made an uninterrupted recovery, and in three months he had good hearing in the ear operated upon.

Case 43.—Mr. W., aged 37, had discharge of pus from right ear for fifteen years. Temperature was normal. He had been reated much, and never cured, but had no pain. After three months' treatment, without benefit, I removed the ossicles and leaned out all soft tissue from the tympanum. Pus continued o flow in considerable quantity and opening the mastoid was dvised. After due preparation an incision was made above nd behind the attachment of the auricle down to the tip of he mastoid, the lining of the auditory canal was removed as far back as the drum membrane and the ear lifted from its position. The cells and antrum were opened and found full of pus and softened bone. In removing the softened and necrotic bone the facial nerve was necessarily injured, causing facial paralysis, which yet remains. The bone was so extensively diseased that by its removal at the roof of the antrum and tympanum the dura was exposed to the extent of one-half by three-fourths of an inch. The recovery was somewhat slow, but he left the hospital in six weeks. He has been able to follow his business as foreman in a factory ever since, and has no discharge from his ear.

Case 44.—Mrs. M., aged 42, had partial deafness in both ears for years, but no earache or discharge. She had la grippe followed by pain in, and discharge of pus from, the left ear, and swelling over the mastoid. I opened the mastoid antrum, and found no pus, but intense congestion. Improvement followed operation. Temperature, which was 102 to 104 before the operation, never rose above 100, until an abscess formed in the neck, when it reached 102. The abscess was opened and she recovered promptly.

The interesting point in this case is that she recovered with perfect hearing in the operated ear, but the other (right) ear, while improved to some extent by the after-treatment, has the hearing much impaired.

Case 45.—February 21, I was called to see Miss H., 24 years of age, who had been suffering with pain in both ears for twenty-four hours. I found both drum membranes inflamed and bulging from accumulation of bloody serum in the tympanum, temperature 101 and pulse 100. No cause could be assigned for the ear trouble. The left ear being the worst, I punctured the membrana tympani and a bloody serum flowed freely. I was again called in a few hours and opened the other drumhead with like effect. There was extreme congestion in both ears, and though the pain was relieved for the time, it soon returned in both ears. I ordered leeches and morphin to relieve the pain, and next day the temperature ranged from 98.9 to 99. The next four days temperature was below 99 and pain continued intermittent and pus was flowing from both ears. The fifth day the temperature rose to 101, and she complained of deep-seated pain in both ears and extreme sense of pressure. Leeches had been applied. I ordered blisters over the mastoids which filled well.

On the sixth day I had counsel with several physicians, and, all symptoms being aggravated, opened the mastoid on the left side in the usual way, and found the cells and antrum full of lymph and blood and some small deposits of pus. I opened from the antrum into the middle ear through the bony wall, then made a Wilde's incision on the right side. Pain was relieved on the operated side, but continued on the right.

At the operation we noticed, just in front of the tragus, a red spot as large as a 25-cent piece, surrounding a recent leech-bite, but thought it nothing serious. At night, to my surprise, it had spread to the size of three inches in diameter, extending over the cheek and eye, and we had a case of erysipelas which spread over the face, head, neck, and in a few days had extended down the back as far as the last dorsal vertebra, but had not attacked the wounds over the mastoids, which were made within a portion of skin which had been blistered by cantharides. As the patient was delirious and seemed to be growing worse, and the erysipelatous process was steadily going on, not having been checked by carbolic acid, subcutaneous injections of boric acid, etc., I circumscribed it by cantharideal collodion. This was suggested by the fact that though the whole head was enveloped by erysipelas, the mastoids which had been blistered escaped. This treatment cut short the spread of erysipelas, and the inflammation never went beyond the blister, which extended in a line over the breast and back, encircling the whole body. In a few days the erysipelas was entirely cured. At the end of thirty days she still had severe pain in her neck and arm and some in the right ear; pulse 100 and temperature 101.4.

The symptoms caused by erysipelas had made it impossible for me to judge what part of her fever, delirium and pain was due to the ear and mastoid, and what part to the erysipelas; but as her temperature was above 101 and erysipelas cured, with pus flowing from her right ear, with swelling at the upper back part of the typanum bulging forward and downward, I opened the mastoid and evacuated two or three drams of pus, and the pain was relieved. From this time she went on to complete recovery. I removed a small sequestrum of necrotic bone from the wound in the left mastoid during this time. She was completely deaf in both ears before the operation, we being obliged to write what we said to her, but the ear first operated was soon restored to hearing, while the hearing in the other ear is still defective. She had facial paralysis, from which she recovered.

If I had such a case again I should open the mastoid on both sides at the time of the first operation.

Case 46.—Baby N., aged 3 years, had extreme swelling in the region of the right ear, which existed for a week, when the family physician called me to see it. I made a free incision and evacuated a large quantity of pus, and ordered that it be kept drained and cleaned by irrigation.

I was surprised, a year later, to learn from the father that the wound was still open and discharging pus, but otherwise the child was perfectly well. I advised an examination, but before they got around to see me again a piece of necrotic bone of considerable size was expelled and the wound healed rapidly.

Case 47.—Baby B., aged 18 months, was taken with fever and was ill for a week, when the father, who was a physician, noticed swelling in the neck and mastoid region. There was and had been no discharge from the ear. I incised the mastoid coverings freely and evacuated four or five drams of pus, and the case recovered rapidly, without discharge from the ear ever taking place.

Case 48.—Mr. T., age 40, had suffered from chills and fever for three weeks when he came under my observation on account of a profuse and offensive discharge from his left ear. There had been suppurative otitis in the left ear for twelve years. The pulse was 60, temperature 99, pupils normal and no choked disc. He was intensely nervous and restless, and had not slept for several days. The mastoid was opened and pus found in the cells and antrum. The roof of the tympanum was soft, and was scraped away, leaving the dura over that portion of the temporal lobe exposed. As there was no pulsation to be felt in the brain I passed an aspirating needle in and found an abscess in the temporal lobe, containing an ounce of pus. The cavity was reached by opening the dura and the abscess seemed to be walled off. A drainage-tube was inserted after thorough irrigation, and the case went on to recovery.

Case 49.—Mrs. W., age 42, had acute otitis media with frequent chills. The pulse ranged from 90 to 120. She had not much pain after the first few days, but at the end of about seven days had a severe chill and temperature of 105. Soon after this she had metastatic abscesses form in her legs; they continued to form and she had frequent severe chills followed by high temperature, which would again go down to 99 and remain so until after another chill. An early diagnosis of mastoid suppuration was made and an operation refused.

Later a diagnosis of perforation of the sigmoid sinus was made, but no operation was allowed. She died at the end of seven weeks. Autopsy confirmed the diagnosis, the antrum and cells being full of pus, and the sigmoid sinus filled with pus and clot.

Case 50.—M. W., aged 6, had scarlet fever, and, toward the end of the disease, severe suppurative otitis media supervened and she became entirely deaf. The discharge continued profusely and she had chills with a temperature ranging as high as 105.

I was called and diagnosed mastoid complication and advised operation. After a week's delay, and when she was growing weaker, then being but a mere skeleton, the family wanted an operation. Both ears were equally affected. I opened both mastoids at the same operation and evacuated a quantity of pus. The temperature went down to 100 the next day and only once did it reach 102, when the drainage had become imperfect. She made a good recovery after several weeks. As she was totally deaf before the operation as a result of the scarlet fever and extension of the inflammation to the labyrinth, she is still deaf.

Case 51.—L. V., aged 26, was taken with pain in his left ear, and had swelling around the ear and temple extending finally to his neck, jaw and face. Later a retropharyngeal abscess developed and the swelling on the outside extended along the large vessels down to the clavicle. The abscess in the throat broke and discharged pus. At the end of three weeks, an abscess developed on the left side at the angle of the eighth rib, which was incised and discharged several ounces of pus. At the end of five weeks I was called to see the case, and found an abscess over the heart which encroached upon the left chest. Pus was distinctly seen behind the drum membrane.

Three days before I saw him he had a severe chill and since the day after the chill had been unable to utter but one word, which he repeated whenever asked a question or if he wished to call attention; that word was "no." The pupils were large, but the right larger than the left. They reacted promptly to light. There was no choked disc, and no paralysis. I diagnosticated involvement of the mastoid, mediastinal abscess and brain abscess at the angle of the fissure of Sylvius, above the fork. The next day the mastoid and tympanum were opened and pus evacuated. The abscess over the heart was incised; it contained fully a quart of pus. The patient suffered no shock from the operation and improved for a few days. I insisted upon opening the skull, but was unable to get the consent of the family until the patient became paralyzed in the face, arm and leg of the right side; then, five weeks after the first operation, I opened the skull and verified the diagnosis by evacuating three ounces of pus from a brain abscess.[1]

As for the particular form of operation adopted in the cases herein reported, I would say that no hard and fast rule can be laid down for mastoid operations. I usually perforate the cells and antrum with a large-sized hollow chisel, in the depression one-quarter to one-half inch back of the auditory canal. If pus is found, and it is deemed necessary, I proceed from this opening to remove as much of the bone as necessary, always bearing in mind the important anatomic structures. It would be useless for me to enter into the technic of mastoid operations, for that is thoroughly covered in other papers and in text-books.

METHODS OF PREVENTION IN SMALLPOX.*

BY SOLON R. TOWNE, A.M., M.D.

OMAHA, NEB.

In the face of the conditions existing in various parts of the country this past winter this theme was chosen for a clear statement of methods and to form a subject for discussion. No new principle is to be presented. We have only to trust to four well-established agencies, namely, diagnosis, quarantine, vaccination and disinfection.

An early and positive diagnosis in an individual case of variola is not always possible. Anders, in his last edition, declares that "This difficulty is sufficient occasionally to test the skill of the most astute diagnostician, and the sooner this fact is understood and appreciated the better it will be, not only for the public, but for the profession as well."

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[1] A full report of this case will be given in a paper before the Section on Surgery and Ophthalmology, American Medical Association, at Columbus in June.

*Read before the Medical Society of the Missouri Valley, St. Joseph. Mo., March 16, 1899.

Most cases, however, are quite readily recognized by the four days of prodromal pain and tenderness in head, loins and limbs, a temperature of 103 to 106 F. that quite disappears on or before the fourth day, when a papular eruption on the forehead and hands begins. Giddiness is rarely absent. A preliminary rash may have occurred, but without the coryza and cough of measles, though with pain and later the papular eruption not found in either measles or scarlatina. But confusion is much more frequent between varicella and that which to many people, and even to some physicians, seems an impossibility—mild variola; such an ancient bugbear has smallpox become—thanks to Jenner. Right at this point, however, a correct diagnosis becomes a prominent factor in prevention, and it behooves every physician to keep clearly in mind the diagnostic differences, but in any uncertainty to be on the safe side, and give the public the benefit of the doubt by establishing quarantine at once. One angry man is more easily appeased than an enraged public.

Following are some diagnostic points presented somewhat after Anders:

HISTORY.

VARIOLA.	VARICELLA.
1. No previous attack.	1. No previous attack.
2. Case in vicinity.	2. Case in vicinity.
3. Not vaccinated.	3. Negative.
4. At any age.	4. Rare in adults; almost always in children.
5. Prodroma four days; rash third day.	5. Prodroma not over one day.
6. Mild in childhood.	

ERUPTION.

VARIOLA.	VARICELLA.
1. First forehead, then hands and feet, moving regularly over body.	1. On trunk—later face—not regular in motion.
2. Vesicles uniform—deep.	2. Superficial, vesicles vary—ellipsoidal.
3. Vesicles—serum, then pus.	3. Serum only.
4. Most on forehead, hands and ankles.	4. Most on back and lower extremities.
5. Stages distant from each other.	5. Papules, vesicles, scales together.
6. Multicellular.	6. Unicellular, collapse readily.
7. On palms and soles, under nails; blood in vesicle.	7. No blood, vesicles superficial.
8. Fever prodromal, then absent till septic symptoms.	8. Fever not secondary.

The time element is a valuable diagnostic point, as seen by the following scheme.[1]

	Incubation.	To eruption.	Eruption to end of fever.	Infection period.
Variola	12 days. 10 to 15	3 days. 2 to 5	14 days.	56 days.
Varioloid.	12 days. 7 to 14	2 days. 1 to 4	14 days.	20 to 56 days.
Varicella	12 days. 4 to 5	1 day.	5 to 7 days.	

Quarantine is a necessity. Choose an isolated room in an isolated house, the room to be inexpensively furnished in both furniture and clothing, and with a single case in the community, with few exposed, there need be no general vaccination, but the isolation must be perfect, even at the expense of night-and-day watch that can be trusted, as absolutely nothing should be removed from the building but under the strictest antiseptic precautions; house to be plainly carded "Smallpox."

In considerable epidemics an isolation hospital is required, and any city of 50,000 can not afford at any time to be without such an institution in some inexpensive form; also detention rooms for the exposed and suspects, where they may be held for sixteen days, awaiting developments. All public gatherings should be prohibited, and this should apply to schools, even when the cases are few. Medical attendance, food and fuel for the needy or the day laborer should be provided by the public.

In a large majority of instances, however, vaccination is demanded, especially of all exposed persons, and on first suspicion of the existence of variola, confirming the diagnosis afterward. When a considerable number are exposed, and certainly, if secondary cases do appear, general vaccination is the only quick, sure, safe and inexpensive method of securing immunity and stamping out this disease. All courts, in case of an epidemic, sustain the school board in closing the schools to all pupils not freshly immune.

Vaccination should be done aseptically, somewhat as follows: Clean an area the size of the palm, with alcohol upon clean cotton. This removes most of the cuticle and the commingling fat and dirt, and is likely to also destroy remaining bacteria, but will not remain to destroy the virus. Scarify, with an aseptic sewing needle, a space rather less than half an inch in diameter, barely touching the capillaries that may ooze very slightly from the skin when upon the stretch; apply glycerinated lymph with any aseptic instrument, scorched toothpick or heated probe, rubbing thoroughly into the skin, this being an essential point to insure implanting the virus in exposed persons. Protect the surface with cotton held at the edge by collodion. Great care is needed to prevent reinfection. Boiled gauze may be given the case, to be kept carefully clean, this with cotton, as a protection against injury. A bow of ribbon or some sign worn on the sleeve is a protection against injury.

This care is recommended, since a bad arm in a community prejudices everybody against vaccination, especially when smallpox is mild. In epidemics, vaccination should be free to schools and the poor. We have been so well protected that our laws are lax and will be so until State boards can thoroughly educate us to the necessity of vaccination. Infants should always be vaccinated by the second May of their life; again at high-school age, and again whenever liable to exposure afterward; at least every five years.

No physician needs proof of the protective power of vaccination. In a list of 185 cases recently seen, only 9 persons had ever been vaccinated. Four of these had an aborted variola, four very mild; only one having the average type. One had the abortive type, having had variola in the sixties. In twenty-two families the unvaccinated only had the disease, the vaccinated escaping; whereas, no unvaccinated one escaped when exposure was considerable. I believe frequent revaccination will stamp out the disease. The aborted cases had marked early symptoms, but the papule did not develop to a vesicle, and in ten days the skin was smooth.

Disinfection should not occur until all diseased surfaces are smooth and until the palm and sole are clear of crusts and scales, these surfaces being the latest to recover in most cases. All clothing not easily cleaned by boiling, such as comforts, mattresses, feather beds and outside suits, should be burned; except possibly in cities having a steam apparatus. After closing the room and sealing cracks, etc., if sulphur is to be burned, at least five pounds per 1000 cubic feet should be used; only after all surfaces have been exposed to steam for two hours. The room should be closed for at least twelve hours. A more rapid processs—and from Chicago reports quite as effectual a one—is the use of formaldehyde or 40 per cent. solution of formalin, some five ounces to 1000 cubic feet, by the sheet method. The sheet method is better than the use of a lamp, as the gas accumulates much more rapidly, and the larger the amount at a given time the better the result. Pathogenic bacteria are killed when buried one, two or even four inches in a mattress. The Chicago method was with "wash-bottle" with rubber bag. I have found an "atomizer" used by horticulturists to work admirably. No tests have been made.

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[1] Rules of Ontario Board of Health.

All persons on leaving quarantine should take a hot soapy bath with corrosive sublimate, 1 to 500, and this should be generally attended to by an inspector, that it be complete and thorough.

After the gas disinfection, a carpet should usually be removed, and all surfaces, certainly where dust might settle, be well scrubbed with a hot suds with bichlorid, 1 to 500. Pets should never be allowed in the sick-room, nor be allowed freedom about an infected house. The physician should exercise great care. Most do keep themselves vaccinated and their families as well.

In visiting contagious cases we should wear a mackintosh and a skull cap, avoid sitting, or touching things in the sick-room especially, and should brush over exposed surfaces of persons and clothing with some disinfectant on leaving the sick-room. This should be done at least for reputation of carefulness and for its effect on the community, thus practicing what we preach.

TYPHOID FEVER IN CHILDREN.

BY FREDERICK R. STARR, M.D.
INSTRUCTOR DISEASES OF CHILDREN, UNIVERSITY OF CALIFORNIA.
SAN FRANCISCO, CAL.

Etiology.—Typhoid fever is rare under two years of age, although cases have been reported of a seven-months fetus and of infants eight and eleven days, four and eight months, in all of which cases were found post-mortem evidences rendering the diagnosis conclusive. How rare these cases are may be learned from the fact that out of 2000 autopsies at the New York Foundling Asylum, the great majority being upon children under two years of age, not a single case of typhoid was discovered, nor is there clinical record of a single case having occurred in that institution for twenty years. After the second year typhoid is much less rare; it is not of frequent occurrence until after the fifth year, when it is quite common, not, however, assuming the adult phase until after the tenth year.

It is an interesting fact that the bacillus has been but rarely found in the typhoid lesions in children under two years of age. The apparent infrequency of typhoid infection of children through the agency of milk may be partly explained by the fact that in many cases the milk taken by young children has previously been boiled. The incubation period is between five days and three weeks.

The lesions found most frequently in children are an acute swollen condition of Peyer's patches and the solitary follicles in the small intestine, the solitary follicles in the large intestine, the mesenteric glands, and the spleen, which is also softer than usual. There are also found, but much more rarely than in adults, ulcers, superficial and deep, and perforations, the latter exceedingly rare, at least before the age of six or eight years. Degenerative changes in the heart, kidneys and liver are much less frequent as well as less severe than in adults.

Symptoms.—It is to be remembered that the onset is often much more rapid in children, also that the clinic picture is much more indefinite. The cardinal symptoms are: epistaxis, tympanites, the characteristic temperature, the rose spots and the enlargement of the spleen. Other symptoms are: headache, more or less persistent, vomiting, loss of appetite, the dry, glazed tongue, the peculiar facial expression and the low, muttering delirium.

To take them more in detail:

Nose bleed is not found with any regularity.

The condition of the bowels varies.

Tympanites is a fairly constant symptom and sometimes quite severe; constipation and diarrhea are found in about an equal number of cases, except in very young children, where constipation predominates. Diarrhea is rarely excessive, and the stools, though frequently containing mucus, are not often characteristically typhoidal; it is sometimes accompanied by abdominal tenderness and gurgling in the right iliac fossa.

The rose spots are found less frequently, less in number, and are not so characteristic as in adults; they are absent in nearly 50 per cent. of the cases. They are found about the beginning of the second week and remain about seven days.

The spleen will usually be found to be enlarged about the end of the first week, and though usually found but half a finger's breadth below the ribs, it may extend much farther. It is more difficult to palpate than to percuss, because of its relatively greater softness. Either method may be decidedly difficult in an irritable child. Its remaining enlarged is considered by some authors an indication of the continued presence of the disease, even when other symptoms have subsided.

The liver is sometimes also enlarged, but not at all constantly.

The chief points of difference in the typhoid temperature of children are as follow: The initial rise is much more rapid. The remittent character of the fever in the second week is less marked, the average duration much shorter, averaging from eight to nineteen days, these figures being for children under ten years of age. The tendency to subnormal temperature is more marked than in adults, often persisting for a week or longer after normal temperature has been reached. Above that age the rules regulating adult temperature apply. The temperature in the majority of cases rises to 103 and 104; in the severe ones it may reach 105 and 106. Contrary to most febrile conditions seen in children, typhoid fever has a higher temperature in older than younger children. A sudden fall of temperature, as in adults, indicates perforation or intestinal hemorrhage. The temperature may fall almost by crisis in children. Relapses occur in about 10 per cent. of the cases, and do not vary from the same condition in the adult.

The tongue in children may remain moist and but slightly coated, and that in the center only, throughout the entire course of the disease.

Other symptoms to be noted are the pulse, facial expression and disturbances of the nervous system, and emaciation. The pulse, though much increased in frequency, is rarely irregular, compressible or dicrotic, but, on the other hand, functional heart murmurs are quite frequent. Facial expression in severe cases is quite typic, but in the average case is not at all pathognomonic. Headache and mild delirium are very frequent; there is also usually dulness apathy and often semistupor. The extreme nervous symptoms, subsultus tendinum and coma vigil, are very rare in early childhood. Emaciation is well marked and quite rapid after the first week.

COMPLICATIONS AND SEQUELÆ.

The complications and sequelæ are many, but occur infrequently. Among the most important are the following:

Intestinal hemorrhage is quite rare, occurring in about 3 per cent. of the cases, however, chiefly in children over ten years of age. They are most apt to occur about the end of the seventh week. The mortality is from 30 to 50 per cent.

Intestinal perforation is even rarer than hemorrhage, being only about 1 and mortality about 85 per cent. This condition is usually indicated by sudden fall in temperature, vomiting and tympanites. The usual absence of deep ulceration explains the rarity of the above conditions in children. From the latter condition, in most cases, general peritonitis almost immediately occurs. A less severe peritonitis may result in one of the following ways, according to Earle of Chicago: 1. By migration of the bacillus coli communis through the weakened intestinal wall. 2. By the existence of a thrombolymphangitis or lymphadenitis, and by extension to the peritoneum over mesenteric lymph-glands. 3. By a lymphadenic focus rupturing into the peritoneal cavity.

Meningitis is very rarely seen, aphasia a little less rarely, in most cases not traceable to any organic lesion. Paralysis often lasts several weeks, the child sometimes having to learn to walk all over again. Chorea is not uncommon, disturbance of vision occurs very rarely, hearing is often affected for a short period, and the memory may also be impaired for a time.

Among other complications may be mentioned otitis, which occurs much more frequently than in adults, parotitis, abscess of the liver, periostitis, multiple abcesses, furunculosis and phlebitis, usually of the femoral vein, and post-typhoidal pains. Tuberculosis of the lungs and bones is also seen.

The chief points of diagnosis in typhoid are, the continuous and typic fever, the eruption, tympanites and enlargement of the spleen. Other and more conclusive evidence exists for us in the urine, blood and fecal tests. Briefly, they are as follow:

The urine test of Eberth, known as the diazo reaction, made by adding urine to the following solution: hydrochloric acid, 5 parts; sodium nitrate, .5 per cent. solution, 2.5 parts; water, distilled to make 100 parts. The result is an intense red color. As, however, this reaction is not found with any constancy, and since it may also be found in malaria, measles and tuberculosis, it is to be regarded of but little practical value.

The blood test of Widal is found in about 95 per cent. of the cases to be diagnostic, and is made by adding a drop of blood to a pure culture of the Eberth bacillus previously prepared. The test depends upon the power of typhoid blood to agglutinate or clump typhoid bacilli.

The fecal test usually performed with what is known as Elsner's medium, the potassic iodid of gelatin when added to a fecal solution causes the various bacilli and bacteria to rise in definite order, the bacilli coli communis coming first, next the bacillus of Eberth.

Typhoid fever is to be differentiated from malaria, ileocolitis, meningitis, tubercular meningitis, acute general tuberculosis, empyema and la grippe; from malaria by the character of the temperature, the finding of plasmodium in the blood, and the effect of quinin; from ileocolitis by the greater severity of the symptoms and milder fever-range there found, and by the absence of splenic enlargement, tympanites and the eruption; from meningitis by the presence in that affection of a slow irregular pulse, localized paralysis and the retracted abdomen, and a lower temperature.

In acute general tuberculosis during the first week or so, unless distinct local signs are found in the lungs a differential diagnosis is most difficult; from empyema by the local signs in the chest, by the presence of chills and by a temperature distinctly more septic in character; from la grippe by its slower onset, its not so rapid prostration, and by the absence in typhoid fever of the intense local pains, especially in the limbs. The diagnosis of typhoid fever in California presents especial difficulties by reason of its usually very mild course, and corresponding indefiniteness of symptoms.

The prognosis is, generally speaking, good, unless the previous general condition has been poor. It is considerably modified by the pre-existence of the following conditions: General anemia, chronic bronchitis or emphysema, also chronic disorders of the heart or intestine. The mortality of this disease in children ranges from 3 to 5 per cent., including all cases found both in hospitals and private practice. Death, when it does occur, usually results from pneumonia, intestinal hemorrhage or perforation. Other occasional causes of death are general sepsis, with parotitis, bed-sores, nephritis, meningitis or paralysis of the heart. The third week is the most fatal period.

Treatment.—A question that has frequently arisen in connection with the treatment of typhoid is the following: Can typhoid fever be aborted? Jacobi thinks it a possibility, but in the absence of the test of Widal or that of Elsner, it is impossible to prove that a given case, lasting only a few days, was typhoid fever. Dr. Woodbridge claims that by his method the majority of cases can be aborted. It is worthy of note that out of seven authorities consulted only one mentioned abortion of typhoid as a possibility, and he without reference to the Woodbridge treatment.

As typhoid has an incubation period of from five days to three weeks, it would appear probable that any abortive treatment would arrive too late to be of service.

The treatment is general and special: The general treatment consists in the selection of a large sunny, well-ventilated room apart from the rest of the family, absolute rest in bed, the careful regulation of the diet, intestinal antiseptics and the thorough disinfection of excreta and clothing. Apropos of the patient's room, in cases where it is possible considerable brightening and improving of the patient's condition has been seen by having two adjoining rooms which he occupies alternating weeks, being moved, of course, with great care. The period of rest in bed must extend from a few days to a week beyond the fever period before the patient is allowed to assume other than the recumbent posture.

The diet should consist chiefly of milk, given every three hours. It should be Pasteurized, and if necessary predigested. It may also be diluted with barley water or Vichy. As long as this is well borne and the child does not tire of it no better food can be found. When it is not well borne, Koumyss may be substituted. Should all preparations of milk fail to agree, beef-juice, beef, mutton and chicken broths carefully strained may be given alone or beaten up with an egg, also egg albumen with barley water and a little brandy. Albuminoids should be given in preference to carbohydrates. Junket is often useful and well liked. As a drink barley water flavored with lemon juice is gratefully received.

Stimulants where needed may be brandy or whisky, 5 to 20 drops well diluted; where these prove too irritating to the stomach, wine, wine whey or champagne may be tried. The latter is often retained when nothing else is. Stimulants are not often required in children and should be used conservatively and stopped should flushing of the face be noticed.

Intestinal antisepsis should be inaugurated by free catharsis with small doses of calomel, the same to be used at intervals throughout the disease in those cases where constipation exists. There are quite a number of intestinal antiseptics from which to choose: betanaphthol, guaiacol carbonate, zinc sulphocarbolate and arsenite of copper. Personally I usually employ the sulphocarbolate of zinc in doses of 1/6 of a grain every two hours. It possesses the triple advantage of being antifermentative, antiseptic and slightly astringent.

Disinfection of excreta should be rigidly enforced. All discharges should be covered with a 1-1000 solution of corrosive for six hours before being further disposed of. All stained linen should be soaked in an antiseptic solution before boiling, and all clothing and bed linen should be boiled and washed apart from the family laundry. For disinfection of the water-closet, chlorid of lime may be used.

The special treatment consists in attention to the symptoms as they arise.

Temperature, unless over 103, does not require especial attention; above this antipyretic measures should be employed. The most satisfactory in children are: cold sponging with water and alcohol, equal parts, and cold baths—for infants and younger children, beginning with a temperature of 100 and reducing gradually with ice to say 85 F.; for older children, the temperature may be 75 to 80 to start with. The application of cold in this way is always to be preferred to drugs, and is as a rule more safely effective. The baths should be repeated every three hours if the conditions require it. Cold packs may be used instead, ice being rubbed over the sheet for five to ten minutes.

Other measures for reducing fever are: The application of 5 to 10 drops of guaiacol (dissolved in alcohol) over the liver. The effect is decidedly and rapidly accomplished, and, while depression must be watched for, it is much less than is apt to follow the use of phenacetin, antipyrin and acetanilid. The use of these drugs should be omitted, except an occasional dose when other measures fail. Headache, restlessness, nervousness and insomnia are best controlled by the cold bath and cold to the head. Sometimes bromid, with or without small doses of acetanilid, given occasionally will be found very effective.

Diarrhea, when moderate, needs no interference; when excessive, bismuth combined with small doses of Dover's powder will usually be found to be sufficient to control it; if not, acetate of lead may be required. In addition, cold applications are recommended by Jacobi.

Constipation is best treated with small doses of calomel with an occasional enema of warm water and soap; castor-oil may also be given, and in some cases where there is evidence of extensive ulceration it is to be preferred to calomel, on account of its healing effect upon the intestinal mucous membrane.

For tympanites, turpentin stupes, cold applications, enemata containing turpentin or glycerin, and glycerin suppositories are used. Often better than the above is the use of a rectal tube.

Hemorrhage needs prompt action: morphin hypodermically, gr. 1/50 for a child of three years, at once followed by strychnin and digitalis hypodermically, if the condition of the pulse demands it; by mouth, ergotin or turpentin—the latter is the more reliable and is best administered with castor-oil, which insures its being carried completely through the entire intestinal tract—also applications of ice to abdomen.

Perforation is to be treated by morphin, hypodermically, by stimulants and by cool applications to the bowels and heat to the feet.

In heart failure it is better practice to give, from the beginning, small doses of a heart stimulant rather than to wait until threatened heart failure confronts one. For this purpose I am in the habit of giving small doses of strychnin all through the course of the disease, except in mild cases. It is well borne, and diminishes considerably, I believe, the probabilities of a sudden giving out of the heart, obviating as well the necessity of heavy alcoholic stimulants, from which there is more or less reaction and corresponding depression. Should the heart threaten failure, digitalis ought to be added to strychnin. Strophanthus, spartein and caffein are also used; the latter should not be given where delirum is frequent. As an emergency measure there should be injected, camphor (.5 to 1 gr.) dissolved in ether or olive-oil, the former in a 10, the latter in a 20 per cent. solution.

THERAPEUTIC VALUE OF HYPNOTISM.*

BY JNO. R. ROSE, M.D.
EASTMAN, GA.

(Concluded from p. 1042.)

A general anesthesia can be brought about by proper suggestions, and this can be utilized with the happiest results in obstetric practice; I have come across the record of several cases where childbirth took place during hypnosis without the mother being aware of it and in one case refusing to believe it on awakening; in all, this has evidently been due to faulty suggestions given by persons not fully understanding the inhibitory power of hypnosis, and the best plan to pursue is in suitable cases to gauge the inhibition only sufficiently deep to produce freedom from pain or suffering, and not deep enough to cause loss of consciousness nor amnesia on waking.

This inclination or desire on the part of a hypnotized person to translate suggestions into acts through both voluntary and automatic channels is taken advantage of as a therapeutic measure for the relief of pathologic conditions. Dr. Brouardel, dean of the medical faculty of Paris, states the relation of a person in hypnosis to the suggestions made very clearly when he says: "A subject obeys only sympathetic or indifferent suggestions that are given them by a sympathetic person." It is true they refuse even these at times, and different explanations have been given of this phenomenon, by De Jongs, Gilles de la Tourette and others, but the true cause may possibly be found in autosuggestions resulting from some accidental or obscure condition.

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*Read before the Semi-Centennial meeting of the Medical Association of Georgia, April 19-20-21, 1899.

It may be stated on general principles that during hypnosis a person will accept any suggestion that is not directly opposed to his or her moral nature, therefore therapeutic suggestions are generally acceptable, and if properly made will generally be accepted. Right here is where the trouble begins in making the proper suggestions, for the same diagnostic acumen that is required for the successful treatment of diseases by drugs is necessary for treatment by suggestion, and the exact cause of the trouble has to be found in the majority of obscure cases before it can be relieved. It is true that sometimes suggestions on general therapeutic principles are sufficient to relieve disorders by the deep psychic impressions they produce, and on such lines only can we explain the reputed cures by divine healers, "Christian scientists" and faith doctors who make no specific suggestions, but rely principally on the alterative effect of psychic impression. As a rule, if we want to cure a pain, a paralysis or a spasm, we must find the cause, and if it is not an organic lesion of severe nature, the right suggestion properly made will relieve it in nearly every instance. In this way many of the puzzling symptoms complex of hysteria, the paralyses and spasms of fixed ideas or of reflex origin, and that large class of ailments known as neuroses and neuropathies that all show such utter disregard for drugs, may often be relieved with miraculous effect. That the value of suggestion in hysteria has been known since the early days of medicine is proven by that therapeutic "chestnut," the bread-pill, and when we add hypnosis to suggestion we simply intensify the effect, and force this metaphoric bread-pill down an otherwise resisting throat.

Hypnotherapy is pre-eminently the therapy of reflexes which can be brought about or inhibited at the will of the operator, and in this it has but little advantage over drugs, for they can do the same things, although at greater risk. But there is a psychic element that drugs do not possess, or only to a slight degree, that can be utilized with great advantage, for an accepted suggestion becomes a dominant idea that clamors for recognition against all objections. To illustrate what I mean, I will say that to a user of tobacco who desires to quit the habit, but who has not sufficient will-power to resist the craving, I give the suggestion during hypnotism that every time he puts tobacco into his mouth he will be nauseated as long as he keeps it there; this becomes a dominant idea that forces itself on him every time, and he must either spit out the tobacco or throw up his dinner. Unless this suggestion is removed or modified by a subsequent one, it may remain in evidence years after it has been given, which certainly is a quality drugs do not possess, for their effect is as a rule temporary and limited. In this way the physician seems to have control over a vast number of pathologic conditions, and its practical usefulness seems to be limited by only two factors—lack of diagnostic perception in the physician, and absence of suggestibility, or rather predominance of autosuggestibility, in the patient.

We sometimes find persons who enter the condition of hypnosis with the greatest ease, but who in spite of that will accept no suggestion made, even the test suggestion giving no results; such a negative mental condition, negative to influence at least, preventing, of course, the use of this remedy. We all know how we love the patient who insists on doing his own prescribing and only has the doctor around to see it well done, but he is a white-robed angel as compared with his hypnotic brother. In hypnosis we frequently find patients who take our suggestions very well, but at the same time insist on doing a little suggesting themselves, a condition that is known as autosuggestion and found principally among hysteric cases; they require all the tact, patience and experience possible to carry the case to a successful issue, and they will tax the ingenuity of the most experienced to the utmost. In these cases we have what is known as symptom transferences, where we may relieve an existing symptom only to set up trouble somewhere else. A case I have under treatment now will explain what I mean. H., a farmer, about 35 years of age, no neurotic family history, has been suffering for about three years with what his folks call fits; these fits resemble true epilepsy very closely, with an aura beginning in the big toe of the left foot; when this aura reaches the body, unconsciousness sets in and general convulsions supervene. I had been prescribing heavy doses of bromids for this patient, off and on for about two years, without ever seeing him in one of his fits; sometimes he would leave me and resort to some of the patent "fit cures," but all with but little benefit. A few months ago symptoms of paralysis also developed, and when I saw him he had been confined to bed unable to get up for nearly three months, a case of paralysis with convulsions. The patient's appearance, his bright mental condition and the evident relish with which he discussed his physical condition, made me dismiss at once the question of organic trouble. I hypnotized him, although he proved to be rather refractory, and he came sufficiently far under my influence at the first trial to be able to walk all over the room. But right here he began to prescribe for himself, for he got an idea that he could walk only during hypnosis, and it took several treatments and some hard mental work to rid him of this idea. The convulsions proved a less easy foe to vanquish; under suggestion they changed in type and became very erratic, till finally they amounted to little more than a slight tremor, the aura ceased to be a symptom and the spasm did not always begin in the foot, but the fits were still there, though reduced in frequency and severity. I felt convinced from the beginning of this treatment that the convulsions were either ideational or reflex, but I could never find the cause for the reflex; a short while ago I for the first time learned that he is possessed of the fixed idea that he is bewitched, and has had that idea for nearly three years, but has been ashamed to speak of it. This gave suggestion something tangible to work on, and it took only one treatment to stop the attacks entirely for over two weeks, when he had two slight ones in one day, since which time he has been free from them up to the present writing, about a month. During this time he has made a good use of the greatest variety of autosuggestions; at first he could not walk except during hypnosis; then, regarding the convulsions, though they were relieved in severity they were increased in frequency till he had from six to eight a day; regarding the aura, he stuck to it persistently at first, and though I banished it from the big toe it would start in his back, shoulder, arm or stomach. But gradually, by counteracting each autosuggestion, all the symptoms abated till nothing remained but a very light spasm or tremor that recurred about once a day or every other day, and that did not yield till the actual cause, the idea that was at the root of it, had been removed. This description can only give a faint picture of the many perplexing conditions the physician is forced to handle in such a case, and if Homer had been an M.D. I could readily believe that he had such a case in view when he wrote of the capture of Proteus.

It seems to be acknowledged by every writer on this subject, that hypnotism is a really valuable remedy in all functional disturbances, no matter where located, but how far it can be applied for the relief of organic lesions is still an open question which the literature of the present day does not help us to solve. Some enthusiastic investigators who evidently have accepted and elaborated Braid's and Grimes' theory of the control of the body by the mind, claim to have observed cures in nearly all classes of disease; I have never seen any benefit derived from hypnotic treatment in advanced cases of organic disease, in fact I do not even like to try it for fear of injuring an already tottering nervous system, but it stands to reason that if the causal factors can be removed by suggestion, nature herself would try to cure these cases if she had half a chance.

Bernheim says: "My own experience permits me to assert that the domain in which hypnotherapy finds application is a broad one. It not only is confined to the functional diseases of the nervous system, such as hysteria and the neuroses, but I can point to the results achieved by this method in the organic diseases of the nervous system, in chronic rheumatism, gastric troubles, etc. At first view it may appear a childish undertaking to try to improve or cure functional disorders resulting from cerebral hemorrhage or softening, from rheumatic arthritis or chronic myelitis, by a stimulation of the patient's imaginative force. I know there are enough practitioners who shrug their shoulders and raise their hands to heaven in protest against such therapy; but may they rather study and test before they protest, and they will not escape the necessity to bow before the power of facts. I do not assert that suggestion acts directly on the diseased organs by removing a hemorrhagic congestion, absorbing an inflammatory exudate or replacing cells that have degenerated or been destroyed. Have we then in our materia medica any remedy capable of instituting such a direct process of healing? Diseases cure in their natural course when they are capable of being cured, and our usual therapy consists in placing the organism in those conditions most advantageous for the *restitutio ad integrum.* We suppress pain, modify functions, rest the diseased organ, reduce the fever, bring down the pulse, produce sleep, assist secretion and excretion, and by so doing make it possible for the healing power of nature or, in the language of modern science, for the vital forces of biologic elements to do their work. The common therapeutic means we control simply influence function, and just so suggestion acts by its powerful influence."

The only proof we have that hypnotism is capable of causing trophic or metabolic changes in the human organism is the fact, first pointed out by Braid and corroborated by Saint-Martin, Heidenhain and many others, that during hypnosis the subject's vasomotor center is to quite an appreciable extent under the control of the operator, a fact that can be readily proven by anybody capable of producing deep hypnosis. The suggestion of a mustard plaster will not only cause intense burning, but also hyperemia of the surface, though this latter phenomenon may have to be suggested separately. Bernheim, in one of his latest works, cites the case of a person who had some postage stamps stuck to his skin with the suggestion that they were blister plaster and the happy result of drawing, within ten or twelve hours, some beautiful blisters with abundance of serum. By means of this control the physician might cause or relieve congestion, indirectly stimulate or retard secretion and so possibly remove some factors in the causation of disease, but how far this is possible has not yet been demonstrated. It is a fact known to all students of these phenomena, that only those things are invested with reality during hypnosis of which the brain contains a mind picture. So if I say to an ignorant person during hypnosis, "Before you stands a dog," he will see a dog, a real live dog; but if I say to him "Before you stands an ichthyosaurus," he will see nothing, for his brain contains no mind picture of it. And my belief is that the same rule obtains with physiologic and pathologic conditions of the body; if the mind has learned to associate the sound with a certain peculiar and unvarying physical condition, then that condition will be established whenever the sound calls into life the mind picture the brain contains, and then only. To illustrate: Sneezing is a very complicated reflex act of the human organism, but the modus operandi is invariably the same and the mind stores away a conception of it, complete in every detail, in connection with its name; now if I tell an uneducated person during hypnosis that a straw is tickling his nose and will make him sneeze, he will feel the straw and sneeze long and loudly; but if I tell the same person that an existing irritation of the nasal mucous membrane will result in sternutation, there is no sneeze, for he has never associated the act of sneezing with the sound sternutation.

For this reason I believe it is absolutely necessary that the successful operator should be fairly well acquainted with physiology and pathology so as to explain and make clear to his patient those vital processes of which the latter's mind has no conception, if he desires to call such into life and action; at least, working on this hypothesis I have sometimes scored success where everything else proved a failure.

Besides all this there are conditions of disease that rarely, if ever, fall into the hands of the physician, but rather into those of the educator and reformer; diseases that are more of the mind than of the body and in whose genesis heredity, tendency and environment play a prominent part. Into this class we must place kleptomania, dipsomania, homosexuality and other perverted sexual states, onanism, gross perversion of truth, and above all, the criminal instinct in the adult and bad habits in children. My own experience with this class is very limited, but the writings of Wetterstrand, v. Schrenk-Notzing, Krafft-Ebing and Bernheim prove the adaptability of this treatment to such cases, and if once we understand the nature of hypnotic suggestion it would be surprising if it were not so.

The idea of applying hypnotism for the correction of immoral or undesirable tendencies in children is not a new one, and that far-seeing physician and thinker, Dr. Durand, more than thirty-five years ago insisted that hypnotism offered a basis for intellectual and moral training, and that the time would come when it would be one of the means employed in institutions of training and correction. This same question was sprung at the scientific congress held a

Nancy in 1886, when the well-known Paris physician, Dr. Berillon, read a paper on "Hypnotism and Education." The discussion that followed will repay a careful reading, for such men as Liébault, Liégeois, Leclerc, Ladame and Hément took part in it.

Whatever the future may have in store for this therapeutic agent, we must remember that at present we are standing only upon the threshold of a science that is to most like an unknown country into which few have ventured, and none far. If that old philosophic speculation of a universally present ether were true, an ether of which the various conditions of matter are only different expressions, and that the higher expressions influence and dominate the lower—a theory that has received a modern impetus through the investigations of the electrician Tesla—then we could understand how the mind, being perhaps the highest expression of this ether, might control the body; but so far, all is speculation, and from a scientific point of view we can only accept what has been proven.

Hypnotic suggestion in medicine is well worthy of the careful attention of all properly trained investigators, and in their hands can do no harm, while in the hands of the ignorant or vicious it may prove a boomerang that will knock out both the victim and the thrower. Hypnotic suggestion is of value not because it is capable of supplanting drugs, but because it frequently acts where drugs fail, and that is the actual therapeutic value of this treatment.

In conclusion, I will say that, as hypnotic suggestion is a thought implantation, the grafting into a brain of a new idea that will become fixed and dominant if not destroyed when its usefulness is passed, it is well for the operator, whether he use this means for sociologic, educational or medical purposes, to exercise care lest he implant a thought utterly alien to the new soil—for that way trouble lies. To be even moderately successful one must be able to think in the subject's sphere of thought, and reason within the subject's mental limits, so as to quickly counteract and remove the evil effects of autosuggestion in a quiet, and to the subject natural, way. Regarding the two principal methods of inducing hypnosis it may be said that the fixation-and-shock method of the school of Paris has been superseded by the gentler method of verbal suggestion wherever the latter has been accorded an unbiased trial or else its place has been taken by a combination of the two in which the shock has been more or less eliminated.

The following four rules formulated by Bernheim and Beaunis should always guide the physician when undertaking this treatment:

1. Never use hypnotism without the consent of the subject or his legal guardian.

2. Never produce hypnosis except in the presence of a third party standing in some relationship to the subject.

3. Never make suggestions without the patient's consent except those necessary to effect a cure.

4. Never use your authority over your patient to procure this consent if you have reason to expect disagreeable results from the experiment.

To which I wish to add another one.

5. Carefully weigh your words.

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Correspondence.

Competitive Examinations.

CHICAGO, May 13, 1899.

To the Editor:—The letter from Dr. Bayard Holmes (see April 29, p. 927) and one in the JOURNAL of May 13 (p. 1043), from "R." of Cincinnati, concerning the written examinations for internes of the Cook County Hospital, present a subject of interest to graduates and well-wishers of the institution. It is perfectly obvious that a purely written test of an applicant's knowledge of medical science and practice can never be a good test. As Dr. Holmes says, this method of conducting the hospital examination has resulted in causing the promising men in the medical schools of Chicago to spend the last year of their course in cramming with word knowledge and to devoting their time to quizzes, to the neglect of the clinic and other legitimate work of the year; this too, with the approval of the faculties. The men who carry off the prizes get their clinic experience in plenty from their hospital course, it is true, but how about the ninety-and-nine who fail? These have wagered everything on getting the hospital position and find themselves with their last year wasted in the acquirement of parrot learning, which quickly evaporates. What, too, of the hospital service which must train its internes in preliminary clinic work which should have been mastered before entering? The present examinations are vastly better than none, for without them we should have the medical service entirely given over to politics, whereas now it is only the attending staff which is thus appointed.

In the present style of interne examinations the only practical part consists in looking through a microscope and then writing down at lightning speed a description of what has been seen. The truth of the matter is that the members of the attending staff, who conduct the examinations under the supervision of a senior interne, can not trust each other. So great is the fear that the examiners will know whose paper is before them that extraordinary precautions are taken to insure secrecy. The candidate is given a number which he writes on the outside of an envelope containing a slip on which is the name. The chief interne, supervising the examination, makes another set of numbers, so that each candidate has two numbers, one known to him and the other to the chief interne. The first number is written on each examination paper; the chief interne, as he gathers up the papers, erases that number and replaces it with the candidate's corresponding number. The papers are marked by the members of the attending staff according to the second number and the percentages announced at the meeting of the staff. The chief interne then identifies each second number by the first or envelope number. The envelopes, which have meanwhile been in the possession of another party, are then opened and the names of the candidates ascertained. But this is not all. In some years the examiners are chosen only from those members of the staff who are not medical teachers, that is, from those supposedly least qualified by experience to examine. In some years three men examine on each subject. Each brings in five questions and from these fifteen are selected five to be answered by the candidates. Then the three men each examine and mark the papers and the mark for the subject is the average of the three. All these elaborate and pedantic precautions that the identity of the candidates be not known to the examiners! How preciously fragile the virtue of these examiners must be! But, one may say, are not these examiners members of the attending staff, among the Nestors of the profession, jealous of their own honor and desirous of obtaining the best material to serve under them as internes? Can they afford to have anything less than the best obtainable? The melancholy answer is that the members of the attending staff are appointed by fifteen politicians, the county commissioners, serving for two years and, for the most part, ordinary ward workers. Every new set of commissioners appoints a new attending staff, the positions on which are political plums awarded to the faithful. A certain number of men eminent in the profession are always appointed (the devil can even quote scripture you know), a certain number of mediocre doctors and a certain number who are worse. The presence of these last makes all the elaborate precautions against dishonesty necessary. The present staff, eminent and honest as its members may be, has a tenure of office only as long as that of the present board of commissioners and may be succeeded by one worse than some of its predecessors. It is therefore necessary to continue the existing method of examinations for internes in the Cook County Hospital as long as the existing method prevails of appointing the attending staff of the institution. The moral is obvious. Henry F. Lewis, M.D.

Some Thoughts on the Management of Inebriety.

Mayville, Ohio, May 16, 1899.

To the Editor:—In the face of the knowledge we have of alcoholism, through the investigations of Norman Kerr and others whose opinions we have reason to respect, a recent editorial in the *Medical Record* and contributions with a similar trend in various journals are a little surprising. Although the domain of the physician is not the teaching of ethics, he is not true to his high calling who advocates that which, to a mind imbued with the first principles of altruism, is impossible and irrational. If it were practicable, I wish Dr. Bowditch could obtain the number of those who, contemporaneous with the "leading men" embraced in his statistic report, have made wrecks of life and fortune by making the effort to be occasional drinkers or regular moderate drinkers. And it would be interesting to know how many of his "leading men" have sclerotic arteries, damaged hearts, livers and kidneys, through their unnecessary indulgences, and have made themselves easy preys to acute infections and have greatly enhanced their chances of sudden death from apoplexy.

One of the things to be combated in the treatment of alcoholism is the depraved moral nature our patients possess. This is a characteristic even of those who have been so-called moderate drinkers for any extended period. This exists in all degrees, from transient and moderate periods of moral obliquity to continuous and complete abandon of self-respect and utter disregard of the rights of others. Our patients possess a complexity of symptoms, not only from their excesses, but also from the social environment which alcoholic excesses ordinarily imply, together with nervous systems, weak and unstable by inheritance, and whose every activity has been induced by stimuli that had their inception in an atmosphere of viciousness. In fact, I am fully satisfied that this induced moral depravity often exists in such a degree as to render permanency of cure impossible, be the term of treatment never so extended.

After years of experience, I am convinced that the short-time treatment (four to eight weeks), in curable cases, is just as definite in its results as the long-time treatment, while the latter has many disadvantages: 1. The married business man in moderate circumstances can not afford, neither can he be induced, to leave his home and business for protracted time treatment. And this is the class from which we get our most satisfactory cases and most brilliant results. 2. The danger of acquiring the sanatorium habit, for our patients become accustomed to lean on unnatural supports and not on self. The physicians in charge are applied to for the relief of every uncomfortable sensation. Doing nothing is made desirable by the pleasant appointments and associations of sanatorium life, and our patient is returned to his friends with an increased, rather than a diminished, degree of helplessness—because indolence and sobriety, in one who has a tendency to inebriety, are incompatible. I do not wish to be understood as saying that all the pathologic changes wrought by the continued use of alcohol can be removed by from four to eight weeks' treatment; but that, in that time, necessity and desire for stimulation is removed, liberal quantities of food are relished and digested, normal sleep is secured, and nature completes the restorative process. It is well understood that nature, either aided or unaided, can not repair some of the lesions resulting from the use of alcohol. Very frequently, to assist nature, we give our patients some form of arsenic or chlorid of gold and sodium, or both, to be taken for variable periods of time, according to the exigencies of the case, after their return home.

Genuine cases of dipsomania, which should be distinguished from other forms of alcoholism, require not only one year's treatment, as suggested by Dr. Brower, but, like other forms of insanity, should be committed for indefinite periods.

Charles D. Mills, M.D.

Cremation vs. Burial.

Peru, Ind., May 13, 1899.

To the Editor:—Regardless of what may have been the ancient customs or are the modern methods of disposing of the dead, regardless of whims and fancies pro and con, there is but one sanitary method, but one method which is safe for the living, but one method which is acceptable to the dead, and but one method which is justice to nature—that of cremation.

From a sanitary standpoint, what is more elegant, more beautiful, more esthetic and cleanly than resolving the organized body into its original elements by a rapid, safe and thorough method—cremation—as against the disgusting, horrifying, slow, unsafe and inelegant method—putrefaction? Death is robbed of many of its horrors when we remember that our dear old body, even though it may have been an aching and ugly one, is to be rapidly transformed or changed, as it were, into oxygen, hydrogen, nitrogen and carbon, the four elements of which all living organisms are in the main constructed. It is pleasing to know that our bodies may thus be restored to nature, ready to again be claimed by organized life.

When we regard the lives, health and safety of the living, there is no choice—cremation, and that alone, offers security from infection and transmission of disease from this source, that of the dead. A body after interment must sooner or later undergo putrefaction, the elements of which, together with such disease germs as may be present, are carried to the surface in various and many ways, and thence to the air and water-channels, and he who escapes is more lucky than wise. It is thus that disease is being rejuvenated without a cause apparent. The cemetery is a menace to the living, an enemy to nature, and an usurper of the dead. The cemetery, with all its paraphernalia, should be abolished, and in its stead parks established, which should be beautiful and rendered comfortable and inviting with the money which has heretofore been spent for tombstones, vaults, etc.; that the living may have a beautiful place of assemblage where they may muse, with safety and surroundings of cheerfulness, of the happy disposal of the bodies of their dead relatives and friends; as against the mournful and hazardous visit of the cemetery, where everything is suggestive of sadness, and we are forced to remember the imprisonment of our dead friend's body in a putrid tomb. The modern faddist is not content to imprison or inter the body in the ordinary way in light casket and thin outward box, which requires from two to five years for the elements to be liberated, but he insists on having a stone or brick vault enforced by a metallic casket, which combination drags out and prolongs the term of imprisonment to an indefinite period. Nature, having dealt with us so generously and kindly in yielding up her elements to form us a physical being or body during our journey from the hill-top on the left to that of the right, should, now that the journey is ended, be allowed, yea, assisted, to claim her own without hindrance or delay. While it may seem a little shocking to think of or see the incineration of a body, it is horrifying to think of or see a body in state of putrefaction. Incineration need not interfere with the religious belief which calls for resurrection of the body; if the elements can and are to be collected after the process of putrefaction, the same may be equally true of cremation.

Burial, putrefaction, disease, death and sorrow. Cremation, health, happiness and longevity.

J. O. Malsbury, M.D.

The Tobacco Habit.

Minneapolis, Minn., May 9, 1899.

To the Editor:—Will you permit me to voice a word of commendation for the able, possibly somewhat extreme, but in the main, just, statement of the facts connected with the use of tobacco, contained in Dr. Woods' article in the Journal of April 1. Dr. Woods is entitled to the thanks of every clean-minded and clean-bodied man and woman for such an arraignment of the profession for throwing its influence in the direction of such debasing forces. I can not believe that many men, even among users of tobacco, would say "amen" to Dr. McKenna's attempted reply in the Journal of April 22. I have known a great many users of tobacco, but I have known very few of them who were willing either to commend the habit or to recommend it to their sons and daughters. If tobacco is as desirable as Dr. McKenna seems to think, why should its advantages be denied to our wives and daughters? I met a hard-headed business man this morning and asked his opinion. He said: "I have always used tobacco and when a young man I drank like a fish. I determined to quit whisky and I have never drank since. I have made a hundred such resolves to quit tobacco and am using it still." We have all heard numbers of such testimonies and yet in the face of this and the associated facts a supposedly intelligent physician will calmly deny that the tobacco habit is selfish, immoral and degrading. The very possibility of such denial is abundant proof of the thing denied.

Very respectfully,

Edward J. Brown, M.D.

Feeding in Typhoid.

Cincinnati, Ohio, May 10, 1899.

To the Editor:—It is the generally accepted opinion that typhoid fever patients should be placed exclusively on a liquid diet. I am constrained to believe that this practice is the outgrowth of custom or tradition, handed down from generation to generation, and not the result of clear or practical observation. It is, I believe, generally conceded, and I do not know why, that the giving of solid food retards the recovery of the patient and predisposes to relapses.

Starting out with a desire to test this matter more thoroughly and to prove, if possible, the contrary to be true, I have, in my private practice, for some time given nearly all of my typhoid patients some solid food in connection with liquids. I do not wish to be understood as saying that I have given them quantities or great varieties. I have allowed them to have steak (tenderloin), sweetbreads, soft boiled egg, toast and a few vegetables, when in season. One thing I have observed, patients on a mixed diet do not complain nearly so much of gastric distress, of the fulness and distension (flatulence) about the stomach and bowels, as when confined exclusively to a milk or liquid diet.

I confess, I can see no objection to a limited amount of solid food, if properly prepared for the mouth and stomach; in other words, properly cooked and served. One thing I have not failed to observe, viz., patients kept exclusively on a milk diet are almost invariably constipated, just the contrary that we would expect in typhoid. I think that I may safely assert that 90 per cent. are constipated, requiring cathartic medicine or clysters, or both. The contrary condition has existed in the cases when I have allowed a mixed diet.

It is, I believe, the consensus of opinion that the giving of solid food to patients tends to relapses; such has not been my observation. In the twelve cases where I pursued the plan of giving a limited amount of food, there has not been a single recurrence of disease within the usual period. I think this sufficient argument to prove that the careful giving of solids has nothing whatever to do in bringing about relapses. When they have occurred after the giving of food, it has simply been a coincidence and would have occurred in any event.

The matter of feeding these patients should be more thoroughly studied and practiced by the profession at large. It is high time that we get out of the rut of our forefathers and adopt a more rational and liberal plan. I do not mean reckless extravagance in the other direction. Where relapses do occur in these cases it is due to the fact that the poison has not been wholly eliminated and the local lesions not entirely healed. With both banished there can be no such thing as relapse.

W. H. DeWitt, M.D.
Chief of Staff, Christ's Hospital.
Formerly Physician to City Hospital and Longview Asylum for Insane.

Cerebellar Tumor or Masturbation.

Delphos, Ohio, May 13, 1899.

To the Editor:—In the last issue of the Journal, p. 1027, R. C. Cabot, M.D., describes a case, and asks, "Can all the symptoms of this case be explained by the masturbation?" I would say emphatically, "No." The masturbation was a result, not a cause. The treatment or nature removed the cause, and then the mental impression received at the hospital enabled him to cease the practice.

C. V. Moots, M.D.

Parasitic Theory of Cancer.

Buffalo, N. Y., May 11, 1899.

To the Editor:—On page 1000 of the Journal for May 6 is a brief allusion to an address which I gave the other day in Baltimore on "Cancer as a Parasitic Disease." Your correspondent has made a curious mistake and has given me credit for saying just what I did not say. He has made me declare my "abhorence of the parasitic theory," when the whole address was an argument in favor of the same. I do not exactly like to go on record in this way, and if you will kindly correct it you will do me a great favor.

Very truly yours,

R. Park, M.D.

Army Transports to the Philippines.—On the afternoon of April 31, 1899, two army transports sailed from San Francisco, Cal., for Manila, P. I., the transport *Warren*, formerly the *Scandia*, and the chartered transport, *Newport*. The former carried eight batteries of the Sixth U. S. Artillery, 300 recruits of various regiments serving in the Philippines, and 50 members of the hospital corps. The medical officers on board were Major Guy L. Edie, brigade surgeon, vols.; Lieutenants E. H. Hartnett and W. J. Calvert, assistant-surgeons, U. S. Army, and Acting Asst.-Surgeon E. E. Persons, on duty with the troops, while Acting Asst.-Surgeon R. E. Williams was assigned as transport surgeon. The *Newport* carried two light batteries, F of the Fourth and Fifth Artillery regiments, and a battalion of 260 marines, with Acting Asst.-Surgeons Harrold L. Coffin and Robert F. Robinson. Several female contract nurses and Red Cross nurses were passengers on this transport. Both vessels had ample hospital accomodatious and medical supplies for six months for the commands on board.

Current Medical Literature.

Titles marked with an asterisk (*) are noted below.

Annals of Surgery (Phila.), May.

1.—*Partial Enterocele. Russel S. Fowler.
2.—*Observations on Use of Galvanic Current in Treatment of False Ankylosis. Fred Walker Gwycr.
3.—*Tubercular Cervical Lymph-Nodes. A Study Based on Thirty-six Cases Submitted to Operation. Charles N. Dowd.
4.—*Decortication of Tongue in Treatment of Lingual Psoriasis. Joseph Ransohoff.
5.— Congenital Deformity due to Malposition of the Scapula. Albert H. Freiberg.
6.—*Case of Transposed Viscera, with Colelithiasis, Relieved by a Left-Sided Cholecystotomy. Carl Beck.
7.— Complete Single Sacroiliac Dislocation. William B. Hopkins.

Quarterly Journal of Inebriety (Hartford, Conn.), April.

8.—*Dietetic Causes of Inebriety. Thos. D. Crothers.
9.— Some Conclusions in the Treatment of Alcoholic and Drug Inebriates. J. M. French.
10.— Treatment of Inebriates. A. M. Rosebrugh.
11.—*What Class of Injuries to the Human Body Dependent on Violence is Caused by Alcoholic Excesses? T. H. Manley.
12.—*Cocain Addiction and its Diagnosis. Stephen Lett.
13.— Treatment of Inebriety. H. A. Rodebaugh.
14.— Toxic Effects of Tobacco. Geo. W. Crook.

Ophthalmic Record (Chicago), May.

15.— Report of a Case of Herpes Zoster Ophthalmicus. Adolph Pfingst.
16.—Case of Macular Retitinis Due to Flash of Electric Light. H. V. Würdemann and W. R. Murray.
17.—*Use of Egg Membrane in Ophthalmic Surgery. David H. Coover.
18.— Pyoktanin (Blue) for Ophthalmia Neonatorum. L. R. Culbcrtson.
19.— Treatment of Diseases of the Lachrymal Duct by Cataphoresis. George F. Keiper.
20.— Varicose Veins in the Orbit. R. Denig.
21.—*Albuminuric Retinitis as an Element of Prognosis in Bright's Disease. F. C. Rogers.
22.— Foreign Body in the Iris Thirty-two Years. M. T. Jay.

Buffalo Medical Journal, May.

23.— The Term "Conservative Surgery" as it has Been Proposed to Apply it to the Uterus and its Appendages. Lawson Tait.
24.—*Some Points in Incipient Orthopedic Cases. Marcell Hartwig.
25.—*Urinary Infection—Its Prevention. J. Henry Dowd.
26.— Tubercular Peritonitis, with Report of Cases Apparently Cured by Laparotomy. Thomas Jameson.

New England Medical Monthly (Danbury, Conn.), May.

27.—*Disinfection of the Alimentary Canal. A. Jacobi.
28.—*Albuminate of Iron. L. H. Watson.
29.—*Practical Points in the Management of Skin Diseases in Children. L. Duncan Bulkley.
30.— Lithemia. Allen P. MacDonald.
31.— Physical Education. Charles P. Robbins.

Columbus Medical Journal, April.

32.—*An Oculist's Experience with the Army. John J. Kyle.
33.— Some Peculiarities in the Diseases of the Nervous System in Infancy and Childhood. Katherine Burns.

Memphis Lancet, May.

34.— Interesting Cases of Genito-Urinary Surgery. F. Kreissl.
35.— Surgical Treatment of Infections of the Uterus During the Puerperium. Wm. W. Taylor.
36.—*Use of Rest in Bed in the Combined Form of Feeding in the Treatment of Gastric Ulcer. James M. Anders.
37.—*Remote Effects of Eye-Strain. E. C. Ellett.
38.—*Antiseptic and Eliminative Treatment of Typhoid Fever. T. Virgil Hubbard.

University Medical Magazine (Phila.), May.

39.—*Late Result in a Case of Implantation of Sponge in the Orbit after Enucleation. S. D. Risley.
40.—*Observations on Laryngeal Paralysis Dangerous to Life Occurring During the Progress of Typhoid Fever. Alexander W. MacCoy.
41.—*Hypnotic Suggestion as a Practical Aid to Medicine. J. Madison Taylor.
42.—*A Successful Iridocystectotomy. G. Oram Ring.
43.— Influence of Turbinal Hypertrophy on the Pharynx. Lewis S. Somers.

Pennsylvania Medical Journal (Pittsburg), May.

44.—*Amyloid Disease of the Liver, with an Abnormally Enlarged Left Lobe. J. H. Musser.
45.— Paralytic Dementia. W. K. Walker and Theodore Diller.
46.— Technic of Abdominal Surgery. Charles E. Gibson.
47.— Treatment of Pneumonia. E. D. Payne.
48.—*Diphtheria. James Gass.

Medical Dial (Minneapolis), May.

49.—*Gall-stone Surgery. Cnut Hocgh.
50.— Fibroid of Left Vocal Band. B. M. Behrens.

Yale Medical Journal (New Haven, Conn.), May.

51.—*Cell Division in Carcinoma. H. B. Ferris.
52.—*Infective Otitis. F. M. Wilson.
53.— Treatment of Headaches. Robert E. Peck.
54.— Surgical Shock. H. G. Anderson.

North Carolina Medical Journal (Charlotte), May.

55.— Disorders of Digestion. John N. Upshur.
56.— Chronic Diarrhea. Robert L. Payne.
57.— Treatment of Summer Diarrheas of Infancy. Alfred Stengel.
58.— Tetany Complicating Gastro-Intestinal Catarrh. J. A. Faison.
59.— Intestinal Antisepsis. J. A. Ritchey.

Journal of Tuberculosis (Asheville, N. C.), April.

60.— Plea for Better Appreciation of Tuberculin Test for Latent Tuberculosis. Charles A. Denison.
61.— Tuberculin Test in Early Diagnosis of Tuberculosis. H. Longstreet Taylor.
62.— Report of Twelve Cases of Pulmonary Tuberculosis. John Hay Williams.
63.— Care of Digestive Tract in Tubercular Patients. H. J. Chapman.

Brooklyn Medical Journal, May.

64.—*Change of Residence for Consumptives. J. C. Schapps.
65.— An Improved Reflux Catheter. V. Neesen.
66.—*Effect of Toxins of Pathogenic Micro-organisms on the Parenchymatous Tissue. J. M. Van Cott.

Journal of Cutaneous and Genito-Urinary Diseases (N. Y.), May.

67.—*Varying Resistance Encountered in Electrolytic Work and the Necessity for Using a Milliampéremeter. M. B. Hutchins.
68.—*A Few Remarks on Diagnosis and Treatment of Rupture of Bladder. Paul Thorndike.
69.—*New Agent for the Treatment of Alopecia Areata. Granville MacGowan.

North American Medical Review (Washington, D. C.), May.

70.— Infectious Diseases, Including Tuberculosis, Pathology and Treatment. N. B. Shade.
71.—*Albuminuria of Pregnancy. Lambert Ott.
72.— Pseudo-Membranous Croup Treatment. H. P. Fahrney.
73.— Medical and Legal Aspects of Hypnotism. Wm. C. Boteler.
74.— Some Thoughts on Neurasthenia. James L. Lowrie.
75.— Paraphimosis. A New Treatment. LeRoy Lewis.

Louisville Journal of Surgery and Medicine, May.

76.— A Surgical Mistake or Two. Ap Morgan Vance.
77.— Importance of Colon as a Factor in Digestive Process. Thos. Hunt Stucky.
78.— Ischiorectal Abscess and Its Treatment. T. H. Garvin.
79.—*Subconjunctival Injections in Corneal and Iritic Inflammations. Arthur W. Smyth.
80.—*Unusual Symptoms of Paralysis. T. O. Helm.
81.—*An Improved Method of Vaccination. Edward Speidel.
82.— Finger in Exploring and Manipulating the Uterine Cavity. D. G. Simmons.
83.— Mechanotherapy. Curran Pope.

Journal of Mississippi State Medical Association (Biloxi), May.

84.—*New Method of Diagnosis for Yellow Fever. John C. MacKowen.

Richmond Journal of Practice, April.

85.—*Report of Some Cases Illustrating the Uterine Reflexes. John N. Upshur.
86.—*Methods of Closing the Abdominal Incision after Section. Stuart McGuire.

Indiana Medical Journal (Indianapolis), May.

87.— Investigation of Digestive Activity of Stomach (Continued). Alois B. Graham.
88.— Pemphigus Vulgaris Acutus—Report of a Case. Homer I. Jones.
89.— Accidents from Vaccination—How to Prevent Them. Isadore Dyer.
90.— Remarkably Enlarged Nails in a Case of Hypertrophic Pulmonary Osteoarthropathy. A. W. Brayton.
91.— Kraurosis Vulvæ. L. H. Dunning.

Northwestern Lancet (Minneapolis), May.

92.—*Choice of a Climate for Consumptive Patients. R. M. Phelps.
93.—*Use of Hot Air in the Treatment of Diseases of Joints. Arthur J. Gillette.
94.— Advice for Young Practitioners. W. S. Leech.

New York Medical Journal, May 13.

95.—*Phocomelus of Humerus in Epilepsy as a Stigma of Degeneration, with Report of Two Cases. L. Pierce Clark.
96.—*Inhibition. S. J. Meltzer.
97.—*Intrauterine Vaporization. Abram Brothers.
98.—*"Inertia" and Pedicle-twisting. Charles P. Becker.
99.—*Complete Laceration of Urethra, with the Report of a Case. Arthur Stern.
100.—*The Coated Tongue. W. H. Weaver.

Boston Medical and Surgical Journal, May 11.

101.—*Hysteria Simulating Acute Visceral Inflammation. William H. Robey, Jr.
102.—*Poisoning During Chloroform Anesthesia in the Presence of a Naked Flame. Kenelm Winslow.

Medical Record, (N. Y.), May 13.

103.—*Hernia Guarantee and Minimum of Confinement after Operations for Appendicitis With and Without Pus. George M. Edebohis.
104.— Naupathia. Edwin K. Losee.
105.—*Successful Excision of Gastric Ulcer. Hermann Grad.
106.—*Scientific and Practical Medical Aspects of Public School Inspection. Francis Reder.

Cincinnati Lancet-Clinic, May 13.

107.— Historic Medicine. James F. Heady.
108.— The Old Guard. James T. Whittaker.

Medical News (N. Y.), May 13.

109.—*Limitations of Conservative Surgery on Female Genital Organs. George Ben Johnston.
110.—*Use of Formaldehyde Gas as a Disinfectant for Dwellings, Vehicles and Household Goods. William H. Park.
111.— Otology: Its Relation to General Medicine. G. Griffin Lewis.

Philadelphia Medical Journal, May 13.

112.—*Lithemia. B. C. Loveland.
113.—*Use of Quinin in Malarial Hemoglobinuria. C. C. Warden.
114.—*Etiology of Scarlet Fever. W. J. Class.
115.— Calculus Pyelitis with Co-existing Biliary Calculi and Presence in the Blood of Estivo-Autumnal Organisms. Richard J. Mauss.
116.—*Hysteric Muscular Paradox. Charles J. Aldrich.
117.—*Convenient Antisepsis. Comegys Paul.
118.—*Necessity of Force in the Treatment of Colles' Fracture of Radius. John B. Roberts.

Medical Review (St. Louis), May 13.

119.—*Cystoscopy in the Male. T. C. Witherspoon.
120.—*Some Thoughts on Diphtheria. I. N. Love.

Maryland Medical Journal, May 13.

121.— Limitations of Conservative Surgery of the Female Generative Organs. George Ben Johnson.
122.—*Tonsils as a Menace to the Organism. John R. Winslow.

AMERICAN.

1.—**Partial Enterocele.**—Fowler reports two cases of Litre's hernia from personal observation, and reproduces four cases of Treves' and one of Dent's in abstract. He discusses the literature at length and gives a full bibliography at the close of his paper.

2.—**Galvanic Current in Ankylosis.**—Gwyer recommends the use of this current in stiffness of the joint from synovitis, sprains and injuries, and believes that all cases of false ankylosis of traumatic origin are benefited more or less by the galvanic current, that the sooner the treatment is commenced the more rapid and general the effects, and that the effects are more rapidly produced than by any other method excepting, perhaps, the hot-air treatment. It has the advantage over hot-air treatment in that it is not accompanied by danger from burning, provided care is used, and that in the latter no electrolytic action takes place as with the use of the galvanic current. In cases of false ankylosis due to disease, pain is relieved though motion is less likely to be improved. That due to gout is least affected of any. All cases in which the treatment is to be effectual, will show improvement during the first two or three applications.

3.—**Tubercular Lymph-Nodes.**—Dowd, on the strength of thirty-six cases submitted to operation, believes we are warranted in advocating the removal of the tubercular cervical lymphomata excepting where the general condition prohibits operation. The operation should be thorough and observation be kept up to supplement it with other removals if necessary.

4.—**Lingual Psoriasis.**—Ransohoff reports in full a case of leucoplakia of the tongue in which the diseased portion and the underlying tissues were entirely removed. Microscopic examination confirmed the diagnosis of ichthyosis papillaris. He mentions two other cases also operated on, and on account of the tendency of these growths to malignancy and their obstinacy to other treatment, he is inclined to recommend operation in all these cases.

6.—**Cholelithiasis.**—Beck reports a case and illustrates it with skiagraphs and diagrams of transposed viscera in which the condition was recognized and cholelithiasis performed on the misplaced gall-bladder.

8.—**Causes of Inebriety.**—Crothers believes that many cases of inebriety originate in dietetic errors, bad habits of eating, etc., the deranged digestion finding its relief in alcohol, and this in turn aggravating the condition and producing the drink habit. Many cases originate in dietetic delusions; in some of these a systemic starvation exists, due to the peculiar notions held in regard to food. The treatment of this form of inebriety consists essentially in the elimination of toxins and proper nutrition.

11.—**Injuries From Alcohol.**—Manley calls attention to the fact that a large proportion of accidents, involving surgery, are due to intoxication on the part of the victims, and dwells on its forensic importance. The question of contributory negligence from alcoholism, the administration of alcohol by the laity in cases of injury, etc., are noted, and the effects of drinking habits in favoring complications or retarding recovery are among those he mentions.

12.—**Cocain Addiction.**—Lett states that cocain habitues are largely produced by the various proprietary preparations on the market. The amount taken by them daily varies within very wide limits—from a fraction of a grain to even 60 or 90 grains. He describes the symptoms, beginning with abnormal nervous erethism, insomnia, etc., leading to intense physical and mental depression and finally, to dangerous paranoiac insanity. The diagnosis of the habit in its less manifest stages is by urine analysis, and he describes in detail his method of preparing urine, and the tests—that with terchlorid of gold and that with Myer's reagent.

17.—**Egg Membrane in Ophthalmic Surgery.**—Coover reports four cases of ophthalmic surgery including one of symblepharon, one of iridectomy and two of ulceration in which he used egg membrane to cover the raw surface and give time for tissue growth and prevent infection. He believes this membrane has a wide field of usefulness in ophthalmic surgery.

21.—**Albuminuric Retinitis.**—Rogers discusses the question as to the importance of albuminuric retinitis as a prognostic element in Bright's disease. He discusses the literature and briefly tabulates fifteen cases that have been under observation for sufficient length of time, three of which are briefly reported, as a result of his study, and concludes that about seven patients out of ten who develop an albuminuric retinitis during the course of either of the three forms of chronic nephritis die within a year, and nine out of ten within two years.

24.—**Incipient Orthopedic Cases.**—Hartwig warns against slighting diagnosis of slight matters that may indicate joint or bone disease. It is better to take the safe method and treat it for the worst. He also emphasizes the necessity of careful examination of new-born infants for defects which can be better remedied early than later, and also sometimes more readily recognized. He regrets the decadence of the family physician with the growth of specialism as favoring the non-recognition of defects in early life when they can be best remedied.

25.—**Urinary Infection.**—Dowd emphasizes the need of caution in examining the genito-urinary tract, especially the use of the catheter and sound without due antiseptic precaution. They should be preceded and followed by injections of an antiseptic solution preferably formaldehyde. Many cases of bladder disease are due to just this kind of interference without antiseptic precautions.

27.—**Disinfection of Alimentary Canal.**—Jacobi very thoroughly discusses the question of disinfection of the entire alimentary tract. He takes up the function of each part and shows how nature meets emergencies and also describes the interference with its processes by bacteria and other agents and the means to meet the conditions as they occur. He advises practitioners not to be guided too much by the results of experiments made in the laboratory as opposed to clinic experiments.

28.—**Albuminate of Iron.**—Watson recommends this form of iron as in every way the best preparation in cases where iron is needed to supply a want in the system, and states that his experience confirms this opinion.

29.—**Skin Diseases in Children.**—Bulkley gives practical points as to the management of various skin disorders as they occur in young children. Eczema in early life indicates faulty nutrition and the diet should be attended to; if nursing, that of the mother; if later, the child's food must be especially looked after. He gives a description of a method he recommends for the preparing of wheat, which has been already described in this Journal, page 840. He warns against the use of castile soap in these cases, and tar soap is also sometimes irritating. The general treatment of eczema in children is detailed. Other skin diseases mentioned are syphilis; ringworm, which is sometimes very obstinate when located in the scalp, and is also contagious; urticaria, herpes, impetigo contagiosa and nevus.

32.—**An Oculist's Experience.**—Kyle briefly reports some of the experiences met with by him during the Spanish-American war as army surgeon, the difficulty of detecting ocular defects in recruits, the need of instruments for the treatment of such conditions, etc. He found in Matanzas that the great majority of cases of conjunctivitis that occurred, on microscopic examination, confirmed the statement of Gifford that the pneumococcus is the most frequent cause of the disorder.

36.—**Gastric Ulcer.**—Anders reports a case as illustrative of gastric ulcer and discusses the diagnosis, prognosis, etc. The treatment is simple and he advises the rest in bed method, keeping the patient absolutely in a recumbent position and using rectal feeding as far as possible to rest the stomach. The drug treatment is the least important and mainly symptomatic.

37.—**Eye Strain.**—Ellet discusses the special affections that have been attributed to eye strain and relieved by its removal. Very few cases of circulatory or respiratory disorders have been thus attributed, but he thinks he has himself observed a conjunctival hyperemia extending into the nasal mucosa. Skin disorder would hardly be expected from this cause, but Oliver has reported a case of urticaria evidently due to ocular defects and relieved by glasses. In the genito urinary apparatus some disturbances have been reported as relieved, and Prentice holds that some of the symptoms of diabetes can be thus ameliorated. Ellett evidently has some doubt as to this possibility. Muscular spasm, gastro intestinal disturbances are mentioned, and of the latter, nausea, sick headache, etc., from the trouble, are examples. The nervous system, naturally, is the chief sufferer, and ophthalmologists' case-books are bountifully supplied with instances of its involvement. Eye headache, eye vertigo, etc., are well known. Epilepsy and chorea, of which so much has been written by Stevens and Ranney, are mentioned judiciously by the author, who says that he has personally had no success with the eye treatment of epilepsy.

38.—**Treatment of Typhoid Fever.**—Hubbard believes that the pendulum has swung rather too far in favor of the cold-water treatment of typhoid, and that the antiseptic treatment should be more considered as a logical method. He uses it in the following form: Calomel, .5 grain; guaiacol carbonate, 2 grains; podophyllin, .05 grain, given in capsule every two hours for one or two days, according to the condition of the bowels. He continues this until he has secured four or five evacuations for two successive days, then leaves out the calomel and adds .5 grain of menthol. If there is then any tendency to constipation, he uses small doses of salts or Hunyadi water in the morning, always endeavoring to secure at least two evacuations per day, depending on the temperature and tympanitis. If after four or five days the temperature remains high or rises, he again uses the calomel as above, for twenty-four hours, which invariably reduces the temperature and improves the condition. The guaiacol, menthol and podophyllin are continued throughout the disease. Occasional spongings or ablutions in cold water are used and dietetic and general hygienic precautions observed. He thinks that under this treatment patients can retain, digest and assimilate more nourishing food than with any other, and the average duration of the disease was in his cases only sixteen days. (See Journal, May 6, p. 996.)

39.—See abstract in Journal, April 1, p. 714.

40.—**Laryngeal Paralysis.**—MacCoy calls attention to the paralysis of the larynx that may often occur from typhoid infection, and reports three cases, in one of which prompt intubation undoubtedly saved the patient's life. The second was one in which tracheotomy had been performed, and the third, being too late in operation, was fatal. He believes that the present clinic status of these cases is similar to that of tubal pregnancy years ago, when the patients were considered fatally predestined to death by peritonitis. We should watch for this paralysis and act promptly.

41.—See abstract in Journal, March 4, p. 487.

42.—Ibid.

44.—**Amyloid Liver.**—Musser reports a case of enlargement of the liver with suspicion of malignant disease. Death occurred from catarrhal pneumonia. The post-mortem examination showed the enlargement due to amyloid disease, which process also existed in the kidney and the spleen. There was also cirrhosis of the kidneys, which complicated the diagnosis. The lack of symptoms of amyloid disease excused the diagnosis.

48.—**Diphtheria.**—Gass reports his experience in the treatment of diphtheria with and without antitoxin. From January to October, 1895, he treated five cases of diphtheria with three deaths, all treated according to the recognized method before the discovery of antitoxin. Since December, 1895, he has treated nine cases with antitoxin, and all recovered; some of them were apparently more severe than the fatal ones that occurred before the use of this treatment. He has also been called in consultation in five cases similarly treated, with equally good results.

49.—**Gall-Stone Surgery.**—Hoegh's paper urges the importance of early operation before the concrements have passed into the ducts or produced destructive inflammations in other organs. To meet this condition physicians must learn to early diagnose gall stones, and the public must be educated to seek early operative relief. Surgeons must exclude malignant cases from their operating list, as the deaths in these cases will be credited to the operations rather than to the disease, and, lastly, operation should only be undertaken by surgeons who are specially skilled or have made special study of the subject.

51.—**Cell Division in Carcinoma.**—Ferris' paper is a very elaborate illustrated description of the biologic changes in the cells in carcinoma. The principal points of medical interest deduced are that the bipolar mitosis is more indicative of malignancy than the multipolar. The production of multipolar and asymmetric mitosis by chemic agents suggests that a deranged chemistry may be a factor in the etiology of cancer. Hypochromatic and asymmetric mitoses are found usually only in carcinoma. Their presence, therefore, is of considerable diagnostic value.

52.—**Infective Otitis.**—Wilson describes the forms and causes of infective otitis and the methods of its treatment. The paper must be referred to for details. In those cases where the infection has gone beyond the tympanic cavity and begins to involve the sinuses, the prognosis is much more favorable than formerly, with the new treatment of free opening, curetting and asepticizing.

64.—**Climate for Consumptives.**—Schapps reports the history of his own case and dwells on the importance of not dreading cold climates for consumptives. He thinks that to most patients the bracing air of winter in the Montana mountain regions compensates for the diminished amount of sunshine at that time of the year, and he says he is not the only physician who hopes to be forgiven for sending patients South. But other things beside climate must be considered. While high altitudes and dry air are beneficial, it must be remembered that cases are cured even under the reverse conditions. Overwork, anxiety, etc., have much to do with the fatality of consumption. Congenial surroundings are as important as other elements. While pulmonary disease can not be cured by good psychic conditions, it can not be cured under adverse ones. Sunshine and fresh air are possibly as beneficial because they tend directly to cheerfulness, as because they are destructive to the bacilli. Change of residence, besides bringing into play physical healing functions may also be of advantage by removing the patient from associations of care and work and distracting the mind by new and pleasant impressions. In most cases it is desirable for the patient to remove far from the location of infection and to especially avoid the neighborhood of large cities. Many of the abandoned army posts in the West would make grand sanitariums for patients suffering from consumption.

66.—**Effects of Toxins.**—Van Cott's paper first describes the biology of the cells and then shows the effects on them of various disturbing agents, which inhibit or pervert the process of karyokinesis. He illustrates this by various instances, the effects of antipyrin, sepsis, diphtheria toxins, etc. The effect of these toxins must be a nutritive disorder. The parenchymatous tissues are very largely supplied with blood-vessels and as soon as the toxins have been inoculated they are bound to be quickly reached. At the close of his paper he emphasizes the danger of coal-tar products as causing the degeneration of the parenchymatous elements. In the discussion following, Dr. Bartley, pointed out that the toxins are probably not basic substances or ptomains, and may possibly be complex substances. In some cases they may be of a proteid nature, but not in others, and they may be elaborated in the body of the organism and escape into the culture-media on their death. Their action in producing disease appears to be selective, especially on the cells themselves, causing disturbances of function, and if present in sufficient amount, their death by disintegration of the nuclear elements. These changes are produced by the toxins of these organisms and not by the organisms themselves.

67.—**Varying Electric Resistance.**—Hutchins calls attention to the subject previously treated by him of the varying resistance of the individual to the electric current under certain conditions. He shows that the text-books give very little advice on the measurement of the current, generally leaving the operator to find this out for himself. He shows by experiment that resistance varies, not only in individuals, but under different conditions in the same individual, and that this may be of more or less importance in the therapeutic application of electric currents.

68.—**Rupture of Bladder.**—Thorndike reports six cases of bladder rupture, with three deaths, and discusses the diagnosis and treatment of these cases. He believes that there are very few cases in which laparotomy is not indicated, these being only those in which the rupture is positively known to be extraperitoneal and where the extravasation is known to be limited to the prevesical space. Immediate laparotomy should be performed in all other cases and in cases where there is doubt.

69.—**Alopecia Areata.**—MacGowan reports eight cases of alopecia areata, all treated with trikresol applications and with excellent results, cure being produced in all. The application was preceded by a thorough cleansing of the patch with benzin; the pure remedy was applied to the scalp and well rubbed into the denuded patch and into the roots of the hair for half an inch surrounding the patch. This produces some pain, which usually passes away in a few minutes or half an hour. The skin turns pearly white almost instantly, the hair and sebaceous follicles seeming to gap. This whiteness is followed in a few hours by circumscribed hyperemia, occupying the same area. On the scalp there is very little transudation of serum. When applied to the face there may be more pronounced vesication. Within twenty-four hours a brown or brownish red superficial scale forms, which falls in from four to ten days and a new application is required. The skin is now more tender and the application should not be so thorough nor strong. When applied to the face, the trikresol is given by him in solution of 50 per cent. with alcohol. The average length of treatment is about two and one-half months.

71.—**Albuminuria of Pregnancy.**—Ott thinks that we have discovered nothing new as to the causal or pathologic relations, but we have advanced in treatment of this condition. The causes given are pre-existing disease of the kidneys, either latent or aggravated by pregnancy, disorders directly caused by pregnancy and the extra work it entails, and pressure on the kidneys or the ureters causing reflex vascular tension and irritation. The frequency is about 6 per cent. The albumin seldom appears before the third month and in some cases there are no objective symptoms and the albumin is only accidentally discovered. In some cases it seems to appear during or immediately subsequent to labor. He reports a case in which there was entire absence of dropsical signs, with predominance of nervous symptoms. As regards treatment of these cases, it is generally best to interfere and cause delivery whenever the symptoms seem to be threatening. The intermissions in this class of cases are delusive, and watchfulness should not be abated. Microscopic examination of the urine should be kept up and if hyaline casts are found after the albumin has disappeared, there is danger of a relapse.

79.—**Subconjunctival Injections.**—Smyth speaks in favor of the method of using subconjunctival injections in iritis, keratitis, etc. Its action is as a lymphagogue rather than as a specific result of the drug used, and in his later cases he has used a simple 2 per cent. salt solution with good effects and almost no pain. He gives two cases illustrating this method.

80.—**Hemiplegia.**—Helm describes a case in which there was paralysis of the left limb, with anesthesia of the right, which disappeared under treatment with ergot, strychnia and iodid of potash. He believes it was caused by a fall and pressure against the spinal cord at the level of the ninth dorsal vertebra, which could not have been from a dislocation, judging from the results.

81.—**Vaccination.**—Speidel describes a method he has used for vaccinating safely, antiseptically and without inconvenience. After rubbing in the virus, he sticks a thick bunion plaster over the spot so that the vaccination area fits into the hole. A strip of rubber adhesive plaster long enough to go around the arm is then taken and on the middle of the adhesive side is pressed a one-inch-square of cleansed rubber tissue, the dull side downward. The strip of adhesive plaster is then placed around the arm, the little square fitting over the hole in the bunion plaster. The strip of rubber tissue prevents the adhesive surface of the plaster from coming in contact with the vaccination spot. In this way the vaccination is protected from contamination, injury or friction of the clothing and generally proceeds undisturbed to the end. The patient is looked after and if any redness shows itself above or below the bunion plaster, the adhesive strip and plaster are removed and the inflamed surface cleansed with turpentin and then painted with ichthyol-collodion, beginning by painting the healthy skin beyond the inflamed region and gradually approaching the center. When done a gauze bandage is wrapped around the arm to prevent friction with clothing.

84.—**Yellow Fever.**—MacKowen believes he has discovered a reaction found in the urine of yellow-fever patients and in no other disease. He describes it as follows: "Pour into a test-tube four and a half cubic centimeters (or one fluid dram) of urine, add a cubic centimeter and a half (or a fluid scruple) of sulphuric acid, shake well, then, after cooling the mixture by putting the lower part of the tube in cool water, add a cubic centimeter and a half (or one fluid scruple) of chloroform to the mixture in the tube, shake thoroughly, then put the tube in a standing position and allow the chloroform to settle to the bottom. The chloroform becomes a sediment at the bottom of the tube and assumes, within twenty-four hours, an opaque, dirty, yellowish-white, or an opaque dirty yellowish-gray color. Above the chloroform rests a brownish liquid, and between liquid and chloroform sediment a pink or reddish streak forms. Sometimes the part of this underlying streak near the liquid is bluish and then near the chloroform is pink or reddish, but the blue turns gradually to pink or red after some days; usually this streak is only pink or reddish. By keeping this reaction in the test-tube for some days or weeks all these colors become more pronounced or darker. By a little practice with this reaction any one can see from the color of the sediment that yellow fever is present, or not, within an hour, and as the eye becomes more accustomed to it, a few minutes suffice for a diagnosis." The formation of this dirty, yellowish-white sediment is due to the large amount of urobilin in the urine of yellow fever, and it is rendered opaque and of a dirty hue by the presence of a small amount of bile and a larger amount of indican, which the chloroform absorbs as it is shaken up. When the chloroform has become a sediment, a reddish indican line gradually forms in its superior part as the red is deposited by settling from the superposed liquid. As the bile increases in the blood stream and urine, the bluish-green tinges the red more or less, and may even replace it.

85.—**Uterine Reflexes.**—Upshur reports three cases in which, with other symptoms, there were marked nervous disturbances, severe headache, glottis spasm, mental aberration and paralysis existing in one or another of the women, in which correction of uterine or ovarian disorders caused complete relief. He says these are only a few of many illustrating in various ways the reflex disturbances incident to uterine or ovarian disease, and they are reported to point out the lesson that in women a diagnosis of serious nerve lesion of central origin should never be made and no prognosis given until the uterus and its appendages have been carefully, intelligently and systematically examined.

86.—**Closing Abdominal Incision.**—McGuire, in choosing the method of closing the abdominal wound in laparotomies, says that when time is valuable and life in danger, he should use the through-and-through suture, and the tier suture "whenever the slightly longer operation will be compensated for by the more comfortable convalescence and the greater assurance of the future integrity of the abdominal wall."

92.—**Climate for Consumptives.**—Phelps discusses the various locations recommended for consumptives and concludes, notwithstanding certain disadvantages from low altitude, that Phœnix, Ariz., meets the largest number of requirements. Southern California is much less advantageous for this class of patients.

93.—**Hot Air in Joint Diseases.**—Gillette rather discredits the extreme claims that have been made as to the benefits derived from hot-air treatment in joint diseases. He finds that the theories of its action are unsatisfactory, and that mental impression in many cases has probably much to do with the beneficial results. Many men who have been using the treatment for two years or over in joint diseases, and have kept a careful record of their cases, now employ it to a very limited extent in special conditions. His own experience has been disappointing. In rheumatoid arthritis and chronic gout it has been unsatisfactory. His opinion is that it is of no benefit whatever in tubercular cases, though he will not make a positive statement to that effect. In gonorrheal joints without suppuration the heat has been beneficial in relaxing the rigid muscles, and possibly in softening and loosening the adhesions. When patients have worn a plaster cast for a long time, it seems of especial benefit in restoring the joint. He has produced perfect cures in cases of dry synovitis, and in acute or chronic sprains excellent results have been obtained, and also with fractures near the joints where the muscles and tendons are bound down by inflammatory adhesions. He has found it of benefit as supplementary treatment in inflammatory flatfoot. Taken altogether, he has come to the conclusion that hot air is at best only an adjuvant to other treatment, and that it is still impossible to cure the formerly so-called incurable joint diseases.

95.—**Phocomelus of Humerus.**—Clark calls attention to an asymmetry of the humerus as a degenerate stigma in epilepsy and reviews quite extensively the literature of the shortening of the bone. He reports a case in detail, with illustrations.

96.—**Inhibition.**—Meltzer's paper is a continued one and will be noted at more length when it is completed.

97.—**Intrauterine Vaporization.**—Brothers describes the technic of intrauterine vaporization, the apparatus, the after-treatment, sequelæ, indications and contraindications, and briefly reports twenty-one cases. He concludes that from experience thus far it is of value as a hemostatic in non-malignant post climacteric hemorrhages and various other irregular hemorrhagic conditions; that it is a caustic which can be trusted to destroy the mucosa of the uterus even to the extent of obliterating its canal, and as a bactericide it may be used in gonorrheal and septic puerperal endometritis. Fenomenow has verified the sterility of the uterus after this operation. Pincus has also resorted to intrauterine vaporization to reduce the bulk of the subinvoluted uterus with success, and Fenomenow has reported good results in a case of chronic suppurating abdominal fistula.

98.—**Pedicle Twisting.**—Becker explains the twisted condition of the pedicle in ovarian and other tumors, sometimes found on operation, by the inertia of the mass in cases of sudden twisting or turning of the body. It is only a question of favorable conditions or otherwise. Tumors that are not attached by adhesions will be subject to this twisting action.

99.—**Complete Laceration of Urethra.**—Stern reports a case of complete laceration of the urethra following a fall on a fence, quickly recovered from by prompt external urethrotomy, and he emphasizes the importance of early recognition and operation in these cases.

100.—**The Coated Tongue.**—Weaver briefly dwells on the importance of the coated tongue as a germ carrier and producer and the effects of it as a systemic infection-breeder. He says it has been his custom when consulted in regard to a coated tongue or foul breath to advise the patient to procure a tongue scraper and diligently cleanse the tongue every morning as a toilet process, using after it a disinfectant mouth wash. Every surgeon, also, who has a coated tongue should bear in mind that in sneezing, coughing or even speaking, infection may be carried. Every patient undergoing any operation about the mouth should have the tongue cleansed and disinfected and every fever patient should have the tongue systematically cleased to remove that much self-infection.

101.—**Hysteria simulating Visceral Inflammation.**—Robey reports three cases in which diagnosis was complicated and rendered difficult, two of which appeared to have been simple hysteria and in the third organic disease was mistaken for hysteric disorder. He thinks that these cases point out the importance of regarding each case as one of serious organic disease until the reverse is demonstrated and the necessity of early rectal and vaginal examination and consultation and laparotomy in doubtful cases.

102.—**Poisoning during Chloroform Anesthesia.**—Winslow reports a case in which an operation was performed by the light of three gas flames, with the result of producing serious irritation in the throat and chest of all present, and compelling free ventilation of the room and the continuing of the operation under ether. He explains the presumed chemic action and believes the toxic effect was due to the setting free of chlorin gas. This adds one more danger to chloroform anesthesia and offsets some of its advantages, especially in obstetric cases.

103.—**Hernia Guarantee.**—Edebohls discusses the operations for appendicitis and their dangers as producers of hernia, also the length of time of confinement after operation. He describes his own method of operation for purulent appendicitis at length, which can not be reproduced here. He concludes that the perfected operation for chronic appendicitis is sufficiently well elaborated to make ignorance on the part of the surgeon inexcusable, but that the technic of the operations for acute purulent appendicitis still is somewhat open to discussion. He believes his method will lead, if adopted, to results as satisfactory as those in chronic appendicitis. The value of the gridiron incision of McBurney in acute appendicitis with pus is not sufficiently appreciated, nor is it sufficiently recognized that the duration of confinement after operation for chronic appendicitis need not exceed a week, and may be even less. The duration of confinement after operation for acute appendicitis with pus, excepting those cases where fecal fistulæ form, need rarely exceed two weeks at the outside. The author has found, since adopting his method described, the longest period in his practice to be fifteen days. Hernia, he claims, need no longer be dreaded in operations for appendicitis, and there is no longer any good reason why all patients suffering from this disorder should not have the benefit of the operation.

105.—**Gastric Ulcer.**—Grad describes a method of operation for gastric ulceration, illustrated by diagram, in which he inserted a sort of pucker-string suture around the line of proposed incision, in the loops of which he inserted a wire frame which, during the operation, kept the incision wide open and prevented the contents of the stomach from soiling the surrounding tissues.

106.—**Public School Inspection.**—Reder calls attention to the necessity of inspection of public school children and the hygiene of public schools as a prevention of infection. He dwells on the necessity for cleanliness in every respect, the necessity for oversight, especially at certain periods of the year, as late in the fall and early in the spring, the isolation of infectious diseases, the importance of looking after diseases of the throat and lungs, etc.

109.—**Surgery in Women.**—Johnston dwells on the importance of thoroughness in operations on the female genital organs, recognizing the difficulties and objections to mutilating procedures. The question is influenced by various conditions: the age of the patient, the nature of the disease, the extent of the lesion and its complications, the patient's physical condition. While conservatism properly applied is wise and humane, it must accomplish the best results. It often entails prolonged effort, thus increasing the liability to shock, and extensive manipulations increasing the risk of infection, besides tissue injury and the possibility of a second operation. All these things should be weighed in the consideration of the problem of what is best, a thorough removal of the parts or an endeavor to save as much as possible of the diseased organ.

110.—**Formaldehyde Gas Disinfectant.**—Park describes the method of action in the use of formaldehyde gas as a disinfectant, and concludes that it is the best agent at present in use for surface disinfection of infected dwellings. For heavy goods it is inferior in penetrative powers to steam or dry hot air at 230 F., but for the disinfecting of fine wearing-apparel, furs, leather, upholstery, books, etc., which are injured by great heat, it is better adapted than any other disinfectant now known.

112.—**Lithemia.**—Loveland makes two distinct divisions of lithemia: 1. The plethoric type, occurring in patients of full habit, passing small quantities of concentrated urine, the blood showing a relative concentration as regards hemoglobin (95 to 120 per cent.), while the corpuscle count ranges from 5,500,000 to 7,000,000 or more; in this class of patients the assimilative organs are in good order to digest the usual amount of food materials and the ordinary variety, the lithemia resulting from overloading the system. 2. The asthenic type, under which he groups the chronic progressive articular (rheumatic) conditions as well as various nervous and systemic disorders; he considers the assimilative processes so feeble that the ordinary amount and variety of nourishment is not supplied to the body; blood shows a deficiency in hemoglobin (65 to 85 per cent.), while the corpuscular proportions are not worthy of note. A rigid dietary regimen may be laid out for the plethoric cases, while great care is necessary in prescribing for the asthenic types. Large quantities of water may be used by all cases, while alkalies are to be used in smaller quantities and over a longer period in asthenic than in the plethoric cases. Bathing, flushing, or a course at the hot springs is a line of treatment especially adapted to the first class of cases; the feeble patient may resort to frequent dry rubs.

113.—**Malarial Hemoglobinuria.**—Warden considers that the burden of proof that the administration of quinin is accountable for malarial hemoglobinuria rests with the demonstration that the drug given to a malarial patient hitherto uncinchonized is followed by hematuria, which disappears and returns with the withdrawal and continuance of the drug; such positive cases are rare. In treating malarial cases in which hematuria has developed, there is little or nothing to prove that the careful administration of quinin is harmful except in cases of pure quinin-hemoglobinuria, a rare condition. The exhibition of quinin should depend on the results of blood examination; as long as the parasites are present the administration of quinin should be continued, unless some dangerous idiosyncrasy be observed. With regard to the use of quinin in post-malarial hematuria, and in cases in which bloody urine occurs after remote attacks of malaria, there is nothing to indicate its use unless the parasites are formed.

114.—See abstract in Journal, April 8, p 764.

116.—**Hysteric Muscular Paradox.**—This is a term advanced by Aldrich to designate the phenomenon of hysteria which is characterized by paralysis or weakness of a muscle or a group of muscles for one purpose and not for another. This phenomenon of hysteria seems to contravene known laws of muscular action; thus it constitutes a paradox.

117.—**Convenient Antisepsis.**—Paul recommends that for the rapid preparation of the hands of the surgeon and assistants, acetanilid be combined with ordinary powdered castile soap in the proportion of fifteen parts acetanilid to one hundred of soap.

118.—**Force in Colles' Fracture.**—Roberts calls attention to the necessity of using a great deal of force to reduce and fully replace the lower fragment in this class of fractures, the fragment being driven by the impact of the hand against the ground when the patient falls and sustains the injury, the displacement being almost always accompanied by entanglement of the two fragments with each other, or true impaction of the upper fragment and the cancellated tissue of the lower fragment.

119.—**Cystoscopy in the Male.**—Witherspoon describes a new device of cystoscope for use in the male urethra, and illustrates the same. He claims as its advantages the slight cost, simple and uncomplicated illumination, the possibility of treatment as well as examination, the direct seeing of the field without modification by lens, reflector or fluid, and the facility it affords of catheterization of the ureters.

120.—**Diphtheria.**—Love holds that the origin of diphtheria is established beyond reasonable doubt, as the Klebs-Loeffler bacillus, and that antitoxin is demonstrated as a remedy almost as valuable and definite for this disease as vaccination has been for smallpox. He advises, however, caution in the application of the remedy and the recording of cases.

122.—**Tonsils as a Menace.**—Winslow discusses the question of infection through the tonsils, referring specially to diphtheria as a typic example. Scarlatina is believed also to infect the system in this way. Articular rheumatism was one of the first diseases recognized as a systemic infection thus introduced, Trousseau, in 1866, first pointing out this relation. Pneumonia is a less frequent sequel to tonsil disease, but tuberculosis is one of the most common chronic infections thus entering the system. Heretofore, we have simply directed treatment toward conditions resulting from hypertrophy of these organs, but now, in view of these facts, Winslow thinks that we should modify our views and practice. The correct treatment, in his opinion, is by prophylactic destruction of the diseased tissues and the tonsils should be replaced by scar tissue. The ideal operation is by electrocautery as advocated by Pynchon.

FOREIGN.

Lancet, April 29.

Parasite of Cancer. William Russell.—The author discusses the investigations of the Italian biologists, Sanfelice, Boindi, Carboni, Marino-Ruco, Roncali and others, and holds that the evidence is incontestably in favor of the blastomycetes as the pathogenic organism in cancer.

On a Case of Cerebral Abscess Illustrating Certain Forms of Aphasia. Alexander Miles and Theodore Shennan.—The writers report a case of a young man who had an abscess, following otitis, involving the whole white matter of the temporal lobe with the exception of the auditory center. The aphasic symptoms were paraphasia, of which the patient was generally conscious, and amnesia, chiefly of nouns and names. The case seems to indicate that the area which controls the naming of things is not necessarily the same as the auditory center, but may possibly be in another part of the cortex. In this case admitting the existence of such a center, the conducting fibers from Broca's convolution would be interrupted and the results would be such as were found in this case.

Incubation Period of Scarlet Fever, Varicella, Parotitis and Rotheln. Clement Dukes.—The author publishes tables showing the incubation period of these four diseases in a number of cases. It varied from two to six days in scarlet fever and from nine to nineteen in varicella, and averaged about nineteen in mumps. In measles the average appeared to be less than two weeks and a little over that in rubella. He also gives a table to show the effectiveness of the early isolation of the first case in preventing epidemics of these disorders and makes it manifest that it is least efficient in rubella. This disease, therefore, may be considered the most infectious of any, but, fortunately, it is a trivial disorder.

Bulletin de l'Academie de Medecine (Paris), April 18.

Diffuse Hypertrophy of Bones of Face and Skull. Le Dentu.—This affection Le Dentu states has no connection with Paget's osteitis or acromegalia. It is usually bilateral but may be limited to one-half the face or a single group of bones. Its evolution is distinguished by acute and subacute phases resulting in the exaggerated development of certain portions of the bones already abnormally developed as a whole. The lesions develop with more or less slowness, usually taking years, but cases have been known in which the hypertrophy occurred rapidly and terminated fatally in a few months. Far from being composed exclusively of bone substance, the tissues may form a combination in variable proportions of bony, fibrous embryoplastic elements, difficult sometimes to differentiate from circumscribed and pediculated bone tumors on the face which occasionally occur symmetrically, such as an osteoma, osteofibroma, osteofibrosarcoma or osteochondrosarcoma. The prognosis is relatively benign, but the affection may shorten life by preventing mastication, swallowing and breathing, and by cerebral phenomena, from compression of the brain or irritation of the meninges, such as he observed in three of his four personal cases. Partial extirpation of the new-formed bony masses proved successful in the other case and encourages further attempts to arrest the development of hypertrophy of the face or leontiasis ossea, in the early stages, by abrasion of the projecting portions and deep igneocauterization.

Journal de Medecine de Paris, April 23.

Cystinuria. H. Moreigne.—A typic case of cystinuria was carefully studied for a number of months with the following conclusions: The subject was a young woman who had had attacks of renal colic at times for twelve years, some extremely painful, terminated by the expulsion of small, yellowish, slightly translucid and friable calculi composed of cystin. The urinary organs are in good condition; the urine greenish yellow, with crystals of cystin in the sediment. The amount of uric acid is considerably more than normal and does not vary with the amount of cystin. Cystinuria is evidently due to a diminished activity in the organic interchanges, a slower nutrition; exaggeration of the anaërobic life of the cells with partial arrest of the oxidation, indicated by the diminished amount of nitrogen, of oxidized sulphur and of urea in proportion to the total of organic substances excreted, with an increased amount of incompletely oxidized sulphur in proportion to the total amount of sulphur which does not vary from normal; increased amounts of leucin and tyrosin, with putrescin and cadaverin, and a larger proportion of carbon to the nitrogen in the urea. He mentions facts which disprove the theory that the cystin is formed in the intestines and demonstrates that it is produced throughout the organism, although he is inclined to regard the liver as the organ principally involved. The treatment is the same as for other affections due to a similar diathesis, stimulating by every means the intraorganic oxidations. (See Journal, xxvii, p. 95.)

Presse Medicale (Paris), April 22.

Therapeutic Application of Vanadium and its Compounds. Laran, Lyonnet, Martz and Martin. All these writers announce more than satisfactory results from the administration of vanadic acid or sodium metavanadate in tuberculosis, chlorosis, anemia, neurosis and all affections depending on diminished nutrition and oxidations, due to its remarkable property of absorbing and yielding oxygen, which has long been utilized in certain industries. They consider it probable that a pervanadic acid is formed, which is extremely oxidizing and unstable, incessantly destroyed and incessantly renewed, taking up oxygen where it is in a weak combination and yielding it to other substances which absorb it with difficulty. They even assert that the vanadium salts may prove the specific remedy for retarded nutrition and cachectic conditions. Laran establishes the fatal dose of vanadic acid for dogs as eight miligrams per kilogram, the first symptoms of intoxication appearing with 1.5 mg. Ingested *per os* the fatal dose is a little larger. He uses a solution of $\frac{1}{4}$ grain per thousand for local applications, and reports one case in detail in which an obstinate, recurring tuberculous osteoarthritis was cured in two weeks. He administers to patients $\frac{1}{13}$ grain (0.45 mg.) vanadic acid in two doses during the day, and has never noted a trace of disturbance of any kind in the course of months, although he emphasizes the importance of an absolutely pure article. The other writers report appetite, strength and weight rapidly improved in sixty patients taking $\frac{1}{16}$ to $\frac{1}{13}$ grain sodium metavanadate in twenty-four hours before meals, three or four days each week. No disturbances of any kind were noted. The fatal dose for dogs is 75 milligrams per kilogram.

Deutsche Medicinische Wochenschrift (Berlin), April 27.

Modern Blood Preparations. W. Rosenstein.—Spectroscopic analysis of a number of meat-juice and blood preparations on the market, in Lewin's pharmacologic laboratory, directly contradicts the advertising statements, showing that none of them consists of perfectly pure blood. The writer concludes his detailed report by adding that even if they fulfilled all the requirements, the idea of administering them to aid in the production of blood is based on erroneous premises and is a distinct retrogression. Voit and Cloetta long ago established that the iron in blood is not absorbed in the alimentary canal, while we know that anorganic preparations of iron are assimilated and benefit chlorotic subjects.

A Rare Case of Pylorus Stenosis. C. Fleischauer.—The stenosis and obstruction were due to a gall-stone the size of a pigeon's egg which had found its way into the stomach through a perforation into the gall-bladder, which with the duodenum was adherent to the stomach in the pyloric region. A fistula remained after resection of the pylorus and cholecystectomy, which gradually healed, with absolute acholia for three weeks; complete recovery.

A Rare Case of Hernia Interna. S. Watjoff.—A depression is often noted under the sigmoid flexure in the mesentery, and in the case reported this depression formed a pocket in which the intestine became incarcerated, causing strangulation and death. A number of whole, unripe cherries were found in the hernia and its neighborhood. A prompt laparotomy would have saved the patient, and the hernia might possibly have been reduced by introducing a long irrigating tube per anum.

Centralblatt f. Chirurgie (Liepsic), April 29.

Ligneous Phlegmon. L. Krause.—The writer describes a couple of cases of the slow inflammation of the connective tissue by feebly virulent micro-organisms called ligneous phlegmon, on account of its board-like structure. One was in the neck of a healthy young woman, the other in the abdomen, extending from the navel to the symphysis. The first produced suffocation from compression of the larynx, the other frequent desires to urinate from pressure on the bladder. Both retroceded after evacuation of a deep abscess that formed.

Muenchener Medicinsche Wochenschrift, April 25.

Further Experience in Tendon Implantation. O. Vulpius.—Eighty operations, in which part of the tendon of an active muscle was implanted in a cleft in the tendon of a paralyzed muscle, with or without shortening by taking up a fold, have produced such highly satisfactory results that Vulpius recommends the procedure with enthusiasm, not only for cases of traumatic rigidity, Little's disease, spastic paralysis and partial and total spinal paralysis in children, but also for children's cerebral paralysis, apoplectic hemiplegia, dystrophia muscularis, progressive and congenital club- and flatfoot, talipes equinus and loose joints. The foot is best adapted to this operation, but he has also secured surprising results with the thigh and hand. The operation accomplishes everything short of miracles, enabling children helplessly deformed to walk and use their members with ease. The tendons are stretched, interlaced and sutured in an overcorrected position. If the bones require operating he postpones the tendon operation until this is done. A plaster cast is applied for six to seven weeks; the subject remains in bed the first four, with massage, electricity and hydrotherapy later if possible. He always uses silk; in four cases a thread suppurated out several months later, and in one case neuralgic pains persisted for several months in the operated region. With these exceptions the recovery has been smooth and the operation invariably more or less successful. He casually adds: "It may be a mere coincidence, but the fact is none the less gratifying, that during the last eighteen months, since I have been operating in thread gloves and a hood, which leaves only the eyes exposed, there has not been a trace of infection in any of my 250 aseptic operations."

Wiener Klinische Runschau, April 13.

Diagnostic Significance of Ulcerations of the Epiglottis in Abdominal Typhus. G. Kobler.—Ulcerations with loosened edges lengthwise of the epiglottis, occurring in an acute feverish disease, differentiate typhus with almost infallible certainty, according to Kobler's experience. They also determine the prognosis, as the infiltration persists and subsides with the acute stage of the disease. He warns against confounding traces of healed ulcerations left from an old typhus with syphilitic lesions.

Origin of Choked Disc and a New Explanation. J. Deyl.—The writer concludes the report of much research from the six previous numbers, with the statement that choked disc is the result of compression of the vena centralis retinæ at its emerging point or before, by the outer sheath of the optic nerve, which is forced apart from the nerve fibers in the pial sheath by pressure from hydrops intervaginalis or an extravasation of blood. The dural sheath thus expanded into an ampulla, bends and compresses the vena centralis until the circulation is partially arrested. The accumalation of fluid in the anterior portion of the space between the sheaths is caused by increased intracranial pressure, or by some occlusion of the optic foramen. This occlusion may also occur with a tumor of the hypophysis or in acromegalia in certain anatomic conditions, in which case the choking of the disc is due to stagnation of lymph and consequent compression of the vein. As long as the ampulla shaped dilation of the dural sheath does not reach to the emerging point of the vein, "choked disc" does not occur, even with pronounced hydrops. And after the dilation has subsided, from subsidence of the fluid after trephining or healing of the intracranial affection, the expanded sheath collapses, the pressure is removed, the circulation re-established in the vein and the choked disc condition is ended, but is liable to recur with a renewal of the circumstances. Tuberculous, syphilitic and other lesions may also compress the vein at its emergence and cause the choking. The vein is not compressed in its farther course, but rather dilated, which refutes the theory of primary edema. He calls attention, in conclusion, to the new sign, the impossibility to artificially control the pulsation of the papillary arteries, which in many cases will differentiate a cerebral tumor from a renal affection as the cause of choked disc.

Gazetta degli Ospedale (Milan), April 2, 20 and 23.

Cure of Tetanus with Injections of Brain Substance. Mori and Salvolini.—A severe case of traumatic tetanus in a farmer of 47 years was treated with subcutaneous injections in the left hypochondriac region, of 10 c.c. of an emulsion of brain substance from a cow, 10 grams in 15 grams of salt solution. The symptoms were attenuated by the fourth injection. The sixth arrested them completely for two days, when they recurred, but yielded again to another; eight injections in all.

Infective Character of Rachitis. M. Bellotti.—Although the specific germ of rhachitis has not yet been discovered, Bellotti urges that the disease be included among the important infective-contagious diseases of childhood, with disinfection or destruction of the articles belonging to a rachitic child.

La Cronica Medica (Lima, Peru), March 31.

Inoculability of Peruvian Verruga. M. O. Tamyo.—The identity of Peruvian verruga and the acute disease known as Oroya fever was practically proven by Carrion's experiment on himself (see Journal, xxxi, p. 1543). He inoculated himself with blood from a patient with verruga and died with typic Oroya fever. The case is fully established by the experimental research now reported in which a dog was inoculated with blood from a typic case of Oroya fever, with no manifestations of verruga, and in twenty days presented the clinic picture of "Peruvian verruga" in all its details as described by Odriozola in his recent comprehensive work on the subject.

Societies.

COMING MEETINGS.

American Association of Genito-Urinary Surgeons, Niagara Falls, N. Y., May 25.
American Dermatological Association, New York City, June 6.
American Laryngological Association, Chicago, May 22-24.
American Medico-Psychological Association, New York City, May 23.
Association of American Physicians, Washington, D. C., May 24.
Connecticut Medical Society, Hartford, May 24.
Indiana State Medical Society, Indianapolis, June 1.
Indian Territory Medical Association, So. McAlester. June 6.
Maine Medical Association, Bangor, June 7.
Montana, Medical Association of. Butte, May 24.
New Hampshire Medical Society, Concord, May 25-26.
North Carolina, Medical Society of State of, Asheville, May 30.
North Dakota State Medical Society, Fargo, May 24-25.
Rhode Island Medical Society, Providence, June 1.
West Tennessee Medical and Surgical Association, Jackson, Tenn., May 25 and 26.

Orleans Parish Medical Society.—In the report of this society (see Journal, April 29, p. 939, column 1, line 10 and following) read: "The tumor, which weighed 15 oz.," instead of "pounds."

Hancock County Medical Society.—At the recent meeting of this society, held at Carthage, Ill., the election of officers resulted in: president, Wm. Booz; vice president, C. L. Ferris; secretary, R. L. Casburn; treasurer, J. H. Callahan.

Lancaster Medical Society.—At a recent meeting of this society held at Lancaster, Pa., officers were elected as follows: president, I. M. Lightner of Ephrata; vice-presidents, T. B. Appel of Lancaster, and H. W. C. Showalter of New Orleans.

Marion County Medical Society.—At the recent meeting of this society, at Marion, Ohio, the main discussion was on "Christian Science," and a resolution was passed condemning this method of healing. The next meeting will be held the first Tuesday in June.

Galva District Medical Society.—The annual meeting of this society was held at Galva, Ill., early in the month. Officers were elected as follows: president, W. A. Grove of Galva; vice-president, M. T. Ward of Toulon; secretary and treasurer, C. W. Hall of Kewanee.

Oregon State Medical Society.—The twenty-sixth annual meeting of this society is announced for Portland, Ore., June 13 and 14. Among others, the following appear on the program: A. C. Bernays, St. Louis; Beverly MacMonagle, San Francisco; and R. Harvey Reed, Wyoming.

Camden District Medical Society.—At the annual meeting of this society, held in Camden, N. J., May 10, the following officers were elected for the ensuing year: president, W. S. Jones; vice-president, J. V. Leavitt; secretary, Paul M. McCray; treasurer, Joseph L. Nicholson; historian, Harry Sherk.

Washington County Medical Association.—The following officers were elected at the meeting of this association, at Washington, Pa., May 9: president, L. C. Botkin of Burgettstown; vice-president, H. L. Snodgrass of Buffalo; secretary, J. C. McKean of Washington; treasurer, W. R. Thompson of Washington.

Cook County Hospital Alumni Association.—There will be a meeting at the Union Hotel and Restaurant, Chicago, Tuesday, May 23, at 6 p.m., of the Cook County Hospital Alumni Association. Dr. Henry M. Lyman will present a paper on "The Building and Establishment of the Cook County Hospital."
E. R. LeCount, M.D., Secretary.

Essex North District Medical Society.—This society held its annual conference at Lawrence, Mass., early in the month. The election of officers for the ensuing year resulted as follows: president, J. J. Healy of Newburyport; vice-president, B. F. Flanders of Lawrence; secretary and treasurer, M. D. Clark of Haverhill; corresponding secretary, J. A. Fitzhugh of Amesbury.

Southern California Medical Society.—This society held its twenty-third semi-annual session at San Diego recently. The newly-elected officers are: president, H. Bert Ellis of Los Angeles; vice-presidents, F. R. Burnham of San Diego, and F. C.

E. Mattison of Pasadena; secretary and treasurer, F. D. Bullard of Los Angeles. The society will hold its next meeting at Pasadena.

Arkansas Medical Society.—The twenty-fourth annual session of this society was recently held at Little Rock. In his address, the president discussed medical legislation in the State, and also national quarantine, and urged the passing by the State of a compulsory vaccination law, at least to the extent of making successful vaccination a prerequisite to entering the public schools. He also advised the establishment of a State laboratory in connection with the State university.

Nebraska State Medical Society.—This society held its annual meeting at Lincoln, May 9–11. The following officers were elected: president, Robert McConaughy, York; first vice-president, H. M. McClanahan, Omaha; second vice president, J. B. Hungate, Weeping Water; secretary, A. D. Wilkinson, Lincoln; corresponding secretary and librarian, H. B. Lowry, Lincoln; treasurer, J. L. Greene, University Place. The next meeting will be held in Omaha.

Pennsylvania State Board of Health.—The forty-second meeting of this board was held in Harrisburg, Pa., May 11. The session was devoted for the most part to the discussion of various epidemic diseases now prevailing in this State, such as smallpox, diphtheria, scarlet and typhoid fever. Dr. John Fulton was elected president pro tem. The question of appointment of delegates to the twenty-seventh annual meeting of the American Public Health Association at Minneapolis, and the fourteenth annual meeting of Conference of State Provisional Boards of Health of North America at Richmond, Va., was left to the discretion of the secretary, Dr. Benjamin Lee of Philadelphia.

Seventh International Congress Against Abuse of Alcohol.—The following medical men were elected officers at the session held in Paris recently: presidents, Drs. Rossel and Lagrain; vice-presidents, Drs. Bergron, Brouardell and Laborde, of France, T. D. Crothers of America, Dr. Bare of Germany, Dr. Raffalavich of Russia, Dr. Forel of Switzerland, Dr. Thiron of Roumania, and Dr. Ridge of England. The permanent secretary is Dr. Bouissier of the University of France. Most of these medical men are teachers and specialists, and with other officers, including a catholic cardinal, several leading clergymen, and public officials, comprise a very distinguished body of men who are deeply in earnest in the discussion of this great topic.

Third International Congress for Gynecology and Obstetrics.—This congress will meet at Amsterdam, Aug. 8–12, 1899, under the patronage of the Minister of the Interior. The leading questions for discussion will be: surgical treatment of fibromyoma; relative value of antisepsis and improved technic for the actual results in gynecologic surgery; influence of posture on form and dimensions of pelvis; indication for Cesarian section compared to that for symphyseotomy, craniotomy and premature induction of labor. M. M. Doyen, Howard Kelly and Schauta will treat the first question; M. M. Bumm, Richelot and Lawson Tait, the second; M. M. Bonnaire, Pinzani and Walcher, the third, and M. M. Leopold, Pinard, Pestalozza and Fancourt Barnes the fourth. Address all communications to J. D. Emmett, M.D., Secretary for America, 91 Madison Ave., New York City.

Medical Association of Greater New York.—At a meeting of this association, held May 10, the following officers were elected, to serve until the annual election in January, 1900: vice-president, John D. Rushmore, Borough of Brooklyn; recording secretary, P. Brynberg Porter, Borough of Manhattan; corresponding and statistic secretary, Frank C. Raynor, Brooklyn; treasurer, Augustus D. Ruggles, Manhattan. According to the by-laws the section of the association in each borough is to have its own chairman, elected by the members residing in the borough, and Dr. J. Blake White was chosen chairman for Manhattan. It having been announced that Dr. Austin Flint, one of the incorporators, was seriously ill with pneumonia (see JOURNAL, May 13, p. 1069), the temporary chairman, Dr. S. B. W. McLeod, was authorized to send to Dr. Flint an expression of the sincere sympathy of the association and its heartfelt wish for his speedy recovery.

French Congress of Alienists and Neurologists.—Anglade delivered the first address at the tenth congress, which convened at Marseilles in April. His subject was "Secondary Systematic Delirium," which he classified as consecutive to mania, melancholia, double insanity, neurosis and intoxication, each with characteristic manifestations. Taty's address was on the "Condemned Unrecognized Insane"; a plea for increased facilities for instruction in mental diseases not only for physicians but for law students, that they may recognize indications of insanity in persons under arrest, and other measures tending to prevent the condemnation of insane persons. Grasset called attention to the necessity of taking into consideration the distribution of a tremor as well as its rapidity, suppression by voluntary movements, etc., citing an interesting case of insular sclerosis in which, with other symptoms, there was pronounced tremor of the fingers and hand while the arm was exempt. Unable to sew or write, on account of the tremor, if the fingers were immobilized on a pencil, the subject could draw a perfectly straight line, using only the arm.

American Climatological Association.—The sixteenth annual meeting of this association was held in New York City, May 9–11. Following the meeting, the members, with their wives, enjoyed a complimentary excursion to the Loomis Sanitarium for Consumptives, near Liberty, where luncheon was served and some informal addresses made. Among those who spoke were Dr. Henry P. Loomis, the son of the late Dr. Alfred L. Loomis, after whom the sanitarium is named, who gave a brief history of the institution, and Dr. J. E. Stubbert, the superintendent, who gave some details of the work being accomplished. A few of the statistics reported by the latter are as follows: Cures, 16 per cent.; arrestments, 9 per cent.; improved sufficiently to return to work, 45 per cent.; average gain in weight per week, two pounds. The following were elected officers: president, A. Jacobi, New York; vice-presidents, R. H. Babcock, Chicago, and J. W. Brannan, New York; secretary and treasurer, Guy Hinsdale, Philadelphia. The council is composed of the following members: S. E. Solly, Colorado Springs; James B. Walker, Philadelphia; E. Fletcher Ingals, Chicago; E. O. Otis, Boston; Beverly Robinson, New York.

Michigan State Medical Society.—The thirty-fourth annual meeting of this society has just been held in Kalamazoo. The Chandler medical bill, now before the legislature of that State, came in for a large amount of discussion, and the society passed a resolution urging its passage. Dr. David Inglis of Detroit spoke on the AMERICAN MEDICAL ASSOCIATION, and said in part: "I often hear the 'Code of Ethics of the AMERICAN MEDICAL ASSOCIATION' spoken of slightingly. But though it does not number among its members a great percentage of the medical men of the country, it is the saving fragment which shall save the whole people. Though these ethics are not practical, they are essentially for the truth and the right, and the time will come when we will look back and thank God for them. They are of infinite service in keeping before us that high standard while we are passing through this trying epoch." The election of officers for the ensuing year resulted as follows: president, A. B. Alvord of Battle Creek; secretary, C. H. Johnson of Grand Rapids; treasurer, J. W. Hooker of Grand Rapids; vice-presidents, B. B. Harrison of Sault Ste. Marie, H. W. Longyear of Detroit, and B. B. Bradley of Eaton Rapids. Next year the meeting of this society will be held at Mackinac Island.

Kansas State Medical Society.

Thirty-third Annual Meeting, held in Topeka, May 3-5, 1899.

RELATIONSHIP BETWEEN EYE AND NERVOUS SYSTEM.

Dr. F. C. Hotz of Chicago, by invitation, addressed the society on this subject, his address appearing in full in this issue of the Journal.

DIAGNOSIS AND TREATMENT OF NEURASTHENIA.

Dr. J. Punton of Kansas City, in his paper on this subject, spoke of the symptomatology being so extensive as to cause some difficulty in diagnosis. It is a neurotic functional affection, and in this the nervous system suffers as a whole. No two neurasthenic patients are exactly alike. The disease may be divided into two classes—complicated and non-complicated. He says there is a distinct difference between it and hysteria. Anesthesia is never a true symptom, but may be present as a complication. Rest is the measure of leading importance in the treatment. It is an absolute necessity, if the patient is profoundly exhausted by slight exertion. Isolation from home is sometimes necessary, and in some, suggestion is a powerful agent. Hand in hand with these measures should be the application of artificial exercise, such as massage, etc. Drugs must be used with the other measures. Coal-tar preparations are indicated for the pain.

Dr. B. D. Eastman of Topeka pointed out that neurasthenia is one of the most troublesome and difficult of nervous diseases to treat, and that isolation and removal from home is one of the most important measures.

Dr. M. P. Sexton of Kansas City said that two or three things were of vital importance in the treatment—one that the patient should be removed from home and all unfavorable environments, and should be in the home of a good practitioner when sent away, so as to have proper attention. He considers this more important than suggestion. Medicines alone are of little avail. The patient must be persuaded to confidently expect a favorable recovery.

A committee of five selected six members whose names were to be sent to Governor Stanley, at his request. He also requested six names from the eclectic society and six from the homeopathic society, and from these eighteen he will select members of the State board of health.

HYSTERECTOMY.

Dr. D. N. Basham of Neal, in his paper on this subject, said that sometimes it was difficult to make a differential diagnosis between those cases which might possibly be benefited by more conservative measures and those which required the more radical treatment, hysterectomy. He stated that the extraperitoneal method of treating the stump was the method first used. He believes that the suprapubic operation is better developed in this country than elsewhere.

Dr. S. E. Sheldon of Topeka said that if the uterus was healthy, it should not always be removed when it was necessary to remove some of the appendages. He uses the clamps most frequently, but sometimes ligatures.

TREATMENT OF INEBRIETY AND DRUG ADDICTIONS.

Dr. M. P. Sexton of Kansas City read this paper, and said that many could be permanently cured. Such cases should be placed under strict surveillance and every therapeutic measure, pharmaceutic as well as suggestive, should be used. There is no specific for these habits. It is the moral fiber that makes the man, and we can not cure that weakened moral fiber by the injection of different materials into the body.

FOREIGN BODIES IN THE AIR-PASSAGES.

Dr. L. Reynolds of Horton presented a paper on this subject. Some of the immediate symptoms are cough, spasm of the larynx, and pain. Organic substances are liable to undergo change. He reported several interesting cases. Treatment should be immediate removal. Tracheotomy is most frequently resorted to. Auscultation frequently affords a very important means of locating the foreign body. Anesthetics should not be used when the stomach is full, as the contents may enter the larynx when vomiting occurs.

Dr. J. D. McClintock of Topeka reported a case where he removed, by tracheotomy, a three-quarter-inch screw and three grains of corn from the larynx of a child who was brought to him as dead.

INJURIES OF THE HEAD.

Dr. C. F. Leslie of Clyde, in his paper on this subject, emphasized the proper treatment of such injuries. Indirect fractures of the face are more frequent than direct fractures. Bleeding from the ear in quantities and for some time usually indicates fractures of the face. The prognosis of fractures of the face is always grave. In fractures of the vertex, if there are brain symptoms, always operate. He reported several cases.

Dr. Jackson said that the extensive cranial operations for epilepsy had demonstrated the fact that the cure of such cases must be effected at the time of the injury, by proper and careful treatment. Every case of depressed fracture of the skull should be operated on immediately.

DRY UNIFORM HEAT BY ELECTRICITY AS A THERAPEUTIC AGENT IN OPHTHALMOLOGY.

Dr. F. B. Tiffany of Kansas City read this paper, and emphasized the fact that with electricity one can apply heat which is always uniform, something that is impossible to do with hot water. It is very beneficial after the removal of a cataract.

Dr. J. E. Minney of Topeka pointed out that heat has a place, but a very limited one except in hospitals. Long-continued high heat is injurious by producing a relaxing effect.

RECTAL ALIMENTATION.

Dr. Ida C. Barnes of Topeka read a paper on this subject, and pointed out that much of the irritability of the alimentary tract is due to improper food. Milk, as well as other foods, should be predigested for enemata. She believes in beginning the enemata early, so as to keep up the strength, and not first wait several days.

Dr. W. S. Gottheil of New York City showed that the absorptive power of the rectum has been overestimated.

NEPHROLITHIASIS.

Dr. A. H. Cordier of Kansas City read this paper. He has much faith in the X-ray locating some stones, especially large ones, in the kidney. All cases do not present the typic symptoms and some present only a very vague, uneasy sensation in the region of the kidney. The two most frequent symptoms are pain and hematuria. Presence of stones should be looked on as a source of danger to the life of the patient.

EPIDEMIC CEREBROSPINAL MENINGITIS.

Dr. J. W. Porter of Midway reported ten interesting cases observed in a recent epidemic, and emphasized the contagious character of the disease. Among other proofs he spoke of an affected mother nursing a healthy child, against his directions, and the child contracted the same disease in a few days. The age of greatest susceptibility is between three months and five years.

Dr. J. W. May of Kansas City, Kan., said that almost all severe cases that recover have some bad after-effects.

Dr. Schenck of Topeka said that a great many epidemics could be stopped at once if proper sanitary measures were practiced from the beginning.

Dr. Warner of Topeka reported treating a case with antistreptococcic serum with favorable results.

Dr. A. W. Carson of Dover asked about the use of 1 c.c. bichlorid of mercury injected daily in the region of the spinal cord, as recommended by a German physician. No one present had resorted to this.

Dr. M. P. Sexton of Kansas City said that suppression of the urine was a prominent symptom of most of his cases.

Dr. J. W. Porter thought it would be well to prohibit public funerals.

TINEA SYCOSIS.

Dr. R. E. McVey of Topeka showed an interesting case of this disease. The young man had treated a calf afflicted with ringworm for several weeks, and by contact of soiled hands with his face he became infected. He treated with bichlorid of mercury solution.

Dr. P. D. Hughes of Kansas City asked why the soft tumors on the face could not be incised and treated antiseptically, and Dr. McVey stated that they would disappear without that, and that incising would leave an unnecessary scar.

UTERINE FIBROMATA.

Dr. M. B. Ward of Kansas City read this paper, and said that they frequently develop with other derangements that contraindicate an operation. Most fibroids of considerable size should be removed. Unless pressure symptoms or impaired health result from the tumor, immediate operation is unnecessary. An opinion of the influence of the menopause on uterine tumors should be guarded.

OBSTETRIC CASE WITH STRANGE CONDITIONS.

Dr. A. W. Carson of Dover reported a case of a child delivered at the seventh month. The cord had been in a deep groove in the neck, so he could not feel it when the head was delivered, and on delivery he found the cord torn off about an inch from the placenta. The head was so congested as to pit on pressure and the whole body was in a condition of anasarca.

IRITIS.

Dr. J. E. Minney of Topeka read this paper. He considers this one of the most fatal diseases to sight, when allowed to run its course, and one of the most amenable to treatment when properly treated from the beginning. One attack predisposes to another, especially if not treated early. Syphilis and trauma are the most frequent causes. If a case presents itself with no history of injury, then suspect syphilis. The prognosis is good if seen early, but bad when adhesions have formed which can not be broken up. The disease lasts from a few days to many weeks. Atropin will frequently clear up the diagnosis. Eye pads, which retain the secretion, and heat, should not be used. Dark glasses are much better. Cold applications are beneficial in traumatic iritis for the first twenty-four to thirty-six hours, then heat should be used.

Dr. J. W. May of Kansas City, Kan., emphasized the necessity of early diagnosis and early treatment, and that constitutional treatment is of the greatest importance, especially when the disease is caused by syphilis and malaria.

The following officers were elected: President, Charles Gardiner, Emporia; first vice-president, R. J. Morton, Green; second vice-president, C. A. Milton, Dodge City; recording secretary, W. E. McVey, Topeka; corresponding secretary, J. M. Maus, Kansas City, Kan.; treasurer, L. H. Munn, Topeka; librarian, S. G. Stewart, Topeka.

Chicago Medical Society.

Regular Meeting, April 26, 1899.

THE NEW MEDICAL PRACTICE ACT to go into effect July 1, 1899, was the subject for general discussion.

Dr. Arthur D. Bevan—There can be no question that medicine can to-day claim the title of a science. There can be but one science of medicine, but unfortunately this is not generally recognized even by the profession, and certainly not by the public. The time will come, however, when the public is educated to this standard, and when this time does come, it will carry with it medical legislation throughout this country, possibly throughout the world, which will demand a high grade of qualifications from men who practice medicine. It has been the aim of the Chicago Medical Society and of the Illinois State Medical Society to demand of the legislature a bill which requires that before a man can practice medicine in the State of Illinois he shall show credentials that he has studied medicine for four years, entitling him to appear before the examining board for an examination, and if he passes the examination satisfactorily, he should be entitled to practice medicine in this State. During the last meeting of the legislature an effort was made to approach this ideal, and the effort has resulted in a necessary compromise.

D. J. W. Pettit of Ottawa—If there is anything that the medical man knows less about than medical legislation, I fail to discover it. The fact is, the average medical man starts where this committee did, with very many gross misconceptions of what constitutes proper legislation, what we could get which would be constitutional, and what we could get under existing conditions. Now, we can only get at the progress that has been made by contrasting it with things in the past. I wish to call your attention to the fact, that those who live in this State and practiced medicine twenty years ago or more, when Dr. Rauch tried to get the first medical practice act passed, and the first one in the Union, know it was a difficult matter at that time to get even a diploma recognized as a standard for practicing medicine without any question as to where it came from. The diploma became debased under the law. Then another step was taken, which was to separate the license to practice from the degree, and three years ago, under instructions from the Illinois State Medical Society, your committee started on that work with this central idea, to separate the license from the degree. Everything else is incidental to that idea, and in the securing of the enactment of this law we had to make many concessions which we would be glad not to have made. I want you to bear in mind that there are three things that govern the securing of legislation of this kind: 1, what the profession would like to have; 2, what the law will permit us to have, and 3, what we can get under the existing political conditions.

The average medical man, in fact, every medical man in the State of Illinois, so far as I know, and I have corresponded with nearly all of them, wants a law to regulate the other fellow, but he does not want any law to regulate himself. This has been a great stumbling-block in the way of medical legislation. The men who are clamoring for legislation do not want to be affected by it in any way. The average physician does not recognize any constitutional limits. He simply thinks that the legislature passes a law, and that is all there is to it. Many of the demands of physicians of this kind were so unreasonable that they would not be worth the paper they were written on. Your committee has had in mind constitutional limits, that is, political conditions, the controlling factor in legislation of this kind.

There is another point, and it is this: Medical men generally have been so radical and so unreasonable in their demands for legislation that they have created a strong prejudice against legislation of this kind, not only in the minds of the public, but they have made other so-called schools hostile. It is a fact in medical legislation that about 10 per cent. of the medical men of the State can defeat the other 90 per cent. on an affirmative proposition. We had, as a matter of expediency and of necessity, if we wanted to get anything, to join hands with the other schools that are recognized by the state board of health. In doing that we had to lower our standard considerably from what would be the standard for this society, or for any body of regular medical men. We had to do this in order to get the one thing we wanted, and that was the separation of the license from the degree. We were willing to do this, provided it could be done on their terms, and it really meant the minority dictating to the majority. If we were not willing to accept it, we had to stop where we were. But we did not stop. When joint committees of the three State medical societies met and framed a law according to their idea of what the law should be, it was decided that our attorney should be instructed to put the matter in unmistakable language, and we employed one of the best attorneys in the State, Judge Shope, who has rendered more decisions on questions pertaining to the medical practice act than any other judge on the bench. When we told him what we wanted, he simply laughed at us. He said you can't get that and this in the bill. We even went so far as to provide that the Illinois State Medical Society should name the members of this board, and we were really ashamed of ourselves when he picked out the clauses. There, you see, was a bill framed by medical men. We had learned a lesson. When he got through the bill, it did not look very much like the original, but we saw the reason of his position and had to accept it. Two years ago we went before the legislature with that bill, which was substantially the same as the one introduced at this meeting of the legislature, but we did not have public and professional sentiment behind us, and the bill never got past the so-called judiciary committee. I was not surprised at this, because I did not expect it would. It was introduced for the purpose of creating a discussion. We wanted to organize the profession of the State, and with a few changes we submitted the bill at the present session. The bill as framed was drawn up by our attorney, Judge Shope, and submitted to the various State medical societies and adopted. Out of nine thousand copies of the bill sent out with a circular letter asking for an opinion, I received replies from about eight hundred. This indicates the interest (?) the profession took in it. While perhaps two-thirds were in favor of the bill, if some modification could be made, the other third was opposed to everything in it. Nearly every fellow had something he wanted in or left out. However, we did the best we could. We submitted the bill to the legislature as agreed on in joint committee as an evidence of good faith, although we knew it had some incongruous things in it and one or two points we knew would not be granted. There were two things in the original bill we could not get—one, the creation of a new board. This we could not get, for the reason that every trade, every profession almost, in the State of Illinois, was represented at Springfield asking for the creation of a new board, and the fact was, the whole board system was made so ridiculous by the demands of different trades and professions that it was considered a good joke. I mention this to show how impossible it would be to have secured the creation of a new board.

Another thing was the renewal clause, which was really a strong feature of the bill, and if the medical men and women of this State had seen it in its proper light, I feel sure it would have been endorsed by every member of the profession. But it was condemned so strongly by the profession that we left it out. We got in the present bill what we contended for, namely, the separation of the license from the degree, and we got some other things we wanted, and some things we did not want. We have not only got something which we believe is in advance of what we have had, but we have stopped, for the time being, hostile legislation. If we had not obtained something in advance of what we previously had, the other fellows would be on hand to get something that would still further lower the plane and knock the props out from under the present medical practice act. We have got the legislature to understand that the medical profession of the State is organized. Telegrams and letters from the forty-seven hundred medical men of the State poured into Springfield to members of the legislature by the bushel. It is this that makes the average member of the legislature vote as you want him. This shows what medical men can do.

Find as much fault with the present bill as you may, but keep this fact in mind, that it is an advance over what we have heretofore had, however imperfect it may be, and all we have to do is, where we have found the bill weak, to go to work and improve it, and keep on doing it until we obtain what we want.

Again, there is a strong undercurrent in the profession itself against legislation of this kind. Quackery has honeycombed the profession of the State until there are many people, men and women, belonging to the Illinois State Medical Society and to the Chicago Medical Society who pretend to be respectable, but are far from it. They are doing quackish things. This is a strong indictment I know, but if I were to show you the letters I have received and tell you the things that I know that have occurred in connection with this matter of legislation, you would be convinced of the truth of my statements. We have had to fight those who have been hostile to us; we have had to contend with a strong undercurrent against higher medical education, and, worse than all, the apathy of the profession. It has been almost impossible to get the profession aroused to a proper sense of its duty.

While this bill ostensibly represents the sentiment of the medical profession throughout the State, and the large majority of the best element of the medical profession, your committee has only had a corporal's guard to give them the assistance needed in a work of this kind, and if we were less determined we would have dropped the matter long ago, and instead of having this bill, you would have been lamenting an osteopathic bill or something of that kind.

Dr. S. J. Jones—The large amount of good work that has been done by this committee is entitled to recognition. It is entitled to the thanks of the public, and I rise to offer a vote of thanks for the work that has been done, and I qualify it by saying in the interest of the public; I do not say the interest of the medical profession, for the reason that I do not think the medical profession needs this legislation. One of the difficulties the committee has had to contend with is a "medical trust." I have had occasion at former meetings of the State medical society to say that the average legislator is not able to rise to a comprehension of the fact of the unselfishness of the medical profession, the sacrifice that is made by us for the benefit of the public.

I have been one of the advocates of not requiring a diploma, but all who are to enter the profession should do so after an examination, because we well know that those who have been qualified to get a diploma from a respectable medical college would be able to stand an examination. I think we may congratulate the public on the result that has been attained. Many of you will remember the struggle initiated by Dr. Rauch, who frequently conferred with me regarding matters of medical legislation in trying to get them through, and he said it was always well to start by recognizing that we may not be able to get a whole loaf of bread, but that we should try to get as much of the loaf as we could if we have to put in an exempting clause. I would be glad if we could have had an independent board of examiners so as to restrict the medical colleges to the legitimate duty of teaching. It would relieve teachers of the most unpleasant duties they have to perform—to pass on the qualifications of those who have been their pupils. It would relieve them from restraint; it would change the aspect of affairs very materially if they were confined to the legitimate function of teaching. Then let the State establish its standard, whatever it may be, high, medium, or low, that shall entitle a man to the right to practice medicine within it, allowing the examiners, who are the constituted authorities, to decide whether or not he reaches the standard that is required. If he does, they can say to him, you can practice medicine in this State; if he does not, they can not.

I feel that we, in justice to those gentlemen who have sacrificed so much time in connection with this work, should do something to recognize their work, and I rise to move a vote of thanks for the good work done by this committee in the interest of the public.

Motion seconded and unanimously carried.

INVERSION OF UTERUS COMPLICATING PLACENTA PREVIA: ETIOLOGY AND MECHANISM CONSIDERED.

Dr. Rudolph W. Holmes read a paper on this subject. In 830 cases of inversion compiled by various authorities he was able to find four cases (which includes his own) which comprehended both complications. *A priori*, placenta previa ought to be a frequent precursor of inversion, from the hemorrhages which are almost constant in the former condition, and a fruitful cause of the latter. The conditions found in previa are antagonistic to the etiologic factors of inversion.

Age.—In inversion, Crampton, Crosse and Stone give respectively 79, 70 and 76 per cent. occurring in women under 30, but 75 per cent. of births are in women under that age. In previa, Read and Mueller state 54 and 51 per cent. respectively above 30; previa is three times as frequent in the period when inversion is not prone to occur.

Parity.—In 338 cases of inversion, 58 per cent. are primiparæ, but first-born are to offspring of multiparæ as 1 to 2½ or 3. Preponderance is due to congenital causes in most cases in primiparæ; may be acquired from any change in structure of generative organs; fundamentally always dependent on errors of innervation—other causes but contributory. Simpson and Read state 92 and 80 per cent. of previas occur in multiparæ. Crampton, in 223 cases of inversion, gives 6 per cent. as prematurely confined, while Read, in 516 cases of previa, gives 88.3 per cent. as prematurely delivered.

Placental site.—Crosse says the fundal location of placenta is so constant that it may be considered essential; Hennig states that in 23 cases of inversion, the placenta was always attached to fundus or vicinity. In normal conditions fundal implantation is 22 per cent. (Read), 12 per cent. (Hennig) in 924 examinations by authorities collated by the former, and 651 by the latter. Inertia of placental site or distinct paralysis of same, or other local or general inertia is indispensable. Area about ora fallopii is prone to depression (Oldham); contraction of Ruysch's muscle increases depression. Pressure of breech (or head) on the fundus may cause anemia and later a paralysis which may be the beginning of an inversion, especially effective in oligo-hydramnion or dry labors (Lahs); 65 per cent. (Lee), and 25 per cent. (Beckman) of placenta adherent. Duncan, Seiler, Desarmeaux attest to adherent placenta and inversion dependent on a common cause—inertia of placental site. Tractions on cord have produced inversion 26 per cent. (Lee), 36 per cent. (Stone), 21 per cent. (Beckman), 28 per cent. (Crampton). Credé's, on atonic uteri, violent means of delivery may cause inversion. Spontaneous inversion due to abdominal pressure, muscular action or placental influences; one effective, but usually all act by concerted action. Abdominal pressure always present in puerperal women though lowered; retentive power of that pressure absent about the lower part of uterus first hours postpartum. When a depression exists, muscular action may accelerate the inversion, but never starts the process unless adherent placenta is substituted for the depression; expulsion of afterbirth means dragging fundus after it. A short cord may pull out the atonic uterus when the child is expelled. A heavy placenta, normally so, or enlarged from syphilis, infarcts, or a retroplacental blood-clot of Schultze, may bring impetus to start inversion.

Mechanism.—Two general kinds: One fundus depressed into cavity—process completed from above downward; other process begins at cervix and progresses upward. Duncan interpreted the maneuver properly; Radford and Smith have based their theories on misconception of the true facts. Hunter first explained spontaneous active inversion. The cervix has no consideration in the mechanism—is a formless, inert structure, and of no clinic value. Duncan's views comprise four methods of inversion: spontaneous active and passive inversion, the propelling power being the abdominal pressure and muscular action in the former, and the pressure alone acts in the latter; artificial active and passive inversion, the former due to mismanagement accompanied by muscular action of the uterus, the latter caused by mismanagement of the atonic uterus. Crosse gave credence to inversion by eversion to cervix long before Taylor explained his theory of spontaneous active inversion. Duncan had depicted the condition as a normal one, due simply to the prolapse of a contracted body down on the atonic cervix. Taylor defines his theory in terms which can be only an exaggeration of physiologic activity of the uterus. According to him the longitudinal muscle-fibers alone contract, but for clinic purposes the muscular elements can not be isolated, nor can they contract without the participation of the other strands. Prolonged muscular action, as he describes, can only produce a diminution of the uterine volume, which precludes an inversion by active means. Neither can the process be produced by passive action, for Barbour and Webster have proven by frozen sections that the lower uterine segment and cervix are practically cut off from the abdominal pressure the first hours postpartum, by the uterine body which is in close approximation to the parietes; pressure is exerted on the fundus, and is in entire abeyance on the lower uterine segment. Spontaneous inversions comprise about 75 per cent. of all instances of the disease. The attenuation of the lower uterine segment in placenta previa minimizes the structure engaged in inversion, both theoretically and clinically, thereby lessening possibility of inversion after previa. Of greater import is the absence of fundal atony, and the absence of abnormal stimulus (the depression) to the uterine body. In the passive type the inert lower segment is not influenced by abdominal pressure, but the operative deliveries stimulate contractions, and reduce probability of adynamia uteri. In Read's cases, 726 were operative labors; besides, 213 had placental manipulations. Artificial causes are 25 per cent. largely due to funic tractions, but in previa, methods of delivery tend to separate the placenta partially, or in toto, or at least tear the placenta so it comes away in pieces, thus reducing the surface acted on by the tractions in the manual removal of the same.

Cleveland (Ohio) Medical Society.

Meeting held April 28, 1899.

GUNSHOT WOUND OF ABDOMEN.

Dr. M. D. Stepp reported this case. After receiving the wound the man appeared to be paralyzed in both right arm and leg for about twelve hours. As there was no shock and the direction of the wound gave some evidence of only a parietal course, a surgeon was not called for twelve hours. There was then found some serum with a fecal odor exuding from the wound, but there was no fever nor other evidence of septic absorption. On operation, four ragged wounds of the small intestines were found, with fecal matter scattered throughout the peritoneal cavity. After cleansing the wounds they were sewn up with interrupted coaptation sutures over which were placed Lembert sutures, and the abdominal cavity was then flushed out with sterile water, filled with normal saline, and closed up, except for a drainage-tube. Recovery was uninterrupted, saline infusions being used once or twice for the extreme thirst and scanty urine.

Dr. A. F. House criticised the use of the drainage-tube as unnecessary.

Dr. W. H. Humiston has discarded drainage altogether in abdominal work, and his mortality percentage has been decreased by it. Where there is oozing from torn adhesions, he uses the Mikulicz tampon.

Dr. F. E. Bunts cited cases showing the necessity in wounds of the abdomen of thoroughly exploring both stomach and intestines to see that no opening is overlooked. He also considers the drainage-tube unnecessary.

SEPTIC THROMBOSIS OF CAVERNOUS SINUSES.

Dr. W. E. Bruner's case of this occurred in a male aged 40 years, and following the drawing of a tooth and opening of an alveolar abscess. Five days after the operation on the tooth the man developed pain, redness and swelling about the right eye. On admission to the hospital he had marked proptosis, enormous dusky-red swelling, general septic appearance, profuse sweats, and a temperature of 104 degrees. Free incisions into the orbit failed to reveal pus. Involvement of the antrum of Highmore was excluded. Three days later the process began in the left eye and in two days was as severe as on the right. Chills recurred daily with marked fluctuations of temperature. Ophthalmoscopic examination showed dilated tortuous veins, several retinal hemorrhages, and slight swelling of the right disc. The tongue was dry and coated and the breath fetid. Septic pleurisy and pneumonia developed at the base of the right lung, and there was severe diarrhea. There was some pus in both orbits now, but no edema about the face nor over the mastoid. His mind was clear almost to the last. The swelling about the right eye disappeared and then that about the left. The duration of the case was twenty days. Unfortunately, the family positively refused permission for a necropsy.

Dr. H. G. Sherman noted the rarity of involvement of the cavernous sinuses and questioned the possibility of an early diagnosis in the case. After involvement of the second eye it was not so difficult. He noted a recent case where, along with the sinus thrombosis, there was thrombosis of the facial and other related veins.

Dr. C. A. Hamann had watched Dr. Bruner's case and pointed out the track of the infection from the alveolus through the pterygoid plexus of veins, through the foramen of Vesalius into the dural veins and the cavernous sinus. The fluctuation of temperature was characteristic.

Dr. Sherman said that in meningitis the temperature was likely to be very stationary.

Dr. H. S. Upson thought that in septic meningitis, as in other septic processes, the temperature tended to be irregular. He drew attention to the importance of being able to make a differential diagnosis between sinus thrombosis and cerebral abscess.

Dr. F. E. Bunts had watched the progress of the case and thought the gradual bulging of the eye, the septic infection, and the prompt involvement of the other eye made a clear diagnosis. He described a case of bulging of an eye complicating facial erysipelas which, however, subsided.

Dr. A. R. Baker thought that there could be no question as to the accuracy of the diagnosis and reported a case of sinus thrombosis which had been treated as typhoid fever for two weeks.

Dr. C. J. Aldrich had noted a case which began with sore throat followed by a tonsillar abscess which was opened under the sternomastoid. Sinus thrombosis developed and necropsy showed the track of the infection along the veins.

ACUTE YELLOW ATROPHY OF LIVER.

Dr. Charles H. Browning of Oberlin reported a case of a boy who died with the classic symptoms of this disease. There was no suspicion of phosphorus poisoning. Necropsy showed a liver in a marked state of acute degeneration, but when sections reached the pathologist they were structureless and nothing positive could be made out.

EPIDEMIC CEREBROSPINAL MENINGITIS.

Dr. W. T. Howard showed a culture on the blood serum from the fluid from the base of the brain in a case of the above. The discrete colonies of diplococci much resembled gonococci. They were not streptococci, staphylococci nor the diplococcus lanceolatus. This organism answers perfectly to the appearance and culture characteristics of the diplococcus intracellularis meningitidis described by Weichselbaum, in 1885, as occurring in cases of epidemic cerebrospinal meningitis. This case was indigenous in Cleveland. Curiously enough this organism is not as virulent as the other organisms which cause meningitis. It is surprising how few of the organisms are found in a fatal case.

Dr. Moreheims of Lakeside Hospital gave the clinic history of the case. Temperature rose at night and was normal or nearly so in the morning. There were no disturbances of special sense. There was great pain in the head and back of the neck, and the blood count showed great leucocytosis. Otherwise the man hardly seemed at all sick. For an hour or so, twenty-four hours before death, his muscles were perfectly rigid and he could be lifted in one piece, as it were. He had a convulsion just before death. The duration was sixty hours from the time he walked into the hospital complaining of headache.

Dr. P. M. Foshay drew attention to the studies of Rogers, Hamilton and Brodie, in the *Lancet* for Oct. 22, 1898, describing an epidemic among the Kaffirs of South Africa, which began with an acute infectious rhinitis and developed into either pneumonia, parotiditis, dysentery or cerebrospinal meningitis, and was marked by the post-mortem finding of diplococci closely resembling those of pneumonia, in whichever situation the disease settled.

Dr. R. J. Wenner reported finding a pure culture of a diplococcus in the fluid from a lumbar puncture in a case of meningitis, which closely resembled the pneumococcus.

Cincinnati Academy of Medicine.

Meeting held May 8, 1899.

SARCOMA OF RIGHT LEG.

Dr. J. C. Oliver reported a case of this affection, in all probability having its origin in the tibia. The patient was a man, 46 years of age, who thirty years ago had received a slight injury in the calf of the right leg. A slight lump, the size of a hickory-nut, formed at this point. About sixteen years later another slight injury at the same place resulted in a slight increase in the growth. Three years ago the mass began to gradually increase in size until the circumference of the right calf was over seven inches greater than the left, and the tumor, fluctuating at its lower part, measured over nine inches in length. A diagnosis of sarcoma was made and the patient told that he would probably lose his leg. Before amputating, however, the tumor was opened and it was found that by far the larger portion was cystic, containing a dark red, somewhat viscid substance, and that only the upper part of the mass was solid. The whole sac was dissected out, beginning at the popliteal space, and the patient made a good recovery. He does not expect recurrence. Photographs of the leg before the operation and also of the tumor itself ex situ, were exhibited. Microscopic examination by Dr. H. J. Whitacre revealed the solid portion of the tumor to be a myeloid sarcoma and the cyst wall to be entirely formed of muscle, probably the soleus.

MULTIPLE RUPTURE OF LIVER.

Dr. Mark A. Brown exhibited a specimen which presented several points of rather unusual interest. The specimen had been obtained post-mortem from a patient who, while intoxicated, had been struck by a locomotive and had died from shock and internal hemorrhage. Autopsy: A man, about 30 years of age, well developed and nourished, about six feet in height, and weighing between 170 and 180 pounds. On external examination there were present numerous bruises over various parts of the body, but none over the region of the liver. There was a complete compound dislocation of the right knee, with extensive laceration of the soft parts. None of the bones forming this joint were broken, nor indeed was there fracture of any of the bones of the extremities. There was effusion of blood into the lower lid on the left side. In the subaxillary space on either side was pronounced emphysema, and pressure here gave bone crepitus involving many of the ribs. There was no jaundice. The reason for this statement will be revealed later. On opening the chest both pleuræ were found to contain a considerable amount of blood, and emphysematous blebs were present over both lungs. On the right side there were found fractures of the second, third, fourth and fifth ribs in the axillary line; on the left, the second, third, fourth, fifth and sixth anteriorly, and the third, fourth, fifth, sixth, seventh, eighth and ninth posteriorly. The heart was normal. The abdomen contained a large amount of bloody fluid, extending also to the pelvis. The intestines, kidneys, spleen, appendix, were all normal. A catheter was easily passed into the bladder, but on attempting to inflate the latter with water the fluid was found to escape into the abdominal cavity through a rent of about two inches on the anterior bladder wall. This was explained by the finding of a fracture of the innominate bone a little to the left of the symphysis, with the jagged ends pointing posteriorly. Another fracture of the pelvis was found in the neighborhood of the sacroiliac synchondrosis.

The liver presented the most interesting features of the autopsy. As it lay in its normal position the greatly enlarged, distended gall-bladder was found to extend downward about five inches below the free margin. The gall-bladder was almost in contact with the abdominal wall, and to obtain such a position a deep notch had been worn in the liver margin, showing that the hydrops must have existed for some time. The gall-bladder was so distended and tense that fluctuation could not be elicited. A large, single stone was found at the mouth of the cystic duct. Over the superior surface of the right lobe of the liver three ruptures of the hepatic substance were present, two of them quite long, but not extending very deeply. On the superior surface of the left lobe a small rupture was present. On the inferior surface of the right lobe, very close to the gall-bladder, was a large, deep, ragged rupture, several inches in length by as many in depth. The brain was normal, and careful examination failed to reveal any fracture involving the bones of the skull.

The points of chief interest may be summed up as follows: that the man should have lived as long as he did after so many and so severe injuries, even to the retaining of consciousness; that with the extensive involvement of all other parts of the body and the nature of the injuring force, the skull should have escaped fracture; that with almost complete avulsion of the right knee the bones going to form the joint should have escaped injury; that none of the bones of the extremities should have sustained a fracture; that the liver should have been ruptured at so many points without marks of external violence or of penetration of broken rib fragments; that the tense gall-bladder should have escaped rupture, with so many ruptures of the liver in close proximity.

CASE OF BRANCHIAL CYST.

Dr. E. W. Walker read a paper on this case, which he had operated on when the child was but eighteen days old. It was also complicated with a blood cyst which had increased enormously from the day of the child's birth, so that when the child came to be operated on the mass had extended from the right mastoid process to several inches beyond the median line of the neck. A hypodermic needle withdrew practically pure blood. The branchial cyst was not apparently connected with the blood tumor. The latter was at first about the size of a walnut, situated at about the angle of the jaw, and grew to the proportions above mentioned in less than three weeks. Attempts had been made to check its enlargement by mechanic means, adhesive straps, etc., but without avail. The pressure of the enlargement upon the trachea and the amount of blood lost by the child in filling this rapidly growing sac, led him to operate. The operation was in every way a success. He did not know which of the large veins of the neck furnished the blood for the sac, as his chief interest had been in checking the hemorrhage.

RUPTURE OF CHOROID.

Dr. Francis Dowling read a paper based on a recent case in his own experience, the injury having resulted from a blow on the eyeball. His case was a little out of the usual run in that the rupture had extended in an almost horizontal direction. The man's vision after the subsidence of the swelling about the lids, was 20/200. Unfortunately for the patient his other eye was very amblyopic from an old uncorrected convergent strabismus. His treatment had been mainly with iodid of potassium, though most authorities agreed that no treatment was of any avail. Sequelæ in the shape of optic atrophy and gradual blindness were not uncommon in these cases, supervening as a rule after several months, and due to the contraction of the cicatricial tissue formed during the healing of the tear. One of the principal and curious symptoms of the early history of this case had been that a straight line had appeared broken and that the letters of the text had assumed a zigzag appearance. The man had improved so much at the end of two months that he had been able to resume his usual occupation that of journalism.

Philadelphia Obstetrical Society.

Meeting held May 4, 1899.

ETIOLOGY OF ECLAMPSIA AND DIAGNOSIS OF IMPENDING ECLAMPSIA.

Dr. Edward P. Davis read a paper detailing the older theories in regard to this condition, in order to show why there had been failure in applying the proper remedies to effect a cure. This failure was doubtless due to the fact that the etiology had not been recognized. The theory of Trauber-Rosenstein, that it was due to hypertrophy of the left ventricle, to edema of the brain, etc., had been disproved by careful autopsy. The present and most rational theory, that it results from some form of autointoxication, is gaining ground rapidly. Some writers hold to the belief that eclampsia is due to the life of micro-organisms, and staphylococci and streptococci have been demonstrated in the blood. The evidence goes to show that eclampsia is a form of toxemia resulting from the absorption of waste products generated by both mother and child. The chief characteristics seem to be a form of cellular necrosis, with hemorrhages into the placental tissue and deficiency of the renal functions. For the positive evidence of the essential cause we will doubtles have to look to the urine and blood. It is known that the urine at the time of the eclampsic seizure is less toxic than either before or afterward, which doubtless is due to the retention in the blood of products that should be eliminated by the kidneys. For this reason the urine test is a very valuable one. Urea, in itself, is non-toxic, but it is a clinic index to metabolism, and of the amount of toxemia present in a given case. A diminution in the amount of urea means that toxins are being retained in the system during normal pregnancy, while an increase of urea indicates that everything is going well. In the estimation of the urea he has found Squibb's apparatus useful. In all cases of pregnancy we should make repeated examinations of the urine. Probably the next most important organs which should receive attention are the liver and the bowel. Jaundice during pregnancy is a very unfavorable symptom. Constipation must be prevented, and in order to prove that it does not exist the abdomen should frequently be palpated. The patient's word is not a sure method. In case constipation is found it should be corrected by proper diet and a free use of salines. In order to treat the condition efficiently we should bear in mind the etiology and pathology. It is essentially a toxemia. 1. We can gain an index of the condition by a frequent examination of the urine. 2. We should prevent constipation.

Dr. Boyd stated that he had been impressed with the importance of making frequent examinations of the urine in cases of pregnancy, especially the estimation of the amount of urea. The preventive treatment consists in a careful study of the given patient. While the disease is considered to be a form of toxemia, all of the symptoms can not be thus explained. Regarding the operative treatment of the condition, he has been in the habit of rapidly emptying the uterus by manual dilatation of the cervix, and subsequently delivering the child by version or by the use of the forceps. In no case has he seen convulsions occur after the uterus has been emptied in this manner.

Dr. Anna N. Fullerton agreed that eclampsia is a form of toxemia. At the Woman's Hospital it is the custom to make examinations of the urine at least once each week, and if albumin is found the urine is examined daily. For the treatment of constipation she has found sodium phosphate in doses of a half dram in water before meals of much benefit. In the treatment of convulsions she makes use of hot tub baths, hot blankets, chloral, chloroform and hypodermics of morphin. It has not been her teaching nor experience that rapid dilatation is the best method of treatment in eclampsia. She has, however, made incisions in the cervix which aided in hastening delivery.

Dr. W. R. Wilson was impressed with the importance of giving hypodermics of morphia in prolonging the effects of the anesthetic in case of the convulsions. The two periods when seizures are apt to occur is when the head is making its exit from the cervix, and when the head is passing over the perineum. He has great faith in calomel as a prophylactic measure. Chloral he considers the sheet-anchor in the treatment of the condition. In large loses by the rectum he thinks it has produced free diuresis. In many cases he considers pilocarpin and veratrum too depressing.

Dr. Longaker said that there exists the greatest amount of diversity of opinion regarding the use of veratrum, some writers employing it in very large doses, while some believe it should never be used. In the active treatment one author has seen good results from the employment of *accouchément forcé*.

PREVENTIVE TREATMENT OF ECLAMPSIA.

Dr. Richard C. Norris read a paper on this subject. The rational treatment is prophylaxis of toxemia. The preventive treatment can only be carried out effectually by a critic study of each individual case. The best preventives are proper diet, frequent baths, plenty of outdoor exercise, correction of constipation, and above all frequent examination of the urine. It is not sufficient to simply detect the presence or absence of albumin; the amount of urea must be carefully estimated. Calomel at intervals does good. Rest in bed, with the body in the genupectoral position, is also beneficial. In some cases he has resorted to flushing out of the colon (two gallons) with decided benefit. In order to get rid of the poisons nothing is so effectual as the employment of Rochelle or Epsom salts. The best guide in determining labor in these cases can only be obtained by a careful examination of the urine. He gave brief histories of two cases in order to show the importance of preventive measures. In severe or neglected cases palliative measures are a mere waste of time.

Dr. E. P. Davis thought that pathology was ahead of therapeutics in this condition, but that we too frequently overlook this pathology. In hospitals, where systematic examinations of the urine are made, eclampsia is very uncommon. The cases he has seen at the Jefferson Hospital were those brought in by the patrol or ambulance. The active treatment which he has employed to advantage consisted in placing the patient in hot packs, the introduction of a large amount (two gallons) of normal saline solution into the bowel, transfusion, chloroform to control the couvulsions, and hypodermics of veratrum (10 minims repeated every half hour until three doses had been given). He does not approve of rapid dilatation, nor any other rapid process of delivery. In some cases Cesarean section might be indicated. In one case in which he had resorted to the latter procedure, the child lived for a period of two weeks, dying of toxic substances absorbed during the life of the mother, as was clearly proven. The time is coming when we will have a reliable test by an examination of the blood serum, and when we will treat the disease by antitoxins.

Maryland Public Health Association.

Third Annual Meeting, Baltimore, May 11 and 12, 1899.

Dr. Edward M. Schaeffer, who succeeded the late Dr. Rohé, presided, and in opening the session urged that physical training be placed on an equal footing in our schools with training of the intellect. After a well-merited tribute to the memory of the late Dr. Rohé, he spoke of the good work done by the State board of health, the city health commissioner, the health protective branches of the United Women of Maryland, the Arundel Club and other organizations. He concluded by pointing out that we must not educate our children out of their bodies and wits; we must teach the art of right living and not dicker off health for book knowledge.

FOODS, THEIR NUTRITIVE AND ECONOMIC VALUE.

C. F. Langworthy, Ph.D., of the U. S. Department of Agriculture, presented this paper, based on experiments made by the department, particularly those of Professor Atwater on a man who lived for two weeks in a respiration calorimeter (a copper box), where the effects of various foods, their nutritive power, heat and energy products were recorded. A man doing severe manual labor needs about 1.2 times as much food as one at ordinary work, such as carpentering. So a man sitting at his desk all day requires only .8 of that which the carpenter or plumber requires. From such dietary studies interesting dietary standards have been drawn up. As to the expense of a proper diet, 18 to 22 cents per day will furnish a sufficient and attractive diet, if care be used in selection and preparation. What we need is not more food but more thought.

Dr. Hemmeter said that one of the greatest mistakes in dietary history had been made in the recent war with Spain. It is useless, he said, to assert that our soldiers were well fed and that there was nothing wrong. He regretted that this splendid opportunity had not been in the hands of men equipped with requisite scientific knowledge and thoroughly disinterested.

VACCINATION.

James U. Dennis, Jr., attorney-at-law, discussing the legal side of the question, showed that the State had the right to enforce vaccination.

Professor Welch spoke from the standpoint of the bacteriologist, and regards vaccination as only a modified smallpox, changed by passing through the system of the cow. It has been proven again and again that smallpox can be conveyed to the cow, young heifers being especially susceptible.

The association adopted rules for the transportation of dead bodies into or out of the State; they are the same as adopted by the National Association at Nashville in 1897. They will not be put into effect at once as the association wishes to first ascertain the competency of the undertakers to carry them out.

The program of the meeting was embellished with a very fine halftone of the late Dr. Rohé.

TREATMENT OF ACUTE RHEUMATISM.

BY HENRY B. FAVILL, M.D.

The discussion of the above paper, which was printed in the Journal last week, p. 1017, was unavoidedly omitted then and is given below.

Dr. Harold N. Moyer—One difficulty of dealing with rheumatism is that so many diseases are included. I listened attentively to Dr. Favill's paper regarding the rheumatisms of childhood and the classification of them, including in that group chorea, and I would take decided exception to the classification he gives. I am confident that the common acceptation of chorea as a rheumatic affection in a certain number of cases, presenting joint and cardiac complications, is entirely erroneous. I am confident, too, that we have at least three diseases that are classed under the so-called chorea of childhood or Sydenham's chorea; one of those is an infectious disease, but I do not believe it is necessarily an infection that allies itself with rheumatism. I am speaking now of the acute variety of articular rheumatism. I believe it is a specific infection in which the joint and cardiac complications are accidental just as they occur in other infections, as typhoid, gonorrhea, and other well-understood and well-identified infections. This view is supported not by the literature in this country, nor that of Germany, but there is considerable Italian literature bearing directly on the theory of a specific and distinct infection in the chorea of children which is accompanied by joint and cardiac complications.

I believe that there is another variety of chorea which is never accompanied by so-called rheumatic complications, but is undoubtedly a nervous trouble, speaking in the sense of neurasthenia or other functional trouble of the nervous system, and not due to infection at all. There is possibly a third variety which is comparatively frequent, and which is due to a degenerative process that goes on to chronic chorea, lasting all through childhood, perhaps into adult life, and becoming a life-long disease. We must remember that the chorea is only a symptom, and it is present in a variety of nervous affections. If we approach the study of the rheumatisms of childhood and those associated with chorea from this standpoint, we get a different result from what we do when we group them under the one head and regarding the cardiac and joint complications as mere accidental complications of some of them, but being only one disease. I believe that other complications grouped under rheumatisms are due to specific infection. I see now and then cases of peripheral neuritis, some of them bearing a resemblance to progressive muscular atrophies in which joint complications play a most important rôle, and in some of the cases, if carefully observed, we will find this process comparatively rapid—I won't say acute, because it lasts for weeks and months, and the disease is accompanied by profound nutritional disturbance; frequently albumin is found in the urine, with only a few hyaline casts. In other words, we have a picture of systemic infection of a slow chronic character, but without temperature. These cases are commonly classed as rheumatic, and I think somewhat unwisely. I am inclined to think a number of systemic infections unaccompanied by fever are characterized by joint and cardiac phenomena that so commonly accompany rheumatism. We have a large number of infections, indeed, distinct diseases, which we group under this term, and it is this grouping and want of identification of the exact morbid causes underlying them that lead to a wide variation in treatment and our knowledge of the term rheumatism. My views have largely been from the standpoint of the nervous system, but their applicability to other tissues and other structures, is apparent.

Dr. M. L. Goodkind—I think our clinic experience coincides with the views of Dr. Favill, that a number of cases of chorea are rheumatic in origin, and possibly 50 per cent. of them are accompanied by heart complications. There is usually nonresponse to the ordinary remedies we apply to the usual run of cases of chorea. I have seen a number of cases that have failed to respond to large doses of arsenic, in some cases hypodermically, yet have responded quickly to the salicylate treatment. Another point is the temperature complicating this class of cases, it being in some instances 101 to 102 degrees.

Dr. George Warren Reynolds—Where the salicylates and alkalies seem to disagree in rheumatism, producing sleeplessness, loss of appetite, great prostration, etc., I have occasionally given with great benefit mercurial purges, with dilute sulphuric acid, particularly in those cases complicated by endocarditis, at the same time immobilizing or wrapping the joint or joints well in a flannel.

Dr. Edward F. Wells—I would like to ask Dr. Favill what his experience has been with the different forms of salicylates, those derived from the oil of wintergreen, and those made synthetically. This matter has a particular bearing on cases of rheumatism in persons suffering with interstitial nephritis. Recently, I saw a case of rheumatism in a large, elderly gentlemen who, for a long period previously, did not excrete 200 grains of urea per day. In my experience, in cases of this kind, I invariably order salicylate of soda, made from the oil of wintergreen. I have watched these cases carefully, and I have not seen the albumin increase in quantity, and I would like to ask Dr. Favill what difference, if any, there is in the action of the two forms of salicylate.

One other question of practical importance is the early diagnosis of endocarditis if it should accompany rheumatism. When endocarditis occurs—and we must recognize the fact that one-third of all cases of acute rheumatism are accompanied by endocarditis, and one-half of all rheumatic patients, sooner or later, have it— the early recognition of the condition is important. It usually occurs in the early days of the attack, say the first ten days. I believe physicians who carefully examine the pulse, especially with the sphygmograph, will have very little difficulty in diagnosing the beginning of endocarditis, while those who depend upon the stethoscope for signs will have to wait, in doubt, many days before a murmur appears. Given a case of rheumatism with a pulse-rate of 110 to 120 in the first week, and suddenly, without other apparent causes, the pulse-rate ascends ten or twenty degrees, and remains so, with a peculiar thrill, and probably some irregularity in the pulse, which shows plainly in the sphygmogram, with a radical change in its character and there is little difficulty in diagnosing endocarditis. In the beginning of endocarditis we get, distinctly, small tracings, with slight irregularity. I do not mean to say that there is any form of sphygmogram which is indicative of endocarditis, for there is no more a normal sphygmogram in any disease than there is a normal countenance in any face; they vary infinitely, but the sphygmogram, having been definitely determined for a particular patient and in the disease with which he is affected, sustains a change, radically, and remains so, and it is this point to which I desire to call attention, believing that it is worthy of consideration. It may be considered a strong reflection upon the diagnostic acumen of medical men when we find that a large proportion of organic diseases of the heart are discovered, for the first time, in examinations for life insurance or incidentally. The history of such cases is something like this: A man has had rheumatism; he may have had several attacks, and at the end of four or five weeks he has recovered and resumed his work, but in the particular attack in which endocarditis developed he did not so recover; he lingered along three or four, or possibly seven or eight months before he felt able to resume his occupation. These are to be sure, the lighter cases, in which the ordinary effects and greatly impaired heart are not manifested. The severe ones can scarcely escape correct diagnosis. In conclusion, I believe there are few cases of rheumatism with endocarditis in which the latter affection will escape observation if we are but careful to look for it in the right place, that is, in the pulse, rather than in heart murmurs or sounds. I do not wish to be misunderstood as undervaluing in the least the use of the stethoscope, because every means of diagnosis should be used, but the character of the pulse should be considered very carefully indeed.

Dr. John H. Hollister—I would like to ask Dr. Favill to tell us whether he has ever encountered in his experience this disease in the form of an epidemic, or whether he has had a multiplicity of cases in connection with particular climatic conditions. Some years ago I saw some remarkable manifestations of the disease, and the affection seemed to be of an epidemic character.

Dr. Favill (closing the discussion)—With reference to the question propounded by Dr. Wells, I do not know anything about the relative effects of the salicylate of soda derived from the two sources he indicates. Nowadays, nearly all of the salicylate we use comes from synthetic products, and unless we take special pains we get no other.

As to the question of Dr. Hollister with reference to the epidemic character of rheumatism, I will say that my own observation coincides with his, that there are very distinct variations in frequency in the occurrence of rheumatism and rheumatic affections; occurring in such groups and with such frequency as to at least suggest a character which is by no means accidental. For example, this year I have seen twice as many cases of rheumatism as I have seen in four years before altogether. It is a very frequent disease in the run of hospital patients this year. What that means I do not know.

With reference to the question of the sphygmograph, I agree with Dr. Wells, although my routine does not include it as much in rheumatism as it does in many other conditions. However, I am a firm believer in the use of the sphygmograph. It takes good sense to use it, and the physicians who scoff about its scientific value do not understand it. I have heard it scoffed at many times, upon the ground that it is not of great value in diagnosing types of disease. I consider it of great value in diagnosing or detecting changes in circulation and dynamic alterations too subtle for the touch, as indicated by Dr. Wells to-night, and it is of distinct value with reference to determining general arterial pressure, which means largely general capillary conditions, both structural and functional.

With reference to the argument of Dr. Moyer, I am very glad that what he has to say represents a class of practitioners who have a distinct view upon this matter which is contrary to that held by many internalists, and I must say that it is rather gratifying to be able to hold my views as unshaken after his presentation of the neurologic side of the case, as I see nothing in his presentation of this matter which in the least affects my belief or modifies my statements. Dr. Moyer's contention is based upon a false view of this question, and I wish to repeat what I said at the outset of this discussion, that rheumatism is not necessarily arthritis; also, that rheumatism is not necessarily endocarditis, or pericarditis, and it is not necessarily chorea of children. When the clinician takes a broad view of the general physical makeup and conditions pertaining to children, who present either arthritis, endocarditis, or a certain type of chorea, it is impossible for him to avoid the impression, if not the conclusion, that there is an intimate connection between these various processes, and to simply say that the arthritis, which occurs in the course of chorea, is not rheumatism, is but utterly begging the question, or also, that endocarditis, which occurs as a sequel or as a sequential step to chorea, is not rheumatism, is again to beg the question. It is not at all a meeting of the issue, and consequently I am not disposed to regard it as an especially weighty comment. I believe that the whole thing is largely a question of intoxication, with one, or more possibly, intercurrent, superimposed infective agencies, and that the various pictures which we now, more or less ignorantly, group as rheumatism, can be separated somewhat. But they have an intimate relationship, if not in the character of their immediate infective agency, in the character of the underlying physical condition of the patient, particularly in the type of metabolism of that individual, and hence I am more disposed to regard the matter as I primarily stated than I was before hearing the contention of Dr. Moyer upon this point.

England's Marriage Rate.—This rises with increase of prosperity, as shown in the registrar general's annual report, just issued. It is the highest within the past twenty-one years. The point is made that the rate is always in touch with the value of wheat, exports and imports. Nearly half the bachelors and spinsters were married between the ages of 21 and 25, while the favored age for the remarriage of widows and widowers was between 35 and 40. In one out of every hundred of the marriages, husband and wife merely affixed their mark to the certificate. Another fact is also made apparent: that young people, for the past twenty-five years, wait longer for the wedding.

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SATURDAY, MAY 20, 1899.

TREATMENT OF PULMONARY TUBERCULOSIS WITH ANTITUBERCULOUS SERUM.

There is good reason to believe that the last two decades have witnessed a distinct, if slight, reduction in both the prevalence and the fatality of tuberculosis, and the hope seems not unreasonable that this reduction will go on. This favorable result is directly attributable to a better knowledge of the nature of the disease, of its etiology, its mode of dissemination, its prophylaxis and its treatment. Experience has taught that the desired result may be attained in various ways, of success in any of which the best index is the state of nutrition. Though our efforts be directed unflinchingly and unceasingly against the tubercle bacillus, we know that we have been most victorious when we have rendered the patient resistant to its invasion. This is a natural condition with some animals, and in some degree with some human beings, and to its establishment or fortification therapeutic effort may be hopefully directed.

The results of serumtherapy as applied to tuberculosis have not been entirely satisfactory, although the principle is still applied and the practice pursued in one form or other by various trustworthy observers in different parts of the world. More difficult problems than this have submitted to solution at the hands of persistent investigators, and it is not at all beyond the domain of probability that the near future will see the medical man supplied with a potent and specific remedy against the great white plague.

At a recent meeting of the Royal Medical and Chirurgical Society WILLIAMS and HORROCKS (*Brit. Med. Jour.*, April 1, 1899, p. 790) gave an account of observations made in nine cases of pulmonary tuberculosis treated at the Brompton Hospital, with antituberculous serum prepared at the Jenner Institute of Preventive Medicine by inoculating a horse with progressively increasing amounts of tuberculin until no reaction followed. Twenty-one days after the last injection, one liter of blood was withdrawn from the left jugular vein, the clot removed and the serum mixed with a weak solution of carbolic acid—for preservative purposes—and transferred to sterilized bottles. Five patients, with acute tuberculosis or with chronic tuberculosis and acute exacerbations, were treated with this serum in doses commencing with 1 c.c., gradually increased to 10 c.c., and for periods of from fifteen days to three months, the injections numbering from fifteen to twenty-five. The immediate result was rise of temperature and acceleration of pulse, slight urticarial and erythematous rashes and enlargement of the axillary glands. The amount of expectoration increased, the contained pulmonary tissue diminished, except in one case, in which it was increased, the number of septic organisms diminished in two cases and they disappeared in two cases. In only one case was there a diminution in the number of tubercle bacilli. The general condition of the patients deteriorated and one died from a fresh eruption of tubercle and its attendant pleurisy some time after cessation of the injections. Two of the patients gained a few pounds in weight, but the physical signs at the close of the treatment showed that tuberculization and excavation had gone on, unchecked by the serum injections. The urticarial rashes were apparently due to the amount of carbolic acid used for preservative purposes, as they disappeared when the amount was reduced.

It was next determined to use serum obtained at longer intervals after inoculation of the horse with tuberculin, and to employ smaller doses, beginning with 1 c.c., and never exceeding 5 c.c., and to use it in cases of incipient and limited tuberculosis, as well as in cases of limited excavation. The serum was now obtained seventy-two days after inoculation and employed in two cases of unilateral limited tuberculosis and also in two of excavation limited to one lung, and the results proved a marked contrast to those of the previous experiments. The treatment was carried out for longer periods, being better borne, and from thirty-two to fifty injections were given in doses of from 1 to 5 c.c. The injections in no case gave rise to local swelling or irritation or rash, either urticarial or erythematous, but in all the cases the axillary glands became enlarged. The temperature sometimes rose after the injections in one case; in the other three cases the records were invariably normal or subnormal. Pulse-rate and respiration-rate were not materially affected. All four patients gained in weight, the two with excavation most, one 12½, the other 14 pounds; and the patients with tuberculization, 5½ and 6 pounds, respectively. All increased in strength and vigor and were able to return to their work, except one in whose case a lighter occupation was substituted for a comparatively trying one. Cough and expectoration diminished in all and in one case ceased altogether. The physical signs indicated limitation of the area of disease in the lungs in the cases of consolidation, and in the two cases of cavitation, quiescence of the cavity in one and complete contraction in the other. In three cases the tubercle bacilli in the sputum diminished greatly in number, and at times disappeared altogether, but at the close of treatment there were still some to be detected. In one case they did not diminish at all, although the patient improved generally. The other organisms, diplococci, staphylococci and streptococci, disappeared in the two cases of cavity, and in the cases of consolidation they were noted throughout, though in diminished numbers. In one case of excavation two injections of antistreptococcic serum were followed by no special effect on the pyrexia or the general condition, but the septic organisms disappeared from the sputum. The conclusion was reached that to produce an antituberculous serum capable of controlling the evolution of tuberculosis in the human body a considerable interval must elapse between the inoculation and the date of the withdrawal of the serum, for when taken a few weeks after inoculation the effects closely resemble those of tuberculin.

The results in such a small number of observations can not be accepted as in any way conclusive, but emanating from such a trustworthy and conservative source, and taken in conjunction with similar evidence from other sources of analogous character, long deferred hope is sustained that science and art will yet together bring forth a remedy of curative value in the treatment of tuberculosis.

IMMUNITY IN TUBERCULOSIS.

It is a fact to which no exception can be taken that many of those afflicted with lung tuberculosis eventually entirely recover from the disease. The chain of evidence is complete: the sufferers have presented its symptoms and physical signs, tubercle bacilli have been demonstrated in the sputa, there has been a gradual return to health, they have died long years afterward of some totally foreign affection, and postmortem examination has shown the remains of their once active disease in the form of fibroid encapsulating processes and evidences of calcareous degeneration. Every pathologist knows that many cases dying from other causes show at the autopsy healed tubercular lesions, particularly at the apices of the lungs. A most careful review of the lives of many of these people would fail to reveal a history of any illness of such a character as to point to the lungs as the offending organ. We attempt to explain this by saying that the natural physiologic resistance of the tissue walls in the diseased areas; but with the march of the disease—of any disease, in fact, if unrecognized because then untreated—would we not rather look for a diminution in this so-called physiologic resistance and a consequent increase in the rapidity of spread of the pathologic process? Why should not this physiologic resistance have been more efficient in the erection of its barriers in the very incipiency of the disorder, when the body as a whole was undoubtedly in a condition more capable of resisting invasion?

The discovery of the value of vaccination in preventing smallpox or in limiting its ravages long since pointed out a fact the importance of which has only of late years begun to be fully realized. It is absurd to explain the legitimate cure of such a disease as typhoid fever, which so commonly attacks an adult in perfect health, and leaves him in a few weeks a weakened wreck, as due to an increased physiologic resistance; increased how? Undoubtedly some subtle change has been going on within that economy which gradually rendered the soil untenable to the growth of that particular germ. This change we have called immunity. Immunity may be hereditary or acquired, and it may be acquired by artificial or natural means, as by passing safely through an attack of the specific disease. Immunity may be permanent or the patient may have scarcely passed into convalescence before being again stricken down. Without going deeper into the many discussions this interesting subject brings up, it can hardly be doubted, in the light of our present knowledge, that when recovery from an infectious or contagious disease occurs, an immunity either temporary or permanent has taken place; or as said before, the growth and increase of the specific micro-organisms within the system has brought about a change in the tissues of that body that renders further existence on the part of that particular germ at that time impossible. The term "immunity" is in a sense but another cloak of ignorance; we do not know of what the change or changes consist. We do know, however, that it may be influenced by age, sex, condition of health, environment, and the like conditions, and that while an individual may readily resist the invasion of one disease he falls an easy victim to another.

Koch and others have shown us that even in guinea-pigs, susceptible as they are to the tubercle bacillus, an artificial immunity can be produced; that these animals by the gradual immunity acquired by the use of the tubercle bacillus substance (Koch's tuberculin R), are able to resist a very virulent infection, while the animals kept for control, not so injected, rapidly succumb. The autopsies demonstrated typic, active, tubercular processes in the latter animals, while the protected ones at most, if infected before injections were begun, showed only fibroid changes, and no tubercle bacilli. We know then that tuberculosis also belongs to that group of diseases in which cure, when it occurs, is brought about by the aid of an acquired natural immunity. If immunity is due, and we think it is, to the action of the products of the particular germ producing the disease on the tissues of the body, or to exhaustion, permanent or temporary, of the favoring soil, it is strange how often a failure must be registered and the process extend to such a degree that the victim dies from the direct impairment of some vital force. This failure occurs in all forms of tuberculosis, both acute and chronic. When we reflect that in the chronic form, bacterial activity is not very great, that to produce and maintain immunity the products of the tubercle bacilli must be present in all the tissues, carried by the blood, and in all probability must be frequently supplied; when we take into consideration the difficulties in the way of dissolving the tubercle bacillus substance, owing to the protection afforded by the non-vascular tubercles, we, at least, have a plausible explanation for the cases that pursue a slow and tedious downward course. This difficulty of attaining and maintaining immunity will also serve as an explanation why chronic cases so frequently become generalized. In the acute cases, on the other hand, where most of the organs of the body become involved, the patient is overwhelmed from the outset by the virulence and amount of the toxins absorbed, and the subsequent exhaustion that follows the high fever and its accompaniments so lowers the resisting power that caseation of the tubercles ensues with great rapidity. Here, while the immunizing substance is present in great abundance, it has made its appearance too late. For while the tubercle bacilli do not thrive, as is shown by their paucity in microscopic sections, the exhaustion produced by the breaking down of tissue substance, often the entrance of the germs of suppuration, is sufficient to cause speedy dissolution. Reasoning from these theoretic standpoints we can see why it is that so little success has followed our attempts at artificial immunization; that to do good immunity must be produced early—before caseation has occurred; for after that time we are but supplying what we have reason to believe has been already furnished in large quantities by the fierce bacterial activity displayed—and which has failed to accomplish any appreciable good. At this period the conditions have materially changed, and we have now to fight the exhaustion, the hectic, the diarrhea, and not so much the tubercle bacillus.

CARBURETTED WATER-GAS.

In February, 1898, a British royal warrant was issued appointing a committee to inquire into the manufacture and use of water-gas and other gases containing a large proportion of carbonic oxid. The professional members of this committee were Dr. H. F. Parsons, assistant medical officer of the Local Government Board, and Prof. William Ramsay, of University College, London. In the course of its inquiry, the committee examined many expert witnesses and made careful and elaborate experiments, the details of which appear as appendices to its report recently submitted to the Houses of Parliament.

The committee found that carburetted water-gas was first used in the United States in the year 1878, and that in 1896 it constituted 70 per cent. of all the illuminating gases manufactured in this country. In Great Britain its use was begun in 1891, and, in 1897–98 the plants established, if worked to their full capacity, would have furnished 24 per cent. of all the illuminating gas supplied. The proportion of water-gas in the gas-supply of certain places was, however, much greater than this, for although the works were not utilized to their full extent the number of towns using this gas was relatively small. The practical advantages to which must be attributed the rapid extension of water-gas manufacture are its economy and the readiness with which an increased output of the gas can be produced in emergencies. Besides these advantages carburetted water-gas requires per unit of light given out in its perfect combustion little more than half the quantity of air that coal-gas requires; its vitiating products are but half the quantity produced by coal-gas, and its sulphur is only one-fifth of that ordinarily present in the latter.

There is no greater likelihood of explosion with it than with coal-gas, but there is a greater danger of poisoning attending its escape unburned, as it contains as much as 30 per cent. of carbonic oxid, while coal-gas has only 4 to 12 per cent. of this dangerous constituent. In the daytime an escape of carburetted water-gas is as easily detected by its odor as one of coal-gas; and it is regarded as practically impossible for slight escapes from imperfect fittings to produce a poisonous atmosphere even at night. The existence of anything like chronic poisoning by carbonic oxid has not been established. Danger is confined practically to large escapes into rooms where persons are asleep. Such escapes are due to the unnoted turning on again of a tap which has been turned off, to blowing out the light, and to extinguishing the light by turning off at the meter with a subsequent renewal of the gas flow through the open bedroom taps. Most of the statistics of deaths from the inhalation of carburetted water-gas presented by the committee were gathered from the reports of the State Board of Health of Massachusetts. From these statistics it is concluded that the loss of life arising in one way or another, accident, suicide or homicide, appears to be fully one hundred times greater with carburetted water-gas in the United States than with coal-gas in Britain. The committee is unanimously of the opinion that the poisonous action of the gas is due solely to the carbonic oxid which it contains, and that benzin, ethylene and marsh-gas, when present in such proportions as would occur in an atmosphere rendered poisonous by gas leakage, are not the dangerous factors. The only effective method of preventing danger in the use of water-gas is to fix a limit for the carbonic oxid. Power should be conferred on a central department, to make regulations enforceable by adequate penalties limiting the proportion of carbonic oxid in a public gas-supply, at night, to "12 per cent. or such greater amount as the department may consider desirable," and in all cases where a limit has been placed there should be some person empowered and required to test for carbonic oxid and publish the results periodically.

It is difficult to forecast what, if any, will be the action taken in the way of legislation on this report. They are more conservative in England than we of the United States. They are slower to harness a new and dangerous agent for steady public service, but having done so their conservatism leads to greater promptness in guarding against its dangers. Water-gas was in use in the United States twelve years before it was accepted as an element of progress in England; but the English are already considering methods for lessening the danger attaching to its use, while we permit every individual to look after his own safety, and if he fails to do this so much the worse for himself. With us it would seem as if human life was not considered when commercial interests are at stake. Our history shows local authorities denying the existence of yellow fever and exposing the people to epidemic outbreaks to postpone a break in their commercial intercourse. Typhoid fever is permitted to strike down its thousands, annually, because of monied interests in existing impure water-supplies. Rapid transit is accepted and it is long before efficient guards are thrown out against its dangers. In the early days of the use of carburetted water-gas in this country, the State Board of Health of Massachusetts succeeded in placing a 10 per cent. limit on the carbonic oxid of gas-supplies in that commonwealth but, in 1890, when England was beginning to use the new process of gas production, this law was repealed. Perhaps should the British throw out safeguards, these may have a reflex action on the United States, otherwise it would seem that accidental deaths from carburetted water-gas poisoning will continue to figure, on our mortality returns until the people are sufficiently educated in the use of this illuminant to understand and avoid its dangers.

ACCLIMATIZATION IN THE TROPICS.

The *Indian Medical Record* does not believe in the acclimatization of the white race in the tropics. It holds that the lowered death-rate in hot countries is not an evidence to the contrary, but rather, that it shows it is only after elaborate precautions have been learned, that it exists. It is rather a proof of the inability of the white race to colonize, that is to labor and undergo constant exposure in the tropics. It is absurd to say, it claims, that a reduced death-rate directly due to the careful avoidance of every possible exposure is an evidence that such exposure can be endured.

CANCER AND VACCINATION.

The cancer question which is now so prominently to the fore is being utilized by the antivaccinationists. One of their leading agitators, in a recent interview as reported, is said to have attributed the increase of cancer of late years to vaccination. He had known of hundreds of cases of cancer in his own practice and that of brother practitioners in the United States, but had "never seen a case of cancer in an unvaccinated person." It is scarcely necessary to say that it would be hard for him to prove the above statement or to show that he had ever investigated the facts as to vaccination in all the cases of cancer he had seen in the practice of his brother physicians. The interview illustrates the line of argument chosen by the antivaccinationists, that they seize upon anything that they can utilize for their purpose without regard to the verities. If any disorder is on the increase, vaccination is at once held responsible, no matter whether there is any proof to that effect or not. It is easy to make reckless statements to a lay reporter, but it does not show any very high grade of morality to give out for publication as facts what can not be demonstrated as such.

AN X-RAY DANGER.

In the *Practitioner* for May, Edmund Owen, F. R. C. S., reports a case of the fracture of the femur in which, in spite of the utmost care and treatment, a bad union occurred, as shown by the X-ray, and asks what would be the result had some officious friend had the picture taken and then instituted a suit for malpractice. Would not an eloquent barrister, with the evidence of the photograph exhibiting "the thigh bone and its treatment in all their nakedness, as it were, to a sympathetic jury," have been able to make serious trouble for the surgeon? As the writer says, the public are taking more than a mere idly curious interest in this new illumination of dark places, and the sooner the surgeons realize this fact the better. Although every possible precaution is taken and every resource known to medical science is employed, it can not always be assured that unfortunate results will not occur. The X-ray in these cases, if admitted by the court as evidence, may put an inconvenient advantage into the hands of the litigious claimants for surgical damages. This fact is one that deserves some attention at least, and Dr. Owen's warning is a timely one. Especially should surgeons exercise caution in expressing opinions in regard to X-ray revelations referred to them by the laity when, from the appearances alone, an unfavorable judgment might be given. The possibility of any case of fracture, however skilfully managed, turning out only a partial success, or a failure as regards normal union of the bone, should be always kept in mind in these cases.

THE ARMY MEDICAL SERVICE.

Philadelphia delegates to the American Medical Association have taken the initiative step in the correction of the system of appointment in the army of the United States as now in vogue. While the surgeon-general has done all that could be done under the circumstances, yet the present system of appointment of surgeons seriously impairs the usefulness of this department. Instead of the surgeon-general being possessed with plenary power in the determination of the fitness of the candidate for the position as surgeon, and in being free to choose as he may wish according to the required examination, it is believed that an iniquitous system prevails in which politics plays no small part, to the detriment of the soldiers in the army and to the disparagement of the medical profession in general. To the end that the abuse may be speedily corrected a committee of representative physicians has been chosen and empowered to present this question before the next meeting of the American Medical Association. The opinion is prevalent that the powers of the surgeon-general in the future should be further extended so that this department will not be overshadowed by the secretary of war.

MORE "CHRISTIAN SCIENCE" MANSLAUGHTER.

The privilege of "Christian Science" and the faith healer to commit passive manslaughter—to call it by no worse name—for profit is likely, according to present prospects, to have a legal test in New York. Two women of that persuasion are under arrest, according to the press dispatches, for causing death or serious injury by neglect. In one case a patient died without medical care under the "Christian Scientist" ministrations, and in the other case of neglect of a gangrenous toe, which was to be cured by the faith healer for a fee, amputation had later to be performed, but it was feared too late to save life. The 'Christian Scientists," it is said, are up in arms against this deprivation of the "religious liberty" that permits them to cause preventable deaths. It is a strange, though unfortunately a familiar, fact, that apparent culture and all the social and other opportunities that wealth affords can not always insure against the fanatic adoption of and adherence to the most irrational delusions. Whether a little legal discipline in these cases is taken as martyrdom or not it would seem to be necessary in the interest of the public welfare. The growth of the "Christian Science" cult is one thing, its immoral sacrifice of human life is another, and the latter should be stopped. The taking of human life under the pretense of religion is as, or more, respectable under the name of "thuggery" as under that of "Christian Science." (See p. 1135.)

TRANSMISSION OF YELLOW FEVER THROUGH MOSQUITOES.

There exists considerable evidence that a number of diseases may be transmitted through the intermediation of insects, viz., filaria sanguinis hominis and malaria through mosquitoes, typhoid fever and cholera through flies, and tuberculosis through bedbugs, and not unreasonably this mode of conveyance will be found to be operative with relation to other infectious diseases. Stapler (*Wiener Med. Woch.*, April 22, p. 802) reaffirms the view previously expressed that yellow fever is probably transmitted, among other ways, through the intermediation of mosquitoes and flies, and he dwells on the relation between the greater liability to infection with both malaria and yellow fever after dark amid conditions of moisture and vegetable decomposition. Both diseases prevail, especially where mosquitoes are numerous, and these manifest their activity especially under the conditions named. Those who have been long exposed to their influence acquire a certain amount of resistance to both their stings and infection with malaria or yellow fever, while, as is well known, newcomers are more commonly attacked and in severer degree. It is not contended that, even when mosquitoes play a part in the conveyance of infectious diseases, they are alone the medium of communication; and what applies to these insects applies in all probability to others, so that research in this direction promises to yield most important results. It is easily comprehended that infection will more readily take place through a wounded surface than through an intact one, and in this way the activity of biting or stinging insects in the etiology of disease may be accentuated.

BEARING FALSE WITNESS.

The American Humane Association of antivivisectors has issued a pamphlet on human vivisection, according to a lay editorial, which gives what are claimed as some of its statements. Among these are such as the following: "In one of the leading eastern college hospitals a physician experimented on eight insane patients with preparations of the thyroid gland. The experimenter stated by way of explanation that when this administration is pushed even to a moderate degree, death is almost invariably the result. The patients had passed the period of time in which recovery from their own ailments could be expected, and of course the gentle physician thought it could do no harm to hasten their departure from this vale of tears and add a little agony for his own amusement." The falsity of the above is appreciated best when we review the facts of the case. Of the eight patients submitted to thyroid treatment by Dr. Berkley, to whom the above quotation evidently alludes, only one died, and in that case the treatment was stopped as soon as it was evident or apparent that its continuance was dangerous, and it is by no means certain that it was responsible for the fatal ending. Of the others, one made a good recovery, and another was improved; the others probably followed the course they would have taken after any other method of treatment, or even no treatment at all. We have not taken the trouble to investigate or identify the other cases referred to by the humane society's pamphlet, but doubt not they would be found equally misrepresented. The legal maxim, *falsus in uno, falsus in omnibus*, suggests itself as the most natural reflection when considering the above facts and reading the remainder of the accusation made by the *soi disant* philanthropists who compiled the pamphlet in question. Can not the humane society reform its morals a little—at least pay a little more attention to the ninth commandment?

PLASTIC SURGERY OF THE NOSE.

The vitality of the tegumentary and cartilaginous tissues is well illustrated by a case reported by Dr. Abbott-Anderson in the *Lancet* of March 11, supplemented by an additional report and illustration in the issue of April 29. A man aged 30 was engaged in sharpening a knife when it slipped and in some way managed to slice off a piece of the nose, 1¼ inches in length, from above downward. The victim went first to the druggist who in turn sent him to Dr. Anderson. There he waited fifteen minutes before seeing the doctor who, on recognizing the state of affairs, asked for the severed piece. This not being at hand, a boy was sent for it and returned with it in ten minutes. It had been found on the kitchen table by the second cook who took it for a piece of calf head or pig's ear. During the boy's absence, the raw surface was carefully bathed with an antiseptic solution and, on his return with the missing piece, it was thoroughly washed in a warm saturated solution of boric acid and then fixed in place with twelve silk sutures. For four hours thereafter a fresh hot compress of boric lint wrung out in boric solution was applied every five minutes, and to this the operator attributes his success. Lastly, it was carefully dusted with europhen and done up in: 1, a piece of green protective; 2, wet boric lint wrung out in boric solution; 3, dry boric lint; 4, double cyanid wool; 5, gonorrhea bag to act as muff; and 6, bandage. The wound healed by first intention all round. The sutures were removed the fourth day, and the picture published in the *Lancet* of April 29 shows no deformity whatever. The case is interesting as showing that a piece of severed tissue left neglected and thoroughly blanched could at once resume its vitality and function after thirty-five minutes' separation. Such cases of successful minor surgery of this nature are well worth reporting.

MYOSITIS OSSIFICANS PROGRESSIVA.

Nicolaysen (*Norsk Magasin fur Lœgevidenskaben*, April, 1899) describes a new case of this mysterious condition. It concerns a 4½-year-old girl whose family history does not contain any especially noteworthy features. During the first two years of life she seemed to develop normally, but at the end of this time she gradually grew stiff in the right shoulder and the back, so as to become quite helpless. This condition came on without any recognizable cause, such as trauma or infectious disease. When examined, the peculiar stiffness and helplessness were found to be due to a complete ossification of the muscles of the back, nucha and shoulders, the scapulæ being fixed to the thorax; there were hard linear masses in the muscles of the right arm and forearm. Both thumbs and both big toes were well formed but abnormally small. In 1897 Boks (*Berlin. Klin. Woch.*, 1897, p. 885) collected 39 cases of this disease; the present case brings the total up to 42; the striking characteristic is a progressive, true ossification of the voluntary muscles, the involuntary being apparently immune. Ordinarily the process begins with an edematous swelling of the muscles involved, succeeded by induration and contraction, and then the ossification gradually takes place. Genuine bone is formed, as shown by the examination of extirpated pieces. The exact tissue in which the process begins is perhaps not definitely determined, but most authors think it is the intermuscular fibrous tissue. It appears that 47.6 per cent. of the cases present symmetric microdactyli of either the big toe or the thumbs or, as in Nicolaysen's case, on both hands and feet. Other toes or fingers do not seem to have been hypoplastic. The association of this hypoplasia with ossification renders the disease a singular one indeed. The disease nearly always begins before the tenth year and usually in the dorsal muscles first, is exquisitely chronic and slowly progressive, painless, without direct disturbances of the general health. Of 42 cases there were 11 females and 31 males, and the most reasonable theory as to the cause is that it depends on some kind of congenital predisposition. All treatment seems useless.

Medical News.

We are glad to be able to record that Prof. Austin Flint, whose illness we announced last week, is convalescent.

Dr. David Street has been re-elected dean of the Baltimore Medical College for the thirteenth successive year.

Dr. Duncan McColman has been appointed assistant dean and superintendent of the Maryland General Hospital, Baltimore.

A clipping states that Professor Koch has gone to the tropics to investigate mosquitoes, but that is a game at which two may play.

Prof. Walter S. Haines, M.D., of Chicago, is editing the forthcoming "American Text-Book of Medical Jurisprudence and Toxicology," to be issued by Saunders.

Owing to lack of financial support from the city, the members of the board of health of Carlisle, Pa., have tendered their resignation. The board has been in existence since 1894.

John B. Roach and Elleline Roach, children of John Roach, the shipbuilder, have recently presented an ambulance and horse to the Chester, Pa., Hospital, in memory of their father.

On May 10, Governor Roosevelt signed the bill recently passed by the Legislature of New York appropriating $300,000 for continuing the acquisition of land for the forest preserve in the Adirondack Mountains.

The forty-seventh annual commencement of the Woman's Medical College of Philadelphia was held May 19. The annual address was delivered by Dr.

William Parrish. One of the graduates is from Russia.

Dr. Frederick L. Benton of Brooklyn, formerly house surgeon of the Brooklyn Hospital, has just been designated by Admiral Dewey as surgeon in charge of the building of the new naval hospital at Cavite, Manila.

Dr. W M Perkins has been appointed assistant demonstrator in the laboratory of operative surgery, medical department, Tulane University of Louisiana, to succeed Dr. T. F. Richardson, now of the marine-hospital service.

Dr. Henry B. Stehman, superintendent of the Presbyterian Hospital, Chicago, is recuperating in and about Denver after a serious attack of pleurisy. The Doctor will visit the Yellowstone National Park before his return to duty.

Dr. John B. Deaver recently tendered to members of the society which bears his name a reception at his residence in Philadelphia. The Deaver Surgical Society is composed of undergraduates of the University of Pennsylvania.

The authorities of the University of Pennsylvania have given opportunity to applicants from all institutions, in the choice of appointment of the successor of Dr. J. B. Deaver, who recently resigned the chair of applied anatomy.

Augusta E. Davis, Edward L. Bender, and Charles Peneveyre, have each bequeathed the sum of $5,000 to the Hospital of the Protestant Episcopal Church of Philadelphia, for the endowment of free beds in memory of deceased relatives.

At the annual meeting of the State board of health, held in Albany, N. Y., May 11, Dr. Daniel Lewis of New York was re-elected president and Drs. F. W. Smith of Syracuse and S. Case Jones of Rochester were re-elected tuberculosis commissioners.

While riding a bicycle in Philadelphia last week, Dr. J. William White had the misfortune to be thrown to the ground, sustaining a dislocation of the clavicle. The accident, however, was not serious enough to prevent him from attending to his regular duties.

Dr. Henry M. Weeks of Trenton, N. J., has been appointed superintendent of the New Jersey State Village of Epileptics. Dr. Weeks has formerly held the positions of assistant physician and pathologist of the State Hospital for the Insane, near Trenton.

The new home for the poor suffering from cancer, founded by Mrs. Rose Hawthorne Lathrop, the daughter of Nathaniel Hawthorne, has just been opened on Cherry Street, New York City. The building is to be known as St. Rose's Free Home for Incurable Cancer.

The seventy-fourth annual commencement of the Jefferson Medical College was held in Philadelphia on May 17. The valedictory address was made by Judge Mayer Sulzberger, and the degrees were conferred by President William Potter. Eighty-five received the degree of M.D.

A case of elephantiasis of the lower extremity is at St. Vincent's Hospital, Norfolk, Va., the subject of much curiosity and study by the local profession. The case is of twelve years' duration, and the extremity, at its largest circumference, will measure nearly three and a half feet.

As a result of a conference held in Philadelphia relative to a rearrangement of salaries in the health bureau of that city, it was decided to recommend the following salaries for the positions named: Chief of Bureau, $4,000; physician to the Municipal Hospital to be increased from $2,000 to $2,500.

Col. David B. Gilliard, U. S. Engineers, has been directed by the war department to restore the Lydecker tunnel and the abandoned reservoir, in order to increase the water-supply of Washington, D. C. This is destined to relieve the water famine and supply an abundance of potable water to the eastern section.

Surgeon-General Sternberg has appointed Lieut. Col. Benj. F. Pope (deputy surgeon-general), Maj. Wm. B. Davis (surgeon) and Capt. Merritte W. Ireland (asst.-surgeon) to represent the medical department of the U. S. army at the annual meeting of the American Medical Association at Columbus.

The ration issued to the troops in the field near Manila during the recent military operations has consisted of fresh beef seven and bacon two days in ten, and salmon one day in ten with potatoes, onions, tomatoes and dried fruits daily. The fresh beef issues are reported by medical officers as of excellent quality.

Reports from medical officers serving in Cuba state that the light-weight flannel shirt now supplied to the troops is an excellent garment for the climate. A gingham or chambray overshirt is also furnished. The quartermaster's department has an ample supply of light summer clothing on hand for issue in all the Cuban departments.

Our European exchanges mention the silver wedding celebrations of the Dr. Duke Charles Theodore of Bavaria and his wife, the Princess Marie of Braganza. This titled confrère is a specialist in ophthalmology at Munich, and maintains a free clinic for the poor, dispensing charity among his needy patients with a lavish hand.

The faculty of Jenner Medical College, Chicago, has decided to ratify the recent action of the board of directors in expressing to the State board of health a desire to waive the exemption from State examination of the Jenner graduates. It was also decided to become a member of the Association of American Medical Colleges.

The *Jour. de Méd. de Paris*, April 23, says that a young woman of Frankenthal, Hesse, was accused of infanticide, the infant supposed to have been thrown into the Rhine. The authorities sent word to the towns below along the river to search for the body of an infant. Each complied and thirty-two infant cadavers were the result of the search.

The professor extraordinary of hygiene at Marburg, Dr. Wernicke, has been appointed superintendent of the new Institute of Hygiene at Posen. H. Bonhoff, privat-docent at Berlin, has been called in his place to Marburg, which is the only Prussian university with two professors of hygiene. Professor Behring is the regular incumbent, and the second chair was created to relieve him and support him in his scientific studies.

Recent faculty appointments in the Baltimore Medical College are: Chas. O'Donovan, clinical professor of diseases of children; E. L. Whitney, associate professor of physiology and chemistry; Chas. G. Porter, associate professor of bacteriology and pathology; C. M. Rowland, associate professor of anatomy.

A company of New England physicians is being organized for an excursion to Paris next year. It is the plan to charter a steamer and go to Holland, and from there to Brussels and Antwerp, then to Paris, and over to London and home, attending the International Congress and Exhibition, and returning in seven weeks. Dr. E. R. Campbell, Bellows Falls, Vt., is the secretary.

At a meeting of the State board of charities held in New York on May 11, a sub-committee was appointed to prepare an address directing all managers of dispensaries in the State to give hearings for the purpose of obtaining opinions in regard to the question of suitable rules for these institutions, which, by the law recently enacted, have been placed under the control of the board.

Dr. A. H. Witmore is acting superintendent of the government hospital for the insane, Washington, D.C., pending the selection of a successor to the late Dr. Godding. Dr. Witmore has been first assistant at the hospital for many years, is thoroughly conversant with the details of the institution, and his appointment as superintendent is generally conceded and desired by the local profession.

At the recent meeting of the Maryland Public Health Association (see p. 1117) the following officers were elected: president, Chas. R. Hartshorn; vice-presidents, Howard Bratton of Elkton, J. W. Cheney of Dunkirk, John F. Hancock, Mrs. Daniel Miller and Miss Eliza Ridgley of Baltimore; secretary, John S Fulton of Baltimore; assistant secretary S. J. Fort of Baltimore; treasurer, L. G. Smart of Baltimore.

The French authorities are beginning to be disquieted at the decline in the number of students from abroad enrolled in the French medical schools. In 1895 there were 1137 foreigners to 7779 French students, while in 1899 there are only 840 to 7429 French. Of this number over half are in Paris. The majority, 630, are from Russia and the southeastern countries of Europe. The United States has been represented only by 14 in 1896, 10 in 1897, 6 in 1898, and 1 in 1899.

According to reports, Dr. Wm. E. Quine has resigned as dean of the faculty of the College of Physicians and Surgeons, Chicago. His resignation has not been accepted.

Dr. Wm. Hale McEnroe, New York City, who has just been offered the professorship of materia medica in Cornell Medical College, died of heart disease, May 17, aged 46 years. He is credited with having originated the free dispensary in connection with Bellevue Hospital.

A young man, who had never taken mercury in any form, recently died of severe hydrargyrosis in a Vienna hospital, caused by the presence in the same ward of several patients undergoing Welander's "pillow-slip" mercurial treatment. He was in an advanced stage of tuberculosis with ulcerations in the mouth, anemic and cachectic, and although removed to another ward at the first indications of disturbance, sufficient mercury was found in the urine to account for the fatal result in his enfeebled condition.

The Cook County (Ill.) Commissioners have adopted a suggestion of President Irwin that in future, when expert testimony is needed, physicians of the county hospital staff, Chicago, shall be required to give it free upon written request of the State attorney or the coroner. The new rule is expected to result in a big saving. In the last four years $10,600 was expended for expert testimony. A condition of the appointment of all physicians and surgeons on the hospital staff will be that they serve as expert witnesses. This is "political" economy.

By the will of the late Benj. F. Horwitz, Baltimore, a son-in-law of Prof. S. D. Gross, $5000 is left to the Johns Hopkins Hospital, to provide a medal for bestowal on such member of the medical profession either in this country or abroad, as shall have accomplished most in each year to ameliorate the sufferings of mankind. The money is to be invested and only the income used. The medal will be known as the Dr. Eugene Horwitz medal, in honor of the son of the testator, who was connected with the hospital, and who died about five years ago.

Through the beneficent gift of Mr. Justus C. Strawbridge of Philadelphia, a bronze statue of Dr. Benjamin Franklin is to be erected in that city, the unveiling to occur June 14, the date of the commencement of the University of Pennsylvania, with which institution he was prominently identified during his life. From its foundation Franklin was always foremost in matters of health and numbered among his friends many physicians of his time who were instrumental in bring the medical profession to the high station which it now occupies. Secretary Day, Nikola Tesla and Thomas A. Edison will be invited to attend.

Owing to the death of Mrs. Celia Butler of Pittsburg, Pa., which has been ascribed to the effects of a headache powder, some interest has been manifested in the matter by Dr. Henry Leffman of Philadelphia, who attributes the bad effects to coal-tar products. That death occurred in this instance within twenty minutes from the time the medicine was taken is enough to bring the question prominently before the medical profession. The authorities of Allegheny County have as a consequence passed an ordinance providing that hereafter all powders used for this purpose and sold by druggists be properly labeled so as to state the dangerous quality of the drugs contained therein.

Changes in staff of the Central College of Physicians and Surgeons, Indianapolis, Ind., have been announced as follows: Dr. Allison Maxwell has resigned as professor of the practice of medicine, and Dr. Samuel E. Earp has been elected to fill the vacancy, Dr. Maxwell being made associate professor. Dr. W. T. Newton has been elected to the chair of materia medica and therapeutics, formerly held by Dr. Earp. Dr. T. B. Eastman vacated the chair of anatomy to accept the chair of medical and surgical diseases of women, and Dr. T. E. Courtney was elected to the vacancy. A chair of bacteriology was also created and Dr. H. G. Gaylord elected to fill it, and Dr. R. N. Tond made assistant in pathology.

Association News.

General Business Committee.—The first meeting of this committee will be held on Monday afternoon, June 6, at 5 o'clock, in the Columbia Rifles Armory, seventh floor of the Great Southern Hotel, Columbus, Ohio; subsequent meetings in the same place at 5 P.M. on each day of the meeting. It is very important that all the members of the committee should attend the meetings, in order that the business of the ASSOCIATION may be properly transacted. L. Duncan Bulkley, M.D., secretary General Business Committee.

Railroad Rates for the Columbus Meeting.—The committee on transportation of the AMERICAN MEDICAL ASSOCIATION presents the following, as the final rates agreed upon in the different territories for the Columbus meeting:

The New England Passenger Association, Trunk Lines Association, Southwestern Passenger Bureau and Southeastern Passenger Association grant a rate of one and one-third fare for the round trip on certificate plan.

The Central Passenger Association has granted a one-fare rate for the round trip. The Western Passenger Association has granted a one-fare rate plus $2 for the round trip. In the latter territory, where the rate for passage to the eastern gateway is $6 or less, the rate will be one and one-third fare for the round trip, provided that where one-third fare to Chicago is $2 or less, 50 cents additional will be added to the cost for return transfer. (See JOURNAL, May 6, p. 1012.)

Tickets will be on sale in the various railroad territories on time, in advance, sufficient for reaching Columbus, the place of meeting, by continuous uninterrupted trip. Delegates should notify ticket agents in advance, in order to secure the certificate platform. H. L. E. JOHNSON, M.D.,
Chairman Transportation Committee.

Section on Practice of Medicine.—The following is a list of the papers to be read in this Section at the Columbus meeting, with short abstracts.

JUNE 6—AFTERNOON SESSION.

1. Address of Chairman. Frank Billings, Chicago.

2. What are the Physiologic Processes or Functions that Impart to the Living Human Body Its Vital Resistance or Immunity to the Action of the Toxic Agents to Which It May be Exposed; and How Can That be Aided in the Treatment of Disease. N. S. Davis, Chicago.

Abs.—In discussing this subject the author touches briefly on: 1. The physiologic processes by which the living body maintains its vitality and metabolism in health. 2. How these natural processes are affected by the chief causes of disease, both acute and chronic. 3. The chief means by which the physician may effectually aid the natural processes in restoring health after disease or disorder has been produced.

3. A Comparison of the Various Methods of Estimating Hemoglobin. B. M. Linnell, Chicago.

Abs.—The author considers the color tests; Fleischl's; Gower's; the percentage of error; variation between different eyes; between the same eyes at different times and under different circumstances of the recognition of colors; also a method for approximate estimation by known dilutions of examiner's blood; the specific gravity method (Hammerschlag's), the most accurate; some modifications in the technic.

4. The Spread of Diseases in Schools and its Prevention. Lambert Ott, Philadelphia.

Abs.—*a*. Most children's diseases are obtained in the intercourse of school life. *b*. The diseases usually spread in school are diphtheria, scarlet fever, whooping cough, measles, varicella and variola or varioloid. *c*. Sources of danger. *d*. Means of contamination. *e*. Prevention of the spread of disease in schools. 1. Children convalescing from contagious disease should not be allowed to return to school until the lapse of a certain time. 2. Teachers should be taught to recognize the contagious diseases and by what means they are spread. 3. Children should be taught to avoid the medium of contagion. 4. In all cities there should be a medical superintendent of public schools and a trained corps of assistants to trace sources of contagion, etc. *f*. Smallpox, vaccination and the law of Pennsylvania relating thereto.

5. Cerebrospinal Meningitis. T. N. Miller, Rockford, Ill.

Abs.—This author presents the bacteriology, non-contagiousness, clinic types, diagnosis, prognosis and a treatment which has given more than ordinary successful results.

6. Some Unusual Features of Epidemic Cerebrospinal Meningitis. George L. Eyster, Rock Island, Ill.

Abs.—A clinic report of two cases of cerebrospinal meningitis of the markedly intermittent type, accompanied by mucopurulent discharge from the nasal cavities, in which were found large numbers of the diplococcus intracellularis meningitidis; description of post-mortem lesions.

7. Cirrhosis of the Liver. J. B. Marvin, Louisville.

8. Illuminating-Gas Poison. W. B. Hill, Milwaukee.

9. Have we in Nature a Basis for a Science and Art in Medicine? H. J. Herrick, Cleveland.

Abs.—The writer believes there is a basis for the application of the terms science and art to medicine. The application of the laws and principles of physiologic science are regarded as offering the chief indications for the guidance of the physician in the treatment of all diseases.

10. Primary Testicular Mumps. Landon B. Edwards, Richmond, Va.

11. The Fundamental Principles of Etiology and Therapy. Elmer Lee, New York City.

Abs.—Co-ordination and health; discord and sickness; vital principles, sensibility, sensation, instinct, contraction; bodily chemistry; defection of fluids and tissues; irritation from without; inhibition of normal function from nervous disturbance and abnormal sensation; inadequate food and drink; ptomains from decomposition and fermentation; ferment in the blood; bio chemistry; elimination and emunctories; incomplete digestion; microbes, their incidental relationship to disease; waste matter, fluid, solid, gaseous; exercise, food, dress; water internally in health and sickness; drugs and serotherapy.

12. Hodgkin's Disease. S. E. Stewart, Topeka.

JUNE 7—MORNING SESSION.

13. The Vascular Changes in Bright's Disease. James Tyson, Philadelphia.

Abs.—The cardiovascular changes meant are cardiac hypertrophy and arterial sclerosis. These are briefly described. The rationale of their production: 1. The arterial sclerosis is primary and produces cardiac hypertrophy and renal contractions. 2. The renal disease is primary, when the cardiac hypertrophy in its initial stage is the result of an effort at compensation. Arterial sclerosis succeeds at a late stage and fortifies the hypertrophy.

14. Treatment of the Heart in Chronic Interstitial Nephritis. Arthur R. Elliott, Chicago.

Abs.—This is a review of the cardiovascular changes in granular kidney; these not duly considered in the routine treatment of the disease; relative importance of the cardiac and renal changes from a therapeutic standpoint; the heart tonics in interstitial nephritis, their use and abuse; importance of the vasodilators; value of the Schott treatment in the myocardial changes of Bright's disease.

15. A Cause and Differential Diagnosis of Accidental Heart Murmurs. George W. Webster, Chicago.

Abs.—Causes: Every theory or fact in physical diagnosis should be, not the violation, but the realization of a physical law; review of theories; arguments tending to show that no single theory accounts for all accidental murmurs; probability that all accidental murmurs are, like those of organic disease, due to the production of "fluid veins." This may be due to temporary dilatation of the pulmonary artery, relative insufficiency of the tricuspid or the mitral valves and possibly other causes. The diagnosis rests on: 1, the exclusion of organic disease as shown by *a*, absence of a history of antecedent casual disease, *b*, absence of the results of valvular defects as evidenced by hypertrophy and dilatation, or by damaged or broken compensation. 2. By *a*, history of such disease or conditions as acute intoxications, chorea, the anemias, etc., with which these murmurs are frequently associated; *b*, the characteristics of the murmur as shown by rhythm, point of maximum intensity, area of audibility, posture, exercise, etc.

16. The Transmission of Systolic Mitral Murmurs, with Special Reference to the Nature of the So-called Anemic Murmurs. Horace B. Arnold, Boston.

Abs.—The question of the nature of the so-called functional murmurs has been many times discussed, but the diversity of opinion among the best authorities still leaves it among the unsettled problems. Any contribution to our knowledge, however small, is welcome. The discussion has turned chiefly on the point of maximum intensity of these murmurs—their distribution has not received the attention it deserves. We shall consider mitral systolic murmurs and their distribution: why they are heard at the apex; their transmission to the left from the apex and from the left side of heart; their transmission to the back; systolic murmurs (mitral and others) over the "valvular" area; mitral murmurs in the second left interspace, and their distribution beyond this area; so called "anemic" murmurs in the second left interspace and their distribution beyond—similar to mitral; illustrative cases.

17. The Use of Quinin in Malarial Diseases. George Dock, Ann Arbor, Mich.

Abs.—The objects of the paper are to consider the question of dosage in the various forms of malarial disease, the methods of administration including the choice of preparation of quinin, with special reference to the intermittent administration of quinin in malaria; to consider the most promising method of prophylactic treatment with quinin; to point out the present status of the subject of malarial hemoglobinuria, and the proper position of quinin to such disease; to consider briefly the untoward results of the use of quinin and the means of avoiding them.

18. Hypodermic Use of Quinin in the Treatment of Malaria. G. A. Fackler, Cincinnati.

19. Syphilis of the Liver. Geo. L. Cole, Los Angeles.

Abs.—The author considers the pathology of specific diseases of the liver; the diagnosis and the probability of many cases being treated for ordinary cirrhosis of the liver. Also a report of three cases; all had ascites; one was tapped six times and the other two were tapped over thirty times each, followed by recovery.

20. Frequency of Subcrepitant Râles in Healthy Chests. Richard C. Cabot, Boston.

Abs.—The writer calls attention to a subcrepitant râle, heard best in the last half of a full inspiration. The râle does not disappear after repeated respiration. It is heard most frequently in the axillæ from the seventh to the ninth rib. It is found in adults oftener than children, in out-patients who presented no other signs of disease of lung or pleura. He will also discuss possible causes.

21. Traumatic Neuroses without Ligation. Sidney A. Lord, Boston.

22. The Superstitions, Theories and Treatment of both Extremes of the Century. Alonzo Garcelon, Lewiston, Me.

23. (Subject to be announced). Norman Bridge, Los Angeles.

24. Treatment of Aneurysms by Gelatin Injections. T. B. Futcher, Baltimore.

June 7—Afternoon Session.

Symposium on Pneumonia.

25. A General Introductory Paper Covering the Field of Pneumonia Broadly. Edw. F. Wells, Chicago.

Abs.—Dr. Wells will consider: Importance of the question; prevalence; causation; the pneumococcus and its effects; chill and fever; effects of the toxins on the nervous system, especially the vasomotor nerves; effects on the blood, including increase of fibrin and leucocytosis; effect on the urine; suddenness of cessation of symptoms; chief determining causes of death; prognosis; treatment, especially by venesection, saline injections, strychnia and digitalis.

26. The Pneumococcus. Gustav Fütterer, Chicago.

Abs.—The author sketches the history of the bacteriology of pneumonia, with the evidence on which the pneumococcus is recognized as the probable exciting cause of the disease; considering also the presence, constant or frequent, of the coccus in the mouth and upper air-passages, together with their identity and relations to the attack; the morphology of the germ; the toxins; the antitoxins, etc.; the mode of entrance and attack.

27. The Blood. Alfred Stengel, Philadelphia.

28. Pneumonia of the Aged. Robt. H. Babcock, Chicago.

Abs.—This paper considers pneumonia of the aged more frequently lobar than catarrhal; its wide prevalence and great mortality; its symptomatology is often very unlike the typic form and may be said to constitute a type of its own. Description of symptoms. Diagnosis: Physical signs often obscure, and diagnosis may depend largely on history and symptoms. Prognosis: Gravity of and elements in. Treatment: Only touched on, necessity of avoiding depressing and of not sparing stimulating remedies.

29. Systemic Infection: The Complications and Sequelæ. Robt. B. Preble, Chicago.

Abs.—Complications. *a*, Mechanic: Plugging of bronchi; effects on symptoms and physical signs; dilatation of heart; jaundice; theories of causation. *b*, Infections: Septicemia; pleuritis; endocarditis; meningitis; pericarditis; arthritis; miscellaneous; mixed infections. *c*, Toxic: Delirium; renal changes. Sequelæ: Delayed resolutions; nephritis; induration; neuritis; abscess; gangrene.

30. Pneumonia of High Altitudes. Sherman G. Bonney, Denver.

31. The Treatment of Pneumonia. H. A. Hare, Philadelphia.

Abs.—Dr. Hare considers the treatment of croupous pneumonia in: 1, sthenic individuals; 2, asthenic individuals in the first stage, stage of convalescence, and stage of resolution.

Discussion upon the general subject of Pneumonia, by N. S. Davis, Jr., Chicago; J. G. Whittaker, Cincinnati; James Tyson, Philadelphia; J. H. Musser, Philadelphia; Norman Bridge, Los Angeles; Charles G. Stockton, Buffalo; A. M. Holmes, Denver; George Dock, Ann Arbor; R. C. Cabot, Boston; J. M. Anders, Philadelphia; H. B. Favill, Chicago.

32. Autointoxication, Autoinfection. J. M.G. Carter, Waukegan, Ill.

Abs.—This author considers: Frequency of occurrence and that many cases of so-called simple continued fever belong here, and various diseases easily supervene; headaches, neuralgias, poisoning; metabolism disturbed and elimination checked. Rational treatment: Elimination and oxidation—the use of oxygen gas.

33. A Further Report on the Cataphoric Treatment of Cancer. G. Betton Massey, Philadelphia.

Abs.—The cataphoric insertion of nascent salts of mercury in a strength that will deluge interstitially a given tract of tissue or an organ, constitutes a therapeutic procedure of this author. Besides its application in massive dose, generally in association with nascent zinc salts, in the interstitial destruction of the malignant cells or germs of cancer and sarcoma, the method is applicable to the treatment of tuberculosis of accessible portions of the body and to many other conditions where an interstitially-driven germicide will be effective; all ulcerations, cysts, cavities and morbid structures being rendered permanently aseptic by the diffused materials, until perfect healing has been secured. Tissues subjected to the application, whether a small dose has been used or a massive one under ether, show the development of two distinct zones, that nearest the electrode being a zone of total necrosis, around which a line of demarcation subsequently forms, beyond which appears a zone of infiltration-reaction, which shows much puffiness and redness for days subsequently, and within which there is evidence that stray malignant cells are killed and the physiologic resisting forces of the body roused. Details are given of cases of sarcoma and carcinoma, ten in all, that have been successfully treated by the method.

34. A Fallacy of the Rest Cure Treatment. G. M. Gould, Philadelphia.

Abs.—The writer describes three cases which he has treated and in which the general physician or neurologist had ordered the rest-cure without any inquiry as to the existence of eye-strain. A potent and frequent cause of the neurasthenia, hysteria, denutrition, etc., of patients needing the rest cure, is eye-strain, the symptoms of which are frequently not traced to the true cause and which is thus ignored in the treatment. Mydriasis in such cases, continued for a time, would not only prove a certain means of differential diagnosis, but as good a method of cure as the rest cure itself.

35. The Medical Treatment of Movable Kidney. Alfred Stengel, Philadelphia.

36. Acute Endocarditis. W. H. Nielson, Milwaukee.

Abs.—This author takes up: 1. Etiology, chemic and biologic. 2. The necessity existing for carefully and frequently examining all cases of acute infectious disease with special reference to endocarditis. 3. Symptoms, especially the general symptoms. 4. Treatment; general considerations.

June 8—Morning Session.

37. Notes on Two Epidemics of Typhoid Fever in the Iowa Hospital for the Insane. George Boody, Independence, Iowa.

Abs.—This paper embodies the author's views on the general course of epidemics; value of the microscope in differential diagnosis; report of a case of inverted fever; observations as to the effect on subsequent mental condition of patients.

38. The Typhoid Fever Fallacy. Frank W. Porterfield, Atlantic, Iowa.

Abs.—The position will be taken that no line of treatment for typhoid fever can rationally and scientifically be endorsed by the profession to the exclusion of others, with a brief review of the present state of knowledge of the pathology of the disease; frequent occurrence of atypic cases; the difficulty of intestinal antisepsis; the admitted value of skilled nursing and correct supervision of diet; the value of rest and sleep, and the consequent source of danger in the administration of medicine in fractional hour intervals; the very wide difference between hospital and private cases; the topic from the standpoint of the general practitioner on a common-sense basis.

39. A Quarter of a Century's Experience with Typhoid Fever, with Special Reference to Some Unsettled Problems. Jas. L. Taylor, Wheelersburg, Ohio.

Abs.—The author presents a contrast between accredited scientific opinions concerning typhoid fever as advocated formerly, and those generally received to-day; how typhoid has displaced marsh fevers; different epidemics characterized by different types of the disease; the varying forms of typhoid; can the radically different types assumed in different epidemics depend on identic causes? Points of similarity between epidemics of typhoid and those of cerebrospinal meningitis; greater severity of former typhoid epidemics; propagation of certain typhoid epidemics sometimes toward the source of streams instead of toward their mouth; in farming districts typhoid spreads without any possible dependence on water-supply; rôle of Eberth's bacillus—some confusing effects of bacteriologic research; practical value of Widal's and other tests; an anomalous form of typhoid occurring since the influenza visitation of 1889; what points are of most value in determining prognosis.

40. A New Bath Facilitating Hydrotherapy in Private Practice. Alfred C. Haven, Lake Forest, Ill.

Abs.—The author gives a brief history of use of water in medicine; prejudice against water, and reasons; physiologic effects of water, hot and cold; therapy—all hyperpyrexia; contraindications; technic simplified, and will exhibit new portable bath.

41. Enteric Fever: Its Infection, Pathology and Present Treatment. Franklin Staples, Winona, Minn.

Abs.—This is a paper designed to show something of the part which the science of bacteriology has had in recent advances of knowledge concerning infectious diseases. The brief account here given concerns especially the common disease known as enteric or typhoid fever. This disease is presented as representative in practical ways of others of this general class. The gradual advance of knowledge in former times and the more rapid progress in the near past have alike tended to the establishment of pathologic anatomy as the basis for what pertains to hygienic and therapeutic management. The later rapid progress in the domain of practical medicine is seen to be largely due to what is coming to be known concerning the specific germ as the necessary cause of disease and the essential element in its pathology. The practical advantage gained from a knowledge concerning cause and condition in preventable disease, is found in the resulting direction for successful prevention of what is liable to be, as well as for the better management of what is at hand—a knowledge of ways, and a possession of means.

42. Some Remarks on Typhoid Fever in the American Army During the Late War. V. C. Vaughan, Ann Arbor, Mich.

Abs.—This will consist of remarks on the prevalence of typhoid fever among the troops in the different camps, on the causes of the typhoid fever, the rapidity of its spread and the avenues by means of which it was spread. In the paper one or more regiments will be taken up and somewhat of a critic study made of the sickness in such regiments.

43. Spontaneous Dislocation of the Hip-Joint Complicating Typhoid Fever; with a Skiagraph of Case. A. H. Burr, Chicago.

44. On Therapeutic Principles in Treatment of Typhoid. L. F. Roush, New Haven, W. Va.

Abs.—The author considers: 1. Cathartic, calomel preferred, daily for first six or eight days, to change character of stool; repeat cathartic any time in course of disease for diarrhea. 2. Salicylate of ammonium or sodium, grs. v, more or less, night and day during the whole disease or as long as evening temperature is 102 F. or more. 3. No food for first week unless patient desires it. 4. The foregoing plan, with proper hygiene, will not only mitigate, but will greatly abridge the duration of the disease.

45. The Care of Continued Fever Patients. S. C. James, Kansas City.

Abs.—The author will attempt to show some of the common errors of: dieting; nursing; medication and general hygiene.

46. A Plea for the Antiseptic Treatment of Typhoid Fever. D. C. Ramsey, Mount Vernon, Ind.

47. The Use of Acetanilid in Typhoid Fever. E. C. Brush, Zanesville, Ohio.

Abs.—The cases reported are those of soldiers sent home last August and September from Camp Geo. H. Thomas, Chickamauga, Ga. They were treated in the Zanesville hospital. The only antipyretic used was acetanilid. The rule in using acetanilid was to give three grains every two hours when the temperature reached 101. As soon as the temperature fell below 101, the acetanilid was discontinued. Usually the patient would perspire and the temperature drop from one to two degrees after the second dose. A third consecutive dose was not needed often.

June 8—Afternoon Session.

Symposium on Albuminuria.

48. A General Consideration of the Subject, including the Significance of Albuminuria. J. B. Herrick, Chicago.

Abs.—This paper is introductory to the general discussion of albuminuria. He considers the importance of the subject, and shows that while much has been learned since the time of Bright, many questions concerning albuminuria and its significance are yet unsettled. He also gives theories as to origin.

49. Physiologic, Cyclic, and the Albuminuria of Adolescence. R. O. Beard, Minneapolis.

50. Accidental or Spurious Albuminuria. Chas. G. Stockton, Buffalo.

51. Febrile Albuminuria. J. H. Musser, Philadelphia.

52. Albuminuria of Bright's Disease. Richard C. Cabot, Boston.

Abs.—Cabot's paper covers: 1. Nephritis without albuminuria. 2. Relation of albuminuria to different clinic types of nephritis. 3. Relation of albuminuria to dropsy. 4. Relation of albuminuria to renal permeability. 5. Relation of albuminuria to food and treatment.

53. The Influence of High Altitude upon Albuminuria. Edw. C. Hill, Denver.

54. The Quantitative and Qualitative Estimation of Albuminuria. C. W. Purdy, Chicago.

Abs.—The author considers: The gravimetric method (description of two different processes); Tanret's titration method with the double iodid of mercury and potassium with mercuric chlorid as the indicator; the time reaction of Brandberg; the differential-density method of Lang Hoebler and Bernhardt; Esbach's volumetric method; his own centrifugal method, giving both volumetric and gravimetric percentages with error not exceeding 0.02 of 1 per cent.

The Discussion on Albuminuria to follow Dr. Purdy's essay, by James Tyson, Phila.; Arthur R. Elliott, Chicago; W. H. Neilson, Milwaukee; V. C. Vaughan, Ann Arbor; H. B. Favill, Chicago; H. A. Hare, Phila.; S. C. James, Kansas City; Geo. L. Cole, Los Angeles.

55. Some of the Ways in which X-rays Assist in Medical Diagnosis. F. H. Williams, Boston.

Abs.—The points of this paper are: Apparatus used; vacuum tubes of Dr. William H. Rollins; simple precautions to avoid burns from X-rays; no burns at the Boston City Hospital in about three thousand examinations; best field for medical work; brief consideration of the uses of X-rays in diseases of thorax, abdomen, pelvis, head, general diseases and diseases of children.

56. The Treatment of the Abdominal Viscera through the Colon. Fenton B. Turck, Chicago.

Abs.—The author treats this subject as follows: 1. Anatomic, physiologic and pathologic relations of the colon to the other viscera. 2. Therapeutics: General consideration, direct effect of therapeutic measures, by proximity to other viscera, reflexes of the colon; *a*, cardiovascular; *b*, gastro-intestinal; *c*, hepatic; *d*, kidneys and other viscera; *e*, thermal centers. 2. Autointoxication and elimination. Methods: 1. Position of patient under treatment; description of new table. 2. Method of passing flexible sound and tube for diagnostic and therapeutic purposes. 3. Mechanic. 4. Hydrotherapeutic method; experimental and clinic observations. 5. Hot and cold air through double tube in colon; observations on same. 6. Electricity; new electrode with douche using soft double return tube. 7. Medication per colon. 8. Feeding per colon: indications and contraindications; results.

57. The Application of the Centrifuge to the Examination of Feces. C. D. Spivak, Denver.

58. The Changes and Diseases Peculiar to Old Age. J. W. Bell, Minneapolis.

Abs.—This paper has to do with: 1. The importance to the practitioner of a more thorough knowledge of senile pathology, as well as the normal changes peculiar to age. 2. The meagerness of the literature on the subject, as indicated by the absence of a single comprehensive treatise on the changes or diseases of advanced life. 3. Systematic instruction in the changes and diseases peculiar to age should form a part of the college curriculum. 4. This instruction is as necessary to fully equip the practitioner as is special instruction in diseases of childhood.

59. Rheumatism: Its Etiology, Pathology and Treatment. A. A. Young, Newark, N. Y.

Abs.—The writer endeavors to show: 1. That articular rheumatism is produced by the deposition, growth and reproduction of a specific micro-organism within the blood stream. The active stage of the disease marks the period of time during which the rheumatoid bacilli pass through their life cycle. 2. That rheumatism is a systemic and never a local affection and that the observed departure from normal conditions of the various organs, including the blood-stream, are the conditions produced by the developing bacilli; or they are nature's efforts to prevent their growth and to debar the fully developed bacilli from passing through another biologic cycle. 3. That in rheumatoid conditions there is an overproduction of uric acid; that a relation exists between its production and amount, as found in the system, and the growth and reproductive processes of the rheumatoid bacilli; in the same ratio that the former is eliminated the severity of the disease is diminished, and for this purpose the known physiologic actions of pilocarpin suggest its use, which indication has been verified in a short clinic experience.

June 9—Morning Session.

60. Cholecystitis. Chas. G. Stockton, Buffalo.

Abs.—The author attempts to answer: 1. In the etiology of cholecystitis, what rôle is played by biliary calculi, trauma, exposure to cold, and what by invasion of the gall-bladder by pathogenic bacteria? 2. What relation does cholecystitis bear to angiocholitis, jaundice, enlargement of the liver and hepatic colic? 3. How far may the course of the disease and the prognosis be modified by treatment other than surgery?

61. Pancreatic Hemorrhage, with Report of Two Cases. J. M. Anders, Philadelphia.

Abs.—This paper will embrace a discussion of: 1. The causes of hemorrhage in the pancreas. 2. Its pathologic relations. One case reported in the paper occurred in carcinoma of the pancreas, the other in hemorrhagic pancreatitis, the latter also terminating fatally. 3. Pancreatic hemorrhage as an immediate cause of death from shock, or compression of the solar plexus. The notes of two cases in which death followed extensive hemorrhage in the course of a few hours are recited.

62. The Responsibility of the Physician in Vaccination. Julia W. Carpenter, Cincinnati.

Abs.—The subject of vaccination is of vital importance at the present moment for the following reasons: 1. The agitation on the subject of legislation concerning vaccination pro and con. 2. The recent epidemic of smallpox in our land. 3. The growing sentiment against vaccination and the industry with which these opponents are working. The author gives suggestions as to the best manner of vaccination, the best places to select and the best subsequent treatment, and considers the serious results following vaccination and how far the physician is responsible for the feeling against vaccination.

63. A Case of Lipemia in Diabetes Mellitus. T. B. Futcher, Baltimore.

64. The Relation of Drinking Water to Metabolism. David S. Edsall, Philadelphia.

65. The Value of the Tuberculin Test in the Diagnosis of Tuberculosis. Edward O. Otis, Boston.

Abs. This author considers: 1. Objections to the use; *a*, that it is dangerous by rendering more active existing disease in a more or less quiescent state; *b*, that it is unreliable by giving reactions in other diseases and by failing to react in some cases of tuberculosis. 2. The chief value in the diagnosis of early cases; importance of early diagnosis. 3. Experience and conclusions of other investigators—of the writer—in favor of the test. 4. The writer's cases reviewed and discussed. 5. Summary of conclusions. 6. Rules for use of the test.

66. Tuberculosis of the Lungs: History, Etiology, Cure (?) and Recent Therapeutic Measures Employed in Its Treatment. T. Snyder, Kingston, Ont.

67. A Further Report on the Use of Antiphthisic Serum (T. R.) in Tuberculosis (Fisch). A. Mansfield Holmes, Denver.

Abs.—This paper covers: 1. Physiologic effects of the serum. 2. Effects in various stages of the disease. 3. Necessity of an early diagnosis. 4. Its value as a prophylactic. 5. Permanency of effects. 6. Length of time necessary for treatment. 7. The fallacy of climate alone in the treatment of pulmonary tuberculosis.

68. Our Consumptives: Whom to Send and Where to Send Them. J. F. McConnell, Las Cruces, N. M.

Abs. The points considered in this paper are: 1. The great aid toward the arrest of the tubercular process which proper climatic treatment gives. 2. The criminality of delaying. 3. Why early (incipient) cases recover. 4. Why late cases should be kept at home. 5. Southern New Mexico—its climate. 6. Climatic data.

69. Some Statistics upon Serotherapy in Tuberculosis, with a Report of 106 Cases so Treated During 1898, Combined with Favorable Climate, Combined with Street Supervision of the Patient. C. P. Ambler, Asheville, N. C.

Abs.—In the treatment of pulmonary tuberculosis "strict hygienic supervision of the patient" occupies first place, "favorable climatic outdoor life" second, "while medication in point of preference occupies third place." After referring to the culture-product series and admitting that their direct use on the patient is not without some danger, and for this reason has been discarded, the paper takes up the clinic use of the serum products in tubercular diseases, and discusses: class of cases in which indicated; contraindication; advantages over other forms of medication; length of time to be administered; accidents following administration; serum used, etc., while the report of the 106 cases is to be presented in tabulated form, being distributed among the members.

70. Specific and General Treatment of Tuberculosis. Paul S. Paquin, Asheville, N. C.

June 9—Afternoon Session.

71. The Prevention of Tuberculosis. J. M. Emmert, Atlantic, Iowa.

Abs.—Tuberculosis is infectious and contagious, therefore a preventable disease. Tubercule bacilli are thrown out with sputum, and this when dried and pulverized may contaminate the air and infect other individuals. To prevent infection all sputum should be burned. This can be done only by quarantine. Every case should be reported and registered as soon as diagnosed. Hospitals supported by the State should be established. Tuberculosis in lower animals is the same as in man. Dairy cows should be under care of veterinarians and be subjected to the tuberculin test. All infected cattle should be killed. No infected person should be employed as cook, nurse or teacher for children. The great trunk lines carrying invalids across the continent to health resorts should be required to carry a hospital car for the accommodation of the sick and protection of the well.

72. Sputum Analysis and the Early Diagnosis of Pulmonary Tuberculosis. S. E. Solly, Colorado Springs.

Abs.—The writer, having been impressed with the frequency with which cases of pulmonary tuberculosis, coming under his observation in Colorado, have been allowed to drift into the advanced stages of the disease by neglect of an early diagnosis, has made a statistic inquiry into his last 100 first examinations of cases of phthisis. This inquiry especially shows the practical value of the microscopic examination of the sputum, and corroborates other points which were brought out in the course of a similar inquiry made by the writer in 1893. The conclusions are based on the facts demonstrated by the analysis of the combined 200 cases.

73. Climate vs. Therapeutics in the Treatment of Pulmonary Tuberculosis. Francis Crosson, Minneapolis.

Abs.—The paper considers: 1. Leading authorities unanimously favor climatic treatment of pulmonary tuberculosis over all other methods. 2. The southwestern section of the United States considered as a resort for tuberculosis. 3. Behavior of tubercular infection in that climate—rarely, almost never, attacks natives, either man or lower animal. 4. Nomadic life of a tent dweller the best in that climate for incipient tuberculosis. 5. The early diagnosis of tuberculosis, of the greatest importance for the benefit to be derived from climatic treatment, is directly proportioned to the time of beginning treatment.

74. Report of Cases of Tuberculosis Treated with Nitrogen Gas. A. F. Lempke, Chicago.

75. The Germ Theory and Serumtherapy Applied to the Practice of Medicine. A. T. Cuzner, Gilmore, Fla.

76. The Country Doctor as a Specialist. E. O. Bardwell, Emporium, Pa.

Abs.—The writer contends that every town of 5000 or more people should have a specialist devoting his entire attention to gynecology, another to diseases of the eye, ear, nose and throat, and that the general practitioner should support the local specialist by sending cases to him. At the same time the general practitioner should be better qualified than he now is to be able to recognize the need of a specialist.

77. Constipation. M. F. Lee, Columbus.

78. The Diagnosis and Treatment of Thoracic Effusions. Louis Faugéres Bishop, New York City.

Abs.—This subject is considered under the following heads: 1. Conditions under which fluid accumulates in the pleural cavities. 2. Its importance depending on the amount, its toleration by the patient, its quality. 3. The diagnosis of fluid, by physical signs, by the exploratory puncture. 4. A discussion of the methods, precautions, dangers and advantages of the exploratory puncture. 5. Paracentesis. 6. A discussion of the removal of fluid from the pleural cavities; best instruments; general mode of procedure; precautions and dangers. 7. A brief recital of cases.

79. The Country Doctor. S. K. Crawford, Chicago.

Abs.—The author presents: 1. A plea for higher medical education. 2. An accomplished physician, a skilful surgeon. 3. Physical endurance, mental acumen. 4. A high-grade citizen, a Christian gentleman. 5. Some mistakes of a twenty five years' experience.

80. Philosophy of Sickness. Thos. F. Harrington, Lowell, Mass.

81. From Saddlebags to Pocketbooks. B. T. Whitmore, New York City.

82. Influence of Mind in Disease. T. A. Borton, Plymouth, Ind.

Abs.—This paper has to do with: 1. Influence of mind on functions of body. 2. Its influence in producing pathologic conditions. 3. These conditions by reflex action producing morbid sensibility of the mind and that deranging nerve centers, resulting in a stop of nerve energy, which becomes a secondary pathologic condition in the form of different kinds of neurasthenia.

83. La Grippe. J. E. Gilcreest, Gainesville, Texas.

Section on Materia Medica, Pharmacy and Therapeutics.—The preliminary program of this section contains the following papers:

June 6—Afternoon Session.

1. Non-depressant Analgesics. John A. Cutter, New York City.

2. Paraldehyde as a Hypnotic and as an Antidote to Strychnin. C. C. Hersman, Pittsburg.

3. Some Thoughts on Urethral Therapy. T. A. Hopkins, St. Louis.

4. The Use of Acetanilid in Various Combinations as a Substitute for Many Proprietary Drugs and Mixtures. Louis F. Bishop, New York City.

5. The Proper Place for Proprietaries. J. E. Beery, Columbus.

Discussion of Papers Nos. 4 and 5 by Henry W. Rogers, S. R. Miller and Leon L. Solomon.

6. Materia Medica Up to Date. Frank C. Tinsley, Indianapolis.

7. Clinic Notes on Digitoxin. J. P. Sawyer, Cleveland.

8. The Therapeutics of Pneumonia. Frank G. Wheatley, N. Abington, Mass.

9. What are Antitoxins and How are They Related to Toxins? R. G. Eccles, Brooklyn.

10. Passiflora Incarnata. Herschel Fisher, Lebanon, Ohio.

June 7—Morning Session.

11. The Diagnostic Importance of the Tuberculin Test. C. Fisch, St. Louis.

12. The Pneumonia Antitoxic Serum. Jos. McFarland, Germantown, Pa.

13. The Certain Success of Antitoxin in the Cure of Hitherto Incurable Cases of Diphtheria—a Merited Rebuke to Those Who Consider Materia Medica and Therapeutics as not Entitled to Rank in Importance with the Other Branches of Our Profession. H. V. Severingen, Fort Wayne, Ind.

14. Progress in Serum Therapy. Geo. W. Cox, Chicago.

Discussion of Papers Nos. 12 and 13 by E. W. Mitchell, J. M. Anders, J. B. Marvin, W. R. Dalton, R. B. Gilbert and Geo. F. Butler.

15. The Training of Chronic Invalids. J. H. Kellogg, Battle Creek.

16. Old and New Remedies. J. A. Kimmell, Findlay, Ohio.

17. Hydrotherapy. S. K. Crawford, Chicago.

18. Therapeutics of Kola. C. C. Yarbrough, Detroit.

19. The Vegetable Neurotics. Geo. F. Butler, Chicago.

20. Modern Therapeutics. W. B. Hill, Milwaukee.

21. Some Uses of Pilocarpin. S. Harnsberger, Catlet, Va.

June 7—Afternoon Session.

22. Address of the Chairman. Thos. H. Stucky, Louisville.

23. Intravenous Saline Infusion in Acute Suppression of the Urine following Operation; with Report of a Case. W. S. Bainbridge, New York City.

24. The Therapeutics of Echinacea Angustifolia. A. M. Wilson, Kansas City.

25. Diabetes Mellitus. J. M. Allen, Kansas City.

26. Codein and Its Salts. G. J. Lochboehler, Washington, D. C.

Discussion of papers Nos. 24 and 25 by G. W. Cox, E. M. Houghton, N. S. Davis, Jr., and Leon L. Solomon.

27. The Heart Tonics. E. M. Houghton, Detroit.

28. Succedaneum to Digitalis. W. R. I. Dalton, New York City.

29. The Value of Medicinal Agents when Aided by Climatic Influence. W. Curtis Bailey, Las Vegas, N. M.

30. Some Further Observations on the Therapeutics of Chlorid of Gold and Sodium. D. R. Brower, Chicago.

31. Magnesia Sulphate. J. C. Culberson, Cincinnati.

June 8—Morning Session.

32. The Medical Issues of the War. T. O. Summers, St. Louis.

33. The Scope of the United States Pharmacopeia. E. H. Long, Buffalo.

34. How Far Can the Pharmacopeia Represent the Needs and Attainments of Therapeutics. A. L. Benedict, Buffalo.

Discussion of Papers Nos. 32 and 33 by C. H. Wood, Wm. Bailey, R. C. Eccles, H. A. Hare, G. F. Butler and T. H. Stucky.

Discussion of the Pharmacopeia, a general convention for the revision of which will be held in the City of Washington, D. C., on the first Wednesday in May, 1900.

35. Pharmacy, the Handmaid of Medicine. Wm. J. Jackson, San Francisco.

36. Do Our Prescriptions Violate the Code? R. G. Eccles, Brooklyn.

37. The Work of the American Pharmaceutic Association in Relation to the Materia Medica of the Future. F. E. Stewart, New York City.

38. The Preparation and Administration of Pills, Tablets and Capsules. H. Finkelpearl, Pittsburg.

39. Synthetic Chemistry and its Relation to Modern Therapeutics. J. W. Wainwright, New York City.

40. The Hypodermatic Use of the Bromids; Report of Three Cases. J. R. Gilbert, Ranger, Tex.

41. The Condemnation of Proprietary and Quasi-Patent Remedies Used by the Profession. C. A. Robertson, Nashville.

42. Fraudulent Claims: The Remedy. C. C. Fite, New York City.

June 8—Afternoon Session.

43. Therapy of the Nitrites. J. N. Upshur, Richmond, Va.

44. Rest: A Rational Therapeutic Agent in the Treatment of Dilatation of the Stomach. C. D. Spivak, Denver.

45. Antitetanic Serum. J. C. Pannenborg, Hammond, Ind.

46. The Sulphoacid Salts of the Aliphatic Creosote Esters and their Employment in Therapy. Heinrich Stern, New York City.

47. Therapy. Elmer Lee, New York City.

48. The Nomenclature of the X-Rays. Heber Robarts, St. Louis.

49. The Credulity of the People as It Pertains to Medicine. T. B. Greenley, Meadow Lawn, Ky.

50. The Therapeutic Value of Evaporators in the Living-Room. L. J. Lautenbach, Philadelphia.

51. Best Methods of Administering Drugs. H. O. Dodge, Boulder, Col.

June 9—Morning Session.

52. Continental Views of Alcohol in Therapeutics. T. D. Crothers, Hartford, Conn.

53. The Control of Intestinal Fermentation. N. S. Davis, Jr., Chicago.

Discussion by Drs. A. M. Wilson, Wm. F. Waugh, T. H. Stucky, J. W. Wainright, J. M. Anders and J. M. Dunham.

54. Iodin: Its Compounds and Therapeutics. W. F. Barclay, Pittsburg.

55. The Comparative Values of the Iodids and Mercury in Treatment of Syphilis. Eugene Carson Hay, Hot Springs, Ark.

56. Amylum Iodatum: A Valuable Addition to Iodin Therapeutics. Leon L. Solomon, Louisville.

57. The Use of Stimulants in Acute Diseases. E. P. Hershey Denver.

58. (Title not yet named.) Geo. M. Warner, Louisville.

59. (Title not yet named.) E. A. Ruddiman, Nashville.

Section on Neurology and Medical Jurisprudence.—Program for the Columbus meeting.

First Day.

1. Address of the Chairman. Frederick Peterson, New York City.

2. Dual Action of the Brain and Double Consciousness. David Inglis, Detroit.

3. Hematology in Neurasthenia. Chas. H. Lodor, Chicago.

4. The Treatment of Some Forms of Nervousness. Henry Upson, Cleveland.

5. Relative Curability of Nervous Diseases and their Therapeutic Indications. John Punton, Kansas City.
6. The Dermatoses in Hysteria. Ludwig Bremer, St. Louis.
7. Report of a Case of Hysteric Erythema. Chas. W. Burr, Philadelphia.
8. Hysteria in Men. John H. W. Rhein, Philadelphia.
9. Hysteric Lethargy. G. W. McCaskey, Fort Wayne, Ind.
10. On the Medical Side of Criminal Morphomania. T. D. Crothers, Hartford.
11. A Rational Treatment of Chronic Morphinism. A. J. Pressey, Cleveland.

Second Day.

The afternoon of the second day will be devoted to a symposium on Headache, in which members of other Sections are cordially invited to participate. Papers will be read as follows:

12. The Diagnostic Importance of Headaches. B. Sachs, New York City.
13. The Headache of Gastro-Intestinal Disorders. Frank Billings, Chicago.
14. Headache Due to Affections of the Eye. Samuel D. Risley, Philadelphia.
15. The Significance of Headache Associated with Disease of the Female Pelvic Organs. Augustin H. Goelet, New York City.
16. Migraine. Samuel J. Walker, Chicago.
17. The Relation of Uric Acid to Migraine. John A. Lichty, Clifton Springs, N. Y.
18. The Mental Element in the Treatment of Headache. Philip Zenner, Cincinnati.
19. The Non-Medicinal Treatment of Headache. Curran Pope, Louisville.

Discussion to be opened by Jas. T. Whitaker of Cincinnati, Wharton Sinkler of Philadelphia, and Norman Bridge of Los Angeles.

Third Day.

20. Neuropathic Multiple Arthritis. Archibald Church, Chicago.
21. Some Irregular Forms of Ataxia. Chas. K. Mills, Philadelphia.
22. Bulbar and Pontine Tabes. Harold N. Moyer, Chicago.
23. Family Diseases. Wharton Sinkler and F. Savary Pearce, Philadelphia.
24. Peroneal Type of Progressive Muscular Atrophy; Report of Two Cases. Theodore Diller, Pittsburg.
25. Report of a Case of Amyotrophic Lateral Sclerosis in which Degeneration was Traced from the Cerebral Cortex to the Muscles. William G. Spiller, Philadelphia.
26. A Case of Spinal Anterior Subacute General Paralysis. C. Eugene Riggs, St. Paul.
27. Acute Poliomyelitis in the Adult; With Report of Cases. Herm. H. Hoppe, Cincinnati.
28. Pachymeningitis Externa Cervicalis, Probably Tubercular; Recovery. F. W. Langdon and Albert H. Freiberg, Cincinnati.
29. Recurrent, Alternating, Functional Hemiplegia Involving the Face, Associated with Cardiac Valvular Lesion. J. T. Eskridge, Denver.
30. Hemorrhage into the Pons Varolii. Augustus A. Eshner, Philadelphia.
31. The Physician as a Witness in Court. W. J. Herdman, Ann Arbor.

Fourth Day.

32. Some of the Aspects of Renal Inadequacy, from a Neurologic Standpoint. H. A. Tomlinson, St. Peter, Minn.
33. Some of the Nervous Phenomena of Uremia. J. H. McBride, Pasadena, Cal.
34. Injury to the Cranium as Related to Insanity; With Report of a Case. Eugene G. Carpenter, Columbus.
35. Probable Brain Tumor, with Recovery. W. A. Jones, Minneapolis.
36. Relief of Intracranial Pressure in Non-Traumatic Cases without Localizing Symptoms. William N. Bullard, Boston.
37. Unusual Phobias Affecting Several Members of a Family. Richard Dewey, Chicago.
38. Temperament and its Influences. A. E. Sterne, Indianapolis.
39. Gastric Analysis in Mental and Nervous Diseases. Samuel Bell, Newberry, Mich.
40. The Resposibility or Irresponsibility of the Paranoiac. Prof. Geo. H. Stevens, Lafayette College. William H. Harrison, Easton, Penn.
41. Tremors. Henry Waldo Coe, Portland, Ore.
42. Ocular Manifestations of Some Diseases of the Central Nervous System. A. R. Amos, Des Moines.
43. Acromegaly and African Sleeping Disease. S. K. Crawford, Chicago.

Section on State Medicine.—The program for this section for the Columbus meeting of the Association is as follows:

June 6—2 p.m.

SYMPOSIUM ON DIPHTHERIA.

To be opened by Edwin Klebs, Chicago; H. M. Biggs, New York.

1. Influence of Antitoxin on Statistics. Edwin Rosenthal, Philadelphia.
2. Decrease in Mortality from Diphtheria. Wm. P. Munn, Denver.
3. Diagnosis of Infectious Diseases. W. K. Jaques, Chicago.

June 7—10 a.m.

4. Smallpox in Ohio, C. O. Probst, Columbus.
5. Sanitary Control of Variola. S. L. Jepson, Wheeling, W. Va.
6. City Milk Routes and Their Relation to Infectious Diseases. Ernest Wende, Buffalo.
7. Formaldehyde Disinfection. W. K. Jaques, Chicago.

June 7—2 p.m.

SYMPOSIUM ON TUBERCULOSIS.

To be opened by N. S. Davis of Chicago.

8. Work of the Service in Prevention of Tuberculosis. Walter Wyman, Washington, D. C.
9. Prevention of Tuberculosis. Homer M. Thomas, Chicago.
10. Bacteriology of Influenza. F. C. Wynekoop, Chicago.

June 8—10 a.m.

11. Sanitary Lessons of the War. Geo. M. Sternberg, Washington, D. C.
12. Etiology of Scarlet Fever. W. J. Class, Chicago.
13. Cremation. R. M. Stone, Omaha.
14. Relation of Water-Supplies to Typhoid Fever. John W. Hill, C.E., Cincinnati.

June 8—2 p.m.

SYMPOSIUM ON THE REGULATION OF MARRIAGE.

15. Legal Restriction of Marriage for the Prevention of Communicable Diseases. Albert H. Burr, Chicago.
16. Legal Restriction of Marriage for the Prevention of Pauperism, Crime and Mental Diseases. Daniel R. Brower, Chicago.
17 Legislative Problems of the Restriction of Marriage. Hon. Chas. W. Parker, Cleveland.
18. Restrictive Marriage Legislation from the Standpoint of the Wife, Mother and Home. Mrs. Alice Lee Moyne, Washington, D. C.
19. Can the State Suppress Genito-Urinary Diseases? Ferd. C. Valentine, New York City.

June 9—10 a.m.

20. Defectives and Criminals. J. H. McCassy, Dayton, Ohio.
21. The Doctor in the Public Schools. John B. Gerber, Dunkirk, Ind.
22. The Village Physician. Samuel Knox Crawford, Chicago.

Rectal Specialists.—The program of the first meeting of rectal specialists at Columbus, Ohio, June 6-9, includes the following titles:

1. Importance of Giving Rectal Diseases Special Study. Jos. M. Mathews, Louisville.
2. Pruritus Ani. Jas. P. Tuttle, New York City.
3. Surgical Treatment of Non-Malignant Stricture of Rectum. Joseph B. Bacon, Chicago.
4. A Modification of Whitehead's Operation for Hemorrhoids. Samuel T. Earle, Jr., Baltimore.
5. The Proctoscope as a Factor in Diagnosis and Treatment of Simple Ulceration of Rectum. Leon Straus, St. Louis.
6. A Consideration of the Various Forms of Ulceration of the Rectum. Lewis H. Adler, Jr., Philadelphia.
7. Rectal Carcinoma—Excision and Subsequent Colotomy. B. Merrill Ricketts, Cincinnati.
7. Limitations of the Kraske Operation. Charles C. Allison, Omaha.
9. Act of Defecation. Thomas Charles Martin, Cleveland.
10. Constipation Considered from the Standpoint of the Proctologist. A. Bennett Cooke, Nashville.
11. Paper and Exhibition of New Instruments. S. G. Gant, Kansas City.
12. Rectal Adenomata. William M. Beach, Pittsburg.

Public Health.

Health Reports.—The following cases of smallpox, yellow fever, cholera and plague have been reported to the surgeon-general of the United States Marine-Hospital Service for the week ended May 8, 1899:

SMALLPOX—UNITED STATES.

Alabama: Mobile, May 5, 2 cases.
District of Columbia: Washington, May 11, no new cases.
Florida: Jacksonville, April 29 to May 6, seven cases.
Georgia: Savannah, May 9, 4 cases.
Illinois: Chicago, April 29 to May 6, 1 case.
Indiana: Evansville, April 29 to May 6, 9 cases.
Kansas: Emporia, May 6, 4 cases; Garnett, May 6, 1 case; Kansas City, May 8, 32 cases, 8 deaths.
Louisiana: New Orleans, April 29 to May 6, 5 cases; Shreveport, May 8, 1 case.
Maryland: Baltimore, April 29 to May 6, 2 cases.
Massachusetts: Boston, April 29 to May 6, 1 death.
Michigan: Benton Harbor, April 29, present; Kalamazoo Township, April 29, present.
Minnesota: St. Paul, April 29, 1 case.
Ohio: Cincinnati, April 28 to May 5, 15 cases, 1 death; Cleveland; April 29 to May 6, 16 cases.
Pennsylvania: Erie, May 2, 1 case; Johnstown, April 29 to May 6, 1 case; Steelton, April 22 to 29, 1 case.
Rhode Island: Providence, May 10, 1 case, seaman.
Tennessee: Nashville, April 28 to May 6, 1 case.
Texas; Galveston, April 12 to May 6, 12 cases; Laredo, April 15 to 22, 3 cases, and 1 death.
Virginia: Newport News, May 6 to 8, 2 cases: Norfolk, May 5 to 11, 20 cases; Portsmouth, May 5 to 11, 10 cases.
Washington: Spokane, May 6, 5 cases.
Wisconsin: Milwaukee, April 29 to May 6, 1 case.

SMALLPOX—FOREIGN.

Belgium: Antwerp, April 15 to 22, 4 cases, 1 death.
Brazil: Bahia, April 8 to 15, 2 cases, 1 death; Rio de Janeiro, March 24 to 31, 6 cases, 4 deaths.
China: Hongkong, March 25 to April 1, 4 cases, 1 death.
Columbia: Barranquilla, April 8 to 15, 4 cases.
Egypt: Cairo, April 1 to 8, 1 death.
Greece: Athens, April 15 to 22, 15 cases, 4 deaths.
Mexico: Chihuahua, April 29 to May 6, 1 death; Mexico, April 23 to 30, 10 cases, 2 deaths; Vera Cruz, April 20 to May 3, 3 deaths.
Russia: Moscow, April 1 to 15, 18 cases, 7 deaths; Odessa, April 15 to 22, 6 cases, 1 death; Warsaw, April 1 to 15, 8 deaths.

YELLOW FEVER.

Mexico: Vera Cruz, April 21 to May 3, 12 deaths.

PLAGUE.

Arabia: Aden, April 7, one case of plague on steamship Caledonia from Bombay.
China: Hongkong, March 11 to April 1, 16 cases, 16 deaths.
India: Bombay, March 27 to April 4, 892 deaths; Calcutta, March 18 to 25, 138 deaths.

Necrology.

Farnham O. Bennett, M.D., Willimantic, Conn., a graduate of the Berkshire Medical School, class 1859, died March 26, aged 67 years.

Wm. A. Brokaw, M.D., St. Louis, Mo., a graduate of the Missouri Medical College, class of 1896, died May 9, aged 27 years. After his graduation he served as interne in the City Hospital, afterward studied in Berlin, and on his return to this country was made instructor in his alma mater.

Thomas Galbraith, M.D., Tarentum, Pa., is dead at the age of 83 years. After crossing the plains to California, during the gold excitement in 1849, he returned and entered Jefferson Medical College, Philadelphia, where he was graduated in 1853.

William Francis Robinson, M. D., instructor in dermatology and assistant to the dermatologic clinic at Rush Medical College, Chicago, died May 12 of meningitis. Dr. Robinson was born in Wisconsin thirty-six years ago, was graduated from the University of Wisconsin, and later from Rush Medical College in 1893, with which institution he has been connected since his graduation. Dr. Robinson had but recently returned from a winter study in the hospitals and clinics of London and the Continent.

John E. Carpenter, M. D., Washington, D. C., assistant-surgeon in the army during the Civil War, and later a special examiner in the pension office, died May 5.

H. E. Felton, M.D., Salinas, Cal., died May 3. . . Milton A. Louver, M.D., Westminister, Md., May 3, aged 57 years. . . George Perkins, M.D., Somerset, Ky., May 11. . . E. G. Reinhardt, M.D., Roberts, Ill., May 5, aged 38 years. . . Jesse Robinson, M.D., Vacaville, Cal., May 4.

DEATHS ABROAD.

L. Buechner, formerly privat-docent of internal medicine at Tübingen. . . L. v. Babo, formerly professor of medical chemistry at Freiburg. . . K. L. Kahlbaum, Görlitz, a well-known alienist. . . C. Miniati, formerly professor of gynecology at Pisa. . . R. F. Capdevila, formerly professor of clinic medicine at Madrid.

Book Notices.

Transactions of the American Dermatological Association. 1898. Paper. Illustrated. Pp. 166. Concord, N. H.: Rumford Press. 1899.

This volume has to do with the twenty-second annual meeting of this association, held in New Jersey, May 31 and June 1, and in New York City, June 2, 1898, it contains papers presented before this body as follows: "President's Address;" "Hydroa Vacciniforme;" "An Unusual Bullous Eruption Limited to Certain Areas, and Recurring at Irregular Intervals;" "Trophic Dermatoses Following Fractures;" "Are Malignant Growths Arising from Pigmented Moles of a Carcinomatous or of a Sarcomatous Character? Report of two cases (one in a negro) with a study of the Histogenesis of Pigmented Moles;" "A Contribution to the Study of So-called Premycosic Stage of Mycosis Fungoides;" "A Strange Case of Granuloma of the Face and Extremities;" "Lymphangioma Circumscriptum Cutis, and the So-called Nevus Linearis;" "Lupus Erythematosus: *a*, Its Etiology and Pathology; *b*, Its Amenability to Treatment; "Lupus Erythematosus in a Tuberculous Patient, with Autopsy Report;" "A Report of Three Cases of Urticaria Pigmentosa;" "Impressions and Conclusions from a Study of Five Thousand Cases Treated During the Year;" "A Papular Persistent Dermatosis; A Report of an Undescribed Disease;" "Remarks on a Case of Lichen Scrofulosum;" "Report of a Case of Universal Lichen Planus, Followed by Sudden Death. Autopsy Report, with Microscopic Examination of the Skin Lesions;" "Bath Pruritus."

Principles of Bacteriology. By A. C. Abbott, M.D., Professor of Hygiene and Director of the Laboratory of Hygiene, University of Pennsylvania, Philadelphia. New (fifth) edition, enlarged and thoroughly revised. 12mo, pp. 585, 109 illustrations, of which 26 are colored. Cloth, $2.75 net. Philadelphia and New York: Lea Brothers & Co.

The appearance of the fifth edition of any work is in some respects an index of its merits. It at least shows that it satisfies the wants of a large class of readers. In the case of the present volume it evidently means that it has obtained favor with students and teachers, for it is emphatically a students' manual, giving as it does the culture and preparation methods of most of the important pathogenic bacteria. It will also be found a valuable handbook for the practitioner, but its probably necessary incompleteness in some respects is against it for this purpose. For example, it would seem that there are several morbific microbes, of importance enough to be noticed here, that are omitted or only barely mentioned, while others less frequent, but probably better for study, are described at length. The index is rather defective, which is a serious fault. In most other respects, however, the work is one that can only be commended and that deserves the popularity it has evidently attained.

Report of Board of Health of the State of New Jersey, and the Report of the Bureau of Vital Statistics, 1898. Cloth. Pp., 601. Maps. Illustrated. Trenton, N. J.: MacCrellish & Quigley. 1899.

This volume is the twenty-second annual report of the New Jersey State Board of Health, and contains matter of interest to sanitarians and practitioners generally. In the report of the bureau of vital statistics there are tables of the deaths in the State from each of certain diseases for twenty years, and tables showing the death rate in cities of over 5000, also the marriages, births, etc., and the mortality of the State by statistic divisions, cities and counties. The report is certainly a credit to the board.

Miscellany.

Removal Notice.—The address of the Chicago office of Parke, Davis & Co. will hereafter be Suite 404, Trude Building, Wabash Ave.; telephone, Central 1595.

Extensive Resections of Intestines.—If the patient is young, over two meters (78.7 inches) can be resected without injury, as has been established in twenty six cases. Dreesmann recently removed two and one-sixth meters with smooth recovery—the patient, a woman of 37.—*Berlin. Klin. Woch.*, 1899, 16.

The Long Island College Hospital.—Prof. A. J. C. Skene has been appointed emeritus professor of gynecology, and the chairs of obstetrics and gynecology have been combined under Prof. Charles Jewett, M.D., as professor of obstetrics and gynecology. The department of bacteriology has been added to that of pathology, under Prof. J. M. Van Cott, M.D., as professor of pathology and bacteriology, and the department of histology has been assigned to Prof. W. W. Crowning, professor of anatomy.

Hydatid Cysts in Kidneys.—L. Manasse has collected fifty-one cases of echinococcus cysts in the kidneys, but could only find a record of two primary cysts in the bladder. Hydatid cysts are not transparent to the Roentgen rays, and a recent case published by Posner, diagnosed by cystoscopy and radiography, was cured by extirpation of the suppurated cyst through a lumbar incision.—*Cbl. f. Chir.*, April 8.

Venesection in Sunstroke.—Toussaint relates a couple of instances in which artificial respiration and all the usual measures failed to revive the patient. A vein in the elbow was opened, but no blood flowed until after half an hour of continued artificial respiration and working the joints. When 600 to 700 grams had been withdrawn, consciousness returned.—*Revue Méd.*, April 12.

The Lenval Prize.—The prize founded by Baron Léon de Lenval of Nice will be awarded at the international otological congress, to be held in London, Aug. 8-11, 1899. In connection with the International Congress of Otology 3000 francs has been given, and the interest on this sum, which accumulates between one congress and the next, is awarded to the author of the most marked progress bearing on the practical treatment of affections of hearing during that time, or to the inventor of any new apparatus which is readily portable and considerably improves the hearing-power of deaf persons. A jury of seven members will pronounce its decision at the closing meeting of each congress. The members of the jury, as at present constituted, are Professor Politzer, Vienna; Dr. Benni, Warsaw; Dr. Gellé, Paris; Professor Pritchard, London, Prof. St. John Roosa, New York; Professor Kirchner, Würzburg, and Professor Grazzi, Florence. All persons desirous of competing for the prize are requested to communicate with Mr. Cresswell Baber, Hon. Sec. Gen., 46 Brunswick Square, Brighton, England, stating the facts on which their claim is based.

Changes in Skin in Consequence of Use of X-rays.—Behrend (*Berlin. Klin. Woch.*, 1898, No. 23) describes a case of permanent, irreparable alterations in the skin of the hands and in the nails of a man who was much occupied with the X-rays. The changes consist in serous infiltration of the tissues with the formation of vesicles and subsequent desquamation. They, therefore, resemble the lesions produced by burns. Somewhat similar changes develop in the nails after prolonged or frequently repeated exposure to the rays. If the exudation be pronounced, then the nail is lifted away from the underlying structures and completely loosened. In the case of more intense changes the nail matrix is destroyed for good. In the same way the hairs are loosened and eventually the hair-producing structures are permanently destroyed and there results a marked change in the appearance of the tissues. The resulting severe atrophic condition resembles scleroderma, as is also sometimes the case in long existing eczema. In view of the possibility of malpractice suits and hostile verdicts in such unfortunate occurrences, after the employment of the X-ray, it behooves the physician and expert in charge to take proper measures for their prevention, eventually for self-protection.

Can not Replevin Human Corpse.—What the supreme court of Michigan terms a more novel than difficult question was presented to it in the recent case of Keyes vs. Konkel, which was an action to replevin to recover the dead body of the plaintiff's brother. The deceased died at a hospital, and the defendants, who were undertakers, took charge of the corpse by request of the hospital authorities. The plaintiff, after the defendants had performed some services for fitting the body for burial, demanded possession of the body, and the defendants refused to deliver the body up unless paid for their services. Thus was raised the question of whether replevin will lie for a human corpse. The Michigan statute provides for the proceeding of replevin in the justice court, and requires an affidavit by the plaintiff setting forth that his "personal goods and chattels" have been unlawfully taken or are unlawfully detained. The replevin statutes provide for a judgment for the defendant, when the plaintiff fails in his case, for a return of the property or its value. Now, it is apparent, says the supreme court, that no return of the property can be ordered in case of the replevin of a dead body, and it is equally true that its value in money can neither be appraised nor ascertained by a jury. It was formerly held in England, continues the court, that there can be no property in a human body. In certain modern American cases a dead body has been said to be a quasi property, and the right to control and bury it, and to recover against one who mutilates the corpse, has been maintained. Recovery for the refusal of the right to bury or for mutilation of the body is rather based upon an infringement of a right than upon the notion that the property of the plaintiff has been interfered with. The recovery in such cases is not for the damage to the corpse as property, but damage to the next of kin by infringement of his right to have the body delivered to him for burial without mutilation. In numerous cases equity has taken jurisdiction to prevent interference with the control of the dead body by persons entitled to control it. And in one instance an English court granted the remedy by mandamus to a jailer. But on every consideration, the supreme court of Michigan says that it is of the opinion that replevin can not be maintained. It was not contended here that the defendants were entitled to maintain a lien. It is obvious, adds the court, that return can not be adjudged. Consequently, it holds the only proper judgment to be one dismissing the proceeding, with costs of all the courts to the defendants.

"Christian Science" and "Magic Healer."—At an inquest held in the case of Mrs. Charlotte Barguet, of Mount Vernon, N. Y., who died on May 3, under "Christian Science" treatment, the jury rendered a verdict that Mrs. Barguet died from acute pleurisy, which could have been relieved, if not entirely cured, had proper medical treatment been given. In the opinion of the jurors Mrs. Clarence Fowler, the "Christian Science" healer, and the son and daughter of the deceased, were guilty of criminal negligence, and the coroner was recommended to take the necessary steps to bring them to justice. Consequently, the coroner ordered the immediate arrest of the persons named, and Mrs. Fowler and young Barguet were each held in $1,000 bail, while Miss Barguet, being considered an accessory, was paroled. A "magic healer," who came near causing the death of a German child, in Brooklyn, has been arrested and held in $350 on the charge of practicing medicine without having registered as a physician. It seems that about two weeks previously the child developed gangrene in one of the toes of the left foot and Dr. S. B. Blaisdell, of the Eastern District Hospital, in consultation with Prof. George B. Fowler, of the Long Island College Hospital, advised amputation. The mother refused to have the operation performed and called in the Müller woman to attend the case. Under her treatment, which consisted of mysterious incantations, accompanied by certain inunctions, the child continued to grow steadily worse, until finally the whole foot sloughed off. The "healer" was then dismissed and the patient removed to the Eastern District Hospital, where it was found necessary to amputate the limb above the knee. These and similar cases which have recently occurred have naturally attracted considerable attention on the part of the medical profession, as well as the community at large, and on May 11, President Murphy, of the board of health, addressed the following communication to Sanitary Superintendent Roberts: "You are hereby requested to direct the assistant sanitary superintendents of the various boroughs of this city to use all means in their power to discover and locate persons practicing medicine without diplomas. Recent events have shown this department that uneducated, ignorant, and those whom I believe to be evil-minded people, go from house to house and take advantage of their more ignorant neighbors, professing that they are endowed with wonderful healing faculties. If this system is allowed to proceed great evil will result. In your endeavors to suppress the practice I would suggest that you immediately communicate with the medical societies of the several counties comprising the entire greater city, and either make an arrangement to meet in consultation to advise what is the best method to adopt, or receive their communications in writing, and afterward adopt some broad system that the object in view may be accomplished. It is only by the aid of medical societies that this department can meet with success, and to them we must look both for advice and example." (See p. 1123.)

Limitation of Food Preservatives.—In the agitation concerning food adulteration, that phase of the question which deals with the use of antiseptics is not only one of the most difficult problems of solution, but it is also of the greatest interest to the medical profession. Heretofore the subject has been regarded chiefly from two sides, namely, from the standpoint of the manufacturer who, as a rule, is of the opinion that the addition of any substance which will prevent food or food products from spoiling is of decided advantage to him and a benefit to the consumer, provided, of course, that the proportionate amount required to do the work is not too great and also that the article employed as a preservative is a harmless addition. Since the first is limited by the increased cost of the product and the second is usually assured by the manufacturers, or special dealers, who sell these articles to the food manufacturer, his road is clear to the manufacture of cheaper and better food and also increased profits. As a rule he is a practical man who does not pry into any one else's business, "buys what he wants and pays for it," and does not care especially about the chemic composition of these things since he "himself is not a chemist." But he insists that everything he uses "must be guaranteed" and "be harmless." The consumer on the other hand, that is, the rare individual who has some information on the subject, usually decries the use of any and all additions as deleterious and fraudulent. Judging from what information he may have gathered, anything that is not food must be poison, and "he don't want any poison in his." While these opposite views are of course those of the laity, they are more or less shared by others who have had opportunities at least to make a more discriminating study of food and food products. The recent sessions held in Chicago by the committee appointed by the U. S. Senate to investigate the adulterations of food, furnished a splendid opportunity for the ventilation of the entire food question and especially that phase of it pertaining to the use of preservatives. Seldom have so many chemists of undoubted experience and reputation uniformly and unequivocally agreed to a question upon which there was generally supposed to be a decided difference of opinion. The witnesses called to testify because of their experience in the examination of food and their adulterations comprised Dr W. H. Wiley, chief chemist to the department of agriculture, Washington; Dr. A. S. Mitchell, chemist to the Davey Commission of Wisconsin; Prof. A. B. Prescott and Prof. Victor C. Vaughan of the University of Michigan, and Prof. C. S. N. Halberg of the School of Pharmacy of the University of Illinois. Every one of these gentlemen laid down the principle that the addition of any substance which will retard or prevent fermentation or other change or decomposition in food or food products in its preparation or preservation, will also retard, impair or prevent the changes or decomposition upon which the digestion and consequent assimilation depend, and to that extent interfere with nutrition. This is the broad principle, and measured by it, all antiseptics, antiferments or other preservative agents of this character, such as salicylic acid and other phenol derivatives, boric acid, formaldehyde, etc., should be relegated to performing their original function, namely, the paralyzing of pathogenic bacteria in surgical operations and on the cadaver, and not for ingestion in the healthy human stomach, except for intestinal antiseptic and similar therapeutic purposes. Yet there is no principle, perhaps, without an exception, and such seems to be the case here. Some of the experts believed that there was a legitimate use for antiseptics or rather antiferments in that class of food preparations called condiments. Thus it was pointed out that catsup could not be preserved for a desirable length of time in the average household without the addition of some preservative. Since the quantities used of such articles by each individual is comparatively small, no harm could arise from the employment, within certain defined limits, of a preservative agent in this instance. With less force may the same limitation be applied to the preservation of certain saccharin beverages, although the more largely used of these, such as beer, require no addition for their preservation—heat and refrigeration alone. The additions are moreover objectionable from the fact, as pointed out by Professor Prescott, that their use facilitates the sale of food which otherwise would be rejected on account of its apparent inferior quality or liability to spoil, also according to Dr. Vaughan, in that the antiferments are employed in lieu of, or to cover up, defective or otherwise faulty sterilization and possibly refrigeration. The inquiry brought out many important facts bearing on the food adulteration, which has attained appalling proportions, and it is confidently hoped that the committee will be able to arouse the American people, and, through the creation of a National board of health, protect health and commerce from the dangers of impure food.

Washington.

Health of the District.—The report of the health officer for the week ended May 6 shows the total number of deaths to have been 87, of which 51 were white and 36 colored. There were 4 deaths from cerebrospinal meningitis, and 1 each from measles and diphtheria. At the close of the week there were 23 cases of smallpox, 17 of diphtheria and 31 of scarlet fever under treatment.

Woman's Clinic. At the regular meeting of the board of directors of the clinic, held on the 13th instant, the report of the attending staff showed a considerable increase of the work of the dispensary, and the treasurer's report showed an increase of finances and a balance in the treasury. A special committee consisting of Drs. D. S. Lamb, H. L. E. Johnson, and Robert Reyburn, was appointed to secure a congressional appropriation for maintenance.

Philadelphia.

Condition of Dr. Brinton.—Dr. Daniel G. Brinton, while on a visit to Media, Pa., recently became seriously ill with gastralgia, but is now greatly improved.

New Trustee.—The board of trustees of the Jefferson Medical College recently elected Judge Sulzberger a member of the board, to fill the vacancy caused by the resignation of Col. Samuel Goodman.

Examiner of Drugs.—A despatch from Washington announces the appointment of Benjamin Ashmead of Philadelphia to be examiner of drugs of that city. Mr. Ashmead has been in the drug business for the past twenty years and is a graduate of the Philadelphia College of Pharmacy. The salary is $1200 per annum.

To Dr. John Guitéras.—Invitations have been issued by friends of Dr. John Guitéras for a reception tendered in honor of his professional services and the esteem in which he is held by the medical profession, to be given at the University Club on the evening of May 24.

Dr. Evans' Millions.—It is stated that the executors of the estate of the late Dr. Thomas W. Evans of Paris have reached an agreement by which endless litigation will be prevented, and that several millions of dollars will be expended on a museum pertaining to the subject of dentistry, to be erected in West Philadelphia near the University of Pennsylvania.

Resignations,—The following district physicians have recently tendered their resignations to the board of charities and corrections of this city: G. A. Knowles and J. M. Montgomery. Dr. F. J. Douglass was elected to succeed Dr. Paxson for the ninth and tenth wards. Owing to the resignation of Major W. H. Lambert of the board, Mr. A. H. Dingee has been appointed.

Blockley Hospital.—It is stated that up to date there are 150 applicants for the position of resident physician on the staff of the Philadelphia (Blockley) Hospital, and it is supposed that 200 will present themselves when the examination will be held. There are twenty vacancies.

The Public Service.

Movements of Army Medical Officers under orders from the Adjutant-General's Office, to and including May 11, 1899:

Lomax S. Anderson, lieutenant and asst.-surgeon 5th U.S. Vol. Inf., leave of absence to date of muster out of his regiment.

Daniel M. Appel, major and surgeon U.S.A., now on duty as commanding officer of the general hospital at Savannah, Ga., is relieved from duty and station at Ft. Logan H. Roots, Ark.

Percy N. Barnesby, acting asst.-surgeon, from Jefferson Bks., Mo., to post duty at Ft. Sam Houston, Texas.

Harry Barnharett, acting asst.-surgeon, from the Josiah Simpson general hospital, near Ft. Monroe, Va., to Washington, D. C., reporting to the surgeon-general.

Wm. J. Boyd, acting asst.-surgeon, from Macon, Ga., to Pavilion, N. Y., reporting by letter to the surgeon-general.

J. Fred. Clarke, major and surgeon 49th Iowa Inf., sick leave granted.

August von Clossman, acting asst.-surgeon, from examining recruits at St. Louis, Mo., to post duty at Jefferson Bks., Mo.

Wm. B. Davis, major and surgeon U.S.A., delegate to the meeting of the Amer. Med. Ass'n at Columbus, Ohio, June 6–9, 1899.

Fred. S. Dewey, acting asst.-surgeon, from Ft. Sill, Okla., to post duty at Ft. Sam Houston, Texas.

John R. McDill, brigade surgeon vols., to proceed to his home, Milwaukee, Wis.

Chas. E. Donlan, acting asst.-surgeon, from Camp Mackenzie, Augua , Ga., to Lowell, Mass., reporting to the surgeon-general.

Powell C. Fauntleroy, lieutenant and asst.-surgeon U.S.A., leave of absence granted.

Chas. Fitzpatrick, acting asst.-surgeon, from Philadelphia, Pa., to San Francisco, Cal., to accompany the 4th U.S. Cav. to Manila, P. I.

Jos. F. Ford, lieutenant and asst.-surgeon U.S.A., from the general hospital at Savannah, Ga., to San Francisco, Cal., for assignment in the Dept. of California.

Frank W. Foxworthy, acting asst.-surgeon, from Washington, D. C., to San Francisco. Cal., for duty in the Dept. of California.

Leonard K. Graves, acting asst.-surgeon, from New York City to Camp Meade, Middletown, Pa., to accompany the 19th U.S. Inf. to Manila, P. I.

Chas. R. Greenleaf, colonel and asst. surgeon-general U.S.A., to inspect the medical supply depot at Atlanta, Ga., and the general hospital at Ft. McPherson, Ga., thereafter returning to his duties at Savannah, Ga.

Robt. W. Guilcr, acting asst.-surgeon, leave of absence granted.

Merritt W. Ireland, captain and asst.-surgeon U.S.A., delegate to the Amer. Med. Ass'n at its meeting June 6–9, 1899, at Columbus, Ohio.

Franklin M. Kemp, lieutenant and asst.-surgeon U.S.A., from duty in the Philippine Islands to post duty at Ft. Hamilton, N. Y.

H. S. Kilbourne, major and surgeon U.S.A., member of a board in New York City, to examine lieutenants of the line for transfer to the ordnance department.

Fred. W. R. Lapsley, acting asst.-surgeon, from New York City to Chicago, reporting by letter to the surgeon-general.

John A. Metzger, acting asst.-surgeon, from the Josiah Simpson general hospital, near Ft. Monroe, Va., to Pittsburg, Pa., reporting by letter to the surgeon-general.

John C. Orr, acting asst.-surgeon, from Camp Mackenzie, Augusta, Ga., to Chambersburg, Pa., reporting by letter to the surgeon-general.

Geo. P. Pced, acting asst.-surgeon, from Portsmouth, Va., to Havana, Cuba, for assignment in the Div. of Cuba.

Jas. E. Pilcher, captain and asst.-surgeon U.S.A., now at Savannah, Ga., is relieved from further station at Ft. Crook, Neb.

Benj. F. Pope, lieut.-colonel and deputy surgeon-general U.S.A., delegate to the Amer. Med. Ass'n at its meeting at Columbus, Ohio, June 6–9, 1899.

Wm. E. Purviance, captain and asst.-surgeon U.S.A., from the general hospital, Ft. McPherson, Ga., to San Francisco, Cal., for duty in the Dept. of California.

Wm. W. Quinton, captain and asst.-surgeon U.S.A., relieved from duty at Santiago, Cuba, and on expiry of his present leave to proceed to Havana, Cuba, for duty in that Dept.

John S. Schaul, acting asst.-surgeon, from Camp Mackenzie, Augusta, Ga. to Chambersburg, Pa., reporting by letter to the surgeon-general.

S. MacC. Stuart, acting asst.-surgeon, from Camp Mackenzie, Augusta, Ga., to Washington, D.C., reporting to the surgeon-general.

S. T. Weirick, acting asst.-surgeon, from Ft. Reno. Okla., to San Francisco, Cal., for duty with troops at Pyramid Harbor, Alaska.

Roy A. Wilson, acting asst.-surgeon, from the Josiah Simpson general hospital, near Ft. Monroe, Va., to Washington, D. C., reporting to the surgeon-general.

Movements of Navy Medical Officers.—Changes in the medical corps of the U.S. Navy for the week ending May 13, 1899.

P. A. Surgeon J. C. Rosenbleuth, orders assigning to "Newport" moderated; ordered to the "Vermont."

Medical Inspector J. E. Wise, detached from the Asiatic station and ordered to the naval hospital, Yokohama, Japan, for treatment; thence home to wait orders.

P. A. Surgeon L. L. Young, sick leave extended two months.

Surgeon F. Rogers, detached from the "Buffalo," directed to be examined for promotion May 15, and ordered home to wait orders.

P. A. Surgeon J. C. Rosenblauth, detached from the "Vermont" and ordered to the "Buffalo."

Asst.-Surgeon R. S. Blakeman, detached from the "Buffalo" and ordered home to wait orders.

P. A. Surgeon C. M. DeValin, detached from the "Brooklyn" and ordered home to wait orders.

Asst.-Surgeon W. B. Grove, detached from the "Vicksburg" when put out of commission, and ordered to the "Brooklyn."

Asst.-Surgeon F. M. Furlong, detached from the "Scindia" when put out of commission, and ordered to the "Independence" temporarily.

Marine-Hospital Changes.—Official List of Changes of Stations and Duties of Commissioned and Non-Commissioned Officers of the U.S. Marine-Hospital Service, for the seven days ended May 11, 1899.

Surgeon R. D. Murray, granted leave of absence for fifteen days from June 4, 1899.

Surgeon C. T. Peckham, when relieved from duty at New Orleans, La., by P. A. Surgeon J. A. Nydegger, to rejoin station at Pittsburg, Pa.

Surgeon C. T. Peckham, to proceed to Neville Island, Pa., for special temporary duty.

P. A. Surgeon G. T. Vaughan, detailed by the secretary of the treasury to represent the treasury department as delegate to the International Tuberculosis Congress at Berlin, Germany, May 24 to 27, inclusive.

P. A. Surgeon J. A. Nydegger, to rejoin station at New Orleans, La.

P. A. Surgeon W. J. S. Stewart, to proceed to Nantucket, Mass., for special tempory duty.

Asst.-Surgeon John McMullen, upon being relieved from duty as sanitary inspector on U.S. transport "Buford," to report to the medical officer of the service at the U.S. immigration depot, New York City, for temporary duty.

Asst.-Surgeon R. H. von Ezdorf, detailed as inspector of quarantines.

Asst.-Surgeon V. G. Heiser, detailed by direction of the President for duty in the office of the U.S. consul at Naples, Italy.

Asst.-Surgeon V. G. Heiser, upon being relieved from duty at the immigration depot, New York City, to report at Washington, D. C., for instructions preliminary to departure for Naples, Italy, for duty.

Asst.-Surgeon W. C. Hobdy, relieved from duty at the Reedy Island quarantine station, and directed to proceed to Stapleton, Staten Island, N. Y., and report to medical officer in command for duty and assignment to quarters.

Asst.-Surgeon G. M. Corput, granted leave of absence for seven days.

BOARD CONVENED.

Board convened to meet at Detroit, Mich., on May 20, 1899, for the physical examination of Surgeon John Godfrey, M.-H.S. Detail for the board: Surgeon H. W. Sawtelle, chairman; and P. A. Surgeon G. M. Magruder, recorder.

CHANGE OF ADDRESS.

Aynesworth, K. H., from Galveston to Waco, Texas.
Bennett, A. L., from Gaboon, Africa, to St. Anne, Ill.
Buffington, W. R., from New Orleans. La., to Magnolia, Ark.
Fisher, G. C., from 343 Ogden to 3000 Indiana Ave., City.
Hamilton, G. W., from Buffalo, N. Y.. to Sts. Mary and Elizabeth Hospitals, Louisville, Ky.
Hargrove, J. H., from Richmond to Garyville, Va.
Haley, P. A., from Richmond to Buckners, Va.
Hundley, M. E., from Richmond, Va.. to Leatherwood, Va.
Jones, J. F., from Galveston to 153 Grand Ave.. Sherman, Texas.
Long, H. E.. from 158 W. 3d Ave. to California Bldg., Denver, Colo.
Le Moyne, F., from Pittsburg, Pa., to The Chatham, Atlantic City, N. J.
Mincey, J. N., from Galveston, to Van Alstyne; Texas.
McFall, G. H., from Detroit, Mich., to Put-in-Bay, Ohio.
McGahan, C. F., from Aiken, S. C., to Bethlehem, N. H.
Mayo, H. N., from De Lamar, Nev., to Security Bldg., St. Louis, Mo.
McBride, M. A., from Sidney to Watt, Texas.
Pattans, W. B., from Columbus to Buckingham Bldg, Springfield, Ohio.
Trueblood, C., from Indianapolis to Chesterfield, Ind.
Waterhouse, G. M., from St. Louis to Weiser, Idaho.
Yeakley, W. H., from Richmond to Gainsboro, Va.

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Address.

EYE AND NERVOUS SYSTEM.

THEIR MUTUAL AND INTIMATE RELATIONSHIP.

BY F. C. HOTZ, M.D.

Professor of Ophthalmology and Otology, Rush Medical College, Professor of Ophthalmology, Chicago Polyclinic, Attending Oculist and Aurist, Presbyterian Hospital.

CHICAGO.

To be invited to address a society of the representative physicians of a great State is certainly a great honor and a personal compliment which would awaken very pleasant feelings in the breast of every man. But what pleased me the most was the thought that a society of practitioners was desirous of listening to the address of an oculist; for I thought I could see in this desire an indication that the wide gulf which has so long separated general medicine and ophthalmology is being filled up and that physicians are beginning to realize that a familiarity with the discoveries of modern ophthalmology may often be of material assistance to solve many a difficult problem in their daily practice, just as we oculists have long ago come to the conclusion that we must keep in touch with the progress of general medicine.

When, in the middle of this century, the genius of Helmholtz opened to our gaze the interior of the eyeball, with his ophthalmoscope; when the brilliant mind of Donders unravelled the mysteries of refraction; and Graefe, the greatest master in the art of clinic observation, enriched the pathology and therapy of eye diseases with new discoveries in rapid succession, ophthalmology suddenly became an independent and very progressive branch of medical science. But in cutting loose from surgery, to which it had beonged, it seemed to have become disconnected enirely from medical science; for it goes without saying that physicians have been accustomed to pay little or no attention to the diseases of the eye; to them the domain of the human anatomy enclosed within the orbit was a *terra incognita* like the Dark Continent.

I have often met physicians telling me they did not know anything about the eye and its diseases; they eemed almost proud of their ignorance; or at least ook it for granted, as the most natural thing, that a physician was not expected to pay any attention to he eye. But why not? Is not the eye as good and recious a part of the human body as the throat, or he stomach, or the uterus? We have throat specialists, but on this account does any physician think it nnecessary to study the diseases of the throat? And ould he ever dream of letting a patient, consulting im for a simple sore throat, go to a specialist for the eason that *he* did not know anything about throat oubles? Would he not fear such admission would urt his reputation? We have gynecologists too; but I am sure no practitioner is willing and ready to concede to the specialist the female pelvis as his exclusive domain; on the contrary, he tries to keep himself well informed of its diseases and their treatment so that he himself can take care of these cases, unless their very serious nature should demand the services of the more experienced specialist.

Take any organ of the human body and we see physicians pay the closest attention to its diseases; only when they come to the eye their interest suddenly drops to zero; and patients with the simplest kind of an ocular affection are turned away from their door and are compelled either to seek the services of a specialist or take their chances with home remedies, "Christian Science," etc. I believe this indifference of physicians to everything concerning the eye is partly due to the fact that eye diseases, though often fatal to the visual organ, do not kill the patient and hence lack that unmistakable *demonstratio ad oculos* so often furnished by the fatal termination of diseases of other organs to forcibly convince us of their serious effect on the general health.

Every physician understands that gastric disorders, liver complaints, kidney diseases, in fact, the diseases of any organ which plays a vital rôle in the assimilation of food or in the elimination of the waste products, must naturally alter the chemic qualities of the blood and unfavorably affect the nutrition and functions of the whole organism. Hence physicians regard even the most trifling disorder of these organs as worthy of their full attention, and in cases of general malnutrition carefully examine the various organs for the purpose of locating, if possible, the cause of the constitutional disturbance.

But that little thing, the eyeball, which has nothing to do with the biologic processes of nutrition, is not suspected of ever causing any disturbance reaching beyond the bony confines of the orbit. The eye has never been included among the possible disturbing factors affecting the health of an individual, and physicians have become accustomed to exclude it from the list of their investigations.

But the bony walls of the orbit do not isolate the eye from the rest of the body; it stands in constant and intimate communion with it; it is frequently affected by diseases of distant organs and though its diseases do not threaten or shorten a man's life, they often inflict so much suffering that the sufferer may well feel disposed to doubt whether life is worth living.

The intimate relation existing between the eye and other parts of the organism is most strikingly illustrated by the influence diseases of the nervous system so frequently have upon the eye and, vice versa, ocular disturbances have upon the nervous system. And it is to this highly interesting subject I wish to turn your kind attention for a few minutes.

Do not fear, that I shall put your endurance, physical or mental, to a severe test; do not apprehend you will have to listen to a lecture highly charged with confusing technicalities and bewildering Greco-Latin terms which so luxuriantly thrive on the rich soil of ophthalmology. I have always thought it showed very poor judgment when in a general society an oculist read a paper very learnedly discussing technic details, which to be sure were highly interesting to the specialists, but far beyond the scope of the general practitioners; and the bored and tired expression I have noticed on the faces of the audience on such occasions rises now vividly before my eyes as a reminder not to commit a similar blunder. I shall not lead you through an ophthalmic maze that would puzzle and fatigue you; for my desire is not to smother, but to awaken, your interest in questions relating to the eye; and I know I shall succeed if I present to you in plain language a few plain facts showing the influence of nervous diseases upon the eye, and then, another series of facts illustrating the influence of ocular diseases on the nervous system.

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*An Address before the Kansas State Medical Society, Topeka, May 1899.

INFLUENCE OF DISEASES OF THE NERVOUS SYSTEM ON THE EYE.

Diseases of the nervous system affect the eye very differently, according to the different nature of the neurosis; functional neuroses cause functional disturbances, organic nervous diseases produce structural changes in the eye.

The *functional neuroses* in which you may look for ocular disturbances are neurasthenia and hysteria, while it is a noteworthy fact that in chorea, though twitchings of the facial muscles are almost always present, the ocular muscles are very rarely involved; and epilepsy also does not affect the eye, except that during the paroxysms its muscles participate in the general convulsions.

In *neurasthenia* ocular disturbances belong to the most frequent and prominent complaints. Neurasthenics can not endure much physical or mental exertion; their nerve force is quickly exhausted, their muscles become easily tired, and a little work is apt to cause a nervous collapse with aches and pains all over the body. The eye muscles are not exempt from this general debility and, since reading, writing, sewing and similar occupations require the services of muscles (chiefly the ciliary and internal recti muscles), neurasthenics experience all the symptoms due to the quick fatigue of these muscles; though they may enjoy normal vision and normal refraction, they can read but a very short time because their vision becomes blurred (fatigue of ciliary muscle) or unsteady and vacillating (fatigue of the recti muscles) and their eyes and head soon begin to ache. This incapacity for prolonged near work is, of course, much accentuated if the eye muscles are unduly taxed by existing anomalies of refraction.

Another visual disturbance often accompanies the paroxysms of the neurasthenic headache or migraine, popularly called "sick headache." In probably one-half of the cases of migraine the attack is ushered in by peculiar visual phenomena; either the patient can see but one-half of the object, for instance, only the right half of a person's face (hemianopsia), or his vision is suddenly blotted out entirely (scotoma or "blind spell"); or he sees passing before his eyes dazzling flashes of light and luminous rings constantly changing in color like a kaleidoscopic play (scintillating scotoma). Patients are often greatly alarmed by these blind spells; it is, therefore, well for you to understand their purely neurotic character and harmless nature, and to know that they are not indicative of any danger to the sight; but at the same time it is well always to bear in mind that acute glaucoma is also ushered in by sudden obscuration of vision and violent headache with nausea and vomiting. In migraine the blind spell usually lasts but a few minutes to half an hour and precedes the headache and nausea, and the eye presents an absolute normal appearance; in glaucoma, the blind spell occurs simultaneously with the headache and lasts as long as the headache, and the eye shows by its engorged blood-vessels, enlarged pupil and increased tension, the unmistakable signs of glaucoma.

Hysteria is so closely related to neurasthenia that we are not surprised by finding the ocular disturbances of the one should also be frequently noticed in the other neurosis. And indeed are quick fatigue of the eyes and visual disturbances of varying degrees, from slight impairment to total blindness, no uncommon symptoms in hysteria. This hysteric amblyopia, as it is called, may affect both eyes, but usually it is confined to one eye. It occurs quite suddenly, varies in degrees almost daily and disappears as suddenly as it came; and the eye-ground shows no ophthalmoscopic changes.

The *organic diseases* of the nerve centers affect the eye in various ways, but the optic nerve is the chief sufferer. In acute meningitis the optic nerves are frequently involved in the inflammation, which, extending to the optic disc, becomes directly visible to us by means of the ophthalmoscope. In doubtful cases the ophthalmoscopic evidence of optic neuritis is a very valuable means of deciding the diagnosis; and in tubercular meningitis its specific nature may sometimes be determined conclusively by the ophthalmoscopic discovery of tubercles in the eye-ground. Optic neuritis is also frequent in brain abscess, especially when they have attained considerable size. The inflammation is often unequal in both eyes, but it does not follow that the more marked neuritis is always found in the right eye if the abscess is in the right hemisphere, and in the left eye if the abscess is in the left hemisphere; hence, we can not draw any positive conclusion from the unequal intensity of the neuritis as to the probable site of the abscess.

That the cerebral irritation produced by sunstroke may affect the optic nerves was first pointed out by me, twenty years ago.[1] The optic neuritis in these cases, seems, however, to be of a rather mild and transient type, not likely to lead to atrophy of the optic nerve and permanent damage of vision. In all my cases, at least, the inflammation readily subsided, and the eyes recovered normal acuity of vision.

Tumors in the brain frequently lead to great impairment of vision or total blindness. In the majority of cases the ophthalmoscope shows an enormous venous congestion and edematous swelling of the optic papilla; and though this condition, known as "choked disk," is occasionally found with other diseases, its occurrence in connection with cerebral tumors is so prevailing that the ophthalmoscope may often decide the question of the nature of the existing brain lesion. Tumors growing at the base of the brain may cause, by direct pressure, paralysis of one or the other motor nerves supplying the eye muscles;

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[1] Notes on Intraocular Lesions Produced by Sunstroke. American Journal of the Medical Sciences, July, 1879.

they may also cause blindness of one eye by pressure on its optic nerve, or affect in a peculiar way the vision of both eyes by pressure on one optic tract. And we are often enabled to determine the anatomic location of the morbid growth by the eye symptoms.

Atrophy of the optic nerves and paralysis of ocular muscles are also frequent in brain syphilis, in those degenerative processes known as general paralysis and multiple sclerosis, and especially in locomotor ataxia. In the latter disease ocular disturbances make their appearance often at a very early stage before other symptoms of ataxia are manifest. This is particularly true of the paralysis of the ocular muscles; so that a paralysis of a muscle suddenly appearing without cause in an apparently healthy individual should always give rise to the suspicion of beginning tabes, especially if this paralysis is of short duration and reappears either in the same or any other ocular muscle at various intervals. A very characteristic and constant ocular symptom of locomotor ataxia is the contracted pupil—often unequal in both eyes—and its failure to react to light, while the eyes show no signs of inflammation—past or present—of the iris, which is the only local disease causing contraction and non-reaction of the pupil.

A great many more facts could be cited illustrating the influence of nervous diseases on the eye; but I have promised you not to become too technic and tiresome, and I have therefore restricted this review to the most prominent landmarks, believing they are sufficiently strong and conclusive proofs to convince you that nervous diseases are a frequent source of functional and organic disturbances of the visual organ.

Let us now turn our attention to the reverse side of the relation existing between the nervous system and the eye. Let us see whether we may find as good and strong evidence to prove that eye troubles are a frequent cause of nervous disorders.

EFFECT OF OCULAR AFFECTIONS ON THE NERVOUS SYSTEM.

When speaking of the "blind spells" in sick headaches, I have already called your attention to the fact that acute glaucoma causes one-sided headache, nausea and vomiting of the same violence as migraine. I wish to impress this fact once more on your mind, because I have met with several cases in which the glaucomatous origin of the headache and gastric disturbance had not been recognized, and those nervous symptoms had been treated as neuralgia, migraine or gastric troubles. One of these was a particularly sad one. A woman whose right eye had been blind for many years was seized by the most violent left-sided headache, nausea and frequent vomiting. Her physician pronounced her trouble gastritis and "sick headache"; and even when the patient told him her sight was becoming poorer every day, he paid no attention to the eye, but assured her that the sight would return as soon as her stomach trouble was cured and the neuralgia relieved. Having implicit faith in her physician, the poor woman abided by his word, and though her sight was soon gone, she patiently endured the constant agonizing pain day and night and hopefully waited for the day when the dark cloud would be lifted from her eye. For two weary months she suffered and hoped; but finally her endurance was exhausted, and, much against the will of her physician, she consulted an oculist. Alas, too late! the glaucoma had done its deadly work only too well; although the iridectomy promptly reduced the high tension and at once relieved the headache and all the other symptoms, the sight did not return; the optic nerve-fibers had been completely destroyed by the long-lasting high tension.

Can you imagine a more shocking result of a physician's blunder for which there is absolutely no excuse; for the signs of acute glaucoma—the engorged veins of the eyeball, the dull cornea, the dilated and immobile pupil, and the high tension—are so plainly marked out that he who only takes the trouble of looking at the eye can not fail to see them.

Many inflammations of the eye cause more or less disturbance in the various branches of the trigeminus. The dull brow-ache of corneal inflammation, the frontal headache in simple conjunctivitis after reading, the throbbing neuralgias of the jaws in iritis, and splitting headaches in cyclitis are too well-known instances of the disturbing influence of ocular affections on the nerves. Not so well known is the fact that even a simple stye may cause severe headache, and easily be overlooked as the etiologic factor of the headache.

But the inflamed eye may occasionally cause a more serious neurosis than headache. As a case in point, let me give you a brief history of a case which has recently been reported.[2] A young man of regular habits and good health had an iritis of the left eye after an attack of influenza in December, 1891. In spite of atropin treatment the iritis persisted and soon the patient was seized with fainting spells and convulsions which induced him, in February, 1892, to go to the hospital. There his nervous seizures were recognized as typic epileptic paroxyms which became more frequent and intense in spite of the use of bromids and hypnotic suggestions. As the patient's left eye still showed signs of inflammation, an oculist was called, who advised the enucleation of the eye, not because he suspected it to be in any way responsible for the epilepsy, but because he wished to relieve the patient of all further troubles which the persistent inflammation of the hopelessly blind eye was sure to cause in the future. The eye was enucleated in April, and the epileptic attacks ceased at once after the operation, never to return.

Observations like this are highly interesting and instructive, but very rare; and we can not be surprised that the eye was not suspected as the disturbing element in this case. In most instances, however, the inflammation, which exerts a disturbing influence on the nerves, attracts the attention of both the patient and the physician, and it is not difficult for the latter to recognize the causal relation between the ocular inflammation and the nerve pains.

But in the largest number of nervous affections caused by the eye, this little organ presents a perfectly healthy and normal appearance; it looks so natural and innocent that no one would suspect it to be capable of doing so much mischief; and though in a number of instances the patient is inclined to the belief that there is some connection between the eyes and his nervous troubles because he finds they are either brought on or greatly aggravated by the use of the eyes, yet a great many patients have no such experience; they have no fault to find with their eyes and think it an absurd idea when they are told the cause of their nervous sufferings may possibly be found in their eyes.

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[2] Klinische Monatsbl. f. Augenheilkunde, August, 1898.

Oculists have long been acquainted with the fact that in many people the use of the eyes for near work—reading, writing, sewing, etc.—was invariably followed by pain in the eyes and violent headache. In the majority of these cases the distressing symptoms were found to be the result of an overtaxed accommodation; and in a smaller number they were attributed to the strained effort of the weak internal recti muscles to maintain the proper convergence of the eyes at the reading distance. And as the accommodation—that is the adjustment of the sight for short distances—is also accomplished by muscular action (the ciliary muscle) it is evident that in all these cases the headaches are caused by the overexertion of ocular muscles or by *eye-strain*, which is the generally accepted term to designate an excessive demand on either the ciliary muscle or any of the extrinsic muscles of the eye.

Very soon, however, it was found that eye-strain was not limited to the near work, but covered a much wider field. It was found that far-sighted and astigmatic persons can see things at any distance with distinctness, only by unconsciously straining their accommodation; their ciliary muscles are incessantly at work from the moment they wake up in the morning until they go to sleep at night, while under normal optic conditions of the eyes distant objects are seen distinctly without the aid of the accommodation, and the ciliary muscles are set to work only to adjust the vision for the near range. But the eye with normal refraction is greatly in the minority; the far-sighted and astigmatic eyes constitute the majority. It is, therefore, not surprising that these optic conditions (far-sightedness and astigmatism) are encountered as a frequent cause of eye-strain.

And as to the extrinsic muscles it was soon learned that the causes for strained action are not restricted to the internal recti muscles, but are just as frequently, if not oftener, found in the other muscles.

The easy and accurate execution of those rapid, lightning-like movements of the eyeball in looking from one object to another; the easy and steady maintenance of our gaze on an object, require a mechanism of well-balanced muscular forces. The perfect equilibrium of these forces alone renders it possible that both eyes look straight at a distant object when all the muscles are in a state of relaxation or physiologic rest. If, from whatever cause, one muscle becomes stronger or weaker than its antagonist, the muscular balance is disturbed and the eye naturally inclines to turn toward the stronger muscle. If the disturbance is considerable, the eyeball is permanently turned toward the stronger muscle, as in convergent squint; but if the disproportion of the muscular tensions is not very great, the tendency of the eyeball to turn toward the stronger muscle is opposed and the eyes held straight in the interest of binocular vision by a strenuous effort of the antagonistic muscle; the externus thus opposes the tendency of the eye to turn inward; the internus opposes its tendency outward, the inferior rectus its upward and the superior rectus its downward tendency. Now imagine this muscular struggle going on from morning till night and day after day, and you will understand that the disturbed equilibrium of the eye muscles furnishes another important and frequent source of eye strain.

As every muscular contraction represents the expenditure of nerve force, it is evident that the continuous activity of the ciliary muscle of the far-sighted and astigmatic eye and the constant effort of the extrinsic muscles to restore the lost equilibrium consume daily a much greater amount of nerve force than nature has provided for the use of the eyes. And as a person who daily spends more money than he earns will inevitably become bankrupt, so this excessive expenditure of nerve force is likely, sooner or later, to lead to nervous exhaustion manifesting itself in the various forms of functional nervous derangements.

That such are the frequent consequences of eye strain has been proven beyond the possibility of a doubt; and the evidence is accumulating so fast that the time is near at hand when physicians will consider it their duty to make a critic examination of the eyes in the persistent headaches of school children; in intractable headaches of adults; in nervous dyspepsia and unaccountable insomnia; in neurasthenia and even in chorea and epilepsy.

The recognition of eye strain as a frequent cause of all these functional nervous disorders and the possibility of relieving untold numbers of sufferers by removing the cause of eye strain is one of the greatest achievements of modern ophthalmology; an achievement of which the medical profession of this country has particular reasons to be proud, because it is chiefly and preeminently the work of American ophthalmologists.

Original Articles.

COLORED CHILDREN: A PSYCHO-PHYSICAL STUDY.

BY ARTHUR MACDONALD.
SPECIALIST IN THE UNITED STATES BUREAU OF EDUCATION.
WASHINGTON, D.C.

In all new lines of inquiry it is a general principle to regard the results as more or less tentative, according to the number of persons experimented upon.

In this study the results depend upon averages which are valuable according to the whole numbers from which the averages are made. In many instances these numbers are not as large as one would desire. We hope this may induce some investigator to make experiments upon larger numbers.

SPECIAL STUDY OF NINETY-ONE COLORED CHILDREN.

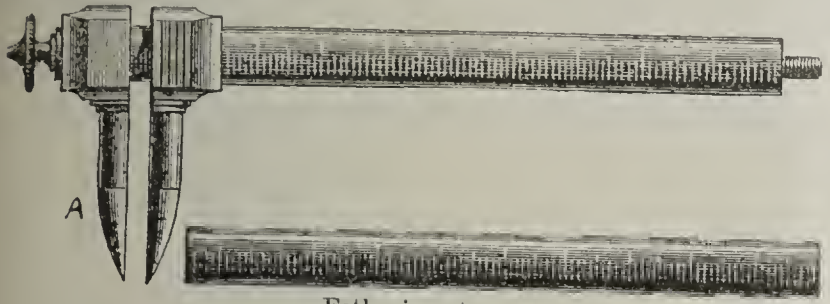
Instruments used: The calipers (Fig. 1) are used for measuring the length and width of head.

The right end of the calipers (R) is held at the root of the nose; the one measuring watches the scale while he brings the left point of the calipers over the back and middle of the head, thus finding the maximum length of head. The width of the head is measured and verified in a similar way to that of the length. In these measurements a mistake of a millimeter is allowed. In scientific measurements only a half millimeter is allowed.

ESTHESIOMETER.

The esthesiometer measures the degree of ability to distinguish points on the skin by the sense of touch. This is called the sense of locality, which varies in acuteness according to the mobility of the part.

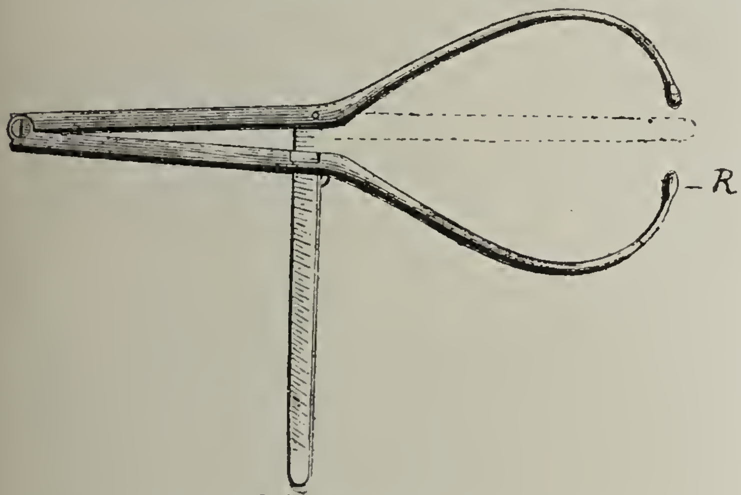
The instrument (Fig. 2) consists of a round brass rod on which is a scale. One point (A) is fastened on the rod, the other point slides on the rod. The subject, with eyes closed, is asked, when the two points are made to gently touch the skin simultaneously, how many points he feels, one or two. When he is in doubt the distance between the two points can be read on the scale. This distance is an approximate measure of his sense of locality on the skin.



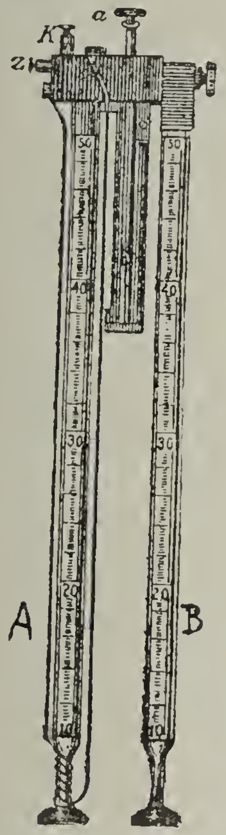
Esthesiometer.

THERMESTHESIOMETER.

The thermesthesiometer (Fig. 3), designed by Eulenburg, consists of two thermometers fastened together. The left-hand thermometer (A) was heated until it registered about ten degrees more than the right-hand one (B). The two thermometers were placed upon the palmar surface of the wrist in a line at right angles to the length of the wrist. The subject was asked which was the warmer, and on replying correctly, the thermometers were held on the skin until he subject could not tell which was warmer. At this nstant the difference in degrees between the thernometers was read. This difference may be regarded s a *relative* least sensibility to heat.



Calipers (Broca).



Thermesthesiometer (Eulenberg).

After the measurements had all been made by the writer, the teachers were requested to mark the pupils bright, dull, or average in general, and also to mark them in those special studies in which they were bright, dull, or average; and when in doubt to mark them average, so that there might be less liability to error in regard to the bright and dull, which are the two classes we specially desire to compare.

We regret that the number of colored children measured is so small. In making comparisons, therefore, due account must be taken of this fact.

TABLE 1.—Colored Boys.

Class.	Number of cases.	Average age. Yr.	Average age. Mo.	Cephalic index.	Least sensibility to locality. Right wrist. Mm.	Least sensibility to locality. Left wrist. Mm.	Strength of grasp. Right hand. Kilos.	Strength of grasp. Left hand. Kilos.	Least sensibility to heat. Right wrist. ° R.	Least sensibility to heat. Left wrist. ° R.	Long-headed (dolichocephalic). Per cent.	Medium (mesocephalic). Per cent.	Broad-headed (brachycephalic). Per cent.
Bright. .	18	12	11	Dolicho...4 Meso . . ..9 Brachy . .4	240 14.1	229 13.5	351 19.5	325 18.1	35 25 1.96	32.00 1.78	23	52	25
Dull. . .	10	13	2	Dolicho...4 Meso . . ..5 Brachy . .1	141 14.1	140 14.0	178 17 8	165 16.5	23.00 2.30	18.25 1.83	40	50	10
Average.	5	14	5	Dolicho...2 Meso . . ..3 Brachy . .0	78 15.6	77 15.4	122 24.4	117 23.4	10.00 2.00	8 25 1.65	40	60	. . .
Total . .	33	. . . .		Dolicho..10 Meso . . 17 Brachy . 5	459	446	651	607	68.25	58.50	. . .	. . .	. . .
Average for all.	. .	13	3	. . . .	14.3	13.9	19.7	18.4	2.07	1.77	32	53	15
Unruly *a*	5	14	5	Dolicho...2 Meso . . ..3 Brachy . 0	78 15.6	77 15.4	122 24.4	117 23.4	10 00 2.00	8.25 1.65	40	60	. . .

a The unruly are included among the bright, dull or average; so they are placed alone.

The bright colored boys are more sensitive to heat than the dull colored boys (Table 1).

The bright colored girls are more sensitive to locality than the dull. The dull colored girls have a stronger hand-grasp than the bright. Comparing the colored girls with the white girls, they are less sensitive to locality than the white girls, but much more sensitive to heat. Comparing the colored boys and girls, the boys are more sensitive both to locality and heat. Colored boys (Table 1) are remarkably sensitive to heat on the left wrist.

COLORED CHILDREN BEFORE AND AFTER PUBERTY.

While the number of colored children measured is comparatively small, yet it may be interesting to note some differences indicated in Table 3.

Among the boys and girls the per cent. of long heads is much greater after puberty than before. This is also true of the white boys, but not of the white girls. The colored boys are more sensitive to heat and locality after puberty than before. The reverse is true with the white boys, but the colored girls, like the white girls, are less sensitive after puberty.

Table 2.—Colored Girls.

Class.	Number of cases.	Average age. Yr.	Mo.	Cephalic index.	Least sensibility to locality. Right wrist. Mm.	Left wrist. Mm.	Strength of grasp. Right hand. Kilos.	Left hand. Kilos.	Least sensibility to heat. Right wrist. ° R.	Left wrist. ° R.	Long-headed (dolichocephalic). Per cent.	Medium (mesocephalic). Per cent.	Broad-headed (brachycephalic). Per cent.
Bright. .	33	12	6	Dolicho.. 5 Meso... . 20 Brachy . 8	499 15.1	471 14.3	547 16.6	519 15.7	94.75 2.87	78.62 2.38	11	66	23
Dull. . .	18	13	8	Dolicho.. 8 Meso . . 7 Brachy . 3	289 16.1	261 14.5	321 17.8	302 16.8	46.00 2.56	51.00 2.83	46	38	16
Average .	3	15	6	Dolicho.. 0 Meso . ... 2 Brachy. . 1	36 12.0	30 10.0	63 21.0	57 19.0	4.62 1.54	5.62 1.87	. . .	. . .	. . . .
Unruly. .	4	13	8	Dolicho.. 0 Meso . . 4 Brachy. . 0	62 15.5	60 15.0	72 18.0	68 17.0	7.75 1.94	8.25 2.06	. . .	. . .	. . . .
Total . .	58	. . .	. .	Dolicho..13 Meso . . 33 Brachy. .12	886	822	1003	946	153.12	143.49	. . . .	. . .	. . . .
Average .	. .	13	1	. . . .	15.3	14.2	17.3	16.3	2.64	2.47	27	52	21

Table 3.—Colored Children before and after Puberty.

Divisions according to puberty and sex.	Number of cases.	Average age. Yrs.	Mos.	Dolichocephalic. Per cent.	Mesocephalic. Per cent.	Brachycephalic. Per cent.	Least sensibility to locality. Right wrist. Mm.	Left wrist. Mm.	Strength of grasp. Right hand. Kilos.	Left hand. Kilos.	Least sensibility to heat. Right wrist. ° R.	Left wrist. ° R.
All colored boys:												
Before puberty.. . .	22	12	2	27	55	18	14.1	13.6	19.0	17.9	2.42	2.00
After puberty	11	15	5	40	50	10	13.5	13.4	21.3	18.5	1.55	1.32
All colored girls:												
Before puberty. . . .	15	10	1	13	47	40	14.3	12.9	11 7	10.9	2.53	2.05
After puberty. . . .	36	14	2	31	55	14	15.9	15.0	19.3	18.3	2.85	2.75

Table 4.—Percentage of ability in different studies, computed on number reported.

COLORED GIRLS.

Limit of age. From— Yrs.	Mos.	To— Yrs.	Mos.	Mental divisions.	11 Arithmetic.	15 Drawing.	16 Geography.	21 History.	22 Language and English.	26 Music.	28 Penmanship.	34 Reading.	36 Spelling.
5	0	6	6	Bright	27	. .	. .	. .	43	31	27	41	42
				Dull.	54	. .	. .	. .	33	15	40	41	37
				Average	19	. .	. .	. .	24	54	33	18	21
6	7	7	6	Bright	30	. .	. .	. .	28	27	34	54	35
				Dull.	33	. .	. .	. .	36	18	33	29	24
				Average. . . .	37	. .	. .	. .	36	55	33	17	41
7	7	8	6	Bright	67	60	. .	. .	70	83	65	80	77
				Dull.	23	10	. .	. .	18	9	19	17	14
				Average. . . .	10	30	. .	. .	12	8	16	3	9
8	7	9	6	Bright	67	40	. .	. .	70	45	62	84	67
				Dull.	22	20	. .	. .	14	20	15	10	17
				Average	11	40	.	. .	16	35	23	6	16
9	7	10	6	Bright	72	33	78	. .	77	50	65	74	62
				Dull.	22	27	15	. .	13	12	14	16	16
				Average	6	40	7	. .	10	38	21	10	22
10	7	11	6	Bright	72	36	79	. .	71	47	63	76	64
				Dull.	21	32	17	. .	21	16	13	16	25
				Average	7	32	4	. .	8	37	24	8	11
11	7	12	6	Bright	68	37	57	. .	74	70	64	66	56
				Dull.	27	37	34	. .	16	12	16	23	30
				Average	5	26	9	. .	10	18	20	11	14
12	7	13	6	Bright	71	41	79	64	70	. .	65	67	69
				Dull.	23	18	17	24	21	. .	3	25	21
				Average . . .	6	41	4	12	9	. .	32	8	10
13	7	14	6	Bright	64	50	53	70	50	42	53	65	55
				Dull.	32	31	31	24	41	16	15	21	23
				Average	4	19	16	6	9	42	32	14	22
14	7	15	6	Bright	62	40	60	63	60	13	48	53	51
				Dull.	32	7	26	29	20	50	13	25	28
				Average	6	53	14	8	20	37	39	22	21
15	7	16	6	Bright	49	53	27	60	74	. .	38	41	38
				Dull.	47	18	39	22	16	. .	6	18	24
				Average	4	29	34	18	10	. .	56	41	38
16	7	17	6	Bright	46	22	42	62	64	. .	. .	45	50
				Dull.	50	11	32	19	18	. .	. .	22	20
				Average	4	67	26	19	18	. .	. .	33	30

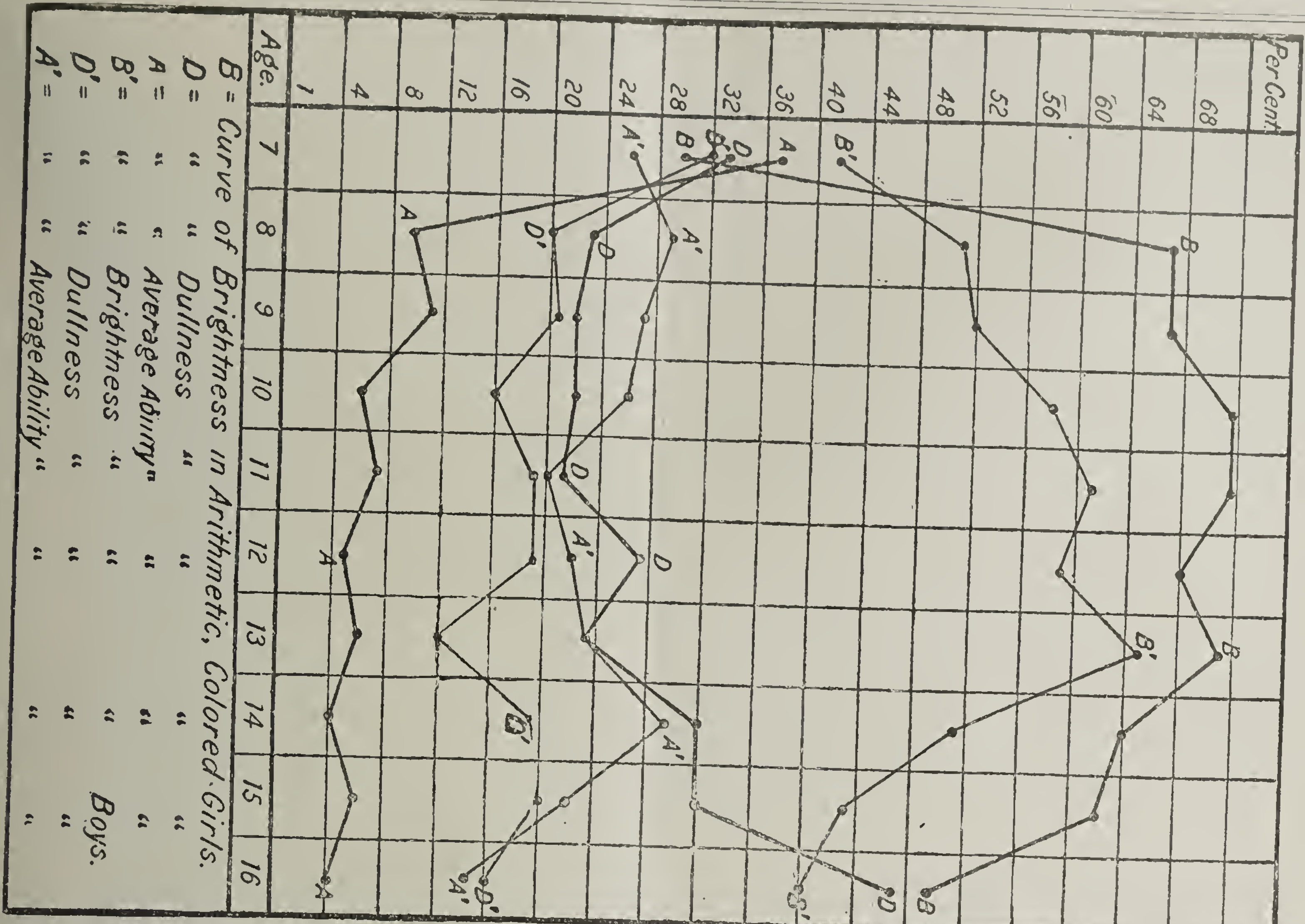
Table 5.—Percentage of ability in different studies. computed o number reported.

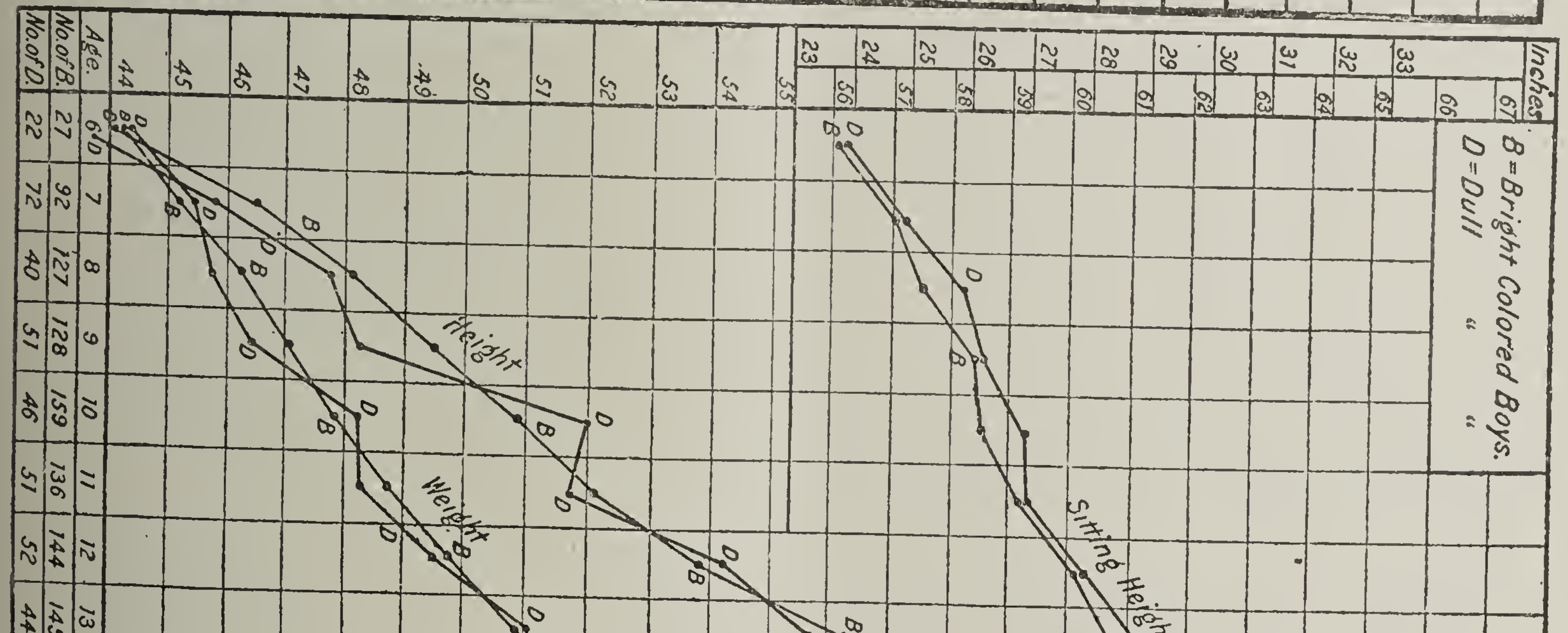
COLORED BOYS.

Limit of age. From— Yrs.	Mos.	To— Yrs.	Mos.	Mental divisions.	9 All studies.	11 Arithmetic.	15 Drawing.	16 Geography.	21 History.	22 Language and English.	26 Music.	28 Penmanship.	34 Reading.	36 Spelling.
5	0	6	6	Bright . . .	37	41	. .	. .	. .	39	64	22	50	
				Dull	42	36	. .	. .	. .	25	9	31	26	
				Average . .	21	23	. .	. .	. .	36	27	47	24	
6	7	7	6	Bright . . .	28	42	13	. .	. .	33	29	40	51	
				Dull	48	32	37	. .	. .	33	18	29	25	
				Average . .	24	26	50	. .	. .	34	53	31	24	
7	7	8	6	Bright . . .	46	51	25	34	. .	50	35	53	57	
				Dull	20	20	17	33	. .	10	26	17	17	
				Average . .	34	29	58	33	. .	40	39	30	26	
8	7	9	6	Bright . . .	52	52	35	59	. .	43	36	42	51	
				Dull	20	21	26	6	. .	17	32	16	22	
				Average . .	28	27	39	35	. .	40	32	42	27	
9	7	10	6	Bright . . .	46	58	32	53	14	48	40	44	51	
				Dull	21	16	24	11	29	9	20	9	18	
				Average . .	33	26	44	36	57	43	40	47	31	
10	7	11	6	Bright . . .	47	61	43	61	. .	44	26	52	53	
				Dull	22	19	25	16	. .	18	11	15	24	
				Average . .	31	20	32	23	. .	38	63	33	23	
11	7	12	6	Bright . . .	51	59	41	37	. .	41	29	44	46	
				Dull	25	19	15	19	. .	21	12	10	27	
				Average . .	24	22	44	44	. .	38	59	46	27	
12	7	13	6	Bright . . .	53	65	64	47	59	46	27	50	45	
				Dull	18	12	12	11	13	12	18	7	24	
				Average . .	29	23	24	42	28	42	55	43	31	
13	7	14	6	Bright . . .	51	51	54	42	43	45	26	36	39	
				Dull	19	19	12	9	14	14	16	14	20	
				Average . .	30	30	34	49	43	41	58	50	41	
14	7	15	6	Bright . . .	43	58	54	46	61	43	50	57	34	
				Dull	16	20	12	14	11	16	30	24	28	
				Average . .	41	22	34	40	28	41	20	19	38	
15	7	16	6	Bright . . .	40	48	54	26	45	28	50	47	41	
				Dull	15	16	14	12	7	18	12	40	16	
				Average . .	45	36	32	62	48	54	38	13	43	
16	7	18	6	Bright . . .	39	37	58	48	51	38	. .	35	29	
				Dull	22	27	6	16	9	19	. .	20	12	
				Average . .	39	36	36	36	40	43	. .	45	59	

II.—STUDY OF FIVE THOUSAND FOUR HUNDRED AND FIFTY–SEVEN COLORED CHILDREN.

Diagram 1, which is based upon the measurements made by the the teachers, shows that, while the bright colored boys excel the dull colored boys in height, th dull excel the bright in sitting height. This ma possibly indicate a relation of concomitancy of dulne and long-bodiedness for colored children.





ABILITY AND AGE IN COLORED CHILDREN.

The relation of age to ability in colored children is uite variable, but from a general survey of Tables 4 d 5 it may be said that the colored children generally crease in brightness as age increases, whereas the hite children decrease in brightness as age increases. would seem that the cause of this difference in the lored children is racial.

There is a sudden increase and high percentage of brightness in all studies in colored girls at the age of 8, with a corresponding decrease in dulness and average ability, but much more marked in average ability. At this age the colored boys also show an increase in brightness, but it is not so marked as in the case of the girls. The boys differ from the girls also at this age and afterward in having a much

TABLE 6.—Colored Boys, Bright.

Limits of different ages.				Total number of pupils.	Average height.	Average sitting height.	Average weight.	Average circumference of head.
From—		To—						
Yrs.	Mos.	Yrs.	Mos.		Inches.	Inches.	Pounds.	Inches.
5	1	6	6	27	44.08	23.89	42.58	20.35
6	7	7	6	92	46.48	24.70	49.93	20.34
7	7	8	6	127	48.09	25.29	55.33	20.67
8	7	9	6	128	49.58	26.06	60.14	20.78
9	7	10	6	159	50.83	26.26	65.32	20.88
10	7	11	6	136	52.06	26.81	70.39	20.90
11	7	12	6	144	53.79	27.75	76.16	20 84
12	7	13	6	145	56.35	28.38	83.92	21.13
13	7	14	6	116	57.82	29.31	91.37	21.34
14	7	15	6	90	60.56	30.20	100.52	21.37
15	7	16	5	42	62.92	31.28	112.18	21.48
16	7	17	6	26	63.55	31.91	119.85	22.05
17	7	18	6	18	67.46	33.28	134.61	22.28
18	7	19	4	4	67.41	35.17	136.50	22.25
19	8	19	11	3	63.75	32.92	124.67	21.50
				1,257	......	......	....	.....

TABLE 7.—Colored Boys, Dull.

5	2	6	6	22	43.39	23.90	43.29	19.91
6	7	7	6	72	45.76	24.77	51.39	20.19
7	7	8	6	40	47.68	25.72	52.18	20.51
8	7	9	6	51	48.32	26.09	56.65	20.22
9	7	10	6	46	52.06	26.92	67.15	20.61
10	7	11	6	51	51.66	26.94	67.94	20.85
11	9	12	6	52	54.23	27.92	75.79	21.06
12	7	13	6	44	55.71	28.85	84.10	20.90
13	7	14	6	41	57.57	29.32	86.85	21.25
14	7	15	6	28	60.12	30.64	100.61	21.30
15	7	16	6	16	64.28	31.30	113.83	21.79
16	7	18	1	21	65.32	32.04	126.14	21.89
18	11	22	11	2	67.38	....	151.00	22.25
				486	......	......	....	.....

TABLE 8.—Colored Boys, Average.

5	0	6	0	24	44.99	24.36	44.44	20.43
6	7	7	6	82	45.91	24.71	49.19	20.30
7	7	8	6	121	47.40	25.25	53.23	20.35
8	7	9	6	124	49.33	26.25	58.85	20.74
9	7	10	6	130	51.19	26.69	64.31	20.81
10	7	11	6	84	52.43	27.03	70.50	21.08
11	7	12	6	90	54.01	28.43	76.91	20.82
12	7	13	6	132	55.91	28.41	82.83	21.06
13	7	14	6	125	58.25	29.43	91.76	21.31
14	7	15	6	102	59.66	30.44	99.11	21.47
15	7	16	6	66	62.99	31.22	114.17	21.35
16	7	17	6	41	64.79	32.99	121.61	21.91
17	7	18	5	25	66.72	34.11	130.23	21.74
18	7	19	5	5	66.40	34.00	129.00	22.20
19	7	20	6	5	65.90	40.38	128.20	22.40
				1,156	......	......	....	.....

higher percentage in average ability in most all branches of study. To illustrate this we give the preceding diagram of curves for ability in arithmetic for boys and girls. The report on arithmetic is the most complete.

For further study of colored children, and their comparisons with white children, the reader is referred to a work on children, entitled "Experimental Study of Children" (by the writer), to be published by the United States Bureau of Education.

We add a few other conclusions, based upon data to be found in the work referred to.

OTHER CONCLUSIONS AS TO COLORED CHILDREN.

Colored children are much more sensitive to heat than white children, which probably means that their power of discrimination is much better, and not that they suffer more from heat. Colored girls have larger circumference of head at all ages than white girls. White children not only have a greater standing height than colored children, but their sitting height is still greater; yet colored children have a greater weight than white children, that is, white children, relatively to their height, are longer bodied than colored children. The percentage of long-headedness (dolicocephaly) among colored boys is more than double that of white boys. This may be due to racial influence.

CATHETER-INFLATION OF TYMPANUM.

ITS VALUE AND TECHNIC.

BY B. ALEXANDER RANDALL, M.D.
PHILADEPHIA.

In these days of advance in all departments of medicine, it is naturally demanded that there should be marked and radical improvement in otology, which the surgeon is hardly willing to acknowledge as a branch of surgery except when he himself invades it, not always wisely. It is charged with being the least successful branch of the healing art; and is judged by most exacting standards, such as are never applied to other branches. Many who are thus ready to criticize its shortcomings seem rather proud to answer to any questioning, that they "know nothing about the ear": and the laity are if possible still more ignorant or misinformed. It is in this atmosphere that most of the younger generation of otologists are growing up, half-ashamed of the specialty which they have chosen. They are much influenced by the spreading tide of rhinology, whose more ardent advocates would lead all mankind by the nose and cure their every ill by operative measures within that organ; and while arrogating to themselves the otologic field, too rarely look closely into its anatomy and pathology, forgetting that it is but a narrow view of the ear which is obtainable through the Eustachian tube alone, by however so skilful a rhinoscopist. Not that it is unessential to give good attention to the nasal cavities, as have so many otologists, like Voltolini, who count among the makers of modern rhinology, although they have rarely been among the extremists whose ardor at times outruns the rational limits of truly advanced practice. But rhinologic methods alone will not greatly advance the success of aural surgery, nor are all changes for the better. And while much of the profession is apt to vie with the laity in running after any new-fangled cure for deafness, be it operation, patent ear-drum or phonomassage machine, there is too much belief among the rational thinking medical men that radical changes of method must be introduced into otologic practice before it can be other than a backwar branch, if not an actual opprobrium of modern medicine.

This impression is common even among otologists if we include the younger set; and the older method are deprecated or half-heartedly applied and varied a every suggestion, perhaps before skill in any on method has been attained. Some who find thei powers naturally limited in undoing mischief that ha long been completed are ready to drop these lines o work and to practice only such as promise greate brilliancy of result. Certainly one may thus bette maintain the pose of a successful practitioner, like th operator who cares for his statistic record more tha for suffering humanity; but one may surely do muc good in his day and generation by striving after sma successes as well as great and practicing with loya conscientiousness such old methods as have show their usefulness in long and varied trial.

Whether catheterization of the Eustachian tube date back to Guyot or Cleland, or had its real beginning i this century, one must risk being considered a fossil i advocating its use in the same way as then pointe out, especially if he always employs the auscultatio tube of Toynbee, often discarded as useless by "ac vanced men." So many methods have been disco ered and re-discovered, of doing it or substituting in highly scientific but usually less efficient manner, seeking by variation of method a success which more persistent adherence to the older plan would generally better attain, that anyone trying to simplify the procedure instead of adding complications is likely to find scant attention. The expert can always devise and probably employ these variations with fair success; but he will too often lead astray the less practiced man who tries to follow his lead. Difficult cases will from time to time be met which must not be abandoned as impossible until every resource has been exhausted, and for these, faucial catheterization or the aid of the rhinoscopic mirror may need to be called in, as Voltolini did when he made the first practical application of Czermak's new method. Placing the catheter in the tube-mouth by posterior rhinoscopic aid was fully set forth by Semeleder in 1862; and his work, as translated by Caswell (Wood, New York, 1866), contains much in this and other directions which later men had better read there than publish as original.

Eustachian catheterization ought to be generally practicable to every practitioner and to be little more difficult than the Politzer inflation. But let it be first well-understood that it is a procedure, not an "operation," and it will be clearer than it is that pain and bloodshed have no proper place in it; and the use of cocain, sometimes indiscriminately recommended, is as needless. Yet many of the instruments offered are wretched caricatures of what they should be—mere bougies, so inefficient is their nearly capillary lumen. This is at times in spite of ample external diameter—the thickness of wall giving a clumsy stiffness that seems to invite "thumby" handling. An instrument suited to most cases has a length of 15 cm. at most, with a diameter of 2 mm. internally and externally of 3mm. It is best made of virgin silver, to which any desired bend can be instantly given by the fingers. Over the gaslight it quickly heats to a glow, leaving no doubt as to its sterilization; although if water is at hand for boiling, it will doubtless survive such usage longer. If properly smooth at the beak and rightly handled, it has no need of a bulbous tip, although such a one is probably no disadvantage if it does subtract from the lumen. The Politzer bag may be used for this as for other inflations; but it should have a rounded tip which will not enter the expanded end of the catheter as is usual—it should afford a "ball-and-socket joint" by merely resting against the tube. It is then needless to have any interposed rubber tubing, or any valve in the bag, since there is no jarring in withdrawing to refill. A new bag may have a valve that works automatically, but it rarely acts well for any length of time.

In passing the catheter, the anatomy of the parts must be known and not groped after. The nares should, as a matter of course, have been thoroughly studied, back and front; and the eye should follow the illumination into the anterior nares as the instrument is entered. The nose-tip should be pressed up by the thumb of the one hand while the catheter is grasped at its extreme end by the thumb and index of the other. A good view is obtained of where the instrument is to go and of any obstacles that must be circumvented, while a delicate yet controlling hold of the nstrument is gained that need not be varied until it is n place and can be lightly but steadily held there by he left hand supported on the nose-dorsum. As the ncisor crest just within the vestibule is higher than the tip of the nose, not only must the beak be carried up over this and then brought down on the floor by raising the outer end of the instrument, but the nose-tip must be held up to allow the straight part of the tube to pass horizontally back along the floor. (Fig.1.) This passing back can usually be done, in the absence of spurs or other obstructions, almost by the weight of the catheter, followed as much as guided by the thumb and finger. The beak can be felt to slide along the nasal floor until it sinks upon the soft palate; then a turn outward through a third of a circle will generally place it instantly in the mouth of the Eustachian tube. If the patient is straining and will not at command relax and open the mouth, the velum may be held too high and too rigidly to give us a satisfactory touch of the back edge of the hard palate. We must then seek the equidistant landmark, the lower back edge of the vomer—by turning the beak inward and withdrawing until its curve catches distinctly upon the edge, then rotate down and out through more than half a circle to enter the tube-mouth. Every catheterization must pass, if possible, along the nasal floor until the pharynx is entered; then it is much the simplest to turn at once into the tube-mouth without delay or needless irritation.

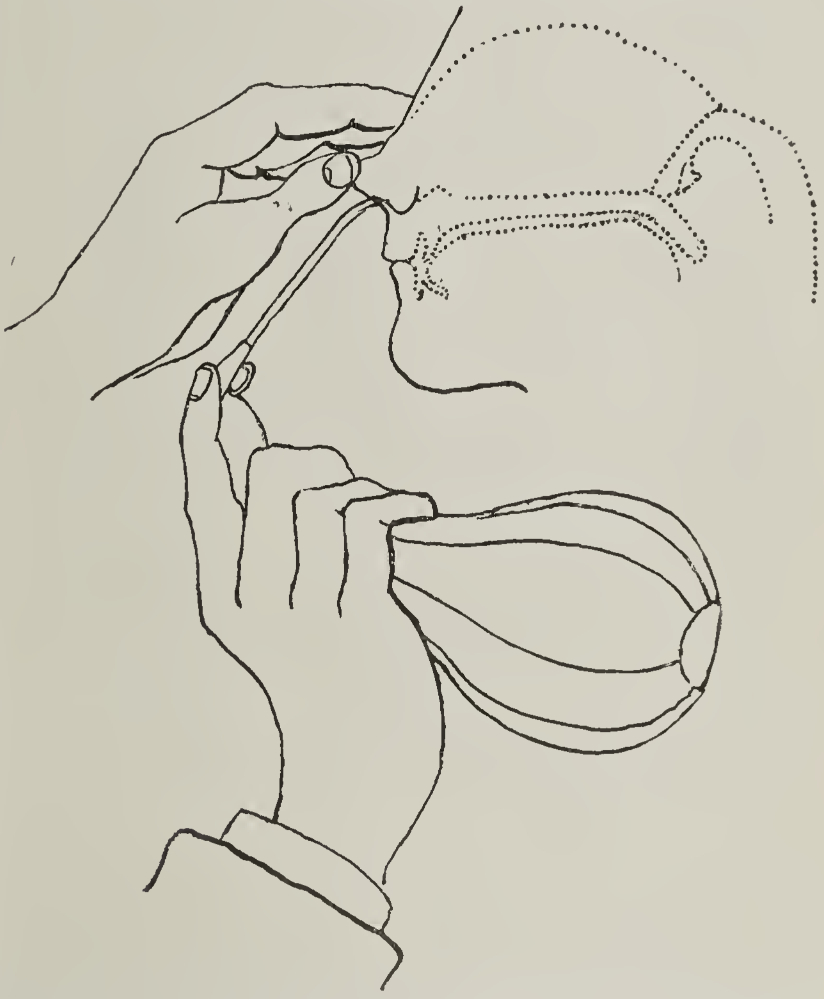


Fig. 1.—Introduction of the catheter with nose-tip raised and the beak carried in over the incisor crest. The nasal floor along which it is to pass is outlined as well as the tube mouth.

It is in fashion to believe the tube mouth a variable locality; but it is probably almost as little variable as the choanæ, which Harrison Allen showed to be very constant parts of the skull, generally symmetric. The error, which has only dubious clinic evidence in its support, has arisen from using vague and unrelated landmarks for its localization, principally soft tissues. Why we should try to nauseate a patient by touching the back wall of his pharynx or irritate the Rosenmuller fossa and drag a catheter-beak over the posterior lip of the tube to snap it painfully into the ostium with bruising of both, has never been made clear. When we touch the back wall it may be high up and on a thick pad of adenoid tissue actually in advance of the tube-mouth, or it may be low down and on thin tissues merely covering the vertebra, 5 cm. beyond the tube entrance. If no note has been made of depressions or elevations of the nasal floor, the tube-mouth may seem unduly high or low; but a finger behind the palate would probably demonstrate that it holds its usual position in relation to the edge of the palate bone, the only true landmark. This is far surer as a test than the posterior rhinoscopy, for it is very difficult to determine the relation by this means—as witness the wide variation in the pictures which are put forward as portraying this region.

But entering the mouth of the Eustachian tube is only a beginning. Our purpose is to inflate the tympanum through the tube (Fig. 2.); and of success in this there is no certain criterion except the sound heard by means of the auscultation tube. This should therefore connect the examiner's ear with the examined as a first step toward our procedure. Through it we can have many unimportant and possibly confusing sounds from the pharynx—distant, however, and much such as the other ear hears unaided; but when the air makes its impact on the inner side of the patient's drumhead, we seem to *feel* it upon our own. If after full success we displace the catheter into Rosenmuller's fossa and inflate against the back wall of the tube nearly an inch nearer the tympanum, the sound is apt to be louder, and most patients will claim, as also as to many a failure, that it is clearly felt in the ear. To gain real inflation the catheter must fairly correspond with the lumen of the tube, and the most difficult cases are often those with no stenosis, but on the contrary, an overlarge naris and tube-mouth where we have too much room in which to lose the catheter-beak. Rhinoscopy can not help us here, except in assuring us of what we ought to know, that the tube is wide and that the catheter is in it; faucial catheterization is apt to be less definite and efficient than nasal. We can only listen carefully while inflating with varying positions of the catheter, use a little more forcible inflation—if sure that the orifice has not been wounded, lest we have emphysema—or have the patient swallow so as to open the tube while the levator of the palate may press the catheter into exact position.

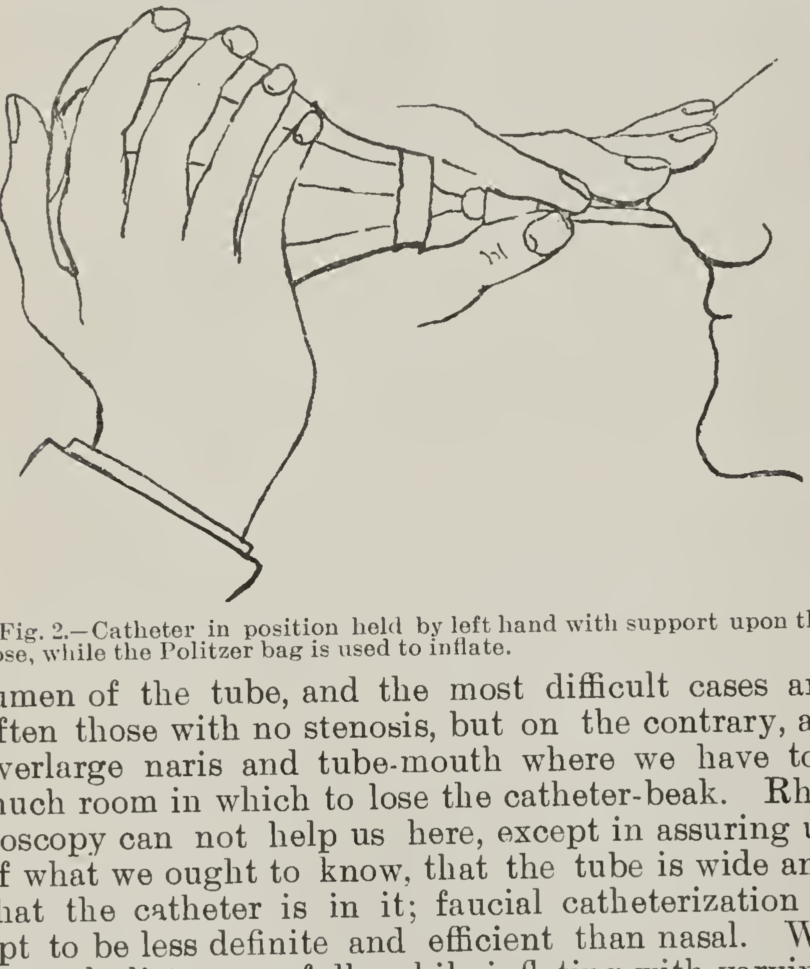


Fig. 2.—Catheter in position held by left hand with support upon the nose, while the Politzer bag is used to inflate.

Yet after succeeding, what have we done better than by Politzer inflation? The mechanic effect may have been precisely the same, unless in being limited to the one ear better than closing the other ear enabled us to prevent the entrance of air into it in Politzerization.

We can perhaps use more force in the effort to overcome tubal stenosis, but this is of doubtful safety; and in no small number of the cases most in need of our aid the secondary involvement of the nervous apparatus makes it especially liable to injury by an overdoing of the inflation. Catheterization permits then, a more manageable exercise of just the requisite pressure to give success, and in less rude and brief impact, which it is easy to make continuous if desired by use of a double-bulb apparatus; but mere air has been found to have only limited value, and all manner of liquids and vapors have been employed as medicinal adjuvants to the mechanic effect of the inflation.

As there may be more or less essential atrophy of the tympanic mucous membrane, the stimulation of this is a requisite to any resolution. Of the abnormal state of the tympanic lining a simple experiment of Löwenberg's gives valuable proof. If we blow a little chloroform vapor into the drum cavity of a sclerotic case, it will generally feel cool instead of hot, even though there are indications of slight previous congestion, or though the case be only in its incipiency. The awaking to better vitality, which is needful in these cases, must be controllable or we may do more harm than good, and the employment must be easy if we are to expect patients to submit. Iodin in some form is probably our best medicament, but Delstanche and others of large experience are warm advocates of injections of fluid petrolatum. For the employment of such medical measures every sort of elaborate apparatus, often excellent, has been devised, but most of them are superfluous. Vaporizing substances may be placed in the Politzer bag or in an interposed chamber, but it is much easier to simply fill the bag with air saturated with the desired substance by merely thrusting its nozzle into a wide-mouthed bottle containing it. So, too, as to injections, whether to wash out the tube-mouth or to penetrate the tube or tympanum, no syringe is better than the ordinary atomizer, which must be at hand to clear the nares before any form of the inflation (Fig. 3). Through the catheter this gives as good a spray as can be asked, and after a few blasts, has deposited enough of the fluid upon the walls of catheter and of the tube beyond to give a very coarse spray or an actual injection. True, such sprays generally feel cool, even though the fluid is hot, but I have yet to see any actual disadvantage from this. I generally use for this and many other purposes a spray of liquid albolene medicated with 1 to 2 per cent. menthol-camphor. The atomizer fits snugly but lightly into the catheter and can be used as soon as a blast of the bag has proved the catheter to be in correct position, giving for the first blast or two a fairly constant stream of air, then fine, oily spray, which grows coarse after a half dozen blasts; then by slight withdrawal it can be made to fill the lumen partly or wholly, as desired, with the liquid albolene, and another blast of the atomizer or Politzer bag will inject this up the Eustachian tube, perhaps into the tympanum. In this last we do not probably succeed as often as is claimed. Where more stimulation is desired, the vapor of iodin is readily sucked into the Politzer bag and blown into the tympanum, and in the inveterate cases, Richey's plan of injecting a weak silver solution so as to form silver iodid within the drum cavity may be cautiously tried. This is, however, potent for harm as well as good, and needs great circumspection, but the results sometimes fully reward the severity of its action. The drumhead should always be studied after any of these procedures, and the effect noted. Pneumatic massage with the Siegle's speculum can profitably follow in almost all cases.

Finally, as to the value of such treatment, many a case of hypertrophic or sclerotic deafness, which has been growing steadily worse under Politzer inflations and good nasopharyngeal treatment, will hail with delight the immediately greater and more lasting gain from the catheter treatment. The duration of the benefit will grow longer with each repetition for four or five weeks—when it ceases to extend it is generally time to remit treatment, having the patient use, several times each day, gargling for its gymnastic effect, and pneumatic massage with the finger tip. After a few weeks, treatment by the catheter can be resumed with further gain for four or five more weeks. As a result the patient will probably have gained most of what is possible in the case and should have a short course semi-annually thereafter to prevent backsliding and to test the possibilities of further gain.

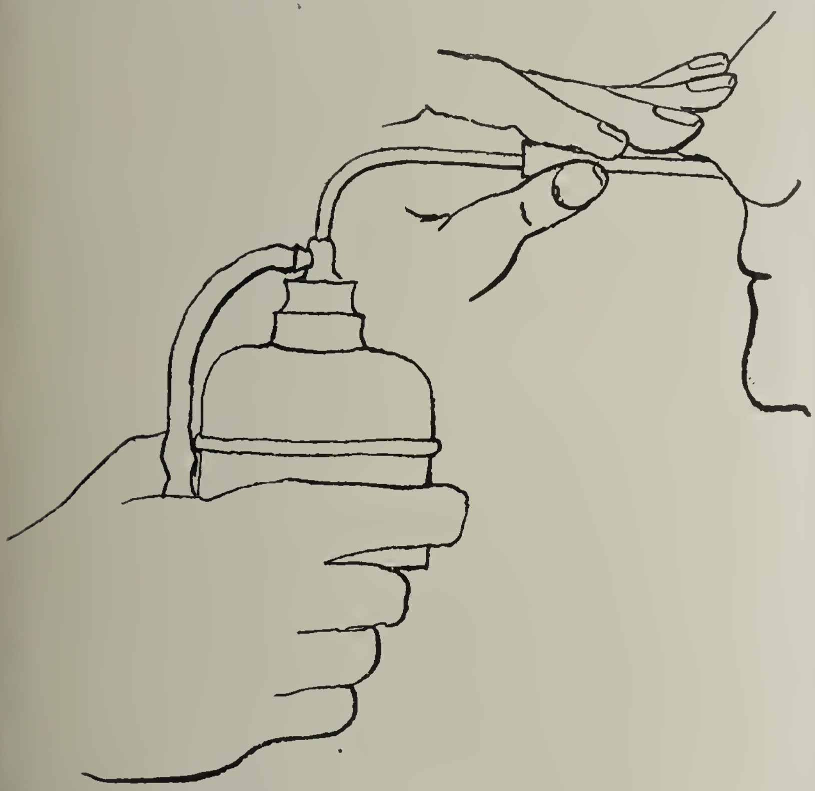


Fig. 3.—Atomizer used in catheter for inflation, tubal spraying and injection of fluid into the tympanic cavity.

The restoration of hearing may be very incomplete, our tests showing that it is but a small fraction of the normal and that the defect is still very great. Yet this pitiable remnant may be many times as much as the patient had before treatment and a source of great satisfaction and benefit to the sufferer and friends; while the negative gain is no small one that farther loss and its overwhelming disaster has been converted into moderate but most comfortable gain in hearing.

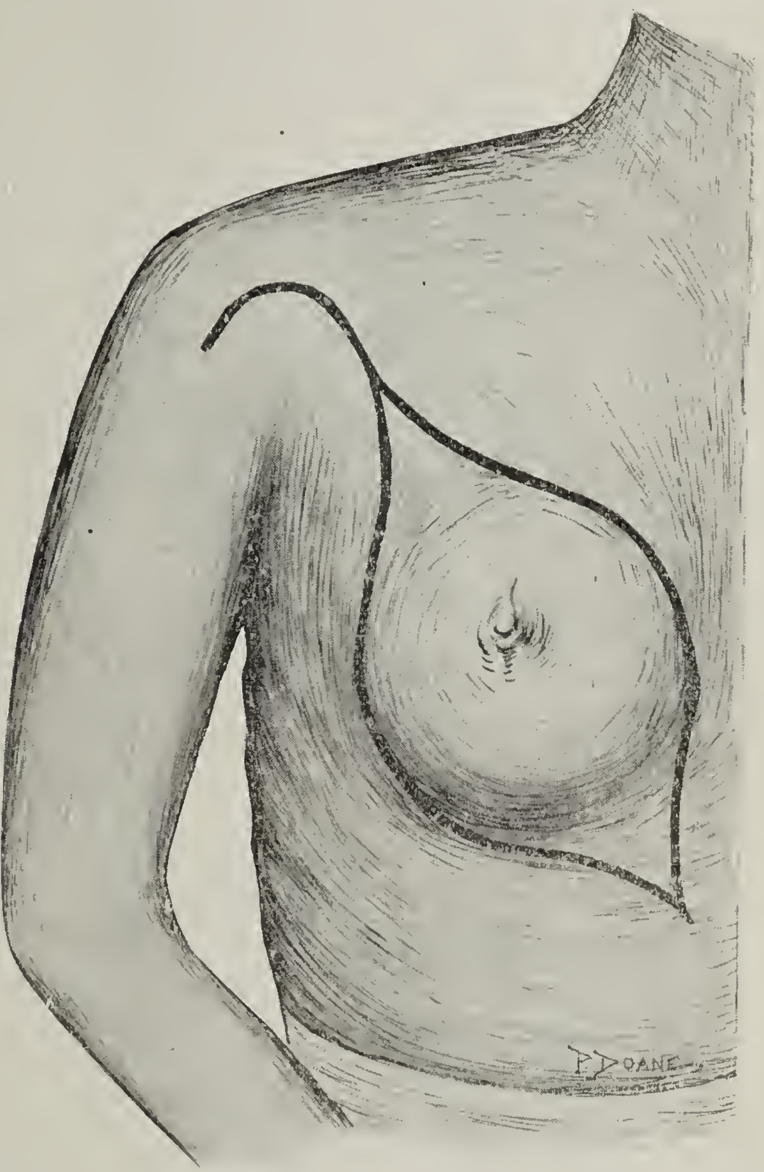
At the recent meeting of the Illinois State Medical Society, a resolution was adopted by a unanimous vote warmly thanking Governor Tanner for the interest he has manifested during the past two years in the cause of legitimate medicine and the interest of the people, by aiding the passing of salutary, and preventing the enactment of improper, medical and sanitary laws. This society was organized in 1850 at Springfield, and next May will hold its fiftieth anniversary in the same city. Dr. Harold N. Moyer of Chicago will have the honor of presiding over the jubilee meeting.

AMPUTATION OF THE BREAST.

BY MEANS OF THE ANTERIOR AXILLARY INCISION.

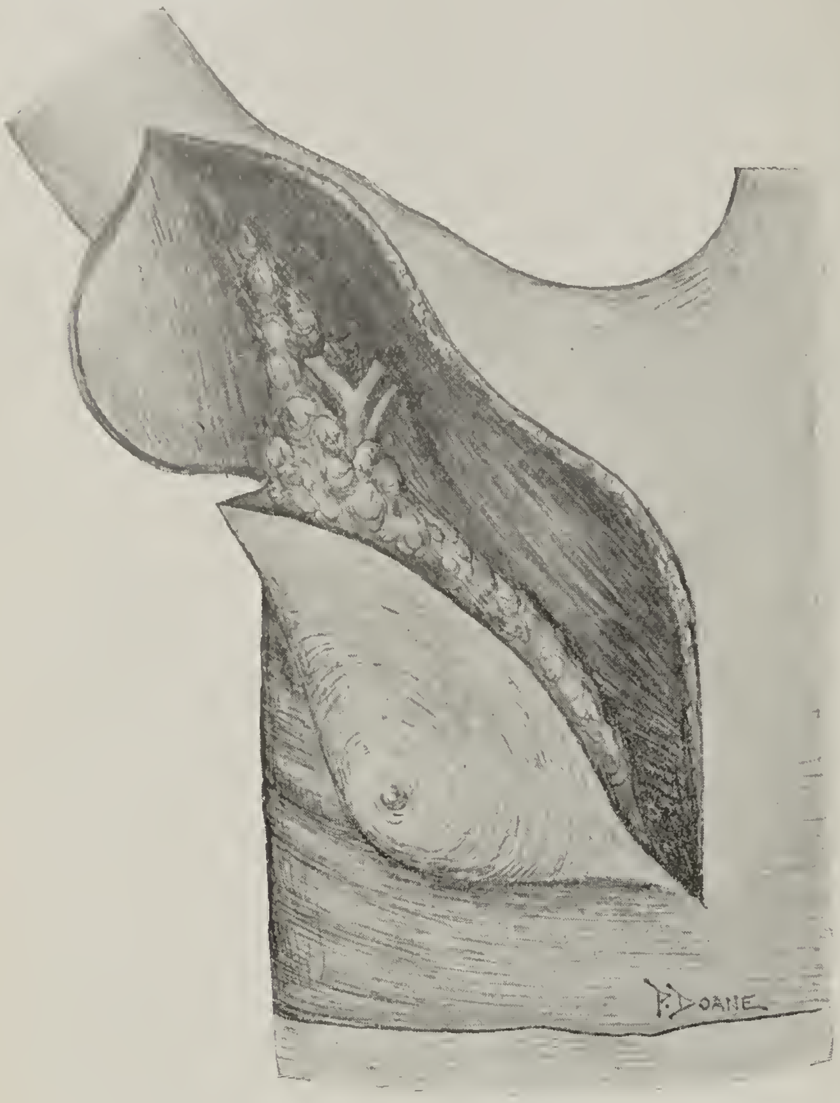
BY EMANUEL J. SENN, M.D.
Associate in Surgery, Rush Medical College, in affiliation with the University of Chicago; Assistant-Surgeon St. Joseph's Hospital; Assistant-Surgeon Presbyterian Hospital.
CHICAGO.

Amputation of the breast in malignant disease is no longer regarded as a palliative operation in prolonging life; but should have for its purpose a permanent result, as verified by recent statistics. The operative technic of Halsted, which is simply a practical application of the profound anatomic research of Haidenhain in this region is certainly to be recommended. Of late, I have removed the breast, together with the axillary contents, without making an incision in the axilla.



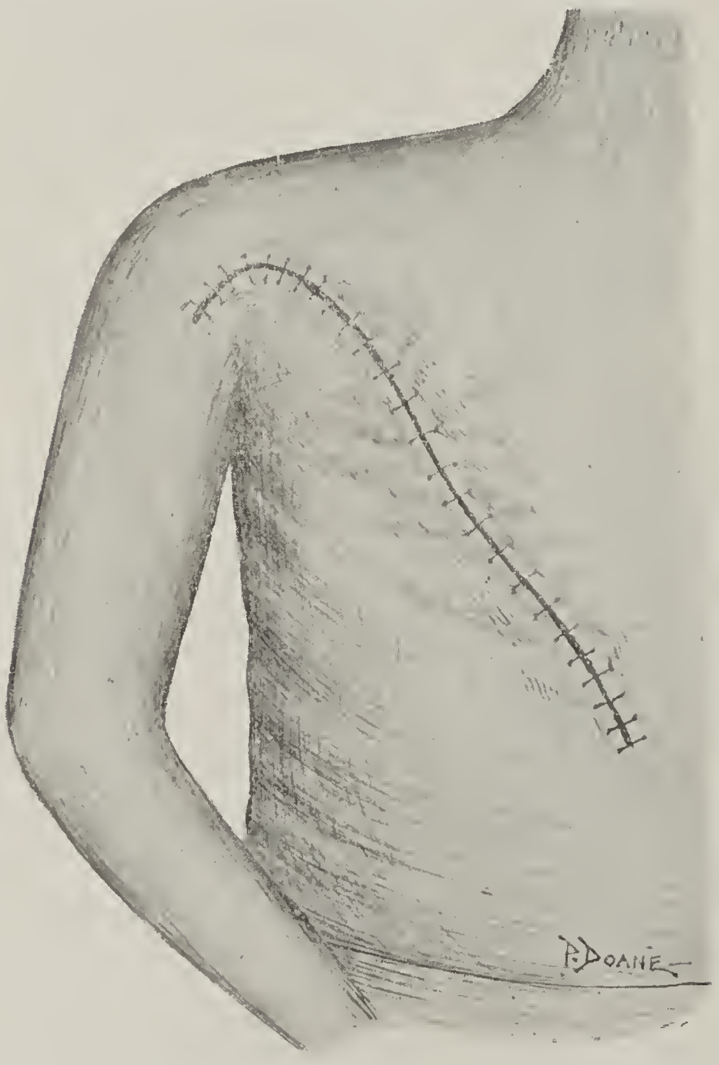
The object of this short article is not to describe the radical operation for removal of the breast, which is only too well treated in all works on operative surgery, but to dwell on the value of the anterior axillary incision as a preliminary. The accompanying illustrations are more explicit than a detailed description of the operation. The breast is circumscribed by two curvilinear incisions which meet above at the border of the pectoralis major muscle. The incision is then continued slightly internal to the outer border of this muscle, in an upward direction, to a point about one inch above the apex of the axilla, where it takes an outward course in the deltoid region, forming a gradual curve, which terminates at the level of the apex of the axilla. (Fig. 1.)

Figure 2 shows the breast removed from the thoracic wall, but suspended by the axillary glands and adipose tissue, which are about to be enucleated en masse by blunt dissection. Figure 3 represents the operation completed.



I wish to lay stress on the following advantages of the anterior axillary incision:

1. It exposes to the operator a larger field for radical work than the ordinary axillary incision.



2. By making traction on the axillary flap, it is easily freed from the subcutaneous tissues with a few strokes of the knife, exposing at once the position of the axillary vein.

3. Injury to the vein is greatly diminished, because the incision bares all the surrounding muscular landmarks to this important structure. Moreover, dissection is done away from the vein instead of toward the vein, as must be done through an incision in the axilla.

4. The axillary space is unfavorable to primary wound healing, being often the seat of a fistula long after the rest of the wound has healed intact. It is a region difficult to render aseptic; hence the advantage of access to this region from without.

5. The incision is so situated that it does not impede free motion of the arm, the patient being able to extend the arm to the head at the first dressing. There is no subsequent cicatricial contraction, as in an axillary scar, to interfere with the physiologic function of the arm.

6. The cicatrix is not dragged upon by motion of the arm, consequently scar tissue is little exposed to trauma through mechanic stretching; hence the diminished liability of recurrence of the disease.

THE MEDICAL WITNESS.*

HIS RIGHTS AND WRONGS IN COURTS OF JUSTICE.

BY JAMES B. BAIRD, M.D.

ATLANTA, GA.

Unquestionably the medical witness has some rights, and as surely does he suffer many wrongs. The rights, briefly stated, refer to the proper treatment of the physician on the witness stand; to a just recognition of the relationship existing, or which ought to exist, between the physician and his patient; and to a true valuation of his expert services. The wrongs, in a word, relate to a misconception of his rights, or to an utter disregard of them.

The treatment accorded the physician on the stand depends, in great measure upon the witness himself, and in part upon the court and the attorneys engaged in a given case. But few lawyers—none of the better class—will undertake to mistreat a medical witness who demeans himself with propriety, who actually possesses the information which he claims, or ought to have, and who gives his evidence or states his opinion in a simple, straightforward manner, without seeking to magnify himself, to dazzle his hearers by a display of profound erudition, or by the assumption of a degree of knowledge which he does not possess. But few judges will permit a competent and sincere witness to be badgered, bullied or ridiculed, even if such tactics should be attempted by a discourteous attorney.

If the principal object of all legal proceedings in court were simply to ascertain and to establish the truth, the task set before the expert witness would be greatly simplified. There would then be no incentive to confuse, to mislead or to combat the witness. But unfortunately, such a purpose is not usually a predominant influence. Each side is intent on sustaining its own contention, and each seeks testimony tending to strengthen the position of the advocate. Hence questions are adroitly framed, and answers are often ingeniously warped or distorted with the design o either impressing or suppressing certain salient points and the comfort of the witness is not considered of paramount importance in the management of the game.

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*Read before the Medical Association of Georgia, Macon, April 20, 189

Nevertheless, the mere treatment of the medical witness in the ordinary prosecution of a case in open court is chiefly of personal interest, that is, it relates to the individual rather than to the profession—for he may, if he can, use the legitimate, the recognized, and the generally successful means of self-defense against imposition. The most trustworthy weapons at his command are ability, evident honesty of purpose, quickness of perception, self-control, and that wonderfully serviceable quality which we call tact. He may greatly strengthen and effectually shield himself by declining all show of partisanship, by avoiding all manifestation of prejudice and by studiously abstaining from the use of strictly technic terms; by a candid, unbiased statement of facts, and by a clear, definite expression of well-founded opinion in plain, lucid language, but always refraining from obstinate adherence to mere dogmatic assertion, and from the attempt to explain what is not understood, to tell what is not known or to maintain an opinion which is not fixed and which is not firmly believed.

In theory, the relation between the physician and his patient is confidential. In theory, the knowledge and the skill of the physician constitute his capital. In practice and in common law, communications to the physician by his patient are not confidential, and the knowledge of the physician may be exacted of him at any personal cost or sacrifice, without fee or reward, by or through the arbitrary processes of the courts.

These are facts. Are they real evils? Are they genuine wrongs? If so, is there a remedy? Where can it be found, and how may it be applied?

In reference to the first proposition, which is the more important of the two, the "American and English Encyclopædia of Law" says, in substance: At common law, confidential communications made by a patient to a physician are not privileged, but by statutes in several States communications made by a patient to his physician or surgeon, and information acquired by him while attending a patient in a professional capacity, and which are important to enable him so to act, are protected. The States in which such statutes have been enacted are: Arkansas, California, Colorado, Dakota, Idaho, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Montana, Nevada, New York, Ohio, Oregon, Utah, Washington, Wisconsin and Wyoming. In the States named the privilege extends to facts necessary to enable the physician to prescribe, and which are communicated to him for the purpose of enabling him to perform his professional duties. Such facts are privileged, whether learned directly from the patient himself or acquired by the physician through his own observation or examination; further, it does not extend. The privilege is not necessarily terminated by death. Whether the statutes protecting confidential communications between physician and patient extend to criminal cases is not well settled. The provision in the California code, for instance, is expressly limited to civil actions, while in New York the decisions seem to hold that the statute applies also to criminal cases.

Clergymen and priests, like physicians, are, at common law, unprotected in communications and confessions made to them. By statute in some of the States they are shielded to a limited degree in the exercise of their peculiar functions. Current public opinion, however, generally sustains the privilege voiced by these special statutes, even in States where they do not exist, and, from considerations of policy and expediency, the spiritual advisers of the people are seldom required to disclose confidences in courts of justice.

The object of statutes relating to privileged communications to physicians seems to be to place the communications made to physicians in the course of their professional employment on the same footing with communications made by clients to their attorneys in the course of their employment.

The character of the communication as to being important or material is of no consequence, and to entitle a client to this protection it is not essential that he should be apprised of the rule, or that he should enjoin secrecy. The privilege is that of the client, and not of the attorney.

At common law, as well as under statutes, the protection given privileged communications continues forever, unless waived by the client, and such waiver must be distinct and unconditional, and can not be extinguished by agreement or compromise. Communications to attorneys that do not come within the peculiar scope of the lawyer's duty and profession, or that have no elements of confidence in them, or that are made for any unlawful purpose, having for their object the commission of a crime, are not privileged.

The fact that twenty States of this Republic have by special statutory enactment sought to remedy an omission or defect in the common law, and to place thereby physicians in the same category with attorneys, is equivalent to an admission of an existing evil; it is a tacit acknowledgment of a positive wrong and a practical suggestion of an efficient remedy. The personal experience of some physicians and of some lawyers in this State conclusively confirms the reasonable inference drawn from the deliberate action of these twenty States, and liberally discounts a rule of action which ought to be changed, not alone in justice to the 2600 physicians of this State, but also and chiefly in the interest of that far larger body of citizens who occupy the dependent position of patients. Such statutes mean simple justice to the physician, but much more than mere justice to his patients. They are serviceable to the physician only in so far as they enable him to be faithful to his professional obligations and true to his trusts, and in such degree alone as they protect him from acting the part of an involuntary and reluctant detective, informer or spy, all of which is obnoxious to his instincts, abhorrent to his feelings and at variance with the cherished tenets and traditions of his honored profession.

But to the large number of persons—to the great bulk of the people—who are from force of circumstances compelled to confide in the discretion and honor as well as in the wisdom and skill of their medical adviser, such laws are of most profound import and of far-reaching consequence. In their behalf, then, being cognizant of the conditions, it behooves the medical men of the State, unselfish and patriotic, to move for a remedy.

From satisfactory evidence, I conclude that the trend of public opinion is decidedly in favor of protecting the professional secrets of physicians. Why not, therefore, crystallize this public sentiment in the form of a statute, and thereby give to the preference of the people the force and effect of written law?

The second proposition is one in which the medical profession is more directly concerned than the general public, but it affects the interests of both. In the State of Georgia, the right to employ experts to elucidate questions before the court is fully recognized and freely accorded by express statute, which, in terms, declares that expert testimony on any question of science, skill, trade or like subject is admissible. An expert is defined as one who has made the subject on which he gives his opinion a matter of particular study, practice or observation. He must have a particular and special knowledge on the subject, and such opinions may be given also, on facts as proved by other witnesses. Ample provision is made for obtaining expert services through the machinery of the court, but no provision whatever is made for adequate compensation to those who, under a heavy penalty for failure, are required to lay aside all other business and to attend the sessions of the court until excused therefrom.

To secure the attendance of a witness in the county of his residence for the benefit of his opinion, in criminal prosecution, as in the case of a witness to the facts, it is only necessary for the clerk of a superior court to issue, on application, a subpena commanding him to appear at a stated time. No restriction is placed on either side in summoning witnesses within the county. For his detention he is allowed a *per diem* of 75 cents, but this munificent allowance must come out of a fund accumulated from fines and forfeitures, which is always exhausted by prior liens, so that even this show of generosity goes for naught.

In civil cases, a medical witness can not be carried out of his county against his will, and his testimony is obtained through the medium of interrogatories, and even in civil causes pending in the county of his residence obedience to summons is discretionary with the practicing physician, but he may be forced to answer interrogatories in any civil case, either within or without the county.

In criminal cases, his attendance may be required in any county within the State. But in this event, the subpena, issued as in the home county, by the clerk of the superior court, must be countersigned by the solicitor-general of the circuit. For attendance on court in another county, all witnesses for the State are alike allowed $2 a day and mileage not to exceed four cents a mile necessarily traveled in obeying the summons.

Witnesses on behalf of the defendant in criminal cases can only be compelled to attend court in another county when so directed by the presiding judge, who may, in his discretion, so order when, in his opinion, the ends of justice demand it, and under these circumstances, the defendant's witnesses are entitled to receive the same remuneration from the county as the State's witnesses. Otherwise, they are voluntary witnesses, and are not given a *per diem* or traveling expenses out of the public funds. They have, however, a lawful claim on the defendant for compensation not to exceed the amount allowed witnesses who are duly summoned. But the claim, in the great majority of cases, is worthless, as such defendants are usually insolvent. The duty of the citizen to aid in the administration of the government whenever his services are required is readily conceded, and the special consideration manifested toward the medical profession on the part of the State, by relieving its members from certain public functions, as ordinary jury duty, imperative obedience to summons in civil causes, etc., in deference to the physician's relations to society, is duly appreciated, but the obligation of citizenship should be equally distributed and should not be heavily imposed upon the few.

In the nature of the case, the services herein referred to must be rendered by a comparatively limited number, and the only way to equalize the burden is to return a just compensation, out of the common fund of the people, for the professional and scientific knowledge contributed by the few in behalf of the many.

If a party to a suit should avail himself of his lawful privilege, and employ, as is usually done in important cases, competent expert services, the fact that a fee is paid the expert is often used by opposing counsel to discredit the witness with the jury by making it appear that self-interest influences his evidence, and, either by assertion or by innuendo, suggesting that his opinion is controlled or directed by pecuniary consideration.

Several States have statutes providing a reasonable remuneration for expert services; among the number are Iowa, New York, North Carolina and Rhode Island, and, so far as I am informed, their operation is satisfactory. In one State at least, Indiana, it has been provided by statute that experts shall testify without extra compensation.

In a case before the United States Court in the District of Massachusetts, the court said: "When a person has knowledge of any fact pertinent to the issue to be tried, he may be compelled to attend as a witness. In this all stand upon an equal ground But to compel a person to attend merely because he is accomplished in a particular science, art, or profession, would subject the same individal to be called upon in every cause in which any question in his department of knowledge is to be solved. Thus, the most eminent physician might be compelled, merely for the ordinary witness fees, to attend from the remotest part of the district, and give his opinion in every trial in which a medical question should arise. This is so unreasonable that nothing but necessity can justify it."

Before the adoption of the prohibitory statute by Indiana, the supreme court of that State held that: "When a physician testifies as an expert, by giving his opinion, he is performing a strictly professional service. The purpose of his service is not to prove facts in the cause, but to aid the court or jury in arriving at a proper conclusion from facts otherwise proved." It also held that such witnesses were entitled to just compensation for the particular service.

The United States Court for the Western District of Arkansas ruled that when a witness has facts within his knowledge the public has a right to those facts, but the skill and professional experience of a man are his individual capital and property and he can not justly be compelled to bestow them upon any one as a gratuity; that neither the public nor a private person can rightly extort such services without proper remuneration.

Contrary opinions have been rendered in Alabama, in Texas, and perhaps in other States. In English courts it has been held that it is more correct to regard professional and scientific knowledge in the light of property which the public has no right to use without making proper compensation.

It seems to me that no argument beyond the bare statement of the facts is necessary to sustain the view that the medical profession and the people suffer in consequence of our inadequate laws upon these points. If the laws of the State are truly inadequate or defective, such inefficiency and defect must constitute an evil; and if the citizen, in consequence of such imperfection, does suffer, there must be a wrong; so, if the evil and the wrong really exist, as is confidently believed, appropriate legislation judicially applied is the only and the proper remedy. Legislation which makes confidential communications to the physician privileged communications, and which provides, in the discretion of the court, just compensation for expert medical services, will correct the evil and right the wrong, and toward the procurement of such legislation in the interests of the medical profession and of the people of this commonwealth, the united efforts of this association should be diligently addressed.

REPORT ON MASSAGE.

MASSAGE FOR MOVABLE KIDNEY—IN GOUT—IN FRIEDREICH'S DISEASE—IN LOCOMOTOR ATAXIA—FOR DISPLACED SEMILUNAR CARTILAGES—IN SKIN DISEASES AND ULCERS.

PAPER NO. III.

BY DOUGLAS GRAHAM, M.D.
BOSTON, MASS.

(*Continued from page 412.*)

MASSAGE FOR MOVABLE KIDNEY.

Fellner speaks highly of the good effects of abdominal and pelvic massage for the cure of movable kidney. Of 98 cases of this affection he used this treatment in 40 severe ones, and found that the disagreeable feelings were removed and the kidney resumed its natural position in all but two patients. In 11 cases, 5 of which are minutely detailed, the good effects were observed a year or two after. Of the 98 cases, all were women. The affection occurred 67 times in the right side, 15 in the left, 19 double. Sixty-seven had given birth to children, and of these, 48 were multiparæ. In 53 cases there were also pelvic troubles. An acute injury seemed to be the starting-point in 5. There were digestive disturbances in 38, and disturbances of the intestinal functions in 59. In many there was frequent urgency to urinate; in two cases there was intermittent albuminuria, and in two hydronephrosis.

The author points out that it is not right to call every movement of the kidney, upon breathing, movable kidney, because every kidney has physiologic movements. Naturally, it is only when decidedly out of place and causing disturbance that attention should be directed to it, and from an examination of 2900 cases for movable kidney, he certainly has the right to speak authoritatively. With kidneys unduly movable, neurasthenic symptoms were often present—palpitation of the heart, anxiety, difficulty of breathing, feelings of oppression, nervous cough, *globus*, dizziness and fainting, and sometimes melancholia. In all the cases treated by massage the patients were relieved of their discomforts during this treatment, and the objective results were also evident.[1]

MASSAGE IN GOUT.

Our learned friends in France tell us that in chronic gout the good effects of massage are generally recognized, but opinions differ as to the best time to use it. M. Lecorché, M. Bouchard and M. Gendre recommend massage after the acute stage, in order to combat muscular atropy, to favor the absorption of infiltrations, to break up the tophaceous concretions, and to oppose fibrous ankylosis. During an acute attack it is well to abstain from using massage. M. Rosenblith, however, claims to have obtained good results from its use in seven cases of acute gout, but his opinion is not shared by his confrères.[2]

The London *Lancet* (Oct. 2, 1897) sounded a note of warning on this subject, in pointing out that the gouty kidney is seldom or never quite equal to its functions. Here it thinks an unqualified and over-enthusiastic masseur might do much harm as he goes ploughing away at muscles infiltrated with uric acid, creating as much waste as a brisk six-mile walk and more than the kidney can throw off. Kept up from day to day, for weeks, this practice may be destructive to an already damaged kidney, and the patient may find that though he has got rid of a certain amount of pain and acquired a comparative ease of movement, yet this may be at the expense of renal incompetence and eventual uremia. On the Continent this is said to be of frequent occurrence, where massage is practiced with more zeal than knowledge.

"We have allowed the quacks to get ahead of us in the application of electricity to therapeusis," said Dr. Anstie, a long time ago. The same must with equal truth be said of massage, says the editor of the *Lancet*.

In gout and many other affections where massage and electricity are to be used, it would seem better that they should be applied by a physician rather than by the gymnastic masseur.

MASSAGE IN FRIEDREICH'S DISEASE.

Dr. Zabludowski of Berlin reports (*Therap. Monatsh.*, December, 1896) a case of Friedreich's disease (hereditary ataxia), interesting on account of the youthful age of the patient—a girl of 9 years—and also because of the successful treatment of the case by massage. The patient was seen by Professor Mendel in consultation with Dr. Zabludowski, and the great improvement which a four-weeks course of massage effected was witnessed by both. The child then seldom fell, and could walk without deviation, and she did not let things fall out of her hands as formerly. The choreiform movements were scarcely visible and sleep was quiet.

MOVEMENTS IN LOCOMOTOR ATAXIA.

Dr. Frenkel of Heiden points out that the purpose and object of this treatment has been much misunderstood. In tabes the muscles are perfectly contractile, and neither atrophic nor shortened, therefore it is often worse than useless to order gymnastic exercises. The nutrition of the muscle is not at fault, and it is not muscular contractions which are so much wanted as co-ordination — orderly and combined movements.[1] The principle of the treatment in question is the exercise of the will in controlling and ordering the muscles to effect a given movement such as the seizing of a swinging ball. By the repetition of attempted efforts, the movements gain in precision and the ataxia is correspondingly overcome. The purposelessness of the gymnastic exercises as usually ordered is not only a mere contraindication by negation, but there is also involved a positive danger; for not infrequently the incitement to increased muscular exertion leads to exhaustion, and the danger of this is all the greater seeing that the patient is not possessed of the usual sense of fatigue which guides us in health. In all forms of activity great supervision is needed. Riding and bicycling, even in the earliest stages, are to be forbidden, and even walking is to be well controlled. (*Therap. Monatsh.*, March, 1897.

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[1] Wiener Med. Woch., No. x, 1896, p. 398.

[2] Révue d'Hygiene Thérap., 1896, p. 188.

[1] The muscles are often relaxed, elongated and thin; therefore judicious contractions are indicated.

MASSAGE AND BANDAGING FOR DISPLACED SEMILUNAR CARTILAGES.

In an article of mine in the *Amer. Jour. of Med. Sciences*, November, 1896), on "Massage, Movements and Bandaging in the Treatment of Displaced Semilunar Cartilages of the Knee-joint," I arrived at the following conclusions:

1. That neither in their natural nor unnatural positions can semilunar cartilages often be distinguished from the surrounding tissues.
2. That the position of the leg affords the best means of inferring whether one or the other semilunar cartilage may have been displaced when it can not be felt; the leg being usually flexed and the foot turned out when the internal meniscus is dislocated, the leg flexed and the foot turned in when it is the external.
3. To attempt to reduce a dislocated semilunar cartilage it is wise to flex the leg, then extend it suddenly, rotating the leg inward if it be the internal cartilage, and outward if it be the external, while exerting pressure on the offending region.
4. That there is a natural tendency in some cases of dislocated semilunar cartilage to slip back into place when the leg is not artificially restrained.
5. That if the knee be immovably fixed in splints or plaster before the cartilage has gotten back into its natural situation, the joint is locked and restrained from gentle instinctive movements that might favor its return.
6. That cases of displaced cartilage are attended by voluntary and involuntary restraint of motion on account of pain and mechanic impediment, and in some cases by synovitis and the formation of adhesions. Forcible passive motion might then have the double purpose of breaking the adhesion and rectifying the displacement.
7. That after a meniscus has been restored to its natural situation, it is not so securely and comfortably held by plaster or splints as by a pad of a few folds of bandage and a figure-of-eight bandage applied over this, which affords support and comfort and a safe limit of motion.
8. That it is possible by carefully applied massage, resistive movements, home exercises and electricity so to strengthen the muscles on the front of the thigh, the fascia, ligaments and attachments of the knee-joints that they will safely hold the previously dislocated semilunar cartilage without artificial support.
9. These remarks do not apply to cases requiring surgical operation, though the above-mentioned combination of treatment might be safely tried in some cases before cutting into a knee-joint, but more especially after operation for restoring motion and strength to the knee.

MASSAGE IN SKIN DISEASES AND ULCERS.

In the *Archives Médicales Belge* for July, 1898, we are told that Dr. Hatschek of Kaposi's Clinic at Vienna treats prurigo successfully by means of centripetal effleurage of the limbs, used for ten or fifteen minutes at a time. With the disappearance of this condition from the limbs, the cutaneous lesions of the body are also rapidly cured. In acne of the face, Dr. Pospelow of Moscow practices massage twice a day.

Various ulcers of the leg are also amenable to massage systematically used without any medication other than a moist boric dressing. Dr. Bekerievitch obtained cures in about four-fifths of 264 cases treated in this way. After each massage a roller bandage was applied. In such cases Dr. Edinger proceeds in the following manner: After a complete disinfection of the limb, effleurage with the tips of the fingers anointed with boric vaselin is practiced. (The use of the whole hand where possible would be more effectual and agreeable.) Then massage of the upper part of the limb above the ulcer is done, gradually approaching the edge of the ulcer. Centripetal effleurage is next used at the edges and below the ulcer. The force is proportioned to the induration of the edges of the ulcer. When the base of the ulcer is greenish, torpid and sanious, Erdinger uses massage over the ulcer itself. The surface is then covered with a piece of linen smeared with boric vaselin, and light massage is practiced over this dressing. Daily séances are given at first, the intervals being lengthened as the ulcers heal. This treatment allows patients to continue their calling and is said to effect cures in from two weeks to two months.

In 1891, Dr. A. E. Millard, surgeon to the Victoria Infirmary of Glasgow, published some interesting observations (*Glasgow Med. Jour.*) on the favorable results of massage in chronic ulcers of the leg. He told us that these are apt to arise from some slight accident to a limb in a condition to break down at the slightest provocation. The parts are in a state of passive stagnation or engorgement, the result of which is a hyperplasia of the connective tissue and thickening of the parts around, as shown by the denseness and hardness of the soft tissues. The blood stagnation renders the new-formed tissue, as well as the old, of low vital power, so that an ulcer once formed is likely to extend. The venous engorgement and new tissue cause much mechanic obstruction, preventing the entrance of fresh arterial blood to the parts and the exit of effete material by the lymphatics.

The indications are the relief of the engorged state of the veins and of the obstruction in the lymphatic vessels, the readmission of the arterial blood to the parts, and the removal of injurious influences from the surface of the ulcer. The recumbent positio and the elastic bandage have proved to Dr. Millar far inferior to massage, which drives on the venou blood and lets in the arterial, forces out the content of the lymphatics and allows the entrance of worn-ou materials into them. Massage is not only applied t the limb, but also to the ulcer over a piece of clot dipped in a solution of bichlorid, 1 to 2000.

Sanitary Report, Havana, Cuba.—The report of the chief sanitar officer of Havana, Cuba, for the month of April, 1899, show the total number of deaths to have been 617. The larges number from any one cause was 102 from tuberculosis, follow ing which came enteritis 75, heart disease 54, malaria 52, com pression of brain 37, arterial sclerosis 36, meningitis 24, typhoi fever 18, measles 3, smallpox 1, scarlet fever none, gunsh wounds 8. No statement of population or rates is made. C infectious diseases reported to the chief sanitary officer durin the month, there were yellow fever 3 cases, typhoid fever 2 infectious fever 23, pernicious fever 4, scarlet fever 5, measles 61 tuberculosis 183, diphtheria 55, smallpox 3 and varioloid 2 The premises were disinfected in 271 cases of disease; 622 ces pools were cleaned; sanitary advice was sent to 2198 propert owners, and 7044 reports of house-to-house inspections we received.

DIPHTHERITIC CONJUNCTIVITIS.

A CASE TREATED BY INJECTIONS OF ANTITOXIN; RECOVERY WITHOUT DANGER TO THE EYE.

BY CHARLES P. PINCKARD, A.B., M.D.
Professor of Ophthalmology, Post-Graduate Medical School; Attending Ophthalmologist, Michael Reese Hospital Dispensary, etc.;
Fellow Chicago Academy of Medicine; Secretary
Chicago Ophthalmological and Otological
Society, etc.
CHICAGO.

On March 22, 1899, W. S., a farmer, 23 years of age, was repairing the floor of a barn when some of the dust flew into his left eye. The discomfort caused soon passed away, but on March 25 the eye became red and swollen. Classic symptoms of conjunctival inflammation rapidly developed and increased in severity, so that on March 28 he presented himself to Dr. W. E. Walsh of Morris, Ill. At that time the lids were much swollen, red and somewhat tender, with edema of the face extending to the angle of the lower jaw. The glands in the neck were somewhat enlarged. Pain was very slight. The palpebral conjunctiva showed a grayish membrane, adherent, on the removal of which the conjunctiva bled freely. There was considerable chemosis, but the cornea was clear; pulse 88, temperature 100.2 F.

Antitoxin, 2000 units, was injected into the back the following day, March 29. On March 30, A.M., the temperature was 99.4, pulse 90. The local symptoms seemed to improve during the day, but by the next morning they were much worse. Temperature was then 101.5, pulse 112.

I first saw the patient on the afternoon of March 31. The condition was as follows: The lids were enormously swollen, projecting far out from the face, the edema extending from above the brow over the side of the face into the left side of the neck. The glands in the neighborhood of the ear were very much swollen, as were those in the neck under the jaw. Both lids were of a dusky-red color, the skin being tense and very shiny. The redness was not sharply defined as in erysipelas, but faded gradually into the surrounding skin. At the inner canthus there were some slight excoriations. A dirty yellow serous discharge kept trickling from between the lids and ran down the cheek. On palpation the lids had the peculiar "board-like" or "brawny" feeling so characteristic of extravasation of fibrin into the tissues.

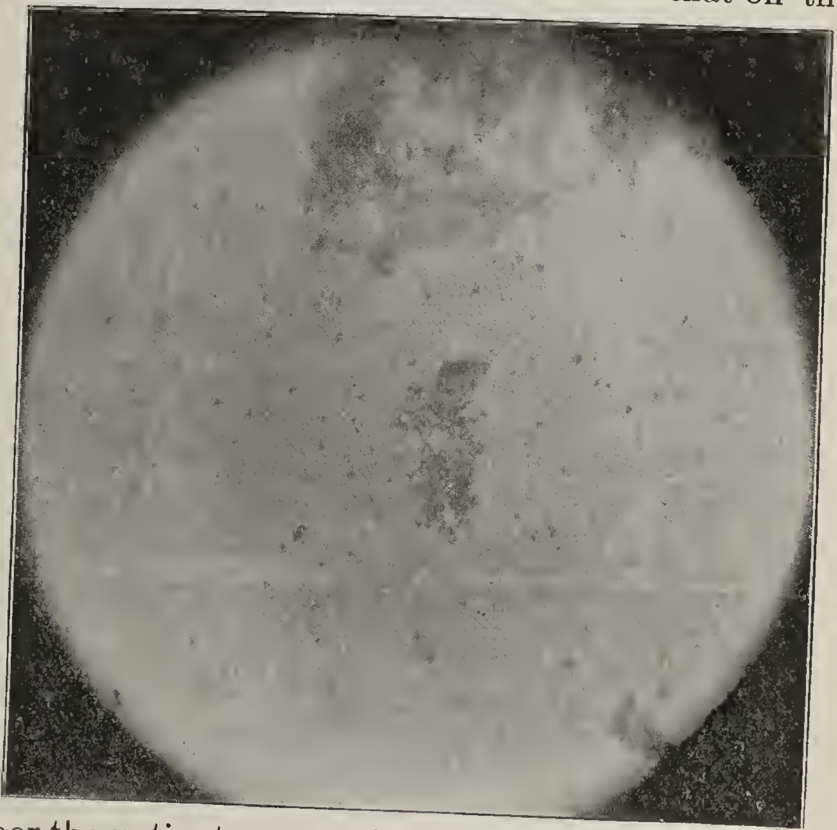
With considerable difficulty and with some pain, the lids were everted. The conjunctiva of the upper lid was dark red, much swollen and quite tense. Extending over the outer half of the tarsal surface was a dirty-gray membrane which could not be wiped off with a cotton swab, but was picked off with forceps in several places. Free hemorrhage followed. In places the lid tissue had been destroyed, and the gray membrane was adherent to the bottom of an ulcer. Above the tarsus near the fornix, was another patch of membrane much smaller, but equally adherent. On the lower lid the membrane covered nearly the whole tarsal surface, with the same characteristics as on the upper lid. The bulbar conjunctiva was so greatly swollen that the cornea could not be seen except by pushing aside the edematous tissue. When this was done the cornea was seen to be perfectly intact and transparent, without any signs of haze or ulcers.

An examination of the discharge was made by Dr. Frank Walls, and the characteristic Klebs-Loeffler bacillus found. The illustration is from a culture made the following day.

Realizing that what was to be done must be done quickly, 4000 units of antitoxin were injected into the patient's back at 4 P.M., March 31, and, on the morning of April 1, 2000 more. Reaction to the toxin locally did not begin until April 3, that is, two days later, but the swelling and the discharge continued about the same. It was noticed on April 3 that pieces of the membrane began to slough off, and the discharge to take on a very offensive odor. From this time on the symptoms slowly decreased, so that by April 12 the swelling had subsided and the discharge ceased; but there was still considerable redness. The constitutional symptoms disappeared within a few days after April 3.

During the whole course of the disease there were no complications in the nose and throat, nor were the constitutional symptoms very marked, the temperature never being above 101.5, the morning and evening being about the same.

The source of the infection in this case is obscure, but very interesting. There had been no diphtheria in the neighborhood for more than a year, as far as the people were concerned, but it seems that on the floor the patient was repairing two hogs had suddenly died some months previously, and had lain there for some time. The chickens had access to this barn, and many of them died with enormously swollen throats. It was some of this refuse that struck the patient's eye.



Treatment was entirely confined to the injection of the antitoxin. Locally, no treatment, except cleansing of the lids, was given.

The great interest in the case is the action of the antitoxin. For forty-eight hours following the last injection no improvement in the local symptoms was noticed; in fact, the swelling of the face extended more into the neck, but the spread of the membrane ceased. After forty-eight hours the throwing off of the membrane was first noticed and the dissolution of the deposit in the lids and the subsidence of the swelling began at the same time and went slowly on. In throat cases in which the antitoxin is not injected until the sixth or seventh day, the resolution is very similar to that taking place in this eye.

An unusual feature of this case is that there was no diphtheria in the nose or throat. Most cases of conjunctival diphtheria accompany diphtheria of the nose or throat.

While the bacteriologic examination is of the greatest importance, the diagnosis can not be made from the finding of the bacillus alone. The xerosis bacillus, which is probably present in many normal conjunctivæ, can not be distinguished from the Klebs-Loeffler bacillus by the microscope nor by staining methods. The only differential diagnosis between the two seems to be the physiologic test of the injection of a guinea-pig, the reaction being entirely different from the two bacilli In this particular case the finding of the bacillus with the typic clinic picture presented seems to leave no doubt of the diagnosis. Were there any doubt, the reaction to the antitoxin would dispel it.

While diphtheritic conjunctivitis seems to be rather common in Europe, it is an exceedingly rare disease in America. There have been a large number of cases reported in Germany and France as successfully treated by antoxin injections, but as far as the writer knows, this is the first successful case in this country.

MEDICAL TREATMENT OF INTESTINAL OBSTRUCTION.*

BY C. D. SPIVAK, M.D.

Lecturer on the Diseases of the Gastro-Intestinal Tract, at the Medical Department of the University of Denver.

DENVER, COLO.

Under the term "Intestinal Obstruction," or ileus, passio iliaca, miserere, we understand a variety of pathologic conditions in which a more or less complete interruption of the passage of the intestinal contents is the most prominent symptom. Whatever may be the cause of the obstruction, mechanic or dynamic, or a combination of the two; strangulation, volvulus, intussusception, obstruction by tumors or foreign bodies within the bowel or external to it, fecal accumulation or paralysis of the bowel, the physician is confronted with a certain set of symptoms invariably present in and common to all of the mentioned etiologic factors, namely: Sudden onset, pain, constipation, vomiting, abdominal distension and diminished quantity of urine. The general diagnosis of intestinal obstruction is easily made, but the differential diagnosis is very difficult, and in some cases, strangulation, for instance, almost impossible during life.

When we bear in mind that the initial symptoms of appendicitis are almost identic with those of intestinal obstruction during the first three days, it is easy to understand in what a predicament a physician finds himself in facing such cases. The heaviest burden for a physician to carry is an undiagnosed case. Fortunately 80 per cent. of intestinal obstruction and 90 per cent. of appendicitis recover without operative interference, and one is justified in saying, concerning the treatment of intestinal obstruction, what Ewald said concerning appendicitis: that "it would smack of insanity to subject every case to the uncertainties of an operation."

In order to institute rational therapeutic measures we must first consider whence the danger threatens most. Aside from the profound nervous derangement and the direct compression of the bowel, the greatest danger lurks in that part of the bowel which lies above the constricted portion wherein the circulation is either interfered with or entirely cut off, causing paralysis or gangrene of the bowel or perforative peritonitis. But the constricted part, after all, would not be in such a "bad fix" if it were not for the extreme meteorism which fills up and immobilizes every part of the viscus. As long as this tension continues there can be no hope of freeing the constriction or obstruction.

The *rationale* of our treatment must therefore be: 1, to lessen the weight and downward pressure of the bowel above the constricted part, and, 2, to lessen the intra-abdominal tension; the former will prevent as much and as long as possible the interference with the circulation, and the latter will create favorable conditions under which the bowel can resume its mechanic functions. To effect the above conditions, the following measures should be adopted:

There should be absolute abstinence from food, for it is the height of idiocy and downright criminality to give any food whatsoever under the pretext of keeping up the patient's strength. Vomiting is nature's therapeutic agent, and whenever this agent fulfils its duty, no man dares interfere. Every bite of solid food, and every swallow of fluid drink is but an insult added to an injury. Thirst, which is one of the invariable accompanying symptoms, can be quenched by sucking small pellets of ice, the patient having been told to spit out the accumulated fluid. The thirst may also be lessened by wiping the patient's mouth with wet cloths dipped in ice-cold water.

Permit me at this juncture to make a diversion. This absolute abstinence from food is applicable not alone in obstruction of the bowels but in all acute diseases during the first few days. Most of the acute diseases are ushered in with gastro-intestinal disorders, and anorexia is always present. Where is the logic in stuffing the patient with "bland and easily digestible food" as our text-books say, at a time when the digestive, absorptive and mechanic functions are completely upset? I fully believe that all the acute diseases would run a more favorable course had the physicians adopted absolute "abstinence diet" during the first three and even five days. I have adopted this "blandest" of all diets in all my acute cases during the last three years, and have had no occasion to regret it; in fact, I can trace the good results in many cases directly to absolute abstinence.

When the vomiting sets in early and is excessive, physiologic salt solution may be introduced into the rectum. In case the duration of the disease is prolonged, nutrient enemata should be administered.

Not only must we keep "hands off" from interfering with nature, but it is our duty to help nature. In all cases of suspected obstruction of the bowel, the stomach should be washed out. By lavage we relieve the upper portion of the bowel from the pressure and weight exerted by the contents of the stomach. Moreover, having relieved the pressure, the bowel as a rule empties its contents into the stomach, and thus lessens still more the general tension, without which condition, as we said before, no relief is possible Recoveries due solely to lavage have been reported and it is admitted by all that it affords, in all cases immediate and great relief from the annoying nausea eructation, vomiting and distension.

High rectal injections should be given. The main object is to remove the contents of the bowel below th seat of obstruction. Besides, the mechanic irritation of the water on the mucous membrane produces contraction of the bowel and thus a pull is effected by which the strangulation may be relieved. Cold water produces greater contractions and, therefore, it is to be preferred. Turpentin or salt may be added. Olive-oil has its advocates, who base their preference for it on the following grounds: 1, it does not irritate the bowel so much, and therefore it is retained longer; 2, it makes its way farther into the colon; 3, it softens the fecal matter and makes it more slippery.

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*Read before the Denver and Arapahoe Medical Society, April 26, 1899.

Distension of the gut with air has the same effect as deep rectal injections—stimulation of the peristalsis of the lower bowel. It is contraindicated in volvulus, the beginning of gangrene and peritonitis.

Puncture of the distended gut is recommended for the relief of distension but has not been universally adopted. I have had no personal experience with this method.

Massage may be used in paralysis of the bowel resulting from chronic constipation, fecal or other occlusion. It is, however, a risky procedure and may do more harm than good. I have tried massage in several of my cases without effect. However, I do not claim to be an expert masseur.

Electricity, both the faradic and constant currents, is recommended. The favorable reports are confined to cases of paralysis of the bowel resulting from chronic constipation.

External applications to the abdomen in the form of poultices, turpentin stupes or ice-bags are beneficial and salutary. I have tried the ice-bag in several cases but had to give it up; it seemed to aggravate the pain.

Now comes the consideration of the most important question; what shall we give—a cathartic or an opiate? This has been a mooted point for many years, and the pro and cons waged relentless war, but of late all authorities, German, English and American, have made peace and decided in favor of opium. Theoretically they may be right, but when we are at the bedside we rely on our experience and common sense.

One patient prays for a movement of the bowels; his or her friends look into the bed-pan with longing eyes, and we ourselves inquire first of all, "have the bowels moved?" He whose heart has not swelled with thankfulness at the sight of the first fecal matter in a case of obstruction of the bowel or appendicitis is devoid of any religious feelings. Who will then dare to give an opiate on theoretic grounds and thereby mask the symptoms and aggravate the "interruption of the passage of the intestinal contents?" In all cases where absolute constipation is the prominent symptom, I hold it to be imperative to bend all our energies to bring about a movement of the bowels, except when there is excessive vomiting or after the cathartic has been given a thorough trial.

I am sure there are thousands of physicians who believe as I do, who invariably give cathartics, as I always do, and who too count many recoveries. Why not come out openly and boldly and say so, the "authorities" notwithstanding?

Of all the cathartics, sulphate of magnesium in saturated solution, takes the lead: one, two, three, and four teaspoonfuls of the salt to the same amount of water given every half hour, hour or two hours, according to age and other conditions.

A preparation used by our grandfathers—infusum sennæ compositum, or black draught of the European pharmacopeia, and which, officially, is made up of senna 6, manna 12, magnesia sulphate 12, fennel 2 and water 100—has proved to be an improvement on the simple epsom salt. During the last three months I have attended three cases of obstruction of the bowels and in each case I used the infusum sennæ compositum, in which a double quantity of the salt was used. One patient had manifested such alarming symptoms that Dr. C. A. Powers and myself in council decided to operate within twelve hours. The diagnosis was wavering between appendicitis and strangulation. After the fourth tablespoonful of the infusion the bed-pan did not return empty. The second case, that of Dr. Muir, presented a train of symptoms which almost bordered on collapse. I diagnosed the case as obstruction of the bowel, due either to appendicular or some other origin. The diagnosis was not cleared up, but the bowels did after the third tablespoonful of the infusion. The third case, that of a young man, was a case of appendicitis, according to the letter and spirit of the latest text-book. Here too the infusion did not fail to bring to light what was hidden in the bowel.

In cases where the pain is not mitigated by lavage, enemas, hot applications, etc., I do not hesitate to give a hypodermic injection of codein. One-quarter or one-half a grain will not do. I give a whole grain. This opium-derivative does in no way interfere with my cathartic treatment.

I fully recognize the incompleteness of my paper. I wanted only to bring out most prominently the following points:

1. Every physician should consider his case of obstruction of the intestine, and for that matter, of appendicitis, to be one of the 90 per cent. that recover without surgical interference, and, therefore, not lose courage; be resourceful and hopeful.
2. Lavage should not be omitted in all cases of obstruction.
3. Cathartics should, in all cases of intestinal obstruction, be given a thorough trial, in the form of the infusum sennæ compositum.
4. The best diet in cases of intestinal obstruction is absolute abstinence from food and drink.

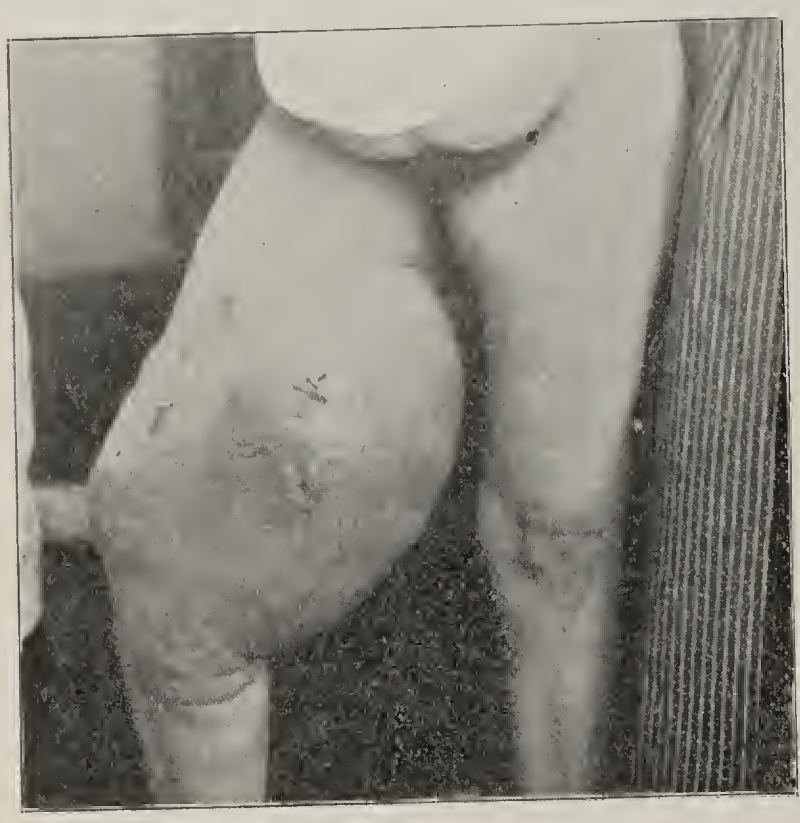
A SPINDLE-CELLED SARCOMA OF THIGH.

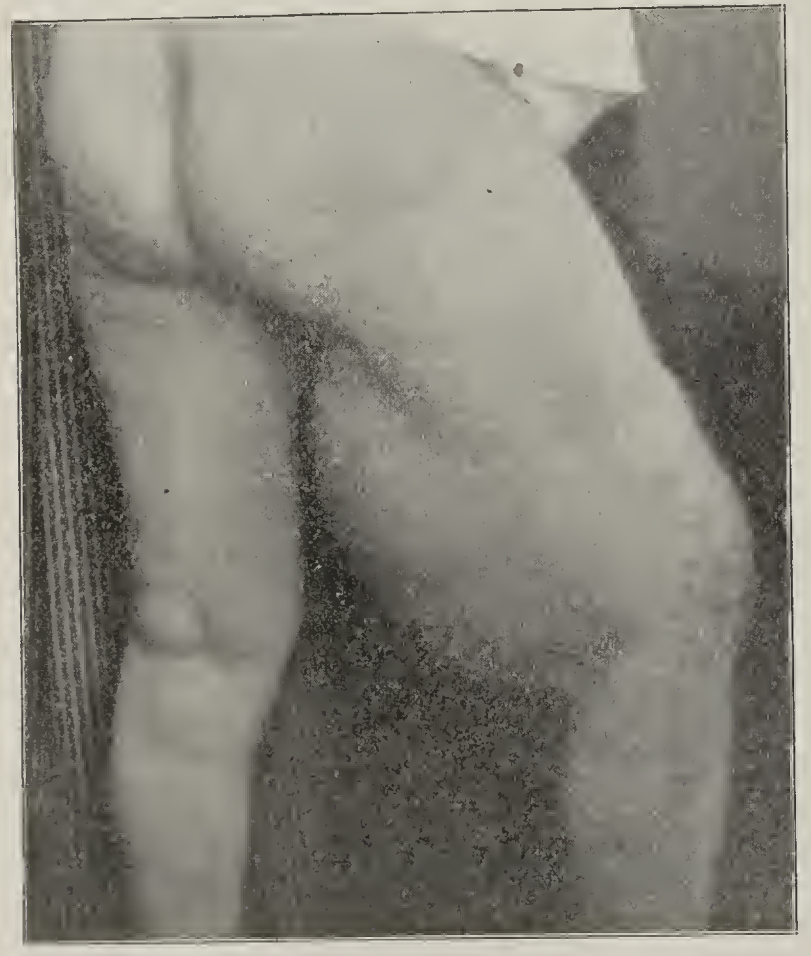
A CLINICAL REPORT.

BY JACOB FRANK, M.D.
Surgeon to the St. Elizabeth and German Hospitals, Consulting Surgeon to Home for Aged Jews and Jewish Orphan Asylum.
CHICAGO.

Mrs. A. S., 38 years old, presented herself March, 1899, with a large tumor on the right thigh. Her mothers' family were healthy, also that of the father, with the exception of one brother dying at 40 with consumption, probably contracted by exposure during the Civil War. Menstruation began when she was 15 years of age and was regular up to within the last two months, when it stopped. She has been married twice, to her first husband when she was 16, and by him had two children, one still-born and one living six years, dying of "slow fever." At 19 she married her second husband, and has had one child, now 8 years old and healthy. Her first husband died of consumption. She has been in good health up to the present illness, which began about two years ago with slight tenderness about the right thigh. Two months later the patient noticed a little swelling, but being stout thought it was due to rheumatism. As she became emaciated the tumor showed itself. In December, 1897, she weighed

225 pounds, and she began to decline until now she weighs about 135 pounds. Her present condition is anemic and cachectic. The tumor covers one-half of the anterior portion of the thigh, the whole of the internal and posterior portions, and one-half of the external. The tumor is generally firm, and to the touch feels boggy in places. Although the mass is not movable, still the probability is that it has no attachment to the femur. On the left thigh at the base of Scarpa's triangle, there is another tumor about the size of two fists, movable and subcutaneous. No tissue was taken from this small tumor, for examination. The heart, lung and kidneys are negative. An exploratory incision was made into the large tumor to determine the growth, and on microscopic examination was found to be typically a large spindle-celled sarcoma. The smaller tumor on the left thigh shows that metastasis has probably taken place, and owing to the unfavorable prognosis, an operation was not undertaken.



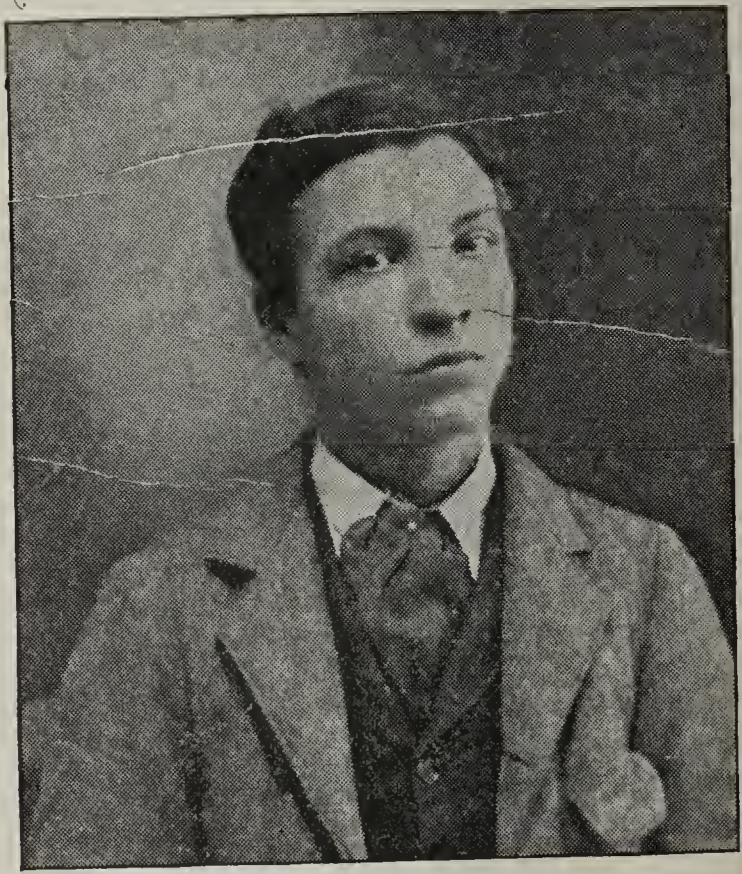


17 Lincoln Ave.

"DEAF MUTES," WITH CLINIC.*

BY MAURY M. STAPLER, M.D.
MACON, GA.

On July 28, 1898, Amie McB., a deaf and dumb young man, was brought to me for treatment by Mr. Robert Freeman, who claims to have known him all his life, and he gave me the following history: The young man was born at Columbus, Ga., eighteen years ago, the exact date is not known. His father died when he was very young and his mother married a second time, and moved to Macon when he was in his teens; he was employed as a soap wrapper, and when the family decided to move from here he was allowed to remain. His mother states that the fact of his being deaf was discovered when about 3 years of age; she says he has never had any very serious sickness, and has contracted none of the eruptive fevers from which deafness is so often traced; that she believes he was born deaf, and she has had him treated many times, but with no evidence of good result. On careful examination I found him in good physical condition, defective only in that he could not hear, and his vocabulary consisted of three words, "Mamma, Amie and Robert," names easily spoken, and evidently caught from seeing the lips of others. His lungs were small, as is usual with the deaf and dumb, from lack of use. Inspection showed his external ears, including the external auditory canal, to be normal. The tympanic membranes were distended, opaque and of white smoke appearance. The throat, viewed through the mouth, was in good condition and the muscles of the pharynx were healthy and somewhat relaxed. The nose was almost closed on either side by enlarged turbinated bones, and the alæ of the nostrils were more cartilaginous than is usual.



Testing the ears by aerial conduction, he could hear very loud tones thrown from a near point directly into the left ear—he could hear no sound in the right ear. Conduction of sound through the bones of the head was acute, as shown by placing the handle of the tuning-fork on the forehead or behind either ear. This test indicated that the nerves were intact and the cause of deafness must be due to interference of the vibration of the tympanic membranes, disease of the mucus membrane lining of the middle ear, which might effect the malleus, incus and stapes, cause ankylosis or adhesion; or the cause may have been imperfect development, malformation, closure of the Eustachian tubes; possibly some one, two, or all of these things might be the cause, but I had seen worse-looking tympanic membranes carry sounds almost perfectly. Inflammation of the mucous membrane sufficient to have caused such deafness would have left some apparent sign, or there would be a history of pain in the ear. Malformation or failure of development would probably have been indicated by some sign, mental or physical. The brunt of suspicion had already fallen on the Eustachian tubes, because I had found them almost closed to the passage of air, when tested with Politzer's bag, and the tympanic membranes were to me indicative of closed tubes, and I make this distinction, that when the tympanic membrane is contracted the tubes are closed to the ingress of air, and when distended they are closed to its egress. The diagnosis assumed was that the primary cause was a congenital narrowing amounting to a closure of the pharyngeal opening of the Eustachian tubes for the exit of air especially. I gave the patient a placebo and told him to return in two days.

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*Read before the Medical Association of Georgia, Macon, April 19-21, 1899.

The routine treatment of removing the turbinated bones and adenoids, passing the Eustachian bougie, catheterizing the tubes and cutting the tympanic membranes as practiced by some, did not appeal to me, because the operation on the turbinated bones seemed too far removed to have the desired effect; adenoids need to be removed from the tubes themselves to be effectual, and the other methods are damaging and dangerous. Taken as a whole, such treatment for restoration of hearing has proven a failure from the time when the memory of man runneth not to the contrary, and has done more toward making these cases appear hopeless than any other one thing. For he past two years this immediate subject has held for me an all-absorbing fascination, and my mind was so nsistent on some things not given in the books, that selected three of them to test upon my patient when he returned. Instead of trying one at a time and esting the hearing after each, I alternated and did not test in thirty days; the consequence was, when I ound hearing I attributed it to another cause, and was misled until later, when it was my good fortune o have another patient, a negro boy 12 years old, and o demonstrate, by being systematic, that hearing is estored by the method which I shall give you.

Shape an ordinary wire loop cautery point to conorm to the outline of an Eustachian catheter, the haft to be marked by spaces of an eighth of an inch; ocainize the lining membrane of the nose and harynx well with a 4 per cent. solution, so that there ill be no pain, and to contract the tissues so that the autery may pass easily, then proceed in the same anner as in passing the catheter. Tilt up the nose ith the thumb of the left hand, while the head is eadied by placing the other four fingers against the rehead. Take the posterior extremity of the cautery etween the thumb and forefinger and middle finger of the right hand, insert the point and lower it to the floor of the nose, and then move it backward with the shaft in a horizontal position, the point of the cautery being kept in constant contact with the floor of the nasal cavity until it is felt to pass into the pharynx. When the posterior wall of the pharynx is felt, turn the point obliquely outward, but not quite horizontally, in which position it would be forced into Rosenmuller's cavity. While its posterior extremity is somewhat raised, the cautery is retracted with moderate rapidity, during which movement the point will be felt to slip over the bulging lip of the tube projecting from the lateral wall of the pharynx. After the point of the cautery has thus passed the posterior lip it has arrived at the pharyngeal orifice of the tube. When it has arrived here in this manner, take note of the posterior end of the shaft and retract an eighth of an inch by measure and cauterize lightly. This procedure places the cautery directly upon fibers of the tensor palati muscle which presides over the opening of the tube. The operation is sufficiently near the marginal opening to exert traction through connective tissue formation on the anterior margin of the tube and on the mucous lining, which lies in folds near the opening, acting somewhat as a valve. The operation also shortens some of the fibers of the tensor palati and makes a new fixed base from which they may act. It brings nature to the rescue with all her reconstructive agencies bearing on the weak point. With reference to performing the technic of the operation, it takes an adept to know when he has the proper position for applying the cautery in case of children, because the cartilaginous opening of the tube is not yet established, the pharyngeal walls are smooth, and there are no positive guides to the openings, but they are larger in the child, and if familiar with the method, the educated touch may enable you to discover them. I do not believe that every deaf and dumb one will be made to hear. I do believe there are many shut out as by a hair's breadth and can be restored. The patient's hearing has not improved much in the last three months. What he has enables him to hear a watch tick at from four to six inches. He can use the telephone and can hear ordinary conversation. He can count up into the hundreds, knows figures and denominations of money, his taste is esthetic, he likes a joke and is fond of the society of ladies. (See JOURNAL, January 14, p. 89.)

MOUTH-BREATHING.*

BY JAMES M. CRAWFORD, M.D.

ATLANTA, GA.

My paper has reference to those cases where mouth-breathing is the rule and not the exception. If one will take the pains to minutely examine the interior of the nose and its function, he will not be surprised to learn that there is a penalty for those who persistently use the mouth as a breathing apparatus. The object of nasal breathing is twofold, to moisten and to warm the air before its reception into the bronchial tubes. We need not be surprised, then, if many cases of bronchitis are caused by mouth-breathing, the cold and dry air coming in contact with the bronchial tubes and air-cells, causing congestion, and later inflammation. The same condition often causes asthma. We no longer attribute mouth-breathing to habit, and scold the patient for not breathing through the nose, but on the contrary, we know that in these cases there is an obstruction in the nares, postnasal or pharyngeal spaces that forces one to breathe through the mouth instead of through the proper channel—the nose.

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*Read before the Medical Association of Georgia, Macon, April 19-21, 1899.

The most usual causes of nasal obstruction are the various forms of spurs and deflections of the septa, and now and then cases of nasal polypi, and hypertrophies of the turbinates. Usually, accompanying these conditions, we have adenoids in the postnasal space and frequently hypertrophied tonsils; indeed, so universally is this the case that I consider the examination incomplete where one does not examine very closely for the other conditions just mentioned, having already found that one exists. These various obstructions are generally met with in childhood or young manhood or womanhood, from the fact that the nasal, as well as the pharyngeal spaces, are much smaller at this age, and as they grow older these spaces are made larger, tending thereby toward relieving the patients, at any rate making them more comfortable. The frequency of these cases, especially of adenoids, met with here in the South shows that they are as numerous as in the North or West, and that a cold climate is not needful for their development. I am satisfied that adenoids are often hereditary, and am therefore very careful with my examinations of a family when I have found one of them suffering from this trouble. We often see children of an entire household similarly affected. No race seems to be exempt. I have seen and operated upon both white and colored; indeed, some of the worst cases of adenoids I have ever met with were in the colored race. The reason we see so few in the colored race is because of their financial inability to have such work done, and therefore they do not come to us.

The diagnosis in these cases is very easily made, as the pharyngeal tonsil can readily be examined. By placing a little mop of cotton dipped in a 6 per cent. solution of cocain muriate in the nasal spaces, we are enabled to discover the hypertrophied turbinates, as this application has the happy power of relieving engorged tissue, thereby making the diagnosis sure. I find cocain to be of great aid in the diagnosis of such cases, and I never fail to use it. The use of cocain, however, should be limited to making such examinations, and in cases where some form of operation is to be made. It should not be used habitually in the treatment of catarrhal conditions. The rhinoscope is of comparatively no use in diagnosing a case of adenoids, since but few patients can be trained to allow a mirror to be used in the mouth so as to make it possible to see anything in the postnasal spaces. Educate the sense of touch so as to be able to detect a case of adenoids by the use of the finger, which can readily be done. Not only can the adenoids be detected, but by this means you are enabled to say to what mode of operation you will resort. If soft and easily broken down, I prefer the use of my finger-nail; if more fibrous, I prefer the Gleitsmann forceps. The causes of these various obstructions are but little known. To say they are hereditary traits is not making it plainer to the inquiring mind. There is no class of patients for whom the doctor can do more than for these.

To relieve one of these obstructions is to place new life in the patient, to make him happier, to make him less liable to the various forms of ear trouble that sooner or later most usually develop, and to make less liable the bronchial affections, asthma, etc. The successful restoration of nasal breathing, then, depends upon the removal of these obstructions. Spurs and deflections of the septum can be removed best by the saw. I prefer a thin-bladed and therefore a fine-toothed saw to cut when pushing from, and the other when pulling toward the operator—the former to be used when the obstruction is situated on the middle or near the front portion of the septum, the latter when the obstruction is at the rear end of the septum. No anesthetic is needful other than the use locally of a 10 per cent. solution of cocain muriate. The same method of local anesthesia is sufficient in reducing hypertrophies of the turbinates, with either the cautery or chromic acid. The idea should be not to burn the whole surface of the turbinate, but simply to burn the most projecting portion quite deeply, and in this way to cause a contraction of the tissue—buttoning the turbinate down as it were.

I have tried removing the adenoids in many ways, but have found none to equal that with the Gleitsmann forceps when the adenoids are fibrous, and with the finger when of the soft variety. I prefer to do this without an anesthetic, since statistics show the death of so many when made under the influence of chloroform and ether. The operation is not a painful one and is quickly made. It is not needful to put the patient to bed either before the operation or after, as very little reaction follows. I have never seen much hemorrhage follow the operation. I have made many operations on children as young as 4 years without any resistance whatever and without even the patient crying. I admit, however, that the temperament of the patient has much to do with it, some bearing pain much better than others. The operation sometimes has to be repeated.

CARDIAC DISEASE IN PREGNANCY AND LABOR.

BY W. REYNOLDS WILSON, M.D.
PHILADELPHIA.

The clinic aspect of the different forms of cardiac disease during pregnancy is largely modified by the physiologic status at this time. The character of the blood, the development of the heart muscle, the changes in the circulation, the displacement of the viscera by the gravid uterus, have all a more or less direct bearing on the abnormal conditions due to cardiac disturbance.

As to the condition of the blood, we may consider in this connection the general increase in the quantity of the blood, this increase, contrary to the earlier observations on this point, being due, according to Fehling and Meyer, to an augmentation in the various constituents—namely, the red and white corpuscles, as well as the serum. This fact has a special bearing on the increased function imposed on the circulatory system, and the occurrence of stasis in pregnancy. The tendency of the fibrin of the blood to increase toward the latter end of pregnancy is also to be noted.

As to the heart, the existence of a physiologic hypertrophy is generally accepted. Vaquez and Millet, however, consider the modification in the volume of the heart during pregnancy as a transitory dilatation of moderate degree. Vinay also, in placing the average increased weight of the heart at 250 grams, as compared with the normal weight (230 grams), considers this a natural variation. Where hypertrophy exists he looks upon it as a pathologic condition, due to the want of reserve force in the heart, sufficient to overcome the increased resistance in the circulation.

The changes in the circulation are represented by a general increase in resistance. This is due: 1, to the increased volume of the blood; 2, to the intercalation of the placental circulation; 3, to the lessened capacity of the thorax; 4, to the increase in abdominal pressure. The oxygenation of the blood is also interfered with at the time of greatest uterine distention, owing to the limitation in the excursion of the diaphragm. In connection with the increase in intra-abdominal pressure there exists, toward the end of pregnancy, an impairment in respiratory efficiency of the abdominal muscles, due to the pressure of the gravid uterus in its tendency to anterior displacement.

The conditions in pregnancy make it clear that the various organic functions have reached the border line of physiologic activity. Diseased conditions, therefore, of any organ, or any set of organs, in the non-pregnant state, exacting a functional resistance to the depressing effect of such condition, can be met successfully, while in pregnancy the limit of physiologic accommodation has been reached.

Affections of the heart as complications in pregnancy and labor divide themselves under the heading of inflammations as they attack the pericardium or endocardium, and as degenerative changes affecting the musculature. These affections may be acute, subacute and chronic in form.

The question of heart disease in pregnancy has to do not so much with the predisposition offered at this period to the occurrence of heart lesions, as with the influence of gestation on the development of these lesions, on the one hand, and with their effects on the course of pregnancy and parturition, on the other. The conditions of increased strain imposed on the heart in pregnancy may, however, give rise for the first to the evidences of a pre-existing trouble, by producing symptoms of functional disturbance.

PERICARDITIS.

Pericarditis as a primary affection is equally as rare n pregnancy as in the non-pregnant state, although t is not incompatible with the existence of gestation. Conditions intercurrent in pregnancy, such as an attack of rheumatism, or the extension of pleurisy, also mycotic infection of the pericardium, may be reponsible for the development of pericarditis. Pregnancy, however, does not offer a predisposition hrough any liability to these affections.

Acute pericarditis presents a more or less serious omplication in the course of pregnancy, either from he systemic effect of the disease to which the periarditis may be due—rheumatism, pyemia, tuberculos—or from the mechanic effect of fluid within the ericardium.

A pre-existing chronic pericarditis is of importance rom the embarrassment of the heart's action by reaon of the adherent pericardium, as well as by the eakening of the heart muscle from the chronic interitial myocarditis, secondary to the pericardial inflamation.

The following case is an example of chronic perirditis, with fatal termination: The patient, pregnant for the third time, began her labor under apparently normal conditions. The first stage was without event, the pains recurring at frequent intervals. The duration of this stage was eight hours. During the second stage the pains recurred every three minutes, with unusually strong expulsive effort. Vomiting was present, but with no symptoms of exhaustion. In more than an hour from the beginning of the second stage, the head having engaged with difficulty, the patient suddenly developed signs of syncope; the skin became moist and the pulse rapidly imperceptible. Slight twitching of the mouth was present, also failure of respiration. The heart sounds became rapidly inaudible, and the patient died, undelivered, within a few minutes of the appearance of the fatal symptoms. On opening the thoracic cavity the right pleural sac showed general adhesions firmly organized, the thickened membrane being continuous anteriorly with the thickened pericardium. The lung showed no special changes beyond those connected with the pleural thickening. The heart was bound down by the densely attached pericardium, the latter being generally and markedly adherent. Both ventricles were contracted and contained dark fluid blood. The left ventricle was hypertrophied, the wall being from three-quarters of an inch to one inch in thickness. The right ventricle was extremely thin-walled, so that the effort to detach it from the pericardium caused a rupture of the wall. The aorta was mildly atheromatous.

As to the occurrence and cause of death, it is plain that the patient died from a suddenly-developing paralysis of the heart, from overstrain, the heart having been weakened by the secondary myocardial change, and restricted and hampered in its action by the pericardial adhesion.

Treatment.—The general treatment of acute pericarditis comprises rest, ice applications over the precordia, and measures to combat the primary condition underlying the pericarditis. It is doubtful whether such drugs as are given to reduce the heart's action are advisable. Digitalis is especially contraindicated, as the heart, hampered in its action by the pericarditis, has already reached the limit of its energy in overcoming the increased resistance to the circulation in gestation. Paracentesis, either for the relief of pressure from effusion, or for drainage in purulent pericarditis, is to be practiced without considering the condition of pregnancy, as the indications on the part of the heart outweigh the danger, from operation, to the continuance of pregnancy.

The obstetric treatment should be directed to the postponement of labor as long as possible, avoiding thereby the inevitable overstrain of the heart through the effort of labor. Where labor occurs, speedy delivery should be accomplished, by artificial means if necessary. Ether narcosis may be employed.

In chronic adhesive pericarditis the relief of strain, both during pregnancy and in parturition, is indicated.

FUNCTIONAL DERANGEMENT OF THE HEART'S ACTION.

This, when due to faulty innervation, is shown by palpitation and precordial distress. Such a condition may appear conjointly with other manifestations of nervous origin in the beginning of pregnancy. It is important, however, to separate these symptoms from the evidences of a cardiac lesion otherwise undeclared. In addition to the physical signs the history of a given case will establish the diagnosis.

Treatment. — Antispasmodic treatment, together with the necessary attention to the general condition of the patient, is indicated. Tonics, diversion, regular walks in the fresh air, massage and, where nausea exists, a diet arranged so that the gravida is never without food for a longer period than two hours—will carry her comfortably over the period of nervous disturbance.

ACUTE ENDOCARDITIS.

Acute endocarditis occurs in either the simple or ulcerative form. Ollivier speaks of an "endocarditis of pregnancy," observed in one instance toward the end of pregnancy and disappearing in the course of the puerperium. Notwithstanding this, it is difficult to admit the occurrence of an acute non-infectious form of endocarditis in pregnancy unassociated with rheumatism or some antecedent condition. Acute endocarditis usually depends on some condition either pre-existent to pregnancy or developed in its course —such condition is represented, in acute form, by articular rheumatism, scarlatina, pneumonia and chorea—in chronic form, by underlying conditions of ill-health, such as phthisis, syphilis and chronic nephritis. The ultimate development of endocarditis in the form of embolism, from the dislodgment of a vegetation, is usually the result of an acute inflammation occurring on old, sclerotic valves. Such a complication is a serious event. Cerebral embolism is obviously more likely to occur during the strain of parturition than in pregnancy. Its occurrence is recognized by the shock incident to the local obstruction in the circulation, and by the later symptoms of hemiplegia.

Ulcerative endocarditis may occur secondary to septic infection or as a complication in the course of pneumonia. In either case its malignant course soon leads to a fatal termination, irrespective of pregnancy. The tendency to abortion and miscarriage as a result of these acute inflammations of the endocardium is inconsiderable.

Treatment.—There is no form of treatment in acute endocarditis especially suggested by the conditions in pregnancy, other than complete rest. This is especially indicated in order to lessen the increase in resistance of the intra-abdominal circulation, and in later pregnancy, to lessen the thoracic embarrassment.

Ulcerative endocarditis requires a form of treatment adapted to the associated disease, or, in the more malignant cases, treatment should be directed toward the relief of the septic manifestations.

CHRONIC ENDOCARDITIS.

Chronic endocarditis is met with during gestation as a continuance of pre-existing inflammation. Considering the fact that the child-bearing period corresponds to early adult life, we may exclude the form of endocarditis dependent on atheromatous degeneration. The forms of most frequent occurrence are: 1, that of a chronic valvular lesion, consequent to an earlier acute inflammation of rheumatic origin; 2, that associated with chronic nephritis. Vinay mentions a form of chronic endocarditis described by Durosier, in which a simple stenosis develops at puberty, or perhaps in infancy, without accompanying febrile disturbance. The condition remains without manifesting itself until gestation occurs, when it becomes apparent—but without interfering with the course of pregnancy.

Chronic endocarditis, however, considered irrespective of the myocardial changes resulting in failure of compensation, and unaccompanied by the arteriosclerosis of chronic nephritis, is scarcely to be set down as a clinic entity in pregnancy. Should the physical signs be overlooked, and the primary affection accompanying the endocarditis not assert itself—if such affection exist—the condition is not detected. The palpitation, the slight disturbance in respiration from precordial discomfort and the irregularity in the heart's action may be attributed, in early pregnancy, to the ordinary nervous disturbances of this period, or later, to the effects of pressure.

The order of sequence of valvular lesions, the resul of chronic endocarditis, according to Porak, based o fifty-seven cases of mitral disease, is as follows: Th occurrence of mitral insufficiency in 22 instances; th occurrence of mitral stenosis in 13 instances; th occurrence of mitral stenosis and insufficiency in 2 instances. Based on 13 instances of aortic disease the order is as follows: The occurrence of aortic insufficiency in 9 instances; the occurrence of aorti stenosis in 2 instances; the occurrence of aortic stenosis and insufficiency in 2 instances.

Winckel places insufficiency of the tricuspid valv next in sequence to mitral disease, and groups wit this aortic stenosis and insufficiency. The commo association of the first-mentioned lesion with mitra disease scarcely entitles it to so important a place.

CARDIAC HYPERTROPHY.

The conditions in pregnancy favoring the so-calle physiologic hypertrophy of the left ventricle play a important rôle in increasing the heart-strain, whic in valvular disease, is responsible for the pathologi increase in the musculature. This condition of hype trophy is detected by the usual signs: by palpitatio the slow heaving impulse and downward dislocatio of the apex-beat; by percussion, the increased du ness; by auscultation, prolongation of the first soun and loudness of the sound. Cardiac hypertrophy usually progressive in pregnancy, and is apt to associated with albuminuria. The form of hype trophy accompanying arteriosclerosis in interstiti nephritis, although of less common occurrence th simple hypertrophy due to valvular lesion, is likely seriously influence the condition of pregnancy. T following case is an example of associated heart a kidney disease:

A young married woman, the subject of chron interstitial nephritis, aborted in her eleventh week, a in five weeks after curettage following this develop a hemiplegia of embolic origin. One year after t attack the patient became pregnant for the seco time. During the seventh month of this latter pre nancy signs of failing compensation occurred, p monary obstruction and anasarca developing rapid Labor was induced with favorable results as to t relief of stasis and the disappearance of the eden The patient, however, died in the tenth week after intercurrent pneumonia.

It has been observed that the death of the fetus *utero* contributes to the amelioration of the card symptoms in hypertrophy. Merklen, for instan mentions a case in which the dyspnea and pulmon congestion disappeared preceding delivery and co cidently with the death of the fetus.

CARDIAC DILATATION.

With increasing resistance and the failure of heart muscle to maintain its integrity we have appearance of dilatation. Inasmuch as mitral insu ciency is the most common form of valvular disease occurring in pregnancy, dilatation of the left ventricle is the most commonly observed. Mitral stenosis, observed next in frequency, is responsible for dilatation of the right chamber. Aortic disease affects the left heart. The classic signs of dilatation—a diffuse impulse, with a quick, weak apex-beat (together with the transference of the impulse toward the right, in right-sided dilatation), the irregular and intermittent heart's action, and a weak, rapid pulse—are all present.

The symptoms of insufficiency are apt to appear in the third or fourth month, and are likely to continue in progressive form in spite of the effort to modify them by rest and treatment. These threatening symptoms are of graver import in women whose pregnancy has been preceded by beginning failure of compensation.

Broken compensation is manifested by difficulty in breathing on exertion. This symptom is present to an unusual degree, owing to the limited thoracic capacity and the pressure of the gravid uterus on the abdominal viscera and the venous trunks. There are present also digestive disturbances, a tendency to bronchitis and edema. There is often a tendency to the persistence of menstruation.

As to the effect of cardiac disease on the course of pregnancy and labor, and its influence in the puerperium, we may refer first to the condition in pregnancy. The tendency toward the interruption of pregnancy is frequent in the latter months, and not the exception in the early months of gestation. All depends on the progress of the disease either preceding conception or coincidently with pregnancy. We may divide the course of cardiac disease in this connection into two periods—that of complete compensation, and that of failing compensation. In the first period pregnancy may advance normally until a point is reached where the increasing arterial resistance and intra-abdominal pressure impose an undue burden on the heart. The effect of this can not be designated as a fault in compensation, and yet such effect is productive of the placental stasis on which the death of the fetus depends. In the second period the cardiac embarrassment is directly responsible for the death of the fetus through the imperfect oxygenation of the blood.

Repeated pregnancies are likely to establish a tendency to abortion. It is, however, not to be inferred that it is common for gravidæ affected with cardiac disease to abort; the conditions incident to an acute or chronic endocarditis, without valvular deformity and without the presence of associated disease, are not unfavorable to the continuance of pregnancy. Even in the more developed cases we may not look for a termination of pregnancy if compensation has been maintained.

Certain complications occurring in connection with valvular disease of the heart render the outlook grave. The febrile disturbance in pneumonia and bronchopneumonia, albuminuria with eclamptic seizures, hydramnion and twin pregnancy are instances of such complications. That form of malignant endocarditis, associated in rare instances with erysipelas, attacking the pregnant woman presents a grave prognosis. The occurrence of a recent endocarditis engrafted on an endocardium already diseased is often the starting point for a malignant endocarditis—the so-called infectious endocarditis of pregnancy.

The combined statistics of Courrijol and Porak show that in 220 collected cases delivery before term occurred in 92 instances. This is equivalent to about 40 per cent. Much depends, however, on the number of pregnancies through which the patient may have advanced, as the tendency to abortion is more marked in pluriparous than in primiparous women.

In considering the cause of such accidents, we may note that the blood-supply to the fetus is vitiated: 1, by the degeneration of the placenta, the result of minute hemorrhages into its tissue, and 2, by the imperfect supply of oxygen, as noted above. In addition to this the dislodgment of the ovum in earlier pregnancy is brought about, irrespective of the imperfect blood-supply from a nutritional standpoint, by uterine contraction, the result of the venous character of the blood.

The dangers of abortion and miscarriage may be considered as equal; in the former, the liability to hemorrhage, and in the latter, syncope secondary to the effect of labor are to be feared.

In reference to the influence exerted by the diseased heart on the course of labor and the puerperium, it is often observed that the second stage of labor is of short duration, whether this be from the stimulation of the uterine muscle by reason of the venous character of the blood, or from the fact that the more advanced conditions in heart disease are observed in pluriparous women, whose labors are apt to be short, is uncertain. In the third stage the possibility of hemorrhage from stasis is to be looked for. On the other hand, in the more promising cases, after the expulsion of the fetus the cardiac strain ceases and the returning equilibrium of the circulation is favored by the removal of the intra-abdominal pressure. Unfortunately, however, the clinic picture may be different—the evidences of increasing dyspnea and syncope make their appearance, to be followed more or less abruptly by death. Vinay contends that relief of heart-strain does not follow labor, as the continuance of the excessive blood-pressure is maintained physiologically in the first hours of the puerperium. As an illustration of the excessive tension in the aortic system he cites instances of cerebral hemorrhage following delivery.

Involution following labor is usually prompt; where hemorrhage occurs, however, it is apt to appear immediately after delivery, and is often so excessive as to place the woman's life in peril. In other instances it may be tardy in its appearance, coming on in the course of the first few days of the puerperium. In such cases it usually persists in spite of treatment.

According to Leyden, 40 per cent. of parturient women suffering from advanced cardiac disease succumb from the complication of labor.

Degenerative changes in the myocardium incidental to the endo- and pericardial inflammations need not be considered separately. Acute fatty degeneration due to imperfect nutrition of the heart muscle is usually dependent either on a prolonged infection accompanied by fever, or on the cachectic state occurring as a result of faulty blood organization, as in the anemia of pregnancy. Such changes in the myocardium are usually progressive only in the sense of their connection with hypertrophy and dilatation.

Treatment.—Prophylaxis. In chronic disease where compensation is present there exists no indication against marriage. Such cases are progressive in their downward course, not so much from the complication arising from gestation as from the effect of repeated pregnancies. The conditions in advanced cardiac disease would likely prohibit the idea of marriage in the mind of the patient herself.

Considering heart disease in its early development, as it occurs in pregnancy, the first axiom of treatment is the avoidance of drugs where the heart's action remains regular. In the later stages cardiac stimulants, to equalize the circulation and overcome pulmonary stasis, are necessary. The use of digitalis, or strophanthus and nitroglycerin, together with laxatives and the employment of strychnin, is essential in this connection. The administration of potassium iodid or veratrum viride, in simple hypertrophy with overaction, may be indicated. Careful observation of the urine is essential, especially considering the frequent association of arteriosclerosis and nephritis with cardiac disease.

Much can be accomplished by diet and rest. Milk, taken both with meals and between them—substituted in fact for nitrogenous food, which under all circumstances is limited after the middle of pregnancy, is of great benefit. Jaccoud recommends one to one liter and a half, to be taken during the day in the first six months, and two liters during the last three. The albuminuria which is apt to be present in these conditions is a further indication for the use of milk.

The patient should lie down during an hour of each day, in cases where the cardiac disturbance is slight; in advanced cases confinement to bed, for at least the earlier half of the day, is of itself of great therapeutic effect. Cardiac exercise after the method suggested by the Nauheim regimen is obviously contraindicated, although in milder cases a certain amount of regular exercise, in the form of walking and without leaving the level, is indicated as a general hygienic measure.

Lactation is not to be advised, on account of the physical strain as well as its depleting effect in the demand on the watery constituent of the blood.

In the stage of asystole the energetic use of heart stimulants, together with venesection, is indicated—although interference from an obstetric point of view in these cases often becomes imperative. Such interference is also indicated in those cases where the circulatory disturbance is not great enough to point to a fatal outcome, and yet where serious aggravation of the heart symptoms may arise from the presence of uncontrollable vomiting. The loss of strength, the imperfect nutrition, and the depressing effect on the patient's nervous system may, in combination with the cardiac distress, render her condition critic.

As to the obstetric treatment, abortion is to be decried, and the induction of labor should be reserved for those cases in which further progress in the patient's condition means her destruction. It must always be borne in mind, however, that although delivery in these cases may benefit the fetus when it is viable, it does not always relieve the patient. In addition to this, labor when it occurs naturally, even in advanced cases, is usually rapid and free from great pain and stress. In difficult cases the use of forceps when the proper conditions are present, or resort to other procedures fitting the special conditions, is indicated. Hasty extraction of the fetus too abruptly decreases the abdominal pressure and disposes to hemorrhage.

In summing up the matter there are a certain number of cases in which the incessant dyspnea, the loss of sleep, and malnutrition from disturbance of the digestive system, although not of fatal import in themselves, call for extreme means of relief. The presence of nephritis also, when pointing to an unfavorable termination, may call for the induction of labor.

When sudden death threatens the patient before delivery can be accomplished, the child being viable, celiohysterotomy is to be performed. Vinay mentions fifteen patients who succumbed in such a crisis, and in this number seven were delivered *in extremis*. In three instances the child survived.

Two points in reference to treatment need to be discussed: One is the form of anesthetic to be administered in cases where operative interference is indicated; the other is the use of ergot. As to the first point, the contention that ether predisposes to pulmonary edema is offset by the fact of its less depressing effect on the heart than that of chloroform. The employment of ether, notwithstanding its risk—especially its predisposing action in inducing postpartum hemorrhage—is a conservative measure. This becomes evident when we compare its effect to the depressing influence on the patient of the prolonged and painful manipulation necessary to delivery.

The stimulating effect of ether used in the milder degree of anesthesia is shown in the record of the following case: A young primipara, on admission to hospital, gave the history of having received treatment prior to the beginning of her pregnancy, for so-called heart disease. Clinically the cardiac condition showed itself only in the physical signs. There was present a slight thrill, with diffuse impulse and accentuated second sound, accompanied by a rough, low-pitched murmur ending in the first sound—conditions indicative of mitral stenosis. The lesion apparently dated from childhood.

The gravida fell in labor without presenting any abnormality from her cardiac condition. During the second stage the expulsive pains became very severe. Suddenly, without warning, the patient became unmanageable, showing great mental excitement, with incoherence in speech. The administration of ether produced an immediately calming effect. This result was brought about probably by the stimulation of the heart's action, which overcame the cerebral ischemia responsible for the patient's excitement.

As to the second point, namely, the administration of ergot, the indications are against its use. The action of ergot in augmenting the pressure in the capillary circulation, the volume of which is greater than that of the arterial circulation, imposes a dangerous resistance to the already overburdened heart. Massage, hot douching, compression of the fundus, and the hypodermic administration of small doses of morphia, combined with strychnin, are measures preferable to the use of ergot.

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AMERICAN.

1.—**Tubercular Meningitis in Infants.**—Adams discusses the diagnosis and symptoms of tubercular meningitis in infants. The onset is insidious and, while the symptoms when well marked are characteristic, it is difficult in very young infants to recognize the condition in its beginning. The symptoms during the stage of irritation are hardly characteristic enough to lead even a careful physician to suspect the existence of so serious a disorder. He gives the details of four cases seen in consultation, in all of which he gave an unfavorable prognosis. (See Journal, Dec. 24, 1898, p. 1541.)

2.— See abstract in Journal, March 25, p. 663.

3.—Ibid.

4.—**Cancer of Uterus.**—Currier describes the forms and symptoms of uterine cancer, and states that one of the most unfortunate effects of the condition is the absence of pain until the degree of extension into the tissues that renders its extirpation impossible has been reached. Another misleading fact is the lack of physical signs of the disease in the general appearance of the patient until late in its progress. Hemorrhage is, as a rule, the first symptom. The treatment is purely surgical and is available only early in the disease. In other cases it can only be palliative.

5.—See abstract in Journal, May 13, p. 1057.

6.—**Treatment of Eclampsia.**—Allen reports three case of this condition successfully treated with an injection of sterile salt solution, into the tissues under the mammary glands. The child was lost in two of the three cases. The theory which he adopts of the pathology of the disease is that advocated by Schmorl, that it is due to a toxin developed in the placenta. Rational treatment consists in removing the placenta and as much of the poisoned blood as possible, and substituting a solution that is sterile and much like normal blood in its properties. It rapidly permeates the system, filling the bloodvessels and furnishing something for these and the heart to contract upon. It stimulates the patient when stimulation is most needed. It flushes the kidneys and stimulates them to secretion. It feeds the hungry tissues and sets up a reaction that is wonderful to see. Blood-letting, therefore, or favoring hemorrhage to a safe extent, is one element of the treatment, and he holds that it is contraindicated only in very exceptional cases. In concluding, he mentions the line of treatment when the attack is threatened and in the actual attack. For the former he advises purgation, warm baths, milk and water diet, sedatives to quiet nervous tendencies, and close examination of the urine, quantitively for the urea. If under this treatment the symptoms do not improve or grow worse, and the urea continues diminished, interference is justified. When the attack occurs the best thing is to give morphin hypodermically, and the delivery should be accomplished as soon as possible. After delivery do not stimulate the uterus to contract, but let it remain relaxed and bleed until the patient's symptoms show that she has bled sufficiently. As soon as possible after delivery salt solution should be introduced into the tissues. As much as 700 c.c. (175 ʒ) should be injected each time. The salt solution is indicated not only immediately after delivery, but for several days following, according to the condition of the patient. Elimination by other methods, bowels, kidneys, skin, must be attended to and a milk diet should be given.

7.—**Pain in Gynecology.**—Lomer's paper is concluded in this number of the *Journal*. He analyzes the symptoms of pain in the various regions and reports cases. The main subject of his paper is hysteric pain, and he has tried to consider the symptoms when of this character and when connected with given disorders, separately, and as grouped together. He thinks that he will have accomplished the object of his work if he has called the attention of gynecologists to the fact that before they take the knife to operate on any painful affection they should bear in mind the very common occurrence of hysteric hyperesthesia.

8.—See abstract in Journal, April 22, p. 875.

9.—**Enlargement of Liver in Infants.**—Berkeley reports six cases of enlargement of the liver, one of alcoholic cirrhosis in a child eighteen months old, one of dubious diagnosis, three of early congenital hepatic syphilis in children under 3 years old, and gives a review of a number of cases reported in the literature since 1886. The last case was apparently one of enlargement of the liver and spleen due simply to subchronic catarrhal icterus.

10.—**Influences of Play.**—McKee discusses the effect of play on the development of children. He considers that play is the best developmental agency in infancy and childhood, and that too much interference with it has a damaging effect. On the ethic side, however, there are points which need regulation, destructiveness as opposed to constructiveness. Cruelty and selfishness, which are natural in the plays of children, will have to be checked. Play unrestrained will best develop the animal, but the moral and mental side must not be neglected. The parent should act as a wise and lenient judge, recognizing the fact that he or she can not alone satisfy the child's needs.

14.—**Nasal Insufficiency.**—Grant reports, apropos to the paper of Dr. Newcomb (Journal, May 13, p. 1045, ¶ 29), that he had called attention to the subject in April, 1897, and reproduces the account of his most striking case. He calls particular attention to the remarkable applicability of Quinlan's forceps and Golding-Bird's curette in such cases. He considers Gottstein's curette as unsuitable for these cases. In any case the application of instruments for the removal of the adenoids should be accompanied or preceded by an exploration by the finger.

15.—**Nasal Atresia.**—Foster reports a case of congenital membranous atresia in a child 8 years old, existing only on one side. There was a suspicion of hereditary syphilis, and treatment for this condition was first used and then the case was operated on.

16.—See abstract in Journal, April 15, p. 820.

19.—**Cardiac Weakness.**—Robison reports a case of weak heart following yellow fever. He believes that where physical strain is eliminated in such cases, toxic agents or the reflexes of intercurrent disease will be found to be the cause. Cardiac weakness is more common than is generally supposed, and it is a good idea to keep this in mind in the treatment of infectious diseases.

21.—**Diphtheria in Cook County Hospital.**—Wells reports the results of antitoxin treatment in the contagious ward in the Cook County Hospital for four years, as a sort of supplement to the report already given by Brennecke. Only such cases are included as have recorded the presence of the diphtheria bacillus. The mortality of cases from February, 1897, to February, 1899, was 10.9. The laryngeal cases were fifty-five, with a mortality of 33.3. According to the day of administering the antitoxin the results are as follows: First and second days, cases 76, died 5, mortality 6.6 per cent.; third and fourth days, cases 86, died 18, mortality 20.9 per cent.; after the fourth day, cases 82, died 22, mortality 25.8 per cent. These figures include the whole four years from 1895 to 1899. Local and systemic treatment were used; local chiefly consists of swabbing the throat with Loeffler's solution (50 per cent.), together with gargles of chlorid of potash. No unpleasant symptoms except a slight urticarial eruption in a few cases were observed. Many cases of simple tonsillitis received the serum while waiting for the diagnosis, without any ill effects.

22.—**Paraplegia and Tetany.**—McCaskey reports a case of paraplegia with paroxysms of the limbs due to gastro intestinal autointoxication, treated by antiseptic irrigation of the colon and stomach with general hydrotherapy and brain galvanism; rapid recovery. He emphasizes two points in cases where chronic autointoxication is suspected. One is that a negative statement of the patient in regard to stomach trouble is of no value; the other, that the chemic composition of the gastric juice may be normal and yet a severe infection exist in the intervals of digestion. (See ¶ 55, p. 1165.)

28.—**Locomotor Ataxia.**—Dercum reports a case of a man aged

26 years, married, with two healthy children, whose disorder commenced two years ago and was clearly a case of locomotor ataxia. There was no evidence of specific infection. The man's habits have not been such as to expose him. Dercum believes that there is a certain percentage of cases like this, probably 10 per cent., that are not specific. The man was a railroad engineer, subject to much exposure, and he suggests that this occupation may have been the cause.

30.—**Uterine Fibroids.**—Hardon remarks in regard to fibroid tumors that they are not essentially pathologic but simply overgrowths of normal tissue. Their causation is obscure and their symptoms are due to their mechanic action. They consist of hemorrhages and such symptoms as are produced by pressure on the neighboring tissues around the fibroids, especially those that are submucous or fastened to the internal lining of the uterus, where they act as foreign bodies producing hemorrhage. It is the location of the growth that causes its peculiar symptoms. They may seriously complicate pregnancy and he mentions a case in which birth was very difficult on account of the fact that the child was entangled among five large fibroid tumors. Their treatment depends on their location and symptoms. If there are no symptoms nothing need be done. There are only two drugs that have the power of arresting uterine hemorrhage, hydrastis and ergot, and in some cases they may be effective but they fail in cases of submucous tumors. Curetting of the cavity will sometimes prove effective, but this method failing, nothing but the removal of the tumor will suffice. If it is a mere polypus its removal is very simple and a subserous fibroid is also easily removed by laparotomy. When the tumor is located within the walls of the uterus, however, especially if it involves a large part of the uterine wall so that it can not be shelled out, hysterectomy is the only resource. In a few cases removal of the ovaries has done some good and practically cured the patient.

32.—**Circumcision.**—Hancock describes a method in which he makes a double operation, taking one-half of the foreskin at a time, and claims that this method has special advantages in not interfering with the circulation.

36.—**Proctitis.**—Gant describes the symptoms and treatment of these affections. Proctitis is rare except as a symptom of some more serious condition—gonorrhea and dysentery. Occurring independently, it may be acute or chronic; children are liable to the former, old people to the latter. It may be due to any irritation. The symptoms vary with the severity of the case; any local symptoms found in any localized intestinal inflammation may be present in proctitis. A simple acute attack may be over in eight or ten days; a chronic case will last as long as the irritation that produced it exists or the local changes induced may last. When the inflammation becomes diffused in the loose surrounding tissues we have a periproctitis ending in ischiorectal abscess. The treatment consists essentially in the removal of the irritation, together with such local measures as are required. It is essential to keep the bowels open and to avoid dietetic errors. In case of abscess that can not be aborted by cold, leeches, etc., an early incision, curetting and disinfection of the cavity is best. It is important to avoid burrowing of pus and formation of fistulæ.

37.—**Pruritus Ani.**—McAdams says that while pruritus is not strictly a rectal disease, it is so frequently a complication of disorders of the rectum that it is commony classed with them. The only symptom is itching and its results; the treatment consists in removing the cause if possible—hemorrhoids, parasites, etc.—and looking after general hygiene and pqysical health. Local treatment is often a failure; hardly any disorder has had so many drugs recommended for it with poor results. The best local remedy, the author says, is carbolic acid with glycerin or olive oil, 20 or 30 grains to the ounce. Sulphur, tar, boric acid, camphor, menthol, etc., are also mentioned in various combinations. He thinks vaselin a poor vehicle as compared to lard in ointments for these affections. The prognosis should always be guarded.

39.—**Internal Hemorrhoids.**—Green describes the clamp and cautery operation for hemorrhoids, reviewing its advantages and answering the objections that have been made to it. He believes that the latter are really confirmations of its value and that experience only confirms the trust in its efficiency.

45.—**Lecture.**—Dr. Quine's lecture is the same, with some modifications, that appeared in the *Chicago Clinical Review*, June, 1898.

46.—**Dysmenorrhea.**—Newton describes the various forms of dysmenorrhea that are commonly met with—the neuralgic, the most frequent, and which is due probably to abnormalities of development, the obstructive, the congestive and the membranous forms. Each of these is described as to its symptoms. Most cases can be relieved, and some can be cured. The membranous form is the most difficult to treat. The treatment of dysmenorrhea is detailed. It must be constitutional as well as local; the patient must have the proper diet between the periods; the bowels must be kept regular; work must not be excessive; sleep must be sufficient; exercise should be taken and there should be no severe nervous strain. The diet should be specified according to the needs of the case. If the patient is anemic or chlorotic, iron is indicated, provided her alimentary canal is in proper condition. To give it when the tongue is coated does more harm than good. Blaud's pills, or tinctura ferri chloridi, with either dilute muriatic acid or phosphoric acid, is preferred by Newton, to the newer preparations. Electricity is very efficient as a cure for neuralgic dysmenorrhea and in many of the so-called obstructive cases, and should be used first in cases with marked retroflexion. Marriage, if followed by pregnancy, cures as a rule, but it should not be recommended in case inflammatory conditions exist. Operative treatment consists of the dilatation of the os, Alexander's operation or ventrofixation in cases of retroflexion, when other means fail; and such diseases as endometritis, salpingitis and ovaritis should be looked after as the conditions require. In membranous dysmenorrhea the uterus should be dilated, curetted and afterward treated with a solution of zinc chlorid or carbolic acid or iodin. Palliative drugs to relieve the pain are numerous; among them he mentions viburnum, pulsatilla, gelsemium and cannabis indica. Kryofin and phenacetin have sometimes given satisfaction. In rheumatic cases the salicylates are used. In very severe, painful cases, rest in bed, hot drinks and hot fomentations are advised.

47.—**Wounds of Eyeball.**—Nance reports a case of a perforating wound and discusses the condition. It must always be considered as serious. Injury to the posterior chamber, the lens, or the ciliary body, is liable to be present. Asepsis must be complete. In emergency cases a thorough and careful examination should always be made and a solution of atropin sulphate be used early and continued where the cornea or iris is injured or the latter likely to be involved. Boric acid or sublimate solution should be used freely and frequently. Bandages should be applied unless there is a catarrhal or purulent discharge. Cold compresses may be used early, but later, with active inflammation, hot applications will be better. He advises, in all cases of ocular injury, attention to the following points: Carefully test the vision of both the wounded and the sound eye and record the same. In the examination and treatment, be as particular as when operating in the abdomen. Do not fail to impress your patient with the dangers of sympathetic disease in the sound eye, and if removal of the eye seems to be indicated, insist on it or withdraw from the case. In operating on a minor, obtain a written consent of the parent or guardian. When search is to be made under general anesthesia, for a foreign body within the eyeball, obtain consent for performing total excision if the body is not found.

48.—**Treatment of Neurasthenia.**—Moyer insists on the following points: obtaining of rest and sleep, regulating the diet, excluding red meats, and recommending four meals a day; the use of cold water externally, preferably the sheet rub of Winternitz, the method of which he describes; drinking regularly and plentifully of water and the free use of tonic doses of strychnia.

49.—**Radical Cure of Hernia.**—Lee describes an operation in detail for the radical cure of hernia without the use of buried sutures, thus avoiding the possibility of later infection by their presence and the difficulty of managing it. His method can not be given in detail here. He has found it to give perfect satisfaction. (See ¶ 63, p. 1165.)

51.—**Creosote in Tuberculosis.**—Coulter reports three cases treated by gradually increasing doses of creosote with good results, the number of minims taken running to as much as 100 at a dose or 300 daily. Merck's preparation was employed and seemed to be well tolerated. As adjuvants he used cod-liver oil, strychnia, etc.

52.—**Tuberculosis Treatment.**—Waxham considers physical treatment and exercise more important than drugs in tuberculosis. The proper direction of the mode of life, guarding against excesses of all kinds, improving the surroundings, avoiding overwork or worry, improving digestion and nutrition, outdoor life, cleanliness and cold sponge baths are the special indications, to be used as the case requires.

53.—See abstracts in Journal, April 8, p. 765; May 20, p. 1108, ¶ 114.

54.—**Blue Disease.**—Hoag considers the etiology and gives the autopsy report of a child of 5 days.

55.—See ¶ 22, p. 1164.

57.—See Journal, April 8, p. 765.

58.—Ibid.

59.—See abstract in Journal, April 8, p. 764.

60.—Ibid, April 22, p. 876.

61.—Ibid, p. 877.

62.—Ibid, p. 876.

63.—See ¶ 49, p. 1165.

66.—**Ocular Changes in Disease.**—Schutz concludes his continued article on the ocular changes as an aid to the general practitioner in diagnosis, with remarks on those connected with special diseases, the recognition of functional optic disorders, with report of a case of presumed brain tumor, and finishes with the following propositions: 1. Eye symptoms are of paramount importance to the practitioner in arriving at proper conclusions in diagnosis. 2. Be ever on the alert for signs of changes in the ocular apparatus, no matter how simple or complex the case. 3. Having recognized certain ocular disturbances, but not qualified to judge their significance, secure aid of an oculist before concluding the diagnosis.

67.—See abstract in Journal, May 6, p. 991.

68.—**Tuberculosis of Lymph-glands.**—Kyger describes the etiology, symptoms and treatment of scrofulous gland disease. The infection may reach the glands by absorption through the skin, by way of the respiratory tract or through the alimentary canal. It may be either primary or secondary; in cervical adenitis it is nearly always primary and generally so in the bronchial glands. Mesenteric lymph gland involvement is generally secondary to lung disease. The treatment consists largely of general measures for the improvement of the health and fortifying the system against the disease. Syrup of iodid of iron, cod-liver oil and the maltine preparations are commonly prescribed, and are of value. Change of climate is often beneficial. Removal of any sources of continued infection about the throat and mouth is needed. Operation in cervical adenitis shortens the disease, prevents scars and lessens danger of infection elsewhere; it is advisable in most cases. Prophylactic measures against tuberculosis are applicable and necessary for this class of cases.

72.—**Treatment of Stomach.**—Leonards describes Turck's method and apparatus for the treatment of the stomach and intestines and mentions the good results which he has seen from them.

74.—**Texas Warm Springs.**—Black speaks of the value of the hot springs of Waco, Texas, which he claims have the same therapeutic value as the hot springs of Arkansas and of Topo Chico at Monterey.

77.—**Paroxysmal Tachycardia.**—Mackay reports a case in which there there was a pulse of 230 per minute with great distress, apparently originally due to heart strain from overexertion in a forced march during the Civil War, and which seems to have been largely neurotic, and was relieved by drinking ice-water. It was erratic in its appearance and disappearance.

80.—This address appeared in full, in the Journal, May 13.

83.—This paper was printed in full, in the Journal, March 4.

84.—**Gall-stones.**—Brockman describes the symptoms of cholelithiasis and its complications and results. It is a safe rule to call all frequently-recurring febrile attacks of pain in the right hypochondrium cholecystitis that are not localized peritonitis or renal disorders. The prognosis depends on the character of the disease and the treatment. The treatment varies with the case. During the attack the patient should be relieved by hypodermics of morphin or, if necessary, whiffs of chloroform, and should be relaxed by hot baths. Food should be withheld and drugs are generally useless. After the stone has passed the duct, the patient should take a dram of sodii phosphate in water, two or three times a day, before meals, for months, or until cured. He describes the method of operation in cases of lodgment. The complete removal of the gall-bladder is advised by some surgeons and the so called ideal cholecystotomy is theoretically best, but he thinks simple cholecystotomy the best and safest operation.

85.—**Smallpox.**—Corlett speaks of the lack of familiarity with smallpox at the present time, on the part of practitioners, and the consequent difficulties in diagnosis. He points out the distinctive features between it and measles, scarlatina, impetigo, etc., and shows how a question as to diagnosis in one case had an important influence in determining military policy during the late war. The premonitory symptoms of smallpox have been also mistaken for la grippe, during an epidemic of the latter disease. Varicella is one of the disorders most frequently causing trouble in diagnosis. Its multiform and successive, but short lived eruptions, are characteristic. Syphilis has occasionally given trouble in diagnosis, but is commonly easy to distinguish. As regards treatment, Corlett thinks a well-managed, accessible, isolation hospital affords better chances than home treatment, but such are not always found. Light diet, cool baths, and in many cases stimulating remedies, are indicated. Pitting can be largely prevented by careful opening of the lesions and washing out with weak antiseptic solutions—boric acid, formalin or carbolic acid.

92.—**Antitoxin in Diphtheria.**—Sebastian reports seventeen cases of severe diphtheria, mostly treated with antitoxin; one death—antitoxin not used. A large number of milder cases were treated without antitoxin. The diagnosis was on clinic symptoms in all cases. In one, eleven days after the last injection, there was fever, pain in joints, headache, and convulsions, all arrested by treatment, and recovery satisfactory; no albumin in urine. Sebastian queries whether these symptoms could have been caused by the antitoxin.

93.—See abstract in Journal, May 6, p. 1000.

96.—**Leprosy and Contagion.**—Chew maintains that leprosy is not contagious in the sense that it can be conveyed otherwise than by inoculation. He has been treating leprosy for twenty-two years in British India, and this opinion is the result of his experience.

100.—**Hydatidiform Mole.**—Taylor discusses the origin, diagnosis, symptoms and treatment of hydatidiform mole of the uterus, and reports a case. The diagnosis is based on the customary symptoms, which are: sudden interruption of pregnancy with greatly increased reflexes and failing health, inordinate enlargement of the uterus, characteristic currant juice discharge with occasional cysts and violent hemorrhage occurring about the third or fourth month. In cases where attachment is loose the treatment may be by ergot alone, and where hemorrhage is excessive, tampon and ergot. In some cases a digital examination should be first made to ascertain if there is any thinning of the uterus wall. The blunt curette alone should be used, accompanied as far as possible by the finger, to avoid accident. After the curettement, ergot should not be neglected. Hot water will usually control hemorrhage, but if it fail the usual remedies in postpartum hemorrhage should be employed, even to the extent of applying pressure to the abdominal aorta if required.

101.—**Therapy of La Grippe.**—Whittaker sums up the treatment in a general way, as follows: 1, elimination; 2, supporting the strength; 3, measures to relieve the discomforts of the patient; 4, protection from cold, work and worry, to avoid complications and sequelæ.

102.—**Clinic Diphtheria.**—Johns gives a complete and exhaustive treatise on diphtheria, the subject being handled historically as well as practically. Special detail is made of the development, preparation and administration of the antitoxin.

103.—**Hydrophthalmos.**—In studying the causes of hydrophthalmos, Pyle makes two distinct classes: 1, true hydrophthalmos, depending on congenital defective development of the cornea, iris or filtration channels; and 2, hydrophthalmos secondary to fetal intraocular inflammation, usually in the form of iridokeratitis or iridocyclitis and keratitis, causing closure or obstruction of the iridic angle and the filtration channels. Discussing operative treatment, the writer differs from the ordinary textbook in giving a favorable prognosis in many cases of hydrophthalmos in which operation is resorted to early.

104.—**Strontium.**—In an experimental investigation of the physiologic effects of the salts of strontium on the lower animals, Wood and Arnold demonstrated that the drug acts directly both on the heart and capillaries; the action on the heart muscle is similar to its action on the voluntary muscles. They conclude that strontium is a muscle poison which stimulates the muscle and afterward paralyzes it, and that its stimulating effect on the circulation is the result of the wide spread general influence of the drug on the muscle fibers, both of voluntary and involuntary life. In view of the above conclusions, a clinic test was made to determine the value of the drug in the treatment of cardiac diseases accompanied by loss of circulatory power. Six organic cardiac cases were used for the exhibition of the drug; the therapeutic test tended to show, however, that the drug was without value in the treatment of cardiac disease. Furthermore, it was observed that only a very small amount of the strontium can be absorbed from the alimentary canal. When strontium salts were exhibited continuously for a length of time, continuing absorption leads to some accumulation in the system, which in turn produces persistent elimination through the kidneys.

105.—**Appendicitis.**—Whalen makes the importance of surgical interference early in appendicitis emphatic, reviewing some 6500 collected cases classified under the headings of catarrhal, suppurative, and recurrent appendicitis, of which 1400 were treated medically. Of these 252 died, a mortality of 18 per cent. Of the remainder of 5100, 987 were operated on during the catarrhal stage; 50 died, a mortality of 5 per cent. Of 2630 cases operated on during the suppurative stage, 526 died, a mortality of 20 per cent. There were 1483 cases of recurrent appendicitis with 35 deaths, a mortality of 2¼ per cent., showing a low mortality in recurrent forms, possibly due to immunity acquired by repeated irritation. Out of 5100 subjected to operation, 1483, or 29 per cent., were recurrent forms of the disease; adding to this the 18 per cent. mortality of medically treated cases, it is shown that about 47 per cent. of cases either die or do not fully recover from appendicitis. Contrasting with this is the death rate of only 9¼ per cent. of cases treated surgically by the various operators. Summarizing the opinions of eighty-five men eminent in medicine and surgery, the writer maintains that all patients with appendicitis who do not show improvement at the end of thirty-six hours should be subjected to an operation—considering a delay beyond that time both dangerous and unscientific. A portion of this paper, presented before the Chicago Medical Society, was noticed in the JOURNAL, April 22, p. 876.

106.—**Brown-Sequard Paralysis.**—The paralysis in this case appeared only one year after the syphilitic infection, a typic case as far as sensory disturbances are concerned, but deviating in the absence of a pure monoplegia, as the opposite extremity was markedly paretic.

107.—**Compression of the Spinal Cord.**—Woldert points out the susceptibility of that portion of the spinal column in the region of the fifth cervical vertebra to suffer trauma. Unconsciousness is an early symptom when there is compression of the cord from fracture or dislocation. Hyperpyrexia is to be considered an unfavorable symptom when occurring several days after fracture or dislocation. In cases of hematorrhachis the symptoms may not manifest themselves for several hours after injury.

108.—**Blood Examination in Typhoid.**—Red corpuscles were found uniformly reduced in number; in only six of the ninety cases did the count reach or exceed five million to the cubic millimeter. The average count for the first week after the disease was 4,319,714, for the second week 3,875,000, for the third week 3,206,333, for the fourth week 3,191,680, while during the fifth week a gradual increase was observed—3,203,700. The reduction of hemoglobin was almost a constant feature, keeping pace, however, in a very irregular way, with the diminution in the corpuscular elimination. The reduction of hemoglobin began with the first week, reached its lowest point in the fifth, after which it began to increase. Hypoleucocytosis was noted in the majority of cases. The average count for the first week was 5358, for the second 4326, for the fourth 4400, for the fifth 4714, for the sixth 3933. Beginning in the first week in uncomplicated cases, a steady decrease in the relative number of polymorphonuclear cells, and an increase in the juvenile forms was observed, so that at the beginning of the third week this form of cell predominated; this increase concerned the large lymphocytes principally. (See JOURNAL, March 11, p. 551.)

110.—**Cardiac Thrombosis.**—The patient, a woman aged 38, was under observation for one year before death, and presented symptoms of cough, dyspnea, later cyanosis with edematous extremities, the heart irregular, tachycardia marked (140), attacks of cardiac dyspnea frequent and distressing; gastric symptoms eventually developed. No endocardial sounds were discernible. The postmortem disclosed a soft gelatinous growth or mass the size of a walnut, attached by a short pedicle to the auricular septum, and protruding into the left auricle, almost completely obstructing the mitral orifice, but easily displaced. On section, the growth was shown to consist of old, partly hyalin fibrin, with much blood pigment, and, in places, connective-tissue substitution.

115.—**Army Rations.**—Woodruff compares the United States rations with those of seven other countries, and states that the defect of our system is the lack of flexibility or compatibility to varying conditions, especially in time of war. The changes that have been made are in the right direction, and it is hoped that still further improvement will be made.

117.—**Idiopathic Epilepsy.**—Leszynsky outlines the diagnosis and general management of cases of so-called idiopathic epilepsy. As a general rule epilepsy is easily diagnosed, yet there are cases which may cause confusion, hysteric attacks for example, and attention should be given to the presence of hysteric stigmata in the intervals. Hysteria may complicate epilepsy, thus causing difficulty in the diagnosis. The minor attacks, or petit mal, may pass unnoticed for a long time. When the diagnosis is made, a study of the general condition of the patient is essential, and any case of reflex irritation must be rectified. Dr. Leszynsky thinks there are some cases in which epileptic attacks do not recur after the correction of disorders of refraction. The same happens sometimes after the removal of other peripheral irritation, but he believes that no permanent cure is obtained without additional hygienic and medical treatment. The removal of the ovaries he condemns, except possibly as a prevention of inheritance. Diet and metabolism should be regulated, and he believes the epileptic attacks are frequently the results of defective action in these particulars. Bromids are the standby among drugs, and the bromid of sodium is the one preferred. It should be given in doses of from 10 to 20 grains three times a day, or, when it is not tolerated, as is sometimes the case, chloral hydrate in doses of from 5 to 20 grains may be substituted. At times additions of atropin or digitalis prove more efficacious. The early recurrence of attacks after a sudden discontinuance of the bromids is a very common experience, and he illustrates this by an observation, in an epileptic ward, with seventy-eight patients, where from ten to sixty fits occurred in the twenty-four hours under no special treatment whatever. At the end of two weeks after the beginning of the systematic use of the bromids, fits were almost entirely abolished. Then from a failure of the supply of the drug, it was abruptly discontinued, and on the following day nearly sixty fits occurred.

119.—**Absence of Nucleated Red Corpuscles.**—Billings' paper treats of the importance of the presence or absence of nucleated red corpuscles in the blood in cases of severe anemia. In this disorder the bone marrow is overtaxed, and nucleated red corpuscles occur in the circulation. Their presence is evidence of increased activity on the part of the marrow, and in cases where there are 1,500,000 or less of red corpuscles to the cubic millimeter and nucleated corpuscles are absent, it indicates that the blood-making power of the marrow is inferior to the demands, and the prognosis is therefore necessarily grave. Where the red blood-corpuscles are above 1,500,000, the presence or absence of nucleated corpuscles is of less importance, but when they are below that number and no nucleated red corpuscles are found, a fatal result may be expected. Five cases are reported as illustrating these views.

122.—**The Term "Appendicitis."**—Rose calls attention to the bad Greek of the term "appendicitis" and maintains that it should be abandoned. He would substitute "scolecoiditis," as suggested by Gerster, or "ecphyaditis," as suggested by Morris. He also alludes to some other terms which have gotten into medical language, as being open to the same objection, among them "polyclinic," which should be "astyclinic"; pathogenic, cardialgia and hydrophobia.

123.—**Valerianates of Creosote and Guaiacol.**—Briggs states that his attention was called within a year to the two new esters of the drug creosote, namely creosote valerianate (eosot) and guaiacol valerianate (geosot). Since that time he has prescribed them whenever creosote or guaiacol have been indicated, and he reports four cases thus treated and refers to five more that have been or are still under treatment. Three of the cases were incipient tuberculosis, and two of these apparently made complete recoveries, while the third, still under treatment, promises to do the same. Of the five chronic cases, three have improved, another has received some benefit, and one has died. The four living are still under treatment. He believes that these remedies have decided advantages and are perfectly safe to be prescribed whenever creosote is indicated. The eosot and geosot are non-toxic and non-irritating. The dose is less than that of creosote—from 3 to 10 drops, and 10 to 30 minims daily. The drug always acts as a tonic and relieves dyspeptic symptoms as well as cough, expectoration, night sweats and hemorrhages. Their disinfectant properties are satisfactory in their results, and the sedative action of the valerianates is shown by their beneficial effects on the nervous symptoms.

124.—**Diabetes Mellitus Following Mumps.**—Harris states that his attention was first directed to a possible relation between a morbid condition of the salivary glands and those of the pancreas by the history of the patient, which he gives, and in which the diabetes appeared to directly follow an attack of mumps. He reports another case in full, with autopsy and microscopic examination of the organs, as showing the relation between the pancreas and the salivary glands. He concludes that diabetes may follow mumps so quickly that there is at least a strong suspicion that the former disease may be induced by the latter. On account of the close structural resemblance between the salivary glands and the pancreas, it would seem possible that a disease like mumps, which causes changes in one would sometimes produce alterations in the other. There is no well-authenticated case of pancreatic inflammation following mumps, but in at least one reported case there is a suspicion of its having done so. Inflammatory changes in the pancreas, becoming chronic, will cause disturbed functional disturbances, which in all cases, when sufficiently marked, probably lead to diabetes.

126.—See abstract in Journal, May 13, p. 1047, ¶ 77.

127.—**Erythema Scarlatinoides.**—Taylor describes this as a non-contagious eruption closely resembling scarlatina in its cutaneous manifestations, but differing in its future course. The attack comes on suddenly, probably preceded for a day or two by malaise and a slight febrile disturbance, with a decided chill and a temperature ranging from 100 to 103. Eruption appears at the same time and may occur anywhere, though generally first on the trunk, spreading over the entire body. It is generally uniform and of an intense scarlatina redness, though it may be punctate, with some pinhead vesicles. Frequently there are sharply defined patches, especially on the face. There is redness of the mucosa of the mouth and throat, the tongue is foul, and, according to Morris, rarely has a strawberry appearance. Sometimes there is burning and itching of the skin. The fever lasts only a day or two and desquamation occurs at once, sometimes in large flakes. Rarely, the hair and nails fall off. The difficulty in this disease is in the diagnosis from scarlatina, which is made generally by the absence of the strawberry tongue, slight constitutional disturbances, quick desquamation, etc. He reports a case.

130.- **Lymphatic Leucemia.**—Fisch reports a case in a child of 10 years but an autopsy was unfortunately not permitted. The case is, therefore, not quite complete. In this case he does not find the slightest evidence of transitions between lymphocytes and polynuclear cells, nor could he confirm Loewit's assertion as to the presence of parasites. He considers Neusser's perinuclear granulations as artefacts due to impurities of the staining solution.

131.—**Tetanus after Vaccination.**—Chase reports a case of vaccination in a boy about 12 years of age in whom tetanic symptoms followed vaccination, on the twentieth day, followed by death in six days. He does not state any particulars in regard to the vaccination excepting that it was done by the officer of the board of health in the ordinary way with the usual precautions. The source of infection is therefore not known.

133.—**Cleansing of Hands.**—Bartlett describes the method used by him for surgical cleansing of the hands as follows: He first washes the hands as thoroughly as possible with hot water; soap and brush are then applied; next vaselin, which has been boiled in a glass jar, rubbing off the surplus with a sterilized towel, taking particular pains to rub the vaselin into the depressions around the nails and under the ends of the same. The hands may then be dipped in any antiseptic solution with the result that the exterior of this impermeable coating is rendered aseptic, while any germs that may still remain in the hands are covered up sufficiently and out of the way. Six months' experience with this method has given him confidence in its effectiveness.

135.—**Sporadic Purulent Meningitis.**—Boston reports four cases of sporadic cerebrospinal meningitis in the Philadelphia Hospital. He concludes that sporadic purulent meningitis may be the result of any pus-producing organism. In one of these cases the pneumococcus alone was found, in another the micrococcus tetragenus, and in the other two different organisms, the colon bacillus, micrococci, etc.

136.—See abstract in Journal, May 6, p. 999.

FOREIGN.

British Medical Journal, May 6.

Remarks on Differential Diagnosis of Insular Sclerosis from Hysteria. Thomas Buzzard.—The writer remarks on the differential diagnosis between insular sclerosis and hysteria, and some of the symptoms on which the diagnosis depends are reviewed. The loss of power, which in hysteria is apt to be more general and more apt to be attended with anesthesia; transitory squinting which is not hysteric, and loss of vision with very slight optic atrophy all indicate sclerosis. Loss of knee-jerk, ankle clonus, intention tremor and bladder troubles—more frequent than in hysteria—are also indications of insular sclerosis. In hysteric paraplegia there are certain symptoms more or less characteristic, such as anesthesia of the lower limbs, which is especially functional; absence of plantar reflex, and rapidly occurring hysteric contracture of the lower limbs. Babinski has lately called attention to the modification of the plantar reflex in which excitation of the sole causes extension of the toes, especially the big toe, which never occurs in health, or when the pyramidal system is unaffected. Buzzard has been able to confirm these observations of Babinski.

On Physiologic Action of Cholin and Neurin. F. W. Mott and W. D. Halliburton.—The writers have investigated cholin, a material found in the cerebrospinal fluid, in cases of brain atrophy and especially in paresis. They have also identified this substance in the blood removed by venesection during convulsive attacks of paretics. It is not found in normal cerebrospinal fluid. It is an indication of disintegration of cerebral tissues, and when injected into the veins in a 0.2 per cent. solution it causes a marked falling of blood-pressure due to the dilatation of the peripheral vessels, especially in the intestinal area. It also causes a marked contraction of the spleen. The action of the splanchnic vessels is due to the direct action of the base on their neuro-muscular apparatus, for it continues after isolation of the central nervous system by section of the cord. It has no action on nerve-trunks and no effect on respiration. The effects soon pass off, partly on account of the dilution of the substance in the blood and possibly to chemic changes taking place in the system. It is not found in the urine. If the animal has been given morphin and atropin injections of ether or A. C. E. mixture, cholin produces a rise of arterial pressure instead of a fall, showing that one poison was thus influenced by another. This fact has apparently some bearing on paresis, in which the tension is usually high instead of low. They also investigated the action of neurin injected intravenously, and found somewhat similar effects but some marked differences. Neurin is intensely toxic to nerve-trunks and produces a marked effect on respiration.

On Atrophic Marasmus of Nurslings—So-called Hospitalism or Athrepsy of Parrott. Adolph Baginsky.—The author believes that the atrophic marasmus of children is due not to an infection, as has been supposed, but to the want of proper and sufficient food, in fact to starvation.

Trachoma and Race. Major M. T. Yarr.—The writer goes over the literature of the occurrence of trachoma in various parts of the world and in different climates. The Japanese and Chinese appear to be the most susceptible. The climate of high altitudes is unfavorable to its development, but there are important exceptions to this, as it has been observed at Leadville and other elevated locations. He thinks that filth, overcrowding and starvation are factors increasing the racial susceptibility, favoring contagion and lowering the power of antagonizing disease. As to its being contagious he expresses a doubt.

Lancet, May 6.

A Clinic Lecture in a Case of Syringomyelia. W. S. Colman.—The author reports a case very elaborately and discusses the symptoms and pathology of the condition. The paper is illustrated, and also gives sections from another case which was under the care of Dr. Hughlings Jackson.

On Some Complicated Cases of Appendicitis and their Surgical Treatment. H. Betham Robinson.—The author mentions the anatomic relations of the appendix, and then reports four cases in which peculiar complications existed. He summarizes as follows: In a small proportion of cases of appendicitis with abscess, there is intraperitoneal extension of the liver region; pus may be either above or below the liver; and clinically there is considerable difficulty in determining when the apparent upper border of the liver is raised, how much of this is due to simple displacement upward by a fluid collection, or to a subdiaphragmatic abscess or to an associated lesion at the lung basis.

Serum Treatment of Plague. Frank G. Clemow.—The writer remarks on the treatment of plague patients in Bombay, with the Yersin-Lustig serums. The mortality with the former was 80 per cent., and it seems to make but little difference at what stage of the disease it was used. He concludes that however effective other serums may be, this one is not the specific for the disease. The doses given were increased to 60 c.c. (15 ʒ) per day, and he believes that the serum is absolutely ineffective. While he had fifty persons under treatment with the Yersin serum, only thirteen were treated with the Lustig preparation. The number, therefore, is rather small to form an opinion on, but the results were very similar to those treated with the other material.

Foreign Bodies in Pharynx and Esophagus. Robert Jones.—The treatment of foreign bodies in the esophagus is discussed in this paper, and the author believes from his experience: that bodies which have lain for some time and given rise to symptoms of obstruction, irritation, or dyspnea, should be operated upon without delay; that forcible attempts at extraction by the mouth are to be condemned; that sharp or irregular impacted bodies specially demand esophagotomy; that in certain cases gastrotomy is indicated, and in some a combination of gastrotomy and esophagotomy; that where the wound in the esophagus is jagged or its walls inflamed, no stitches should be used; that the routine practice, where the esophageal wound is clean-cut, is to stitch it up with a continuous suture, care being taken, as in the case of the intestines, not to pierce the mucous coat; that only in very exceptional cases, where no danger of suppuration and infection exists, should the external wound be closed; and that liquid food may be given by the mouth in about twenty four hours after operation.

Carbolic Acid as a Test for Albumin. Walter Colquhoun.—The author has found a saturated solution of carbolic acid in absolute alcohol a test equaling in delicacy the nitric-acid test. He floats a few drops of the test solution on the top of the fluid to be tested, by means of a pipette. Owing to the greater solubility of carbolic acid in alcohol than in water, the layer of test fluid on the surface becomes opaque, owing to the separation of carbolic acid, as water is imbibed between the urine and the alcohol. As the alcoholic solution of carbolic acid imbibes more water and becomes heavier, milky-looking drops may detach themselves and fall to the bottom of the test-tube. If much albumin is present, the whole of the fluid to be tested may become milky and the alcoholic layer may settle quickly to the bottom of the test-tube, with large, milky-white drops attached to it. In case, however, of only a small quantity, the test-tube must be allowed to lie for some time, as in the nitric-acid test, and the presence of albumin will be denoted by a milkiness extending a certain depth below the alcoholic layer. He made a series of tests to determine the delicacy of this method, and found no fallacies not avoidable by careful manipulation, and he can speak with certainty as to the presence or absence of albumin, with this test, while formerly it was impossible for him to do so.

Progres Medicale (Paris), April 29,

Present Treatment of Surgical Treatment of High Myopia by Removal of the Lens. A. Koenig. The advantages of removal of the lens in progressive myopia are extolled by Koenig, who urges the profession to enter on a crusade to educate the public in respect to the benefits that may be derived from it. Vision has always been improved, and detachment of the retina, the most serious consequence to be feared, is a rare occurrence. Parinaud has observed it only once; Pflueger once in 100 removals; De Wecker once and Fukala never. The operation is especially beneficial to subjects whose myopia prevents their earning a subsistence. He endorses Vacher's formula for the age indication: "Operate in the case of a child whenever there are as many D. as the child has years plus one"; 14 to 15 D. has been accepted as the limit, but the indications must depend on the age, as the myopia may continue increasing. The standard for vision has been accepted as $^1/_{10}$, but as vision even below this sometimes improves, this indication is not absolute. The counterindications are more precise: the operation should be rejected whenever there are too extensive choroidal lesions, changes in the transparent media, macular atrophy or pronounced amblyopia from strabismus. [Members of the Association will remember Harlan's two cases of high myopia cured by traumatic removal of the lens: one had a vision of $^{20}/_{30}$ thirty-three years later (see Journal, xxvii, p. 1133 and xxxii, p. 492). Fukala recently reported a couple of cases, one with —33 D., the other —11 D., in which the removal of the lens produced the surprising result that each is now practically emmetropic. *Wiener Klin. Rund.*, April 23.—Ed.] Koenig advocates simple linear extraction up to 30 or 35 years of age. After this age a flap extraction is more prudent. Discission is dangerous; liable to cause cyclitis, iritis and glaucomatous accidents and uselessly increasing the number of interventions which should at all costs be restricted to the utmost. The advantages of peripheral section are the perfect coaptation and rapid cicatrization. The essential point is to extend it a little beyond the limit of the transparent portion of the cornea, the triangular knife preferred. After wide circular discission of the capsule the fragments of the lens are removed with the curette, with slight pressure on the opposite side. He is now experimenting with a process to render the transparent substance opaque and thus visible, which would much facilitate the technic of removal.

Semaine Medicale (Paris), May 3.

The "Convulsive Tic Disease." Gilles de la Tourette.—This essentially chronic affection was described as a distinct morbid entity by the writer fifteen years ago, but is still constantly being mistaken for chorea, leading to erroneous prognosis and treatment. It always has a neuropathic foundation, although the intelligence may be above the average. It commences long before puberty, usually in the seventh to ninth year. The twitchings are abrupt, sudden, brief, more or less regular and co ordinated, usually involving only the muscles of the face or shoulders, and can be prevented or suspended for a few minutes by an effort of the will, although then recurring with redoubled intensity. They also persist to a slight extent between the pronounced paroxysms. As the spasmodic contraction occurs, the subject makes an involuntary exclamation, oh, ah, hum, and as this tendency increases with age, it forms one of the most characteristic symptoms, taking the form, in some persons, of repeating the word last heard—echolalia—but in the majority consisting of the loud, unconcerned utterance with the spasm of some obscene or opprobrious term—coprolalia. A number of observations are related, including a lawyer, a merchant, young ladies, and married women. Catrou's thesis in 1890 contained twenty-six unpublished observations. The prognosis is grave. The tics become a function of the individual as it were, but treatment of the underlying nervous and mental condition, a country life, isolation, will abate the symptomatic manifestations.

Cocainization of Spinal Cord. A New Method of Anesthesia.—A. Bier. The theoretic assumption that cocain introduced directly into the spinal cord would temporarily suppress the functions of the ganglion cells of the nerve roots and sheathless nerves has been fully confirmed by the results in various experiences. One-half to 3 c.c. of a .5 to 1 per cent. solution of cocain were introduced into the spinal cord through a lumbar puncture, In five to eight minutes the analgesia of the lower members was complete, extending then to the nipple line or including the entire body except the head, and continuing for about forty-five minutes, when it gradually passed away. Besides experiments on himself and his assistant, six patients were thus anesthetized and extensive osteotuberculous or myelitic foci evacuated and bones resected without the slightest pain, although tactile and thermic sensation was retained. There were no immediate disturbances in any case, but in three there was vomiting and an intense cephalalgia later, probably due to the presence of a heterogeneous fluid in the circulation. During the experiments on himself, Professor Bier lost quite a large amount of the cerebrospinal fluid, requiring nine days in bed before he could stand without vertigo. The original communication is in the *Deutsch Ztft. f. Chir.*, li, 3, 4.

Muenchener Medicinische Wochenschrift, May 2.

Large Amount of Ammonia and Other Nitrogenous Elements in the Soil Immediately Before the Cholera Epidemic at Hamburg in 1892. Max v. Pettenkofer.—The discovery of quantities of copper nitrates under the street and sidewalk, produced by electrolysis from copper electric wires under peculiar circumstances, is described by Pettenkofer as additional proof that the epidemic was due to the condition of the soil rather than to the drinking-water. Recent English reports also confirm this point of view. He mentions as another proof the fact that Munich ceased to have epidemics of typhus as soon as an efficient sewerage system was introduced, although the drinking-water remained unchanged. He appeals for further investigation in this line, instead of placidly accepting theories for facts, urging young blood to the task.

Centralblatt f. Chirurgie (Leipsic), May 6.

To Locate Foreign Bodies with the Roentgen Ray. R. Galeszzi.—In the contrivance illustrated in this article, the fluorescent screen and Crookes' tube are fastened together in a frame, so that the center of the tube is exactly opposite the center of the screen, where there is a small hole with a graduated millimeter scale. The distance between the tube and screen thus being a constant figure, comparison of the distances between the points marked on the skull through the hole, as the foreign body is radiographed at various angles, locates it with mathematic accuracy.

Deutsche Medicinische Wochenschrift (Berlin), May 4.

Atrophy in Infants. A. Baginsky.—The writer has established that this condition, "English marasmus," is the result of an atrophic change in portions of the intestinal canal, disturbing assimilation and tending secondarily to autointoxication and a predisposition to infection. The mucous membrane, the villi and the crypts of Lieberkühn swell and proliferate until completely destroyed in the atrophied patches which alternate with sound regions. The bones are not rhachitic.

Surgical Treatment of Ascites. Tilmann.—A case was recently reported by Talma in which an acute Bright's disease and liver affection in a nine-year-old lad, causing occlusion of the vena porta, was entirely cured by three laparotomies during which the gall-bladder, the great omentum and the spleen had been fastened to the abdominal wall. Between the point operated on and the intercostal veins a number of subcutaneous veins had developed, thus establishing a collateral circulation to which the recovery was evidently due. Tilmann has established the correctness of this assumption by experiments on dogs in which ligating the vena porta or mesenterica proved fatal in every case except when the abdomen had been previously opened and adherences produced between the omentum, intestines and abdominal wall, thus causing the development of a collateral circulation. He concludes that obstruction of the portal circulation, cases of cirrhosis, and all inoperable tumors compressing the vena porta, may be benefited to a remarkable extent by a simple surgical operation to produce collateral circulation.

How to Treat Furunculosis. A. Philippson.—Even the severest cases yield to the application of salicylic acid, either in the form of a 50 per cent. plaster, renewed three times a day, or after thermocauterizing the center of the abscess, introducing pure salicylic acid on a toothpick before applying the plaster. If extensive regions are involved the entire surface is rubbed three times a day with a 2 per cent. alcohol solution of salicylic acid, or a 2.5 per cent. salicylized vaselin once a day. With this treatment the abscess rapidly ripens and the core can be expelled in twenty four hours, while the immature furuncles subside and all further infection is prevented.

St. Petersburger Medicinsche Wochenschrift, April 29.

Effect of Bacterial Proteins and Deuteroalbumose on Leprosy. E. Soonetz.—The failure of the Carrasquilla serum treatment for leprosy (see Journal, xxix, 490, and xxx, 745) to accomplish more than a temporary improvement has also been the fate of tuberculin in the treatment of leprosy. But the temporary improvement is unquestionable. Professor Dehio is inclined to consider this benefit the result of the injection of the albumoses in the serum and the tuberculin, and that any bacterial protein or albumose would prove equally effective. Soonetz reports a number of experiences undertaken at his clinic to determine this question, which establish that persons affected with leprosy react to the injection of such substances with an elevation of the temperature and general disturbances, while there is no reaction in the case of healthy persons. They also establish that the effect on tuberculous and leprous subjects is identic with that produced by Koch's tuberculin. The substances used were the aqueous extract of the bacillus pyocyaneus, the protein of the bacillus prodigiosus and deuteroalbumose. The results encourage further research in this line, which may lead to the successful application of these substances to the therapeutics of leprosy.

Societies.

COMING MEETINGS.

American Medical Assoiation, Columbus, Ohio, June 6–9.
American Academy of Medicine, Columbus, Ohio, June 3.
American Medical Editors' Association, Columbus, Ohio, June 5.
American Dermatological Association, New York City, May 30, 31, June 1.
Association of American Medical Colleges, Columbus, Ohio, June 5.
Indiana State Medical Society, Indianapolis, June 1.
Indian Territory Medical Association. So. McAlester. June 20 and 21.
Maine Medical Association, Bangor, June 7.
Massachusetts Medical Society, Boston, June 13.
Medical Society of Delaware, Wilmington, June 13.
National Confederate State Medical Examining and Licensing Boards, Columbus, Ohio, June 5.
North Carolina, Medical Society of State of, Asheville, May 30.
Oregon State Medical Society, Portland, June 13 and 14.
Rhode Island Medical Society, Providence, June 1.

LaPorte County Medical Society.—At the recent meeting of this society, held at LaPorte, Ind., the old officers were re elected as follows: president, Horace Wardner; vice-president, John J. Kerrigan; secretary and treasurer, E. L. Annis.

Parke County Medical Society.—The annual meeting of this society was held recently at Rockville, Ind. The following officers for the ensuing year were elected: president, A. Martin; secretary, W. H. Gillum; treasurer, C. C. Morris.

Arkansas State Medical Society.—At its recent meeting (see Journal, May 20, p. 1111), the following officers were elected: president, C. Watkins, Little Rock; secretary, Frank Vinsonhaler, Little Rock; treasurer, J. J. C. Thompson, Pine Bluff.

Dubois County Medical Society.—This society held its semi-annual session at Huntingburg, Ind., May 10, and elected the following officers: president, E. G. Luke Meyer, Huntingburg; vice-president, L. B. Johnson, Ireland; secretary and treasurer, C. R. Ramsbrok, Huntingburg.

Ohio State Pediatric Society.—This society met at Springfield, Ohio, May 9, and will meet next year at Columbus, just preceding the session of the State medical society. The society elected officers as follows: president, T. Clark Miller, Massillon; first vice-president, W. S. Philips, Belle Centre; second vice-president, Bennetta D. Titlow, Springfield; secretary, D. S. Hanson, Cleveland; treasurer, J. B. McGee, Cleveland.

Wayne County Medical Society.—On May 18, about sixty members of this society visited, by invitation of the Washtenaw County Medical Society, the Michigan University at Ann Arbor. Clinics were held in the University Hospital by Drs. Flemming Carrow and C. B. Nancrede, in ophthalmology and surgery respectively. In the evening Dr. and Mrs. J. A. Wessinger gave a reception to the two societies.

Iowa State Medical Society.—The forty-eighth annual meeting of this society was held at Cedar Rapids, Iowa, May 17–19. Officers were chosen as follows: president, C. J. Maxwell, Keokuk; first vice-president, H. B. Criley, Dallas Center; second vice-president, G. E. Crawford, Cedar Rapids; secretary, J. W. Cokenower, Des Moines; treasurer, George R. Skinner, Cedar Rapids. The next meeting will be held at Des Moines.

Medical Society of Pennsylvania.—At the annual session, May 17, at Johnstown, Pa., this society chose Wilkesbarre for the meeting next year. The following officers were elected: president, George W. Guthrie, Wilkesbarre; vice-presidents, S. S. Towler, Marionville; John C. Sheridan, Johnstown; W. H. Hartzell, Allentown, and I. P. Klingensmith, Blairsville; secretary, G. L. Stevens, Athens; assistant secretary, E. V. Buckman, Wilkesbarre; treasurer, George Benson, Dunmire.

Brazos Valley Medical Association.—This association met at Marlin, Texas, May 9–11. The next session will be at Hearne, Nov. 14, 1898, and the following are the officers: president, I. P. Sessions, Rockdale; first vice-president, W. P. Gilstrap, Wheelock; second vice-president, W. T. McKnight, Marlin; treasurer, J. W. Hudson, Milano; secretary, W. B. Briggs, Easterly. A resolution was passed urging the passage of the bill now before the Texas legislature, or a similar bill, raising the requirements for medical practice in Texas.

Missouri State Medical Association.—The forty second annual meeting of this association was held at Sedalia, Mo., May 16–18, and the following are the newly-elected officers: president, W. B. Dorset, St. Louis; first vice-president, J. F. Binnie, Kansas City; second vice president, G. M. Nichols, Higbee; third vice-president, W. C. Overstreet, Sedalia; fourth vice-president, C. R. Day, Mayview; fifth vice-president, E. L. Priest, Nevada; recording secretary, B. C. Hyde, Kansas City; assistant recording secretary, Jesse S. Myer, St. Louis; corresponding secretary, E. L. Cave, Mexico; treasurer, J. F. Welch, Salisbury. The meeting next year will be held in Mexico, Mo., on May 18.

Charity Hospital Alumni Association.—The fifth annual meeting of this association was held in New Orleans, La., May 15, 1899. Dr. W. E. Parker read a historic sketch of the hospital, and the annual oration was delivered by Rev. Dr. Beverley E. Warner. The following officers were elected for the ensuing year: president, Charles Chassaignac; vice president, L. M. Provosty; secretary, Jacob Barnett; treasurer, M. H. McGuire. Drs. E. L. McGehee, E. D. Fenner and Herman B. Gessner were elected to serve on the executive committee with the president and secretary, who are ex-officio members. The meeting terminated in a banquet, which did much to promote the good-fellowship which is one of the main aims and objects of the association.

Ohio State Medical Society.—At the recent meeting of this society, Dr. Rufus B. Hall of Cincinnati was elected president for the ensuing year. Dr. A. J. Thompson, also of Cincinnati, was retained in his position of secretary. The annual address on surgery on the sickness of the late war was delivered by Dr. P. S. Conner. The society passed resolutions requesting the State board of health to investigate the spread of contagious diseases through the infection of railroad coaches and street cars. The election of officers resulted as follows: president, Rufus B. Hall, Cincinnati; first vice-president, John H. Rodgers, Springfield; second vice-president, C. E. Beardsley, Ottawa; third vice-president, D. G. Wilson, Ironton; fourth vice president, S. B. McGavern, Cadiz; secretary, J. A. Thompson, Cincinnati; treasurer, James A. Duncan, Toledo. The meeting next year will be at Columbus, but the date is not fixed. A committee was also appointed to petition the legislature to provide means of inspecting dairies to prevent the spread of consumption, scarlet fever and typhoid fever. Dr. M. P. Dandridge of Cincinnati presented a resolution that a committee be appointed to prepare an amendment to the present law requiring every one who wants to practice medicine in Ohio to be examined by the State board, before certificates be issued to them. This passed and the following committee was named; M. P. Dandridge, Cincinnati; C. C. Clark, Columbus; L. B. Tucker, Cleveland.

St. Joseph (Mo.) Medical Society.—At the regular meeting May 9, Dr. George Nash of Marysville reported a case of compound, comminuted fracture of the femur in which necrosis ensued, requiring operation. Treatment extended over a period of nine months, and resulted in perfect union, good use of limb and no shortening. Dr. Jacob Geiger read a paper on cancer. The Doctor argued that since cancer is increasing among Anglo-Saxons, it should receive more attention, closer study and investigation. All cancers spring from embryonic epithelial cells. The cells may wander and growths be found in places where epithelial cells have no province. Under irritation the cells reproduce rapidly, each crop being of lower vitality successively, until, in extreme cases, the disproportion between vascular elements, connective tissue and cancer cells is so pronounced that the encephaloid type exists, being practically a mass of free cancer cells. The older the person and slower the growth, the more favorable the prognosis. When secondary deposits appear, operation should be discountenanced. Young people succumb in three or six months. Sarcoma arises from connective tissue cells and is never encapsulated; carcinoma always.

Detroit Medical and Library Association.—At the meeting May 15, Dr. Fritz Maass read a paper on "The Treatment of Severe Septic Processes of the Extremities." The Doctor's motive for writing the paper was an experience with a few fatal cases of sepsis due to strepto- and staphylococcus infection, originating from insignificant wounds or sores. The treatment had been rest, small incisions, poultices and ice-bags. Rest, he said, is the first requirement in these ailments and frequently leads to rapid restoration. Symptomatic and etiologic treatment is also necessary. Heart stimulants are rarely required if the etiologic treatment is properly conducted. We can never be sure that heart-failure will not be more severe after the stimulant effect has passed off. The etiologic treatment is expected to destroy, attenuate or eliminate the microbes or their toxins. Antiseptic solutions do not reach the microbes deep within the tissues. Nature's method is by suppuration, and if poultices favor this process such treatment is etiologic. The ice-bag, as it lowers to a temperature unfavorable for microbic growth, must also be so classified. But more effective treatment must be resorted to when these fail. The prevention of local accumulation of the toxins is indicated on the theory that such accumulation prevents leucocytosis; so the affected extremity should be elevated. When this is insufficient, or if swelling is alarming, surgical means must be used. Under narcosis divide the affected area by one or more incisions, making the operation thorough. In cases which seemed to be of a progressive character arrest and improvement always followed if this line of treatment was employed at an early stage. Amputation is justified in cases too far advanced for the above treatment, or where it has failed. To decide when this has become an unavoidable and still hopeful necessity is exceedingly difficult in all progressive cases. It is different if the process has become subacute. The necessity for amputation is more apparent, and the operation is certainly more hopeful. In conjunction with operative procedures, a reliable agent to neutralize the effect of the toxins that have entered the system is desirable, and streptococcus antitoxin has been favorably spoken of in the medical press as such an agent. Some deny the efficiency of such antitoxin and many competent authorities are silent. The Doctor refrained from criticism, but admitted that he does not feel safe to use it. As we have nothing to destroy the toxins directly in the circulation it remains for us to favor nature in its efforts. That water is the best remedy for such patients is well known, and the patient shows by his thirst how much he needs it to dilute, destroy or eliminate the toxins. As to nourishment, there is no need for it at all during the first most acute stage, which lasts from eight to ten days. As soon as danger from vomiting, diarrhea and food decomposing in the intestine is past, then systematic feeding must be given.

Illinois State Medical Society.

Abstract of Proceedings, Forty-ninth Annual Meeting, held at Cairo, May 16, 17, and 18, 1899.

First Day—Morning Session.

Section on Practice.

Chairman, Dr. A. C. Cotton, Chicago; secretary, Dr. H. W. Woodruff, Joliet.

SERUM THERAPY.

Dr. George F. Butler of Chicago delivered an address on this subject, and stated that great progress has been made during the past year in the field of serumtherapy, though much remains open to question, and many things can not yet be explained. For a better understanding of the antitoxins and their therapeutic application, a few essential facts should be borne in mind. An antitoxin is not the direct result of bacterial action, but is properly described as an unknown body resulting from the resistance of healthy organisms to the toxins of pathogenic bacteria. In practice this antitoxic body comes to us in the blood serum of animals, usually the horse. When properly prepared and properly kept in aseptic containers, the antitoxins are not at all dangerous; in fact, are as harmless as an equal amount of blood serum or normal salt solution, administered in the same way. Antitoxins are used to resist the effects of infection with pathogenic bacteria, because the results of such infection are due to the toxins elaborated by those bacteria, and not to the bacteria themselves. Antitoxins do not destroy the bacteria; in other words, they are not germicides. The antitoxic serums are themselves good culture-media. One theory of their action is that they neutralize the toxins, thus giving the natural bactericidal powers of the body an opportunity to exercise their function. The author then gave a brief description of the process employed in the laboratory of Parke, Davis and Company, which showed that he is justified in the above definition of an antitoxin.

As to the therapeutic action of antitoxin, little or nothing is known positively. It seems reasonable to conclude from experimental evidence that the antitoxin neutralizes the toxins in the body, and thereby gives the natural germicidal powers an opportunity to dispose of the bacteria. It may be that it has the additional property of stimulating the phagocytic and possibly other bactericidal functions. Dr. Butler then narrated the experiments made by Messrs. Martin and Cherry in England, which are described in an editorial in the Journal, Aug. 27, 1898. He also mentioned further experiments which were made to prove the theory that toxins are albumoses and antitoxins globulins, but these experiments do not appear to be conclusive. The supposition that the administration of antitoxin is followed by a stimulation of the germicidal powers of the body seems to be reasonable, at least in the case of the antistreptococcic serum, since the streptococci disappear with the passing away of the signs and symptoms.

The present status of diphtheria antitoxin may be said to have established itself as a specific in the treatment of this disease. During the past year the use of larger doses has become more general, and it seems certain that better results are obtained. The administrators of the Chicago Department of Health give 2000 units in all cases of suspected diphtheria, and employ 1000 units as an immunizing dose. During the months of November and December, 1898, this department treated 219 cases of bacteriologically proven diphtheria—all charity cases—with a death-rate of 4.1 per cent. Some two and a half years ago, when antitoxin was not used, the death-rate from diphtheria treated by this department was about 35 per cent. Reference was then made to several contributions to the literature on antitoxin.

Foreign serums have shown themselves to be inferior to the American in some respects. This is due: 1. To the fact that the foreign antitoxin has been shipped a long distance. 2. The technic of production is not so perfect. 3. The European manufacturer regards the market in the United States in the light of an orange—to be sucked as dry of profit as possible in the shortest time.

Dr. Butler referred at length to the advances made in the science of pharmacy, saying that a great step in advance of this science is the accurate estimation of the activity of various drugs by testing them upon living animals.

VARIATIONS IN THE MANIFESTATIONS OF MALARIA.

Dr. **Charles D. Center** of Quincy read a paper on this subject, pointing out that malaria is a generic term, embracing several distint and different manifestations of disease, caused by separate and different parasites, these parasites differing in age, habits and many morphologic characteristics, these differences causing the various manifestations recognized in the clinic study of the disease, and necessitating the use of other remedies than quinin for satisfactory and permanent relief.

DIAGNOSIS OF LOCOMOTOR ATAXIA.

Dr. **Hugh T. Patrick** of Chicago had seen a number of cases of locomotor ataxia which were unrecognized, and several others that were falsely diagnosed. The inco-ordination in locomotion is not by any means among the earlier symptoms. Patients do not primarily consult a physician for inco-ordination in locomotion, and the modern diagnosis should not be based on this symptom. By far the most frequent and earliest symptoms are the lancinating pains; but there are other pains, paresthesias and discomforts of various kinds. These occur early in the disease. But the typic shooting, stabbing, very intense, intermittent, paroxysmal pains are the most frequent manifestations in which this disease makes its debut. He mentioned one case that had been diagnosed as sciatica and chronic neuralgia by several physicians, the man having the pains for twenty-five years. Among other symptoms mentioned by the author were trouble with the bladder, gastric crises, loss of knee-jerk, loss of pupillary reflex, lightning-like pains, analgesia of the legs, etc.

A NEWER PATHOLOGY OF EPILEPSY.

Dr. **Daniel R. Brower** of Chicago read a paper on this subject. A flood of light has recently been thrown upon the pathology of epilepsy by Dr. Krainsky of Charcow. He has confirmed the observations of Haig as to the relation of uric acid elimination to the epileptic seizures. He asserts with emphasis that the occurrence of a seizure without a diminution of uric acid is impossible. Epileptic seizures will not occur when 0.6 to 0.8 grams of uric acid are excreted daily. If the daily quantity of uric acid excreted falls below 0.45, or especially below 0.35 grams, a seizure is usually to be expected with certainty on the third day. Epilepsy is therefore to be considered not as a purely nervous disease, but as an anomaly of metabolism which has its basis in a contamination of the organism by a product of metamorphosis. Dr. Krainsky, by a series of experiments, demonstrated that epilepsy is an intoxication, and that the poison is in the blood. By injecting blood drawn from a patient in the status epilepticus into a rabbit he produced violent epileptic seizures two to three minutes later. Blood drawn from the same patient after the seizure, injected into the rabbit produced no effect. The quantity of blood necessary to produce the seizure in the rabbit was exceedingly small, 1 to 3 c.c. demonstrating the virulency of the poison. These results were verified by numerous experiments. He then proceded to determine what this toxic agent was. While satisfied that it was not uric acid, he reached the conclusion that it was closely related to it, and by very ingenious argument and experiments demonstrated that it was carbamate of ammonia, carbamic acid, $CONH_2OH$, being carbonic acid in which NH_2 takes the place of OH, and is an intermediate stage of albumin metamorphoses; that the nature of epilepsy consists in the periodic formation of carbamate of ammonium in the organism, which produces the seizure and is decomposed into urea and H_2O during them, so that the great problem is to determine the cause and place of origin of this abnormal metamorphosis. He explains the benefits of the bromids of potassium and sodium, not only by their sedative effects on the nervous system, but by the ease with which they decompose the carbamate of ammonium, forming ammonium bromid and the carbamate of potassium or sodium salts, which are harmless.

The difficulty in curing epilepsy by the bromids arises from the fact that they have no direct effect upon the abnormal metabolism, but simply serve to neutralize the poison produced, and quiet the nervous centers. The carbamate of ammonium, the offending material, being a product of abnormal nitrogenous metamorphoses, and being transformed into urea or uric acid, will serve to emphasize the dietetic treatment of epilepsy, and make manifest the necessity of the least amount of nitrogenous food consistent with the vital processes, and of the cutting off of sugar in order that the nitrogenous metabolism may be more perfect. The condition of the digestive canal should always be inquired into and purgation and gastrointestinal antiseptics used from time to time. Systematic muscular training by equalizing the circulation and stimulating tissue metamorphosis in general must not be overlooked. In the use of bromids, pushing the remedies to a possible mental deterioration should always be avoided, remembering that an occasional epileptic explosion which readjusts metabolism is much to be preferred to the mental and physical damage done by too large doses of sedatives.

ACUTE ANTERIOR POLIOMYELITIS.

Dr. **Elbert Wing** of Chicago followed with this paper. He said that Charcot had taught that acute anterior poliomyelitis is primarily a parenchymatous inflammation of the ganglion cells of the anterior horns of gray matter in the spinal cord. Much evidence has accumulated since Charcot's teaching was new to show this disease is an inflammatory process of vascular origin and probably of an infectious nature. The object of the paper is to present a brief review of this evidence, which the author classified as anatomic, pathologic and clinic.

Coming to the treatment, he said that the initial stages of the disease should be dealt with as those of any other acute infectious malady, resorting to antipyretics, cathartics, diuretics, anodynes, and nervous sedatives, *pro re nata*. Patients should be kept as quiet as possible. As soon as danger of inflammatory reaction has passed, the paralyzed muscles should be exercised. Electricity is valuable for this purpose in cases in which patients will submit to its use in currents sufficiently strong to be efficient. Massage is of the greatest value. It should be as thorough as the case permits. It should be continued as long as any improvement is noted, or until no retrogression follows its abandonment. In some cases, this is much longer than a year. Passive exercise is secured by electricity and massage. Active exercise, when possible, is the best and should be encouraged in all possible ways, stopping always short of continued fatigue; transplantation of tendons, care in the prevention and correction of deformities, as indicated. The physician should never forget the admonition of Gowers, that after six months, so far as the case is concerned, the lesion has become a cicatrix.

POST HOC, PROPTER HOC.

Dr. **W. J. Chenoweth** of Decatur read this paper and summarized as follows: Cures of diseases have, at all times, more frequently been credited to antecedents than to causes. Epidemics of diphtheria, occurring before antitoxin was known, produced no greater mortality in mild cases than they do at this time. Severe cases, caused by sepsis, are not controlled by it, and stenosis from laryngeal deposit can not be relieved except by mechanic measures. Antitoxin has but a single specific effect, that of neutralizing the toxin, and claim to this must be established by the fact that the clinic symptoms indicated that the toxin affected the system. The presence of diphtheria bacilli can only be corroborative and not pathognomonic. Diphtheritic croup may be prevented by the administration of antitoxin, but can not be cured by it.

CURRENTS AND COUNTERCURRENTS IN MEDICINE.

Dr. **T. J. Pitner** of Jacksonville delivered the president's address, selecting this subject. He considered the character and fundamental principles of the profession, saying that the practice of medicine is as old as the history of the human race. Principles and standards have sometimes been reduced to a code of ethics which gives them definitions and tend to a clearer view and more considerate conduct, ministering to the best interests of doctor and patient. These high principles and interests need definition and safeguarding; they need reiteration and emphasis because the commercial spirit and the current of sordid ambition constantly assail the struggling physician, tending to sweep him off his solid footing of principle and submerge him in selfishness and dishonor. It is said there are tricks in all trades. Doctors, regular doctors, are human and liable to swerve from the line of duty and honor, and resort, to some extent, to the devices of quacks, who seem so successful in plying their arts. Medical ethics are simply the statement of honorable procedure in circumstances pertaining to the relations of physicians with each other and with their patients. It is an application of the principle of the Golden Rule to professional life; a definition of what is just and right in the peculiar relations of the physician. These circumstances are not readily comprehended by laymen, hence they often misunderstand and say that physicians are sticklers for etiquette and are hypersensitive.

A countercurrent within the profession is the growing tendency to prescribe nostrums. Many preparations, the composition of which is not definitely known, are used by regular physicians. This practice should be condemned as unprofessional.

Another tendency of the time which calls for protest is the rush among young doctors for specialties. Specialism not founded on a wide general knowledge of medicine, a knowledge made available by direct observation and practice for years, has no legitimate basis. The human body is a unit. It is likely to be affected in many of its organs and functions at the same time. A general morbid process and some local disease often occur together. A variety of factors are to be considered and understood, to treat properly what may appear to be a local disease only. Not to know these predisposing and general conditions is to be disqualified as a specialist.

Another evil calling for loud protest is the multiplication of medical schools, and a shocking scramble and bidding for students in some of them. These little schools can not be well equipped to do the thorough work now required for qualified physicians. He could see no reason for such movements. The promoters of some of these schools used them as a means of advertising themselves. Think of the influence of a school where the professors are of that stripe.

SECTION ON SURGERY.

Dr. Weller Van Hook, chairman.

Dr. Denslow Lewis of Chicago delivered the address of this section, selecting for his subject

SURGERY OF THE PUERPERIUM.

He gave a definition and statement of facts regarding the danger of infection in the puerperium, and alluded to the advisability and danger of examination of a puerperal woman. Postpartum hemorrhage is not always due to imperfect uterine retraction. If excessive or persistent, examination is imperative and surgical relief often indicated. Vaginal and perineal lacerations should be immediately closed, usually by sutures within the vagina. When infection occurs, the advisability of examination should be carefully considered. A uterine douche is usually sufficient when the details of labor are known. He gave a description of a normal puerperal convalescence, and dwelt upon the diagnosis of infection. Infection around the perineal stitches and of vaginal wounds should be treated by peroxid of hydrogen, as also infected wounds of the portio vaginalis.

Infection of the endometrium is putrid or septic. When infection extends beyond the endometrium, the phagocytic barrier may be disregarded, for it has failed in its object. The possibility of embolism and metastatic abscess formation should be remembered, but the source of infection is still within the uterus, and the chief endeavor of the obstetrician is its removal. Pus should be evacuated. It should be looked for in the vaginal fornix, and often the vagina should be cut. The abscess should be opened at the point most convenient. Ectoperitonitis should be treated as other extraperitoneal abscesses. Circumscribed collections of pus within the peritoneal cavity should be treated as extraperitoneal abscesses. Care should be taken not to break down adhesions. Suppuration within the peritoneal cavity should be treated by abdominal incision even if not extraperitoneal. Sometimes vaginal, other times Mikulicz, drainage should be resorted to. Dr. Lewis then spoke of the relative indications in peritonitis. He said that any interference with regular bowel movement was often an indication for section. Excessive tympanites is not of itself an indication.

With reference to hysterectomy, he considers it especially dangerous in the puerperium. It is not to be undertaken for retained placenta, and rarely for infection or thrombophlebitis. It is often inadvisable when metastatic abscesses have occurred; it should always be done when suppuration circumscribes the uterus, and it is probable that the uterus is the seat of pus formation. This is imperative if the uterus is an obstacle to adequate drainage or the uterine tissue is disorganized. He favors the vaginal method if the abscesses around the uterus are operated by a vaginal cut. The technic is often necessarily inexact. The extraperitoneal method of Lawson Tait should be remembered as easy of execution and productive of good results in this class of cases.

PUERPERAL SURGERY.

Dr. Bertha Van Hoosen of Chicago followed with this paper. She reported several cases of laceration of the perineum with complications, and said there is only one time when it is ever really convenient for a woman to have repairs done on account of puerperal injury, and that is during the puerperium. For the first three days after confinement it is not necessary and usually not possible to nurse the baby, and after the first three days there is almost no operation that could have been performed to disturb the patient sufficiently to prevent nursing the child. At no other time during the first nine months does the child require so little nourishment. The best time for a large percentage of gynecologic operations, especially for repairing puerperal injuries, is during the puerperium, because it is nature's elective time. Because some seeds will mature when planted in late summer is not an argument that springtime is not the time to plant seeds. All great discoveries and progress in medical science have been in imitation of nature's methods of work. When nature is repairing is the time to repair. When nature is causing involution is the best time for physicians to get involution. If it is nature's time it is the best time, and if circumstances compel us to take other times, they are not necessarily better times.

MATERNAL IMPRESSIONS.

Dr. Henry F. Lewis of Chicago read a paper on this subject, saying: Maternal impressions are believed in by nearly all the laity and by a large majority of the profession in this country, if one may judge from reports of cases. He cited supposed cases from medical literature, and dwelt upon heredity and paternal impressions. All malformations should be explained. The time of impression seldom corresponds with the proper embryologic period. Similar impressions should produce similar malformations. Mental impressions can add nothing to the embryo, etc. The strongest blow is dealt to the theory of maternal impressions by the results of experiments in the production of monsters artificially. Innumerable experiments have been performed on the eggs of birds, fish, insect and echinoderm, which have resulted in the production of almost all the typic varieties of monsters, especially of single monsters. Different varieties can even be produced at the will of the experimenters by different ways of managing the eggs. Monstrosities can be artificially produced in the embryos of birds exactly like those which, occuring in human feti, are ascribed to mental shock or nervous impression of the mother. It has often been observed that fish eggs hatched in running water produce a far greater number of double embryos than do those hatched in still pools. The shaking caused by railroad or wagon journeys to the hatchery also results in a greater profusion of double monsters. In human feti, even at full term, there are sometimes found remains of amniotic bands and adhesions which obviously, by interfering with development of different parts at an early period of gestation, were the causes of various malformations. In short, all malformations and monstrosities can be explained by purely physical and mechanic causes, entirely remote from psychic influence, so that there is never any reason to invoke the mysterious or the supernatural to explain natural phenomena.

VESICULAR MOLE.

Dr. Carl E. Black of Jacksonville reported a case in a patient, 20 years of age, accompanied by degeneration and rupture of the uterine wall and great hemorrhage, necessitating the ligation of the left uterine artery. In this case the mass half filled an ordinary wash-bowl, and had the appearance of thousands of small white grapes piled up together.

OBSERVATIONS ON OPERATION OF SYMPHYSEOTOMY.

Dr. H. McKennan of Paris contributed a paper with this caption. He drew the following deductions: 1. Symphyseotomy is not so formidable but that it may be performed by any physician of ordinary ability. 2. The patient must be free from sepsis and free from exhaustion. 3. The technic is immaterial so long as it is clean and expeditious. 4. The after treatment demands absolute immobility of the divided symphysis, and daily inspection and cleansing of the patient by the attending physician. 5. Expensive beds and apparatus are sometimes convenient, but are not necessary for the success of the operation. 6. The patient may be operated on in her own home, among her own surroundings and by her own physician.

ETIOLOGY OF ECLAMPSIA.

Dr. Charles B. Reed of Chicago read a paper on this subject. Eclampsia is undoubtedly due to the circulation in the blood of a toxin or toxins as yet chemically unseparated, which have their origin in uterine metabolism. The occurrence of eclampsia is determined by the presence or absence of thyroid hyperplasia, as suggested by the interesting experiments by Lange of Königsberg.

MALIGNANT TUMORS OF THE EYE.

Dr. William H. Wilder of Chicago read this paper, in which he pointed out the importance of recognizing such growths early. Neoplasms of the lids and conjunctivæ are usually easy of diagnosis and amenable to treatment. He discussed the nature of tumors originating in the lachrymal glands, the orbit or its walls and the adjacent bony cavities. Such growths may implicate the eyeball mechanically by pressure, or may involve the optic nerve and so cause blindness. Primary tumors of the cornea are, from the nature of this structure, exceedingly rare. Sarcoma and epithelioma may affect this part, the latter being the more frequent. They have their origin in the limbus. Tumors of the choroid, ciliary body and retina are most to be dreaded. Sarcoma of the ciliary body and choroid is a disease of middle and late life. Glioma of the retina is a disease of early life. Early diagnosis and treatment of both these are important. The prognosis is much more grave when the growth has caused increased tension of the eyeball.

(*To be continued.*)

Kentucky State Medical Society.*

Forty-fourth Annual Meeting.

First Day, May 16, 1899.

Dr. David Barrow of Lexington, president, occupied the chair.

Dr. U. V. Williams of Frankfort, the oldest member of the society present at its organization, made a gift of a gavel to the president, manufactured from a log which was used as a part of the first waterworks in Frankfort.

Dr. Steele Bailey of Stanford, permanent secretary, made his annual report. Six members have been reported dead during the past year. There are at present 445 members on the roll. A feature referred to in the report was the fact that various organizations, district and county, have no representation in the American Medical Association, as they are not a part of the State society. He suggested a change in the organic law which will permit of their recognition.

CEREBROSPINAL MENINGITIS.

Dr. Jas. H. Letcher of Henderson read a paper with this title. He defined the disease as an infectious one, characterized by inflammation of the brain and spinal cord. Only a few symptoms were seen in the fulminant cases which died early. It is unknown how the contagion is taken; the author does not consider it contagious. In the fulminant variety no pathologic changes are found, and in those of long duration there is suppuration of the brain, cord, base and post aspect of cord most so; engorgement of the lungs and inflammation is the most common complication. Diagnosis is to be made from typhoid fever, la grippe, tubercular meningitis and smallpox in the first few days. Lumbar punctures, under strict antiseptic precautions are good means of diagnosis.

Dr. D. O. Handcock of Henderson reported an epidemic of this disease in Henderson County. One hundred cases were observed in January, February, March and April. Many cases occurred in the best homes and surroundings, most, however, in crowded surroundings, no cases except in localities near large or small streams or poorly drained places. No doctor, attendant nor nurse had meningitis, and there were only a few instances of several cases in the same family, with no evidence of transmission from one person to another, or one locality to another. In some cases there was resolution and recovery, and there may be two or three extensions. Out of the 107 cases 53 were male, 54 female; under 10 years of age there were 28; between 10 and 20, 14; between 20 and 40, 48; over 40, 7; 30 persons lived; death occurred before the tenth day in 28 per cent., after the fortieth day in 5 per cent. Many cases were not reported because of the mildness of the attack. Few cases of illness were prolonged 60 and 80 or 100 days. The prolonged cases have either died or are still sick; few recovered after the twenty-fifth or fortieth day.

ETIOLOGY, FORMS, DIAGNOSIS, PROGNOSIS AND TREATMENT OF MENINGITIS.

Dr. T. D. Williams of Bardstown read a paper on this subject. He considers it slightly, if at all contagious, and endorses the micrococcus lanceolatus as the cause. For pain hypodermatic administration of opium is the best; ergot and belladonna to lessen cerebro-congestion; in children, bromids; for threatened convulsions, chloral opiates advocated in young subjects; purgatives, calomel and colycynth; enemas, iodid of potash, bichlorid of mercury; stimulants for heart exhaustion. More are saved by the stimulant plan of treatment; cold locally is grateful and beneficial. Blisters in sthenic type are good only when used early. One case was reported, a feature being the voiding of a large quantity of bloody urine just before death.

Dr. J. D. Maddox of Rockport reported his experience with a case treated by antistreptococcic serum. The patient was a white male, 45 years old, of good personal history, seen in March, with initial temperature of 100, pulse 90; diagnosis made of cerebrospinal meningitis on the second day. Six doses of the antistreptococcic serum were administered, with very decided beneficial action after the third dose. Patient, however, five days from the onset, died, there having occurred opisthotonos, coffee-ground vomit and temperature of 106.

Dr. L. C. Royster of Smith's Mills reported a case of cerebrospinal meningitis in a twin, 10 years old, German parentage, seen in February, and the diagnosis made on the second day; convulsions established at the end of the first week, morphin being the principal treatment. There was very great improvement for a few days, but relapse on the thirteenth day, the train of symptoms being different in this attack. On the fifty-second day, the patient had grown very weak; in the meantime there was a pulse of 130 to 160. Strychnin was begun at this time, with decided improvement. On the sixty-fourth day the patient was taking nourishment, could turn over and had good use of his faculties. On the sixty-fifth day there occurred convulsions, coma and death.

Dr. J. B. Marvin of Louisville considers the subject one we know little about. He hopes never to meet another case. If the diplococcus intracellularis is the cause, how does it find entrance into the cerebral and spinal membranes? Recent cases of cerebrospinal meningitis he has noticed generally follow in the wake of influenza, and he has thought that the point of entrance of this pathogenic germ is through the nasal passages. There is a difference of severity in different cases. We stand dumbfounded and hopeless in cases of severity, which die inside of nine hours, and have no way of knowing what it is except by inference, even if there is an autopsy. The majority of cases lately have been mild, mortality not large. Diagnosis is often puzzling; it is commonly diagnosed as la grippe, the first cases in Louisville being of this character.

Dr. J. A. Lewis of Georgetown says that as a rule we can diagnose cases at once, but what can we do? He confesses that the feeling is one of helplessness. We must pitch our tent in front of the frightful malady, and not strike until we find a remedy. Any disease which has from 50 to 70 per cent. mortality strikes terror in the community. In the treatment, opium, blisters, bromids, perhaps do some good, but he doubts it. If there is inflammation of the cerebrum, there is suppuration in the citadel of the brain, and the bony canal of the cord, yet we treat the disease at arm's length. He had been looking for some one to suggest drainage, treat as a suppuration in surgical cases. He suggested drawing off of the blood to one point and introducing saline solution to take the place.

Dr. Arch Dixon of Henderson believes the diagnosis is simple; if we once see a case we will know others when they are met. In the malignant fulminant cases there is no cure; morphia relieves pain. He saw the first case occurring in Henderson, later, six others; three died in from 36 to 45 hours; the first died in 48 hours; the second, a young lady school teacher, who was comatose in three hours, in six hours blind, and in sixteen dead; typic spots in both. The third case, a child, had convulsions, blindness, opisthotonos, and before night was dead. The other cases were 15, 12, 8, and 3 years of age, all recovering. Treatment of these cases were hot baths, inunctions of Credé ointment, morphia, all recovering. Two of them were malignant cases, unconscious for twenty-four hours, one is paralyzed now, can barely walk at the end of twelve weeks. A child 3 years old, sick eight weeks, recovered entirely, and no remains of the trouble. The Doctor does not believe it is contagious in any respect, any more so than is malaria.

Dr. Wm. Bailey of Louisville says no disease is to be more dreaded; in no disease is the doctor more helpless than in this. Etiology: The consensus of opinion is that the germ discovered by and described by Weichselbaum is the specific germ responsible; most ready method of the germ to reach the membrane of the brain is through the nasal or air passages. He is not willing to be quoted that the disease is due to a specific germ; is a contagious disease. If a specific disease due to a specific germ, it is due to another in some way. Fortunately the difficulty of the germ getting out of the nasal cavity is the safety of the community.

Dr. J. O. Jenkins of Newport has often met this disease, and when he recognizes it he feels the patient must die. There is no set remedy. Streptococcic serum is hailed with delight; anticipations have not been proven. Opium is the closest approach to a sheet-anchor we have found. In five cases reported, 80 per cent. were cured by Credé ointment. The speaker had tried it on one case lately, which died the next day, after one rubbing. The symptom mentioned as being recently reported is that obtained by setting the patient on the bedside, and endeavoring to elevate the heel, to bring the leg in a straight line; impossible to accomplish in this disease. It is not missed in 5 per cent of cases; not present in healthy adults.

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*Abstract of proceedings.

Dr. A. Sargent of Hopkinsville emphatically stated that it was not a contagious disease, does not travel along the lines of communication, is not found in the centers of population, and it can not be logically claimed that it is contagious or communicable. He advises symptomatic treatment: antipyretics, the best is quinin; heart failure, stimulants; pain, opium; emesis, blisters to epigastrium, blisters to the spine, and blood-letting in sthenic cases, calomel in continued doses if there is time.

Dr. Cherry of Morgantown mentioned twenty cases in which no two had like symptoms. In some there was a chill as the initial symptom, others toothache, pains in legs or back. Morphia is the best treatment, not in one-fourth-grain doses, but two grains every two or three hours; cold to head and spine, and heat to rest of body. He has used Credé ointment and found no virtue in it.

J. G. Sharpe of Jeffersonville, Ind., by invitation, stated that in the Indiana Reformatory there were 950 men quartered in a cell-house built for 600; a most favorable condition for the spreading of the disease. He had one case which died in two days; two orderlies in care of this patient consulted him for pain in the head four days after death of patient. Calomel and saline were given to both, with acetanilid, bicarbonate of soda and caffein, both recovering. Twenty patients a day for three weeks were reported after the death of the case mentioned. No other deaths occurred.

Dr. J. G. Brooks of Paducah believes the disease is easy of diagnosis, that there is success in hypodermatic administration of bichlorid of mercury, and mercurialization is what is needed. It may be given in triturates, repeated for that effect, or by hypodermatic method. Hyoscyamin is recommended as giving good results. In his city, 50 per cent. recovered.

Dr. Leon L. Solomon of Louisville took issue with a previous speaker concerning the therapeutic value of antistreptococcic serum in this disease. He referred to the antagonism of disease and antitoxin; antitoxin is used on a different principle to the streptococcic serum, in cerebrospinal meningitis. In the one we have a remedy which makes the soil unfertile, in the other material for a remedy which is antagonistic to the poison. Antitoxin in any specific disease acts by making the soil unfit, antidotal to the germ, or antidotal to the toxin. In streptococcic serum the idea is different. Its antagonism is like that in malignant growths. When the erysipelas streptococcic serum is used, we believe the cause of the growth is different from the cause of erysipelas.

GALL-STONES.

Dr. R. C. Falconer of Lexington presented this paper. In the history he mentioned the first observation having been made in 1565; gastro-duodenal catarrh, alcohol, bacteria were mentioned as causes, ameba coli being the chief organism. In ten cases reported, six were in males, the ages varying from 26 to 70, average 39; in four the weight was two hundred pounds, more than six feet in height. It is common to the large and fleshy. As diagnostic signs he gave: pain, calculi in stools, absence of bile, paroxysm of pain in the epigastric region to the right hypochondrium and lumbar region, tenderness over gall-bladder; not easy on account of rigidity of muscles to detect distension of bladder, entire abdomen may be tender and tympanitic. When chilliness and rigors occur the case should be considered most serious. Colic has no place in the nomenclature of this disease. There is only one kind of colic, and that intestinal. Urine may show bile; must use nitric-acid test. Heart may become exhausted, and tricuspid insufficiency be produced. In one case in Lexington 135 stones were found. The prognosis is favorable, the diagnosis to be made from abscess of liver, malignant disease of liver and of pancreas. Treatment: morphia, atropia and chloroform; atropia relaxes ducts; counterirritation; cholagogues, salines and olive-oil. Surgical treatment is recommended in repeated attacks of colic, suppuration of gall-bladder, recurrent attacks of peritonitis, impaction of stone in duct.

CHARLATANISM.

Dr. Ap Morgan Vance of Louisville read this paper, in which reference was made to the testimonials of cures by quack nostrums, given by distinguished men. The expensive advertisements of those remedies testify to the fact that they must be remunerative of themselves. The lay and religious press is indifferent and entirely mercenary. These concerns should be prosecuted for obtaining money under false pretenses. Osteopathy was referred to as the greatest quackery of the age, more suffering and deaths being caused by osteopaths than by any other quacks. It is beyond comprehension that people will submit to the treatment. A minister's child with hip disease, in which there was an abscess with partial ankylosis, was referred to. The case, which was progressing nicely, mobilized by splint, was taken to the headquarters of the osteopaths at Kirksville, Mo., where they "found a dislocated spine and hip, both of which were reduced," and the child is now helpless, deformed, unable to walk, and barely able to get about on crutches. The minister, the father of the boy, recommended this treatment from his pulpit most strongly. Why do people allow this? Where is their common sense? Medical men should take the editors in hand and educate them, especially religious editors, and until they are taught there can be no hope for the masses.

(*To be continued.*)

Physicians' Club of Chicago.

Regular Meeting held March 27, 1899.

Dr. E. J. Doering occupied the chair and announced the subject for discussion as "Hospital Ethics."

RELATION OF THE HOSPITAL STAFF AND INTERNES.

Dr Casey A. Wood—Probably the fact that the average interne knows less of ophthalmology and otology than he does of other departments of medicine may serve to modify somewhat his relations with the attending ophthalmic surgeon under whom he works. It may, indeed, temper that magnified opinion of himself which every genuine interne is expected to exhibit. I am not prepared to deny that in many instances the extreme value that the interne attaches to his hospital services and the importance with which he expects others to regard these services are not justified in the premises. It is not to be forgotten that in the great majority of hospitals the house physician and the house surgeon obtain their places as a result of a keenly contested examination, or are given them as a reward for several years of faithful attendance in the lecture-room, in clinics and in the laboratory service. These men constitute the pick of the graduating class and they usually grow up to be the pride of our profession. For this reason, particularly, I have always held them in especial respect and have never seen any reason why the relations, social and professional, between the members of the hospital staff—I refer particularly to its attending members—and the house physician and surgeon should in anywise differ from the relations that commonly exist between discerning members of the profession engaged in everyday work outside hospital walls. The same friendly co-operation, the same feelings of fraternal interest, the same regard for the opinions and prejudices of a *confrère* should distinguish their intercourse with one another. It has been my privilege to take note of these things, and I have found that where such a policy has been pursued by the attending physician or surgeon, the service of both interne and attendant is more harmonious, more pleasant, more productive of desirable results, and in every sense more equitably carried on than when pursued under other conditions. Our college courses do not, unfortunately, often include a study of medical ethics, and I would suggest to those of you who hold hospital appointments that we have an unusually profitable opportunity, both by example and precept, to furnish practical lessons on this somewhat neglected subject. As we proceed on our daily rounds, we should be particularly careful that our conduct toward those medical gentlemen, who are temporarily acting as our assistants in the hospital service, is above reproach. They should be treated with every consideration that we might be expected to show them when we meet them afterward in practice. We should give them to understand that we also expect them to exhibit similar consideration toward their fellow internes and toward other workers in the hospital service. When differences arise, these should be settled by reference to the "Code of Ethics" that was as well understood in the days of Hippocrates and Galen as it is now. It ought to be understood that every member of the profession—be he interne or senior member of the staff—is bound by these Golden Rules of Medicine, and that no one of them can persist in ignoring them without incurring the just condemnation of every right-thinking worker in the Vineyard of Healing.

RELATIONS OF THE MEMBERS OF THE HOSPITAL STAFF TO EACH OTHER.

Dr. Henry J. Burwash—To consider this topic with any degree of fullness necessarily requires me to trespass somewhat on the topics assigned to some of the other gentlemen who have preceded me and others who follow me. To say that the most cordial feelings of interest in and regard for each other should prevail among members of the same staff seems like so obvious and insipid a truism that one could almost blush to repeat it. The reasons why this cordial feeling should prevail and be manifest are very numerous. Among them are the following:

1. In this way only can the greatest good be done to those whom it is our duty, our hope and ambition to relieve, the special wards of the institution, the patients undergoing treatment.

2. Public confidence and respect for the institution and the staff are inspired thereby, and thus its cordial support is gained and the efficiency and effectiveness of the institution increased.

3. The respect and confidence of the patient's friends are thereby gained and held, and he is benefited and helped by their cheerful and hopeful assurances.

4. Better work can be done by the physician himself. Any man can do better work among cheerful and pleasant surroundings than he can if surrounded by adverse critics, by venomous enemies, or by traitorous spies.

5. We thus contribute to the comfort, convenience, pleasure and advantage of each other.

6. Perhaps the last consideration is that adverse criticism of our brethren, especially if unreasonable or false, or merely an attempt to obstruct their success and injure them, reacts against ourselves. People become suspicious of one who seeks to rise by drawing others down, or who attempts to promote selfish aims at the expense of other men's reputations; he becomes somewhat in the position of the man who pulls down a house on his own head. The relations of members of the staff to each other should be those relations which tend most to promote the purposes for which hospitals were founded.

It would generally be considered by a layman that hospitals are instituted to assist in relieving the sufferings of the sick, the maimed and wounded who may be brought to them for treatment. But not only those who receive treatment inside the institution are benefited. By reason of the researches made and the experience gained in the hospital, the stock of medical knowledge is increased, and attending physicians, the students who attend the clinics, and others who make themselves conversant with modern methods and ideas are enabled to do better work, and so the good effect of the hospital is felt throughout the entire community, so that the whole public are personally interested in the best results obtainable from hospital practice and experience.

The hospital is the great educator in medicine. It is not the general understanding of the public that hospitals are designed for the relief of personal enmity, or an outlet for spite, revenge, intrigue, or dishonesty afflicting the members of its staff. Hospitals are not endowed by private fortune or subscription, nor supported by large grants from the public coffers with a view that some unfortunate physician who may be appointed to its staff may relieve himself of personal animosities, nor as an outlet for envy, hatred, malice, revenge, or contemptible meanness. But though hospitals are founded, established and maintained for the benefit of the patients treated there and indirectly for the benefit of the public at large, and not for the immediate relief of the staff, this does not preclude the staff from deriving benefit from its hospital connections.

The chief benefits to the staff are: The advantages of a more varied experience than private practice affords for the study of the profession, an opportunity to keep in touch with and in the atmosphere of the most advanced and modern methods and ideas. These would seem to be the only real advantages, and should be the only ones impelling anyone to seek appointment. It is said, however, that a mere personal and mercenary one actuates some gentlemen. That the staff does derive some benefit from its connection with the hospital is proven by the eagerness with which appointments to these institutions are sought by members of the profession. In fact, so great is this eagerness and so diversified the means employed to secure appointments to one notable institution, that the press of the city made something of a scandal out of it and thereby tended to injure the whole profession before the public and diminish its usefulness. But, gentlemen, let me inquire why the eagerness? Why this anxiety? Why this mad scramble? Why this fair and even unfair competition? Why did some of the competitors go to members high in the appointing body and make charges against other men whom they scarcely knew? Was the motive of these members of the profession one purely humanitarian and philanthropic? To you, gentlemen, I shall not attempt to answer these questions. I claim no philosophic discoveries in this respect; I shall not trouble you with fine theories. Our profession is essentially one which combines both theory and practice and demands both inductive and deductive methods of study. The progress of the science in our day demands of the physician arduous and incessant study. So well is this necessity for constant and lifelong study recognized by the profession, that there have grown up a number of post-graduate schools where practitioners from the country generally go at times, at great expense and inconvenience to themselves, to see and learn the most modern methods. In no other way can the practitioner follow these changes, and so closely follow them as on a staff of some hospital. There his range of cases must vary some at least from that of his private practice. But while improved methods keep changing, yet in many cases what one man finds satisfactory in his practice, another refuses to use—perhaps because he has not found good results from it, or perhaps because better results have followed something else in his experience. So it is that there is never absolute uniformity in methods of treatment. But few diseases yield universally to specific remedies.

As human beings, we all make mistakes sometimes, there is no escape from it. But if one reputable physician honestly preparing for his work treats a case in a particular way, can any other brother, especially one who has not seen the subject, honestly say that he has made a mistake, or that he was negligent? In the light of my experience and judgment, I shall most emphatically say that he can not. Who can decide? Where must the decision finally rest? My answer to that question would be that the final arbiter must be the conscience of the physician who acted, judging by the conditions that presented themselves, the treatment and the final outcome. The public at large are always too willing to charge members of our profession with empiricism, ignorance and carelessness, and are too willing to grasp at any story which tends to throw suspicion on a physician. How careful, then, should physicians themselves be that their own words or actions should not tend to encourage any malicious scandals involving the good name of a brother physician.

WHAT SHALL BE OUR ATTITUDE TOWARD PROFESSIONAL MISTAKES?

Dr. J. E. **Stubbs**—There are none so great that they do not or can not make mistakes. I recollect, many years ago, that a noted gynecologist operated with the idea of removing a fibroid tumor of the uterus, and instead took out a six-months child, so that errors do not always occur among the young practitioners, or among the ignorant of our profession. There is no surgeon living to-day but is likely to make a mistake. He may think he is right, but the facts may afterward prove that he was wrong. There is no practitioner engaged in the general practice of medicine but makes errors every month of his life. He is not perfect. I fail to note in history that Dr. Luke, who traveled with Christ, was perfect. On the contrary, he was liable to make mistakes. I presume he occasionally called a case one of paresis when it was only a case of hysteria, and probably gave a dose of nightshade when he should have given catnip. The individual has never existed who does not commit errors. I do not want to see the man who never makes a mistake. When such a man reaches the point in his life that he does not commit errors, he is fit for the kingdom to come, and the sooner he is translated the better. My fellow practitioner here to the left of me, whose hair is gray, has made his mistakes. He has grown gray with carrying the burdens and the sufferings and ills of unfortunate human beings. He does not look like a "mistaker"; but I have no doubt that he has made at least one mistake just in order not to be perfect. But, should we go on and publish these mistakes, or should we cover them up? If we publish them, who is benefited? Is there any one who is made any better by it? Are any of us made any better by so doing? No. By publishing such mistakes we incur the hatred and ill-will of our brother practitioners. The man who will try to pull down or destroy the practice of his fellow practitioner in an attempt to build up his own, should be put behind the bars; he should not be allowed to run at large. If we build up a reputation by climbing upon the shoulders of another practitioner and saying that he has made mistakes, and we glory in it ourselves, what will the people think about it? If I discover that my brother practitioner has made a mistake and publish it at large, do I help him or myself? Not at all. I warn all of you not to uncover the mistakes of a fellow practitioner, because if you do, it will come back like a boomerang, and it will sting to the bitter end. The average hospital covers up a multitude of mistakes. We gain a large amount of our experience in hospitals, and it is by noticing the errors or mistakes in diagnosis that we obtain knowledge. But the interne should not tell about the mistakes that are committed; he should not go about back biting and saying this physician or surgeon made such-and-such a mistake in diagnosis or in an operation. We do wrong when we do not try to cover up the mistakes of our brethren. There are many cases that require extreme surgical dexterity and a large amount of knowledge in order to operate successfully; yet those who are operating all the time make mistakes. We have to do a great many things empirically, and if we tell people that we do not understand why this or that physician has made a great blunder, it hurts him; it hurts the community, because the opinion of the physician in society is considered authority, and particularly in the community in which he lives, among his associates and friends. They consult him as they do no other man; they consult him more confidentially and give up their secrets to him more unreservedly than they do to their priest or minister.

DUTY OF HOSPITAL PHYSICIANS TO OUTSIDE COLLEAGUES.

Dr. Weller Van Hook—The hospital surgeon or physician occupies a peculiar position. He does not come into contact with the patient until he meets him in ward or private room and in cases of emergency at the operating-table. All financial and preliminary ethic questions are left by the medical staff to be inquired into and usually settled by the administration, represented frequently by a broken-down politician, an inexperienced woman, a trained nurse, a young clerk or an unsuccessful or superannuated clergyman. Sheltered by this arrangement, which as a rule effectually intervenes between him and his outside brother, the hospital staff member often goes on with his scientific work serenely and unconcernedly.

Is it necessary that hospital physicians indiscriminately give professional attention to all who are sent to their wards? To do so is to do many an injustice to outsiders.

It seems a melancholy truth that hospital staffs as organized bodies take but little interest in the admission of patients. I know of no hospital in Chicago receiving both pay and charity patients in which the staff has made regulations governing the admission of patients, the decision whether a fee shall be paid or not and establishing clearly the distinction between paying and charity patients. Yet the physician is expected to give much time and personal attention to non-paying patients, to risk his professional reputation and often to expose himself to infection in their service. Who is better entitled than he to have representation in the tribunal which decides the important question of the patient's status and of the compensation to be made. The hospital physician or surgeon owes it as a duty to himself and to his outside brethren to attend to this question with care and diligence. I venture there are few of you who have not at some time or other made arrangements with patients for professional treatment with the payment of fees only to have the person enter a hospital as a non-paying patient in the care of some one else.

Medical men seem to feel that such questions belong to the administration exclusively and suffer injustice to be done to themselves and their outside brethren rather than make the necessary disturbance to secure their rights. This is one of the most conspicuous abuses of medical charities, and could be avoided by proper agitation and co-operation by medical men.

In one instance a medical man whose name you would recognize if mentioned, drew the line at patients occupying private rooms, refusing to operate upon or even to examine patients able to occupy such rooms, except in emergencies, without some arrangement regarding fees. The people were not subjected to extortion, but were allowed practically to settle the fee for themselves. The hospital authorities at once saw the reasonableness of the course and nothing was said by them in opposition.

It is my opinion that people who are poor should be required to pay what they can afford, in order to avoid pauperization.

Shall the hospital physician accept patients for treatment without inquiry as to their previous relations with the profession? If it is proper for the individual practitioner to inquire who had been the previous attendant and whether he is still in attendance, why is it not proper for the hospital physician to do so? This question is usually decided by accepting the patient without inquiry as to antecedents. But I feel sure that custom in this case violates the higher dictates of the professional conscience. If Dr. A. recommends a patient with appendicitis to have an operation and the patient's friends arrange for him to go to a hospital, it should be the recognized duty of Dr. B., the hospital surgeon, to communicate with and consult Dr. A. before taking summary charge of the case.

The outside physician, on the other hand, unfortunately too often blames the staff members for giving attention to his former patients when the hospital physician is entirely ignorant of the former professional relations of the patient or is innocent of evil intent. Mutual forbearance is essential.

(*To be continued.*)

Chicago Medical Society.

Regular Meeting, May 3, 1899.

The program consisted of a symposium on "Hip-joint Disease."

PATHOLOGY OF HIP-JOINT DISEASE.

Dr. Frank X. Walls read a paper on this phase of the subject. The etiologic factors that determine the localization of bacilli in the hip-joint are by no means as precise as desirable. The predisposing factors usually considered are age, sex, trauma, heredity, exanthemata and hygienic surroundings. Hip disease occurs most frequently between 2 and 10 years of age. Of 2000 cases collected from standard text-books, three-quarters were in those under 10 years of age. Possible elucidation of the age incidence is the vascularity, fragility and liability to trauma of the hip-joint during early life. Boys are afflicted more often than girls, though the preponderance is inconsiderable. There is history of trauma in a large number of hip cases; Koenig says 50 per cent., Gibney, 42 per cent. Animal experimentation would seem to show conclusively that a slight injury can unquestionably determine the articular localization of tubercle bacilli. In the human it is believed that the trauma causes such an injury as impairs the physiologic activity of the joint, and at this unfortunate time tubercle bacilli that happen to be circulating in the blood become arrested, localized, and find in the traumatic effusion pabulum for their growth. Injuries are, as a rule, not severe; more usually a strain or sprain than a severe crushing or fracture. The primary focus is perhaps more often a bronchial lymph-gland, although a pulmonary or other visceral tuberculosis might equally well furnish the necessary bacilli. Unhygienic surroundings, insufficient or unwholesome food and impure air are as potent causal factors in tuberculosis of the joints as in tuberculosis elsewhere. The exanthemata, notably measles, scarlet fever, diphtheria, and also whooping-cough, are followed so closely at times by hip disease that their relation seems intimate. A trifle over 5 per cent. of hip disease is thus related to the infectious disorders.

Reidel considers 84 per cent. of the cases of hip disease as primarily osteal. Muller examined 61 cases and found 47 osteopathic, 3 arthropathic, and 11 doubtful. Volkmann believes the disease to be almost invariably of osseous origin in childhood, while in adults the synovial form predominates. Wright, from examination of 100 cases of excision, believed the acetabulum to be primarily involved in 10. The osseous focus may be very minute, and the tubercular process early extends to the synovia, where the tubercular tissue may luxuriantly proliferate, and it is only after very careful examination of the bones that a primary osseous focus can be excluded. The trend of modern opinion is toward a belief in the almost universal occurrence of a primary osteal focus, with involvement of the synovia only secondary to previous bone disease. Nichols, who has examined 120 specimens, from early excision, is of this opinion, and believes that the earlier and more carefully the joints are examined, the greater becomes this conviction.

The essayist pointed out at length how pathologic changes occur in the femur.

DIAGNOSIS OF HIP-JOINT DISEASE.

Dr. F. S. Coolidge read a paper on this subject, and gave the details of each symptom in the diagnosis of this disease, and then drew a picture of a typic case to serve as a guide in the study of obscure cases. He set down the main points in the history, the symptoms and signs, and pointed out their reltive importance. Among them were these: A family history of tuberculosis; a previous trauma; a gradual onset, often with remissions; limp, pain, atrophy, limitation of motion in the joint, increasing to rigidity; muscular spasm; malposition; flattening of the buttocks, elevation of temperature; night cries and night sweats; bone destruction, shown by true shortening of the limb, and abscesses.

In advanced cases, in which all the symptoms are present, the diagnosis is easy, but in the earliest stages it depends entirely on the accurate detection of the signs in their minutest degree and on the proper estimation of their value.

The use of the skiagraph in diagnosis of early hip-joint disease is not very satisfactory. When the lesion is slight, and the osteal focus is in the solid bone, there is no trace to be made out in the photograph, which is sufficiently clear to declare its nature definitely. When the joint is involved slightly, and the osteal focus is very small, nothing can be detected in the hip-joint which can reveal its nature. But the radiograph is of great importance in settling a question of doubt in the later stage. This is especially true of suspected hysteric hip-joint and of malignant tumors of the joint, of coxa vara, and of dislocation. It may be that with improvement of technic surgeons can eventually learn to appreciate the early osteal foci which are present before serious damage is done.

MECHANIC TREATMENT OF HIP-JOINT DISEASE.

Dr. John Ridlon, in his paper, stated that the treatment of hip disease is practically a purely mechanic problem; that operative treatment is not demanded by more than 1 per cent. of cases that are subjected to even moderately effective mechanic treatment. He is of the opinion that operative treatment should be resorted to only as a life-saving measure, because the best results of operative treatment are inferior to the poorest results of mechanic treatment.

A consideration of some of the symptoms is necessary for an intelligent understanding of the theories of the mechanic treatment. At the onset of the disease the thigh becomes flexed, abducted, and rotated outward into the position which one naturally assumes when the weight is thrown on the other leg. As the disease advances and the joint becomes more sensitive, the thigh becomes more flexed, and from abduction and outward rotation passes to adduction and inward rotation into the position which one assumes when protecting the limb from injury. Involuntary muscular spasm carries the limb into the position of deformity and retains it there until structural shortening of all of the soft parts effectively immobilizes the joint; then recovery takes place, but with the limb in the position of deformity. During all this period of progress from slight restriction of motion to complete false ankylosis, the only tendency of movement is toward flexion, with abduction or adduction, never toward extension or hyperextension. If then, the possible motion in the direction of flexion and adduction or abduction be restrained by artificial means, the joint is thereby effectually immobilized. It is the function of a normal joint to permit of motion and bear weight. In disease nature effects a cure by relieving the joint of these functions more or less effectively for a time. The involuntary muscular spasm and structural shortening of the soft parts abolish motion, and the position of deformity relieves the joint of bearing weight to a very great extent. By mechanic measures physicians imitate nature, and aim to more effectively immobilize the joint and relieve it from weight-bearing, and, at the same time, to do this with the joint free from deformity. Immobilization is had by a retentive splint of some form, and protection from weight-bearing is had by axiliary or ischiatic crutches or by recumbency in bed.

The simplest form of treatment is the plaster-of-Paris splint and recumbency. If plaster of Paris be used, it should extend from the ankle to the axilla, and it should be applied only when the deformity has been as fully corrected as possible. Absolute recumbency should be insisted on for so long as the joint shows sensitiveness to reasonable manipulation. Afterward the patient may be allowed up with axillary crutches and a high shoe on the other foot.

The simplest splint is known as the Thomas splint. This splint, of which he is a great advocate, was fully described by Dr. Ridlon. The splint most generally in use in America is the traction splint in some of its numerous forms and modifications. This appears to have originated with the late Dr. Henry G. Davis.

The question of traction is a somewhat vexed one; perhaps a fair statement would be something like this: A positive continuous traction force can be had by any of the traction splints up to about ten pounds when used during recumbency; but continuous traction is not possible by any of the traction splints when used as an ambulatory apparatus. Continuous traction is positively indicated in only a small percentage of cases; in a still smaller number traction adds to the pain and may fairly be considered as harmful. In the vast majority of cases it is neither indicated nor contraindicated, but proves a very useful addition to other means of immobilization. Intermittent traction, such as is had during locomotion, is positively harmful so long as the joint is exquisitely sensitive; later on it is difficult to demonstrate that it is of any special harm, while the use of the splint as a perineal crutch has many very positive advantages.

SURGICAL ASPECT OF HIP-JOINT TUBERCULOSIS.

Dr. L. L. McArthur followed with this paper. His experience with hip-joint resections has, when compared with that of others, been small, probably between fifty and sixty cases. Every case of joint tuberculosis has its inception either in the bony structures of the joint or its synovial membrane. When beginning in the bone, it later breaks into the cavity to infect it.

To the general surgeon it would seem that surgical interference should be resorted to:

1. When the constitutional condition of the patient shows a progressive deterioration under treatment. This may mean: *a*, sepsis from the absorption of the products of a mixed infection in the sinuses, with more or less pronounced hectic; *b*, amyloid degeneration of the organs of the body; *c*, pulmonary tubercular invasion, and *d*, diarrhea either colliquative because of kidney degeneration or of tubercular enteritis.

2. The age of the patient should influence the surgeon's decision; reluctance to operate in very early youth and after 40 years of age is growing progressively greater—in youth, because the disturbance of future developmental centers becomes greater, therefore the end results worse; in later years, because experience has shown that adults stand joint resections of this type but poorly.

3. The environment of the patient should be a factor in determining operation, and however illogical it may be to make one rule for the rich and another for the poor, it is still practical and necessary to consider the fact that the child of a day laborer can not await the long, expensive trial of orthopedic measures to, in the end, not infrequently finally submit to a resection that may be occasionally justifiable in the child of the rich.

4. Since by means of the X-ray we are often able to locate the disease as to the exact portion and proportion of the joint affected, it is conceivable how, with a location favorable for removal, an unusually early operation might be justified, or, conversely, how in the absence of evident bone disease the case might be treated as a primary synovial tuberculosis.

The author protests against a routine treatment of this or any joint, first by mechanics, then by mechanics plus injections, and finally operation. Too frequently is the surgeon satisfied by a diagnosis of "tubercular hip," without regard to whether it be osteotuberculosis of one or both bony parts, primary synovial tuberculosis, or tuberculosis near the joint, but not in it; then contentedly proceeding to the application of mechanic appliances with or without iodoform injections, regardless of the probable location of the infective center. It is the opinion of the essayist that those cases which are cured by iodoform and its analogues, are those in which the disease has been primarily a synovial tuberculosis. As only a small proportion of the cases are of primary synovial origin, but a small number will be cured by injection treatment, injections, therefore, should be limited to those joints whose clinic history and X-ray examination conform more nearly to that of primary synovial tuberculosis.

5. It will be justifiable to operate when failure of relief of suffering follows appropriate conservative treatment.

In conclusion, the essayist emphasized the following facts relative to the technic of hip-joint resection:

1. Healing may occur in any stage of the disease.
2. Operations are justified in the old cases of ankylosis with poor functional capacity, but subtrochanteric section, with uniformly good results.
3. That hip disease no longer calls for a refined diagnosis.
4. That in greatly emaciated patients with metastases, operation is not necessarily contraindicated; judgment in the particular case should be used.
5. It is a rare thing nowadays to have a fatal septic arthritis follow resection—the former bugbear of the operation. The mortality has decreased from 60 to less than 3 per cent.

Philadelphia County Medical Society.

Meeting held May 10, 1899.

PHENOMENA AND MECHANISM OF INHERITANCE.

Professor Conklin of the University of Pennsylvania, in treating this subject, said that by inheritance is meant the sum total of all qualities transmitted from the parent to the offspring. Inheritance is of two kinds: 1, receptive, when children are like parents; 2, when children are unlike parents, but inherit traits possessed by parents. For instance, we have a blending of characteristics not possessed by either parent, in the offspring of a white and black person, producing a color different from either. Peculiar family characteristics may be inherited, such as the development of three eyes in members of a family which Darwin saw and traced through five generations. Professor Conklin had been able to trace the occurrence of a peculiar dimple in the temporal region through three generations. We also have what is known as physiologic characteristics, as in longevity, tendency to baldness, production of twins or triplets. In this paper pathologic characteristics for the most part will be left out.

Teleologic characteristics are exemplified in monstrosities, polydactylism, in one extremity, syndactylism, deaf-mutes, etc. From one deaf-mute who lived in this country 200 years ago, one observer had been able to trace 500 lineal descendants. Characteristics may remain latent in the parent, to be subsequently developed by the offspring. In the latter we have an example in the lower animals, e.g., it is known that a good line of milch cows may come through a particular male. We also have an example of the transmission of latent characteristics in what is called atavism. In regard to the inheritance of acquired characteristics but little is known.

When we come to study the method of inheritance, we find that it all takes place when there is union of the egg cell or ovum, and the sperm cell. All characteristics are therefore transmitted through these cells. The subject of inheritance therefore becomes a cytologic one. The observations presented are the result of ten years' work in this special field. The processes of development in the egg are as follows: we have a cell which has been fertilized, with spindle-shaped bodies breaking up into chromozones in the process of indirect cell division. There must be some significance in this indirect cell division, because nature would not take such difficult steps if it were not necessary. It is known that each species of animal has a definite number of chromozones, e.g., in the human species there are sixteen. A great increase in the number of chromozones, however, does not necessarily mean a high degree in the scale of animal life, since many molluscs have over 100 chromozones or chromospheres. Every cell of the body derives one-half of its coloring matter from the father and one-half from the mother; that is, one-half comes from the sperm cell (or spermatozoa) and one-half from the ovum. That these chromozonic bodies give rise to the transmitted characters has been proved by experiments on the lower animals. Thus, when the coloring matter from the eggs of a certain variety of one of the lower animals had been shaken out and separated, then fertilized by the sperm of another species, the offspring showed entirely different characters possessed by either parent. Characters which are transmitted in the egg cell are purely inherited ones, while those developed later are what might be termed acquired characters. Developments due to inherited characters depend on the ordinary environmental conditions, while acquired characters are developed from unusual conditions. Learning languages is an acquired character which may be inherited. Powerful muscular development may be inherited. In the lower animals this is exemplified in apes, in which there is muscular development in the hind legs. Inherited habit always goes hand in hand with inherited structure. Personally, the speaker did not wish to oppose the view of acquired characters.

In the case of flowers the following experiment had been carried out by an Austrian observer, showing the extent of acquired character depending on new and strange surroundings; from a land far removed, to Vienna, were brought many thousands of plants representing many genii, and all were placed in the new environment of that city. In one year all the plants acquired the character of the native ones which grew in the garden. At the end of thirteen years he returned them to their native soil and within one year the plants had regained their native character. To a certain extent acquired character must be transmitted.

Dr. Allis desired to have the phenomena of increased activity of the spermatozoa at the moment of fecundation explained.

Dr. Charles K. Mills believed in the inheritance of acquired character.

Dr. E. Ferree Witmer did not believe enough stress had been paid by observers to acquired states. As an example, a professor at Cambridge had at the beginning of the college course measured the skulls of many students, and at the end of the course they were again measured and it was found that there was an increase in all the diameters, thus showing greater development from increased mental effort. He desired to know the significance of inherited tendency.

Dr. G. G. Davis asked whether the paper did not repudiate the theory of development of character from environment?

Dr. David Riesman stated that the eminent pathologist, Ziegler, did not believe in the inheritance of acquired character. This subject he thought of interest in the study of tumors, as well as immunity.

Dr. A. A. Eshner looked on the cell as possessing innumerable potentialities, but at the same time there must be untold resistances between one cell and another.

Dr. Solomon Solis-Cohen thought the greatest question from a medical point of view in the study of this subject was whether the character of an individual would develop under different environments.

Dr. Henry Beatties thought the paper of Professor Conklin had been the means of demonstrating a principle or law that was universally applicable.

Professor Conklin repeated that the mixture of the sperm cell with that of the egg cell produces a resultant not like either, and yet similar to both parents. A character, to be acquired by inheritance, as meant by the definition cited, must make its influence felt in every portion of the cell. Acting alone on one part of the cell body it could hardly be transmitted. From this reason he considered deafness uninherited. Suppose we should say that in one portion of the cell is a certain granule distinct from the rest, then a cause acting alone on that granule would not affect the whole cell, and therefore would not be inherited. Things which influence the cell as a whole are alone inherited. The question of evolution would necessarily bring up many complications. All characters have in a measure been acquired, as is observed in adapting ourselves to unusual circumstances always for the purpose of utility. In the study of disease it has been proven, as for instance in tuberculosis, that germs of disease are not contained in the sperm cell or ovum, but if a tendency toward the disease is developed it does so during the growth of the embryo and in this way it may become infected. In reply to the question of Dr. Allis, he gave it as his opinion that certain chemic elements stimulated the activity of the sperm cell. In regard to the nature of the body after union of the spermatozoa and ovum, he expressed the opinion that it was asexual, and that the production of sex was determined during development of the embryo. In its earliest stages it was not hermaphroditic. In answer to the question of Dr. F. A. Packard, as to the explanation of transmission of hemophilia, a condition transmitted to males and not to females, Professor Conklin thought such was as an example of latent character not developed in the mother but transmitted to the offspring, with the exact reason for which we were not familiar.

Denver and Arapahoe Medical Society.

Regular Meeting, May 9, 1899.

COMPLICATED CASES OF APPENDICITIS.

Dr. S. D. Van Meter reported two cases occurring in his practice.

Case 1.—A female, aged 35, came to Colorado several years ago for pulmonary tuberculosis. Two years ago she was fitted with a truss for right inguinal hernia; she could not, however, wear the truss on account of alleged pain. Being of a decidedly neurotic disposition the pain was ascribed to hysteria. Owing to lack of support the hernia would frequently protrude through the external ring, giving great pain and distress until reduced. Late one evening after the reduction of the hernia, the symptoms did not entirely abate, and shortly after midnight she developed general abdominal pain, diarrhea and violent expulsive vomiting. When seen the following morning there was marked tenderness on pressure over the region of the appendix, temperature normal, pulse 112; vomiting, less violent, continued. Owing to an exceptionally thin abdominal wall a tumor could be felt in the right iliac fossa, of a cylindric shape, size of the little finger. The diagnosis could be narrowed down to hernia reduced *en bloc* and acute appendicitis. Immediate operation was advised. On arrival at the hospital the pain and vomiting had almost ceased, but pulse kept steadily increasing. The appendix was found to be very much thickened, its lumen almost completely obliterated. The little space that remained was filled with pus, no concretion. Recovery was uninterrupted. Prior to the operation the patient suffered from numerous gastro intestinal symptoms which were thought to be those ordinarily seen in pulmonary tuberculosis. These, to a large degree, have disappeared, and he is confident that they were due to chronic intestinal trouble aggravated by the appendicitis.

Case 2.—A male, aged 36, was taken suddenly with general abdominal pain, diarrhea and vomiting. He ate lobster at supper of the previous day. Temperature was normal, pulse 90, with tenderness at McBurney's point. Diagnosis: appendicitis; advised operation if within a few hours the symptoms did not abate. Local application of heat and concentrated salts internally were ordered, and by evening he felt comparatively comfortable. Pulse, however, was 100, and rigidity of abdominal muscles marked. On the following morning the patient declared that he felt well and wanted to dress and go down town. His temperature was 99, pulse 110, local tenderness on pressure, no vomiting. Temperature soon rose to 100, pulse to 120; no change in local symptoms. He consented to be operated on. On opening the peritoneal cavity a small amount of sanious matter of bad odor escaped. The appendix did not have to be searched for, its point coming directly into the opening. It was curled upward and outward and buried in a bed of inflammatory exudate. After having carefully broken up the adhesions the appendix was found to be gangrenous at several points; cecum indurated. Attempt at temporary ligation of appendix near junction with cecum was made, but the ligature severed the organ. The appendiceal artery was the cause of considerable hemorrhage, which had to be controlled for forty-eight hours with hemostat. The region was sponged with dry gauze, no irrigation. Cecal wound was brought to center of parietal incision and an attempt at making barrier between general peritoneal cavity made by gauze packing. The patient reacted well from the operation, but on the second day he developed acute arthritis of elbow-joint; temperature 103.2; articular symptoms in knees, ankles and right wrist; pulse 110. Septicemia was naturally feared, but having treated the patient several years before for articular rheumatism, it was concluded that both the temperature and arthritis were due to rheumatism. Salicylates were given per rectum. Temperature dropped to 97; pain under control.

Both cases demonstrated the now well-accepted fact that the pulse is far more reliable than the temperature as a guide in abdominal inflammation.

HYPERTROPHIC RHINITIS IN FEMALE PATIENTS AT PUBERTY AND THE ABUSE OF THE CAUTERY IN THE TREATMENT.

Dr. W. K. Robinson read a paper on this subject and said, in part, that there exists a physiologic as well as an anatomic relation between the nasal and sexual organs. This relation is partially explained by theory of reflex or correlative action, and partially by the bond of union which exists between the various erectile tissues of the body. It is a well-known fact that women with healthy nasal organs suffer from engorgement of the turbinated corpora cavernosa at each menstrual period, and clinic observations have demonstrated that all nasal affections are aggravated at that period. The ardent lover frequently complains of the blocking of his nasal passages. If this exaltation of the nasal membrane be carried beyond physiologic limits there comes a time, sooner or later, when that which was a normal process becomes a pathologic one. The following three cases illustrate the relation between hypertrophic rhinitis and the sexual organs at the period of puberty, in which failure to appreciate the influence of this relation has misled the physician into making use of the galvanocautery, with grave results.

Case 1.—Alice C., white, 18 years old, suffered from atrophy of the inferior and middle turbinated bones of both nostrils; occlusion of nares, especially in the morning, due to the accumulation of dried crusts. At 13 she began menstruating. During the period she suffered from fulness of the nostrils and mouth-breathing. At 15 a physician cauterized the mucous membrane, and great relief was experienced. Eighteen months ago the present symptoms developed.

Case 2.—Mary L., aged 17, had perforative septum and atrophy of the left middle and inferior turbinated bones. At 16 she suffered from turgescence of the left nostril and was cauterized. The cautery, by accident, touched the septum. The right nostril is normal.

Case 3.—Female, aged 17, was cauterized at the age of 15, which relieved her of what seemed to have been an annoying hypertrophic rhinitis, or extreme turgescence of the nasal mucous membrane. Atrophic condition, with its characteristic symptoms, began one year later.

The above described cases, and three others, have convinced Dr. Robinson that had no cautery been used the atrophic rhinitis would not have developed.

Philadelphia Pediatric Society.

Meeting, May 9, 1899.

CONGENITAL HEART DISEASE.

Dr. J. P. Crozer Griffith presented this case. On auscultation a loud murmur could be heard in the region of the pulmonary valve, leading one to believe it might be pulmonary stenosis, together with accentuation of the second pulmonic sound. The explanations offered for this peculiar murmur are that it might arise from a patulous condition of the ductus arteriosus, to the transposition of the large blood-vessels; or it might arise from a perforate septum ventriculorum. There seems to be no marked hypertrophy of the entire organ, but there is possibly some hypertrophy of right ventricle, though ill defined.

Dr. James Tyson confirmed the diagnosis of pulmonary stenosis. He also pointed out that there was a recoil of the blood into the aorta, indicating a patulous condition of the ductus arteriosus.

Dr. A. A. Eshner was under the impression that the condition might be one of mitral stenosis; to which Dr. Griffith replied that this condition was attended, as a rule, with marked hypertrophy.

CASE OF GENERAL VACCINIA.

Dr James Tyson presented a case and exhibited photographs showing the character of the eruption. The patient was 6 months old, and at the time of the last vaccination, two previous attempts had been unsuccessful. The unsuccessful ones had been made with ivory points, after which Dr. Tyson had used glycerinated vaccin-lymph. Three days after the inoculation of the left arm a pustule developed, and on the same arm there appeared, a few days later, probably thirty small pustules, while a similar number occurred on the right arm, some on the dorsal region and on the legs. Here then was a case of general vaccinia. Some restlessness occurred but there was no fever. The pustules remained for several months. The mother stated that she had known of a case in which there had been a profuse rash all over the body following a vaccination. It seemed to be established that vaccination with liquid lymph instead of the ivory points had its own sequelæ.

Dr. W. M. Welch had never seen a case of a similar character. He did not think they were typic cases of vaccinia. He mentioned historic facts to prove that in the days of Jenner vaccin matter was frequently contaminated with virus of smallpox.

CONGENITAL STENOSIS OF PYLORUS.

Dr. D. L. Edsall presented this case, the patient 9 months of age. Some time ago gastro-enteritis developed, lasting for a period of five days During this attack moderate fever had been present (101 degrees). Calomel had been administered and enteroclysis practiced, which relieved the bowel trouble and vomiting. The child has become progressively worse. In July of last year vomiting again came on, irrespective of the kind of food given. There seemed to be no distress when the stomach was empty. No tumor could be outlined in the region of the pylorus. Death occurred on August 9. A few days before death purpuric spots developed over the abdomen.

At the autopsy the mesenteric glands were found enlarged and thickened and the orifice almost closed. There was much overgrowth of the submucosa.

The question of congenital stenosis was one of much interest, and so far no conclusive explanation has been offered. It was supposed that stenosis might be a consequence of spasm of the stomach. In the case cited the speaker thought it was one resulting from atavism.

ERYSIPELAS IN CHILD.

Dr. L. M. Allen presented a case in a child 14 weeks old. On February 2 the mother had an incision made in the forearm, at which time pus was evacuated. A few days later her child fell from a piece of furniture to the floor, and shortly after a red spot developed on the back of the neck and subsequently spread over the entire body, first on the back, then on the legs, abdomen and scalp. Death occurred on the thirteenth day of the disease. Some days later another child of the same family developed scarlet fever. The question of etiology in these three cases was important. Whether or not they were coincidences he could not say.

Dr. Ravenal spoke of a case operated several years ago for empyema, at the Presbyterian Hospital, and during the operation a small spicule of bone was thrown with considerable force against the cheek of the house surgeon, puncturing the skin. A few days afterward a well-marked case of erysipelas had developed, beginning in the wound. At the time of operation the fluid obtained from the pleural sac had been examined and showed a pure culture of streptococci.

CASE OF MELENA.

Dr. L. Allen presented a case of melena. The child was born last March and at the time of birth was of good color. The stump of the cord healed without difficulty, except a very slight hemorrhage on the second day. A few days after birth hematemesis occurred and also hemorrhage from the bowel. Irregular hemorrhages occurred until the tenth day, at which time jaundice occurred. Ice-bags had been applied, and gallic acid and ergot internally. The child was now in good condition. The speaker quoted from different writers relative to the etiology of the condition.

CASE OF NOMA.

Dr. Emery Marvel presented this case and exhibited photographs. The patient was 33 months of age, had been raised on condensed milk and was poorly nourished. On the fourth day from the first manifestation of the disease the gums and alveolar processes had begun to be destroyed. Creolin had been used as an antiseptic wash and deodorizer, but without avail.

Dr. W. McC. Hamill spoke of certain cases of noma that had occurred in West Philadelphia, and on culture-media the discharge was found to contain micro-organisms similar in character to Klebs-Löffler bacilli. He inquired whether a similar experience had been noted in the case reported, to which Dr. Marvel replied negatively.

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SATURDAY, MAY 27, 1899.

CELL INCLUSIONS IN CARCINOMA INTERPRETED AS BLASTOMYCETES.

The search for infectious agents in the malignant tumors has passed through many curious phases. Nearly all the formations or bodies interpreted as the probable causes of these tumors have soon lost the significance at first put upon them. The various bacilli and cocci, the coccidia, the gregarinæ, the amebosporidia, the hematozoa have all suffered this fate.

Of late, Italian authors have urged that malignant tumors are caused by blastomycetes. The various peculiar bodies found in malignant tumors are regarded by them as blastomycetes. The coccidia and protozoa of previous writers were, according to Sanfelice and others, blastomycetes. The literature bearing on this, the latest phase of the search for the cauce of sarcoma and carcinoma, has already reached gigantic proportions. The Italian investigators have published their articles in two or three scientific journals at the same time and in as many languages.

Strange to say, this new phase in the study of malignant tumors has not, as yet, attracted much attention outside of Italy, if we are to judge from the paucity of contributions on this problem from other countries. In connection with this, it is of interest to record that Carl Sternberg of Vienna (Ziegler's Beiträge, 1899, 25, p. 554), reaches the conclusion from his recent investigation of this question according to the technic methods described by the Italians that the so-called blastomycetes are also products of cell degenerations.

In the first place, it is to be noted that the somewhat elaborate technic procedures prescribed by Sanfelice and others are in reality not specific staining methods but rather more or less unimportant modifications of the well-known Gram's method. Sternberg examined a number of glandular and flat-celled carcinomas with this method, with a view to reaching some definite idea as to the nature of the various bodies thus revealed.

As expected, it was found that carcinomas in general contain a variety of cellular inclusions which retain Gram's stain even after thorough decolorization. These inclusions correspond to the descriptions and illustrations of the large number of authors who regard them as blastomycetes, and who place them in etiologic relation to the tumors in question. Similar bodies have also been found in other pathologic processes, such as keloid, lymphosarcoma, hyperplastic tonsils, smallpox, and a large number of benign, mesoblastic and other tumors as the causes of which they have also been interpreted. These bodies are, generally speaking, regarded by the majority of pathologists who are not cancer-parasite enthusiasts, as the so-called hyaline bodies produced by degenerative, secretory and coagulative processes in morbid as well as occasionally and more rarely in approximately healthy tissues (Lubarsch).

It therefore has long been recognized that morphologic characteristics alone no longer suffice to establish the parasitic nature of these inclusions, and this is acknowledged by Sanfelice and other champions of the blastomycetic theory of carcinoma.

Sanfelice saw two roads open for the further solution of the problem; he could either cultivate a blastomyces from a tumor in a human being and inoculate the organism into susceptible animals, or he could use blastomycetes obtained from fruit juices, for the same purpose. In the animal lesions thus produced, it could then be seen whether similar bodies, as the cancer parasites, or hyaline bodies were produced.

Selecting the second method, he found in the experimental tumor-like swellings which resulted, bodies like those in real tumors. The histologic structure of the swellings which result in animals from the injection of blastomycetes from various sources does not, however, correspond so closely to that of carcinoma, for instance, that the production of experimental malignant tumors can be definitely said to have been secured.

Pelegatti, furthermore, found that blastomycetes in pure cultures and cellular inclusions and other bodies in carcinoma do not stain alike when treated in exactly the same way.

Sanfelice objected to Pelegatti's reasoning, because, he says, Pelegatti did not examine tissues containing blastomycetes. In answer to Sanfelice's criticism, it may be urged that the bodies in experimental lesions due to blastomycetes are not necessarily changed blastomycetes, but hyaline formations produced in these lesions for similar reasons, as like bodies in other tissues.

Sternberg found that pathogenic blastomycetes stain quite the same in the lesions they induce as in the pure cultures, at the same time as he acknowledges that some of the bodies found in the resulting lesions greatly resemble the bodies found in carcinomas and other tumors.

According to Sternbèrg, Maffuci and Sirleo, the new formation produced by some blastomycetes when injected into animals can not be regarded as having the histologic structure of carcinoma or sarcoma, but rather as granulomatous productions.

Fabre-Domergue, in his recent book, on "Les cancers épitheliaux," makes the following statement, which well covers the situation of this phase of the cancer parasite question in its present form: "The forms described as sporozoa have merely the morphologic resemblances and not the true characteristics. All the pseudococcidia so far pictured are connected by insensible gradations with the tumor cell from which they emanate by way of degeneration."

Sternberg concludes that while the investigations above alluded to have given rise to a closer study of the cells they have not advanced our knowledge of the etiology of tumors a single step.

Here in America, it may be hoped that the scientific study of cancer recently inaugurated in Buffalo, N.Y., under the guidance of Roswell Park, may lead to results which will stand the criticism of pathologists better than the investigation above alluded to in a general way.

MALARIA AND TYPHOID, NOT "TYPHO-MALARIA."

Among the many debts the clinician owes to the pathologist and bacteriologist is the means of accurately determining between typhoid and the malarial fevers. Not many years ago the occurrence of frequent chills and rigors in a case thought to be typhoid would, if not entirely change the diagnosis, at least give to the disease that most objectionable appellation, "typho-malaria." The teachings and writings of Osler have done much to dispel this view, but it still unfortunately exists to a very considerable extent. On the other hand, a continued fever, if not typhoid, was not thought malarial in origin, and we are again indebted to Johns Hopkins in the persons of Thayer and Hewetson for interesting observations on the continued malarial fevers. Bacteriology of the past few years has taught us how common it is for infections of two or more pathogenic germs to exist in the same body at one time; a patient with typhoid may develop pneumonia and both the typhoid bacillus and the pneumococcus be reported among bacteriologic findings; we are too painfully aware of the frequent association of the pneumococcus with the bacillus tuberculosis; so also we not uncommonly have mixed infections of the typhoid bacillus and the plasmodium of Laveran. During the last five years, isolated instances of the association of these two diseases have appeared with increasing frequency in medical journals, and this has been particularly common since the Widal reaction has opened so ready a path for the rapid diagnosis of typhoid. Prevalent, as both these diseases have been, among the soldiers in our new neighboring possessions, it is not strange that many instances of these double infections have appeared of late. DaCosta (*Phila. Med. Jour.*, May 6, 1899) has reported ten cases in which there were unmistakable evidences of combined infection; malaria proved by the presence of the plasmodium in the blood; typhoid by the usual clinic symptoms and course, and the positive character of the Widal reaction. It is worthy of note that while the patients may have suffered from chills long before the onset of their typhoid fever, yet the malarial element in the case remained latent until convalescence from the typhoid had begun to be established; thus many of the cases failed to show the plasmodium until the fourth week, though frequent examinations for it may have been made, and the history have pointed to its presence months previously. Another point in favor of this late latent infection is that all the cases were removed from malarial districts to a location where tertian malaria was uncommon and the estivo-autumnal practically unknown. The majority of the malarial infections were tertian, the rest estivo-autumnal, so that chills occurring every day or every other day were the rule. Some of the cases, however, those of the estivo-autumnal variety, failed to show chills or rigors at any time, and the combination of slight elevation of temperature above the normal, occurring during convalescence, followed by sweating, were the symptoms that suggested an examination of the blood. When the malarial attack occurred before the temperature from the typhoid fever had reached the normal, curious, irregular combinations of temperature resulted, and it might be here stated that this irregularity of temperature in a case of typhoid without obvious complications should always put us on our guard and lead to a careful search for the plasmodium. Coming on, as the malaria does, so late in the disease, another point can be inferred, namely, that of the two infections the typhoid is much the stronger; while clinically this late appearance is of importance in that it greatly adds to the duration of the febrile attack. The effect of quinin on patients stricken with both diseases is marked, both as regards the temperature-chart and the improvement of the patient's condition. But it must be borne in mind that the specific effect is on the malaria alone; that there exists no such pathologic entity as "typho-malarial" fever; that cases diagnosed as such are, in the vast majority, instances of pure typhoid; and lastly, that the administration of paludal doses of quinin in cases of typhoid often works the greatest harm, both in cinchonizing the patient and in detracting attention from a line of treatment more fitting the case.

PUBLIC-SCHOOL INSTRUCTION IN COOKING.

In the year 1888 the city of New York introduced manual training into the curriculum of certain of its public schools. Objection was raised to this innovation on the ground that this work was beyond the sphere of school teaching, and that any effort to make a boy a mechanic during the progress of his general education would necessarily fail. On the other hand, it was argued that the obvious duty of the public school is to prepare the pupil for his future career, and that nothing could be better adapted to this purpose than an educational training to the eye, the hand, and the mind, which would qualify the boy to meet the ordinary emergencies of life. The intention of giving a specific technic training was disclaimed. Because a boy is taught handiness in the use of certain common tools, it no more follows that this is done in an ineffectual attempt to make him a carpenter than that the general knowledge which he carries with him from the public schools is the result of a futile effort to make him a school-teacher. But, whatever objection may be raised against manual training for boys, it does not apply to the inclusion of cookery in the curriculum for girls. Although many of the girls of this generation become wage-earners in various lines of commercial and business life, for self-support or to add to a strained family income, there are few who look forward to a prolonged continuance in these lines. The girl's vocation in the world is to be a wife and mother, to be the mistress, caretaker and manager of her home. A knowledge of cookery, kitchen management, and domestic economy is essential to her efficiency in this position. She may not have to attend to the working details, but a practical familiarity with them is necessary to qualify her for efficient superintendence. The thriftlessness in American kitchens resulting from ignorance of the application of methods to materials and of many other points in kitchen management has been verified by numberless observations by the agricultural department. The national health and wealth are therefore involved in this subject. Home training can not be relied on to remedy present conditions. It would merely perpetuate them. The Board of Education of New York City saw a possible solution of the problem when it resolved that, in the girl's grammar schools cooking should be taught in certain of the grades. Since then this movement has progressed rapidly, as shown by Bulletin No. 56 of the department of agriculture on the history and present status of instruction in cooking in these schools. One object of the publication of this bulletin is to encourage the extension of the movement into the rural districts. According to A. C. True, the director of the experiment stations of the department: "If it is a good thing to have the girls of New York City taught better methods of cooking and the reasons why good housekeeping is vitally connected with the health and general welfare of our people, surely it must be equally desirable that up-to-date information on such subjects should be imparted in our country schools." Medical men who know the value of a trained nurse can readily appreciate the value of a training which will not only make American wives prudent, economic, and thrifty, but which will establish a sanitary régime in every room in the home as well as in the kitchen and dining-room. The course of cookery is not restricted to the mere making of palatable, nourishing, and economic dishes, but includes instruction in food values and cost, chemic changes and hygienic influences. Thus, in the syllabus of lessons on the chemistry of cleanliness, we find household cleanliness thoroughly discussed and the distinction explicitly drawn between tidiness and sanitary cleanliness. Dust and its dangers are fully studied. In fact, the course as shown in this bulletin might be called rather a course in domestic sanitation than one in cookery. An enthusiast on this subject has written: "With such intelligent and earnest workers, do you think it too extravagant to hope that an article may some day be written telling that the teaching of cookery or home science has greatly reduced infant mortality, contagious diseases, intemperance (in eating and drinking), divorces, insanity, pauperism, competition of labor between the sexes, men's and women's clubs, etc.?" No, we do not think it too extravagant. On the contrary, we consider that the State and the Nation will reap much benefit from the earnest labors of the workers in this promising field of sanitary culture.

AUTOINTOXICATION.

By autointoxication, or "autotoxemia," as the term implies, is meant self-empoisonment, or, in other words, poisoning of the system through the medium of products generated within the living body, and due to faulty metabolism. Strictly speaking it may be a question whether or not by this terminology we should also include the absorption of ptomains which are not the result of faulty metabolism of the living body, or more accurately speaking, living tissues of the human system. Autointoxication thus has a limit. Ptomains arise from fermentation, or from putrefaction, while the products of the living structures arise during the growth and decay of the individual cell or group of cells. During the latter process it is not ptomains which are formed, but leucomains. In septicemia, sapremia, and the infectious fevers, we dread poisoning from ptomains. In gout, neuralgia, neuritis and many other nervous affections, we dread leucomains. Alteration in the structure or metabolic activity of the ductless glands produces true autointoxication, while excessive intestinal putrefaction poisons the system by ptomains. The ductless glands furnish products, and regulate and furnish material necessary for the nutrition of the body. In other words, they act as regulators of metabolism and as a whole are absolutely essential for life in the human system. Leucomains are built up by the system by synthesis, and they also result from processes of oxidation. The essential process in the formation of ptomains is one of oxidation, together with the formation of sulphuretted hydrogen gas, carbonic acid and water. Thus in the embryo, organs are built up synthetically, that carry on the vital activity and nutrition of the fetus, which, without those organs, would die. Abnormal secretion in the embryo may lead to death or the production of autointoxication. Ptomains result from the life of bacteria. In the vegetable kingdom bodies chemically allied to ptomaïns are formed during the life of the plant, and we denominate them "alkaloids." Is bacterial life absolutely essential to the life of the human embryo? It would appear that in so far as the lower animals are concerned this has been settled by the experiments carried on by MULTACE and THURFELDER, who obtained ripe fetal guinea-pigs by means of a Cesarean section carried out under strict antiseptic precautions. According to SCHÄFER, they introduced the animals immediately into an aseptic chamber through which a current of filtered air was aspirated, and fed them hourly with sterilized milk, day and night, for eight days. The animals lived and throve and increased as much in weight as healthy normal animals subjected to a similar diet. Microscopic examination at the end of the experiment showed that the alimentary canal contained no bacteria of any kind, nor could cultures of any kind be obtained from it. In those animals true autointoxication might have occurred. Our knowledge at the present time regarding the leucomains has resulted for the most part from the work of GAUTIER, ERNEST IMMANUEL FELIX HOPPE, better known as FELIX HOPPE SEYLER, and his pupils, KÜHNE, ALEXANDER, SCHMIDT, VON RECKLINGHAUSEN, FOX, BAUMANN, KÖSSEL, VON JAKSCH, and, in our own country, to VAUGHAN, NOVY, HERTER and CHITTENDEN.

As has been previously stated, leucomains may also arise by processes of oxidation. Beginning with the most complex molecule, cleavage begins, and it seems altogether probable that one leucomain may give rise to another. Thus in the series, hypoxanthin, xanthin, and uric acid differ only in the number of atoms of oxygen, the formula in reverse order being: hypoxanthin ($C_5H_4N_4O$), xanthin ($C_5H_4N_4O_2$) and uric acid ($C_5H_4N_4O_3$). While in the formation of leucomains the process of cleavage in the molecule takes place by oxidation, and while it seems reasonable to suppose that the above series correctly represents it, it may be stated that at the present time such can not be demonstrated.

Physiologically the leucomains may be poisonous or wholly inert. Thus in the poisonous ones may be classed paraxanthin, methyl xanthin, heteroxanthin, xanthocreatinin and gerontin. Heteroxanthin and paraxanthin injected into the lower animals produce a rigor mortis condition, dyspnea and convulsions. Xanthocreatinin produces depression, somnolence, fatigue and vomiting. Gerontin produces a paralyzing influence on the nerve-centers and ganglia of the heart. The "Black Hole of Calcutta" will always furnish proof of the existence of leucomains in the expired air.

UNDERTAKER'S COMMISSION.

What sort of a compliment is it to a doctor for an undertaker to offer him a commission? Such a thing does not appear to be incredible in England, judging from a recent editorial note in the *Practitioner*. An offer of a percentage on the funeral expenses of patients might be consolatory to some, but it would be at least a little embarrassing, and one would have to strain his professional conscience a little to accept it, aside from the ordinary aspects of the case in medical ethics. It ought to be only a hardened irregular that could relish the offer.

THE "INDEX MEDICUS."

The discontinuance of the publication of the "Index Medicus," just announced by Dr. FLETCHER, the editor, is a distinct loss to medical literature. That a periodical of this kind, which has existed for nineteen years to the honor of our profession and our country, should have to die for want of support is certainly regrettable. It is, however, a fact that a work with a circulation necessarily so limited could hardly be expected to thrive in a pecuniary point of view, and that its maintenance must necessarily be at some sacrifice on the part of its publishers. This fact, however, makes no more satisfactory the announcement that the decision to discontinue it is final. One can hardly help thinking that such a task would be a fitting one for a government to undertake in the interest of science and for the general good. The United States Government has already a similar one on its hands in the publication of the "Index Catalogue," and the medical profession will probably have to be content with that in the future, though it hardly fills the place of the "Index Medicus."

SPIRITUALISM AND INSANITY.

A trial has just been concluded in Pittsburg, in which a woman was accused of murdering her mother. The fact of the matricide was admitted, but the defense of insanity was made, combined with a plea of justification on account of belief in spiritualism. The whole family were spiritualists, and this daughter, the defendant, claimed that she had a message from her father, who is in spiritland, to the effect that he was lonely and disconsolate. To relieve this sad condition of the father, the daughter conceived the brilliant idea of sending the mother to him, which idea she carried out. And the jury brought in a verdict of not guilty. The ground of defense was insanity, but the lawyers skilfully let the case go to the jury with a plea on account of spiritualism as well as insanity. It is not known on which phase of the defense the jury rendered its verdict, but if on account of spiritualism, it certainly gives the spiritualists the "inside track" in the murder business. In any event it places these people in a very definite position before the law in Pittsburg—if they are spiritualists and believe what the spirits tell them, they are insane.

ADENOFIBROMA OF MALE BREAST.

The rudimentary male breast is far less frequently affected by morbid processes than the same organ in the female. The so-called hypertrophy of the breast has been observed in man; acute and chronic mastitis and the malignant tumors have also been described. Adenofibroma, however, seems very rare, and its occurrence in the male breast is not even mentioned by the principal authors on mammary tumors. Virchow and Beadles each describe a case and recently Milian and Ravanier add another (*Bulletin et Memoires de la Société Anatomique*, March, 1899) in a boy of 14 years. From what has been observed it is probable that this growth is frequently overlooked because of its small volume and freedom from pain, and also on account of its similarity to other processes, as for example so-called simple hypertrophy and chronic mastitis. In the latter process there is usually swelling of the axillary glands, which is absent in adenofibroma. It is believed that attentive clinic study, aided by histologic examination, may throw more and needed light on these two diseases of the male breast.

"CHRISTIAN SCIENCE" AND DEATH CERTIFICATES.

A question has arisen in Michigan that may be of some interest and importance. According to the Owosso *Reporter*, a local physician, Dr. Hume, wrote to the State board of health relative to the signing of a death certificate by "Christian Scientists," who refused to do this in a case that had been under their treatment. The State board decided that any one treating disease, no matter how, is a physician in the meaning of the law, and should sign the certificate if the patient dies under his or her care. A further reference is to be made, it is stated, to the attorney-general, and his opinion obtained. It is easy to see how it might be embarrassing for a "Christian Scientist" to have to sign death certificates, and how it might raise some interesting legal points were they compelled to do so. Their metaphysic conceptions of disease would hardly fit in readily in the regular classifications, and some curious statements might be expected. But it would seem advisable for them not to leave the certificate to others, who might very properly give "neglect induced by faith in 'Christian Science'," as the cause

INFLAMMATION OF GALL-BLADDER DUE TO TYPHOID BACILLUS.

The occurrence of a cholecystitis due to the bacillus of typhoid fever is now well known. Usually it concerns rather superficial processes, but occasionally the cholecystitis may assume a suppurative and even gangrenous character as, for instance, in the case described by V. Wunscheim (*Prag. Med. Woch.*, 1898) which developed during the course of the fatal typhoid attack and in which the bacteriologic examination showed the typhoid bacillus to be present in the gall-bladder and the biliary passages, and the typhoid bacillus and yellow pus coccus in the circumscribed peritoneal exudation over the gall-bladder. The staphylococci were found only upon the peritoneal surface of the bladder, and hence it may be assumed that they represented a secondary invasion from the lumen of the intestine. In another case described by Imhofer a peritonitis developed suddenly, four weeks after the end of an attack of typhoid fever, in a woman aged 40. A laparotomy was made, a general peritonitis found due to a suppurative cholecystitis, the gall-bladder being filled to distension with thick pus in which the typhoid bacillus existed in pure culture. These cases illustrate the rôle the typhoid bacillus sometimes assumes as a pyogenic agent. Knowing the frequency with which this organism is to be found in the bile in the gall-bladder during and after typhoid, it is to be expected that destructive effects of virulent bacilli should occur here from time to time.

FORTUNES LEFT BY BRITISH PHYSICIANS.

According to the London *Lancet*, the large fortune (£375,000) left by Sir William Jenner was not wholly made in the practice of his profession, but a large fortune was left him by his brother and a certain portion derived from trade, though he undoubtedly earned a large sum by the practice of his profession. Large fortunes have been left by other eminent British physicians as follows: Sir Andrew Clark, an estate valued at £203,970; Sir Oscar Clayton, £146,746; Dr. Rhodes Armitage, £217,420; Dr. L. T. Cumberbach, £107,000; Sir Richard Quain, £116,780; Mr. Henry Horsfall, £105,780; Dr. G. D. Longstaff, £107,000; Dr. Henry Danson, £119,290; Dr. J. H. Paul, £100,052. The largest estate, however, is that of Sir Wm. Gull, valued at £334,023. Sir William Gull, like Sir William Jenner, made an enormous professional income, though fortunate investments perhaps played the part in swelling the total of his fortune that family bequests played in the case of Sir William Jenner. The above was compiled from the *Daily Telegraph* and *Westminister Gazette*, and covers the last ten years. The *Lancet* adds that on the strength of them the medical profession can not be said to abound in pecuniary prizes. Only eleven persons, whether shining in the front rank of the medical profession or engaged in one of its notoriously lucrative branches, or blessed by accident with pecuniary advantages, have died during ten years in possession of more than £100,000, while a first-class brewer's fortune would be expected to amount to more than the aggregate total of the eleven medical fortunes, or the brewer would be accounted a comparative failure. The *Lancet* wishes to state that it is not setting up a wail that medical men do not make more money, but the fortune of Sir William Gull ought not to lead the public to mistake the facts as to the average earnings of the medical profession. The profession of Great Britain numbers some 28,000 persons, and although now and then one man dies rich the vast majority die otherwise.

A QUESTION OF PRIORITY.

The *Indian Medical Gazette* claims to have found a case of scientific plagiarism in the recent publication of the discoveries as to the life history of the malarial parasite by the Italian observers, BIGNAMI, GRASSI and BASTIANELLI. It claims that these investigators were directly incited by those of Major Ross of the Indian Medical Service, who, in 1897, published in the *British Medical Journal* observations showing that he had followed the estivo-autumnal malarial parasite of man into the dapple-winged mosquito, and that his publications, as well as specimens prepared by him, were furnished the Italian investigators before they carried out their recent research, and that it is allowable with these facts to presume that their attention was directed to the *Anopheles claviger*, likewise a dapple-winged species, on account of this information. They do not credit Ross, however, with any priority, according to the *Gazette*, but merely say: "The observations reported up till now permit us to reconstruct the life cycle of the human hemosporidia in the body of the *Anopheles claviger;* it finds for the most part confirmation in that observed by Ross regarding the proteosoma of birds in the gray mosquito." It would appear from these statements that if the Italian scientists said no more as to Ross' discoveries, they did not do justice to the British investigator. It certainly does not appear from the translation of their paper, also given in the *Gazette*, that they did recognize the fact here claimed, that he had as early as 1897, a year before their publication, also traced the development of the human malarial parasite.

SYRINGE NOZZLE AS A CARRIER OF INFECTION.

It is well known that foreign bodies introduced into the vagina and uterus are liable to carry infection to the pelvic organs. The male organ of generation, infected with gonorrhea, the unclean digit, the speculum, the tenaculum, the sound, the dilator, and even the tampon, are credited with the causation of diseases of the female generative organs. A prominent gynecologist has gone so far as to ascribe the supposed greater prevalence of female diseases of the present day to the abuse of the mechanic treatment of uterine diseases. Whether women of the present generation are suffering in greater numbers from pelvic diseases than they did in the past is a question on which we have no sufficient data from which to draw conclusions. There is one thing, however, which probably causes more trouble than all the mechanic treatments put together, and that is the syringe nozzle. The majority of women possess and use a fountain syringe. Long before they ever consult a physician, they have used the syringe at the suggestion of the mother or friends. The use of the syringe is almost universal and indiscriminate, and in the majority of cases, during the intervals between usings, it hangs on a nail in the sleeping-room or bathroom, the tube with the nozzle attached finding its resting-on the floor or in contact with septic material. Not one in a hundred washes the nozzle before using it, saying nothing about sterilizing it. Might not the nozzle be a great source of infection? As far as we know, there is no literature on the subject, and the text-books are silent on the matter. Would it not be instructive and profitable for gynecologists and general practitioners to investigate and pay attention to this indiscriminate use of the fountain syringe?

THE TONSILS A GATEWAY FOR INFECTION.

Two recent papers have directed attention anew to this important topic, which, while seemingly threadbare, is frequently overlooked by the practician. That the tonsils are the locus of infection in diphtheria, scarlet fever, and other infections has long been known, but the relation between tonsillar inflammation and acute rheumatism is not yet universally acknowledged. In the *Münchener Medicinische Wochenschrift* for March 7, M. de ROCHMONT reports an epidemic which occurred in the Altona Hospital, following the admission of a patient suffering with acute articular rheumatism and follicular tonsillitis. From this patient seventeen others and a nurse, all in five wards on the same corridor, developed tonsillitis. As there had been no case of sore throat present until the admission of this patient, the source of infection seemed clear. This epidemic also showed how far from trifling is follicular tonsillitis. Of the eighteen cases, three had acute articular rheumatism following the sore throat, one had acute nephritis, one endocarditis, one pericarditis and one acute myocarditis. The cases were fortunately all carefully studied bacteriologically, but the only organisms found were staphylococci and streptococci, with a few apparently non-pathogenic streptobacilli. On May 3, Dr. F. A. PACKARD of Philadelphia read a paper before the Association of American Physicians at Washington on acute endocarditis of tonsillar, origin. He reported five cases of endocarditis, each of which had been preceded by tonsillitis. The discussion which ensued demonstrated that many experienced clinicians have observed such complications of tonsillitis as fatal streptococcus poisoning, pleuritis, iritis, and those above noticed. These experiences are by no means uncommon, but the necessary connection between the preceding inflammation of the tonsils and the subsequent grave disease has not been as generally recognized as its seriousness demands. Almost every physician can recall cases from his experience in which sore throat existed before the onset of some grave infection, but was regarded as accidental instead of essential. The painstaking studies above quoted, and many others, place upon a safe basis the etiologic relation of tonsillar infection to many other local or general diseases. ROCHMONT says that at the Altona Hospital they now isolate all cases of sore throat. Clearly the same practice should be followed in all hospitals. In private practice isolation should be carried out in so far as is practicable, and thorough cleansing of the throat with alkaline and antiseptic washes and sprays is imperative. In general, the ordinary sore throat is not to be looked on as necessarily a benign and self-limited affection. The fact that it usually is so will not excuse the case of endocarditis, with permanent crippling of a life, which may follow neglect to appreciate the careful treatment that the initial tonsillar disease demands.

HARD LUCK.

The dangers of surgical practice are multiplying. In the Journal of April 15, a paragraph was given to a case that recently occurred in Germany, where a surgeon changed the operation he was intending to perform to another that he found indicated while the patient was under anesthesia. The patient, though apparently grateful at first, strongly objected when the bill was presented, and it was stated that the court decided that he was censurable for not stopping and waiting for the patient's consent. A supplementary report of the case in the newspapers states that the patient, not content with getting off from payment of the bill, brought an action for assault or bodily injury, and the supreme provisional court has just delivered judgment, and while admitting that the operation has probably lengthened the patient's life, it holds that it was not done with the patient's knowledge or approval, and might have been attended with danger, it was an intentional and illegal bodily injury. The public prosecutor has, therefore, announced his intention of instituting a criminal prosecution of the surgeon. The moral to be derived from these facts is never to operate without a free hand has been given by the patient and even to require a contract if there is the remotest doubt as to the patient's reliability or good faith. Not many laparotomies are performed in which the surgeon knows exactly what he is going to do. Hence the importance of special care in such and all other operations with similar uncertainties. The public is beginning to learn its legal privileges and if due precautions are not used, the surgeon may find his patient prosecuting him before a judge who deems himself competent to decide as to the urgency or necessity of the operation, and the rest of the profession may have also to suffer from judge-made law covering matters that were before supposed to be questions of scientific medical opinion. At least such would seem to be the case in Germany. An interesting point is what would be the decision if a patient should sue a surgeon for not doing what he in his best medical judgment thought necessary and subjecting him or her to the perils and delays of a second operation. The courts might then perhaps decide against him, and the profession would be left "between the devil and the deep sea."

THE SPREAD OF INSANITY.

At the recent meeting of the Nebraska State Medical Society, a lengthy debate occurred on the spread of insanity and how to prevent it. The conclusions were that the great increase in modern times was due to "hereditary causes, the discharge from asylums of half-cured patients left free to propagate their kind; the fostering care of Christian institutions; the effect on immature minds of dwelling on the doubts raised by dogmatic Christianity, and the cramming of young minds by modern educational methods." These are propositions that fall in with popular notions, but whether they are all equally correct is another question. Heredity is more effective now than formerly, only in a secondary way; if there are more insane now than there were, there are more to transmit their defect. Its importance, therefore, depends on the existence of other factors causing the increase. Undoubtedly there are many imperfectly-cured patients discharged, but before the days of asylums, the semi-insane and the cranks were at large, subject to no restrictions whatever, so that the importance of that fact as a causal factor now as compared with former times may be easily overestimated. There is no question that under our modern Christian civilization more lunatics survive and more become a public charge than was formerly the case, but it is less clear that religious doubts have such an important influence as is here attributed to them. Dogmas cause far less mental worry in modern life than they did to our ancestors, and a religious tincture in insane symptoms is far from being always an indication that religion caused the insanity. It is not probable that religion disorders more minds now than it did several generations ago, when men were as intense, if not more Christian, in their theology. Overstrain in the education of the young is undoubtedly a very great cause of mental breakdowns, but the most important of all factors seems to have been overlooked in the discussion, or, at least, it is not reported as having been duly considered. It is the effect of the conditions of modern civilization on weak brains that could have easily endured the minor strains of a less complicated and intense social and physical environment. This is the last straw that breaks the camel's back in a very large proportion of the multiplying cases of mental diseases of the present day. Comparatively few of the inmates of our asylums are naturally strong-minded individuals, nor are they all essentially degenerate, in the proper sense of the term. They are simply eighteenth-century individuals born out of their time and introduced into the modern age of steam, electricity and the present push and struggle for existence. This is what makes urban populations so prolific of insanity and fills our asylums with recently-immigrated foreigners. Whether the remedy of restriction of marriage and other methods to prevent propagation of the insane, as advocated at the Nebraska meeting, will be as effective as some partakers in the discussion seemed to suppose is, under the circumstances, at least questionable.

INFANTILE CEREBRAL PALSY AND EPILEPSY.

Epilepsy as a symptom frequently follows in the track of gross cerebral lesions of a varied nature, and is especially seen after the cerebral palsies of infancy. Most of the arduous and painstaking work on child palsies has been done within the last ten years by

German, English and American writers. We now have the voluminous work of Freud—a fitting consummation of all the works of the other authors. It is a valuable book to us at present, as more careful attention to-day is being paid the mentally deficient child from a medicopedagogic standpoint. Unfortunately, Freud's work has not been translated from the German. Much doubt still exists whether infantile eclamptic convulsions can cause cerebral hemorrhage. Gowers, in discussing epileptic convulsions, states that apoplexy caused by the epileptic paroxysm is an exceedingly rare event. The prominence which convulsive phenomena play in the onset of cerebral palsy in childhood has led many to urge it as a cause of the cerebral mischief. Yet the fact that convulsions are almost always present in any serious destructive brain lesion makes us hesitate to accept it as a cause for child palsies. Again, epilepsies in severe convulsive stages may exist for years without terminating in cerebral hemorrhages. Indeed, from practical experience we all know how great a rarity it is to see cerebral hemorrhage in epileptics at any time; epileptics most frequently die from an intercurrent disease. It is not an uncommon experience to see a partial palsy become complete after a second attack has occurred; separated from the first by weeks or months, the interval between being free from convulsions. Sachs and Peterson have reported some cases of this character in this country. The cerebral lesion is almost always accompanied each time by a series of convulsions. Freud maintains that all epilepsies are of apoplectic origin, either extra- or intra-uterine. He is very plausible in the presentation of his evidence; but of course his conclusion will not be universally accepted. The percentage of palsied cases that ultimately become epileptic is steadily growing; many epilepsies resulting from slight hemiplegia, in the light of careful research and better clinic methods, can no longer pose in a garb of mystery. Probably the number ultimately becoming epileptic will far exceed the 40 per cent. given to-day. Close observation of the reflexes, disorders of motility, and trophic changes in suspected cases, especially noted by Sachs and Freud, will always be essentials in the diagnosis. The onset of epilepsy in a palsied child may be postponed for years, and the attention of relatives and physician should not cease after the acute symptoms; much can be done for the little patient along hygienic, dietetic, and medicopedagogic lines. The so-called higher education is not for these patients. Indiscriminate use of bromid, if epilepsy develop, can not be too heartily condemned; even used symptomatically it is of but little use except at the serial periods. The posthemiplegic epileptic is always an object for great care, as his seizures generally group themselves in periods, and are liable to culminate in status epilepticus and death. The seizures localize or predominate on the weakened side, and in serial periods, the power of the hemiplegic side is more or less completely lost and recuperation is very slow. The slight hemiplegias come prominently to the front once more after the severe exhaustion from serial attacks; unfortunately, many epileptics have waited until this time before a proper recognition of the true brain lesion was accorded them. We trust that a wider dissemination of the ideas of Freud's work on infantile cerebral palsy will aid practitioners to avoid many evil results of child palsies.

Medical News.

Dr. Gustav Fütterer, Chicago, has been elected professor of pathology in the Northwestern University Medical School.

Prof. N. Senn, M.D., Chicago, has been honored with the degree of LL.D., by Jefferson Medical College, Philadelphia.

Dr. E. E. Montgomery, Philadelphia, entertained the members of the American Gynecological Society at a luncheon at the University Club of that city, May 24.

Dr W. H. Crane, Cincinnati, has been made professor of chemistry in the Ohio Medical College and, Dr. A. V. Phelps adjunct professor of anatomy in the same institution vice Cilley, resigned.

On account of the smallpox scare in that State, the State board of health has instructed the boards of education of the various Kansas towns to require school children to be vaccinated.

Dr. J. R. Buist has been chosen to fill the chair of obstetrics in the Vanderbilt Medical College, Nashville, Tenn., for the session. Dr. Buist has heretofore been lecturer on nervous diseases.

Recent dispatches received in London announce that a serious epidemic of cholera has followed in the wake of the plague at Allahabad. At Kurracheo there occurred sixty-four deaths in one day.

After a continuous service of thirty years, Dr. John L. Cilley of the Ohio Medical College, Cincinnati, has resigned as adjunct professor of anatomy. Dr. A. V. Phelps was appointed in his place.

The new German Hospital, Brooklyn, N. Y., was dedicated May 21. The hospital, entirely fire-proof, consists of a group of four buildings, connected by covered passageways, the main building four stories high.

Russell Sage has given $50,000 to the new building fund of the Woman's Hospital of New York. Work on the new building will be begun in the fall. Evidently Mr. Sage has taken a hint from Mr. Carnegie.

The annual commencement of Rush medical college, Chicago, was held the afternoon of May 25, the doctorate address being delivered by the Rev. Andrew Morrissey, president of Notre Dame University. The preceding days of the week were largely given up to class day and alumni festivities, the closing exercise being a banquet on the evening of the 25th, at which addresses made by Rev. Morrissey, the Hon. Carter H. Harrison, Mayor of Chicago, the Hon. William J. Byrne and Rev. William J. McCaughan of Chicago, and President William R. Harper of the University of Chicago.

According to a recent dispatch from United States

Consul Ayme of Pointe a Petre, Island of Guadaloupe, the State Department at Washington has been notified of the removal of the quarantine restrictions against Porto Rico.

Dr. Charles B. Penrose, professor of gynecology at the University of Pennsylvania, has resigned from this chair on account of impaired health. His resignation has been accepted with regret on the part of the board of trustees.

By the will of Dr. Joseph Kirkbride, who recently died in Philadelphia, $5000 has been received by the Pennsylvania Hospital. To the microscopic section of the Academy of Natural Sciences he bequeathed his microscope and all accessories.

Prof. Christian Fenger, M.D., has accepted the position of professor of clinical surgery, Rush Medical College. For several years he has held the position of professor of surgery in the Northwestern University Medical School—Chicago Medical College.

On May 16, the commencement of the University and Bellevue Hospital Medical College, New York City was held—the first since the Bellevue School united with the medical department of the University of the City of New York. The graduating class numbered 160.

The municipal assembly has sent to the board of health of New York City a resolution lauding the board for its vigorous action in its efforts to discover and bring to trial persons guilty of practicing medicine without a license, and urging the board to continue in the good work.

At the annual banquet of the society of internes of the Cincinnati Hospital, held May 19, 1899, the following officers were elected: president, C. R. Holmes; vice-president, E. W. Walker; secretary, Albert Freiberg; treasurer, J. C. Oliver. At the banquet Dr. S. E. Allen acted as toast-master.

The faculty of the University of Pennsylvania have chosen Dr. G. G. Davis to succeed Dr. John B. Deaver, whose resignation takes effect at the end of the present term. Dr. Davis at present holds the chair of assistant demonstrator of anatomy. The nomination of Dr. Davis now awaits the action of the board of trustees.

A coroner in New York City has asked the president of the board of health to make an investigation of a certain quack establishment professing to cure not only consumption, but cancer and almost all other diseases, which has branch offices in Chicago, Boston and Philadelphia, and which advertises extensively in the German newspapers.

The following, representing the regular school, have been appointed members of the board of medical examiners in Idaho: president, L. P. McCalla of Boise; vice-president, W. W. Watkins of Moscow; secretary and treasurer, R. L. Nourse of Hailey. Every effort will be made to make the new law which went into effect March 3, operative.

Commencment exercises of the Long Island Hospital Medical College, were held in Brooklyn, May 16. Only 60 out of a graduating class of 108 were awarded diplomas. Of the remaining applicants for degrees 23 were rejected altogether, and 25 were conditioned, with the understanding that they should have the opportunity of another examination, after attendance at the summer session.

Dr. Louis L. Seaman of New York, but later of the U. S. Army at Porto Rico, has been commissioned by the Government as special agent to examine the sanitary, dietary and climatic condition of the Philippine Islands. He is to have every facility and courtesy extended by the proper officials especially for the investigation of the Government ration question.

The fifth examination for licenses to practice medicine in the State of New Hampshire will be held at the State House, Concord, on June 20 and 21, beginning at 8 a.m. All unlicensed physicians who were not in practice in this State on and before March 16, 1897, must pass the examinations in order to receive a license to legally practice their profession.

Governor Roosevelt has not yet determined whether to sign or veto the bill providing for shorter hours for druggists' clerks, recently passed by the New York Legislature. On account of the division of opinion on the subject among the clerks themselves, he has appointed Jacob Riis, the well-known philanthropist, to make a thorough investigation of the conditions under which they work and endeavor to find out the actual wishes of a majority of their number.

The annual commencement of the Medico-Chirurgical College was held at the Academy of Music, Philadelphia, May 20, and 179 received the degree of M.D. The doctorate oration was delivered by Dr. Joseph M. Mathews, president of the American Medical Association, and the degrees were conferred by Dr. William L. Rodman. Dr. Mathews chose as his subject, "The Art in Medicine." Sixteen States were represented among the graduates. One was from Newfoundland.

Dr. Elmore S. Pettyjohn, who assumed full contral of the Alma Sanitarium, Alma, Mich., recently, has been connected with that institution, as superintendent, since 1893. The Doctor received his early medical training in Rush Medical College, Chicago, graduating in 1882, and his four years' experience in State and private institutions in Illinois, in nervous and mental diseases, and later extended practice, well fitted him for this line of work.

At the twenty-sixth annual conference of Charities and Corrections, just held in Cincinnati, the report of the chairman, W. A. Gates of St. Paul, on "Immigration," was accompanied with a draft of a bill proposing uniform charity legislation for all the States. The proposition of the bill is to the effect that a State residence continuously for one year, with the limitations the same as for voting, should constitute eligibility for the privileges of State benevolent institutions.

A gift of $25,000 has been made, through Mr. Alvan R. Johnson of Brooklyn, to the Hoagland Laboratory, connected with the Long Island Hospital Medical College, for the endowment of the Van Cott fellowship of pathology, in honor of Dr. Joshua Van Cott, the director of the laboratory. Dr. Van Cott, on whom, as director, the choice devolves, has selected Dr. Archibald Murray, who is at present his assistant in the laboratory, as the first beneficiary of the fellowship.

Dr. Floyd W. McRae, Atlanta, Ga., who is to deliver the oration on surgery at the coming meeting of the American Medical Association, has been ill since the meeting of the Medical Association of Georgia, over which he presided. He has been suffering from an attack of appendicitis, and not entirely recovering after the acute attack, he went to New York and two weeks ago was operated on by Drs. W. T. Bull and W. B. Coley. Dr. McRae is still in New York, but has about recovered.

Dr. Emil Mayer of New York City has been appointed co-editor for America, in the *International Cbl. f. Laryngologie und verwandte Wissenschaften*, of which Sir Felix Semon of London is editor-in-chief.

The annual commencement of the University of Michigan will take place on June 22. Besides the usual ante-commencement ceremonies, the medical department will have a special program for its friends and the alumni.

The medical friends of Dr. J. J. Kinyoun, Washington, D. C., tendered him a farewell dinner on the 21st instant, Dr. Kinyoun, who has been in charge of the department of hygiene of the marine-hospital service, having been ordered to San Francisco. At the dinner Dr. Joseph Taber Johnson acted as toastmaster; Drs. W. C. Woodward, W. W. Johnston, Stone and Kober responding. The evening closed with an interesting address by Surgeon-General Sternberg, who referred to the valuable services of Dr. Kinyoun in bringing the department of hygiene to its present valuable condition.

Major D. U. Appel, surgeon U. S. A., has fitted up a trolley street-car for use in bringing patients landed at Savannah, Ga., to his general hospital. The car carries fourteen litters in two tiers, one tier on a level with the seats, the other about two feet higher. The backs of the seats have been removed and wooden strips fastened to the tops of the seats at such a distance that the legs of the litters will fit snugly between them. The litters on the upper tier are supported by iron hooks hanging loosely and fastened to the posts with heavy bolts, the hooks catching the handles of the litters near the canvas. The car can be loaded and unloaded very easily.

The osteopaths made a desperate effort in Nebraska during the recent session of the legislature of that State, to have a law passed permitting them to practice. The medical profession, however, was united in opposing this method of lowering the educational standard, and the osteopaths were defeated. One of these gentlemen has now been arrested for practicing medicine without a license, and the outcome of the trial will be of great interest to the profession of the State. If the defense made by the osteopaths holds good, it will do away with the medical law now in force there, the defense being that the law is unconstitutional. The physicians of Nebraska, however, are not worrying, but are as prepared to meet these faddists in this phase of the fight as they were in the legislature.

The annual meeting of the American Medical Editors' Association will be held in Columbus, Ohio, on Monday, June 5, the day immediately preceding the opening of the meeting of the American Medical Association. The session will be called to order at 2 p.m., in the hall of the Y. M. C. A. building. The association, in addition to routine business, will listen to a paper entitled "The Ends and Aims of Medical Journalism," by Dr. J. D. Emmett, editor of the *American Gynecological and Obstetrical Journal.* In addition to this, the committee have proposed a brief symposium upon the subject, "The Editor and the Author—the Rights of Each as Regards Contributed Articles." The committee has requested Dr. G. H. Simmons, of the Journal; J. Riddle Goffe, of the *Medical News;* G. M. Gould, of the *Philadelphia Medical Journal;* J. C. Culbertson, of the *Cincinnati Lancet-Clinic;* and Dunbar Roy, of the *Atlanta Journal-Record of Medicine,* to lead in this discussion. The annual dinner of the association is to be held at the Columbus Club at 6:30 p.m. Plates for the dinner, $2.00 each.

The annual meeting of the American Laryngological Association was held in Chicago during the past week. About thirty-five members and twenty guests were in attendance, the mornings and afternoons being devoted to business sessions and the reading of papers, and the evenings given up to social functions. Dr. and Mrs. Casselberry entertained the members and guests at a reception one evening, and Drs. Hardie and M. R. Brown gave a lunch in their honor at the Chicago Athletic Club, with later a reception given by Dr. and Mrs. E. Fletcher Ingals at their home, followed by a tally-ho ride through the parks of the city. The following officers were elected at the meeting: president, Dr. Samuel Johnston of Baltimore; vice-presidents, Drs. T. A. de Blois of Boston and Moreau R. Brown of Chicago; secretary and treasurer, Dr. Henry L. Swain of New Haven, Conn.; Librarian, Dr. J. H. Bryan of Washington, D.C.; member of the council, Dr. Wm. E. Casselberry of Chicago. Place of meeting, Washington, D. C., in conjunction with the Congress of American Physicians and Surgeons, May, 1900. A report of the meeting will appear in future issues of the Journal.

Troops for Luzon, P. I.—A general order, from Headquarters Department of the Missouri, Omaha, Neb., makes provision for the movement of the Sixteenth U. S. Infantry from duty in that department to the Philippine Islands. The movement will be by rail to San Francisco, and thence to Luzon on the transport *Grant.* Arrangements have been made so that the troops will arrive at San Francisco on the morning of May 29, and the loading of the baggage and the embarkation be completed on that day. The medical officers who will accompany these troops on the *Grant* are Major H. S. T. Harris, brigade surgeon, vols., and Acting Asst.-Surgeons Waller H. Dade, Cyrus D. Lloyd and Shannon Richmond. One hospital steward, two acting stewards and twelve privates of the hospital corps will leave with the command. Dr. Lloyd will accompany the Second Battalion from Fort Leavenworth to the seaboard, and Dr. Richmond the Third Battalion from Jefferson Barracks, Mo. The other medical officers and the members of the hospital corps will travel from Fort Crook, Neb., with the headquarters of the regiment and the First Battalion. The various staff departments are directed, within the limits of their respective spheres, to take all necessary steps to insure a prompt compliance with the provisions of the order and to see that every arrangement is made for the comfort and well-being of the command on this long journey, with a view to its arriving at its destination efficient in every respect.

Public Health.

Smallpox Among the Troops at Manila. On account of inefficient vaccination at San Francisco, Cal., prior to sailing for the Philippine Islands, a number of cases of smallpox appeared in certain regiments shortly after their arrival in Manila. These cases occurred mostly in men who had been visiting the huts of the natives, in many of which smallpox of a very malignant character was prevailing. Efforts were made to protect those whose vaccination records were not satisfactory, and the men were cautioned against the danger of exposing themselves to the infection. Cases, however, continued to occur, and on Nov. 19, 1898, Major-General Otis issued orders requiring commanding officers of regiments, battalions, companies and detachments, and surgeons in charge of hospitals, to take immediate steps to secure the vaccination or re-vaccination of all enlisted men under their supervision. Every enlisted man of the command, who had not been successfully vaccinated within the past six months, as shown by company records or within the personal knowledge of his officers, was required to be vaccinated at once (provided he was in physical condition to endure it), and should the operation not prove successful it was to be repeated, at intervals of two weeks, as often as in the judgment of the surgeon in charge of the organization it was deemed necessary to fully protect against smallpox; but not less than three unsuccessful vaccinations from date of this order would be recognized as sufficient protection. The chief surgeon at Manila, Lieut.-Col. H. Lippincott, U. S. A., has urged the establishment of steam laundries for the troops, one on the north, another on the south side of the Pasig River, and a third to do the washing for the hospitals, all to be operated by Americans, as he felt that there was great danger of the spread of infection in using Filipino labor for laundry work. All troops now arriving at Manila are vaccinated before or immediately after leaving the ship. Vaccinations done prior to Nov. 15, 1898, have been officially directed to be considered as unsuccessful, as also all vaccinations done with virus from San Francisco. The chief surgeon, in January and February last, procured virus from Japan and Saigon, but he especially commended the virus prepared by the board of health of the city of Manila. From September last to the end of March, 1899, there had occurred among the troops 151 cases of variola with 77 deaths, and 85 cases of varioloid with no death.

Army Medical Reports from Manila, P. I.—Reports dated March 31, 1899, from the chief-surgeon of the 8th Army Corps at Manila, state that the total number of United States troops killed or dead from wounds since Feb. 4, 1899, is 182, and that the number of wounded, is 847. Of the slightly wounded many were soon returned to duty. During the field service consequent on the Filipino outbreak our men have had every possible comfort, and the surgical attendance has been excellent. The medical department had made preparations for an expected attack on our forces. Litters, pouches and medical and surgical chests were in readiness, stimulants and easily prepared articles of food were on hand and the ambulance company was held on an active service footing. The transportation of the wounded was greatly facilitated by using the freight cars on the line from Caloocan and Malolos to Manila and by running the hospital boat up the river for those at San Pedro Macati and Pasig. Lieut.-Col. Lippincott, deputy surgeon-general, expresses himself so pleased in having been so well able to meet the wishes of the surgeon-general in regard to a sufficiency of medical supplies for the army. Rattan chairs and lounges purchased in Manila for use out of doors in shady places have been greatly enjoyed by patients who are able to be about. Pajamas also have been highly appreciated. The hospitals are the First Reserve Corps (Crosby's), the Second Reserve Corps (Keefer's), Convalescent (Owen's) and the District Hospital, now under the care of Acting Asst.-Surgeon Titus. Much labor has been expended on Crosby's hospital, which is now in excellent condition. It is fairly well ventilated and has been provided with lectric-lights. It was originally intended by the Spaniards to accommodate 800 patients, but it has not been filled to that extent by us. We have had that number on the rolls of the hospital at one time, but tents were used to extend the wards. The Second Reserve Corps Hospital is reported to be a fine establishment with ample and neatly kept grounds. It was built about two years ago as a seminary for young ladies. It accommodates 300 patients. The Convalescent Hospital on Corregidor Island accommodates 280. An ice machine was erected at Cavite soon after the arrival of the troops. The plant supplied the hospitals and several of the regiments. A new machine is now being installed near the First Reserve Hospital. Condensing plants have also been established: one at the First Reserve, one near the Spanish bridge, one at Binondo, one in the Malacanan district, one in Cavite and one in Iloilo. The plants were put up hastily when the water-mains were threatened, but although that danger is over, it has been considered judicious to continue the use of the distilled water. The food-supply is ample and varied. Fresh beef is issued seven days in ten and on these days two ounces each of rice, oatmeal and dried fruits are issued, when desired, in place of four ounces of the fresh beef allowance. Wounded Filipinos to the number of 256 were received into the hospitals during February and March. Forty-five of these died. All received the best of care and treatment, and they seemed to appreciate the efforts made on their behalf. Suppuration was the rule in these cases, while among our wounded men it was rarely seen.

Health Reports.—The following cases of smallpox, cholera and plague have been reported to the surgeon-general of the United States Marine-Hospital Service for the week ended May 20, 1899:

SMALLPOX—UNITED STATES.

Alabama: Mobile, May 12, 2 cases.
District of Columbia: Washington, May 12 to 15, 3 cases.
Georgia: Savannah, May 9 to 16, 5 cases.
Illinois: Chicago, May 9, 2 cases.
Indiana: Evansville, May 6 to 13, 2 cases.
Kansas: Emporia, May 6 to 13, 2 cases, 1 death; Kansas City, April 29 to May 6, 32 cases, 8 deaths.
Kentucky: Louisville, May 4 to 11, 16 cases.
Louisiana: New Orleans, May 6 to 13, 9 cases; Shreveport, May 3 to 13, 4 cases.
Maryland: Steelton, near Baltimore, May 17, 4 cases.
Minnesota: St. Paul, April 29 to May 6, 1 case.
Missouri: St. Louis, January 21 to May 12, 65 cases.
New Mexico: Las Cruces, May 12, 19 cases.
New York: Borough of Brooklyn, April 29 to May 6, 1 case.
Ohio: Cleveland, May 6 to 13, 11 cases.
Pennsylvania: Allegheny, May 6 to 13, 2 cases; Johnstown, May 6 to 13, 1 case; Philadelphia, May 6 to 13, 1 case.
Rhode Island: Providence, May 10, 1 case.
South Carolina: Barnwell County, May 16, 3 cases; Beaufort (not verified), May 16, 3 cases; Clarendon County, May 6, 3 cases; Edgefield County, May 6, 5 cases.
Texas: Galveston, April 29 to May 6, 7 cases; Laredo, April 29 to May 6, 2 cases.
Virginia: Newport News, May 9 to 17, 11 cases; Norfolk, May 11 to 18, 16 cases; Portsmouth, May 11 to 18, 9 cases.
Wisconsin: Milwaukee, May 6 to 15, 2 cases.

SMALLPOX—FOREIGN.

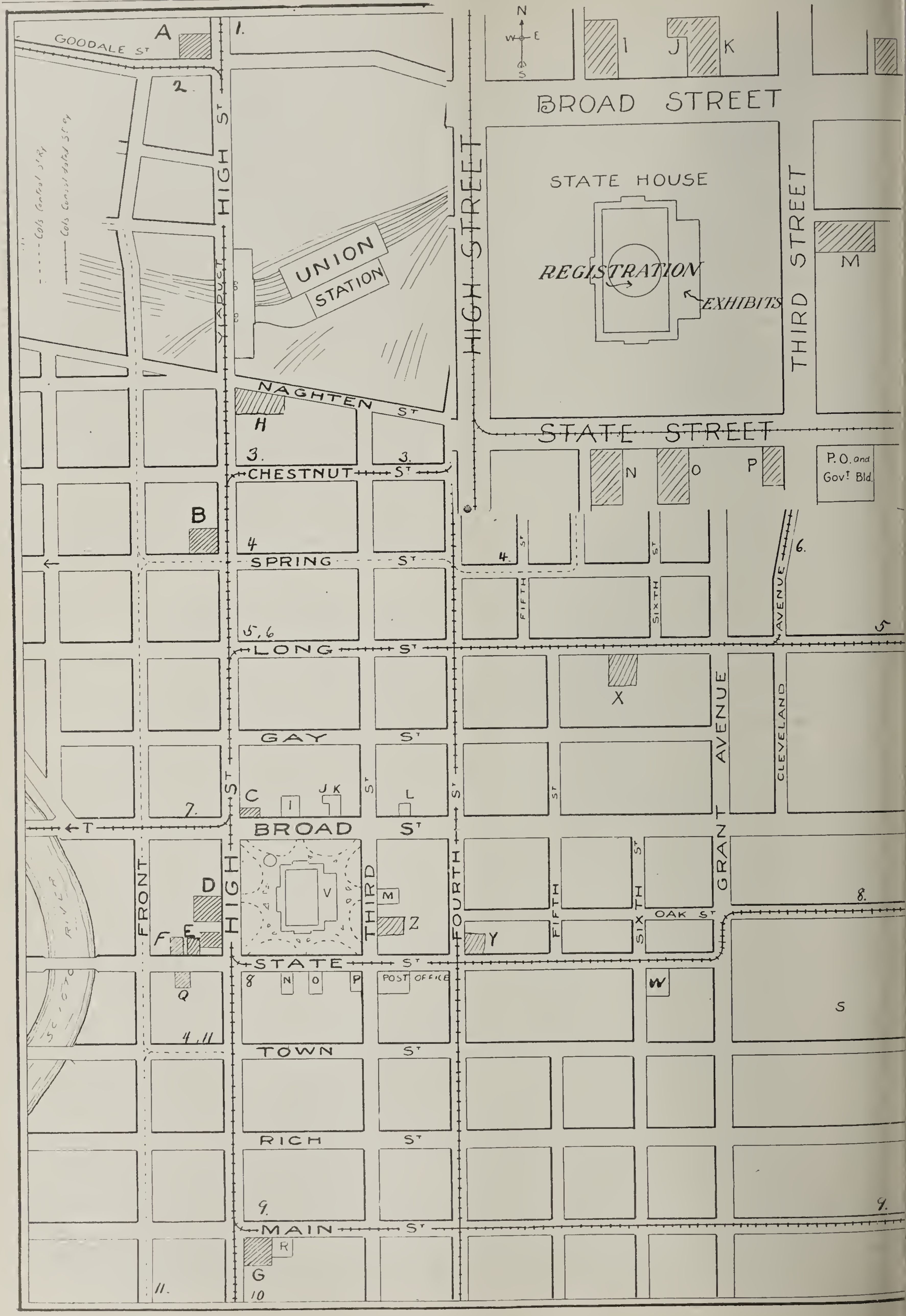
Belgium: Brussels, April 15 to 22, 1 death.
Egypt: Cairo, March 26 to April 22, 4 deaths.
England: London, April 15 to 22, 3 cases.
Greece: Athens, April 22 to 29, 21 cases, 8 deaths.
India: Bombay, April 4 to 18, 15 deaths; Calcutta, March 25 to April 8, 3 deaths.
Nicaragua: Bluefields, April 22 to 29, 1 case.
Russia: Moscow, April 3 to 15, 8 cases, 2 deaths; Odessa, April 22 to 29, 5 cases, 1 death; St. Petersburg, April 15 to 22, 18 cases, 3 deaths.
Turkey: Constantinople, April 17 to May 1, 5 deaths.

CHOLERA.

India: Bombay, April 4 to 18, 6 deaths; Calcutta, March 25 to April 8, 43 deaths.

PLAGUE.

India: April 4 to 10, 1199 deaths; Calcutta, March 25 to April 8, 266 deaths; Madras, March 25 to 31, 1 death.
Japan: Tamsui, March 8 to 29, 394 deaths.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Association News.

AMERICAN MEDICAL ASSOCIATION.

Meets in Columbus, Ohio, June 6, 7, 8, 9, 1899.

LOCAL COMMITTEES.

COMMITTEE OF ARRANGEMENTS.

Starling Loving, Chairman.
F. F. Lawrence, Vice-Chairman.
H. M. Platter, Secretary.
Thomas C. Hoover, Treasurer.
Frank Winders, Assistant Secretary.

CHAIRMEN OF SUB-COMMITTEES.

Ways and Means—J. M. Dunham.
Reception—Frank Warner.
Entertainment—C. S. Hamilton.
Hotels—C. F. Turney.
Assembly Rooms—J. H. J. Upham.
Exhibits—N. R. Coleman.
Souvenir Book—F. W. Blake.
American Academy of Medicine—Edwin F. Wilson.
Medical College Association—Starling Loving.
Membership—J. U. Barnhill.
Registration—C. M. Taylor.
Rush Monument Fund—E. B. Fullerton.
Correspondence with State Medical Societies—D. N. Kinsman.
Foreign Correspondence and Visitors—C. A. L. Reed, Cincinnati.
Section Dinners—F. F. Lawrence.
Medical Journals—J. E. Brown.
Hospital Day—W. D. Hamilton.
Information—J. F. Baldwin.
State Medical Examiners—N. R. Coleman.
National Legislation—L. B. Tuckerman, Cleveland.
Department of Public Health—C. O. Probst.

PLACES OF MEETING—SEE MAP.

1. General Sessions, Grand Opera House, O.
2. Practice of Medicine, House of Representatives, south end State House.
3. Diseases of Children, Senate Chamber, north end State House.
4. Surgery and Anatomy, Congregational Church, K.
5. Obstetrics and Dis. of Women, Y.M.C.A. Auditorium, M.
6. Cutaneous Medicine and Surgery, Congregational Church, Sunday School Room, J.
7. Ophthalmology, Trinity House, L.
8. Laryngology and Otology, Trinity House, L.
9. Neurology and Medical Jurisprudence, First Presbyterian Church, P.
10. State Medicine, Committee Room, State House.
11. Stomatology, Committee Room, State House.
12. Physiology and Dietetics, Committee Room, Board of Trade, I.
13. Materia Medica, Pharmacology and Therapeutics, Council Chamber, City Hall, N.
14. National Confederation State Examining and Licensing Boards, Senate Chamber. (Monday 10 A.M.)
15. Medical Editors, Y. M. C. A., M.
16. American Medical College Association, House of Repre-entatives. (Monday, 10 A.M.)
17. American Academy of Medicine, Chittenden Hotel As-embly Room, B.

TRANSFER COMPANY, PASSENGER RATES.

Depots to or from any hotel: omnibus, passenger with trunk, 5c.; carriage, with trunk, 50c.; coupe, without trunk, 25c.; ith trunk, 40c. Hand luggage free.

Carriage for driving: first hour, $1.50; each additional hour, 1; coupe, per hour, 75c.

STREET CAR SERVICE—SEE MAP.

1. Protestant Hospital, Ohio Medical University; Ohio State niversity; North Columbus; Olentangy Park; Worthington.
2. Auditorium; Goodale Park; State University.
3. United States Barracks.
4. United States Barracks; Minerva Park; Westerville.
5. St. Anthony's Hospital; Franklin Park.
6. United States Barracks.
7. T. & O. C. Depot; Mt. Carmel Hospital; Cemeteries; mbecile Asylum; Insane Asylum; Camp Chase.
8. St. Francis Hospital; Starling Medical College; Chil-ren's Hospital.
9. Capital University; Bullit Park.
10. South Columbus; City Park; Driving Park.
11. Baseball Park.

Street car fare, 5c.; tickets, 6 for 25c. No transfers between the two companies, but universal between the different lines of each company for one cash fare.

All hotels are on direct street-car lines from Union Depot. All lines reach the State House square.

HOTEL RATES—SEE MAP.

Park, A, $1.50 to $2.50. Chittenden, B, $2.50 to 4. Smith's, C, (European), $1.50. Neil, D, $2 50 to $3 00. Goodale, E, (European) 75c to $1.00. American, F, $2.00. Emerson, F, $2.00. Great Southern, G, $2.50 to $4.00. Davidson, H, $2.00. Corrodi, Q, $2.00. Normandie, X, $1.50. Norwich, Y, $1.50. Vendome, Z, $1.50.

DIRECTORY—SEE MAP.

A, Park Hotel.
B, Chittenden Hotel.
C, Smith's Hotel.
D, Neil House.
E, Goodale.
F, American and Emerson.
H, Davidson House.
I, Board of Trade.
J, Sunday-School Room Congregational Church.
K, Congregational Church.
L, Trinity House.
M, Y.M.C.A.
N, City Hall.
O, Grand Opera House.
P, First Presbyterian Church.
Q, Corrodi Hotel.
R, Great Southern Theater.
S, Deaf and Dumb Asylum.
T, T & O. C. Ry. Depot.
V, Exhibit Hall.
W, Starling Medical College & St. Francis Hospital.
X, The Normandie.
Y, The Norwich.
Z, The Vendome.

For further information address the chairman of the appropriate sub-committee, or

J. F. Baldwin, M.D.,
Chairman Committee on Information.

Section on Neurology and Medical Jurisprudence.—Attention of the members of this Section is called to the fact that the program of the Section, for the Columbus meeting, appeared in the Journal, May 20, p. 1131, but was omitted from the "Contents" on the title-page.

General Business Committee.—The first meeting of this committee will be held on Monday afternoon, June 6, at 5 o'clock, in the Columbia Rifles Armory, seventh floor of the Great Southern Hotel, Columbus, Ohio; subsequent meetings in the same place at 5 P.M. on each day of the meeting. It is very important that all the members of the committee should attend the meetings, in order that the business of the Association may be properly transacted. L. Duncan Bulkley, M.D., secretary General Business Committee.

Railroad Rates for the Columbus Meeting.—The committee on transportation of the American Medical Association presents the following, as the final rates agreed upon in the different territories for the Columbus meeting:

The New England Passenger Association, Trunk Lines Association, Southwestern Passenger Bureau and Southeastern Passenger Association grant a rate of one and one-third fare for the round trip on certificate plan.

The Central Passenger Association has granted a one-fare rate for the round trip. The Western Passenger Association has granted a one-fare rate plus $2 for the round trip. In the latter territory, where the rate for passage to the eastern gateway is $6 or less, the rate will be one and one-third fare for the round trip, provided that where one-third fare to Chicago is $2 or less, 50 cents additional will be added to the cost for return transfer. (See Journal, May 6, p. 1012.)

Tickets will be on sale in the various railroad territories on time, in advance, sufficient for reaching Columbus, the place of meeting, by continuous uninterrupted trip. Delegates should notify ticket agents in advance, in order to secure the certificate platform.

H. L. E. Johnson, M.D.,
Chairman Transportation Committee.

Resolutions on Association and Colleges.—The following resolutions were moved by Dr. A. A. B. Hays, president of the Louisiana State Medical Society, seconded by Dr. H. S. Cocram, president of Louisiana State Board of Medical Examiners, and passed unanimously by the Louisiana State Medical Society, May 17, 1899:

Whereas, The American Medical Association, at its last annual session, June, 1898, adopted a resolution, that: "hereafter no professor or other teacher in nor any graduate of any medical college in the United States—which shall, after Jan. 1, 1899, confer the degree of doctor of medicine or receive such degree on any conditions below the published standard of the Association of American Medical Colleges—shall be allowed to register either as delegate or permanent member of this ASSOCIATION."

Resolved, That the Louisiana State Medical Society strongly protests against this resolution as unfair and unjust for the following reasons:

1. Said resolution is in conflict with the Constitution of the American Medical Association in regard to the requisites for membership.

2. This constitution should not be so amended, as to membership, that professors and teachers would be required to violate their contract with students to graduate them at the end of the third course; that professors and teachers on the one hand and graduates on the other would be discredited because they honorably maintain their mutual obligations.

3. Said resolution threatens and boycotts many of the most reputable members of the American Medical Association and of the medical profession, and thereby greatly encourages discord and disunion; such action is not in harmony with the tolerant and forbearing spirit of the medical profession and, heretofore, of the American Medical Association, and it is not by such means that the Association has gained the power it now threatens to abuse.

4. The adoption by the Southern Medical College Association of the three-year course in 1893 and of the four-year course in December, 1898, gives conclusive proof of the commendable determination of these colleges to advance the interests of medical education as rapidly as their environment justifies.

5. During the many years prior to 1890, the conditions surrounding the great majority of the colleges whose representatives urge invidious action against Southern medical colleges were far superior to the conditions still confronting the latter; and yet the former persistently maintained only a two-year course. The Southern States have been at great comparative disadvantage as regards such important influences as public wealth and education, density of population and the deficiencies and needs of sparsely inhabited States. Hence, Southern medical colleges deserve, not condemnation, but the very highest commendation for the unprecedented progress they have made during the past eight years; and the American Medical Association should be foremost in manifesting its appreciation of this progress and in exercising the sympathy and the wisdom indispensable to securing the support of every reputable physician in every section of our country, thereby best promoting its own future influence and progress.

Miscellany.

Examination of Recruits for the Army.—The secretary of war has directed the issue (May 15, 1899) of a circular bearing on the medical examination of candidates for enlistment in the army. It states that complaints of the inferior quality of recruits enlisted indicate a lack of care on the part of some recruiting officers and examiners of recruits, in accepting applicants for enlistment, men having been found upon arrival at their regiments to be poorly developed, or to have serious defects which existed prior to enlistment, and should have been discovered by the exercise of proper care in conducting the examination preceding the enlistment. The standard of requirements has not been lowered. The army regulations and the published instructions governing the examination of applicants for enlistment must be strictly observed, and no recruit be accepted who is not qualified in all respects to perform the duties of a soldier. There may sometimes be desirable applicants whose examination will disclose some defect not of a serious nature, which in the opinion of the recruiting officer and that of the examiner of recruits will not impair the efficiency of the men as soldiers. Such cases may be reported to the adjutant-general for decision, with a statement of the nature and extent of the defect and with appropriate recommendation. The paragraph of the regulations defining the responsibilities of recruiting officers is then cited, and instruction is given that contract-surgeons acting as examiners of recruits, who do not prove to be careful and competent, should be reported to the surgeon-general for annulment of their contracts. A recruiting officer who employs a civilian physician should make careful selection, and should retain no one in such capacity who does not prove to be fully competent.

Medical Practice in Cuba.—A special correspondent (*Med. Standard*, May) gives a number of interesting facts about medicine and pharmacy in Cuba. The physician under Spanish rule was burdened with exactions, but his position was generally good. Specialties are rare, family physician and general practitioner is the rule. The pharmacist was under the same restrictions and burdens. The climate of Cuba is healthiest in the eastern province, where yellow fever is rare. The summer season is enervating and sometimes dangerous on account of the excessive heat and moisture breeding miasma, but from November to May it is very tolerable and the heat rarely oppressive. Yellow fever is said to have been introduced as late as 1761. Its prevalence is attributed mainly to neglect of hygiene and sanitary rules. Dysentery is fatal to many European colonists, while cholera frequently decimates the blacks, leaving the whites untouched. Malaria is the reigning disorder and frequently a serious complication of traumatism, etc. Diarrhea is also common. Anemia is frequent among female creoles, owing to a too vegetable diet. Liver complaints, except from excesses, are, contrary to the usual opinion, rare. Tetanus was formerly considered common, but is always due to infection. Infantile tetanus is very common among the negroes, owing to their careless habits; about 15 per cent. die with it. Skin diseases and atonic dyspepsia are other common ailments. Dr. H. S. Caimanero, of the U. S. marine hospital service claims that Cuba is naturally as healthy as any other country in the world, and with certain precautions foreigners can live there in comfort and safety. The Cubans are physically inferior to their Spanish ancestors, a fact that has been attributed to the climate, but may be due more to the custom of too early marriage. Intellectually they have no deteriorated to the extent that the French and other races have in the West Indies.

A Souvenir of Dhomokos.—On this side of the Atlantic we must regard it as rather late in the day for an army medica man to discuss the conditions existing during the Turko-Grecian war. The events of that short but interesting struggle in May, 1897, have been thrown into the background for us in the United States by the interposition of scenes of battle and suffering, with our own flag waving over the victorious lines o attack. In Europe, however, the Turko-Grecian affair stil retains its status as "the last war." Médecin-Major Han Daae, of the Norwegian army, may therefore be considered a dealing with recent events in submitting to the world hi "Notes et Impressions de la Guerre Turco-Grecque," even i he had not an important end in view in delaying his publication to this time, his object being to invite the attention of th International Peace Conference to the frightful and unnecessary suffering which came under his observation, notwithstanding the existence of the Treaty of Geneva and of an international Red Cross society. His notes are dictated by a hear full of sympathy for the stricken and uncared-for soldier. Th mantle worn by Henri Dunant, at Solferino, in 1859, seems t have fallen on his shoulders at Dhomokos, in 1897. He bring scenes of misery into strong relief by a few pen strokes, but i a manner suggestive of the heart-wrung and sympathetic layman rather than of the army medical officer.

Nicholas Senn has given us a view of this war from th Grecian lines (see JOURNAL, vol. xxix, 1897). We have t thank Médecin-Major Daae for, so far as we are aware, the onl information concerning the first-aid and field surgery on th Turkish side. This officer was sent by his government to th seat of war to observe and report. Every facility was afforded him by the Ottoman officers. As the Turkish army had been organized and equipped in its combatant branches under German influences, he expected to find that these influences had operated also in promoting the efficiency of the sanitary service. As the Ottoman government had adopted the Articles of the Geneva Convention, over thirty years ago, he expected to find an ample provision for the care of the wounded. On his way to the front he saw some general hospitals, permanent n character and evidently unconnected with the army then on active service: but, to his surprise, nowhere could he discover any indication of a sanitary corps belonging to that army, neither with the regiments encountered on the march nor in the towns he passed through. A field hospital was at last found in a house near Pharsalos. The courtyard was crowded with wagons and wounded men, some of the latter lying in the shade of the house, others where they had been laid down when unloaded from the wagons. The ground floor, somber and damp, was strewn with wounded. In the rooms on the upper floor there was some provision for the comfort of patients, ach having a mattress, pillow and covering. One surgeon and wo assistants were exhausted with twenty-four hours of coninuous effort to care for the hundreds requiring attention. Continuing his journey to the front, a train of wounded was met, but such a train! His pen refuses to dwell on its horrors, which will never be effaced from his memory. Rude wagons were piled with men apathetic from pain, thirst, and exhaustion, their wounds undressed, their fractures, even, unsuported. These men had lain on the field of Dhomokos for wenty-four hours and were now en route to Pharsalos, twenty-ve kilometers distant, the road difficult and the heat stifling, or such care as could be given them by the exhausted surgeons t the hospital there. Later he found that 1400 Turkish soliers had fallen at Dhomokos where there were neither stretchers nor suitable wagons and where the only aid was given by neducated men, "panseurs" or bandagers, who helped to ather the wounded for conveyance to the hospitals by train, s already seen. The Greeks left few of their wounded on he field, but such as fell into Turkish hands could complain of o worse treatment than was given to the Turks themselves. This want of preparation by the military authorities of the ttoman forces for the care of the wounded afforded the very opportunity which it was the object of the Red Cross societies meet; but they were not present in sufficient strength for e emergency. Two small hospitals, one at Pharsalos, the her at Larissa, were established by the Ottoman society, one the Red Cross of Russia at Pharsalos, and one by the Geran society at Yildis Kiosk. Aseptic surgery was notable only its absence during the short campaign.

To prevent a repetition of these sufferings on perhaps a eater scale in future wars, certain suggestions are made: 1. he service of the medical department of the army should be complete and up-to-date as that of the divisions of the line. No State should declare war unless certain of its ability to nsport, treat and care for its wounded, efficiently. 3. The eat powers should prevent petty States from going to war if e sanitary service of the latter is inefficient. 4. The Red oss societies should be broadly international and not actuaed merely by national or political sympathies. These are the opositions which Major Daae desires to bring to notice, but ey constitute too extensive a subject for present discussion. r immediate object is merely to make note of the impresns made on the official representative of the Norwegian dical department by what he saw of medical arrangements ring the Turko-Grecian campaign.

Washington.

HEALTH OF THE DISTRICT.—The report of the health officer the week ended May 13 shows the total number of deaths have been 93; 45 were white and 50 colored. There were 5 fatal cases of cerebrospinal meningitis and 1 of diphtheria. At the close of the week there were 18 cases of smallpox, 32 of scarlet fever and 13 of diphtheria under treatment.

CENTRAL DISPENSARY AND EMERGENCY HOSPITAL.—The vacancy in the hospital's house staff, caused by the expiration of the term of Dr. H. F. Mohart, results in the promotion of Drs. J. L. Adams and W. E. Whitson as resident physician and first assistant resident physician. Dr. W. C. William, who successfully passed the recent competitive examination, has been appointed second assistant resident.

GEORGETOWN MEDICAL SCHOOL.—The annual commencement of the medical department of the Georgetown University was held on the 15th instant. Diplomas were awarded to a class of nine. Dr. Daniel J. MacCarthy passed first in the competitive examination and was appointed resident physician of the Georgetown University Hospital.

DR. BELT MARRIED.—Dr. Edward Oliver Belt, the secretary and one of the founders of the Episcopal Eye, Ear and Throat Hospital, was married on May 18 to Miss Emily Walker Norvell.

Philadelphia.

MEDICAL SYMPOSIUM.—The Philadelphia Alumni Society of the University of Pennsylvania held a symposium on the evening of May 20, at which time Mayor-elect Ashbridge made an address.

CUT IN EXPENSE.—The State Medical Council of Pennsylvania had included a bill of $2000 for necessary expenses, but Governor Stone has reduced the amount to $1000 as a measure of economy.

DR. WILEY INJURED.—Dr. Wiley while out driving recently, had the misfortune to be thrown quite violently to the ground, alighting on the back. Dr. Eugene Wiley, Jr., anticipates no serious injury.

RUSH HOSPITAL.—The Rush Hospital for Consumptives has been materially improved by the addition of two new wards, which were opened on May 17. The presentation speech was made by Dr. J. H. Tyson. The additions consist of two three-story buildings, containing a sun parlor, two prescribing rooms, a waiting-room, laundry and two wards. The building will now accommodate forty patients.

BANQUET.—May 19, the alumni of the Medico-Chirurgical College tendered a banquet to the graduating class. The following toasts were responded to: "The Alumni," by Dr. Charles H. Gubbins; "The Medico Chirurgical College," by Dr. W. Easterly Ashton; "Philadelphia as a Medical Center," by Mayor-Elect Ashbridge; "The AMERICAN MEDICAL ASSOCIATION," by Dr. Joseph M. Mathews; "The University of Pennsylvania," by Dr. James Tyson; "The Jefferson Medical College," by Dr. H. A. Hare.

BOARD OF HEALTH.—In accordance with the bill recently passed, work has begun in reorganizing the board of health of Philadelphia. A board will be created consisting of three members, of which the presiding officer shall be the chief of the bureau, and two other members will be chosen by the mayor.

NEW ALMSHOUSE.—Since the money of the loan bill, which carries with it appropriations of $3,200,000 for the improvement of the water-supply and $200,000 for the almshouse, has become available after such a long delay, it is now purposed by some to establish a new almshouse quite remote from the city. This would include the removal of the insane department, and thus leave the Philadelphia Hospital on its present site to be extended to such a degree as to make it the finest institution of the kind in the world. This was the plan which the late Dr. William Pepper contemplated at the time the loan bill was framed. The insane department is in such an overcrowded condition that relief is absolutely demanded.

ALUMNI BANQUET—The twenty-ninth annual banquet of the alumni of the University of Pennsylvania will be tendered to the graduating class June 14. It is desired to make this meeting a representative one, and it is hoped that members of the different classes will be present, so that a reunion may be consummated. The toasts to be responded to are as follows; "The University," by Provost Harrison; "The Trustees," by Dr. J. C. DaCosta; "Jefferson College," by Dr. J. Chalmers Da Costa; "The Medico-Chirurgical College," by Dr. W. L. Rodman; "The Medical Department," by Dr. H. C. Wood; "The Dental Department," by Dr. Edwin T. Darby; "The Clergy," by Rev. Floyd Tomkins. It is hoped that Dr. S. Weir Mitchell will be on hand to respond to a toast.

Mortality Statistics.—During the week just closed the number of deaths was 378, a decrease of 49 over the previous week, and a decrease of 5 over the corresponding period of last year. Of the total number of deaths, 96 occurred in children under the age of 5 years.

Questions and Answers.

LIFE INSURANCE EXAMINERS.

Omaha, Neb., May 12, 1899.

To the Editor:—Can you give me any information about the congress mentioned in the enclosed (Internat. Congress of Physicians, connected with life insurance companies, Berlin, Sept. 25–30, 1899) clipping? It strikes me as being a good thing, and I would like to know more about it.

Please give me the name and address of journals published in the interests of life insurance examiners, also the names of the latest works on life insurance and their publishers. Ira W. Porter, M.D.

Answer:—The item enclosed is correct, in so far as a call was issued for the congress last December. Any further information required can be obtained direct by corresponding with Dr. Poels, 2 Rue Marie Therese, Brussels.

The *Medical Examiner* is a medical life insurance journal of this country. There is an actuary's journal published in England, which sometimes publishes medical papers, but we have not the title.

The recently published American handbook for life insurance examiners is Keating's "How to Examine for Life Insurance," (Philadelphia: W. B. Saunders, 3d edition, 1898). Another work on life insurance examiners is by Chas. F. Stillman (New York: Vail & Co.). The most recent English work on the subject of which we are aware is that by Pollack & Chisholm, "Medical Handbook of Life Insurance" (London; Cassell & Co., 1895). There are many others.

The Public Service.

Movements of Army Medical Officers under orders from the Adjutant-General's Office, to and including May 18, 1899:

Azel Ames, major and brigade surgeon vols., honorably discharged to take effect June 30, 1899.

Lomax S. Anderson, lieutenant and asst.-surgeon 5th U.S. Vol. Inf., sick leave granted.

Wm. B. Banister, captain and asst.-surgeon U.S.A., leave of absence granted.

Harry A. Barnhardt, acting asst.-surgeon, from Washington, D. C., to Camp Meade, Middletown, Pa.

Ezequiel de la Calle, major and brigade surgeon vols., honorably discharged to take effect June 30, 1899.

Peter J. A. Cleary, lieut.-col. and deputy surgeon-general U.S.A., member of a retiring board at Ft. Sam Houston, Texas.

J. J. Curry, acting asst.-surgeon, leave of absence granted.

Elmer A. Dean, lieutenant and asst.-surgeon U.S.A., from Ft. Snelling, Minn., to St. Paul, Minn., as attending surgeon and examiner of recruits.

Augustus A. DeLoffre, major and surgeon U.S.A., to appear before a retiring board convened at Ft. Sam Houston, Texas.

Jas. F. Dunshie, acting asst.-surgeon, from Camp Meade, Middletown, Pa., to Havana, for assignment in the Div. of Cuba.

Basil S. Dutcher, lieutenant and asst.-surgeon U.S.A., member of a board at Ft. Leavenworth, Kan., to examine persons designated for appointment as second lieutenants in the army.

F. M. Ferrer, acting asst.-surgeon, leave of absence granted.

Jas. D. Glennan, captain and asst.-surgeon U.S.A., relieved from duty in the Depts. of Matanzas and Santa Clara, to rejoin his proper station, Ft. Myer, Va.

Luther B. Grandy, acting asst.-surgeon, from Atlanta, Ga., to San Francisco, Cal., for transportation to the Philippine Islands and duty in the Dept. of the Pacific.

Geo. D. Groff, major and brigade surgeon vols., honorably discharged to take effect June 30, 1899.

Chas. L. Heizmann, major and surgeon U.S.A., member of a retiring board at Ft. Sam Houston, Texas.

Randal L. Hunter, major and brigade surgeon, honorably discharged to take effect June 30, 1899.

Jas. M. Kennedy, captain and asst.-surgeon U.S.A., from mustering-out duty at Augusta, Ga., to the Presidio of San Francisco, Cal., for duty with the 4th U.S. Cav.

Henry S. Kilbourne, major and surgeon U.S.A., member of a board convened in New York City to examine officers for promotion.

Thos. R. Marshall, acting asst.-surgeon, leave of absence granted.

Walter D. McCaw, captain and asst.-surgeon U.S.A., in addition to his duties at Ft. Porter, N. Y., to examine recruits at Buffalo, N. Y.

Clarence B. Millhoff, lieutenant and asst.-surgeon, leave of absence granted.

John E. Morris, acting asst.-surgeon, from New York City to Indianapolis, Ind., reporting by letter to the surgeon-general.

Alex. Nettleroth, acting asst.-surgeon, from Ft. Thomas to Louisville, Ky., reporting by letter to the surgeon-general.

Seaton Norman, acting asst.-surgeon, from New Orleans, La., to Havana, for assignment in the Div. of Cuba.

Chas. E. Peyton, acting asst.-surgeon, from Camp Mackenzie, Augusta, Ga., to Richmond, Va., reporting by letter to the surgeon-general.

Wm. E. Purviance, captain and asst.-surgeon U.S.A., former orders modified so as to relieve him from duty at the general hospital, Ft. McPherson, Ga.; to report to Major P. H. Ray, 8th U.S. Inf., at Washington, D. C., to accompany that officer to Alaska, for asssignment as chief surgeon District of Northern Alaska.

Jas. Beagles, acting asst.-surgeon, from Plattsburg Bks., N. Y., to Vancouver Bks., Wash., for assignment in the Dept. of the Columbia.

Edw. O. Shakespeare, major and brigade surgeon vols., honorably discharged to take effect June 30, 1899.

Wm. Stephenson, captain and asst.-surgeon U.S.A., member of board in New York City to examine officers for promotion.

Owen W. Stone, acting asst.-surgeon, relieved from the Dept. of Santiago, and on the expiry of his present leave of absence to proceed to Havana, for assignment in the Div. of Cuba.

Baen Street, acting asst.-surgeon, from Camp Columbia, Havana, Cuba, to Washington, D. C., reporting to the surgeon-general.

Geo. H. Torney, major and surgeon U.S.A., member of board at Ft. Leavenworth, Kan., to examine persons designated for appointment as second lieutenants.

Victor C. Vaughan, major and brigade surgeon vols., honorably discharged to take effect June 30, 1899.

Roy S. Wilson, acting asst.-surgeon, assigned to duty at Camp Meade, Middletown, Pa.

Robt. H. Zauner, acting asst.-surgeon, from Washington, D. C., to Camp Meade, Middletown, Pa.

Movements of Navy Medical Officers.—Changes in the medical corps of the U.S. Navy for the week ending May 20, 1899.

Asst.-Surgeon S. B. Palmer, resignation accepted from May 15.

CHANGE OF ADDRESS.

Brubaker, P. R., Columbus to Bloomdale, Ohio.
Blount, R. T., Galveston to 119 Kingsbury Street, San Antonio, Texas.
Brasselton, B. E., Galveston to Weatherford, Texas.
Campbell, C. A. R., New Orleans, La., to San Antonio, Texas.
Carlaw, C. W., Minneapolis, Minn., to Campbellford, Ont., Can.
Curtis, L., Chicago to Big Rapids, Mich.
Currey, E. M., Trinidad to Gray Creek, Colo.
Chapin, C. W., Chicago to Wilmette, Ill.
Dearholt, H. E., Chicago to 560 Maryland Ave., Milwaukee, Wis.
Davis, W. C., Denver, Colo., to Chicago.
Dudgeon, H. R., Galveston to Maxwell, Texas.
Durham, C. E., Galveston to Dublin, Texas.
Estes, J. M., Galveston to Clyde, Texas.
Earl, A. L., New Orleans to Lindsay, La.
Elmore, R. D., Nortonville to Hiawatha, Kan.
Earll, R. W., Milwaukee to Columbus, Wis.
Flood, Jno., 237 E. Erie to Oak & N. Clark Sts., Chicago.
Farline, H., Chicago to Los Angeles, Cal.
Frisby, E. G., 734 Sutter to 1610 Van Ness Ave., San Francisco, Cal.
Flynn, P. J., Omaha to O'Neill, Neb.
Gibbs, M. D., Gillett to Whitehorn, Colo.
Greenwood, W. N., Galveston to Stoneham, Texas.
Grier, M. J., Philadelphia to 2825 Fairview Ave., Denver, Colo.
Graeson, H. B., Grafton to Kensett, Ia.
Hogan, D. S., Omaha to North Loup, Neb.
Harris, R. A., 432 Claremont to 992 Harrison St., Chicago.
Hisom, H. T., Chicago to 264 Olive Ave., Redlands, Cal.
Huff, W. J., Findley to Shelbyville, Ill.
Hoy, W. P., Richmond to Petersburg, Va.
Hasson, E., Chicago to Lewistown, Ill.
Hinde, J. R., Chicago to Lewistown, Ill.
Houghton, E. W., 170 Jos. Campau to 764 Champlain St., Detroit, Mich.
Johnson, R. B., Chicago to Norfolk, Neb.
Kirkbride, M. F., Philadelphia to Spring Lake Beach, N. J.
Kellogg, G. M., Keokuk, Ia., to 314 North Clark St. Chicago.
Lackie, G. D., 1171 Lincoln Ave., to 383 Dearborn Ave., Chicago.
Lamm, I. W., Richmond, Va., to Silver City, N. C.
Long, W. E., Chicago to Rockford, Ia.
Litchfield, L. 4634 to 5431 5th Ave. E. E., Pittsburg, Pa.
Long, R. D., 533 W. Monroe to Wabash & 31st St., Chicago.
Lehman, A. L., Philadelphia to Mullan, Idaho.
McDougall, G. T., Milwaukee to Eau Claire, Wis.
Minor, E. B., Orange to Traverse City, Mich.
McKinley, J. F., 3457 State to 34 Washington St., Chicago.
Marvel, H. V., 134 N. 18th St., to 4612 Cedar Ave., Philadelphia, Pa.
Madajesky, E. H., Appleton, Wis., to Bessemer, Mich.
McSwain, D. L., New Orleans, La., to Funiak Springs, Fla.
Marshall, J. S., Blossom to Paris, Texas.
Nohr, R., Cincinnati to 1108 E. 5th St., Dayton, O.
Ostreicher, Philadelphia to Bethlehem, Pa.
Porter, W. A., Topeka to Lyndon, Kans.
Price, E. M., Chicago to Rushville, Ill.
Payment, C. R., 208 Woodward Ave., to 7 Wilcox Ave., Detroit, Mich.
Pomeroy, H. M., Lankershim Boul., to W. Washington, Los Angeles, Cal.
Ramsdell, L. S., 871 Jackson Boul., to 32 Stanley Terrace, Chicago.
Riemens, L. A. N., Chicago to Holland, Mich.
Rix, 403 McCague Bld., to St. Joseph Hospital, Omaha, Neb.
Roberts, A., 3706 Williams St., to Nevada Bld., Denver, Col.
Rumsey, F. W., 1618 Penn Ave., to 1735 Williams St., Denver, Colo.
Richstein, Oakland, Cal., to St. Louis, Mo.
Stubbs, F. G., 576 43d St., St., to 4256 Grand Boul., Chicago.
Sapp, C. E., Jelloway to Mt. Vernon, Ohio.
Sullivan, E. P., 148 S. Oakley Ave., to 2645 N. Ashland Ave., Chicago.
Shupp, E. A., Philadelphia to Broadhurstville, Pa.
Van der Veen, 554 to 331 Grandville Ave., Grand Rapids, Mich.
Vedeler, C., Chicago to Locust, Ia.
Watson, F. Y., Scarsboro, Ia., to Roberts, Wis.
Waugh, W. T., 103 State St., to 1416 E. Ravenswood Park, Chicago.
Wetherby, B. J., 65 N. Franklin to 69 N. Franklin St., Wilkesbarre, Pa.
Weber, C. E., 518 W. Adams to 348 55th St., Chicago.
Whitney, M. H., Dekum to Oregonian Bld., Portland, Ore.
Yeamans, H. W. Seattle, Wash., to Dawson, N. W. T.
Zerzan, G. F., Chicago to Schuyler, Neb.

The Journal of the
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Address.

OUR THERAPEUTICS.*

IMPORTANCE OF RECOGNITION OF CERTAIN BLOOD-CHANGES, AND ESPECIALLY TOXEMIA, THEREIN.

BY JOHN V. SHOEMAKER, M.D., LL.D.

PHILADELPHIA.

Mr. President and Members of the Ohio State Medical Society; Ladies and Gentlemen:—Among this large and distinguished audience assembled here this afternoon, I recognize many familiar faces, of friends, who, nearly two years ago assisted in the celebration of the fiftieth anniversary of the AMERICAN MEDICAL ASSOCIATION, in the city of Philadelphia. The pleasant impressions and agreeable recollections of that jubilee meeting will remain with most of us as long as life itself shall endure. Some grateful memory of that occasion, I think, must certainly have moved your president to invite me to address you to-day. This is an act of courtesy, which I correctly construe as a compliment to the medical profession of the "City of Brotherly Love," and also to the Medico-Chirurgical College of Philadelphia, with both of which my professional life has been closely identified. It surely is an exceptional honor to be invited to appear before the highest medical society of the great commonwealth of Ohio, assembled in annual convention, and in the name of those I represent, as well as on my own behalf, I sincerely and heartily thank you. It is not for me to question the wisdom of your choice, but simply to proceed to fulfil the duty that your kind favor has assigned me. You are familiar with the exigent demands of college engagements and hospital and other professional duties, and I feel assured of your indulgence if I fail to do such justice as I could wish to my subject on this occasion, or to this brilliant and accomplished audience.

Permit me to call your attention to the fact that our Pennsylvania State Medical Society will, in the course of a very few days hold its forty-ninth annual session. A large attendance and a full program will give interest and value to the meeting. On behalf of my fellow members of the Pennsylvania State Medical Society, I beg to extend to every one here a very cordial invitation to attend the meeting, which takes place at Johnstown, Pa., on the 16th instant, the success and enjoyment of which will be greatly enhanced by your presence.

I bring to you to day a sincere, fraternal greeting from the physicians of a sister State, whose border adjoins your own as you face the rising sun. Fortunately for us, owing to the advantage of geographic position, we are in the habit of rising a little before you do in the morning; for every one will admit that it is absolutely necessary for the rest of the world to get up very early in the day to keep up with the leaders of the profession, who set the pace here in the "Buckeye State."

The spirit of the occasion impels me to speak of the importance and value to the medical profession of organization and association; but, standing as I am, in the presence of such a demonstration as I see before me, this grand illustration of a successful and influential association of scientific physicians, I need say nothing upon this subject. Any physician would deem it an honor to be counted worthy of fellowship with the representative men of the profession, who constitute the membership of the Ohio State Medical Society. Paraphrasing a familiar quotation, I might say: "If a monument were needed to testify to the advantages of medical organization, look around you; it is here!"

During the period corresponding to the life of the AMERICAN MEDICAL ASSOCIATION, to which I referred at the opening of my remarks, the medical profession of this country has certainly witnessed great and important changes. The standard of qualification has been elevated, the social and legal standing of the physician in the community has been advanced; and the profession has been united to an extent that half a century ago would have been considered beyond the bounds of possibility. By general consent, it is accepted as certain that the most potent and actively beneficial force in accomplishing so much in elevating the standard of medical education, of establishing State boards, and of uniting the whole profession into a great organization extending from Alaska to Florida and from Maine to Manila, has been the AMERICAN MEDICAL ASSOCIATION, the representative medical society of these United States of America.

Time will not permit me to do more than simply refer in passing to the magnificent work that is being accomplished by the ASSOCIATION, particularly through the agency of its weekly journal, which to-day is read by a greater number of educated physicians than any other scientific medical journal in the world.

It was suggested to me that my remarks on this occasion would find most favor with my audience if they were upon some subject connected with therapeutics. "All other medical studies," said Milner Fothergill, "are the foundation; Therapeutics is the superstructure." With your permission, I will ask your attention for a time to a brief consideration of "The Importance of the Recognition of Certain Blood-Changes, and Especially Toxemia, in Our Therapeutics."

Of late years much attention has been given to a study of the physiology and pathology of the blood. From the crude instruments and imperfect methods employed only a few years ago, we turn with pride and gratification to the improved equipment and perfect technic of the present day. We now, as a matter almost of routine, ascertain the percentage of hemoglobin and determine the actual and relative richness of the blood in red and white corpuscles. By staining methods, we also determine the presence and proportion of hematoblasts and eosinophile cells, and observe other evidences of pathologic conditions. Examination of the blood for the malarial organism, or for the pathogenic bacteria, is now a part of regular clinic work. Simple and very practical methods have been devised and are in use for ascertaining the specific gravity of the circulating fluid, and for the determination of the proportion of iron which it contains. In view of all the improvements in our apparatus and technic, only a few of which I have mentioned, I think that you will agree with me that we are better prepared to take up the pathology and therapeutics of the blood at the present day than at any preceding period of the history of medicine.

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*Address delivered before the Ohio State Medical Society at Springfield, Ohio, May 11, 1899.

Virchow is said to have declared that "disease has a material *ens*; it is the altered cell." But we know that, in many instances, the cause of the alteration of the cell is an antecedent change in its blood-supply, which has affected its nutrition and impaired the performance of its functions. We are therefore thrown back upon certain pathologic conditions, or constituents, of the blood, which must be changed or removed before healthy cell growth and normal metabolism can be reestablished. This may appear to you like a return to the old humoral pathology, but on the contrary, it is the most recent development of medical science. It is a result of the utilization of all the resources of modern medicine in the direction of the investigation into the causes of the phenomena of disease and of the means to be employed for its relief. We are reminded of the illustration given by a distinguished scientist, a few years ago, in speaking of another department of science. He said, in effect, that knowledge advances—not in a straight line, but as it were in a spiral, so that while the pendulum appears to swing back to a former position, it actually occupies a higher plane than it did before.

Accepting the old rule of practice embodied in the words *obsta principiis*, it becomes very evident that in our therapeutics it is of the highest importance to recognize the true nature of the alterations in the blood, which cause, or are attended by, cell disturbance. It is acknowledged that many of these alterations are at present beyond our means of recognition except through their effects. They may be provisionally divided into three classes according to their character:

1. Those in which there is a diminution or absence of certain principles of the blood, which are necessary for healthy cell-development and metabolism. In illustration, the instance occurs to me of the peculiar bodily disorder and mental impairment caused by the removal of the thyroid gland, thus depriving the blood of some important internal secretion necessary for health. The proof of this hypothesis is supplied by the process of induction pursued by Dr. Murray of Newcastle, England, who has shown us how to cure myxedema and allied conditions by the administration of thyroid glands of the sheep, or of the thyroid extract. When we treat anemia with iron, rickets with lime salts, scurvy with lemon juice, or neurasthenia with hypophosphites, this principle is followed of supplying to the blood certain proximate principles which are needed for healthy metabolism. We know that some individuals are naturally insusceptible to certain infections, and that everyone possesses a variable power of resistance to infectious diseases Very recently, we have learned that this absolute, or comparative, immunity is due to the presence in the blood —we are not at present concerned with the question of how it gets there—of some constituent which we call for convenience, "antitoxin." You anticipate my argument, I am sure, that where the natural antitoxin is deficient and fails to protect the system, the introduction of antitoxin from a source without the body becomes a rational, therapeutic procedure. That this has been successfully accomplished in the case of diphtheria, we are all aware. With less success, but still with promising results, similar experiments in this field have been made and are yet in progress, in the treatment of erysipelas, tetanus, typhoid fever, tuberculosis of the lungs, plague, pneumonia, cholera and yellow fever. In the case of vaccination against smallpox, the conditions are not quite the same, for here it is sought by inoculating the system with vaccinia, to cause the body itself to supply such an increased amount of antitoxin against variola as will enable it to successfully resist exposure to infection of this kind.

2. Those in which certain principles, normally present in the blood, are in such relative or actual excess as to disturb metabolism. Illustrations of this are numerous. Diabetes, for instance, is a prominent one, since we all admit that there must be glycohemia before there can be glycosuria. The clinic manifestations of gout, lithemia and rheumatism, such as asthma, bronchitis, psoriasis, iritis and urinary disorders, we all take into account in our therapeutics. I need not discuss this point further in the presence of such an audience as there is before me to-day.

3. Those in which abnormal elements in the blood disturb cell action and cause manifestations of disorder, or symptoms of disease.

I will not now take up for discussion the effects of certain poisonous substances with which we are all familiar, such as lead, mercury, arsenic, or even alcohol, tea, or coffee, since we daily take them into consideration in prescribing for our patients. What I especially wish to direct attention to is the often overlooked consequences of the presence of those products of bacterial growth, which are absorbed into the blood, and are known by the general term of "toxalbumins" or "toxins." I am not now speaking of the familiar illustrations afforded by typic cases of infectious disease, such as the specific fevers; but of the more obscure cases, in which the connection between the cause and effect are less evident.

Thus we find that, in certain cases of indigestion, as pointed out by Lauder Brunton, from the mass of fermenting food, in the stomach or intestinal tract, certain poisons are absorbed by the blood, which give rise to symptoms popularly grouped under the general title of "biliousness," which includes loss of appetite, nausea, weakness, muscular pains and headache, depression of spirits, and so on. They are as "familiar as household words" to us all. How often have we found skin affections, such as eczema, caused or maintained by a similar condition of the digestive tract? The gastro-intestinal origin of toxins has now been demonstrated to exist also in tyrotoxicon (cream-puff, ice-cream, or custard) poisoning and also in botulismus or sausage poisoning. These symptoms are capable of being developed, under certain circumstances, therefore, by ordinary saprophytic bacteria. These are also cases of toxemia from common forms of pus bacteria, the streptococcus and staphylococcus. Thus Dr. George H. Rohé, shortly before his lamented death, published a paper declaring his conviction that post-operative insanity is due to sepsis. A very remarkable instance has been recently reported, of a woman who had for years suffered with a lupus of the face which had resisted the usual methods of treatment. In this case the lupus underwent a spontaneous cure after removal of a Fallopian tube which was found to be distended with pus. When the source of the toxin was eliminated by removing the pus-tube, the natural antitoxin of the blood was apparently able to cope with the disease and to cure it. We recall, also in this connection, the curative effects that have been obtained in some cases of lupus from injections of tuberculin.

If we are asked more specifically about this peculiar quality of the bacteria, which we have termed virulence, and its relation to toxemia, we must confess that we only know that it exists and, as Pasteur has shown, that it is a variable quality; that is to say, that bacterial inoculation is not necessarily followed by bacterial infection or toxemia. The importance of this fact to us as physicians is very great, for, from the clinic standpoint, the difference between a virulent diphtheria bacillus and a non-virulent diphtheria bacillus is as great as the poles, or as Heaven is from Hades.

Directly in this connection there is a very interesting clinic fact to which I would like to call your attention. It is now finally established, by recent bacteriologic work, that air-borne bacteria of all kinds, including therefore saprophytic and pathogenic varieties, are constantly found in the nasal mucus and in the glandular tissue of the nasopharynx and tonsils. For instance, it has been shown that in cases of chronic rhinitis and tonsillitis, diphtheria bacilli may be found in the discharges, without being attended by the typic and characteristic symptoms of diphtheria. In such cases the bacilli do not seem to possess their full degree of virulence, or the system of the individual is possessed of a higher degree of resistance, so that the toxins are not produced in sufficient quantity to cause the profound toxemia which characterizes the disease that we call diphtheria. At the same time we must not assume that this quality may not, under favorable circumstances, be manifested, and we believe that such patients may communicate true diphtheria to susceptible persons who come in contact with them. The point which I wish particularly to make is that, although the diphtheria bacilli in such cases do not elaborate enough toxin to produce symptoms of acute poisoning, yet they *do produce a certain amount* of their peculiar poison, and this mitigated toxin, if you will, being constantly absorbed by the blood, is capable of causing ill health and cachectic conditions, including eruptions on the skin, especially in children. I feel warranted, therefore, in stating that in many otherwise unexplained conditions of anemia, neurasthenia, and impaired nutrition the cause will be found to exist in toxemia due to a chronic diphtheria infection of the upper air-passages. The remedy is a very simple one in this class of cases: all that is necessary to do is to disinfect the nose and throat, and correct the morbid condition of the blood.

The condition of icterus has an origin in the blood in a greater number of cases than has been hitherto supposed. We know that the introduction of certain chemic substances into the circulation will cause destruction of red blood-cells and, in consequence, the appearance of pigments of reduced hemoglobin in the blood, the tissues, and the urine. Two factors are necessary for the production of this form of jaundice, an excessive destruction of blood in the spleen and an impaired cell action in the liver. For example, after the administration to animals of poisonous doses of toluylhydrazin and metaphenylendiamin, both of which cause jaundice and icteric urine, the spleen is found to be very large and enormously charged with a golden yellow pigment. The portal vein and the capillaries of the liver are also highly colored by this pigment, carried over from the spleen, which is the organ of blood destruction. The liver cells are pale and in a state of fatty degeneration, but quite free from pigment. There is much pigment in the blood of the hepatic veins, and pigment granules are found in the secreting structure of the kidney. Thus granular pigment, which is brought to the liver from the spleen, is carried over into the general circulation and, undoubtedly, pigment existing in a soluble form in the blood plasma is also carried over. Thus we see that, under certain circumstances, the pigments of reduced hemoglobin, including bilirubin, will be carried beyond the liver into the general circulation staining the tissues, discoloring the urine, and bringing about a true hematogenous jaundice. This corresponds to the jaundice due to the absorption of the decomposition products of a large extravasation of blood, as Virchow has shown, that the hematoidin is in this case identic with bilirubin. In cases of low fever, therefore, accompanied by swelling of the spleen, and destruction of red blood-cells, we may have absorption of the pigment from the reduced hemoglobin, followed by the development of jaundice, and yet the liver and bile-passages be unobstructed.[1] In such cases our therapeutics should be directed to the blood and the spleen rather than the liver and intestinal tract.

Albuminuria is likewise occasionally due to toxins or to certain products of waste which accumulate in the blood. In such cases the kidneys may be free from disease and the albumin will disappear from the urine when the blood is restored to a healthy condition. In the albuminuria of pregnancy, for instance, it is a common observation that the symptom is relieved by the induction of premature labor. In an instance reported[2] some years ago disease of the liver and kidneys of the fetus preceded the appearance of albuminuria and general anasarca in the mother, thus affording a unique instance of the production of Bright's disease of the kidneys through some toxic substance circulating in the blood, because there was no direct connection between the mother and fetus except the blood in the placental sinuses. Some years ago Drs. DaCosta and Longstreth[3] showed that in certain cases of Bright's disease there was disease of the nervous ganglia, especially of the abdominal plexus of the great sympathetic. It would seem probable, or at least possible, that previous to the disease of the nervous ganglia, there had occurred some change in the blood affecting their nutrition, in the manner such as we have just been engaged in considering.

I shall not stop to discuss at greater length how much the recent views to the pathology of the blood and especially the presence of toxins elucidate other vexed questions in clinic medicine, nor shall I have time to point out in detail the numerous therapeutic applications that may be made of it. It is a very old truth that *Kee Nephesh Habassar Baddom*, "The blood is the life of the flesh," and modern science fully confirms it.

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[1] Auld: British Med. Jour., Jan. 18, 1896.

[2] Grimshaw: Liverpool Medico-Chir. Jour., January, 1895.

[3] Am. Jour. of the Med. Sci., Phil., 1880, V. S., lxxx, p. 17.

Susceptibility to infection is the reverse of immunity, and appears to be due to the absence from the blood of certain protective constituents, called antitoxins, just as immunity is maintained by their presence. This is an inviting field for further study. Promising results have been obtained, as I have already stated, in a number of diseases. Experiments have also been made in the field of surgery, in the prevention of suppurative processes, and also in the treatment of malignant growths. Dr. Coley of New York has obtained remarkable successes in treating inoperable sarcomas by the use of cultures of the bacillus prodigiosus and of the streptococcus and it is hoped that shortly there may be announced the discovery of a successful treatment for cancer by the adoption of similar methods. The uniform failure of experiments in which it was sought to inoculate animals with cancer would indicate that the exciting cause of carcinoma does not reside in the lesion itself, but is remote from it. In other words, it is due to a disturbance of nutrition which may be explained by the presence in the blood of some toxin.

I will leave this subject for your consideration and will conclude with a single remark, which has a direct bearing upon practical therapeutics. The recognition of the rôle played by toxins in producing disease and of the therapeutic value of antitoxins and organic extracts of various kinds, has placed in our hands a new class of remedies. Some, like diphtheria antitoxin, and thyroid and suprarenal extracts, have already obtained an established place in our medical armamentarium; others such as tuberculin, and cultures of streptococcus, mallein, bacillus prodigiosus, etc., are still on trial. In the near future there is no doubt that their number will be greatly increased.

I would suggest that, owing to the difficulty of ascertaining, or establishing, a standard of activity, or potency, for this class of remedies, some supervision by the profession, or by the government, should be held over their manufacture and sale, just as in the case of dairy products and vaccin It is extremely important that these peculiar remedial agents should be supplied to the profession of standard quality and uniform strength and entirely free from tubercle bacilli or other infectious material.

In a recent address delivered at Chicago, Governor Roosevelt of New York spoke eloquently of a form of bodily and mental activity, which he characterized by the apt title of "strenuous life." To the possession of this, either by a nation or an individual, he would directly attribute the secret of success. He also declared that the great need of the community and country is cultivated men and that cultivated men need character. In his opinion a man who looks forward to a life of mere selfishness is not respectable, and no man is to be excused from doing his share in working for the common good. Whether or not the distinguished speaker had the members of the medical profession in his mind when he uttered these words, I know not, but I am convinced that the physician more than any other in the community works for the common good; he is unselfish, he has both culture and character, and in his daily work he demonstrates the value of that "strenuous life" to which reference has just been made. The degree of success he has obtained in this commonwealth could find no more forcible demonstration than I find represented in this audience before me to-day.

Original Articles.

HEN'S EGGS IN INFANT FEEDING.*

BY A. C. COTTON, A.M., M.D.
Professor of Diseases of Children, Rush Medical College; Accoucheur and Attending Physician for Diseases of Children at Presbyterian Hospital; Member of Staff of Central Free Dispensary, Children's Department.
CHICAGO.

No apology is necessary for the introduction of the subject of substitute feeding of sucklings. If any one should question the importance we have merely to point to the mortality statistics in bottle- and breast-fed babies. The host of substitute foods and preparations on the market is sufficient evidence of their inutility and, even though the clinic evidence were wanting, our knowledge of their composition and the physiologic requirements of infant digestion would lead us to discard a great majority. After experimental excursions along other lines, the tendency in America is to accept the milk of cows, goats and asses as the most available substitute, containing all the elements of infant nutrition in nearly normal proportions. Cow's milk has become more popular since the elaboration of the hygienic dairy system and the aseptic precautions in the care of the milk. Especially is milk popularized in localities where laboratories (such as the Walker-Gordon) are established for the modification of the milk or the regulation of the percentages of its components. The approximate analysis of mother's milk has been rendered easy by the Babcock method and later improved, I think, by Leffmann and Beam, and these facilities for modification have led us back to the cow's milk not only for infants deprived of the breast but also for sucklings when the maternal supply shows marked deficiency in some important constituent.

With all due appreciation for our advance in hygienic dairies and milk laboratories, I, with many others, have frequently found cases in which no modification of cow's milk whatever met the requirements of the case. The troublesome cow casein, like Banquo's ghost, would not down until so reduced in percentage that innutrition from absence of albuminoids resulted. It has not been difficult to prepare synthetically an emulsion which contained all the elements of nutrition found in mother's milk. The greatest difficulty is found in the inability of the infant to digest the albuminoid containing so large a percentage of cow casein.

The employment of egg albumin to supply the necessary proteid in infant food is by no means a new idea nor original with the writer, but he believes too little attention has been given to egg as a substitute for the indigestible proteid of cow's milk. The food value of hen's egg seems to have been appreciated for many centuries and in the Chronicles of Froissart dried eggs powdered and rammed in barrels are mentioned among the stores of provisions laid up by the king of France for the invasion of England in 1386.

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*This paper embodies one presented before the Pediatric Section of the XII International Congress, at Moscow, August, 1897.

Physiologists are in general agreed as to their food value, and the desiccated egg of commerce is now a well-known staple. Long before the writer began his observations in this line of feeding, many contributions were made to the literature on the subject. In many cases, however, the egg albumin mixed with water was resorted to only in cases of extreme gastro-intestinal intolerance of other forms of nourishment and was discontinued upon the subsidence of acute symptoms. By others, standard preparations containing egg were recommended and in some instances patented as the best food for babies. The incompleteness of the food in the former class of cases and the inadaptability of the arbitrary formula to the varying requirements of different patients in the latter account for the limited adoption of this article of diet.

In discussing this subject I have met with the following objections to the use of egg: 1, scarcity; 2, unsoundness or instability; 3, coagulability, and 4, expense.

No one will deny that the geographic distribution of available ovipara is more wide-spread than that of mammalia whose milk is suitable for infants. As to unsoundness, does any one suspect that the newly laid egg harbors the infection which is so frequently found in fresh milk? Handle the egg with but half the hygienic precautions which now attend the manipulation of milk and it will prove much superior in its soundness and freedom from germs of infection and decomposition.

To the objection to the egg because of its ready coagulability at a somewhat low temperature, I reply that high temperature is not more essential in the use of aseptic egg in baby food than in that of sterile milk. It has been sufficiently demonstrated, I believe, that when the milk-supply is properly guarded by sanitary precautions sterilization or even pasteurization is worse than useless, because it lessens the food value. But for those who still prefer pasteurization, I will state that a solution of egg white in milk, properly strained and alkalinized can be pasteurized without coagulation.

The objection as to expense is wholly without foundation in fact. I will not take the time to prove that a given quantity of assimilable proteids suitable to infant digestion and nutrition may be obtained with greater economy from eggs than from milk. It is readily susceptible of demonstration. Furthermore, as to the relative expense of securing immunity from contact infection in eggs and milk, the showing is overwhelmingly in favor of the former.

Let it not be understood from the foregoing that I prefer egg to milk as a food in its entirety, or that I would drive the cows away from the babies with a lock of hens. I believe a good nutrition may be maintained in nurslings by a proper combination of ngredients, such as olive-oil, grape sugar and egg white, with the requisite proportions of sodic, potassic and phosphatic salts in aqueous solution; or that some of these essentials may be obtained from starch, from cereals by a proper action upon their starch and a proper solution of their gluten and salts; or from meats ich in proteids properly abstracted. Many of these fforts at substitute feeding—peptonization, pancreatzation and partial predigestion have proved successul in certain especial cases. Still it is not my purpose to inveigh against the use of milk. On the contrary, I consider cow's milk as the most accessible source of most of the constituents of baby food and believe it should be made the basis from which by proper modification we may prepare an emulsion to meet the requirements of any particular case. It is to the use of the easily assimilated albumin obtained from the hen's egg in place of the indigestible cow casein that I desire especially to call attention. As I stated above, we have in the leading cities of America, as Boston, New York, Chicago, Montreal, Philadelphia, St. Louis, Baltimore, etc., adopted the practice, inaugurated largely through the energy of Professor Rotch of Boston, of using the milk laboratory, through which we order by definite prescription—as from a pharmacy—the exact amount of food and the percentage of ingredients required for each nursling.

In visiting the Continent, en route to the International Congress at Moscow, I was disappointed in not meeting with these milk laboratories. The nearest approach to them that I saw were the Radlitz Dampf Molkerei in Prague; Professor Baginski's efforts in his Molkerei in Berlin; the numbered and labeled milk bottles in Professor Heubner's wards at the Charité, and Professor Monti's efforts at modification at the Vienna Molkerei. But in none of these, nor elsewhere in Europe, did I see our new American practice of prescribing the exact percentage of leading constituents for each case. To be more explicit, we write a prescription as follows:

℞.	Fat	3 per cent.
	Milk sugar	7 "
	Albuminoids	1.5 "
	Mineral matter.	.15 "
	Total solids.	11.65 "
	Water.	100 "
	Number of feedings	8
	Amount at feeding.	℥ iiiss
	Infant's age.	3 mos.
	Infant's weight.	13 lbs.
	Alkâlinity	5 per cent.
	Heat at. . . . . ad	160 F.

Ordered for baby. . . . . .

Signature . . . . . . M.D.

Date. . . .

This is sent to the laboratory and filled daily until from the varying needs of the case, a change is ordered by the physician as to the percentage of some ingredient. A few of us have ordered, in some instances, well-cooked cereals in the form of jellies of starch, oatmeal, barley, etc., to be incorporated in the emulsion. Having for a number of years experimented with egg combination in infant feeding, I encouraged the advent of the milk laboratory as the best means of carrying out the idea of substituting egg white for the indigestible curds of milk casein. My case records both in hospital and private practice afford increasing encouragement and I find objectionable features raised by some observers, namely, flatulency and bad odor of stools, subside when the quantity of egg is modified to meet the requirements of the particular case.

Concerning the subject announced on the program of the congress, and only known to me on my arrival in Moscow, I will state I never substitute artificial for natural feeding without some substantial reason for so doing.

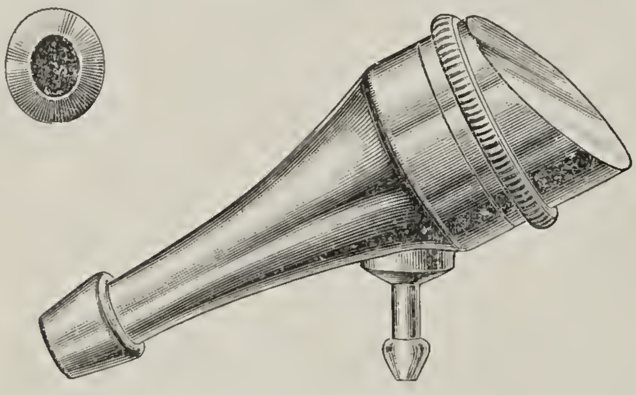
As to the infant, a loss of weight, even failure to gain for a week, or any evidence of indigestion or malnutrition calls for an immediate examination of the breast milk, as to quality and quantity, which usually reveals the cause of the disturbance. In hospital practice, as in the maternity wards of the Presbyterian hospital of Chicago, the breast milk is analyzed twice each week in all cases and the result en- a red with the daily records of each infant's growth nd nutrition. Should there be any marked evidence of disturbed lactation, substitute feeding is resorted to temporarily until the breast milk is improved by special care as to the hygiene and therapy. In the event of failure, the infant is kept permanently on the artificial combination best suited to its requirements.

The statistics from my records are still favorable to natural feeding. However, we must admit some advantages of the artificial methods, such as uniformity of food, regularity of supply, the facility with which changes in diet may be made, both as to quality and quantity, in gross or in detail, and the exemption from disturbances—emotional, temperamental, physiologic and psychologic. This, with our increase in knowledge of infantile physiology and hygiene, bids fair in the near future to raise artificial feeding more nearly to a par with natural feeding.

A MODIFIED SIEGLE'S, PNEUMATIC, AURAL SPECULUM.*

BY CHARLES H. BURNETT, M.D.
AURIST, PRESBYTERIAN HOSPITAL, ETC.
PHILADELPHIA.

The modified Siegle pneumatic aural speculum is practically a Gruber speculum made of metal, to which is fitted the glazed lid that transforms it into the Siegle pneumatic speculum. Its extreme length is 5.5 cm., and its diameter at its meatal end is 6 mm. in vertical, by 4 mm. in transverse diameter. This renders it more adaptable to the shape of the meatus. It is nickel-plated both within and without, which gives it a better reflecting surface than possessed by the black-rubber Siegle instrument found in the shops. The two small openings on its inner wall, at the point connecting it with the air-tube, act like a sieve, to prevent the drawing up of particles of cerumen or dirt into the operator's mouth—another advantage over the ordinary Siegle instrument. The attachment for the air-tube is in the long axis, causing a downward curve of the rubber tubing, and preventing a kinking of this, which sometimes occurs in old forms of Siegle with the attachment in the transverse axis. The chief advantage, however, lies in the meatal end of the speculum. The outside of this end is made to rapidly widen for a distance of a centimeter from the end to a diameter of 11 mm. vertically, and 10 mm. transversely, thus giving a graduated end fitting hermetically into any adult meatus without the addition of rubber packing or replacing of another speculum with a smaller or larger diameter, as in the usual forms of the hard-rubber Siegle.



Burnett's modification of Siegle's pneumatic aural speculum; natural size.

A metal speculum similar to this one, made in Paris, but without nickel-plating and the modified graduated meatal tip, I have used for many years. The addition of the graduated tip I believe to be original with myself, and the instrument as illustrated has been made from my own pattern, by Charles Lentz & Sons of this city.

With a Siegle pneumatic speculum, operated by the surgeon's mouth as the pneumatic power, one can not only *masser* the membrana tympani and the ossicles of hearing, with greater or less force as required, watching the effects on the circulation of the drumhead through the glazed outer end, but also exercise and *maintain* rarefaction of the air in the canal, drawing outward the membrana, and thus make and maintain *traction on the tensor tympani.* This latter maintained result can not be obtained by any other instrument.

The tensor tympani is covered by a fibrous sheath, considered by Helmholtz to be a continuation of the periosteum, lining the muscular canal in the bony portion of the Eustachian tube, from which it arises. We can thus explain the early participation of this muscle and tendon in catarrhal and arthritic processes in the nasopharynx, Eustachian tube and middle ear. Therefore, we can understand why one of the earliest symptoms of chronic catarrhal otitis media is contraction of this muscle and its tendon, with consequent retraction of the membrana tympani. With such retraction of the membrana tympani there are usually associated varying degrees of tinnitus aurium and impaired hearing, at first directly traceable, largely if not entirely, to the retraction of the membrana and ossicles. Later on, if this retraction is not overcome, there are vascular changes in the ossicles and tympanic walls, with ankylosis of the ossicles and impaction of the stapes in the oval window.

In such cases, in addition to the treatment of the nasopharynx, it has been customary to inflate the tympana in various ways. But no form of inflation ever improves the hearing, relieves the tinnitus, and gives a sensation of openness to the ear, equally as well, as agreeably or as promptly as maintained rarefaction of the air in the external auditory canal by means of Siegle's pneumatic speculum. Patients always dislike all forms of inflation of the tympana, and all kinds of inflation of the drum cavities are more or less septic, and positively contraindicated, if the nasopharynx contains morbid secretions. Furthermore, all forms of inflation excepting catheterization of the Eustachian tube are applied, *nolens volens*, to both ears, whereas pneumatic massage is applied to only one ear, as required. All forms of inflation of the tympana are in the nature of shocks, and the ear often aches, or at least feels fuller, after inflation, than it did before the interference. Air thus thrown into the middle ear falls on the inner wall and the fenestræ, not made for the direct impact of air, as forcibly as upon the inner side of the membrana. In this way the membrana and the malleus are forced outward and away from the incus and stapes, while the latter may be forced farther inward in the oval window and made to press unduly upon the labyrinth fluid. We can thus explain the dizziness often produced by inflation of the tympana. Th membrane of the round window is also thus undul inflated and forced inward, and the natural compensa tory yielding of the last-named membrane, to the impaction of the stapes upon the labyrinth water, temporarily abrogated, a fact rendering dizziness all the more likely to occur. For these very good reasons, the use of Siegle's pneumatic speculum in the external ear has nearly replaced in my hands all forms of tympanic inflation.

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*Read in the Section of Otology and Laryngology of the College of Physicians of Philadelphia, April 19, 1899.

URETHRAL DISEASE AND MARRIAGE.*

BY FREDERICK W. ROBBINS, A.M., M.D.

DETROIT, MICH.

One who has followed the literature of pelvic surgery for the last few years has no doubt come to believe that the great majority of cases of salpingitis and allied diseases are of gonorrheal origin. One need not have practiced medicine for a long time before having under his care patients who give a history of perfect health before marriage, but that event has ushered in discomfort, distress even, to the extent of practically rendering one unable to cope with the duties of life. Life has lost its charm; there is no home; sexual life is repulsive or impossible; children do not come to brighten the family life; love itself is fast ebbing away, and both husband and wife are beginning to wish that the marriage contract had never been entered into. The wife in her innocence does not think to question her husband's virtue, and the husband is very likely one of the many who, at marriage and even long before, have been true to the women of their choice. Within the month I have seen such a case. The lady has since been rightly operated on and although in all probability she will hereafter enjoy comfortable health, that home will ever be childless. I well know that there are many other cases to which nearly these same words can be applied, namely, the cases of early abortion which so many women think a sinless and comparatively harmless matter, but of those I am not speaking at this time.

The question immediately comes up, who is responsible for injury suffered by this large class of innocent women? It certainly is true that no man would willingly infect his wife with gonorrhea, even if he had no adequate conception of the far-reaching results of such infection. Many young men look upon gonorrhea as a simple disease, which, as they grow older and thus more ripe with experience, and especially if the question of marriage presents itself to them, becomes a more serious matter. Many a man having had gonorrhea no doubt marries without having consulted a physician as to the propriety of that step, and very likely has never been treated by one for his difficulty. Then if this be so, we must admit that the medical profession is not entirely to blame for the disease with which the young wife is infected, yet I can but feel that as a profession we should feel the shame of the present state of things and should consider ourselves directly and indirectly responsible for much of the disease of pelvic organs in recently married women, as well as those not recently married. Indirectly responsible I say, because is it not a fact that many of us are not doing our duty in educating the patients who come to us for treatment? Are we not too often satisfied in bringing the case to what seems to be a cure, without advising the patient of the dangers which may be before him? Are we not sometimes willing that the many relapses which follow should be credited to renewed infection rather than to our responsibility for having discharged a case uncured? To be sure in this way we have kept up our reputation of being able to cure urethritis, but we can not blind our consciences to the fact that many such cases are not well, and from these cases spring more suffering. We are directly responsible when we discharge patients from treatment or make so light of their condition that they discharge themselves, before we know or are reasonably certain that germs of infection have disappeared.

In the Journal, April 22, there is a short article by Dr. Greenberg of Milwaukee, on "Recurring Gonorrhea." He reported a case where he began treatment of gonorrhea July 2, 1898, and discharged the patient cured in a month. The patient was instructed to abstain from use of alcohol and not to marry for one year after discharge had disappeared, had no further trouble and married March, 1899, and a week later had purulent discharge containing gonococci, as also did his wife, whom the doctor had treated previous to marriage and knew to be uninfected.

Such is the history of many a case, and I wish to find fault with the manner of conducting this case, as it is an example, I believe, of the way very many cases are handled. The doctor does not say how he satisfied himself that the patient was well, therefore we can say little upon that point; but he does distinctly say that the patient must abstain from alcohol in every form, and thereby admits his fear that the patient is not free from disease. The point that I am urging with all the force that I know how is, that we should know that a patient is cured, before discharging him. When no gonococci have been discovered for say two weeks, repeated examinations having been made, when no pus-threads or commas have been detected in the first morning's urine; when the centrifuged urine shows no sediment containing gonococci, we have a right to say that, in our opinion, the patient is well; but then should we say to the patient, "Now, abstain from alcohol?" By no means, except on the general ground of belief in abstention; but rather the plan should be adopted of producing urethral congestion and thus stimulate to action any lurking microbes that may be hiding under any epithelial cell. It is better to know that they are there than to pat ourselves on the back at the rapid recovery of the case, until, as in the instance reported, husband and wife are suffering distress of both body and mind.

The second point that I would criticize in this paper is the advice to refrain from marriage for a year. If the patient has not the germs of disease within himself why refrain from marriage for any long period of time? If this patient had been allowed beer and champagne in excess, or if an instillation of nitrate of silver solution had been given at the time the patient was discharged cured, the latent germs would have developed just as they did after excessive intercourse. If a simple inflammation had been produced, no gonococci would have been found in the discharge, which would have subsided in a few days.

In conclusion, a cessation of gonorrheal discharge is no sign that the disease is well. A chronic anterior or posterior urethritis may exist for months after such discharge has ceased. In Dr. Ferd C. Valentine's office recently, I saw a patient who gave a clear history of having had gonorrhea for the last time, thirteen years ago. He was astonished when gonococci were demonstrated to him. The two-glass test must be made, if possible, to discover any form of discharge. The centrifuge should be resorted to in all doubtful cases. Indulgence in alcoholics, especially beer and champagne, should rather be advised than not. The urethra should be irritated by chemic means. If, after all these precautions are taken, no gonococci have been discovered by a painstaking and competent microscopist, the patient may be allowed to marry at his own discretion.

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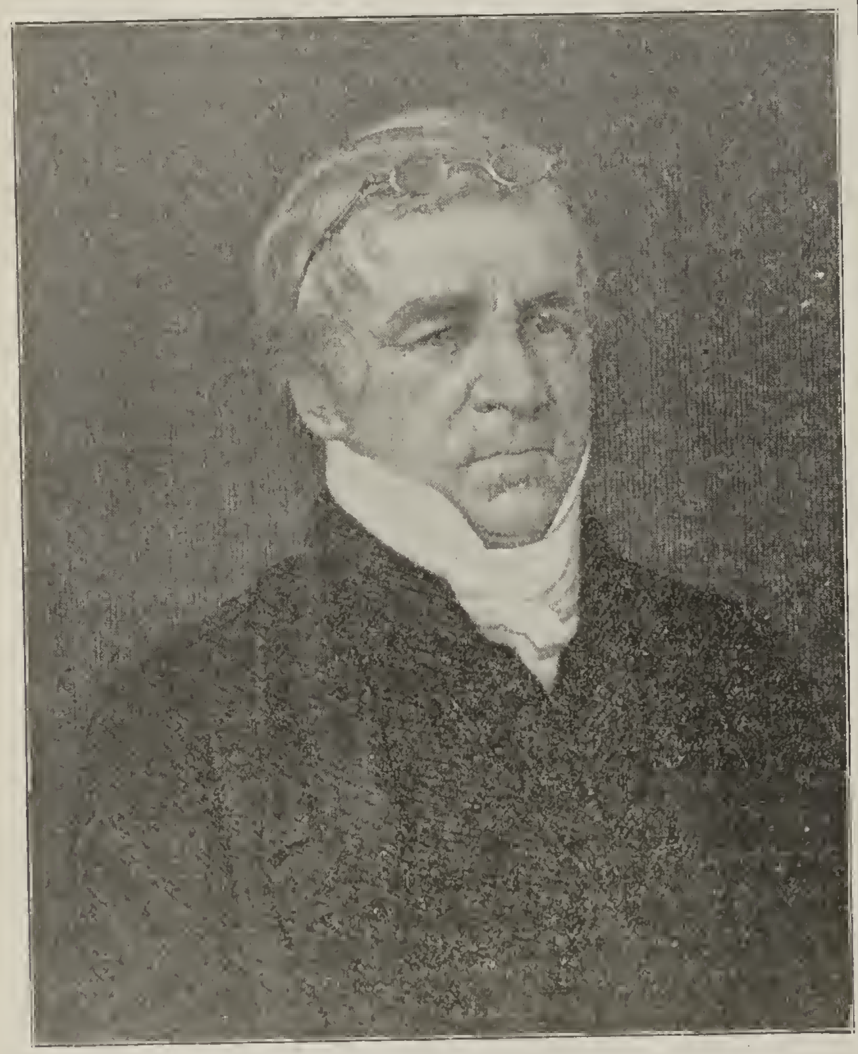
*Read before the Michigan State Medical Society, May 4, 1899.

73 Cass Street.

"Looking Backward."

EX-PRESIDENTS OF THE AMERICAN MEDICAL ASSOCIATION.

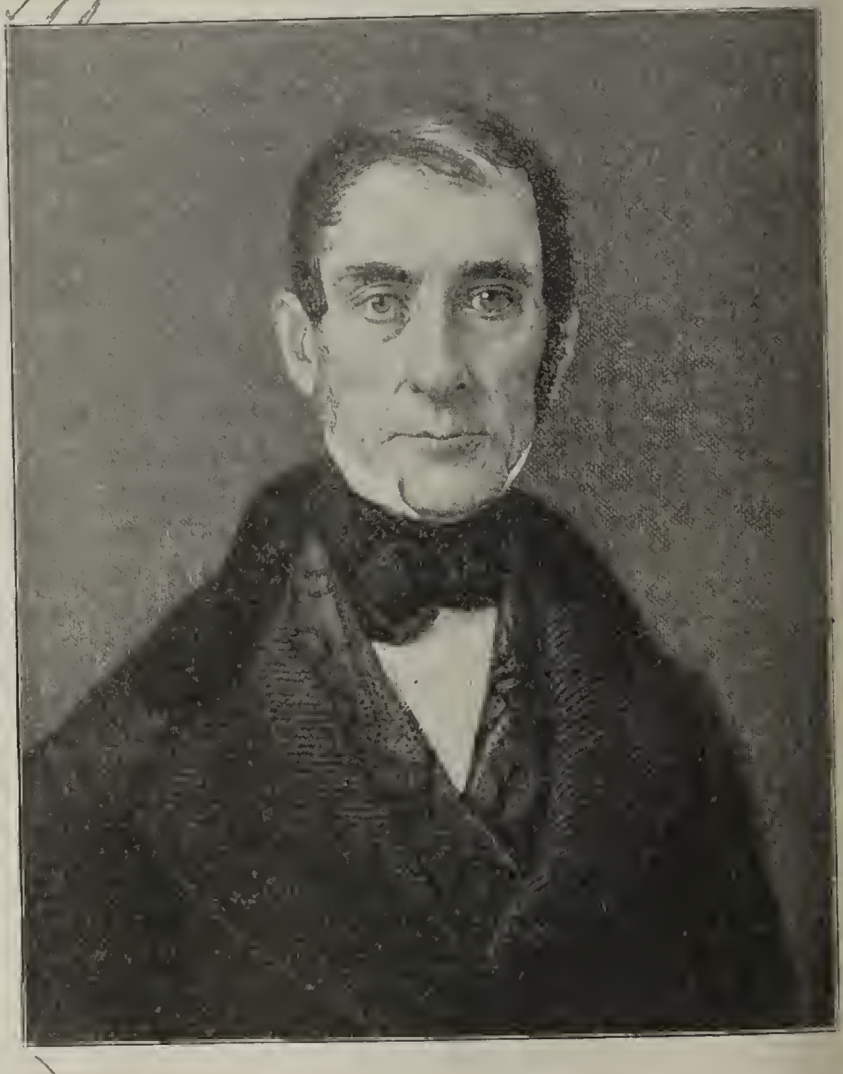
On May 7, 1847, the national convention of delegates from the medical societies, medical colleges and other organized medical institutions in the United States, then in session in the city of Philadelphia, formed the AMERICAN MEDICAL ASSOCIATION by unanimously adopting the following resolution: "*Resolved*, That this convention do now resolve itself into the AMERICAN MEDICAL ASSOCIATION, and that the officers of the convention continue to act as officers of the ASSOCIATION until others be appointed."



NATHANIEL CHAPMAN.

The ASSOCIATION then proceeded to the election of officers, and Dr. NATHANIEL CHAPMAN of Philadelphia was elected president for the ensuing year by unanimous vote, after having been nominated by a committee of one from each State represented in the ASSOCIATION. Dr. CHAPMAN was born May 28, 1780, in Summer Hill, Fairfax County, Va., and died July 1, 1853, in Philadelphia. At the time of his election he was nearly 73 years of age, with hearing and sight too much impaired to allow him to efficiently perform the duties of the presiding officer of a large assembly. But he was at the head of the faculty of the medical department of the University of Pennsylvania, with which he had been connected many years, and he was chosen because his name and high reputation would add strength and character to the newly organized ASSOCIATION. On being conducted to the chair by the chairman of the nominating committee, he returned sincere thanks for the honor conferred, soon after which the ASSOCIATION adjourned to meet in Baltimore, Md., May 2, 1848. When the ASSOCIATION met in Baltimore, he called the meeting to order, delivered a brief and characteristic address, and left the meeting in charge of the first vice-president, Dr. JONATHAN KNIGHT of New Haven, Conn.

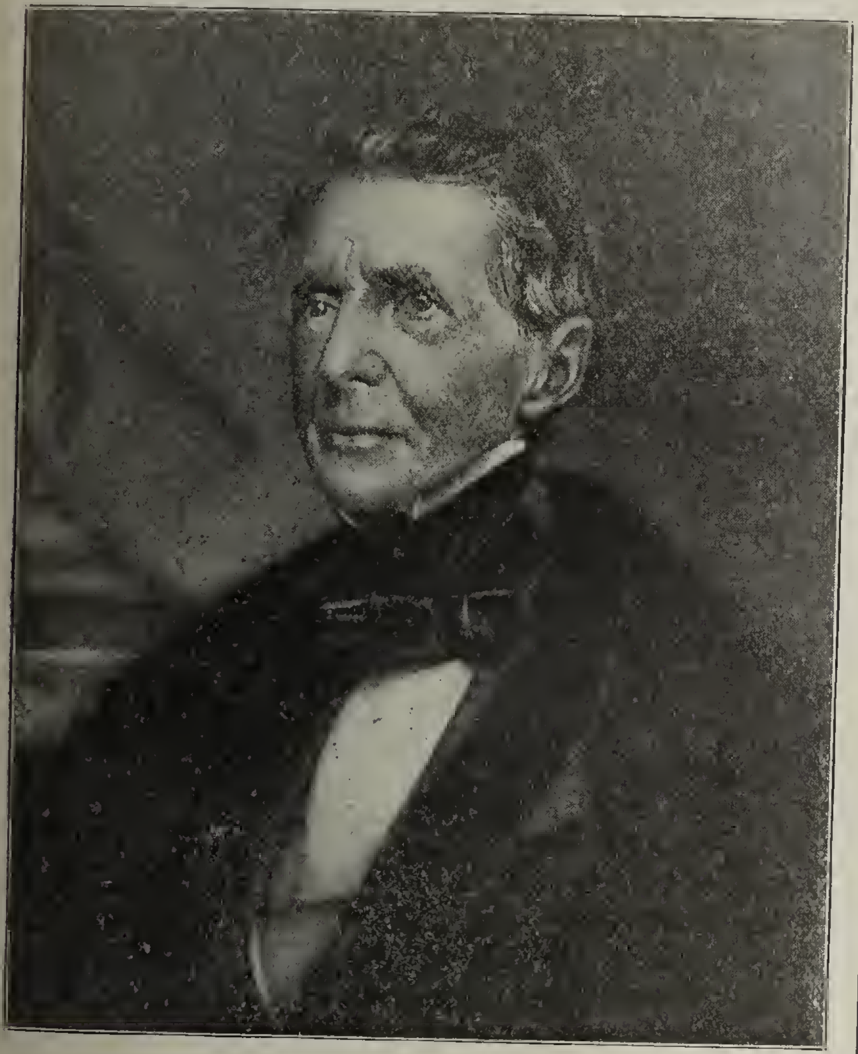
During the second day of the meeting of the ASSOCIATION in Baltimore, Dr. ALEXANDER H. STEVENS of New York was elected president, and on being conducted to the chair by the chairman of the nominating committee, he not only expressed his thanks for the honor conferred upon him, but he spoke briefly and eloquently of the nature and objects of our profession and of the ASSOCIATION. Of the first he said: "Our profession, gentlemen, is the link that unites science and philanthropy. It is one of the strongest ligaments that binds together the elements of society. It teaches the rich their dependence, and elevates the poor to a sense of the innate dignity of their nature. Its aim is to add to the comfort and length of human life." Dr. STEVENS was born in New York City, Sept.



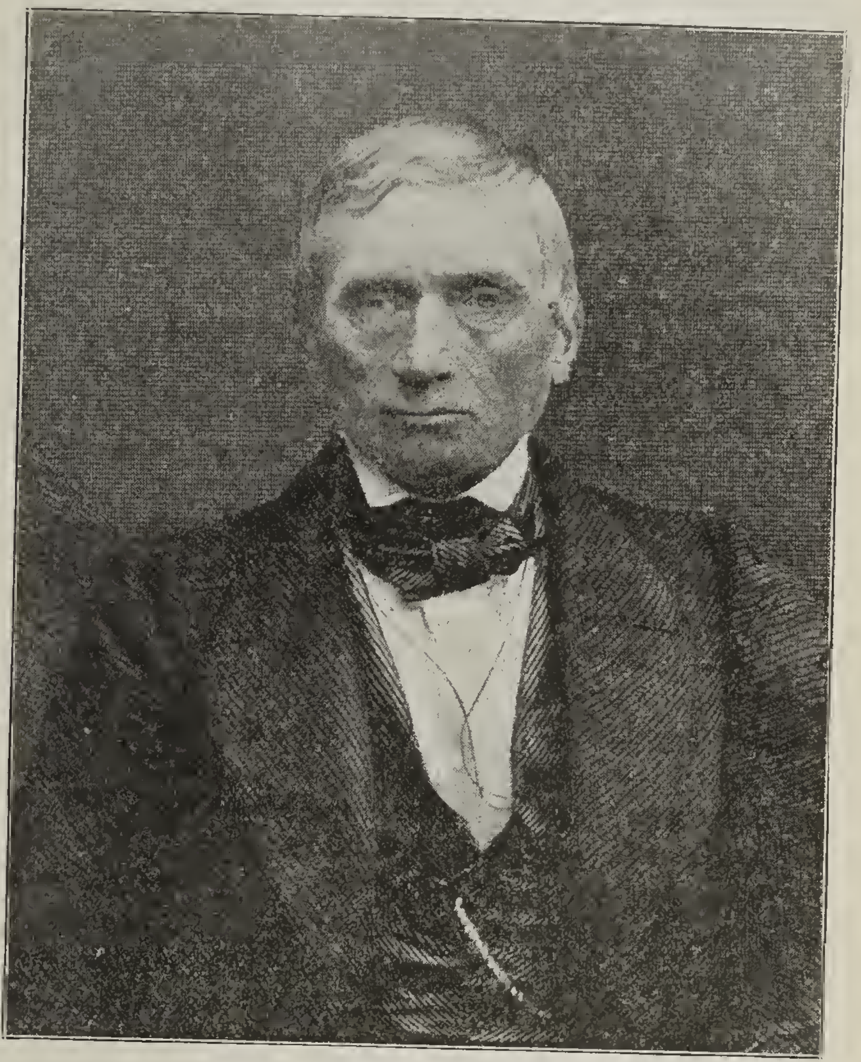
ALEXANDER H. STEVENS.

4, 1789, and died in the same city March 30, 1869. At the time of his election to the presidency of the Association he was president of the faculty of the College of Physicians and Surgeons of New York, and emeritus professor of surgery in the same institution.

The second anniversary meeting of the Association convened in Boston, Mass., May 1, 1849, with the president, Dr. Stevens, in the chair. On the same day, by the recommendation of the nominating committee, Dr. John C. Warren of Boston was elected president of the Association, and was cordially welcomed to the chair by his predecessor in the office. John Collins Warren was born in Boston, Mass., Aug. 1, 1778, and died in the same city May 4, 1856. At the time of his election to the presidency of the Association he had passed his three score years and ten, and was too much enfeebled for an efficient presiding officer. But his selection was on the same principle that governed in the case of Dr. Chapman. Dr. Warren had long been the professor of surgery in the medical school of Harvard, and the leading surgeon in the New England States.


JOHN C. WARREN.

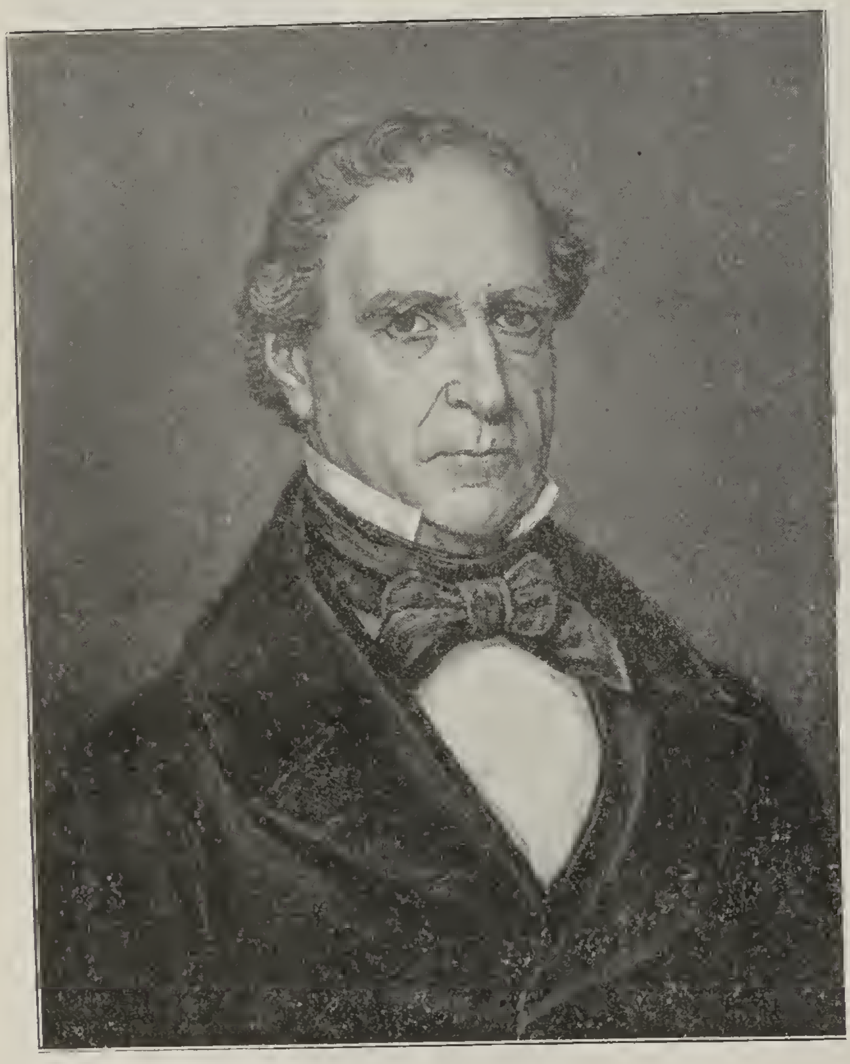
The third annual meeting of the Association commenced its sessions in Cincinnati, Ohio, May 7, 1850, with the president, Dr. Warren, in the chair. As soon as the ordinary preliminary business had been transacted, a committee of one member from each State represented at the meeting was appointed to nominate officers for the ensuing year. Assuming that the president would be selected from the city in which the meeting was to be held, the profession in Cincinnati became early divided into two parties, one in favor of electing Dr. Daniel Drake, and the other in favor of Dr. Reuben D. Mussey, both being men of very high reputation both as teachers and writers. After a warm contest waged by their respective friends before the nominating committee, the latter reported during the afternoon session recommending the election of Dr. Reuben D. Mussey, and the recommendation was adopted by the Association, though not by unanimous vote. Dr. Reuben Dimond Mussey was born in Pelham, N. H., June 23, 1780, and died in Boston, June 26, 1866. At the time he was elected president of the Association he was professor of surgery in the Ohio Medical College, and had been well known as a teacher of anatomy and surgery for forty years. Owing to age and feebleness of voice, Dr. Mussey, after thanking the Association for the honor conferred upon him, left the chair to be occupied by the vice-president. In 1860 he retired from all professional work and removed to Boston, where he died at the age of 86 years.


REUBEN D. MUSSEY.

The fourth annual meeting of the Association was held in Charleston, S. C., commencing May 6, 1851, Dr. Mussey in the chair. During the afternoon session the nominating committee reported, recommending the election of Dr. James Moultrie of Charleston, S. C., president for the ensuing year. The recommendation was adopted, and Dr. Moultrie was cordially welcomed to the chair by his predecessor and in return expressed his thanks for the honor conferred. James Moultrie was born in Charleston, S. C., March 27, 1793, and died in the same city April, 1869. He had received a liberal education, was a zealous student of natural history and was professor of physiology in the Medical College of South Carolina.

The fifth annual meeting of the Association was held in Richmond, Va., commencing May 4, 1852, the president, Dr. Moultrie in the chair. After the usual preliminary work was completed, on the recommendation of the nominating committee, Dr. Beverly Randolph Wellford of Richmond, Va., was elected president and conducted to the chair. He continued to preside during the annual meeting with dignity and ability. He was born in Fredericksburg, Va., July 29, 1777, and died in the same city Dec. 27, 1870.

JAMES MOULTRIE.



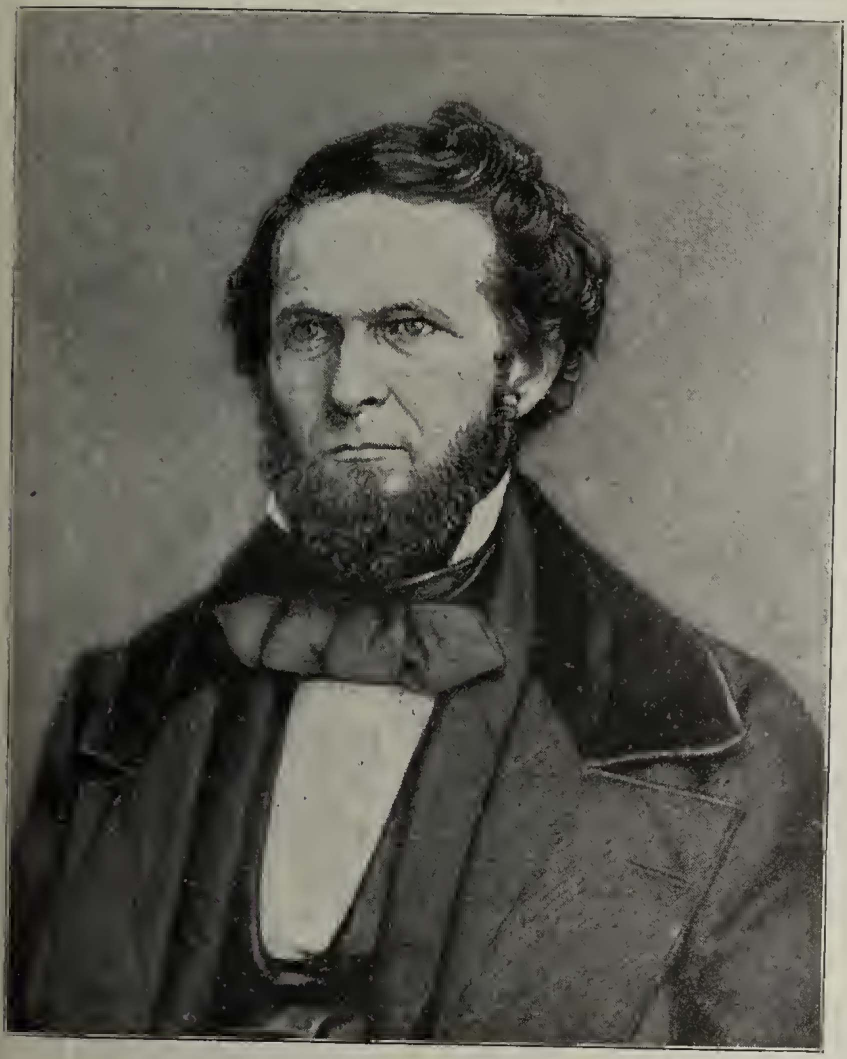
BEVERLY R. WELLFORD.

The sixth annual meeting was held in the city of New York, commencing May 3, 1853, and was called to order by the president, Dr. B. R. Wellford of Virginia. It was in that city, seven years previously, that the first national medical convention was held, and performed the preliminary work resulting in the organization of the permanent Association the following year. The nominating committee found the local profession, as at the meeting in Cincinnati, divided, one part advocating the nomination of Dr. Valentine Mott, and the other part equally zealous for Dr. John W. Francis, both men of the highest standing in the profession. After listening to the arguments on both sides, the member of the nominating committee representing Illinois claimed that the precedent electing the president from the city in which the meeting was being held, was not only tending to beget local partisan factions, but would unjustly restrict the selections to such of our larger cities as could accommodate the annual meetings, while those residing in less populous cities would be excluded, however meritorious they might be. He further reminded the committee that neither of the eminent men named in New York had ever taken any part in the work of the Association, while Dr. Jonathan Knight of New Haven, Conn., had presided over both of the preliminary national conventions with admirable skill and urbanity. During the afternoon session of the Association the nominating committee recommended the

JONATHAN KNIGHT.

election of Dr. Jonathan Knight, Connecticut, and he was unanimously elected and conducted to the chair. He was born in Norwalk, Conn., Sept. 4, 1789, and died in New Haven, Conn., Aug. 25, 1864. He was professor of surgery in the medical department of Yale University for twenty-six years.

The seventh annual meeting of the Association was held in St. Louis, Mo., commencing May 2, 1854. In the absence of the president, Dr. Knight, the meeting was called to order by the first vice-president, Dr. Usher Parsons of Rhode Island, and on the recommendation of the nominating committee, Dr. Charles A. Pope of St. Louis, Mo., was elected president for the ensuing year. Dr. Pope was born in Huntsville, Ala., March 15, 1818, and died suddenly in Paris, France, July 5, 1870. He became a resident of St. Louis in 1842, and professor of surgery in the medical department of the University of St. Louis in 1847.



CHARLES A. POPE.

The eighth annual meeting convened in Philadelphia on May 1, 1855, and after the usual preliminaries, elected Dr. George B. Wood of that city president for the ensuing year. George Bacon Wood was born in Greenwich, N. J., March 12, 1797, and died in Philadelphia, March 30, 1879. He was first professor of materia medica and pharmacy in the medical department of the University of Pennsylvania, and was later transferred to the chair of practice of medicine, from which he retired to private life in 1860. During the forty-two years that he was actively engaged, both as a teacher and writer, he became more widely known and esteemed than any of his contemporaries, for his work on the "Practice of Medicine" was the leading text-book for many years.

The ninth anniversary meeting of the Association was held in Detroit, Mich., May 6–9, 1856, the president, Dr. Wood, in the chair. On the recommendation of the nominating committee, Dr. Zina Pitcher of Detroit was elected president for the year, and Dr. Wood delivered his valedictory address, in which he commended the "Code of Medical Ethics," and made a just protest against the practice of calling members of the profession "allopathists." Dr. Zina Pitcher was born in Sandy Hill, N. J., April 12, 1797, and died in Detroit, Mich., April 5, 1872. After acquiring a good academic education, he graduated in medicine at Middlebury College, Vt., in 1822. He entered the medical staff of the U. S. A., and was in military service several years, when he resigned and became a resident of Detroit. He was an active member of the board of regents of the University of Michigan from 1837 till 1852. He presided with dignity and intelligence.

The tenth anniversary was held in Nashville, Tenn., May 4, 1857, and after the usual preliminaries Dr. Paul F. Eve of Nashville was elected president and duly conducted to the chair. In returning thanks for the honor conferred on him, he closed as follows: "You present again the sublime spectacle of brethren from all sections of this widely extended Union, congregated to devise the best means to relieve suffering humanity, and may I not add we are here with

> Our souls by love together knit,
> Cemented, mixed in one;
> One hope, one heart, one mind, one voice?"

Dr. Paul Fitzsimmons Eve was born near Augusta, Ga., June 26, 1806, and died in Nashville, Tenn., Nov. 3, 1877. He received a liberal education and early acquired a high reputation both as a practitioner and teacher of surgery. He was a man of great industry, energy and regularity of habits. It is stated by his biographer that he never used tobacco in any form nor any variety of alcoholic drinks, and enjoyed uniformly good health, but died suddenly at the bedside of a patient whom he had visited early in the morning.

The eleventh annual meeting of the Association was held in Washington, D.C., May 4, 1858, the president, Dr. Eve, in the chair. Dr. Harvey Lindsly of Washington, D. C., was elected president. He was born in 1804 and died in Washington, April 28, 1889. He was one of the founders of the Medical Society of the District of Columbia, and for several years professor in the National Medical College. His valedictory address, delivered at the opening of the next annual meeting, is one of the best on the records of the Association.

The twelfth annual meeting was held in Louisville, Ky., commencing May 3, 1859, and Dr. Henry Miller of that State was duly elected president for the ensuing year. Dr. Miller was born in Glasgow, Ky., Nov. 1, 1800, and died in Louisville, Feb. 8, 1874. He was professor of obstetrics in the medical department of the University of Louisville, and acquired a good reputation, both as a teacher and writer.

The thirteenth annual meeting of the Association was held in New Haven, Conn., commencing June 5, 1860, the president, Dr. Henry Miller, in the chair. On the recommendation of the nominating committee, Dr. Eli Ives of New Haven was elected president and duly conducted to the chair. He accepted the office and tendered his thanks for the honor conferred, but on account of age and infirmities, he requested the first vice-president, Dr. Wilson Jewell of Philadelphia, to preside during all the sessions. Dr. Eli Ives was born in New Haven, Conn., Feb. 7, 1779, and died in the same city, Oct. 8, 1861. He was a graduate of Yale and one of the founders of the medical department of that institution. He filled the chair of materia medica sixteen years, and then was transferred to the chair of practice of medicine. Vice-President Jewell was a good presiding officer and discharged all duties of the president with marked ability. The meeting in New Haven was the first at which the afternoon sessions were held in sections and devoted strictly to literary and scientific work.

The fourteenth annual meeting of the Association was to have been held in June, 1861, but the great Civil War between the North and South commencing in March of that year, the meeting was postponed until June 2, 1863, when it assembled in Chicago, with Vice-President Wilson Jewell of Philadelphia in the chair. Of the fourteen presidents previously chosen all but two had been selected from the profession of the cities in which the meetings had been held, and in consequence there was a general expectation that either Dr. Daniel Brainard or Dr. Nathan S. Davis would be elected at the meeting in Chicago. But Dr. Brainard, being interested in a canal convention, ignored the medical meeting altogether, and Dr. Davis, though actively engaged as chairman of the committee of arrangements, refused to allow his name to go before the nominating committee for the reason that on previous occasions he had opposed the policy of limiting the choice to the place of meeting. Although the war was still in active progress, delegates were present from seventeen States, and the nominating committee recommended the election of Dr. Alden March of Albany, N. Y., president for the ensuing year. The recommendation of the committee was adopted with unanimity, and Dr. March was conducted to the chair. Dr. Alden March was born in Sutton, Mass., in 1795, and died in Albany, N. Y., June 17, 1869. He was educated in Brown University, and graduated in medicine in 1820. Selecting Albany, N. Y., as his field for practice, he commenced there a course of lectures on anatomy and was soon after made professor of anatomy in the Castleton Medical College, but retained his residence in Albany. In 1839 the Albany Medical College was established, and he was made professor of surgery, a position which he filled with signal ability until his death.

The fifteenth annual meeting was held in New York City, June 7–9, 1864, the president, Dr. Alden March, in the chair, and was attended by 535 members, representing eighteen States and the District of Columbia. The nominating committee reported, recommending the election of Dr. Nathan S. Davis of Chicago president for the ensuing year. After some discussion and several motions, the report of the committee was adopted and Dr. Davis was duly conducted to the chair.

The sixteenth annual meeting of the Association was convened in Boston, Mass., June 6, 1865, and remained in session four days, the president, Dr. N. S. Davis, being in the chair. The practice which had prevailed since the commencement of the Association, of electing officers on the first day of each annual meeting, and immediately conducting them to their official positions without opportunity for any preparation, had led to so much embarrassment in the transaction of business on account of deficient knowledge of parliamentary rules on the part of the presiding officers, that near the close of the meeting in New York, in 1864, the constitution was so amended that the election of officers should be near the close of each annual meeting, and "the president and vice-presidents should assume the functions of their respective offices at the beginning of the annual meeting next succeeding their election," thus giving them one year to prepare for an efficient discharge of their official duties. In consequence of this change, Dr. N. S. Davis continued to preside through the entire annual meeting of 1865, and received the highest tokens of approval at its close.

N. S. DAVIS IN 1854.

The seventeenth annual meeting was held in Baltimore, Md., commencing May 1, 1866, and continuing four days. It was called to order by the president, Dr. D. Humphreys Storer of Boston, who had been elected near the close of the preceding annual meeting. Dr. David Humphreys Storer was born in Portland, Me., March, 26, 1804, and died in Boston, Sept. 10, 1891. He received a liberal education, graduating from Bowdoin, Me., in 1822, and from the medical school of Harvard College in 1825. He commenced practice in Boston and soon gained a high reputation both as a physician and a student of the natural sciences. In 1854 he succeeded Dr. Walter Channing as professor of obstetrics and medical jurisprudence in the Harvard Medical School and continued to fill the chair until 1868.

The eighteenth annual meeting was held in Cincinnati, Ohio, May 7–10, 1867, with Dr. Henry F. Askew of Delaware as president, who had been elected near the close of the preceding meeting in Baltimore. He was born near Wilmington, Del., in 1805, and died in that city March 1, 1876. He graduated in medicine from the medical department of the University of Pennsylvania in 1826, and commenced practice in Wilmington in 1828. He gained a large practice, and was one of the most faithful and influential members of the Association, and a good presiding officer.

The nineteenth annual meeting was held in Washington, D. C., May 5–8, 1868. Dr. Samuel D. Gross of Philadelphia, who had been elected near the close of the preceding meeting, in Cincinnati, called the meeting to order and presided during the subsequent general sessions of the Association. Samuel David Gross was born near Easton, Pa., July 8, 1805, and died in Philadelphia, May 6, 1884. He received a good academic education, and graduated in medicine from Jefferson Medical College in 1828. He commenced practice in Philadelphia, and soon displayed the talent for research and authorship that in after years placed him at the head of the surgical department in America, both as a writer and a teacher. He became professor of surgery in Jefferson Medical College in 1856, and continued to fill the chair until 1882. Before the close of this annual meeting it was decided to encourage a larger attendance from the Southern States by electing a president and holding the next meeting in that part of the country. Consequently, Dr. William O. Baldwin of Alabama was elected president for the next year.

The twentieth annual meeting was held in New Orleans, La., May 4–7, 1869, with Dr. William O. Baldwin, president, in the chair. Dr. William Owen Baldwin was born in Montgomery Co., Ala., Aug. 9, 1818, and died in the city of Montgomery, Ala., May 30, 1886. He received a good collegiate education, and graduated in medicine from Transylvania University, Ky., in 1837. He commenced practice in Montgomery, where he spent his entire professional life in alleviating human suffering, prolonging life, and promoting every important interest in society. He was a good presiding officer and aided much in bringing the members of the profession in the South into cordial relations with the national Association after the Civil War.

The twenty-first annual meeting was held in Washington, D. C., May 3–6, 1870, the president, Dr. George Mendenhall of Ohio, in the chair. Dr. Mendenhall was born in Pennsylvania, May 5, 1814, and died in Cincinnati, Ohio, June 4, 1874. In early childhood he was taken with his parents to Columbiana Co., Ohio, and received his education in the schools of that county. After graduation, in 1835, he located in Cincinnati in 1843. He occupied the chair of obstetrics and diseases of women in the Miami Medical College from 1852 to 1873.

The twenty-second annual meeting was held in San Francisco, Cal., May 4–7, 1871, the president, Dr. Alfred Stillé of Pennsylvania, in the chair. He was born in Philadelphia, Oct. 30, 1813, and was educated in the University of Pennsylvania, receiving the degree A.B. in 1832 and M.D. in 1836, and is still a resident of the same city, having enjoyed these many years a high reputation both as writer and teacher in the departments of materia medica and practice of medicine. He was an active participant in the conventions of 1846 and 1847, and one of the first secretaries of the Association. He retired from the chair of theory and practice of medicine in his alma mater in 1884, after twenty years of service.

The twenty-third annual meeting was held in Philadelphia, May 7–10, 1872, the president, Dr. David W. Yandell of Kentucky, in the chair. Dr. Yandell was born in Murfreesboro, Tenn., April 4, 1826, and died in Louisville, Ky., May 3, 1898. He received a good collegiate and medical education, was professor of surgery in the medical department of the University of Louisville many years, was medical director of the confederate army during the Civil War, and was a man of much energy and influence.

The twenty-fourth annual meeting was held in St. Louis, Mo., May 6–9, 1873, the president, Dr. Thomas M. Logan of California, in the chair. Dr. Logan was born in Charleston, S. C., July 31, 1808, and died in Sacramento, Cal., Feb. 13, 1876. He received a collegiate education, and graduated in medicine from the Medical College of South Carolina in 1828. After practicing several years in Charleston and in New Orleans, he removed to Sacramento, Cal., in 1850, where he remained until his death. He enjoyed a good reputation both as a practitioner and a writer on medical subjects.

The twenty-fifth annual meeting was held in Detroit, Mich., June 2–5, 1874, the president, Dr. Joseph M. Toner of Washington, D. C., in the chair. Dr. Toner was born in Pittsburg, Pa., April 30, 1825, and died at Cresson Springs, Pa., July 30, 1896. He received a fair collegiate education, and first graduated in medicine from Vermont Medical College in 1850, and subsequently, in 1853, took the degree of M.D. from Jefferson Medical College. He located in Washington, D. C., in 1855, and soon acquired a good general practice and became identified with the medical societies, both local and national. He developed very high social and literary qualities, and was an active and persevering collector of the works of American authors. A few years before his death his large collection of such works was donated to, and became a part of, the congressional library in Washington. He died while spending a few weeks at Cresson Springs.

The twenty-sixth annual meeting of the Association was held in Louisville, Ky., May 4–7, 1875, President Dr. William K. Bowling of Nashville, Tenn., in the chair. Dr. Bowling was born in 1808, and died at his residence on Cumberland Mountain, near Nashville, Tenn., Aug. 6, 1885. Dr. Bowling was eminent as a practitioner and teacher of medicine, and a leader in all that pertained to the educational, social and practical interests of the profession in the Mississippi Valley.

The twenty-seventh annual meeting of the Association was held in Philadelphia, June 6–9, 1876, President Dr. J. Marion Sims of New York, in the chair. Dr. Sims was born in Lancaster District, S. C., Jan. 25, 1813, and died in New York, Nov. 13, 1883. He received a college education at Columbia, S. C., and graduated in medicine from Jefferson Medical College, Philadelphia, in 1835. After practicing ten or twelve years in his native State, he removed to New York City, and soon acquired a very high reputation in the treatment of diseases and accidents pertaining to the viscera of the female pelvis, by surgical procedures.

The twenty-eighth annual meeting was held in Chicago, June 5–8, 1877, Dr. Henry I. Bowditch of Boston in the presidential chair. He was born in Salem, Mass., Aug. 9, 1808, and died in Boston in 1892. He was educated in Harvard College, and graduated in medicine from the medical department of the same institution in 1832. He was through life a diligent student and investigator, making many valuable contributions to medical literature and fostering everything justly promotive of the public interests. His election to the presidency was a proper reward for long and faithful services in the interests of the Association.

The twenty-ninth annual meeting was held in Buffalo, N. Y., June 4–7, 1878, President Dr. Tobias Gibson Richardson of New Orleans, La., in the chair. Dr. Richardson was born in Lexington, Ky., Jan. 3, 1897, and died in New Orleans May 26, 1892. In 1845, after becoming a resident of Louisville, Ky., he commenced the study of medicine as the private pupil of Dr. S. D. Gross, and graduated, three years later, from the medical department of the University of Louisville. He early acquired a good reputation, especially in anatomy and surgery, and in 1858 accepted an appointment to the chair of anatomy in the medical department of Tulane University, New Orleans, La., and removed to that city. His election to the presidency of the Association was owing partly to his high professional character, and in part to the active influence of Dr. S. D. Gross, who urged it as calculated to more completely obliterate the effects of the previous Civil War.

The thirtieth annual meeting was held at Atlanta, Ga., May 6–9, 1879, the president, Dr. Theophilus Parvin of Indianapolis, Ind., in the chair. Dr. Parvin was born in Buenos Ayres, Jan. 9, 1829, during the temporary residence of his parents in that country, and died in Philadelphia, Jan. 29, 1898. He received a fair college education, and in 1852 received the degree of M.D. from the medical department of the University of Pennsylvania. His literary tastes and teaching ability were of a high order, and after filling professorships in other places he accepted the chair of obstetrics and diseases of women in the Jefferson Medical College, Philadelphia, and removed to that city in 1883. He presided during the meeting in Atlanta with dignity and efficiency.

The thirty-first annual meeting was held in New York City, June 1–4, 1880, President Dr. Lewis A. Sayre of New York in the chair. Dr. Sayre was born in Morris County, N. J., Feb. 29, 1820, graduated as A.B. from Transylvania University, Kentucky, in 1839, and entered the College of Physicians and Surgeons, New York, from which he received the degree of M.D. in 1842. He rapidly acquired a reputation in the orthopedic department of surgery, and on the organization of the Bellevue Hospital Medical College he was made professor of orthopedic surgery, including fractures and dislocations, and has retained the same until the present time. His election to the presidency was amply merited, not only by long and faithful work in the Association, but also by high reputation as a teacher and author.

The thirty-second annual meeting was held in Richmond, Va., in May, 1881, the president, Dr. John T. Hodgen of St. Louis, Mo., in the chair. Dr. Hodgen was born in Hodgenville, Ky., Jan. 17, 1826, and died in St. Louis, Mo., April 28, 1882. He received a liberal education, including two years in Bethany College, Va., and was graduated in medicine from the medical department of the University of Missouri in 1848. He made St. Louis his permanent residence in 1854, and became a member of the faculty of the St. Louis Medical College, teaching, at different times, anatomy, physiology and surgery, and had been dean of the faculty seventeen years at the time of his death.

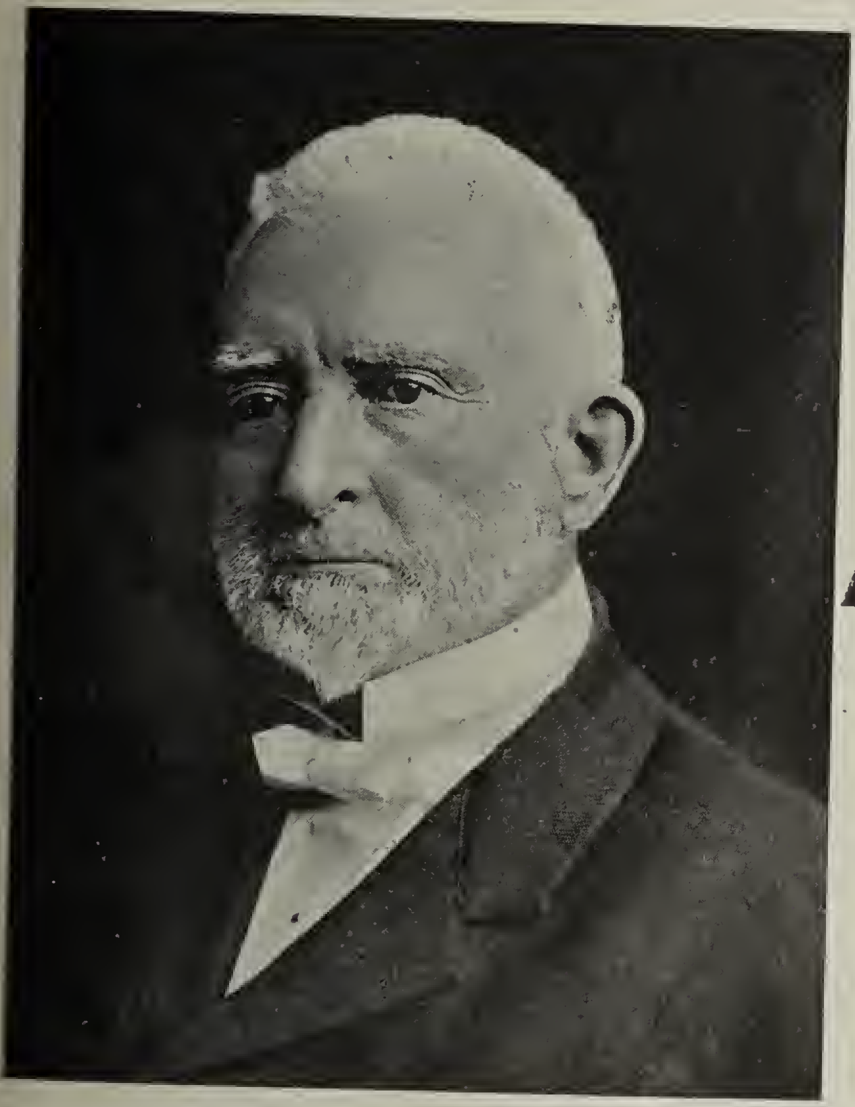
The thirty-third annual meeting was held in St. Paul, Minn., 1882, First Vice-president Dr. P. O. Hooper of Arkansas in the chair. At the preceding meeting in Richmond, Va., Dr. Joseph J. Woodward of the medical corps of the U. S. A. was elected president for the ensuing year, but before the time for the next meeting his health had become too precarious to permit of his attendance. Dr. Woodward was born in Philadelphia in 1832 and died in the same city, Aug. 17, 1884. He received his education in the schools of Philadelphia, from which he received the degrees of A.B and A.M., and graduated in medicine from the medical department of the University of Pennsylvania in 1853. He soon after entered the medical corps of the army and rose rapidly until he became chief assistant in the surgeon-general's bureau at Washington, D. C. He was a pioneer in microscopic photography and one of the chief founders of the Army Medical Museum.

The thirty-fourth annual meeting was held in Cleveland, Ohio, June, 1883, the president, Dr. John Light Atlee of Pennsylvania, in the chair. Dr. Atlee was born in Lancaster, Pa., Nov., 2, 1799, and died in the same city, Oct. 1, 1885. He received a good academic education and later the degree of M.D. from the University of Pennsylvania in 1820. He became a member of the American Medical Association at its origin in 1847, and remained faithful to every interest until his death—a general practitioner worthy of imitation.

The thirty-fifth annual meeting was held in Washington, D. C., May 6–9, 1884, the president, Dr. Austin Flint of New York, in the chair. Dr. Flint was born in Petersham, Mass., Oct. 20, 1812, and died in New York, March 14, 1886. He received a college education at Amherst and Cambridge, and graduated at Harvard Medical School in 1833. His excellent reputation as teacher, author and defender of all that is sound in ethics is well known on both sides of the Atlantic.

The thirty-sixth annual meeting was held in New Orleans, May, 1885, President Dr. Henry F. Campbell of Georgia in the chair. He was born in Savannah, Ga., Feb. 10, 1824, and died in Augusta, Ga., Dec. 15, 1891. He received a classic education and graduated in medicine from the medical department of the University of Georgia in 1842. He attained a high reputation both as a practitioner and medical writer, and was a good presiding officer.

The thirty-seventh annual meeting was held in St. Louis, Mo., in May, 1886, President Dr. William Brodie of Detroit, Mich., in the chair. Dr. Brodie had long been an active member of the Association, and a prominent member of the profession in Detroit. He died in that city, July 30, 1890.

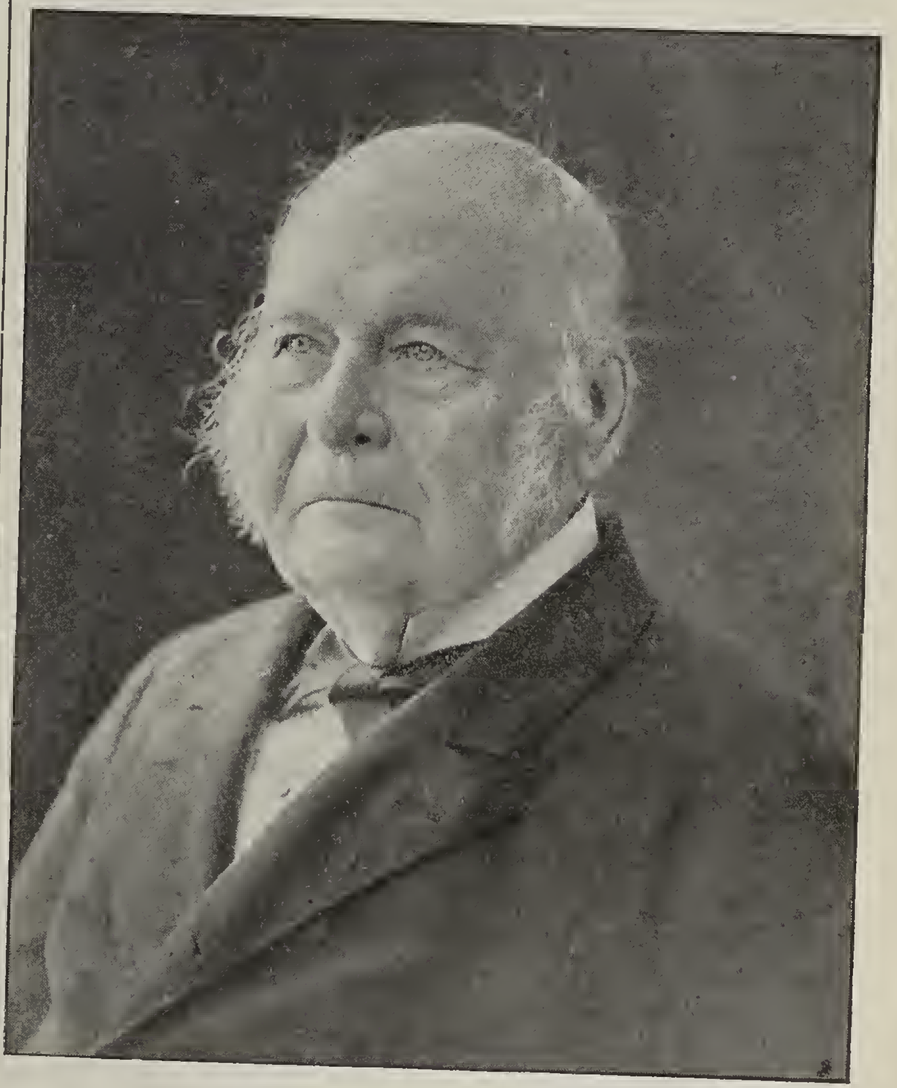


ELISHA H. GREGORY.

The Association held its thirty-eighth meeting in Chicago, in June, 1887, with Dr. Elisha H. Gregory, who was born near Russellville, Ky., Sept. 10, 1824, as president. He studied medicine under Dr. F. W. G. Thomas of Booneville, Mo., and received his medical degree from the medical department of the St. Louis University in 1849. He has long been known as a prominent surgeon and medical teacher in St. Louis, where he has for half a century been a resident, occupying the position of surgeon-in-chief to St. Louis Mullanphy Hospital for forty-seven years, and teacher of anatomy and surgery in St. Louis Medical College.

The thirty-ninth meeting was held in Cincinnati, Ohio, May, 1888, with Dr. A. Y. P. Garnett of Washington, D. C., in the chair. Dr. Garnett was one of the most prominent figures in the medical profession in the Nation's capital. He was born Sept. 19, 1820, in Essex County, Va., and died at Atlantic City, N. J., July 11, 1888. He graduated from the medical department of the University of Pennsylvania in 1841, and was for five years surgeon in the navy, then he resigned and entered practice in Washington. At the commencement of the Civil War he entered the confederate service and was special physician to many of the prominent leaders of the confederate government. After the war he resumed his practice in Washington, where he held his former high position, and was for many years professor of the practice of medicine in the National Medical College.

The fortieth meeting was held in Newport, R. I., in July, 1889, the presiding officer being Dr. W. W. Dawson of Cincinnati, Ohio. Dr. Dawson was born in Berkley County, Va., Dec. 19, 1828, and died in Cincinnati, Feb. 16, 1893. He received, in his youth, a classic education, and in 1850 graduated from the medical college of Ohio. He was a member of its faculty and clinic teacher from 1860 until his death, with the exception of about six years.



E. M. MOORE.

The Association held its forty-first meeting in Nashville, Tenn., in May, 1890, with Dr. Edward Mott Moore of Rochester, N. Y., as president. Dr. Moore is still a prominent physician in New York State. He was born in Rahway, N. J., July 15, 1814, and graduated from the University of Pennsylvania in 1838. He has held various prominent positions and has published many valuable medical papers.

The Association met in its forty-second meeting in Washington, D.C. in May, 1891, with Dr. William T. Briggs as president. Dr. Briggs was born Dec. 4, 1829, at Bowling Green, Ky., and died at Nashville, June 13, 1894. He received a collegiate education and graduated from the medical department of the University of Pennsylvania in 1850. Besides the presidency and vice-presidency of the American Medical Association, he has held other similar honors. He was one of the founders and presidents of the American Surgical Association and presided over the section of general surgery at the International Medical Congress in 1887. He held until his death the chair of surgery in the consolidated medical departments of the Vanderbilt University and the University of Nashville, from 1868.

The forty-third meeting of the Association took place in Detroit, Mich., in June, 1892, with Dr. Henry O. Marcy in the chair. Dr. Marcy, who has more than a national reputation as a surgeon, was born June 23, 1837, in Otis, Mass. He received his education at Wilbraham Academy and Amherst College and took his medical degree at Harvard in 1863. He served as surgeon and medical director during the Civil War and subsequently studied abroad. His contributions to medical literature are numerous and valuable, and he is a member of various medical and scientific societies, both native and foreign. He is still in active practice in Boston, Mass.

Dr. Hunter H. McGuire presided at the forty-fourth meeting, which was held at Milwaukee, Wis., in June, 1893. He was born at Winchester, Va., Oct. 11, 1835, and received his medical degree at the Winchester Medical College in 1855, and again at the medical college of Virginia in 1860. He served as medical director in the Confederate army under Jackson and Ewell during the Civil War and has practiced in Richmond since then. He has filled many high positions and received many honors from different sources. He is still in active practice and is one of the leading surgeons in the country.

The forty-fifth meeting, held in San Francisco, May, 1894, was presided over by Dr. James F. Hibberd of Richmond, Ind., who was born in Monrovia, Md., Nov. 4, 1816, and graduated from the College of Physicians and Surgeons of New York in 1849. He was one of the original "forty-niners" of California, where he practiced medicine until 1855. In 1856 he settled at his present home. He has held high positions, has traveled extensively, and stands high among his profession in his State.

The forty-sixth meeting occurred in May, 1895, at Baltimore, Md., with Dr. Donald Maclean of Detroit as president. Dr. Maclean was born Dec. 4, 1839, in Seymour Township, Ontario, received his education at Queens University, Kingston, and his degree of M.D. in 1862 from Edinburgh University. Returning to Canada, he practiced medicine until 1870, excepting two years service as acting assistant-surgeon U.S.A. in 1863–64. He was also professor of clinic surgery and institutes of medicine in Queen's University from 1864 till 1869, when he accepted the chair of surgery in the University of Michigan, a position he resigned in 1887. He has practiced medicine in Detroit since 1893 and is the author of many valuable contributions, chiefly surgical, to medical literature.

The forty-seventh meeting of the Association took place in Atlanta, Ga., May, 1896, the president, Dr. R. Beverly Cole of California. Dr. Cole was born in Manchester, Va., Aug. 12, 1829, and graduated from the Jefferson Medical College in 1849, studying later in France, Germany and England. After practicing in Philadelphia for a year or two, he went to San Francisco, which is still his home and where he stands high among his medical confrères.

The forty-eighth meeting occurred at Philadelphia in 1897, Dr. Nicholas Senn of Chicago presiding. Dr. Senn is a native of Switzerland, but emigrated to this country in his early childhood and received his education in Wisconsin. He graduated from the Chicago Medical College in 1868, and after practicing some time in Wisconsin he went to Germany and took the degree of doctor at the University of Munich in 1878. Since 1891 he has made his home in Chicago, where he is connected with Rush Medical College. Dr. Senn's reputation as a surgeon is world-wide, and his contributions to medical and surgical science are known the world over.

The meeting in 1898, the forty-ninth in the series, was held in Denver, Colo., in June of that year, Dr. George M. Sternberg of Washington, D. C., president. The sessions were presided over by Dr. T. J. Happel of Tennessee, the president being detained on account of official duties connected with the Hispano-American war. Dr. Sternberg's position as surgeon-general of the United States Army has made his name familiar to every one, but it has long been well known to the profession through his work in bacteriology, etc. He was born in Otsego County, N. Y., in 1839, and graduated from the College of Physicians and Surgeons of New York in 1860.

Examination of the list of those who had been duly elected president of the Association—the highest official honor the profession can bestow, will show that all but six or seven had enjoyed the advantages of a classic as well as medical education, and of the thirty-seven who have died, only four failed to reach the vicinity of the "three score years and ten"; while of the thirteen still living, five are beyond the four score years. Perhaps this is as good a showing, both for life and work, as would be made by an equal number of leading members of the other professions.

Nathan Smith Davis.

PROGRESS IN SURGERY.

We have reached the *fin de siècle*, and the Columbus meeting will be the fiftieth celebrated by the American Medical Association. In these days of "end of century" literature, peace jubilees and patriotic celebrations in which the crowning achievements of the Nation are so conspicuously presented to our attention, it is not surprising that the rise, progress and future of the American people and their institutions should be the one thought and theme that dominates the mind on every public occasion. "The achievements in every walk of life, the innumerable inventions, the wonderful discoveries, the magnificent results, have all been considered, and the sum total is unparalleled in the history of Nations."

Nearly a quarter of a century ago, on the occasion of the centennial celebration held in Philadelphia in 1876, the Nestor of American Surgery, Dr. Samuel D. Gross—whose name every student of American surgical history must reverently and unavoidably invoke, said: "A century has elapsed since the American Colonies, through their representatives, achieved their independence as a free and sovereign people. What the country has done since that eventful epoch in the various pursuits and occupations of life is a legitimate object of inquiry, especially at a moment when a Nation now composed of forty millions of human beings is about to celebrate its centennial anniversary in a form intended to display, in the amplest manner, its mental and physical wealth. It is well that every profession should open its ledgers and examine its accounts and see how it stands with itself and with the world at large." How successfully and thoroughly this investigation was conducted in behalf of surgery, and what a splendid balance-sheet to the credit of American surgeons was drawn up by that expert accountant, will be appreciated by those who have read the suberb collection of essays in that now monumental work, "A Century of American Medicine" (1876–86), which Dr. Gross published, with the collaboration of his eminently qualified colleagues—E. H. Clark, Henry G. Bigelow, Gaillard Thomas, and J. S. Billings. This is the first systematic and thorough effort made to chronicle, analyze and compile the earlier contributions, of distinct American origin, to the medical sciences. In this work will be found the picture of American surgery drawn on a broad canvas by the hand of a master; in it will be found delineated the first and ill-defined traits of the young Titan as he was rocked in his rude and primitive cradle by rough but sturdy and honest hands; and then again, he is shown to us growing to maturity, tall and towering beyond his years, a giant in stature and yet graceful and beautiful in all his proportions. No American can read the admirable chapter devoted to the history of American surgery as written by Gross without feeling grateful to the author for his indefatigable industry in bringing to light a perfect mine of historic gems which arouse in the reader a just feeling of pride and admiration, more especially when their beauty is linked with the thought that they have crystallized in our native soil. Neither is it possible to read the text without recognizing in the loving hand of the author that he was himself the embodiment and the prototype of all that is distinctive, great and admirable in our American institutions. Sixteen years after the publication of this work the Columbian celebration, in Chicago, which commemorated the four hundredth anniversary of the discovery of America by Columbus, suggested many retrospects and reviews of progress, among which, of the greatest interest to surgeons, was a brilliant and eloquent oration delivered before the New York Academy of Medicine (December, 1892) by Dr. Frederic S. Dennis. This is a masterly document, bristling with facts and irrefutable conclusions, a worthy supplement to the work of Gross, previously referred to. This address summarizes in all its essential features, the most distinct achievements of American surgery up to 1892. Since that time two notable occasions have taken place which are of especial interest to medical men and especially surgeons, of this country: 1. Golden jubilee of the American discovery of anesthesia, which was most appropriately celebrated by the clinic staff of the Massachusetts General Hospital, Dec. 1, 1896, and simultaneously solemnized in many clinics all over the world as far as Moscow in the East and Japan in the West. The general recognition given by English and Continental surgeons, of the significance of the event, could not be other than gratifying to the profession in America. 2. The other occasion was the celebration of the semicentennial of the American Medical Association, in June, 1897. This magnificent reunion, so fraught with significance and reminiscences to the elders of the profession, did not fail to stimulate the eloquence and the powers of some of the most gifted members, among whom none was more authorized to speak, or more brilliant as an exponent, than Prof. W. W. Keen, who delivered the address on surgery. In this address, special reference was made in a most appreciative manner to the contributions of American origin, which were brought down practically to the present period.

From this brief allusion to some of the most notable contributions to the history of American surgical achievement, as presented by the representative writers referred to, it is evident that the duty of recording and epitomizing the labors of our fellow workers in surgery has not been neglected, and that little, in fact, is left to be done by others—especially at this moment when our literature has become a common possession to all students the world over, through the medium of innumerable year-books and annuals. In fact, nothing is left to be done by any one who would presume to instruct or edify his contemporaries with any new claims for historic recognition. Nevertheless, in obedience to the "spirit of the times," and encouraged by the stupendous evidences of our strength and prosperity, as a Nation, we feel prompted to recall some of the most conspicuous events in the history of surgical achievements in this country—with the hope that in the facts that we have compiled and brought together, the young and rising generation of surgeons will proudly realize the inheritance given to them by the men who lived in the luminous century that is about to expire.

The science of surgery in this country made no impression on the world until the beginning of the present century. When the nineteenth century dawned on us, in the long list of brilliant men who made the surgery of the world famous, the name of no American appeared on the honor scroll, but from

Colonial days down to the present times the names of Americans shine forth in bold relief.

The progress of American surgery, as pointed out by DENNIS, is due, as in all other arts and sciences, in great part to the dissemination of her medical literature, to the foundation of medical libraries, to the organization of hospitals and laboratories, to the establishment of medical schools, and last, but not least, to the vast increase of the population and wealth of the country, to the native inventiveness, ingenuity and adaptability, which is universally recognized as a dominant trait of the American people. The great dissemination of American literature is made apparent by reference to BILLINGS' statistics, which show that in the United States at the beginning of the Revolutionary War there was only one medical book, three reprints and about twenty pamphlets by American authors; while to-day there are about 7000 books and reprints and innumerable pamphlets. There are over 300 books and pamphlets written and published annually by American writers, to say nothing of over 5000 journal articles published each year by our countrymen.

In surgery there were only three books by American authors prior to 1842, while to-day the surgical writings by American authors fill the shelves of every library on the face of the earth. It has been demonstrated that in surgery alone, in 1879 and 1880, there were written 45 books and over 1717 journal articles. This is almost twice as many surgical books as were written in England during the same period, and many more journal articles. It can be made even more forcible by stating that in 1879–80 there were written 10,334 books and journal articles in the United States, while during the same time, in England, the other English-speaking nation, there were written only 7476. In addition to this, many of our text-books have been translated into other languages and have been adopted into foreign medical schools. In fact, the reproduction of American text-books and other works, dictionaries, etc., has become a paying specialty of more than one English publisher. The wide and rapid dissemination of medical literature has no doubt been one of the most important factors in the advancement of surgical knowledge in the United States. In 1809, when EPHRAIM MCDOWELL, the father of ovariotomy, performed his first operation in the backwoods of Kentucky, the entire world remained in ignorance of his discovery. It was only after eight years that his first three cases were published in the *Philadelphia Medical Repertory and Analytic Review*, and not until 1824, when LIZARS first reproduced MCDOWELL's cases in the *Edinburgh Medical and Surgical Review*, that his work attracted any notice whatever. There were then no societies for the diffusion of knowledge. News at that period of our history, locked up as it always was in the mail-bags of the cumbersome four-wheeled stage coach, was often stale before it reached its destination. In those days, as well as for a long time afterward, there were no railroads, no steamships, no telegraph. The world moved at a snail's pace, or as if on the back of a tortoise, at the rate of about six or eight miles an hour. Had MCDOWELL's operation been performed in our days the news would have spread far and wide within the first twenty-four hours and in an almost incredibly short time would have been carried to the utmost limit of civilization. As it was it was locked up first eight years in the brain of its originator, and then in an obscure medical journal, and when it at last reached the other side of the Atlantic it met with only ridicule and incredulity. Compare this with the cable reports of the proceedings of the international medical congresses and other large national gatherings in Europe which are flashed across the Atlantic to our enterprising weeklies almost as fast as the words leave the lips of the speakers; compare the condition of the first half of this century with the present immediate acquisitions of knowledge as obtained in this country; think how instantaneously every important and interesting announcement from Europe reaches us, as the discovery of the Roentgen rays, SCHLATTER's case of total resection of the stomach, etc.

The most important factor in the improvement and progress of surgery, as in other departments in medicine, has been the immense advance in medical teaching. As KEEN tells us, fifty years ago the course of lectures began on the second day of October and ended soon after the middle of February, and if we take out the holidays and remember that not a few made up for coming late by leaving early, it was quite a possibility for a man to receive his authorization to practice—a diploma—which alleged him to be *Virum Probum et Ornatum, in arte Medica, æque ac chirurgica, . . dignum amplissimus honoribus academicis,* . . after practically only two sessions of three months each! Compare this with the four-years graded course of the present, counting four sessions of not less than six and often eight months each; the recitations, laboratory courses and special demonstrations; and then the preliminary requirements, which are justly becoming every year more exacting and severe. Finally, if we consider the number of post-graduate schools that have been established, with their score of ambitious specialists struggling in every city with that indomitable energy and ambition—in the terrible struggle for survival and supremacy which is exhibited in all phases of metropolitan life—we will realize to what extent the student of the present is ahead in educational advantages over his prototype of forty years ago. The English system of apprenticeship which prevailed in this country until recently in a modified form as a preceptorship has to a large extent passed away. It never possessed the severe and exacting conditions of the English system. The demands of preliminary education are now so rapidly encroaching on the opportunities of the student that between the exacting demands of the academic curriculum on the one hand, and the professional course on the other, there is no time left for private instruction and apprenticeship. In preliminary requirements, however, we are still behind England and Continental Europe, but the demand for highly educated men in our profession is growing more and more apparent with each year, and in the immediate future we will see our students as fully armed with the shield of Minerva as the most exacting idealists might wish us to be. In this respect the medical college association has done splendid work, though in its desire to promote its object it has at times forgotten the unequal, economic and therefore educational conditions, which still differentiate the population of this vast country.

Allied to medical teaching, and the most important adjunct to medical literature, is the establishment of medical libraries. In this all Americans will agree with Dr. Keen, when he says: "In this, as an American, I am proud of my own country. No foreign nation can point with equal pride to any such medical libraries as the last thirty years have developed in this country. Foremost, not only among American libraries, but in the world, is that of the surgeon-general's office of the U. S. Army. Not only has it gathered thousands of medical books and 1100 medical journals (the estimate of Dr. Fletcher) from all over the world, but the entire library is managed with a liberality which makes it the admiration of every foreigner. Its treasures are freely at the service of the country, and the publication of its magnificent 'Index Catalogue,' under the editorship of Dr. Billings, has made the whole world a debtor to the United States." It is with a positive pang of pain that we learn that the *Index Medicus*, the only complete monthly record and guide to the current literature of medicine published anywhere, and which has for so many years rendered priceless service in facilitating research, is about to be permanently suspended for want of adequate patronage (see Journal, May 27, p. 1184). We look upon this as a veritable calamity to our profession, which we hope will be properly recognized by the Association at the coming meeting. The disappearance of this publication for the reasons given, would be a blot that would forever stain our reputation as a progressive and intellectual body of men.

The tripod upon which rests the lamp of surgical progress is carried by hemostasis, anesthesia and antisepsis. The progress of surgery can be measured in chronologic order by the consecutive discovery of the means by which these fundamental desiderati could be secured. The first discovery is indelibly associated with the magnificent picture of Paré in the fifteenth century, when at the siege of Metz he is recognized in the midst of a wondering crowd of spectators, holding a ligature in his hands as he is about to occlude a bleeding vessel. He spurns the hot iron and "burning oyle" that, in accordance with the practice and traditions of the times, are offered to him by his assistants. The curtain drops and is not raised again until nearly five centuries after, when the scene is transferred to a spot in the wilderness of the new continent, in a little village in Georgia, where an American, Crawford W. Long, is seen, timidly and hesitatingly, but nevertheless independently of all foreign suggestions, attempting to remove a growth from a patient whom he has put to sleep, for the first time, with ether. This is in 1842, and the chief actor is forgotten. Again the scene opens in America, the lights are brighter and we are in the Massachusetts General Hospital; the date is Oct. 16, 1846. On one side we see Martin confidently administering the new letheon and saying finally to the distinguished operator, Dr. Warren, "The patient is ready." The operation is performed without a sign of pain, and Dr. Warren, himself amazed, turns to the astonished audience, saying: "Gentlemen this is no humbug;" from that moment the American invention for the suppression of pain, christened years after, "anesthesia," by another great American—Oliver Wendell Holmes—ceased to be a dream and became a living reality. As Professor Ashurst has well said: "Surgeons went on in every country cutting and burning, and the patients went on writhing and screaming, until the 16th day of October, 1846, when surgical anesthesia became the priceless heritage of the civilized world."

When we reflect how few of the aids to surgical diagnosis were possessed by the surgeons of 1846, the amount of work which they accomplished presents all the stronger contrasts. They had no modern aspirating-needle, no clinic thermometer, no laryngoscope, no ophthalmoscope, no endoscope, no cystoscope, and the quantitative and even qualitative analysis of the urine was far from being an ordinary or simple routine performance. The microscope was just coming into use and then for pathologic purposes only. As Warren says, however, they possessed an excellent technic as far as operative surgery was concerned—a natural outgrowth of the celerity required in pre-anesthetic operations. Their capacity for operating was unlimited, but their judgment was not guided by the many aids which serve us to-day. There was an activity in the operating-theaters in times of peace that had never before been known. But with the great increase in hospital activity came a corresponding increase in hospital pests; and it seems highly probable that during the twenty years that followed the introduction of anesthesia the opportunity to study septic diseases was greater than ever it had been.

The advent of Lister, and the universal adoption of antiseptic and aseptic practice, marked a new epoch in the history of American surgery. For ten years after the advent of the new evangel there was skepticism and doubt, but the truth prevailed, and now no country can boast of more perfect, more complete, or more modern operating-theaters than those which the influence, enterprise and ability of our surgeons has caused to be erected in every hospital and metropolis of this country. What is most remarkable is that the majority of the new operating-theaters which have sprung up everywhere, as if by enchantment, in the last twenty years, and which have cost vast sums of money, have grown out of private donations or the endowments of corporations independently of State aid. Nothing illustrates better the peculiarities of our institutions. Nothing impresses foreigners more forcibly than the wonderful adaptation of individual initiative in meeting public needs.

But, in addition to the amphitheaters and hospitals which constitute one of the glories of the present period of American surgery, the surgeons of this country have added no small *quantum* to the perfection of the aseptic technic, and the results are here to show that the activity, enterprise and originality of our surgeons has not been barren of results. At one time the apparatus and appliances for sterilization were largely imported from Germany and other countries, but this condition of things was promptly transformed by the production of home-made models that exceeded in simplicity and perfection those of alien manufacture.

We also notice that original contributions to the technic of asepsis which have endured a long clinic test, have been added to every laboratory throughout the country, and that the first attempts to use absorbable animal material for ligatures originated in this country. Physick, early in the present century experimented with buckskin. Dorsett preferred French kid divested of its color and polished surface. Such was his confidence in the safety of this material when properly prepared, that he employed it in various amputations and in a number of capital operations, always cutting off the ends close to the knot and treating the wound as if no ligatures had been used; and this was done at a time when it was almost a surgical crime to apply a ligature without leaving a long end hanging out of the wound by which to pull it through. Hawthorne of Philadelphia preferred parchment; Jameson, buckskin; John Billinger of Charleston and Paul Eve of Nashville tried the sinews of deer extensively. All this has been forgotten, as such material was destined to failure in consequence of the ignorance of the period in the conditions that were essential for its successful application. To Marcy of Boston we now owe a resurrection of the animal ligature in a new and really valuable form—sterile kangaroo tendon. The surgeons of this country have also been prolific in the invention of methods of sterilizing catgut for aseptic operations, of which the cumol process introduced by Howard Kelly, and the palladium method of W. W. Keen are, among a score of others, the most original and distinctive.

Local anesthesia has found enthusiastic apostles in this country since the discovery of the value of cocain by Koller in 1884, and its introduction in the ophthalmic practice of this country by Noyes, the year after. In this respect the work done on this side of the Atlantic has not been purely imitative, but original, as witness the admirable researches of Leonard Corning, which for more than a decade (1885) have remained idle, notwithstanding the fact that they laid the foundation for a method of neural and central anesthesia which antedates the so-called methods of Oberst or of Bier, and is of as great a range of usefulness as the more generally known infiltrating method of Schleich. When Corning's principle is applied with Schleich's infiltration anesthesia, in the infinitesimal doses suggested by the last observer, a mixed method of local anesthesia is obtained which is of the greatest practical value in diminishing the necessity for general anesthesia even in the major surgery of the extremities. Corning's great work has not yet been fully appreciated, and it is only now that the studies of German clinicians are bringing to light all the possibilities of cocain and eucain, and we are beginning to recognize the merit and originality of Corning's early experiments in the anesthesia of the spinal cord and nerve trunks.

The surgery of the extremities assiduously engaged the attention of the surgeons in all countries until the new and unexplored field of splanchnic surgery diverted their attention in that direction after the introduction of asepsis. The treatment of fractures and dislocations especially appealed to the mechanic and inventive instinct of the Yankee surgeon. A mere glance at the cyclopedic work of Hamilton, and the later work of Stimpson, both of which are recognized classics the world over, will suffice to convince any one of the sleepless activity of our ancestors in this direction. The names of Physick; of Daniels of Georgia, who in 1819 introduced the weight and pulley for extension in fractures of the thigh; of Buck, Hamilton and Hunt; of Nathan R. Smithland, Hodgen, are all indelibly inscribed in the history of fracture of the thigh. ,Since the use of plaster has become so general we find the names of Fhlurer, Little, Sayre, with a host of others, conspicuous in perfecting its use and technic.

In fractures of the upper extremity the names of Moore, Fox, Stephen Smith, H. H. Smith, Bartlett, Levis, Dugas, Hamilton and Taylor are familiar as original American contributors to the treatment of fractured clavicle. The names of Allis, J. B. Roberts, Pilcher, are reminders of the more recent works done in this country in the surgery of these fractures. It is well known that the first surgeon who wired a fractured patella was Rhea Barton (1834). The disasters that promptly followed the early operations speedily consigned Barton's procedure to oblivion. It was only when practiced successfully by Lister himself that the operation entered into legitimate existence. Powers of Denver, in 1889, collected 711 recent American cases, a large proportion of which were treated by operation.

In the treatment of ununited fractures the name of Physick (1802), J. Kearney Rodgers (1827), Kinloch of South Carolina, Detmold (1850), Brainard (1852), Pancoast (1857), and Senn in the modern period, are conspicuous. In the management of compound fractures, American surgery has achieved remarkable results. The largest collection tabulated in the personal experience of one surgeon is the list published by Dennis, of 1000 cases of compound fracture with a mortality from septicemia of only 1/7 of 1 per cent. Before the days of antiseptic surgery, the death-rate in the same class of injuries had been as high as 68 per cent.

The surgery of the joints can not be passed by in silence in the presence of so stalwart a pioneer as Lewis A. Sayre, whose early work in the correction of deformities justly obtained for him the title of "Father of orthopedic surgery" in this country. No one can fail to remember his invention of the plaster-of-Paris jacket for the treatment of Pott's disease of the spine, in 1874, or to recognize that this was one of the most beneficent discoveries that this country has given to the world. In addition to the numerous principles of treatment, methods and operations that we owe to SAYRE'S originality, the great work inaugurated by him has been perfected until it has assumed the rank and title of a specialty which has added no uncertain luster to the reputation of American surgery. In this connection the names of TAYLOR, SCHAEFFER, RIDLON, PHELPS, ROBERTS, GIBNEY, WHITMAN, WILLARD JUDSON, VANCE, REGINALD SAYRE, BRADFORD and LOVETT, YOUNG, are among those who are most prominently identified with the introduction of ingenious devices for the correction of deformities.

In connection with dislocations the name of BIGELOW must be mentioned with reverence. His study of the mechanics of the hip-joint, and his methods of reducing its dislocations, have made his methods classic throughout the world. In recent years the name of ALLIS has likewise been inseparably linked with the treatment of the same class of injury. MCBURNEY'S ingenious hook, as applied by him for the reduction of obstinate dislocation of the shoulder, is a most original and practical addition to our resources.

The surgery of the extremities can not be dismissed without a passing reference to the success obtained by American operators by original methods in amputations and in the ligation of arteries, with mention of WYETH'S superb report of 69 disarticulations of the hip-joint for all causes, by different operators, by means of his skewer method of controlling hemorrhage, of which 11 died—a death-rate of only 1.59 per cent.; and ESTES' 77 personal amputations of the thigh with a loss of only 8 cases, 10.4 per cent. Such results need no commentary.

The operative treatment of the lesions of the vascular system, more particularly the arteries, is another one of these chapters which Americans can afford to read with pride, as the recital of these operations is simply a long record of unrivaled triumph. Probably the most conspicuous figure in the history of arterial surgery, at least that of the pre-antiseptic period, is VALENTINE MOTT, who alone ligated 138 of the large arteries for the relief of aneurysm. He ligated the innominate artery for the first time in the history of surgery, on May 11, 1818, but it was not until May 9, 1864, that the operation was first performed with success by another remarkable American, Dr. ANDREW W. SMYTHE of New Orleans. It is due to the lasting credit of this operator that the vertebral artery was also ligated systematically and for the first time in America. The left subclavian, in its first portion, was first ligated by J. KEARNEY RODGERS in 1845, but unsuccessfully, the first success being in 1892 when HALSTED of Baltimore not only ligated the artery, but successfully extirpated the sac after resection of the clavicle—a unique and brilliant feat. The left subclavian's first portion was again successfully ligated for the second time by SCHUMPERT of Shreveport in 1897. It would be impossible to refer in detail to the individual operations, but if we inquire further into the history of the subject we will find that if the records of American operators in the ligation of the large arterial trunks are excluded, there seems little left to the credit of other countries.

In the surgery of the brain and spinal cord we find that the work of American surgeons has been largely guided by the work of English and Continental surgeons. The improvement made by American surgeons, in the technic of cranial resection, is also original and notable. The instruments devised by ROBERTS, KEEN, HOPKINS and DEVILBISS have become a part of the surgical armamentarium the world over, and BONWILL'S surgical engine and the electric motor have been made serviceable in craniectomy by the addition of CRYER'S ingenious spiral and circular saws. The bone-cutter of CROSBY WRIGHT; the guarded saw and trephine of VAN ARSDALE; the circular saw of SENECA D. POWELL, which are used with hand or electric motor are admirable devices. So are PYLE'S cutting tools and HARTLEY'S chisels. Apropos of HARTLEY, we can not fail to notice that he independently devised and perfected a method of resection of the Gasserian ganglion for trigeminal neuralgia, which bears his name, and has been performed nearly 100 times by the operators of this and of other countries. The simultaneous suggestion of the same operation by KRAUSSE has linked the two names and caused it to be known as the Hartley-Krausse operation.

Of the surgery of the chest a great deal could be said, but MURPHY'S learned address is too recent and fresh to permit of much reference to this subject, and constitutes a most notable and original contribution to thoracic surgery. The author's experiment and explanations of interference with the piston action of the diaphragm through deflection of the mediastinum is, to say the least, ingenious and valuable. But of all the additions that have been recently made to the technic of thoracic surgery, probably the most interesting is the American invention known as the Fell-O'Dwyer apparatus, an inflator of the lungs which is a most powerful agent in overcoming the effects of traumatic pneumothorax. O'DWYER'S resurrection of BUCHUT'S crude ideas on intubation, and his magic transformation of the bloody and tragic picture of tracheotomy in diphtheritic croup, into a simple and bloodless bit of technic jugglery, by his original and perfected method of intubation, has practically closed, for all time, one of the most conspicuous chapters in the history of surgery. By again transforming the tracheotomy canula of the Fell apparatus into a conic intubation tube, he unconsciously but fittingly opened to surgery a new chapter of greater interest and promise than that which its previous achievements had brought to a close.

The International Medical Congress held at Washington, D. C., in 1887, marked one of the most memorable epochs in the evolution of abdominal surgery. As we look back and realize the short time that has elapsed, it appears to us almost incredible that from the impetus given to the surgical technic of the intestinal tract by the publication of SENN'S "Experimental Contribution to Intestinal Surgery with Special Reference to the Treatment of Intestinal Obstruction," such prodigious activity and revolutionizing transformation in abdominal surgery should have taken place. Nevertheless, it is undeniable that it is due almost exclusively to the stimulus furnished by Dr. SENN and to his innumerable experimental demonstrations on the lower animals, that resurrected and gave new life to the forgotten principles of intestinal anastomosis and enteromorrhaphia first suggested by MAISONNEUVE. Dr. SENN's previous work on the surgery of the pancreas—which is still the foundation of all of our knowledge of the surgical pathology of this organ—his researches in the repair of arteries, and on the ligature, his remarkable study of air embolism had already placed him in the foremost ranks of the surgical investigators of the day. The climax was reached when at the congress he presented one series of experiments after another demonstrating the feasibility and indications of anastomosis with the help of the decalcified bone plate, suggested by Dr. CONNEL of Milwaukee, and introduced new and fundamental principles in circular and other methods of intestinal enterorrhaphy. No single contribution has been presented to the profession in the last fifteen years which has been productive of more prolific and beneficent innovations. No single article has roused more profitable enthusiasm in the surgical spirit of any country than the epoch-making research that SENN gave to the world in 1887. Needless to add, the time has wrought great changes in the views and opinions then held. But whatever may be the ultimate destiny of the particular methods advocated at the time, and no matter how indifferently the profession may in future regard the practical application of bone plates, or the insufflation of hydrogen gas, omental grafts, etc., and no matter how completely these may be supplanted by other devices and methods, the fact shall remain that the spirit and the enthusiasm created throughout the country by Dr. SENN's work, shall remain as an imperishable and luminous point in the history of intestinal surgery and of its modern renaissance in America.

Should anyone doubt the profound impression produced by these investigations on the surgical world outside of America, let him open the pages of two recent and most authoritative works written by distinguished French writers, "La Chirurgie Intestinale," by JEANNEL (Paris, 1898), and "La suture Intestinale," by MM. FELIX TERRIER and MARCEL BAUDOUIN (1889). In these works not only are chapters devoted to the influence of American investigators and their methods, but the influence that they have exerted on Continental surgery is reflected on every page. Conspicuous among these, and *facile princeps* in international renown, is J. B. MURPHY, whose remarkable invention, the anastomotic button, remains in its original form still the favorite, in spite of many attempted modifications. Few inventions have met with more ready and universal application than this. Notwithstanding the fact that it was only introduced in 1892, its application on human subjects now numbers thousands of cases. In one of the most conservative German clinics, CZERNY'S, alone, it has been applied over a hundred times. In Italy, CARLE and FANTINO of Turin recently reported over sixty applications of the button, with remarkably successful results, in gastroenterostomy, alone. It would be absolutely impossible in an article of this kind to even mention the most prominent of the American surgeons who, during the last decade, have contributed to the advance of this field of surgery and who, either independently or following in the footsteps of SENN and MURPHY, have by more or less ingenious modifications and devices, spread the reputation of the surgery of this country beyond national lines.

It would be most interesting to undertake the study of the appendix and of peritoneal infection from the point of view of American surgical history. We must limit ourselves to the statement that the bibliography of the last two years fairly groans under the burden of the reports of observations and studies by American operators, which show everywhere a measure of success and unrivaled fertility of resources that justify the high regard with which the outside world treats American authority and experience, in the management of this affection. We could continue thus endlessly pointing to the landmarks permanently left by American surgeons in the confines not only of the abdomen and its contained organs, but in the pelvis, in the genito-urinary tract, in the history of hernia, in the operative treatment and therapeutics of malignant disease, in all of which the work of American surgeons has left a profound impression and continues to exercise a dominant sway. But we feel the absolute hopelessness of attempting anything approaching a review of the work done by American surgeons within the compass of one article, which already vastly exceeds the space assigned, and we can only add, what, now nearly a quarter of a century ago, the venerable GROSS, in closing the last lines of his admirable sketch on American surgery, said: "The surgeons who are now rapidly passing away—those links between the past and the present—who have so long borne the heat and burden of the day—are not afraid to entrust to their younger brethren the sacred duty of carrying on the work which they have so zealously labored to advance and improve. They feel assured that the honor, the dignity, and the glory of American surgery will be safe in their keeping and that the century closing with the year 1876 will open for medicine one of the brightest pages in the history of human progress." These impressive words, spoken in the spirit of a parting benediction, surely have come as true as if uttered in prophecy, as witness the records of the last two decades. Let us now add: As it hath been, so may it be, again and forever more—*Per secula et ad Eternitatem.* R. W. MATAS.

PROGRESS IN MEDICINE.

The space is too limited to go beyond the most superficial résumé of the progress of internal medicine during the century.

He who makes close inquiry into the development of medical thought in this country can not fail to be impressed with the philosophic breadth of view of the leaders in medicine. Though the bulk of the harvest has not been great, it is commensurate with the gleanings, and, indeed, save probably in paleontology, exceeds that of the contributions, in other lines of biology. It must be remembered in the formative stage of our civilization in all departments of knowledge, perforce, the development has been on purely practical lines. Hence, the surgeon, the obstetrician, the therapeutist, the practical specialist, has been the bright star of the medical firmament, and to him most credit has been given. Apart from the reasons which obtain in all departments of knowledge—the direction of energy to creation—the absence of hospitals and laboratories, has militated against that patient accumulation of facts which is essential to philosophic induction in internal medicine. When we contemplate the number and variety of the contributions to internal medicine, we need not feel abashed, however, nor for one moment despair of this department of medical knowledge. At the outset, one hesitates whether it would not be better to narrate the methods by which our confrères accomplished their mighty labors; how Gerhard and Bartlett, Bowditch and Flint, Mitchell and Da Costa first gathered their harvest. As this contribution is rather a record of acts than of methods, we must be content with a brief summary of our doings, leaving much unsaid that should be said, and much undone that should be done. It seems paradoxic to say that the death of Rush in the beginning of the century was auspicious for the advance of medicine in our then new country. The Father of psychiatry, the Sydenham of America, philosopher and observer, left a name which well might inspire the workers in the new field. Moreover, he showed well the possibilities of the time and nation. It is needless to refer to his great contributions.

Following close on, came one whose star grows brighter and brighter as the decades roll by, for Gerhard was the founder of clinic medicine and clinic observation in this country. His labors to distinguish typhus and typhoid fever are well known. His papers on the cerebral affections of children (1834) are classic. With Pennock, he wrote exhaustively and scientifically on physical diagnosis and diseases of the heart and lungs (1836). After Rush he became the American authority in clinic medicine.

Preceding Gerhard by a few years Nathan Smith's little monograph on typhus fever must be referred to because of the acumen and reasoning powers displayed in its production. Around Gerhard, and following him on his lines of observation and reasoning, were Stillé, Meredith Clymer (relapsing fever) and Meigs (diseases of children), and a host of others, each of whom later presented monographs of the highest scientific value. From Stillé alone came the systematic work on general pathology (1848), the brochures on cholera, on cerebrospinal meningitis, and on fevers, in addition to his great work on therapeutics. In the second quarter of the century James Jackson, Sr. and James Jackson, Jr. were making contributions to medicine of prominent cientific value, while around Jackson, Sr., as an in-ective center, Bigelow, Bowditch, and a host of others arose. Jacob Bigelow recalls to us the great philosophic papers on the "Natural History of Dis-ase" (1835), which attracted universal attention hroughout the medical reading world. Bowditch's tudies in lung and heart disease are classic (1839), while to him we undoubtedly owe the present completeness and utility of paracentesis (1839).

About this time—1838—there was issued from the pen of the elder Gross the first systematic work on pathology, speaking for its author a breadth of view and scientific "geist" equal to that of the broadest mind in any land. The volume is still prized by the venerable and gifted Virchow. No doubt Gross was inspired by the studies in pathologic anatomy of Horner and by his exhaustive and hitherto undescribed account of the lesions of epidemic cholera. About this time, too, appeared a little monograph by Ware on "Delirium Tremens," which will always attract attention by the evidence of close observation it bears, as well as by its originality.

In 1842 appeared Bartlett's great work on "Fevers," in these bacteriologic days as fresh and true to life as when first issued. It remains one of the world's great contributions to the clinic study of fever, and with Bartlett's other essays, places him in the front rank of the renowned contributors to medical science.

About the middle period of the century a small monograph appeared, which for scientific insight into the etiology of disease, anticipating by even more than prophecy, the modern "germ theories" of disease, equaled the poetico-scientific glimpse of the doctrine of evolution by Goethe, which anticipated the works of Darwin and Wallace. J. K. Mitchell's work on the "Cryptogramic Origin of Fevers" will remain for all time, the suggestive product of a mind which exhibited more than the traits of scientific genius.

About this time, too, began the first of a long series of clinic contributions to medicine which ranged over half a century, and which remain models of accuracy, precision and of scientific reason to this day. The last of this remarkable series were as fresh, as vigorous, as logical as the first. It is needless to say that the writings of Austin Flint are not surpassed by those of any contributor in this or any other country. While some few, as Addison and Bright and Jenner or Traube or Trousseau surpassed him in number of original observations and conceptions, none contributed more to the accurate description of the natural history of disease than our own peer.

About 1850, the quarter of a century of monumental labors of Drake terminated in the production of "The Diseases of the Mississippi Valley," a contribution of great scientific value, not alone because of the data it contained, but also because of the method of research employed. During this period a host of papers, notably by Southern contributors, were issued, descriptive of the fevers of that region. Samuel Dickson's account of dengue, as well as his essay on pneumonia, is a valuable scientific communication, while his philosophic essays mark him for all time as one of the leaders of the country. The essay on "Milk Sickness" by Lea and McCall was a marked original contribution. The activity of writers on southern fever stimulated La Roche to produce his great contribution on "Yellow Fever."

With the onset of the war Southern contributions ceased, but Flint and Da Costa and Weir Mitchell continued contributions. Da Costa's papers on heart and lung diseases, and the method of distinguishing them, culminated with the great treatise on "Medical Diagnosis" (1866). The so-called Gerhard's sign and Wentrich's phenomena, were described long before the German papers appeared, in his papers on "Auscultary Percussion." Moreover, who does not know of Da Costa's "Irritable Heart"? The contributions of this distinguished clinician are as bright, as fresh and scientific as those of forty years ago.

The war brought with it a literature equal to that of any previous war, and diseases of camp life were ably discussed, notably by J. J. Woodward. It, too, is responsible for the epoch-making work of Weir Mitchell, resulting in many substantial contributions to medicine which will always be quoted, and in that original production—his work and that of Moorehouse and Keen—on "Diseases and Injuries of the Nerves." Mitchell's labors resulted in the production of the broadest and most scientific communications yet presented on nervous diseases. His inductive propositions of the relation of eye-strain to nervous disorders were none the less true, although revolutionary. The culmination of his years of close observation and accurate reasoning, in the promulgation of the theorem of rest in the treatment of disease, is one of the most brilliant as well as scientific pieces of work of this era, and places practical American medicine on a plane with that of any country. Mitchell, too, has been an infective center, and from his wards and laboratory have come most valuable contributions.

In 1870 appeared Wood's studies on "Thermic Fever," a paper in which the nature of the process was determined. Pepper at this time and later was making scientific contributions, notably on anemia, lung diseases, relapsing typhlitis and other affections. The excellent work of three-quarters of a century seems to have been a preparation for that of the last quarter. To review it for our present purpose would be to make invidious distinction, with our space so limited. Moreover, the work has been so recently done it is familiar to all. To place in array the work of that prince of clinicians, William Osler, would be to occupy four times the space allotted to us. The infective center of enthusiastic research in past years has been spoken of. It is just as important to refer to these centers, from which—to the glory of this era—are coming solid contributions to the medicine of the century. Osler is the center of one area of infection. Welch is stimulating labor in another. Who is not familiar with the notable contributions from the Johns Hopkins school? Fitz and Councilman and Shattuck are in another arena, and the contributions to medicine from Boston are of the greatest value. Pancreatic disease, intestinal obstruction, appendicitis, diseases of the blood, are subjects upon which great light has been thrown by this coterie. Delafield and Janeway and Kinnicutt have their arenas, and with the great laboratories at their command, are bound to yield brilliant results.

From the Pepper Laboratory in Philadelphia and the other hospital laboratories, stimulated by Tyson and Wilson and Hare and Mills, a great group of contributors are furnishing scientific contributions of the highest merit. But the older centers have their rivals, and Stockton at Buffalo, Dock at Ann Arbor, Forcheimer at Cincinnati, Hoover at Cleveland, Westbrook at Minneapolis, Davis, Billings and Herrick at Chicago, are spreading the infection of enthusiastic effort, and adding immeasurably to our knowledge.

So, as we increase in wealth, our means to study increase, and before long the labors of the enthusiast in the center of the country will be as valuable as that on the seaboard. For the future of medicine, the outlook was never brighter, and it remains only to congratulate the American Medical Association and the great journal which it commands, that to them is given the privilege, to render incalculable service to the science of medicine at the dawn of a new century.

John H. Musser.

PROGRESS IN GYNECOLOGY.

At the dawn of the nineteenth century the then nebulous profession of the United States had to its credit but few achievements in what long afterward came to be known as gynecology. Those achievements, however, in the intelligence of their conception, in the skill of their execution and in the brilliancy of their results might well have been accepted as prophecies of those broader activities by which America has gained a well-earned primacy in this department of the healing art.

As early as 1764 John Bard of New York operated for extrauterine pregnancy, while William Boynham of Virginia operated by celiotomy for the same condition in 1791, repeating the operation with equally satisfactory results eight years later. It would seem indeed that America laid the foundation for latter-day practice in the treatment of this condition, for, according to Jenks, Clark (1806) delivered an extrauterine fetus through the rectum, introducing his whole hand into the bowel for the purpose—thus anticipating Simon by many decades in that method of exploration. John King of South Carolina incised (1816 the vault of the vagina and applied the forceps, by means of which, and abdominal pressure, he removed the living product of an extrauterine fetation—saving not only the child, but the mother. The operation for extrauterine pregnancy, up to this time, and fo several decades later, were confined to either th matured or degenerated fruits of conception. I 1849, however, Harbert, another American surgeon first suggested the operation of celiotomy for rupture tubal pregnancy in the early stages, but the practic was not adopted until after Stephen Rogers of Ne York (1866) again urged its claims. It was thus th American initiative laid the foundation for a practic which bore its first fruition in the hands of Tait fifteen years later, and which must be looked upon to-d as one of the most beneficent that science has vouc safed to woman.

The intelligent daring of the surgeons of New York, of Virginia, and of South Carolina, in the management of extrauterine pregnancy found a worthy exemplar in a young surgeon of the wild interior in the treatment of a then hitherto fatal condition. EPHRAIM MCDOWELL of Danville, Ky., did the first ovariotomy in the history of the world, in 1809. This operation, which was given to the profession seven years later, was but slowly adopted. It was, however, finally taken up by a galaxy of brilliant men such as NATHAN SMITH of Yale (1821), ALBAN G. SMITH of Danville (1823), DAVID L. ROGERS of New York (1824), J. C. WARREN of Boston (1850), ALEXANDER DUNLAP of Ohio (1843), WASHINGTON L. ATLEE of Philadelphia (1844).

JULIUS F. MINER of Buffalo devised (1869) the operation of removing intraligamentary cysts by enucleation. The various other modifications which have been made in the original procedure of MCDOWELL have been abandoned, and the operation, as he did it in his first case, is, with slight exceptions, the accepted operation by latter-day surgeons. The universal adoption of this American operation by the profession of all countries has given to womankind an increase of years beyond the possibility of computation.

The plastic surgery of the female genital organs had its origin in the genius of SIMS, who (1842) laid the foundation of that department of gynecology. The story of his adaptation of the pewter spoon, of the evolution of the duck-bill speculum, and of the first aseptic suture material—silver wire—with its fastening by perforated shot, is a part of the romantic history of medicine in our great Republic. By these devices vesicovaginal fistula became a curable condition, and pathologic states of the vagina, the cervix, and the uterus became intelligible and remediable. Thus, SIMS himself gave (1856) to the profession the operation of colporrhaphy for the relief of descensus uteri, of cystocele, and of rectocele. In the wake of this extension came the operation for the repair of the acerated cervix by EMMET (1869)—one of the most valuable resources of the surgical art. A little later BOZEMAN and EMMET devised the operation for drainage of the bladder for the cure of chronic inflamma-ion by incision of the vesicovaginal septum. The adoption of the Sims speculum—or the principle hat it exemplified—made possible the successful evival of vaginal hysterectomy, after futile efforts at ts adoption early in the century and after it had allen into disuse during a period of forty years.

Numerous other operative expedients have been brought similarly within the range of possibility. Thus the operation of ureterovesical implantation, evised by PARVIN of Philadelphia (1866), could not ave been done before 1842, and what is true of this peration is true of a large number of other measures or the repair of the vagina, the cervix, and the bladder.

Intrauterine surgery, first made possible by the more or less imperfect instrument of RÉCAMIER, acquired a new impetus under the facilities afforded y the invention of SIMS. Intrauterine explorations became exact after JOHN BALL of Brooklyn (1873) first practiced dilatation of the cervix by divulsion, and in the wake of this advance followed the various intrauterine operations, such as curettement, morcellement, etc.

Dr. GILMAN KIMBALL, of Lowell, Mass., was the first, according to KOEBERLE of Strasburg, to publish (*Boston Med. and Surg. Jour.*, May, 1855) a case of vaginal extirpation of the uterus for fibroids, "successfully performed upon a correctly established diagnosis." He made valuable contributions, not only upon this subject, but upon such topics as gastrotomy and ovariotomy.

In 1865 ROBERT BATTEY of Rome, Ga., "conceived the idea of producing an artificial menopause for the remedy of disease," and he adopted this conception as the basis of practice, Aug. 17, 1872, by removing the unenlarged ovaries through an incision made into the cul-de-sac of Douglas. In the adoption of this original surgical conception, BATTEY, jointly with TAIT in England and HEGAR in Germany, contributed to the material advancement of pelvic surgery. While the object arrived at by his operation was different from that which actuated each of the others, and while the central idea of his practice has been departed from by the profession, he was instrumental in demonstrating the feasibility of oöphorectomy, and the after-history of many of his cases showed the beneficence of his procedure. BATTEY operated by vaginal section for the cure of otherwise incurable "neuroses"; TAIT operated by celiotomy for the removal of organically diseased ovaries; HEGAR's object was to control hemorrhage. It is from these several starting-points that intrapelvic surgery may be said to have developed. In the course of development the central ideas of these three original operators received modifications at the hands of the profession. Of the various ideas, those of BATTEY have been assailed the most vigorously and have undergone the most radical changes.

In the first place, the vaginal route was abandoned for good reason, as an avenue of approach, and in the next place many of the so-called "neuroses" associated with intrapelvic symptoms were found to have no dependence on ovarian states as etiologic factors. But over and above this criticism, and over and above these contrary theories, stood the fact that many of BATTEY's "neurotic" cases, that had defied all other kinds of treatment, were cured by and remained well after the extirpation of the ovaries. Facts such as these withstand the assaults of theorists and remain to be explained in the light of a widening science, after the passions of controversy and ambition shall have subsided. Science is now revealing that many of the small ovaries of BATTEY's cases were, after all, very much diseased, and science is beginning to show, in a demonstrable way, what for a time it seemed to discredit, viz., the relation between these really diseased ovaries and the very "neuroses" of which BATTEY wrote. It is no unsafe prediction to say that a widening experience and a judicial frame of mind on the part of the profession will give to the doctrine of BATTEY a clearer definition and as honorable a place in the arcana of science as may be hoped for by those with whom his name has been associated in the controversies of the past.

The development of gynecology in America has been characterized by the same cycles that it has defined in other countries. The so-called "mechanic doctrine" of uterine pathology, taught with transient success by Hewitt in England, was in a measure anticipated by Hodge of Philadelphia, who devised (1830) a pessary for the correction of retrodisplacements of the ovary. It is to be said for the doctrine of Hodge that it was founded in rational pathology, and for his device that it was and is the least objectionable of any that has been given to the profession for the purpose. It would doubtless stand to-day as the chief expedient for the correction of these displacements if it were not that its use has been supplanted in the hands of intelligent gynecologists, by the vastly more rational and more satisfactory surgical means. Even yet, in the absence of proper operative facilities, it is probably the means of bringing more relief to women of this unfortunate class than any other instrument in the hands of the general practitioner.

The American Gynecological Society was organized in 1876 and has since devoted itself to the exclusive cultivation of this department of science. Its membership has embraced and now includes many of the most distinguished gynecologists of America, while its annual volumes are among the most valuable contributions to the literature. The American Association of Obstetricians and Gynecologists was organized in 1888 for the purpose of bringing into association not only the practitioners of gynecology but those identified with the allied branches of abdominal surgery and obstetrics. Its membership now embraces a majority of the teachers of those branches in the medical schools of America, and each annual volume of the "Transactions" is uniformly a record of most progressive work. These two organizations are strictly national in their scope and membership.

The Southern Surgical and Gynecological Association was organized in 1888, and had for its *raison d'être*, first, the necessity of a society which would meet in the great territory of the South, which was but rarely visited by the strictly national organizations; and second, the desirability of considering in the same arena topics relating not only to this special department, but also to the general subject of surgery. The membership in this society is not sectional, and its Transactions are of universal value to the profession.

The Western Surgical and Gynecological Society is a Trans-Mississippi organization of the same character. In practically all of the large cities there are organizations devoted to this special field of work, some of them continuing to exist under the more generic title of "obstetric societies." The Proceedings of these associations compose an important modicum of the medical literature of the country.

Gynecology has been and is represented in the periodical literature by several important publications, devoted exclusively to this expanding department of practice. The first journal devoted exclusively to this subject was issued in 1869, under the editorship of Drs. H. R. Storer, G. H. Bixby and W. Lewis, and was known as the *Journal of the Gynecological Society of Boston*. A year previous, however, the *American Journal of Obstetrics and Diseases of Women and Children* began its career under the management of Dr. B F. Dawson. Issued originally as a quarterly, it has become, under the management successively of Mundé and Wells, a large monthly, filled with original matter of a high grade. *The American Gynecological and Obstetrical Journal*, which began publication in 1885, is to-day, under the brilliant management of its editor and proprietor, Dr. J. Duncan Emmet, an exponent of the best literature of the subject in America. Other journals have been devoted to this subject, and a few of them are yet extant. Practically the entire periodical medical press of the country conducts a department devoted to the review of gynecologic literature, while original contributions on the subject are, as a rule, a feature of each issue of every general medical journal in the country.

The status of gynecology in medical education in the United States is nowhere doubtful. No medical school in the country is without a professorship in this department, the first one having been established by Dartmouth College about thirty years ago, the incumbent at that time being the celebrated Dr. Peaslee. In many instances gynecology was attached to obstetrics, in charge of a single professor, but with the growth of the subject, such an arrangement has been found impracticable and exists to-day only as an anachronism in a few institutions of ultraconservative affectations. In a few colleges the surgical character of the subject has been emphasized by changing the title of the professorship to that of abdominal and pelvic surgery. It may be observed everywhere that gynecology is broadening its scope in accordance with these conceptions, and the dawn of the next century will recognize in the gynecologist not an obstetrician upon whom accident imposes the necessity of doing some reparative tinkering about the female genitalia, but an accomplished surgeon who is something more than a surgeon. This has been brought about through the teachings of the distinguished teachers, past and present, in this department.

It is quite out of the question in an article such as this to recount the achievements or even the names of the American pioneers in gynecology. The galaxy was a brilliant one and embraced such names as Isaac E. Taylor of New York, who did an original operation for rectovaginal fistula (1856); Walter Channing, who wrote (1833) about the "Irritable Uterus"—that in later years comprised the basis of the French school of practice; Gunning S. Bedford, who established the first clinic for women in America; J. C. Nott, who removed (1844) the coccyx for coccygodynia; Horatio R. Storer, who was a pioneer in advocating the recognition and adoption of gynecologic practice in hospitals for the insane; E. R. Peaslee, who (1854) advocated and adopted the principle of drainage and intraperitonal irrigation after ovariotomy twenty years before Lister propagated his doctrine and before the adoption of the practice in other countries; James P. White, who (1856) demonstrated the reduction and consequent curability by that means of chronic inversion of the uterus; T. Gaillard Thomas, whose work was the accepted text-book on gynecology in America for two decades, the earlier edition of which yet stands as a model of scientific arrangement and finished English; J. C. Reeve of Dayton, whose original investigations in anesthesia are among the most valuable contributions to the subject. It is not practicable to continue the list, embracing as it does the names of Fordyce Barker, Wm. Goodell, W. H. Byford, A. Reeves Jackson, Edward W. Jenks, Julius F. Miner, D. Hayes Agnew, and many others equally illustrious, who are now with the silent majority. It were invidious to mention those who, although advanced in years, yet abide to watch the fruition of their work in the hands of those who now toil in the vineyard.

Charles A. L. Reed.

PROGRESS IN OBSTETRICS.

When obstetrics at the close of the ninteenth century shall render the dawn of the twentieth her inheritance, she will do so with great pleasure and with no little pride, for out of the few imperfect talents she received from the eighteenth, the nineteenth century has developed many perfected ones, and added more. Truly, when entering the Valhalla of Effort will she be greeted with the hallalujah: Well done, thou good and faithful servant, unto you it has been given to be faithful over a few things, and to have enabled many to enter into the joys of blessings otherwise impossible.

Why so great rejoicing and so loud a panegyric? For never since the beginning of the age of gestation and labor has its mortality and morbidity been so low or so favorable as at the present moment—the close of the nineteenth century. Well may the twentieth century receive with pride such a legacy; her women rejoice.

Judging by the light possessed to-day, we can readily appreciate why obstetrics was not so perfectly developed a century ago as to-day, and, therefore, rendered less perfect services, which for a long time failed to overcome the prejudices that existed in the minds of the "female world," society, against the man midwife, the accoucheur. In the Colonies, with two or three exceptions, there were no schools, and even these were without the concentration of clinic and manikin material common to the schools of Europe, now common to ours. Necessarily, they were more especially didactic, and in many cases with texts teeming with hypotheses and theories of cause, effect, and therapeusis which were theoretically more perfect of effect than practically.

Opportunity to make inquiries and to learn midwifery, for the student, was practically limited to the observations he could make in the practice of his preceptor and in those of his friends. His instruction was, like that of his text-books, derived mostly from English and French sources, imperfect when viewed in the light of the advanced state of obstetric knowledge of to-day, but authoritative in his day, and tended to make him but a reflection of the imperfect accoucheur of his time. He did fairly well with normal labor, yet for those cases where special therapeusis and operative training were urgent, namely, in all forms of abnormalities of gestation, labor and the puerperium, he was necessarily as short-coming in his results as his prototype. As a consequence, society continued to be imbued with and but reflected the same sentiment toward the accoucheur that was brought from and entertained in Europe, and even in royal circles; the female world looked on the midwife with more favor than on the accoucheur. This curtailed opportunity and naturally checked advance.

To give an idea of the state of the sentiments entertained by the female world, Dr. Shippen, who had studied with the famous Dr. Smellie, and who delivered the first special course on midwifery in America, in his lectures "pointed out what was necessary to make a man midwife an adept in his profession, and *to gain the good opinion of the female world.*" This was in 1762. So prevalent was the prejudice that sixty years afterward Dewees again mentions it.

Handicapped as they were from lack of conveniences, these early days sparkle with many cases of individual effort in successful obstetric surgery, which speak most eloquently for their originality, daring and skill. (See "Progress in Gynecology.") About 1794, Charles McKnight of New York, contrary to opinion, removed by celiotomy, with recovery, a 9-months fetus from an extrauterine pregnancy, thus anticipating the evils from chronic encapsulation, or suppuration leading to fistulæ through which the fetal parts were cast off or were extracted. These latter characteristics were the usual sequelæ of the "leave-it-to-nature treatment" following ruptures of extrauterine pregnancies. Early text-book authority suggests the let-alone treatment for the like uterine ruptures where the fetus had escaped into the abdominal cavity, unless extraction could be accomplished by turning and drawing the fetus through the uterine rent and the parturient canal. These early extrauterine operations must have exercised some influence, for in 1800, American authority recommends: "if can not extract per vias naturales, then try gastrotomy."

Though these triumphs were brilliant, they could not be general; they could only serve as guiding stars to direct and encourage further effort, with what success contemporaneous abdominal surgery amply testifies. For obstetrics to more truly and generally progress and win for herself greater confidence, it was necessary to inquire along such lines as would produce some method or means wherewith to overcome the intense physical suffering—pain accompanying operative labors—and the great mortality and morbidity following all forms of labor, both the normal and the abnormal. This great step was finally achieved by the almost simultaneous introduction of the law of asepsis, 1847, and the introduction of artificial, general anesthesia, 1846—two of the greatest steps marking the advance of medicine since its conception. With these, and only through these, could come increased light, life, and opportunity.

They conserved the normal labor; opened up paths of successful therapeusis and operative procedures never before possible, nor attained. From this moment on, the progress of obstetrics was rapid, accurate, and life-giving.

1. Since the introduction of this law of asepsis, puerperal sepsis has lost much of its terrors—epidemics are no longer feared. The principle of cleanliness is an ancient one, but principles unless expressed in laws, are not adhered to. Though credit for the establishment of this law of asepsis belongs to the immortal SEMMELWEIS, still America, through her immortal OLIVER WENDELL HOLMES, can justly claim a share thereof. HOLMES—even before SEMMELWEIS, in a paper on "Puerperal Fever as a Private Pestilence," first published in 1843 and republished in 1855—advanced the principle that puerperal sepsis was due to contagion, and called attention to the unknown American physician, who, in 1842, had written of his experience during an epidemic of child-bed fever, during which he confined seven women, that by changing his clothes and washing his hands in a chlorid of lime solution, he prevented further infection. HOLMES certainly advanced the principles of asepsis, and had there been the rapid dissemination of to-day—for importance wanes with distance and time—SEMMELWEIS would have been forestalled, for SEMMELWEIS later came to the same conclusions, and used the same solution for his hands. But it was left to SEMMELWEIS, through the force of his comparisons of the parallel aseptic and non-aseptic wards, and the greater weight of the "brute force" of his comparative figures, to form out of HOLMES' principles a law—the law of asepsis. It is not yet clear but that surgery owes obstetrics some little credit for suggestions out of which she developed her Listerism. Through the exercise of asepsis, the former mortality of from 5 to 25 per cent., following normal labor, has been reduced to from .5 to 2 per cent. to-day; the percentages of abnormal labor show a like favorable decrease; maternities, which were compelled to close because of sepsis, have never since ceased to be open.

2. Credit for the introduction of artificial anesthesia belongs to America through one of her famous sons, Dr. MORTON, although credit for its first use in obstetrics belongs to SIR JAMES SIMPSON, for he repeatedly used it in midwifery before March 22, 1847. To N. C. KEEP of Boston, who applied it on April 7, 1847, to a case of normal labor, belongs priority in America. W. CHANNING, on May 7, 1847, followed as second, applying it to a case of instrumental labor—forceps followed by craniotomy. The determined opposition it met here was as in Europe; but this soon disappeared as its beneficent qualities were more often witnessed and better understood. Artificial anesthesia brought about relaxation and loss of consciousness without destruction; by neutralizing pain and shock, it opened paths never before so readily or so safely pursued to rescue life; soon all bars were felled before obstetric effort in operation. Abdominal operations had been practically abandoned because of the great shock and high mortality. Formerly, to induce relaxation and bluntness of sensibility for operations like the forceps, pelvic extractions and removal of adherent secundines, recourse was had to bleeding to the point of faintness and loss of consciousness—a 30 to 60 ounce bleeding being no exception, and repeated as thought necessary. This was followed in many cases by tedious, when, recoveries. To-day chloroform and ether quickly and perfectly permit all forms of operations. The Cesarian section mortality has been reduced from 60 to 90 per cent. to the present 8 to 15 per cent. low proportions; the extra-uterine pregnancy, instead of the rest, blister, opium, clyster, tentative treatment, with its greater mortality and morbidity, now is met with early diagnosis, anesthesia, the knife and cure.

Though these two epoch-making steps were the most important factors which have led to the present more perfect obstetrics, they were not all.

3. In each of the important steps marking the advance of the perfected Cesarean section of to-day, American effort plays a foremost initiative rôle. These more favorable Cesarean percentages were only possible as the three essential dangers were overcome.

The first was from primary hemorrhage and shock, which was increased by the terrors of the preanesthetic period, the mental agony of anticipation and being held down by numbers, the excruciating pain, etc.; continued general anesthesia has overcome this danger.

The second was the dangers from sepsis; asepsis has overcome this danger.

The third was from secondary hemorrhage and sepsis; the uterine suture has overcome this danger.

The secondary hemorrhage and sepsis, especially lent to the high mortality of the Cesarean section, and, as a rule, came from the ununited walls of the nonsutured uterus, plus the anciently well-known factor, the infective uterine discharges. This danger was a long-recognized one, to successfully overcome which had been the effort of many. Strange to say, authority was usually against the suture. In 1769, LEBAS of France, with the transverse incision, Cesareanized a patient three days after the onset of labor; to favor closure of the uterine incision he sutured with three stitches; she recovered. Notwithstanding this favorable result, authority again arrayed itself against the suture and continued so. For CAZEAUX, reflecting European opinion, recommended that "the uterine wound demands no other precaution than that of being cleansed," to which an encyclopedic authority added in 1834, "although an unskilled surgeon did introduce sutures, which it was found necessary to remove." So late as March, 1863, J. G. SWAYNE, in the London Obstetrical Society, reported a case of Cesarean section. At the post-mortem the external edges of the wound were found to be gaping. In the discussion, SPENCER WELLS questioned whether the uterus had been closed by sutures, though he was not aware whether sutures had been used in any case. ROBERT BARNES, referring to WELLS' suggestion that the uterus be sutured, stated that sutures were not to be used on account of the dangers of uterine inflammation. SWAYNE, in closing, replied that it was generally considered that sutures were not to be used (This by way of history.) This adverse dogma to the contrary—and which for many years colored opinion and retarded uterine suture—American effort continually found expression toward overcoming this difficulty. In 1828 in Virginia, the uterine suture was applied with success following Cesarean section; the patient died upon the twelfth day, not as a result of the operation, but from an epicurean indiscretion perpetrated on the tenth day. Again, uterine suture was repeated with silk in 1851, by G. W. Homes of Georgia. In 1867 came the almost simultaneous successes of T. B. Townsend of New Haven, with three hemp sutures, and Dr. Warren Brickell of New Orleans, with six silver-wire sutures. From this on uterine suture was general. Brickell, in his obstetric lectures as far back as 1856, recommended uterine sutures but was met with ridicule. Before 1878 the value of the uterine suture had been established in America. In that year R. P. Harris, in his résumé of one hundred cases of American effort with Cesarean section, unquestionably proved, and with figures, the superior value of uterine suture. Four years later, in 1882, Saenger of Leipsic, proposed multiple sutures to close the uterine wound, and to him an American collaborator rendered credit for *perfecting* the modern technic of Cesarean section—an altruistic virtue, which modesty alone hinders our transatlantic cousins from emulating.

4. The more general correct knowledge of the diameters and dynamic forces of the pelvis, the parturient canal, and of the fetus, and their favorable relations to each other. This knowledge has to a great extent lent assistance in overcoming the traumatisms and the terror formerly felt for the forceps, the turning and the extraction operations, lessening the uterine ruptures, vaginal, perineal and rectal lacerations, with sequent sepsis, thus decreasing by far their previous mortalities and morbidities. Especially has it tended to the prevention of the many forms of delayed labor, leading to pressure necrosis with its numerous forms of vesical, uterine, vaginal, and rectal fistulæ, with their distressing incontinence, as sequelæ.

Here again, America can claim credit for priority. It was her Marion Sims who first successfully mastered this long-existing fistula problem that had ever before baffled the best skill of the world. It was this crowning achievement that raised him to among the immortals in medicine, and made him the idol of long-suffering women of not only the New World but of the Old World as well.

5. By means of the clearness gained from a simpler classification of the positions and presentations, and the more perfect knowledge of the pathologic conditions accompanying gestation and labor, to-day, diagnosis is earlier and more accurate, therefore, our therapeusis is more immediate, to the point, and effective. To-day, the *accouchement forcé*, when necessary, quickly and successfully follows the early diagnosis of malposition or maternal or fetal danger; the Cesarean section or the Porro, the endangering fibroid; the celiotomy, the extrauterine pregnancy, ruptured or unruptured. The hematocele, even to a recent period, was spoken of as a separate disease, its differentiation from extrauterine pregnancy being satisfied in a line of uncertain explanation. Many of these must have been accumulations and sacculations of blood due to ruptured ectopic pregnancy. Now, the knife, with the assistance of anesthesia, quickly and permanently restores, instead of the former long-drawn-out temporizing treatment.

6. Like in the useful arts, so in the obstetric art, the tendency of American instrumentation and operation is along such lines where the necessary—not an excessive—assistance, is rendered, and where delicacy of persuasion is the rule rather than preponderance of power. Hence, her instruments are being built more technically, are light, and essentially more handy, instead of the gross and more awkward instruments of before.

7. The treatment of abortion, because of anesthesia, asepsis, and early diagnosis, has also reduced the large mortality and morbidity, ever marking this form of labor, and which in all ages has furnished one of the greatest mortalities of obstetrics.

Eclampsia, its etiology still unsolved, will remain as a heritage for the new century. In its treatment, Baker of Alabama, in 1859 called attention to the advantages of veratrum viride, and in the hands of others it has continued to meet with success. Veit, 1887, who claims with the assistance of large doses of morphin to have reduced his mortality to two cases out of sixty, was anticipated in the heroic dose of morphin treatment by C. C. P. Clark of Oswego, in 1880.

Symphysiotomy has progressed to its natural resting-place. It was reintroduced into America in 1892, after a most useful desuetude, following its initial resuscitation by Sigault in 1777, and its richly deserved relegation to a dignified retirement after a most bitterly fought forensic discussion. Since 1892, after passing through a phenomenal tide-wave of popularity, it has been repudiated by some of its former most earnest advocates. Dewees, in the early 1800's, mentions a like conclusion. It is now finding its proper level as an exceptional conservative operation of, however, but limited applicability; and, owing to its greater mortality and the increased difficulty in its performance, as was predicted, symphysiotomy has been largely abandoned in favor of the Cesarian section.

A similar but more just fate overtook the gastroelytrotomy of the early seventies. Pathology and the microscope have shed much light on formerly not well understood conditions; their results have materially assisted in the advance of obstetrics, especially in aiding to recognize and differentiate where and when not to resort to heroic measures.

The serumtherapy of puerperal sepsis is yet in the experimental stage. Some of the reports, after its use, savor more of the amusing hyperbole than of the truer fact.

Organotherapy, the treatment of diseases such as osteomalacia and puerperal sepsis, by the administration of animal extracts, is still in embryo, and, like serumtherapy, is threatened with abortion.

It is to the credit of American practicalism, and in obstetrics, that exaggeration and inerrancy of technic are soon enlightened before they are permitted an expensive experimentation to prove their want of virtue. Finally, so general has been the progress of obstetrics in all its branches that the obstetrician of to-day can truly claim to be an adept in his profession, for by his works he has gained the good opinion of the "female world."

Congratulations to the unknown and known, who have so nobly contributed to the elevation of this art, and to such a high degree of perfection that it enables even the clever novice to enter in and win, where the master feared to tread and lost! To the twentieth century: As you go, do likewise!

FRANK A. STAHL.

PROGRESS IN THERAPEUTICS AND ALLIED BRANCHES.

The task of reciting the advances made in therapeutics, and in its handmaid, pharmacy, during the years that have elapsed since the ASSOCIATION was established, is by no means an easy one. In the space allotted it is impossible to crowd all the important additions to our means of treating disease by medicinal measures. Only facts dealing with lasting gains will therefore be considered.

While it is true that the discovery of the use of ether and chloroform occurred just before the period covered by these remarks, the far-reaching influence of their use not only for the relief of pain, but also in extending the possibilities of surgical treatment, renders it proper to at least recall the fact that the founders of the ASSOCIATION had all practiced in the pre-anesthetic days, so to speak, and to them, at the time of our organization, surgical anesthesia was a more recent theme of discussion than is the use of thyroid gland in myxedema to-day. In still another field drugs have aided the surgeon in preserving life and made operations possible which, even with the aid of anesthetics, would have been impossible, namely, the various antiseptic substances, many of them old in the materia medica list, though new in application, and many devised through the skill of the chemist or pharmacist as soon as the demand for such substances arose. While it is true that asepsis has largely replaced antisepsis, these drugs "blazed the way" for the advances which have been made and many of them are still confidently relied on. Upon these matters, the article dealing with modern surgery dwells at greater length.

The introduction of hypodermic medication must not be forgotten. If we turn to the list of drugs which have attained a position in the physician's armamentarium which can not be assailed, it is surprising to find how many have been introduced and proved of inestimable value. Chloral was introduced by LIEBREICH in 1869, the bromid of potassium was but little used even after LAYCOCK wrote of its usefulness in 1853, and salicylic acid and the equally useful salicylates did not come into use until 1875–76. The exhaustive work of STILLÉ on therapeutics, published in 1874, contains no mention of them. Even carbolic acid, which was first obtained by RUNGE in 1834, did not come into general use until long after the time that our ASSOCIATION was organized. Iodoform is another addition to our list of indispensable remedies and equally, if not more important, is nitrite of amyl and the other nitrites, such as nitroglycerin.

If less commonly employed drugs were included in this paper, it would cover many pages, and the newer additions to the materia medica list, derived from the mineral kingdom as a rule, need hardly be named, so late is their introduction, such as antipyrin, acetanilid, phenacetin, salol and similar substances.

From the vegetable kingdom, among the drugs which have come into use during the half century, may be named practically all the alkaloids, or active principles of the more powerful drugs, and as new remedies themselves may be named coca and cocain, hyoscin and its various nearly related alkaloids, such as duboisin.

In addition to these substances we must still remember that many old remedies have been so altered in their physical characteristics and effects by chemic and pharmaceutic advances as to be practically new drugs. This is notably the case with the various salts of mercury, with guaiacol from creosote, and with those drugs depending upon other principles than alkaloids for their activities.

Closely related to these advances are the modern methods of preparing medicines for the sick by the use of the sugar-coated, gelatin-coated and chocolate pill and tablet, by the universally used tablet triturate, the capsule, elastic and hard, and the konseal. Nor is it only in these lines that pharmacy has aided medicine. Even the modern tincture and fluid extract are comparatively recent products. Professor REMINGTON of Philadelphia, in a letter to the writer on this subject, obtained from him while preparing this article, says: "It is a significant fact that the process of percolation suggested first for galenic preparations by the BOULLAY brothers, in France, in 1833, remained practically, in Europe, a dead letter for fifty years, but was enthusiastically taken up by American pharmacists fifty years ago, and soon became the principal lever in the development of pharmacy here. The last edition of the 'British Pharmacopeia,' published in 1898, is principally noted for its complete, though tardy recognition of percolation. But the strangest exhibition of conservatism of European pharmacy, as compared with that of America, is the statement just made public that the committee of the 'French Codex,' now in process of revision, has at last recognized the process of percolation and will adopt it in the new authority. A period of sixty-six years since its first suggestion by the French BOULLAY brothers—'a prophet is not without honor,' etc! American pharmacists may justly claim to have led the world in pharmaceutic science, for whilst they can not claim superiority over European workers in chemic investigation and original research, they have led the world in the application of theoretic researches to practical results in supplying the physicians with preparations made by original and ingenious apparatus, machinery and processes, which have been adopted or imitated abroad."

But the medical profession has not been content with having placed in its hands new remedies, or old ones in new dress; it has endeavored to employ drugs and remedial measures other than drugs, not on the basis of pure empiricism, but rather on that of knowledge of the process of the disease and the physiologic action of the remedy, thereby changing the treatment from hypothetic art to at least an approximation of scientific study. Further, the fact that we can not tell how certain well-known remedies do good, depends on the second fact, that the pathologist can not tell us in what the disease consists. As compared to the knowledge of fifty years ago, the accuracy with which we can apply remedies to the cure of disease is extraordinary, and the discovery of the effect of quinin on malarial organisms is an instance of this fact.

Side by side with this demand for a clear insight into disease, that our treatment may be intelligent, and closely linked with the improvements which have occurred in the preparation of drugs, physicians are coming to recognize more and more the absolute necessity of accuracy in dosage in two senses: 1, the need of fitting the dose of the drug to the actual needs of the individual, and 2, the need of using pharmaceutic products of known strength. For many years we have required of the chemist that his products should be chemically pure and well proportioned so that in the administration of a compound we know just what the patient is receiving. Thus, the iodid of sodium must contain so much iodin and so much of the base, and no poor product would knowingly be used. More recently the profession has awakened to the knowledge that the same accuracy is needful in remedies derived from the vegetable kingdom, and is realizing the fact that the various influences to which plants are exposed in growth greatly affect their medicinal activity in degree and in kind. One set of digitalis leaves may contain amounts of its principles quite different from others in total quantity and in proportion. Much ergot is physiologically inert and some nux vomica beans contain twice as much strychnin as others. For this reason no important vegetable drug upon the action of which life depends should be employed unless it has been chemically assayed or physiologically tested.

There yet remains to be considered the so-called "organotherapy." In this the most positive advance is in connection with the thyroid gland. Although its therapeutic use is really a thing of the last half of this decade, it has gained for itself the surest footing possible, and while myxedema is a rare disease not met with in daily practice, the remarkable cures which are produced, in cases at one time considered incurable, are really more wonderful than any advance made by the glittering array of new surgical advances. In that rare but more common condition called cretinism, the results obtained are marvelous, and in obesity, scleroderma and other nutritional disorders its effects are only less marked than in the states already named. It is equally worthy of rejoicing that thyroid therapy is not a discovery made by stumbling over a clinic fact, but is a triumph of the two sciences, pathology and therapeutics, walking hand in hand, and that the use of thyroid gland is rational therapy par excellence.

The use of suprarenal gland in Addison's disease for the purpose of raising arterial tension, and locally for the causing of ischemia is also to be remembered. With many of the other attempts at glandular therapy we shall not deal, as many of them are worthless because not rational, or else have failed to produce results sufficiently marked to deserve recognition.

Equally rational, and equally the result of scientific research, is the splendid record of antitoxin in the treatment of diphtheria and the promise of what other antitoxins may do in such diseases as typhoid fever, pneumonia, tuberculosis, and a host of other fatal disorders. These triumphs are of such recent date and are so well known as not to need any description. Let us hope that in the fifty years which are to come the advances made will be even more brilliant and that the body of the medical profession, drinking in its student days from the fountain of original investigation, and casting aside empiricism, may work as a unit in the coming achievements.

Hobart Amory Hare.

PROGRESS IN PHYSIOLOGY.

The title of this article might, with substantial accuracy, be amended to read not the "progress" but the "rise and progress" of physiology in America. For although there has never been a time since medicine was an organized art, in which a certain body of physiologic knowledge did not exist as the common property of all educated practitioners, yet in the sense of a science expanding by native effort on our own soil, American physiology is scarcely older than fifty years. Priestley, it is true, driven from his home as an atheist and a Jacobin by the fanatic mob of Birmingham, had carried with him across the sea a century ago, his great discovery of oxygen, and the knowledge that purple venous blood can be changed into crimson arterial blood by bringing it into contact with oxygen. And the famous work of Beaumont, "The Physiology of Digestion, with Experiments on the Gastric Juice," the first indigenous research of really notable weight, the first which awakened wide-spread interest throughout the physiologic world, was published in a modest-looking volume at Plattsburg in 1833. But we find no other considerable names in the vacant annals of those earlier years, till in 1852 Brown-Séquard, a native of Mauritius, Irish on his father's and French on his mother's side, but resident for a time in America, published his investigations on the vasomotor fibers in the cervical sympathetic, in the *Philadelphia Medical Examiner*. This paper, containing some of the most important of all the numerous experiments of that distinguished man, was followed in 1855 by a volume of "Experimental and Clinical Researches," printed at Richmond, where for a time he held the post of professor of the institutes of medicine in the Virginia Medical College. About the same time Draper, whose versatile genius ranged over so many subjects, from the solar spectrum to the "History of the Intellectual Development of Europe," was busily engaged in physical and physiologic work, and in 1856 published his "Human Physiology," "copiously illustrated with microphotographs," the mode of producing which, as he says in the preface of the abridgement of this work, was first invented by himself. The name of Dalton, whose beautiful pictures of the brain are still so valuable, ought also to be mentioned here. So far the growth of physiology on American soil had been fitful and sporadic. Then came the stormy period of the Civil War to divert men's minds from such peaceful pursuits. But in 1864 Brown-Séquard, who meanwhile had spent several years in practice and in physiologic research in London, was appointed professor of physiology and nervous pathology in Harvard University, where for five years he continued to cultivate his favorite science with the intensity that characterized his whole career. With the appointment of Henry Pickering Bowditch to the Harvard physiologic chair, less than thirty years ago, the modern epoch of systematic, continuous and fruitful investigation may be said to have begun. From the laboratory which he built up there has since issued a continuous and ever augmenting stream of original work, while his pupils have carried to other schools the scientific enthusiasm, the contempt for slipshod methods and the love of accuracy with which he first inspired them. Among the researches of the Harvard laboratories may be mentioned important investigations on the statistics of growth, on the physiology of the heart and its nerves, on the vasomotor nerves of the extremities, the knee-jerk, the types of respiration, the movements of the esophagus in deglutition and of the stomach during digestion—investigated by an ingenious application of the Roentgen rays—and on the secretion of bile.

While in the early seventies the light of physiologic research was beginning to shine brightly in New England, Newell Martin, whose work was fated to be cut short untimely, came over from old England in 1876 to fill the chair of biology at the recently established Johns Hopkins University in Baltimore, and by his enthusiasm soon kindled there another focus from which the sacred fire was to be carried in the coming years to many an altar of science in the East and in the West. His researches on the isolated mammalian heart, since so fruitfully developed at Harvard, opened a new field for the investigations of the physiologist and pharmacologist. Under his successor the Johns Hopkins laboratory has steadily maintained its reputation as a center of research. Investigations on the heart and the cardiac nerves, on the circulation in the brain, the vascular changes during sleep, and the internal secretion of the pituitary body are only a few of the many valuable contributions to our knowledge which have emanated in the past few years from this prolific school.

From the Philadelphia laboratories have issued researches on snake poison that have been the starting point of investigations all the world over, as well as interesting experiments on the effects of pressure on the conductivity of nerves, and on animal heat. Nor has New York been idle. From the splendidly equipped laboratories of the medical department of Columbia University have come a series of important researches on the mechanism of deglutition, the movements of the stomach, absorption from serous cavities, the functions of the semicircular canals, and others which the exigencies of space forbid us to mention.

Yale University has turned out a very large amount of work of the best kind in chemic physiology, including numerous researches on the products of proteolytic and amylolytic digestion, the influence of alcohol on digestion, absorption from the peritoneal cavity, and on the metabolic changes produced by phloridzin. In the Clark University too, although its existence only extends over a dozen, or at most a baker's dozen of years, the vitality of physiologic inquiry is attested by the appearance of most suggestive papers on the changes produced in nerve-cells by fatigue and old age, and on other themes. From the University of Michigan have come an important series of researches on the mammalian heart, on the sympathetic nervous system, on the degeneration and regeneration of nerves, on the chemistry of the nucleins, nucleo-proteids and the products of bacterial action, and on the seat and nature of fatigue in voluntary muscular contraction.

In Chicago the record for the brief space during which laboratories for research have existed there is a brilliant one. Papers on such subjects in the field of general physiology, as galvanotropism and the physiologic action of ordinary type ions have followed each other in rapid succession, and notable contributions have been made to our knowledge of the growth of the brain and the localization of the visual and auditory centers.

The limits of our space will not permit us to mention the numerous other institutions in which good work has been and is being done, and we may confidently look forward to a rapid growth in the number of productive laboratories all over the country. And while the output of the American schools is increasing by leaps and bounds, it is no idle boast, but a fact which has come to be well-recognized and freely acknowledged by foreign physiologists, that the average quality of the work is as high as in any country in the world. The crowded columns of the *Journal of Experimental Medicine*, established four years ago, and of the *American Journal of Physiology*, founded last year, are the most eloquent witnesses to the activity of American physiology.

No less significant are the changes that have been wrought in the teaching of this science. Fifty years ago it is doubtful whether a special professor of physiology existed in any school in this country. The subject was usually tacked on, often under its historic name, the "Institutes of Medicine," as a more or less ornamental appendage to some other chair. In 1807, Benjamin de Witt, M.D., lectured on chemistry and the institutes of medicine in the College of Physicians and Surgeons of New York. In 1814 Drs. Smith and Post were joint professors of anatomy, physiology and surgery in the same institution. In 1824, Robley Dunglison, whose "Medical Dictionary" had at one time so great a vogue, accepted, on the invitation of Thomas Jefferson, the chair of anatomy, physiology, materia medica, and pharmacy in the University of Virginia. And Dr. Nathan Smith, surely the prince of medical pluralists, filled in his single person for twelve years not only the professorship of physiology but all the other chairs in the medical department of Dartmouth College, lecturing at the same time—such his exuberant energy—on medicine in the University of Vermont and in Bowdoin College.

It is a far cry from this portentous versatility to the specialism of to-day, when the protest is raised in many physiologic laboratories that physiology is too big a subject for any one man, and when in many schools histology, and in not a few physiologic chemistry, have been split off from the parent stem and erected into separate departments. Spacious and well-equipped laboratories for teaching, as well as for research, are rising on every hand and the time is not far distant when in every school of any standing the didactic lecture of the olden time will have been replaced or supplemented by the practical class. But while much has been done we believe that the revolution is not yet half accomplished, and that he who chronicles the progress of physiology in 1949 will have a tale to tell which will surpass the rosiest dreams of the most optimistic annalist of 1899.

G. N. Stewart.

PROGRESS IN ANATOMY.

On looking back to the beginning of the period which we have chosen for our survey, we are at once struck with the improvements that have occurred in the methods and apparatus employed in all departments of the vast field covered by the anatomical sciences. Before 1850 modern methods of preservative injection were imperfectly known and practiced, cold storage was never employed for cadavers, at least in the more temperate parts of America, frozen sections were not yet invented. The dissecting-room was still the place of horrors that made it the bugbear of novices, reeking with foulness and sickening odors sufficient to daunt any but the stoutest. Microscopes were but rarely used in the class-room, the instruments being either imperfect or very expensive; staining methods and serial sections were unknown and microscopic research was so difficult that it was confined to a few specialists. The history of the early development of the ovum was imperfectly known, the blastodermic membrane not having yet been recognized, and the application of the cellular theory to development was not yet perceived. Naturally, therefore, no clear basis had been established for a comparison of the anatomy of man with that of other vertebrates, and human morphology was, in its infancy, given over to the wild, though often brilliant, speculations of "nature philosophers" like Oken and Spix. Anatomy was still mainly macroscopic, and thought by many to be an "exhausted science," the human body being supposed to be thoroughly described and accurately known.

The text-books of this period were mostly derived from European sources. Two excellent ones by American authors should, however, be noted; the "Special Anatomy and Histology" of Prof. W. E. Horner, the discoverer of the tensor tarsi or Horner's muscle, and the "Illustrated System of Human Anatomy" of Prof. S. G. Morton, who became widely known by his great collection of crania, now in the Academy of Natural Sciences of Philadelphia. In craniology Morton became more famous than in other branches of our science. His "Crania Americana" and "Crania Ægyptica" were important contributions. His collections were, in 1856, described and commented on by another anatomist, Dr. J. Aitken Meigs, who did much to establish the modern views of the mensuration of the skull. No account of this early period is complete without a reference to the works of Jeffries Wyman of Harvard University, who, though not a voluminous writer, was a man of great erudition and philosophic insight. As a morphologist he had no superior. He was the first to accurately describe the arrangement of the bony spiculæ in the neck of the human femur and to contrast it with that in those animals which do not assume the erect posture. He was the first to give a scientific description of the gorilla. His essays on symmetry and homology in the limbs, on the vertebral theory of the skull, on teratologic subjects, on spontaneous generation, and on the dissection of a Hottentot, show him to be an acute investigator and a profound philosopher. It was of him that Lowell said:

> Nothing to count in world, or church, or state,
> But inwardly, in secret, to be great;
>
> . . . .
>
> To toil for science, not to draw men's gaze,
> But for her love of self-denial stern;
> That such a man could spring from our decays,
> Fans the soul's nobler faith until it burns.

It was to another Harvard professor, Henry J. Bigelow, that we owe the first accurate description of the ileofemoral ligament of the hip-joint and its application to the reduction of dislocations. His work on "The Hip," published in 1869, completely revolutionized surgical practice in this matter. It should not be forgotten, however, that another American surgeon, W. W. Reid of Rochester, N. Y., had previously, in 1851, shown many of the facts afterward more completely stated by Bigelow.

It was in 1849 that we first note the entrance of Joseph Leidy into the anatomical field as the editor of Sharpey and Quain's "Anatomy." From that date until his death he was an ardent investigator in all branches of anatomical science. In 1861 he published an excellent work on "Human Anatomy," which was thoroughly revised in a second edition, published in 1889. He became especially famous by his investigations of the anatomy of extinct vertebrates and his work on "Fresh Water Rhizopods."

Closely associated with Leidy are two other anatomists who have done much to extend the fame of American science. These are Harrison Allen and Edward D. Cope. Allen's excellent "System of Human Anatomy," published in 1884, is not as well known as it should be, its form not being well adapted to students' use. He is the author of many important and most suggestive papers, especially those on the anatomy of the skull, and his too early death, in 1897, deprived us of one of our most accomplished craniologists. The contributions of Cope are rather to the philosophic side of anatomy and to paleontology. His fame as a morphologist is world-wide. He deeply studied the problems of evolution and wrote at length on them. His "Origin of the Fittest" and "Primary Factors of Organic Evolution" are well known.

As we come downward the stream broadens, and it becomes impossible to do justice to all within the limits of a summary like this. At Harvard, Professor Dwight has worthily worn the mantle left by Prof. O. W. Holmes. His "Anatomy of the Head," "The Identification of the Human Skeleton," and "Frozen Sections of a Child," are well known.

Prof. C. S. Minot has made some remarkable investigations in embryology, especially with regard to the structure of the placenta. His large treatise on "Human Embryology" has deservedly become a generally accepted text-book.

At Cornell University, Professor Wilder has for many years past made a special study of the microscopic anatomy of the brain, but he is best known by his efforts to reform anatomical nomenclature. In New York, Dr. Heitzmann, an adopted citizen, was the author of one of the most successful anatomical atlases that has ever been prepared for the use of students, but is perhaps more famous for his attack on the cell theory as commonly received, teaching that all the cells of the body are connected together by intercellular bridges, a doctrine that has recently received a certain amount of confirmation. Dr. F. D. Weisse published one of the most valuable of the many dissectors, illustrating it with unusually fine engravings. Prof. Geo. S. Huntington is the author of a number of myological papers of great merit.

In Philadelphia, Dr. Geo. B. McClellan has published a work on "Regional Anatomy" that is one of the best extant; Dr. W. W. Keen has edited, with conspicuous success, several editions of Gray's "Anatomy," and Dr. Piersol is well known by his fine work on histology. One of the foremost morphologists of the period was Dr. Ryder, whose untimely loss is deplored by all lovers of pure science.

In Baltimore, the work of Dr. Mall and of Dr. Barker of the Johns Hopkins University is attracting attention.

In Washington, the collections of the Army Medical Museum have done much to advance anatomical science, especially along the lines of pathological anatomy. Among the important works that have issued from this source is a memoir upon the human remains found in the Salado Valley, by Dr. Washington Matthews.

Frank Baker.

PROGRESS IN PATHOLOGY AND BACTERIOLOGY.

At some time, it has been said of each of the several medical sciences that its birth and its fosterage to greatness were brought to issue by a single nation. It is a delight of the French to proclaim that France, through her mighty son, Pasteur, gave bacteriology to the world, and the Germans are chiseling high upon the adamantine pyramids of fame a legend of Rudolph Virchow, father and fosterer of the modern science of pathology.

As to America, her part in the development of the basal sciences of medicine had until recently been small, the reasons for which are to be sought in the laws of environment. Her genius, attacking the nearest duty, had devoted itself to the application of foreign-wrought theoretic knowledge in the execution of practical works, and incidentally in the construction of useful sciences. Franklin, applying physical science to the uses of man, made of the lightning of the storm a torch-bearer and a beast of burden. Morton, applying old laws of chemics and physiology, made painless surgery a realization and subdued the terror —more dreaded than the grim visage of death itself. McDowell, seeking the conquest of pain, applied in an emergency his Scotch anatomic learning. Sims applied a theorem of physics, Battey and Emmett applied principles of mechanics and gynecology which went forth from America to Europe; a splendid full-blown science came into life.

Thus we see that in the distant past each of the sundry medical sciences seems to have had a more or less distinct national or provincial origin and development. But whatever may have obtained in former time, in the present outlook geographic limitations in science are unknown. Within the last few years America has brought to the sciences of bacteriology and pathology contributions which, in vastness of import, are not second to those of any other country. In 1887 the Americans, Salmon and Smith, upset at one brilliant stroke all of the then existing hypotheses bearing on artificial immunity. Through their discovery it became known that immunization is possible without the action of living bacterial matter; that an immunity may be secured in a purely chemic way. They succeeded in rendering doves immune against hog cholera by inoculations of bacterium-free solutions of the metabolic products of hog cholera cultures. With this discovery the entire question of artificial immunization was thrown into the province of chemistry, and there began the long line of investigations which have led to successful serum therapy, to the antitoxin treatment for diphtheria, tetanus, etc. Behring and Roux builded upon the works of Salmon and Smith. Without the American discovery, Behring could not have given his announcement to the Budapest congress.

Nuttall, who disclosed that many species of bacteria are killed by a mixture with fresh blood, and Sternberg, who overthrew the theories of Pasteur and Chauveau, have had original parts in the development of a rational and lasting theory of immunity. To the Americans—Welch, Sternberg and Osler —the world of medicine is indebted for its riper knowledge of the pathology of malaria. Our understanding of the pathology, bacteriology and antitoxin therapy of diphtheria has been broadened and benefited by the way-breaking works of Prudden, Biggs, Abbott, Flexner, Dunham, Koplik, Councilman, Morse and Emerson. Within the decade Klebs of Chicago has given us new knowledge of yellow fever, and Vaughan his epoch-making studies of nuclein and nuclein therapy. Dunham has exhaustively investigated the nature of the bacillus aerogenes capsulatus, and Welch and Flexner have discovered the relationship between this bacterium and air embolus. Coley has originated and elaborated his mixed-toxin treatment of inoperable neoplasms. Roswell Park has taken up the work of establishing a parasitic etiology of cancer, and Senn has labored originally and prolifically on the pathology of tumors.

These are a few of the captain jewels which Americans have placed in the carcanet of bacteriologic and pathologic science within the past ten years. May we not hope, in view of growing national, State and municipal support of bacteriologic and pathologic research, that treasures more vast and more dazzling will be brought out by Americans in another decade, when our sun shall have more fully risen.

J. Rilus Eastman.

PROGRESS IN OPHTHALMOLOGY.

To one even slightly acquainted with the subject it will at once be evident that the space here assigned to an attempted enumeration of purely American additions to ophthalmology must limit such a compilation to a mere catalogue of a few of the contributors and contributions to ophthalmic science. An entire issue of this journal would hardly suffice for a proper treatment of the subject.

In the early part of the century, America took a small but active part in the development of ophthalmology. George Frick's Treatise on "Diseases of the Eye," published at Baltimore in 1823, and a later edition, London, in 1828, is the first large addition to ophthalmic literature. Next to Saunders' work it was in this early day considered, even in England, to be the best book on the subject. For the following twenty-five years only American editions or translations of British or other foreign works were accessible to the profession here. In 1850, however, Henry Howard issued, from Montreal, his work on the "Anatomy, Physiology and Pathology of the Eye," a book of 517 pages. In it, among other things, he describes and pictures (page 436) his own invention, an arrow-head knife for the removal of cataract by an easy method. Some years afterward Williams of Boston, Mittendorff of New York, and others published works on the diseases of the eye. It was, however, reserved for H. D. Noyes of New York to publish (1881–1890) the most complete and most original treatise on this subject hitherto written in America. Since the first edition of this book, numerous other purely American text books of ophthalmology have been printed and they compare most favorably with foreign treatises. Of these "A System of Diseases of the Eye," by W. F. Norris and Charles A. Oliver of Philadelphia, requires special mention. This work may well be regarded as the English equivalent of the Graefe-Saemisch Handbuch and the "Traité Complet" of De Wecker and Landolt.

Of periodical literature, we now have our just share, although the first magazine—the original *American Journal of Ophthalmology*—was not issued until July, 1863. The editor was Julius Bomberger of New York. It became defunct in 1864, but was soon succeeded by the *Archives of Ophthalmology*, edited by Herman Knapp of New York. This magnificent periodical has for twenty-five years held, and still occupies, the foremost rank among English ophthalmic periodicals. If the distinguished editor had done no other work for American ophthalmology than that involved in editing the *Archives*, he would have earned undying fame, and our lasting gratitude. Other flourishing but less prominent publications are the *American Journal of Ophthalmology*, first issued in 1883, by Adolf Alt of St. Louis; the *Annals of Ophthalmology*, founded in 1891 by James P. Parker of Kansas City, and the *Ophthalmic Record*, begun the same year by G. C. Savage of Nashville, Tenn.

Among the older ophthalmologists must be mentioned Isaac Hays of Philadelphia, the first editor of the *American Journal of the Medical Sciences* and a voluminous writer on ophthalmic subjects in the still earlier *Philadelphia Journal of the Medical and Physical Sciences*, 1826 and 1827. His is the well-known Hays' knife-kneedle, pictured in Bull's edition of Soelberg Wells' treatise (p. 339, 1855), regarded by many as superior to all modern instruments of the kind. In the former journal for November, 1831, will be found one of the earliest accounts—by H. Morton—of the relations of accommodation to convergence. In the *American Journal of Medical Sciences* for April, 1845, will be found an original essay on the subject of "Color Blindness," by Earle. It is highly probable that an American should share with Stromeyer and Diffenbach the honor of devising and making the first operations for the relief of squint. Atwell (*Phila. Med. Examiner*, February, 1842) tells the following story: "In the year 1812–13 I attended courses of surgical and anatomic lectures delivered before the medical school of Brown University by William Ingalls, then the professor of anatomy and surgery in that institute; being subject myself to this infirmity (strabismus) Dr. Ingalls took frequent opportunities to explain to me the method of its surgical cure—he did this by dissection of the eye itself—explanation of the power and disposition of the several muscles appertaining to that organ, and showed me how by a division of one or more of them the eye might be brought to its proper place. In my own case I know he proposed to divide the rectus internus. So strongly was I impressed with the practicability and success of this operation that I strongly urged my father to permit me to submit to the operation; but upon the nature of the operation being explained to him he declined the permission because he feared the effect might be to turn the eye the other way."

So, also, Professor Dewey of Union College (1849), has a strong claim to recognition as the discoverer of hypermetropia—prior to Donders—called by him *neomacropia* (*Am. Journal of Science and Art*, vol. viii).

Blackman's operation for the relief of spasmodic entropion, said to be superior to Himly's, is described in the *New York Lancet* for June, 1842. Among the early methods of cataract extraction, the *New England Journal of Medicine* (1819, 126) contains the following by Gibson of Baltimore: "The iris was in the first place dilated by the application of atropa belladonna. A common sewing needle, slightly curved and armed with a single thread of silk, was then passed through the tunica sclerotica about two lines from the cornea, where the couching needle is usually introduced, through the opaque lens and out of the opposite side of the cornea, at a point corresponding to the one at which it was introduced. The silk being drawn through, and the ends cut off, a single thread was thus left passing through the ball of the eye, and acting on the diseased lens in the manner of a seton. It was feared that serious inconvenience might arise from the irritation produced upon the tunica conjunctiva from the excessive sensibility of this membrane. Fortunately, however, neither this nor any other accident intervened, and at the end of ten days, in both cases, the diseased lens had disappeared, and, in its place, the silk was distinctly seen passing like a bar across the pupil of the eye. The silk was withdrawn, and in a few days the vision was restored. In the third and last case in which this operation was performed it failed, in consequence of the iris being wounded. This caused such an inflammation of the organ that it was deemed proper to withdraw the seton at a very early period. This accident was attributed to not using the belladonna."

Coming to more recent times, it is not too much to say that American ophthalmologists have done quite as much to advance the science of ophthalmology as any other portion of the English-speaking world. In physiologic optics one must mention the works of Prentice, Dennett and Knapp of New York, Savage of Nashville, Green of St. Loius, Stevenson of Richmond, Ind., Wallace of Philadelphia, Lippincott of Pittsburg, Phillips, Gould and Carl Weiland of Philadelphia, and many others. Adolf Alt of Toronto and St. Louis has given the results of his original investigations in the physiologic and pathologic anatomy of the eye in a monograph on the subject.

It is, however, in the domain of the refraction and accommodation of the eye that American research has furnished its most brilliant triumphs, and the world is indebted to American observers for certain definite, easy and satisfactory methods for the determination of the refractive and accommodative condition. A few of these are Edward Jackson, Thorington of Philadelphia, Würdemann of Milwaukee (Development of Skiascopy), John Green of St. Louis and Pray of Brooklyn (earliest and most effective forms of the astigmatic chart), as well as Risley and Charles A. Oliver of Philadelphia, Culbertson of Zanesville, Ohio, and F. C. Hotz of Chicago, for optometric instruments.

Anomalies of the extrinsic eye muscles have received much attention at the hands of American ophthalmologists, and the profession everywhere is particularly indebted to George T. Stevens of New York (Nomenclature of Heterophoria), G. C. Savage of Nashville (Examination of Anomalies of the Oblique Muscles), Alexander Duane of New York, H. F. Hansell and Wendell Reber of Philadelphia, and many others.

Besides monographs by most of the men just mentioned, a text-book of ophthalmoscopy, containing many original observations of pathologic conditions of the fundus oculi, was published by the late E. G. Loring of New York, and this work is by many believed to be the most valuable of its kind yet written.

William Thomson of Philadelphia is a world-wide authority on color-blindness, and his method of examination of the color-sense is the most complete that we possess. That most useful device, the cemented bifocal lens, was invented by George M. Gould of Philadelphia. It was Karl Koller who introduced a valuable form of reading-glass for unusually defective eyes. Stevens' investigations of the absolute s rength of individual muscles, and likewise his invention of the tropometer and other similar devices for this purpose should be mentioned. Herbert Harlan's (Philadelphia) test for pretended amblyopia, Risley's (Philadelphia) rotary prism and Stevens' phorometer, in daily use here and elsewhere, George de Schweinitz' (Philadelphia) and St. John Roosa's (New York) investigations in ophthalmometry form a few examples of America's contributions to the important subject of the examination of the eye. Charles Stedman Bull's (New York) "Studies of Orbital Tumors" is everywhere quoted; Harold Gifford's name should be bracketed with that of Deutschmann of Hamburg for original inquiries into the nature of the pathologic processes involved in migratory ophthalmia; Ward Holden of New York and G. E. de Schweinitz have given us original reports on the pathology of quinin amaurosis. To C. H. Williams of Boston, C. F. Clark of Columbus, Ohio, and William Sweet of Philadelphia, we are indebted for the most effective use yet made of the Roentgen rays for the detection of foreign bodies in the eye. Thos. R. Pooley of New York first used the magnetic needle for determining the presence of steel within the globe. L. B. Grady of Omaha was the first to recognize that sunburn of the corneal epithelium is the cause of the most important symptoms of snow-blindness. The character and true meaning of angioid streaks in the retina were first revealed through the labors of Ward Holden (New York) and G. E. de Schweinitz. The author first drew attention to the probable causative relation between autointoxication and certain forms of optic atrophy.

There is insufficient room for mentioning the many additions to the therapeutics of ophthalmology for which the world is indebted to America. She partly lays claim to Karl Koller (now of New York) for the discovery of the local anesthetic properties o cocain. Powers of San Francisco discovered the value of amyl nitrite in the diagnosis and treatment o certain forms of toxic amblyopia. The investigations of H. O. Reik of Baltimore and E. A. de Schweinitz of Washington show that the vapor of formaldehyde is one of the most effective agents for the disinfec tion of ophthalmic instruments. Theobold firs recommended the employment of salicylic acid in "spring catarrh." Harold Gifford introduced the use of amyl nitrite in the treatment of embolism o the central retinal artery. The gymnastic exercise o weak eye-muscles by means of prisms was first in troduced by George M. Gould of Philadelphia, and afterward modified by Savage of Nashville.

In the domain of bacteriology—with special reference to ophthalmic diseases—American observers have taken a foremost place. John E. Weeks of New York divides with Koch the honor of discovering the most important microbe of acute conjunctivitis, an organism everywhere known as the Koch-Weeks bacillus. I believe it can be shown that Harold Gifford was the first to announce that the normal conjunctival sac contains pathogenic bacteria that can not be effectively or safely destroyed by any known antiseptic. Randolph first discovered the colon bacillus in the eye, and showed it to be one of the principal causes of panophthalmitis. He also determined the exact nature of "oyster shucker's" keratitis. To W. H. Bates of New York we are indebted for our first definite knowledge of the extreme value of suprarenal capsule as a local anesthetic and astringent. A shield for the protection of the uninfected eye from its affected fellow bears the name of its inventor, Buller of Montreal, and is described in every text-book here and abroad.

Operative surgery of the eye is almost as well represented in literature by Americans as by Germans. It is possible here to mention only a few worthies. The name of Herman Knapp will be found on the pages of every recent work devoted to this subject, in whatever language it may be written. His extended studies of the various stages of cataract extraction constitute a prominent addition to ophthalmic surgery, and he is the inventor of many instruments used in this operation. One has a choice of North and South America as the home of the originator of the maturation of unripe cataract by direct trituration of the lens—Recaldi of Buenos Ayres or Bettman of Chicago. J. A. White of Richmond, Va., introduced paracentesis of the cornea combined with *external* massage for the same purpose. Agnew's (New York) bidet, used in the removal of dislocated lens, is a most valuable instrument, and we are indebted to Henry D. Noyes of New York for several other devices employed in cataract extraction. Agnew's method of dealing with the capsule, as well as Lewis S. Zeigler's (Philadelphia) V-shaped capsulotomy are well known. Knapp's discission needle is everywhere employed, both at home and abroad. For the removal of soft portions of the ens, Lippincott of Pittsburg has recently devised an mproved syringe and has shown how it can be profitably employed.

The name of George T. Stevens may well be oupled with that of Landolt as the greatest living uthorities on operations on the external eye-muscles, he graduated tenotomy and advancement operations f the former being specially known. E. A. Prince f Springfield, Ill., C. H. Beard of Chicago, and Ielville Black of Denver, have each discovered riginal and useful single-stitch methods of advancing n external muscle. Certain operations for ptosis are escribed in most text-books as originating with J. O. Ansley and H. Knapp of New York and W. H. Wilder of Chicago. Knapp was probably the first advance Tenon's capsule.

For the protection of the eye recently operated on, Harold Gifford first introduced the shield dressing, and Frank Ring of New York devised the papier-maché mask. Harlan's (Philadelphia) operation for symblepharon is well known, while Knapp's roller forceps for the treatment of certain forms of trachoma has been everywhere adopted. Ophthalmic surgery is particularly indebted to America for the treatment of the conditions resulting from removal of part or all of the eyeball. E. O. Belt of Washington and Herbert Claiborne of New York have showed us how sponge-grafts constitute a suitable bed for an artificial eye. L. Webster Fox first implanted glass balls in the orbit itself, while Bryant of Omaha first made use of fenestrated aluminum spheres for the same purpose. A Chicago ophthalmologist, F. C. Hotz, devised two of the best-known methods of relieving entropion and trichiasis, and is regarded not only in this country but abroad as among the chief authorities on the surgery of the lids. An account of diseases of the lachrymal apparatus would be incomplete without the names of Theobold of Baltimore and the elder Williams of Boston, whose names are familiarly associated with certain probes for the dilatation of the nasolachrymal duct. Woodward first practiced extirpation of the caruncle and posterior wall of the canaliculus for troublesome epiphora, and it was an American who recommended the making of an opening into the upper part of the nose in incurable stricture of the lachrymal duct. Charles H. Thomas of Philadelphia has devised a very effective lachrymal stricturotome. Finally, S. D. Risley of Philadelphia and Frank Allport of Chicago are well known for their studies of school hygiene in its relation to the eye.

Casey A. Wood.

PROGRESS IN OTOLOGY.

In the preface to the first volume of the "Transactions of the American Otological Society" (1874), we are told that until within a very few years the science and art of otology had been almost entirely neglected by the medical profession of the United States. In its very best position otology was an appendage—not always very gracefully worn—to the department of ophthalmology; for in this country, as in Ireland, diseases of the eye and ear have always been connected, both in the minds of the profession and the laity. After the American Ophthalmological Society had attained a certain growth, or, to be more exact, in the fifth year of its age, the question of devoting one day of the annual meeting to diseases of the ear was discussed, but unfavorably reported on. Consequently, on July 22, 1868, the American Otological Society was organized by Drs. Agnew, Noyes, Roosa, Bumstead, Pomeroy of New York; John Green of St. Louis, Williams of Cincinnati, Robertson of Albany, and Rider of Rochester, all of whom were members of the American Ophthalmological Society then meeting. To this society much of the advancement in otology in America is due. Its "Reports on the Progress of Otology," which were for several years features of its Transactions, did much in the way of stimulating research, and even now constitute a valuable index of the earlier development of the science. In this connection may be mentioned the *American Journal of Otology*, 1879–1882, edited by Blake, J. Orne Green and others; *The Archives of Otology*, *The Annals of Otology*, etc., the *Laryngoscope*, and the *Journal of Eye, Ear, Nose and Throat Diseases*.

American text-books on diseases of the ear are numerous and valuable. Of these the first were those of Turnbull, published in Philadelphia in 1872, and of Roosa, the first edition of whose work appeared in 1873. Others which appeared at short intervals were those written by Buck, Burnett, Sexton, Pomeroy, and, somewhat later, Burnett's "System of Diseases of the Ear, Nose and Throat"; Dench, Bishop, Bacon, Scheppegrell's "Electricity in Diseases of the Nose, Throat and Ear," and de Schweinitz and Randall's "American Text-book of Diseases of the Eye, Ear, Nose and Throat;" finally, the section on otology, by Turnbull and Bliss in "Sajous' Annual" and by Burnett in Gould's "Yearbook."

In anatomy I mention Burnett's "Contribution to the Comparative Distribution of Blood-vessels in the Membrana Tympani" (*Am. Jour. Med. Sci.*, January, 1873); Randall and Morse's "Atlas of Photographic Illustrations of the Anatomy of the Ear," 1887; Randall's "Statistical Studies of the Foramen of Rivinius and the Axis of the External Canal in their Relation to Intratympanic Surgery" (Trans. Am. Otol. Soc., vi, 89); Bryant, "Observations on the Topography of the Normal Human Tympanum" (*Arch. Otol.*, October, 1890); Hunt, "A Comparative Sketch of the Early Development of the Ear and Eye of the Pig, Together with a new Account of the Development of the Meatus Externus, Drum and Eustachian Tube" (Report of First Congress Internat. Otol. Soc., 1876); Howe, "Photographs of the Membrana Tympani" (Trans. Am. Otol. Soc., 1895, vi, p. 217).

From the side of physiology, Blake wrote on the "Use of the Membrana Tympani as a Phonautograph" (*Boston Med. and Surg. Jour.*, February, 1875). While Blake and Graham Bell were investigating the manner in which articulate sounds were produced when the human Mt. was used as a phonautograph, which traced on smoked glass the curves produced by different vibrations, a suggestion by Blake in regard to the means whereby an electric current could be thrown into complex waves by communicating complex vibrations from a membrane like the Mt. to the armature of the magnet, gave the clue to the invention of the telephone (Vermyne: Trans. Am. Otol. Soc., 1878). Other writers from the physiologic side were: Buck, "On the Mechanism of Hearing" (*N. Y. Med. Jour.*, June, 1874); Mayer, "Researches in Acoustics" (*Am. Jour. Sci.*, Nos. 44–47; Nature, Aug. 10, 1876). He considers the fact that the perception of a tone can not interfere with another one of less pitch is a remarkable physical discovery, and next to the proof of the fact that the ear is capable of analyzing composite musical tones in the constituents of partial tones it is probably the most important gain for our knowledge of the nature of hearing, and will introduce important modifications in the now existing theories on the mechanism and the functions of the ear; Burnett, "On the Mechanism of the Ossicula and of the Membrane of the Fenestra Rotunda" (*Monats. f. Ohrenheilk.*, v, 7), and Blake's "Summary of Observations on the Effect of the Galvanic Current on the Auditory Nerve" (*Arch. of Sci. and Pract. Med.*, No. iv, 1873), are also to be noted here

From the standpoint of therapy, perhaps the most important work in the history of otology in America began with the publication of Sexton's "New Operation for the Radical Cure of Chronic Purulent Inflammation of the Middle-Ear Tract" (Trans. Am. Otol. Soc., 1886, p. 611; 1887, pp. 80, 318). While operations upon the Mt. and ossicles had been performed from the time of Karl Hilly and Astley Cooper, and by Schwartze in 1873 for sclerosis, Sexton's was in its essential features new, and of undoubted value. Its later adaptation to non-suppurative cases, as in synechotomy, removal of Mt., excision of malleus and incus, stapedectomy, mobilization of stapes, discission of adhesions, have been practiced to such an extent by American otologists that much has been done finally to determine the therapeutic status of the several procedures.

Roosa first pointed out the dangers of the nasal douche: "A Case of Pyemia from Suppurative Inflammation of the Cavity of the Tympanum Induced by Use of Weber's Nasal Douche" (*Arch. O. and O.*, vol. i, 1869). In view of present-day opinion, Spencer's article on the dry treatment in suppuration of the middle ear (with iodoform and cotton), in the *Am. Jour. of Otol.* (1880, p. 184), is interesting; also Blake's "Application of Paper Discs in Perforation of the Mt." (Report First Cong. Internat. Otol. Soc., 1876, pp. 125, 132); Blake's "Mechanical Treatment of Tension Anomalies by Means of Fine Rubber Strips" (*Arch. Otol.*, April, 1892).

In operations on the mastoid process and for infective diseases of the brain, etc., of otitic origin, American otologists have at least followed hard upon the work of their German and English confrères, and the work of Knapp, Holmes, Bacon and Whiting deserves mention in this connection.

Mention of instruments should include: Sexton's instrument for middle-ear operations; Blake's snare; Bacon's artificial leech; Bishop's massage-otoscope, the self-retaining mastoid-retractors of Bishop, Allport and Thorner; Shearer's violin-vibrophone (*Jour. of Electro-Therap.*, January, 1895); Chevalier Jackson's pneumatic masseur (*Laryngoscope*, January, 1897). T. Melville Hardie.

LARYNGOLOGY IN AMERICA.

Although the practical application of the laryngoscope was developed by Czermak and Türck, the specialty of laryngology, including rhinology, received its early impetus in America, through the American Laryngological Association. But long before this, Horace Green of New York City did admirable work with the then existing methods, and history informs us that in the earliest days of the Colonies diseases of the throat at times commanded the attention of the laity and profession. We have American records extending back to 1638, when, in an account of two voyages to New England, made during the years 1638 and 1663, by John Josselyn Gent, it is recorded that "they were troubled with a disease in the mouth or throat which had proved mortal to some in a very short time." From this time on little record is left until nearly the same time in the succeeding century, when, in 1735, two sermons on the throat distemper were preached by the Rev. Jabez Fitch of Portsmouth, N. H. This disease, with its characteristic symptoms, was fully described in an essay by Cadwallader Colden, which appeared some years later.

In 1771, Samuel Bard, professor of medicine in King's College, New York, published a very concise treatise on diphtheria, under the title, "An Inquiry Into the Nature, Cause and Cure of the Angina Suffocativa, or Sore Throat Distemper." He gave a careful statement of the diagnostic features and accurately described the morbid appearances of diphtheria. At that time the general treatment consisted of calomel, 30 to 40 grs. daily, for a child between 3 and 4 years of age. This, with an emetic and opiate, constituted the main treatment. In 1774 the disease was again described by Dr. Jacob Ogden as the throat distemper. Four years later Christian Friedrich Michaelis came to New York as physician general to the Hessian Staff, and he subsequently practiced medicine in New York City, where he exerted a wide influence on the profession. This distinguished practitioner wrote an exhaustive treatise on "Croup," which circulated widely among the Colonies.

From this time on, each year brought forth a verification or discovery regarding throat diseases. Benjamin Rush, in 1789, published his "Medical Inquiries and Observations," in which croup was classified as Cynanche trachealis, C. humida and C. spasmodica; but that laryngology was then but little understood is painfully illustrated by accounts of the treatment of General Washington during his last sickness. This consisted of bleedings, in which altogether nearly ninety ounces of blood were drawn, supplemented by inhalations of vinegar and water and the administraion of ten grains of calomel succeeded by tartar emetic. Raed, a London physician, naturally concluded that the General was bled and drugged to death.

At the beginning of this century many new facts, gained mostly by autopsies, were presented. In 1808 Dr. John Stearns instituted a new treatment for iphtheria, consisting of calomel, antimony and enega, and subsequently the treatment for the throat istemper continued along the line of eliminants, while, little by little, the dosage was reduced. A realiation that the causes of disease in the throat were ot understood, and that the symptoms were often misinterpreted, led to experimentation for producing nstruments by which the larynx in the living subject ould be demonstrated. In the same year in which Horace Green presented a new method of treating ryngitis, Bennati tried to illuminate the larnyx ith artificial light through metal tubes. From this me on, every few years, a new invention was announced purporting to do the work, but not until 1855 was the laryngoscope a pronounced success. In this year Garcia, a teacher of vocal music in London, demonstrated the larynx. He became quite expert in autolaryngoscopy, and also succeeded in exhibiting the larynx in others. Garcia's observations were communicated to the Royal Society of London, but received little attention; however, his experiments were followed up by Türck, who used the throat mirror, upon which daylight was thrown by a reflector, but on account of insufficient light, as autumn advanced, these experiments were abandoned. In the succeeding year, Czermak of Pesth borrowed the instruments of Türck and by means of artificial light made the instruments practical at any time. Soon a discussion arose between Türck and Czermak as to the priority of their claims in developing this new method of diagnosis. Their letters, which were published in various medical journals, spread a knowledge of the new art, which soon found enthusiastic advocates in this country, among the earliest of which were Louis Elsberg of New York and J. Solis Cohen of Philadelphia. From this time on, laryngology received a new impetus, but laryngologic instruction did not receive much attention until about 1865. The first regular instruction given in America was at the medical department of the University of the City of New York in 1861, by Dr. Elsberg, who established the first public throat clinic in this country in 1863. Ere long other colleges recognized the subject as of sufficient importance for independent instruction. Meanwhile the laryngoscope, and the method of using it, had been improved, its value more fully ascertained, and the art of laryngology had taken many strides in advance. In 1879 the teachers of laryngology in America consisted of five professors in various colleges, four clinic professors, two instructors and eleven lecturers, with four clinic lecturers. The bibliography of America up to this time consisted mainly of articles on croup, papilloma, laryngitis and foreign bodies in the larynx, and the surgery of the tonsils. Among the early contributors to this literature in this country we find such names as Meigs, Warren, Mott, Hamilton, Pancoast, Brainard, Leidy, Pepper, Sayre, Dalton, Peaslee, Allen, Gross, Flint, and others well known to the medical world. Stimulated largely by the writings of Türck, Schroetter and Mackenzie of Europe, Semeleder of Mexico, and Elsberg, Cohen, Lincoln, Lefferts, Knight, and Shurly in the United States, many medical men were taking up this special work, and in 1878, largely through the efforts of the late Frank H. Davis of Chicago, nineteen were banded together in the formation of the American Laryngological Association, which held its first regular meeting in New York City in 1879. At this meeting eleven other members were added, who by vote of the association were declared among the founders. The association had for its object the consideration of all diseases of the nose and throat and the methods for their prevention or cure. At its twenty annual meetings a large number of valuable papers have been presented, and it is safe to say that the work of this association has been one of the most important factors in developing this specialty throughout the world. Since the organization of this association, the principal European associations have been formed, and several other societies have been organized in this country. In 1879 only thirty-three men in the United States were giving sufficient attention to laryngology to be considered specialists, but now there are seventy-three in the parent organization.

There are many who interest themselves in the Section of Laryngology, which was added a few years ago to the American Medical Association. There are from two to three hundred in the other organizations throughout the States, and the subject has become so popular that the majority of general practitioners have fitted their offices with compressed air and spray tubes, and every town and many crossroads have their specialists, more or less qualified for the treatment of diseases of the nose and throat. From the more advanced workers in this field, much of great importance to the profession, and through it to humanity, has been learned.

Among the more important papers that mark the development and progress of laryngology and rhinology may be mentioned those upon lupus, by Asch, de LaSota, Knight, Johnston and Jarvis; buccal and lingual tuberculosis, by Bosworth, Delavan and others; laryngeal tuberculosis, by Gleitzman, Delavan and Murray; paralysis, by Elsberg and others; laryngectomy, by J. Solis Cohen; laryngeal photography, by French; laryngeal asthma, by Glasgow; chorea laryngis, by Holden Knight, Lefferts and Langmaid; tension of vocal bands and anatomy of the larynx, by Hooper and Seiler; tumors of the larynx, by Johnson and others; the voice and singer's nodes, by Langmaid, Curtis and Knight; spasm of the vocal cords; laryngeal whistling and laryngitis spastica, by Mulhall, Roe and Knight; intubation of the larynx, by O'Dwyer; malignant disease of larynx, by Delavan and others; leucoplakia buccalis, by the author; deflections and exostosis of the nasal septum, by Roberts, Delavan, Talbott, the author, and others; treatment of goiter, by Ohls and others; hay-fever and reflex phenomena from nasal disease, by Daly, Roe, Sajous and Elsberg; Relation of asthma to catarrh, by Daly and Bosworth; diseases of the antrum, by Brown, Daly and Bosworth; atrophic rhinitis, by Delavan, Rhodes, Casselberry, Rice and many others; hypertrophic rhinitis, by Allen, Shurly, Mackenzie and Jarvis; retronasal fibroma, by Lincoln and others; histology of catarrh, by Mackenzie; membranous rhinitis, by Major; nasal mucous polypi, by Knight and Wright; bacteriology of the nose, by Park and Wright; ethmoidal affections, by Bosworth and Mackenzie; Ludwig's angina, by Newcomb; relations of nasal diseases to disorders of digestion, by Robinson, Brown and French; relations of catarrhal affections of the upper air-passages to pulmonary tuberculosis, by Solly and the author; adenoid vegetations, by Allen and many others; tonsillotomy, by Lefferts, Mackenzie, the author and others; rheumatic and gouty sore throat, by the author and Rice; vasomotor neuroses, by Mackenzie; congenital syphilis of the throat, by Mackenzie; stricture of the esophagus, by Roe and others; galvanocautery in diseases of throat and nose, by Shurly and others; pharyngomycosis, by Knight and others. Many other diseases have been carefully studied by American laryngologists, and in spite of the many obstacles presented to physicians in this country, much valuable scientific work has been accomplished in this line.

E. Fletcher Ingals.

NEUROLOGY AND PSYCHIATRY IN AMERICA.

At the time of the organization of the American Medical Association, specialists in medicine were rare, but psychiatry existed and had its special organ. American psychiatry dates from early in the century and had a more than respectable standing even fifty years ago. The first American alienists were strong men in their profession, and the early volumes of the *American Journal of Insanity* are ample evidence of this fact. Such men as Ray, Brigham, Galt, Earle, and others, were in no way inferior to their confrères in any country, and it should be remembered in this connection that it was the inspiration of American practical work in this line that, through Miss Dix' intervention, brought about reform in the treatment of the insane in Scotland, now the country of model asylums.

Neurology, on the other hand, as a special department of medicine or a specialty by itself, is of much more recent date. It may be indeed said to date back hardly more than thirty-five or forty years, at the utmost. It does not follow from this statement that there was no activity in this direction prior to that date, for such was not the case, but the alienists were the only professed specialists, and observations and publications on neurologic lines were recognized only as contributions to general medicine. There were many such, among them some giving the results of experimental investigation, like the well-known researches of Brown-Séquard, himself a member of the Association, on the sympathetic system, in 1852. The prize essay of Dr. H. F. Campbell, a former president of the American Medical Association, and his claims of priority over Marshall Hall, may also be mentioned in this connection, together with many other papers giving observations of more or less interest in nerve pathology. America was not, however, at that time a good country in which to publish facts; it is doubtful whether even Brown-Séquard, had he continued to publish his researches here, would have attracted the attention which he received from his later European investigations. American works on the practice of medicine, like those of Wood and Flint, were sometimes quoted abroad in their statements in regard to nervous disorders, but that was about the extent of European recognition of American neurology.

It was in the closing years of the Civil War that the first thoroughly appreciated American work on a neurologic subject appeared, that of Mitchell, Morehouse, and Keen on "Gunshot Wounds of Nerves," afterward elaborated by Mitchell in his well-known

"Injuries to Nerves, and their Consequences." At this time, too, Dean had just recently published his elaborate anatomic work on the medulla and trapezium. W. A. Hammond, R. T. Edes, Beard, and the younger Seguin were beginning to contribute important articles, and in the early seventies American neurology as a specialty may be said to have been fairly launched. Dr. W. A. Hammond's work on nervous disease, which appeared in 1871 and has run through a number of editions, was a sort of landmark as the first, and for some time the only, American first-class text-book on this class of disorders. It has had many successors of late years of the highest order of merit, but it was the pioneer to gain recognition both here and abroad.

The organization of the American Neurological Association in 1874 was another landmark in the history of neurology in America. Since its inception it has been a stimulus to original work and has well supplemented and supported the work of more local societies. Its influence on American psychiatry, though perhaps not generally acknowledged, has been a salutary one and now, like its sister organization, the American Medico-Psychological Association, it includes in its membership a large number of active workers in both of the allied specialties.

The American contributions to neurology have been in the last two or three decades exceedingly numerous, and among them may be mentioned the works of Spitzka, Barker, Langdon and others on the finer anatomy of the nervous system, the original investigations of Dana, Mills, Ott, Berkley, Brown, Knapp, Hun, Osler, and others on its physiology; of Wilder on its comparative anatomy, nomenclature, etc.; contributions of Starr, Deaver, Eskridge, Park, Keen, and many others, to the surgery of the brain, with many more equally notable, which want of space forbids enumerating. The activity in neurologic research in this country is at present very great, and American work in this specialty stands high throughout the world. In this connection should be menioned the not strictly medical work that is being published in this line, much of it of the very highest class, in such journals as the *American Journal of Morphology* and the *Journal of Comparative Neuology*, and other scientific publications devoted to biology and kindred subjects. They include a large umber of very important researches, many of which ave a very direct medical importance and should be ncluded here. The present activity in physiologico-sychologic research has also its neurologic side, but ack of space prevents more than its mere mention.

At the time of the beginning of American neuroogic work, some thirty years ago, psychiatry in this ountry was not at its best, but since then it has likeise advanced, and at the present time it stands higher, oth as regards its practical and its scientific aspects, han at any previous period. Though still suffering om the effect of political control of asylums in some arts of the country, the specialty is on a higher ane than at any previous time, and with such auxiaries as the New York State Laboratory, and a milar, though less endowed arrangement in one or two other States, the prospects of really scientific work in this department were never better.

In the above outline only a few prominent facts have been touched on; more details would have unduly lengthened this notice. Enough has been said, however, to indicate briefly the progress that has been made.

NATHAN SMITH DAVIS.

Dr. N. S. Davis modestly made but little reference to himself in his account of the ex-presidents of the Association, and so we take the liberty of making this addendum and of reproducing a steel engraving which represents the "Father of the American Medical Association," as he looked fifty years ago.[1]

Dr. Nathan Smith Davis was born in the township of Greene, N. Y., Jan. 9, 1817. His elementary education was in the common district school of the neighborhood, supplemented by one term in Cazenovia Seminary. He was graduated in medicine from the College of Physicians and Surgeons of the Western District of New York, located in Fairfield, Herkimer Co., N. Y., in January, 1837. After a few months' practice in Vienna, Oneida Co., N. Y., he moved to Binghamton, and was elected delegate to represent the Broome County Medical Society in the Medical Society of the State of New York. It was while attending the annual meeting of the last named society in Albany, in February, 1845, that he offered the resolutions, the adoption of which led to the national medical conventions of 1846 and 1847, and the permanent organization of the American Medical Association. Desiring a wider field for professional work, in 1847 he moved to the city of New York, but was induced to remove to Chicago in the autumn of 1849, to fill a professorship in Rush Medical College, and has remained in this city during the intervening fifty years.

Dr. Davis' medical work is part of the history of medicine in this country. He is a pioneer in medical education—one of the very earliest to advance the idea of reform—a leading founder of the American Medical Association, which in its incipiency was chiefly devoted to this cause, and later, as the founder of the Chicago Medical College, which was the pioneer in the lengthening of the course in medicine, his services have been most valuable.

He has been active in almost everything that relates to the advancement of the profession, and foremost among those who have been honorably represented in these movements. He was secretary-general and later president of the International Medical Congress in 1887; he was one of the founders of the Illinois State Medical Society, Chicago Academy of Sciences, Chicago Historical Society, Illinois State Microscopic Society and the Northwestern University. His contributions to medical literature have been numerous and of value. Among his early works may be mentioned his essay on the "Physiology of the Nervous System," for which, in 1841, he received the prize for the best analysis of the discoveries in this department, "History of Medical Education in the United States," published in 1851; "History of the American Medical Association," published in 1855. His published views on the action of alcohol and its uses as a medicine have been of great influence, and some of his data there given are among the permanent acquisitions in regard to this subject. Other published works are "Practice of Medicine," and "Clinical Lectures," which has passed through its third edition. As a medical journalist, he has been in the field almost from the beginning of his career. In New York he was editor of the *Annalist*, and in Chicago took editorial charge of the *Chicago Medical Journal*, and later founded the *Chicago Medical Examiner*. He was also, for the first six years of its existence, editor of the Journal.

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[1] The cut found on page 1208 was intended to be used with this article

His work as a medical teacher began with his connection with the College of Physicians and Surgeons in New York. On his transfer to Chicago he was connected with the faculty of Rush Medical College, and later, as already stated, he organized the Chicago Medical College, of which he is still the honorary head. He is to-day in active practice, keeping his regular hours at his office, and is, considering his advanced age—82—hale and hearty.

There are few living who can show so long, useful and noble a career.

J. M. MATHEWS, PRESIDENT.

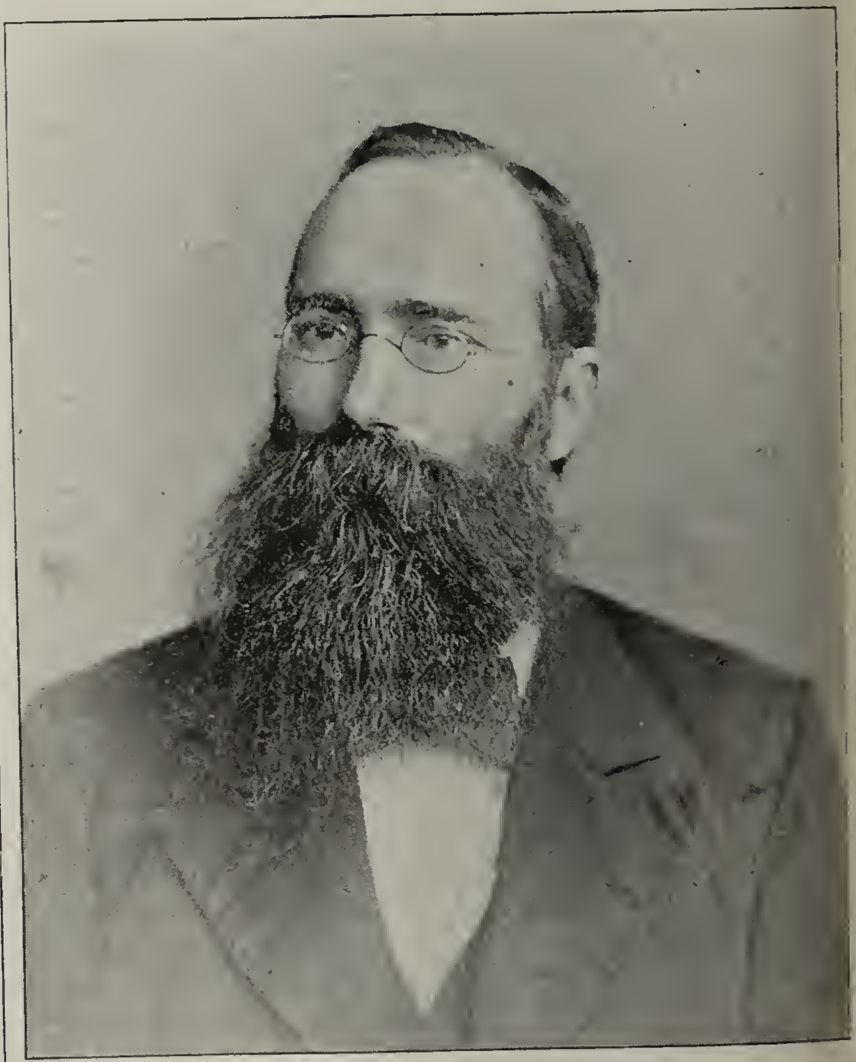
Dr. Joseph McDowell Mathews, who presides at the fiftieth session of the American Medical Association, was born in Newcastle, Ky., in 1847. He received a common-school education, and was graduated from the medical department of the University of Louisville. In 1878 he removed to Louisville and has for the last thirty years devoted himself to surgery. His work on the "Surgical Diseases of the Rectum and Sigmoid Flexure," published by Appleton and Co., has reached its third edition.

JOSEPH M'DOWELL MATHEWS.

Dr. Mathews has been an active member of the American Medical Association for the past twenty years, has been first vice-president, and for six years a trustee. He read the general address on surgery in 1887. Among the other official positions now held by him is that of president of the Kentucky State Board of Health, in which capacity he has initiated many important reforms. He is also an ex-president of the Kentucky State Medical Society and the Mississippi Valley Medical Association, and at the present time professor of surgery in the Hospital Medical College, Louisville, and editor of the *Louisville Journal of Surgery and Medicine*. Dr. Mathews is an honorary fellow or member of several important medical and scientific societies.

W. B. ATKINSON, PERMANENT SECRETARY.

No man connected with the history of the American cal Medical Association has been in as close touch with it as the permanent secretary, Dr. Wm. B. Atkinson. For thirty-five years he has held the position of secretary, and during that time has seen many changes in the Association, and few men have taken a greater interest in its welfare. He was born at Haverford, Pa., June 21, 1832, received his education at the Central High School of Philadelphia, and his medical degree at Jefferson Medical College in 1853. Dr. Atkinson has practiced medicine in Philadelphia since his graduation, was professor of obstetrics in the Pennsylvania Medical College, 1859 to 1861; lecturer

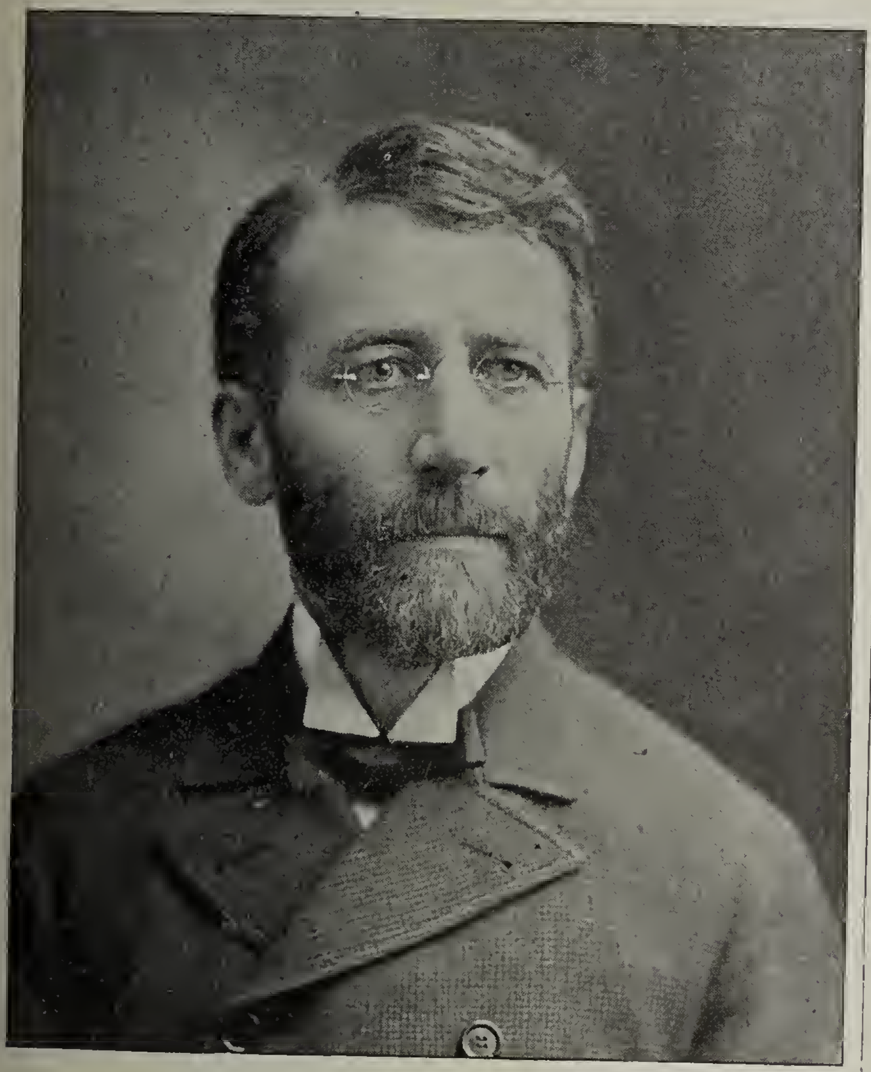


W. B. ATKINSON.

on diseases of children, Jefferson Medical College, 1877 to 1886, and professor of sanitary science and pediatrics in the Medico-Chirurgical College of Philadelphia from 1887 to 1891. He is a member of, and has held office in, various medical societies, and been connected with medical journalism for many years. He served as acting assistant-surgeon in the United States army during the Civil War, and has been medical inspector of the Pennsylvania State Board of Health for many years. He is also the author of several works and many important medical papers. His valuable services to the Association as permanent secretary for so many years need only be mentioned; they are well known to all. He was elected to the position in 1864.

HENRY PARKER NEWMAN, TREASURER.

Dr. Henry Parker Newman, the treasurer of the Association, was born in Washington, N. H., in 1853, and graduated from the Detroit Medical College in 1878. He then spent two years in post-graduate work in the leading universities of Germany, and on his return to this country settled in Chicago, where he has since resided and where he has built up a large practice and enjoys the respect of the profession. He is a member of the Chicago Pathological and Illinois State Medical societies, the American Academy of Medicine and the American Medical Association. He is a fellow and ex-president of the Chicago Gynecological Society, a member of the American Gynecological Society and one of the founders of the International Congress of Gynecologists and Obstetricians, a corresponding fellow of the Detroit Gynecological Society, and one of the founders of post-graduate medical education in Chicago and the West. He was the first president of one of the leading post-graduate schools and professor of diseases of women, and now occupies the chair of gynecology in the Chicago Policlinic; he has also been actively associated with the College of Physicians and Surgeons, Chicago, since its establishment in 1882, and held the chair of professor of obstetrics and clinical gynecology. He was elected treasurer of the Association in 1894.



HENRY P. NEWMAN.

ALONZO GARCELON.

One of the most earnest workers in the Association, one who was a member before the majority of those who are now members were born, and who is a representative of the grand "war horses" of the early days of the Association, is Dr. Alonzo Garcelon of Lewiston, Me. The Doctor was born in the town in which he resides, in 1813. While he is now in his eighty-sixth year, he is hale and hearty, attending to his practice and in other ways doing more work than the majority of men in their prime. He obtained his education in the common schools and also at Bowdoin College, was graduated from the Medical College of Ohio in 1839 and at once commenced his life work in his native town, where he is still practicing. An unbroken medical career of sixty years is certainly a record that few can claim. He joined the Association in 1853 and has been an active worker in it through all these years, ever standing up for the best interests of the Association and for the best interests of the profession at large. When the board of trustees was organized to carry out the will of the Association in regard to a journal, Dr. Garcelon was elected on that board, and has been re-elected every time his term expired. He was elected chairman in 1892, and still serves in that capacity. As such he has taken as much interest in the Journal, in its management—financial and otherwise—as though it was his own private enterprise. He has the unusual honor of having been the only Democratic governor that the State of Maine ever had, to which position he was elected in 1878; he has also been president of both the county and his own State medical societies; was surgeon-general of the State of Maine during the Civil War; has been a member of the board of trustees of Bates College since its organization, thirty years ago; was president of the State agricultural society in the early seventies; for seven years president of the Androscoggin Ry. Co., and besides has been counsellor, alderman and mayor of his own town, a representative in the legislature and member of the State senate, and has never asked a man to vote for him or to use his influence in securing the nomination for any office. In other words, Dr. Garcelon, by the record he can show from his own home and State, shows himself to be a man above men, honest, industrious, faithful, patriotic and true in every sense of the word. Such he has always been in his relation to the medical profession. Such he is to-day.

BOARD OF TRUSTEES.

The Board of Trustees is the most important committee of the Association. On it devolves the management of the financial affairs, as well as the management of the Journal. There has always been a tendency to keep in men who have been tried, as thus far only 35 have served on the board, Dr. Garcelon, as indicated above, having served continuously from its organization. The board consists of nine members each serving three years. The following have served on the board including the present members:

Alonzo Garcelon since 1882; P. O. Hooper, 1882 to 1892; H. F. Campbell, 1882 to 1887; J. M. Toner, 1882 to 1890; E. M. Moore, 1882 to 1890; L. L. McMurtry, 1882 to 1889, and 1893 to 1894, to fill vacancy; J. H. Packard, 1882 to 1887; Leartus Connor, 1882 to 1894; N. S. Davis, 1882 to 1883, resigned to become editor; J. H. Hollister, 1883 to 1891; E. O. Shakespeare, 1887 to 1890; Wm. T. Briggs, 1887 to 1890; W. W. Potter, 1891 to 1892; I. N. Love, 1889 to 1892, 1895; W. W. Dawson, 1890 to 1893; John B. Hamilton, 1890 to 1893, resigned to become editor; J. V. Shoemaker, 1890 to 1893; D. E. Nelson, 1890 to 1893: John H. Rauch, 1891 to 1894; D. C. Patterson, 1892 to 1894; P. H. Millard, 1892 to 1895; E. Fletcher Ingals, 1893 to 1896; E. E. Montgomery, 1893; John E. Woodbridge, 1894 to 1896; J. W. Graham, 1894 to 1895, to fill vacancy; Joseph Eastman, 1894; James T. Priestley, 1894; J. E. Reeves, 1895 to 1896; D. W. Graham, 1894 to 1897; C. A. L. Reed, 1896; G. C. Savage, 1896 to 1898; Joseph M. Mathews, 1896 to 1898, resigned to assume presidency; Truman W. Miller, 1897; J. T. Happel, 1898; H. L. E. Johnson, 1898.

TREASURERS OF THE ASSOCIATION.

The Association in the fifty-two years of its existence has had but six treasurers. These were: Drs. Isaac Hayes, 1847 to 1852; D. F. Condie, 1852 to 1854; Isaac Wood, 1854 to 1855; Casper Wister, 1855 to 1878; R. J. Dunglison, 1878 to 1894, and the present treasurer.

BRIEF HISTORY OF THE JOURNAL.

The minutes of the Association, and such papers presented at its meetings as survived the censorship of the committee on publication, were formerly printed in a volume of Transactions. The bulk of this volume, the task of editing the papers and the unavoidable mechanic delays in its publication were a constant source of annoyance to the committee and the Association. A resolution introduced by Dr. S. D. Gross of Philadelphia to the effect that the Transactions be published periodically in a journal to be known as the American Medical Association Journal, was passed at the meeting in Washington in 1870, but was immediately reconsidered. Nine years later Dr. S. E Chaille of New Orleans in a paper on "More Efficient Organization of the Association," advocated a change in the method of publishing the Transactions of the Association.

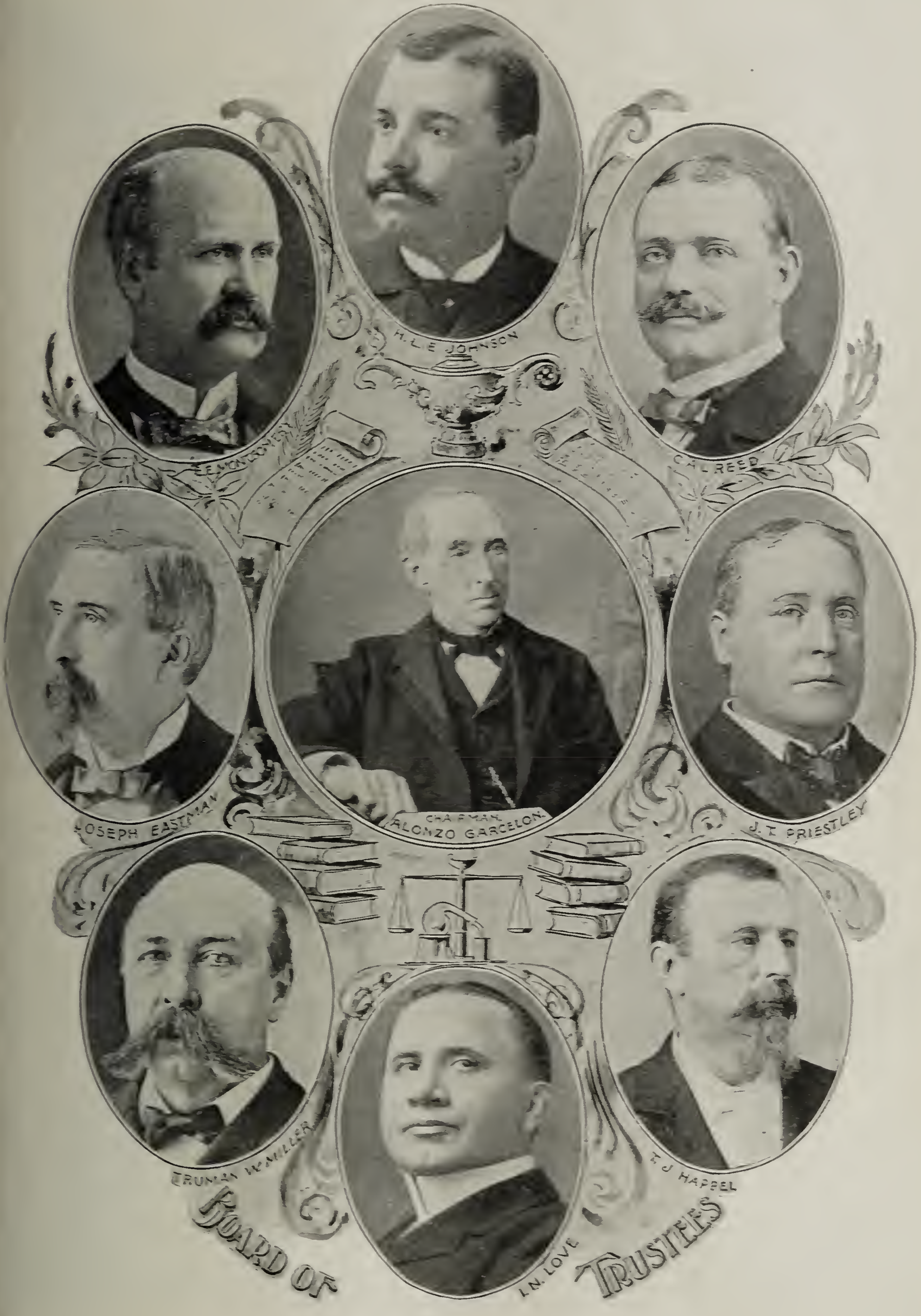
In his presidential address at New York in 1880, Dr. Louis A. Sayre, in discussing the needs of the Association, strongly urged the discontinuance of the annual volume of Transactions, and in accordance with his suggestions, a committee on journalizing the Transactions was appointed, composed of the following: John H. Packard, S. D. Gross, J. S. Weatherby, E. S. Dunster and Walter R. Gillette. The following year this committee made an extensive report on the subject and suggested the appointment of another committee to report in detail a plan for a medical journal. The following were members of that committee: John H. Packard, N. S. Davis, J. S. Billings, L. A. Sayre, R. Beverly Cole, W. B. Atkinson and R. J. Dunglison. This committee, in its report in 1882, estimated the cost of printing the Journal at about $15,000, and as the annual receipts of the Association varied from $2,000 to $6,000, changes in the plan of organization by which the doors of the Association could be opened to all members of State or county societies on application were imperative. The committee recommended the election of a board of trustees, which resulted as follows: To serve three years, N. S. Davis, E. M. Moore and J. M. Toner; two years, H. F. Campbell, J. H. Packard and Leartus Connor; one year, P. O. Hooper, Alonzo Garcelon and L. S. McMurtry. The board immediately assumed its duties and circulated 40,000 prospectuses and pledges of support among the medical profession. At the meeting in Cleveland in 1883, Dr. N. S. Davis, as chairman of the board, reported that 2100 pledges to sustain the Journal had been received, thus assuring its publication. Estimates for printing had been obtained and the bid of a Chicago firm being the lowest, Chicago was recommended as the place of publication. The trustees were authorized to proceed with the publication of the Journal. Dr. Davis was then introduced to the Association as the editor-in-chief. After some remarks on the prospects of the new journal, a vote of thanks was tendered to Dr. Davis for his willingness to assume the burdensome duties.

The original intention was to issue the first number of the Journal, July 1, but owing to the publisher's lack of facilities for the immediate handling of a publication of such size, the first number did not materialize until July 14. It contained in its thirty-two pages a complete transcript of the minutes of the Association, which were thus about ten months ahead of the usual time; a number of scientific articles and a goodly array of medical news, notes and correspondence. Dr. Davis served as editor from 1883 to 1889, when, at his earnest solicitation, his resignation was reluctantly accepted by the board of trustees. Dr. John B. Hamilton, who was elected to succeed him, after serving as editor from January to February, resigned the position on account of other interests. The Journal was then issued by the board of trustees with the advice of Dr. Davis until June 26, when Dr. John H. Hollister of Chicago was elected editor, being succeeded in 1891 by Dr. J. C. Culbertson of Cincinnati, who served until July 1, 1893, when Dr. Hamilton was again elected editor, which position he held until his death, Dec. 24, 1898. The trustees then assumed charge of the Journal, which was placed under the immediate supervision of Dr. Truman W. Miller of Chicago. At the meeting of the board in February, 1899, the present editor was unanimously elected and took charge March 1, 1899.

To recall the various steps in the evolution of the Journal from the time when its publication depended on the tender mercies of the job printer, would require more space than properly belongs to a brief history. Each year has seen some improvement in its columns, and the mechanic facilities have kept pace with its circulation. Under a conservative financial policy, the Association is now the owner of an extensive plant and has a comfortable balance in the treasury. The following is the average circulation of the Journal during the past sixteen years:

1883	3,800	1891	5,200
1884	4,020	1892	5,200
1885	4,500	1893	5,600
1886	4,800	1894	6,200
1887	5,000	1895	6,548
1888	5,100	1896	7,742
1889	5,450	1897	9,119
1890	5,450	1898	11,270

Dr. G. Frank Lydston, has returned to and resumed his practice in Chicago, after an extended tour in Central America, Mexico and California.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ATTENDANCE AT PAST MEETINGS OF THE ASSOCIATION.

The following data are furnished by Dr. W. B. Atkinson, permanent secretary:

At the organization of the Association, the State medical societies were few in number. As far as known there were only those of New York, New Jersey, Connecticut, Massachusetts, New Hampshire, Vermont, Rhode Island, Delaware, Maryland, Virginia (known as the Medical Convention of Virginia), South Carolina, Georgia, Mississippi, Michigan, Ohio (known as the Medical Convention of Ohio), and Tennessee. Since that time new societies have been formed until now every State and Territory has its own. Unfortunately, many of these have been formed on a plan not arranging for membership from the local societies, so that still in many States the profession is not well represented in the American Medical Association, by reason of this non-recognition. It is highly desirable that all the State societies should have a uniform rule in this regard, such as will enable many who can not attend the annual meeting of the Association, or of the State societies, to become members by application.

The attendance of the profession at the meetings of the Association has largely depended on the location. Until recently few felt like going to a distance to attend its sessions, hence the attendance was mainly from the immediate neighborhood of the place of meeting. Beginning with the first meeting, there were present in 1847, about 250; in 1848, about 260; in 1849, 475; in 1850, 300; although credentials were received from a representation of 700. The first list of members was issued about this time. In 1851 the attendance was about 250; in 1852, 288; in 1853, 573; in 1854, 260; in 1855, 535; in 1856, over 200; in 1857, 175; in 158, nearly 500; in 1859, 300; in 1860, 535; in 1863, over 200; in 1864, 535, although the Southern States were almost wholly unrepresented; in 1865, 616; in 1866, 367 (annual fee increased to $5); in 1867, 367; in 1868, 324; in 1869, 193; in 1870, 463; in 1871, 200; in 1872, 723; in 1873, 450; in 1874, 420; in 1875, 475; in 1876, 760; in 1877, 663; in 1878, 537; in 1879, 320; in 1880, nearly 1200; in 1881, 475; in 1882, about 1000; in 1883, 900; in 1884, nearly 600—members by application having been provided for. While this did not tend to increase the number registered, yet the list of permanent members began now to markedly increase; in 1885, 650; in 1886, not recorded. The adoption of the rule that permanent members must pay annually caused a temporary decrease, but this has been rapidly made up, so that the roll shows a membership of about 8000, and annually a registration of over 1000. In 1897—the semi-centennial—there were 1970 on the list, and in 1898, 1335.

MEDICAL JOURNALS.

In reviewing the history and progress made in medicine in this country, during the last hundred years, it would be unfair to leave out a description of that which has had much to do with this advancement—medical journals. A century of time is but a moment in the world's history, but when speaking of medical journals it is entirely different. One hundred and two years ago there was not a medical journal in the country, the first being the "New York Medical Repository," a quarterly, which made its appearance in 1797. Drs. E. H. Smith, Edward Miller and Samuel L. Mitchell, all of New York, were the men who have the honor of being the first editors of medical journals in the United States. This journal had a precarious existence, but managed to reach its twenty-third volume.

A few years after this, in 1804, the "Philadelphia Medical Museum" was started, and two months later the "Philadelphia Medical and Physical Journal" made its appearance. In 1810, New York, not to be behind Philadelphia, brought forward the "Medical and Philosophical Register," and the next year Philadelphia again came to the front with the "Eclectic Repository." The following year, 1812, Boston was heard from in the "New England Journal of Medicine and Surgery." This was supported with a good deal of spirit by some of the best practitioners and writers of the region in which it was published, and after an existence of sixteen years was merged into the "Boston Medical and Surgical Journal." The "American Medical Recorder" was the next Philadelphia enterprise and was established in 1818. This journal was finally, in 1829, absorbed by the "American Journal of the Medical Sciences." In 1820 the "Philadelphia Journal of the Medical and Physical Sciences" was established, Dr. Chapman editor. Two years after this the "New York Medical and Physical Journal" was founded and existed about seven years.

The first weekly journal published in the United States was the "Medical Intelligencer," started in 1823 by Dr. J. V. C. Smith of Boston. Probably other medical journals existed during this period, for even at that time there seems to have been an abnormal desire to publish medical journals, as there is to-day, but none of importance have left a record behind them. About this time medical journalism evidently received a new impetus from what was being done in London, by Mr. Wakly, with the "Lancet." It would be interesting to follow on and describe the origin of other medical journals, for about this time these were being established at other, at that time, large cities, such as Cincinnati, St. Louis, etc., but the space required would be more than can be spared.

WEEKLIES.

There are eight weekly medical journals, besides this one, in the United States, at least this is the number of which we are cognizant, and a brief history of these will not be out of place.

Boston Medical and Surgical Journal.—In 1827 the "New England Journal of Medicine and Surgery" and the "Medical Intelligencer," both of which have been mentioned above, were consolidated and called the "Boston Medical and Surgical Journal." This may therefore claim to be the oldest medical journal in the country, if we are to date its existence from the date of the issue of the first of the two journals which it succeeded. It is interesting at this time to read the reference made to this journal in the report of the committee on medical literature, which was made at the first meeting of the American Medical Association. The report says: "Its contents have been more various than those of any of its contemporaries and its pages have been used by anonymous writers with a freedom which recalls the early days of the 'Lancet.' For this, or other reasons, much of the medical literature of the 'Boston' and its natural tributaries has been diverted into other and distant channels." Evidently the "Boston Medical and Surgical Journal" was trying to follow in the footsteps of

Mr. Wakly of the "Lancet," at that time. The "Journal" is recognized as one of the solid, substantial weeklies of the country, conservative, and of a high order of merit. Its present editor is Dr. George B. Shattuck.

Cincinnati Lancet-Clinic.—This is another weekly which claims connection with the past. It succeeded the "Western Lancet" and the "Clinic." The "Western Lancet" was founded in 1842 and was consolidated with the "Observer" January, 1858, and then became known as the 'Cincinnati Lancet and Observer." The "Observer" was founded in 1856. The "Clinic" was a weekly and was founded in August, 1871, and ran as the "Clinic" till January, 1878, under the editorship of Drs. J. T. Whittaker, W. W. Dawson and P. S. Conner. The "Western Lancet," it is claimed, was a continuation of the "Western Quarterly Reporter," which was established in 1822. This was succeeded by the "Medical Repository," founded in 1826, and it by the "Journal of Medical and Physical Sciences," which appeared from 1828 to July, 1838, to be taken up later, as stated above, by the "Western Lancet." Following this history back, therefore, to the "Western Quarterly Reporter," the "Cincinnati Lancet-Clinic" can justly claim to be the third oldest journal in the United States. It was purchased by the present proprietor in 1874, when it was known as the "Lancet and Observer." The "Clinic" consolidated with the "Lancet and Observer" in 1878, since which time it has been known as the "Cincinnati Lancet Clinic." Dr. Culbertson has been the continuous proprietor since Jan. 1, 1874, and has been editor during that time, except the interval from May, 1891, to July, 1893, during which time he was editor of the Journal.

Medical News.—This New York publication of Lea Bros. & Co. has always been a clean, progressive, at the same time conservative, scientific journal, and has deservedly had the confidence and esteem of the profession all through its career. It was started as a monthly in 1843, and as such was successful. It was changed to a weekly in 1882. Published originally in Philadelphia, it was a few years ago removed to New York. It present editor is Dr. J. Riddle Goffe.

New York Medical Journal.—This weekly was started in April, 1865, as a monthly, with Dr. William A. Hammond as editor. In 1867 the late Dr. E. S. Dunster was associated with Dr. Hammond, and in 1869 Dr. Dunster became editor-in-chief. In 1871 the late Drs. William T. Lusk and James B. Hunter assumed the editorial management, and in 1874 Dr. Lusk retired, leaving Dr. Hunter as editor, in which position he continued until 1880, when Dr. Frank P. Foster succeeded him. In January, 1883, the "Journal" was changed from a monthly to a weekly, with Dr. Foster as editor. During the period from 1865 to 1868 it underwent a change of publishers three times, D. Appleton and Company having become the publishers in the last-named year—1868. In 1898 Dr. Kenneth W. Millican was associated as assistant editor with Dr. Foster, and so remains at the present time. The "Journal" has always been ably edited, and recognized as one of the leading medical weeklies.

Medical Record.—This, one of the most influential medical journals in the country, was first issued on March 1, 1866. Previous to that time there had been several attempts made in New York to publish a medical journal at less frequent intervals than monthly, all of which had successively gone under. The idea of starting the "Medical Record" originated with Mr. William H. S. Wood, then a young man just out of college. His father, the late Mr. William Wood, at that time the head of the firm, was warned that such an enterprise would only result in failure. His son, however, felt that a journal properly edited and managed from the business end would succeed. The "Medical Times," published by Bailliere Brothers and edited by Dr. Stephen Smith, had but recently succumbed to adverse circumstances, and with Dr. George F. Shrady, Dr. Stephen Smith's assistant, an arrangement was made to assume charge of the "Medical Record." It was first published as a semimonthly of twenty-six pages, the general appearance differing greatly from its present form and style. Its semimonthly issue was continued with a gradual increase in the number of pages until 1875, when it was changed to a weekly. Dr. George F. Shrady has been its editor all through its history, and he is to be congratulated on the good work he has done.

Maryland Medical Journal.—This Baltimore journal was established in 1877, being issued first as a monthly and afterward changing to a weekly. While it is small in size and makes no pretentions to being a journal of national character, it is of considerable influence in the part of the country in which it is published.

Medical Review, St. Louis.—The "Review" was started as a semimonthly in Chicago, Jan. 5, 1880. It was first called the "Chicago Medical Gazette," but after running under that title for six months it was changed to the "Chicago Medical Review." Dr. E. C. Dudley of Chicago was editor. In 1881 it was sold to Chandler and Englehard, and soon after Dr. Dudley bought it and finally sold it to J. H. Chambers of St. Louis in the early part of 1883. Since that time the "Review" has had various publishers and many editors, and has not been as successful for these reasons as it ought to have been. It has been published at $3, but now under the new proprietors and editors it has been reduced to $1 per year, the only weekly journal published at so low a price. Drs. Hanau W. Loeb of St. Louis and Harold N. Moyer of Chicago have recently assumed editorial charge, and it is already showing marked improvement.

Philadelphia Medical Journal.—The last weekly to be mentioned, for the reason that it is the last to make its appearance, is the "Philadelphia Medical Journal," established January, 1898. Backed morally and financially by the best men in the profession in Philadelphia, and edited by one of the best-known medical writers of the day, its success was assured even before its first number was issued and before its actual excellence could be seen. It has proven to be a success, for it has built up a circulation in a year and a half equal to that of a majority of the old established weeklies. The excellent character of this journal, the highly ethic standard it has assumed, the low price at which it is published, the fact that its owners are medical men and that it is published in the interest of the profession, and not as a business venture, makes it deserving of all the success it is having.

An effort has been made, at least once, to publish a daily medical journal but without success. One, the "N. Y. Daily Lancet," made a struggle at various prices, finally coming down to the absurd price of $1 a year and then gave up.

MONTHLIES.

American Journal of the Medical Sciences.—This

Philadelphia journal holds the most enviable record of all American medical journals. While it was founded in 1827 under its present name, it might date its existence from 1820, or even two years earlier, for it absorbed, in 1829, the "American Medical Recorder," established in 1818, and also succeeded the "Philadelphia Journal of the Medical and Physical Sciences," which has been referred to above, and which was established in 1820. It is probably the oldest medical journal in the country, or in the world for that matter, unless the "Boston Medical and Surgical Journal" runs back to the "New England Journal of Medicine and Surgery." (Under their present names the "American Journal of the Medical Sciences" was founded in 1827 and the "Boston Medical and Surgical Journal" in 1828.) Its career is remarkable in that all through its existence it has been recognized as reflecting the best thought in medicine and surgery, having always received the support of the best writers in the profession. Again referring to the report made by the committee on medical literature at the first meeting of the ASSOCIATION, this journal was alluded to in the following words: "So much of what is valuable in our periodical literature, during the long protracted period of its existence, has found a place in its pages, that it would be going beyond the limits of this report to attempt an analysis of its contents. Here have been recorded many of those daring operations which are dwelt on with so much pride by the American surgeon. Numberless cases of unusual interest have been here related by their observers, often accompanied by illustrations, for the most part creditable to the art which has furnished them. Many of the reviews which it contains are conceived and executed in a higher spirit than the mere mechanic analyses and Taliacotian abstracts which so frequently usurp this department of scientific as well as literary journals. This periodical is so well known through the country, and a complete series of it so generally contained in public libraries, that a general index to it from the commencement would be one of the most acceptable offerings which could be made to the medical reader." This eulogy, written fifty years ago, is still due this excellent journal, which was published quarterly until 1888, when it was changed to a monthly. It is at present edited by Dr. Alfred Stengel, with the co-operation in London of Hector McKenzie.

New Orleans Medical and Surgical Journal.—This is another of the old stand-bys, established in 1844, and has been regularly issued since, except for a brief period during the Civil War. It has always had the support of the best writers of the profession in the south. It is at present edited by Drs. Charles Chassaignac and Isadore Dyer.

Buffalo Medical Journal.—This monthly had its birth the year following that of the "New Orleans Medical and Surgical Journal," 1845. It was founded by the first Austin Flint, and for many years was among the leading journals of the country. After some years of prosperity the editorial became separated from the business management and the latter became so unprofessional that in May, 1860, it had to suspend from lack of professional support. In a little more than a year afterward—August, 1861—it was started under a slightly modified name, and has since been so conducted that it has continually had the support and respect of the profession. It is now edited by Drs. Thos. Lathrop and Wm. Warren Potter.

American Journal of Obstetrics.—Originally started in May, 1868, under the editorial management of Dr. Benjamin F. Dawson, who was also the owner of the "Journal," this publication was continued by him as a quarterly until 1872, when, finding the business management a care which he did not feel disposed longer to continue, he offered it to its present publishers. Messrs. William Wood & Company, who purchased it on Jan. 1, 1873, at which time its publication was changed to a monthly, in which form it has been continued until the present time. Dr. Dawson continued to edit the "Journal" for a time, when ill health compelled him to resign the position and Dr. Paul F. Mundé assumed it. After a number of years Dr. Brooks H. Wells became the active editor, which position he still holds.

Annals of Surgery.—The "Annals" is one of the strong scientific and high-standard medical journals of the day. It is devoted entirely to surgery and is endorsed and supported by the best surgeons of the country. It was established by James H. Chambers of St. Louis in January, 1885, under the editorship of Dr. L. S. Pilcher of New York and Mr. C. B. Keetley of London. It was the successor to and the outgrowth of "The Annals of the Anatomical and Surgical Society of Brooklyn," 1879–1880, and of the "Annals of Anatomy and Surgery," 1881–1883. In January, 1892, the University of Pennsylvania Press became the proprietors of the periodical, and continued its publication until June, 1897, when it was transferred to the J. B. Lippincott Company, its present publishers. Throughout its history the chief editorial management has been conducted by Dr. L. S. Pilcher. Mr. Keetley remained as an associate editor until 1892, when he was succeeded by Dr. J. W. White, Dr. William Macewen and Mr. Frederick Treves, who still remain associated, except in the case of Mr. Treves, whose place was taken by Mr. Jacobson in 1896. The "Annals" is the exponent of the best there is in America, and is recognized as being one of the best journals in the country devoted to surgery.

There are other medical journals which deserve notice here, such as the "American Gynecological and Obstetrical Journal," owned and edited by Dr. J. D. Emmett, which has a national reputation among obstetricians and gynecologists; "Medicine," a clean, high-class and well edited journal; and others, which might be mentioned were it not that space is limited.

It is interesting at this time to read the report of the committee on medical literature, already referred to, which was made at the first meeting of the ASSOCIATION. The chairman of this committee was Oliver Wendell Holmes, the others of the committee being Enoch Hale, G. C. Shattuck, Jr., Daniel Drake, John Bell, Austin Flint and W. Seldon. This report says: "In the course of half a century from the establishment of the first of the medical journals, their number has been gradually rising, until at the present time at least twenty are known to be in existence. Some principle, in addition to the wants of the reading community, must exist to account for such inordinate fecundity in this particular department. This is to be found in the homely fact that a medical journal is a convenient ally and advertising medium for public institutions and publishing establishments, and that by the 'help yourself' system so generally established, it is not necessarily much harder to edit a medical journal than to furnish the 'notes and additions' to the work of a British author." What, indeed, would this committee have to say if they were making a report to the ASSOCIATION now, fifty years after, when, instead of there being twenty medical journals, there are 230?

Quoting farther on from this report, it says: "A sore cause of complaint, of occasional but not frequent occurrence, is to be found in the liberties allowed to anonymous writers not so much with regard to each other—for if 'Medicus' and 'Senex' were to succeed in reciprocal annihilation, the loss might not be serious—but with regard to their neighbors at large and to things in general. An editor is responsible that nothing shall be admitted into his pages the essential character of which is hostile and inflammatory, on the same principle that he is bound to be courteous in his common intercourse. Some errors of this kind are doubtless owing to want of careful supervision on the part of the editor. That such negligence is very general there can be no dispute; there is hardly one of the journals whose fair features are not marked with the acne of typographic inaccuracies—and as the editors are educated men, the inference is inevitable that they have not read their own pages."

With this report was given a list of all the medical journals in the country at that time. There are eighteen in the list, although the report speaks of there being twenty. Only five of those are in existence to-day.

As a comparison, we had prepared for publication a list of the medical journals now in existence, but lack of space compels its omission. It gives the information that there are now about 180 regular medical journals, and between 40 and 50 homeopathic, eclectic and nondescript.

MEDICAL COLLEGES.

Medical education was at a low ebb in the early days of our Colonial period, for: 1, the necessary time, incident to the beginning of any country's history, before medical schools could be established; and 2, the fact that most medical men in the earliest of the Colonial days were mediocre at the best. But New York in 1760, and New Jersey in 1772, passed measures for restricting medical practice by requiring an examination "in physick and surgery," while in 1752, in Philadelphia, the first permanent hospital was established, at the suggestion of Dr. Thomas Bond, "who became its superintendent, and we believe the first regular *clinical* lecturer on medicine in America."[1] Also in Philadelphia, but in 1762, Shippen gave a course of lectures on anatomy to a class of twelve. "He continued the same course during the two following years, and in 1765 was joined by John Morgan, M.D. . . . Dr. Morgan soon delivered a public discourse on 'The Institution of Medical Schools in America,' before the trustees of the university that had been established in Philadelphia, and proposed a plan for teaching the various branches of medical science."[2] The result was his appointment to the professorship of theory and practice of medicine, Dr. Shippen to the chair of anatomy and surgery, and later, 1768, Dr. Kuhn to the professorship of botany and materia medica, with, a year later, Dr. Benjamin Rush as professor of chemistry. Thus was started the first institution for the teaching of medicine—the Medical School of the College of Philadelphia, begun in 1765, closed on June 1, 1777, on account of the occupation of the city by the British army, but reopened in 1778, to later become the medical department of the University of Pennsylvania.

In 1768, an effort was made in New York to establish a medical school in connection with Kings College, but with only moderate success, for in 1774 but about twenty-five attended the anatomic lectures.

Again we see the establishment of courses of lectures in different medical subjects, in connection with Cambridge University, in 1782, and in 1788 a medical faculty was established.

By 1810 the students attending medical colleges in this country numbered 650, with 100 graduates; in 1820, 964 students and 182 graduates; in 1830, 2125, and in 1840, 2800 students, against 597 and 775 graduates respectively.[3]

This glimpse through the past shows how and where medical colleges began in this country, their early history, often ups and downs, with the establishment of later medical institutions in the late eighteenth and early nineteenth century. Lack of space precludes any further detail. But the *bacillus scientiæ medici* multiplied rapidly, and schools of medicine were established in many places throughout the thirteen States, with later, almost annual, now even more frequent than annual, inoculations, until to-day the original pure culture, as in other bacteriologic fields has too often become a mixed, or a totally contaminated culture, from which we have to eliminate the more rapidly developing, in certain fields, *bacillos molinarum diplomarum* by means of that efficient germicide—a specific for this bacillus—State regulation.

Passing over these early years, to 1847, the convention which resulted in the organization of the AMERICAN MEDICAL ASSOCIATION saw twenty-eight medical colleges from twenty-two States there represented by delegates, and twenty-three of these colleges are in existence to-day.

In 1850 the number of students in attendance at medical colleges was 4500, with a roster of graduates containing 1300 names. At the present writing the medical students enrolled approximate 20,000, while some 3500 have received degrees at the various commencements just passed.

We had hoped to present here the number of graduates in medicine in this country for each year since the organization of the ASSOCIATION, but the data from a few medical institutions has not been obtainable in the short time at our disposal, though the approximate number of both graduates and students of medicine to-day, as concerns the regular medical schools in the United States, is, as given herein, as nearly correct as it is possible to make it.

When the ASSOCIATION was organized, the requirement for a medical degree was, practically, attendance varying from one session of nine months to two sessions. Ten years later saw but little increase in the time requirements in the curriculum, for that matter, and another decade shows much the same conditions existing. In fact, the higher standard now required is an outcome of the last few years, though the last two decades have evidenced a gradual tendency to lengthen or make more uniform the length of the sessions, the number of the sessions required for a degree, and the curricula of the various medical institutions. Especially is the change noticeable in the latter, for from the simplest requirements in the early days, the curricula have greatly been increased until now, from the high standards demanded of the candidate, the degree of M.D. has from most of our institutions come to carry great precedence. To be sure there is still room for even more elevation in the standard of requirements for graduation, and but few medical schools even now demand a university degree or its equivalent before beginning the study of medicine, but the trend is in that direction, and in not a few years will all medical schools make this demand, but also those of short courses will no longer be significant factors in medical education. We present the following table, replete with interesting facts, but which is far from complete. We publish it for the reason that we desire to make it a basis for future use. It seems absurd that it is impossible to get correct statistics in regard to medical colleges, but such seems to be a fact. Letters and circulars have been sent to every regular medical college in the United States, in many cases no reply being received to a second and third letter. We would earnestly request those colleges not here mentioned to send us the statistics for which our circular-letter called; also corrections for the list here published. Space precludes going into the statistics and work of the many excellent post-graduate institutions of the country.

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[1] Davis, N. S.: History of Medicine in United States.

[2] Ibid, p. 24.

[3] Ibid, p. 114.

Name of College.	Date of organization.	Years study required at time of organizat'n.	Years study now required.	When changes occurred.
Department of Medicine, University of Pa.	1765	1	4	
Harvard Medical College	1782	. . .	4	
Medical College of Georgia	1800	3	3	
College of Physicians and Surgeons, Medical Department of Columbia University in City of New York	1807	2	4	
University of Maryland, School of Medicine	1807	2	4	
Yale University, Department of Medicine	1810	2	4	1879-96
Medical College of Ohio	1819	2	4	
Medical School of Maine	1820	3	3	
Medical Department of the Columbia Univ	1822	2	4	
Medical Department, University of Vermont	1825	.	4	
Jefferson Medical College of Philadelphia	1825	2	4	
Medical College of State of South Carolina	1828	1	4	
Medical Department, Tulane University of Louisiana	1834	2	4	1899
Albany Medical College	1838	3	4	
University of Louisville, Medical Department	1837	2	4	
Rush Medical College	1837	2	4	1850-89-93-99
Medical College of Virginia	1838	2	4	1894-99
Missouri Medical College	1840	2	4	
St. Louis Medical College, Medical Department of Washington University	1842	2	4	1882-1899
Medical College of Western Reserve Univ.	1843	2	4	1887-92-96
University of Buffalo, Medical Department	1845	2	4	
Starling Medical College	1847	2	4	
College of Physicians and Surgeons (see Keokuk Medical College)	1849	2	4	
Woman's Medical College of Pennsylvania	1850	2	4	
Kentucky School of Medicine	1850	2	4	
School of Medicine, Georgetown University	1851	2	4	
Cincinnati College of Medicine and Surgery	1851	2	4	
Miami Medical College	1852	2	4	
Cooper Medical College	1858	2	4	
Long Island College Hospital	1858	3	4	
Northwestern University Medical School	1859	2	4	1868-1892
Medical College of Alabama	1859	2	4	
Woman's Medical College of the New York Infirmary for Women and Children	1864	2	4	1877
Cleveland College of Physicians and Surgeons	1863	2	4	
Medical Department of Willamette Univ.	1865	2	4	
Medical Department of Howard University	1867	2	4	
Medico-Chirurgical College	1867	3	4	1899
Kansas City Medical College	1869	2	4	
Medical College of Indiana	1869	2	4	
Medical Department University of Iowa	1869	2	4	
Northwestern University Woman's Medical School	1870	3	4	1899
College of Physicians and Surgeons of Baltimore	1873	2	4	
College of Medicine of Syracuse University	1872	2	4	1875
Medical Department, University of the State of Missouri	1873	2	4	
Medical Department, University of the State of California	1873	2	4	
Medical Department Vanderbilt University	1875	2	4	1893-99
Medical Department University of Tennessee	1876	2	4	
Meharry Medical Department Central Tennessee College	1876	2	4	
Memphis Hospital Medical College	1878	2	4	
Central College of Physicians and Surgeons	1879	1	4	
Arkansas Industrial University, Med. Dept.	1879	2	4	1895
Fort Wayne College of Medicine	1879	2	4	
St. Louis College of Physicians and Surgeons	1879	2	4	1898
College of Physicians and Surgeons (Boston)	1880	3	4	1884-93-95
Baltimore Medical College	1881	2	4	
Medical Department, University of Denver	1881	2	4	
Toledo Medical College	1881	2	4	
University Medical College	1881	3	4	
University Medical College (Kansas City)	1881	2	4	
Omaha Medical College	1882	2	4	1890-95
Woman's Medical College of Baltimore	1882	3	4	
College of Physicians and Surgeons (Chicago)	1882	2	4	1889-94
Iowa College of Physicians and Surgeons	1882	2	4	
Western Pennsylvania Medical College (Med. Dept. of Western Univ. of Pa.)	1883	2	4	
Colorado School of Medicine	1883	3	4	
Minneapolis College of Physicians and Surgeons, Medical Department of Hamline University	1883	3	4	1896
Medical Department Univ. of S. California	1884	3	4	1894
Baltimore University School of Medicine	1884	2	4	1897
Detroit College of Medicine	1885	2	4	
Medical Department University of Oregon	1887	2	4	
Gross Medical College	1887	3	4	
Ensworth Medical College and Hospital	1888	3	4	1898
College of Medicine and Surgery, University of Minnesota	1888	3	4	
Michigan College of Medicine and Surgery	1888	3	4	
Medical College New Orleans University	1889	3	4	1895
Chattanooga Medical College (Medical Department Grant University)	1889	3	3	
Kansas Medical College	1889	3	3	
Medical Branch, University of Texas	1890	3	4	
Ohio Medical University	1890	3	4	1897
Marion-Sims College of Medicine	1890	2	4	
Laura Memorial Woman's Medical College	1890	3	4	
Keokuk Medical College	1890	2	4	
Harvey Medical College	1891	4	4	
Creighton Medical College	1892	3	4	
Barnes Medical College	1892	3	4	
Medical Department of Johns Hopkins Univ.	1893	4	4	
Tufts' College Medical School	1893	3	4	
University College of Medicine	1893	3	4	
Wisconsin College of Physicians and Surgeons	1893	3	4	1897
Jenner Medical College	1894	3	4	
Milwaukee Medical College	1894	3	4	
Illinois Medical College, The Chicago Summer School of Medicine	1894	3	4	
College of Physicians and Surgeons, Medical Department Kansas City University	1894	3	3	
Birmingham Medical College	1894	3	4	
College of Physicians and Surgeons of San Francisco	1896	4	4	
Medico-Chirurgical College (Succeeded Kansas College of Medicine and Surgery)	1897	3	4	
Atlanta College of Physicians and Surgeons	1898	3	3	
Keokuk Medical College; *a*, College of Physicians and Surgeons, 1849; *b*, Keokuk Medical College, 1890	1899	2	4	Succeeded.

SECRETARIES OF THE AMERICAN MEDICAL ASSOCIATION.

The secretaries of the ASSOCIATION have been as follows: At the convention in 1846, prior to organization, Dr. W. P. BUEL was selected to act as secretary, and at the nomination of officers, Dr. ALFRED STILLÉ and Dr. RICHARD D. ARNOLD were appointed. These gentlemen acted during that session of the convention and at the first regular meeting of the ASSOCIATION. In 1847, Dr. STILLE and Dr. J. R. W. DUNBAR were elected. In 1848, Dr. STILLE and Dr. HENRY I. BOWDITCH acted; also in 1849. In 1850, Dr. STILLE and Dr. DESAUSSURE were secretaries, and in 1851, Dr. DESAUSSURE and Dr. P C. GOOCH. In 1852, Dr. E. L. BEADLE served with Dr. DESAUSSURE; in 1853, Dr. E. S LEMOINE with Dr. BEADLE; in 1854, Dr. FRANCIS WEST with Dr. LEMOINE; in 1855, Dr. WM. BRODIE and Dr. WEST; in 1856, Dr. R. C. FOSTER and Dr. BRODIE; in 1857, Dr. A. J. SEMMES with Dr. FOSTER; in 1858, Dr. S. M. BEMISS with Dr. SEMMES; in 1859, Dr. ELI IVES with Dr. BEMISS; in 1860, Dr. S. G. HUBBARD with Dr. H. A. JOHNSON; in 1863, Dr. GUIDO FURMAN with Dr. JOHNSON. In 1864 the amendment to the constitution was made, creating the office of permanent secretary, and Dr. WILLIAM B. ATKINSON was elected to that office, which he still fills.

Current Medical Literature.

Titles marked with an asterisk (*) are noted below.

American Journal of Medical Sciences, May.

1.—*Study of Leucocytosis Associated with Convulsions. Fred Grant Burrows.
2.—*Case of Brain Tumor at the Base of the Second Left Frontal Convolution. Hermon C. Gordinier.
3.— Sarcoma of Testicle. Geo. M. Kober.
4.—*Detachment of Retina. Mathias Lanckton Foster.
5.—*Should the United States Pharmacopeia Recognize Veratrum Album and Veratrum Viride as one Drug? Horatio C. Wood and Horatio C. Wood, Jr.
6.—*Critic Summary of the Question of Fatty Degeneration. Alonzo Englebert Taylor.
7.—*Some Recent Literature Regarding Cancer. Charles H. Frazier.

American Gynecological and Obstetrical Journal (N. Y.), May.

8.—*Consideration of Vaginal Fixation in Treatment of Retroversion. E. E. Montgomery.
9.—*Alexander's Operation. Charles P. Noble.
10.—*Suspensio Uteri and Intraperitoneal Shortening of Round Ligaments. Richard C. Norris.
11.—*Non-operative Treatment of Retrodisplacements of Uterus. F. Hurst Maier.
12.—*Causation of Uterine Retrodisplacements. Wilmer Krusen.
13.—*Diagnosis of Retrodisplacements of Uterus. John M. Fischer.
14.—*Presentation of New Ecraseur; its Advantages over Ligatures and Clamps in Intrapelvic Surgery. J. Dougal Bissell.
15.— Imperforate Anus, with Report of Cases. V. A. Robertson.
16.—*Early Diagnosis of Cancer of Pelvic Organs. C. C. Frederick.
17.—*Management of Labor Cases in Private Practice. Allen M. Thomas.

Journal of Nervous and Mental Diseases (N. Y.), May.

18.—*Retrobulbar Neuritis and Facial Palsy Occurring in Same Patient, with Cases. G. E. de Schweinitz.
19.—*Relations of Infantile Spinal Paralysis to Diseases of Later Life. William Hirsch.
20.—*Lipoma of Filum Terminale. William G. Spiller.
21.—*Do Epileptics Recover? Edgar J. Spratling.

Journal of Boston Society of Medical Sciences, April.

22.—*Weak Feet. Benjamin Tenney.
23.—*Miliary Aneurysm of Brain. E. W. Taylor.
24.— Some Physiologic Effects of Reduced Pressure on Fish. Frederic P. Gorham.
25.—*Disproof of Paraxanthin Poisoning Theory. J. J. Putnam and Franz Pfaff.

Western Medical Review (Lincoln, Neb.), May 15.

26.—*Empyema and its Treatment. Emory Lanphear.
27.—*Wounded from Santiago. Lewis Schooler.
28.—*Tuberculosis of Larynx. F. E. Sampson.
29.—*Gastro-Enterostomy: Indications and Report of Cases. Byron B. Davis.
30.— Appendicitis or Salpingitis with Complications, and Reports of Some Unusual Cases. Thomas H. Hawkins.
31.—*Criticism of Whitehead's Operation for Piles. S. G. Gant.

Am. Practitioner and News (Louisville) May 1.

32.—*Dislocation of Cervical Vertebræ Followed by Mania and Death. Report of Case. Thos. L. Butler.
33.— Case of Extrauterine Pregnancy; Operation; Recovery. Lewis S. McMurtry.

Denver Medical Times, May.

34.— Recreation for Invalids. E. A. Lee.
35.— Seeking Health in Colorado. Luther H. Wood.
36.—*Observations on the Effects of Great Altitudes. E. A. Whitmore.
37.— Endometritis. Lewis S. McMurtry.
38.— Nauheim Treatment in Myocardial Disease. Allan A. Jones.
39.— Hematuria During Six Months of Gestation and Two and One-half Weeks After: Report of Case. P. D. Rothwell.
40.—*How to Effect Expulsion of the Placenta after Childbirth. R. G. Woodworth.

International Medical Magazine (Phila.), May.

41.— Hypnotism and its Use in Medicine. F. X. Dercum.
42.—*Treatment of Chronic Diseases of Kidneys. Carl Von Noorden.
43.—*Gall-stones. Joseph McFarland.
44.—*Some Practical Uses for Electrolysis. W. Blair Stewart.
45.— Treatment of Gonorrhea in Women. J. D. Thomas.
46.— Treatment of Chronic Endometritis. E. E. Montgomery.
47.— Test-meals and Best Way to Obtain Gastric Contents after Them. Boardman Reed.
48.— Chronic Diseases of the Colon, and Some General Disturbances Caused Thereby. A. G. Deardorff.

Post-Graduate (N. Y.), May.

49.—*Syphilitic Affections of Heart and Lungs. Leonard Weber.
50.— Recollections and Reflections of a Quarter of a Century. Stephen Smith Burt.
51.—*Two Months in Medical Wards of N. Y. Post-Graduate Hospital. William Henry Porter.

Medical Bulletin (Phila.), May.

52.— Psoriasis: Verruca: Herpes Zoster. John V. Shoemaker.
53.—*Faulty Diagnosis from Faulty Examinations of Urine. Theo. W. Schaefer.
54.—*Treatment of Varicose Ulcers. Philippe Valençon.
55.—*Regarding Percentum Solutions. C. H. Gubbins.

Corpuscle (Chicago), June.

56.—*"Christian Science" Viewed from a Medical Standpoint. Bertram W. Sippy.
57.—*Acute Melancholia and Mania. D. R. Brower.

Merck's Archives (N. Y.), May.

58.—*Therapeutic Value of Paraldehyde. J. V. Shoemaker.
59.—*Two Interesting Cases with Hints as to their Treatment. W. H. Porter.
60.—*Carbolic Acid in Tetanus. Horatio C. Wood, Jr.
61.—*Therapeutics of Acute Pneumonia. Thomas J. Mays.
62.—*Some Uses of Strychnin. J. H. Jackson.
63.—*Some Considerations on Etiology and Treatment of Rheumatism. A. A. Eshner.
64.—*Trional. H. P. Coile.

Medical Sentinel (Portland, Ore.), May.

65.—*Lumbago and Simulated Conditions. R. L. Gillespie.
66.—*Early Diagnosis of Pulmonary Tuberculosis. A. E. MacKay.
67.—*Infant Feeding: Natural and Artificial. Alva D. Walker.
68.—*Appendicitis (continued). L. P. McCalla.
69.—*Cold as Factor in Production of Scurvy. A. W. Botkin.
70.— Proper Operation for Cancer of Rectum. Jos. M. Mathews.

Kansas City Medical Record, May.

71.—*Treatment of Pulmonary Tuberculosis. R. O. Cross.
72.—*Why a Conscientious Physician Can Not Practice Homeopathy. J. K. Cole.
73.— Let the Term "Amputation" Be Abolished Altogether in all Traumatisms Involving Extremities or their Appendages. Thomas H. Manley.

Atlanta Journal-Record of Medicine, May.

74.— Memorial Address on the Late Dr. Henry Campbell Doughty. Joseph Eve Allen.

North Carolina Medical Journal, May 5.

75.—*An Unusual Case. M. R. Adams.
76.—*Care of Sick and Wounded in War of Revolution. Francis R. Packard.

Virginia Medical Semi-Monthly (Richmond), May 12.

77.—*Dangerous Possibilities of Pus in Female Pelvis as Result of Appendicitis. John B. Deaver.
78.—*Penetrating Wounds of Abdomen, with Report of Cases. Floyd W. McRae.
79.— Nasal Disease as a Causative Factor of Disease in Eye. O. A. M. McKimmie.
80.— How Curative Agents Act. H. A. Minor.
81.—*Erythema Scarlatinoides: a Case. J. Travis Taylor.
82.— Detention and Commitment of Insane in District of Columbia. Clifton Mayfield.

Boston Medical and Surgical Journal, May 25.

83.—*Value of Posture in Treatment of Occipito-Posterior Positions. Charles M. Green.
84.—*Case of Perforation in Typhoid Fever Closed by Adherent Tag of Omentum, Followed by Relapse, Second Perforation and Death. D. J. Milton Miller.

Medical Record (N. Y.), May 27.

85.—*Mosquitoes Considered as Transmitters of Yellow Fever and Malaria Charles J. Finlay.
86.—*Failure of Antitoxin in Treatment of Diphtheria. J. Edward Herman.
87.—*New Operation for Epithelioma of the Lip. W. W. Grant.
88.— Epistaxis: its Cause and Treatment. Carl Seiler.
89.—*Some Clinic Features about Vaccination. Lucien Lofton.
90.— Recurrent Strangulation of a Left Oblique Congenital Enteroepiplocele in Infant Six Weeks old; Herniotomy; Recovery. Herbert Marion Stowe.
91.— Unusual Case of Sinus Thrombosis and Epidural Abscess Complicated by Malaria; Operation; Recovery. M. D. Lederman.

Cincinnati Lancet-Clinic, May 27.

92.—*Agitate the Alcohol Question in the Profession. W. E. Shaw.

New York Medical Journal, May 27.

93.—*General Diagnosis of Syphilis of Brain and Spinal Cord. B. Sachs.
94.—*Intention: a Study of the Bovine Brain. Wallace Wood.
95.— Retention of Urine. Ramon Guitéras.
96.—*Inhibition. S. J. Meltzer.
97.— A Little Point of Great Importance in Transfusion. Louis Julian y Genella.
98.— Landry's Paralysis. W. H. Haynes.
99.— Antistreptococcic Serum in Puerperal Septicemia and Pelvic Cellulitis. A. G. Deardorff.

Medical News (N. Y.), May 27.

100.—*Non-Tubercular Inflammation of Spine. T. Halsted Myers.
101.—*African Black-Water Fever. Franklin Pierce Lynch.
102.—*Relative Death-Rates from Cancer and Consumption. John H. Pryor.
103.— Cod-Liver Oil. Thomas E. McArdle and W. H. Wiley.

Medical Review (St. Louis), Mo.

104.—*Faith Cure Fakirs. Wm. M. Reedy.
105.— Bacteriology and Demonstration of Diplococcus Intracellularis Meningitidis. G. C. Crandall.
106.— Symptomatology of Cerebrospinal Fever. Given Campbell.
107.— Diagnosis of Cerebrospinal Fever. Elsworth Smith, Jr.
108.—*Treatment of Whooping-Cough. Milton P. Creel.
109.—Ear and Throat Infection with Subsequent Involvement of Neck. Ernest H. Cole.

Maryland Medical Journal (Baltimore), May 27.

110.—*Recent Investigations on Malaria. W. S. Thayer.
111.— Study of the Human Gait. E. H. Bradford.

Philadelphia Medical Journal, May 27.

112.—*Symptomatology of Tumors Involving the Hypophysis Cerebri. James Stewart.
113.—*Anesthetizer as a Specialist. D. H. Galloway.
114.— Cold Baths in Tropic Fever. Charles E. Woodruff.
115.— Case of Presystolic Mitral Murmur Associated with Systolic Tricuspid Murmur Complicating Pregnancy. James Tyson.
116.— Some Prophylactic Measures with Especial Reference to Infants and Children. W. L. Johnson.
117.—*Description of New Method for Implantation of Glass Balls into Orbital Cavity. Charles A. Oliver.
118.— Pathology and Treatment of Nasal Ulcer on Septum Nasi and Floor of Nasal Passage. Hiram L. Leffingwell.
119.—*Simple Gauze Packer. Wm. C. Bane.

1.—**Leucocytosis.**—The purpose of Dr. Burrow's paper is to record some observations made on seven patients during and after convulsions, to test the question as to the leucocytosis observed by Capps, and to ascertain its special characteristics. One of the cases was senile dementia, one terminal dementia, two general paralysis, one catatonia and one puerperal eclampsia. Two cases without convulsions were also studied, one a paretic and the other a healthy man. He found that there is a leucocytosis associated with the convulsion and, in a general way, related to the severity of the attack. Its duration is variable, from three to four to twelve to fifteen hours. The condition is of the inflammatory type after the convulsion. The more severe and pronounced the convulsions, the higher the percentage of polymorphonuclear elements with a corresponding decrease of the mononuclear elements. He analyzes his cases elaborately and comes to the conclusion that the muscular work of the convulsion can not alone explain the leucocytosis which follows it. This is made up of two elements, the physiologic, due to muscular work, in which the different forms of leucocytes are increased proportionately, and a pathologic one, in which the polymorphonuclear elements are increased out of proportion to the other forms. The leucocytosis due to muscular work has disappeared in an hour or two after the convulsion, leaving only the pathologic form present; the former is superimposed upon the latter.

2.—**Brain Tumor.**—Gordinier reports in detail a case of brain tumor affecting the posterior portion of the second left frontal convolution. The interest of the case is in the question as to whether there exists a special center for writing, and he believes that there is no doubt that the cause of the complete agraphia that existed was due to the destruction of the base of the second left frontal convolution and that the retarded cerebration and ataxia which appeared later were due to the extension of the process farther into the frontal lobe. There was no aphasia and reading was possible. The only aphasic trouble from the beginning was the complete inability to write.

3.—**Sarcoma of Testicle.**—Kober gives conclusions based on an analysis of 114 cases, discussing the causes, varieties, symptoms and prognosis of the condition. He finds that the results of operative interference have been gratifying and that the only treatment that is at all hopeful is prompt and radical extirpation. His cases are collected from the literature, to which he adds six personal observations.

4.—**Detachment of Retina.**—Foster reports a case of retinal detachment and discusses the condition and the views that have been expressed in regard to its origin and treatment. He concludes that the mode of occurrence is uncertain, as is likewise the pathologic process which is its actual or exciting cause. As regards treatment, he thinks absolute rest the most essential factor, and it must be secured in bed with the eyes covered with a pressure bandage, whatever other treatment is employed. In cases of this sort we must endeavor to determine if possible the actual cause and restore the best degree of vision in our power. If traction bands exist in the vitreous, they may be divided; if serous accumulation is great it may be evacuated, but our main reliance is still rest in bed, whatever depleting or other methods are adopted.

5.—**Veratrum Album and Veratrum Viride.**—The Drs. Wood report experiments as to the comparative physiologic and therapeutic actions of the American and European species of veratrum. They conclude that the only important difference between the two is that the species *album* more frequently purges when taken in toxic doses than does the other, and that some specimens of it are stronger than those of the other species. They do not think that there would be any special therapeutic difference between the two. Any that would exist would probably be in favor of the American drug as less apt to disturb intestinal digestion. They do not therefore, see the expediency of the recognition of both species by the American pharmacopeia.

6.—**Fatty Degeneration.**—Taylor, after a review of the published facts as to fatty degeneration, concludes that the formation of fats out of the proteids physiologically has not been demonstrated or made probable, nor has its pathologic formation been demonstrated. On the other hand, the weight of evidence is in favor of the conception of the so-called fatty metamorphosis and infiltration or formation of fats or carbohydrates. This, however, is not absolutely conclusive. One can not say that fatty formation from proteids is impossible.

7.—**Cancer.**—Frazier reviews the recent literature, chiefly that in the *Practitioner* for April, on this subject. (See Journal, April 29, p. 934.)

8.—See abstract in Journal, March 11, p. 551.

9.—Ibid.

10.—Ibid.

11.—Ibid, p. 550.

12.—Ibid.

13.—Ibid.

14.—**New Ecraseur.**—Bissell describes an instrument which he claims to have special advantages in pelvic surgery, and reports a case in which it was employed.

16.—**Early Diagnosis of Cancer.**—Frederick calls attention to the great importance of an early diagnosis of pelvic cancer at the menopause. Hemorrhage at this period, especially if frequent and excessive, should never be disregarded, but should always lead to a thorough examination. He thinks the profession has been lax in this matter and many lives have been lost in consequence.

17.—**Management of Labor Cases.**—Thomas gives in full detail directions for the management of obstetric cases in private practice, from the beginning of pregnancy, also including the hygiene and diet of the child.

18.—**Retrobulbar Neuritis and Facial Palsy.**—DeSchweinitz reports two cases, in the first of which the patient first had right facial palsy, two years later right retrobulbar neuritis, followed two and one half months later by a left retrobulbar neuritis, with ultimate complete recovery. In the second case there was first sclerokeratitis, probably depending on menstrual disturbances, soon after right facial palsy, two years later sclerokeratitis without facial palsy, one year later sclerokeratitis followed in six weeks by right facial palsy, finally, two years after, left retrobulbar neuritis, terminating in partial atrophy of the optic nerve. He suggests a toxic cause.

19.—**Infantile Spinal Paralysis.**—The fact that spinal disease in the form of progressive muscular atrophy of the Aran-Duchenne type has been observed to occur in later life in those who have been subject to infantile paralysis has been variously accounted for, e. g., by irritation of the cord by the ancient lesion, and, by another theory, through special vulnerability of the cells of the anterior horns, and, by still another, through inflammation starting from the old lesions. Hirsch, in view of these facts, considers himself fortunate in having a case in which there was afforded a post-mortem, and which revealed a condition of interstitial myelitis. The third theory, that it arose from irritation from the old scar, would seem to fit the clinic and anatomic facts of this case. He discusses the subject at length in the light of its literature.

20.—**Lipoma of Filum Terminale.**—Spiller reports a case observed by him in Dejerdine's laboratory in which a tumor was found about .5 cm. below the origin of the filum terminale. Microscopic examination showed it to be a lipoma. The rarity of the case makes it of interest. Regarding the effect of such a tumor, he suggests that it may cause pressure paralysis of the nerves of the cauda equina, causing genito-urinary symptoms which might lead to false diagnosis, of carcinoma of the bladder, for example, as in a case reported by Lachmann.

21.—**Do Epileptics Recover?**—Spratling considers that we may call an epileptic recovered after a sufficiently lengthy period of freedom from fits, but that we must always contemplate the possibility of a recurrence of the disease.

22.—**Weak Feet.**—This paper treats of the anatomic defects causing flatfoot and the foot gear which favors it.

23.—**Miliary Aneurysm.**—Taylor reports a case of generalized arteriosclerosis of a mild degree in the nervous system and kidneys, cortical cell degeneration in the brain with multiple miliary aneurysm, chiefly in the gray matter, with associated hemorrhage—many small areas of softening of the brain and slight degeneration of the pyramidal tracts in the medulla and cord. The interest of this case is in the number and conspicuousness of the aneurysms.

25.—**Paraxanthin.**—Putnam and Pfaff combat the theory advanced by Rachford, of poisoning in certain neuroses, such as migraine and epilepsy. Their specimens were from five cases of typic migraine and a large number of epileptics. They failed to corroborate Rachford's results and attribute the effects observed by him to ammonium compounds instead of paraxanthin.

26.—**Empyema.**—Lanphear describes the causes, morbid anatomy, bacteriology, etc., of empyema, and gives treatment. He unreservedly condemns aspiration and believes that in children simple incision is sufficient, as the lung readily re-expands, but in adults excision of the ribs is best. To secure re-expansion of the lungs something may be done by free opening and breaking up the adhesions with the hand, but this is not promising in all cases. In cases of double empyema, he thinks the proper plan of procedure is to operate on one side and aspirate the other, waiting a few days until the lung expands and the patient rallies, and then attack the other side.

27.—**Wounded from Santiago.**—Schooler shows that the late war was, in its surgical and military aspects, one of the most successful ever conducted, contrary to the common hysteric notions now current. This is especially the case as regards the wounds received. The freedom from septic infection was remarkable. He describes the wounds as made by modern projectiles.

28.—**Tuberculosis of the Larynx.**—Sampson's paper calls attention to the difficulty occasionally met with in the diagnosis between tuberculosis and syphilis of the larynx, and emphasizes the importance of finding the tubercular bacillus in the lesions. This failing, the use of iodid of potash is not only justified but demanded in cases of primary, dubious ulceration of the larynx. In cases secondary to pulmonary tuberculosis, prognosis and prospects of treatment are not so good.

29.—**Gastroenterostomy.**—Davis' paper points out that the mortality of this condition is no longer prohibitory, and reports three successful cases. An indication for the operation is stagnation of the food in the stomach not relieved by medical means, and in which pylorectomy or pyloroplasty is not indicated or advisable. The three well-recognized indications are: malignant pyloric stenosis, benign pyloric stenosis and gastric ulcer. Each of these conditions is discussed in the light of modern acquisitions in this field. The literature is referred to quite thoroughly.

31.—See Journal, May 27, ¶ 67, p. 1166.

32.—**Dislocation of the Cervical Vertebræ.**—Butler reports the case of a man who fell off a train, striking the back of his head and producing dislocation of the second cervical vertebræ, which was reduced as far as possible and fixed by ligature. The patient had been drinking before the accident. On the fifth day after the accident he became very delirious and died later in acute delirium, with temperature ranging as high as 108 in the axilla. Post-mortem showed no macroscopic indications of brain disease nor was the cord noticeably injured. Apparently there was no microscopic examination.

36.—**Effects of High Altitudes.**—Whitmore calls attention to the advantages and disadvantages of high altitudes and the precautions necessary for those in such situations. A high altitude is undesirable for a weakened heart, and the cardiac depressant, when used must be carefully watched. The effect of altitude on the nervous system is often great, causing marked depression or excitement, migraine and neuralgia. More rest and sleep are required. Stimulants, tea and coffee, are unadvisable. Secretion and excretion are interfered with. Fecal impaction simulating appendicitis may occur. While malaria and tuberculosis are unknown, and typhoid fever is rare, pneumonia is particularly fatal and catarrhal affections are common.

40.—**Expulsion of Placenta.**—Woodworth advises bimanual pressure, encircling the uterus through the abdominal wall with the fingers and gently and gradually squeezing out the placenta and coagula. He believes this is the best method. In cases of adhesion of the placenta it may first require detachment.

42.—**Chronic Kidney Diseases.**—The special points in VonNoorden's paper are the questions of diet. He criticizes the common rule of prohibiting dark meats in chronic kidney diseases, the essential difference between light and dark meats being their coloring matter, the chemic constitution of which is not exactly known. Regarding the question as to amount of drink that should be allowed, he disagrees with von Bamberger, and advocates the restricting of liquids in chronic contracted kidneys. He reports cases to show the therapeutic effects of this estriction.

43.—**Gall-stones.**—McFarland's paper reviews the subject of all-stones, their causes, frequency, treatment, etc.

44.—**Electrolysis.**—Stewart describes the methods of employing lectrolysis for eradication of superfluous hairs, birth-marks nd strictures.

49.—**Syphilis of Heart and Lungs.**—Weber reviews the data of ardiac syphilis and shows that it is often a very late manifestation, and that it may be relieved by treatment even after any years.

51.—**In Medical Wards.**—Porter's article is a very extensive one, overing the subjects of anemia, intestinal digestion with imperfect hepatic action, sclerosis of the liver, lymphadenoma d rheumatism. It is impossible to abstract all the important oints made in the discussion of these subjects.

53.—**Faulty Diagnosis.**—Schaefer calls attention to the errors ily made in urine examinations, and mentions the various rious errors that are often made by physicians, life insurance aminers, etc.

54.—**Varicose Ulcers.**—Valençon believes that protargol is the st antiseptic for varicose ulcers, and reports four cases in ich it has been employed with advantage. His method is to st wash the wound and surrounding parts with an antiseptic ution (boric acid or cyanid of mercury 1 to 5000), dry the rts with absorbent cotton, dust the ulcer with protargol, er the wound with a piece of protective, and then apply the linary dressing.

5.—**Percentum Solutions.**—Gubbins advises prescribing by ume instead of by weight, to figure accurately the amount drugs in solution.

56.—**"Christian Science."**—Sippy, in his lecture, reviews the history of medicine and shows that "Christian Science" is in the general line of medical delusions which have existed from time to time throughout the history of the world. He shows up its absurdities and quotes from the books of the "prophetess" Eddy.

57.—**Melancholia and Mania.**—Brower gives a clinic lecture of cases of acute melancholia and mania, showing the general line of treatment and the necessity of isolation in hospitals in certain stages and conditions of the disease.

58.—**Paraldehyde.**—Shoemaker discusses the properties of paraldehyde and reports cases of its use in insomnia, kidney disease, heart disease, tuberculosis, chorea, melancholia, alcoholism and asthma.

59.—**Two Interesting Cases.**—Porter reports two cases, one of weakened heart, in regard to which he describes the action of digitalis and its contraindications and advises as drug treatment the use of caffein, strychnin, camphor, belladonna, opium, etc. The second case is one of pleurisy with effusion, treatment by aspiration.

60.—**Carbolic Acid in Tetanus.**—H. C. Wood, Jr., concludes from the study of the Italian literature on the subject that carbolic acid gives better results in tetanus than does the antitoxin treatment, as it acts by antagonizing the toxin and quieting the nervous system. It should always be given hypodermically and in sufficiently large doses, cases of tetanus being remarkably tolerant to it. In the meantime other methods of treatment should be continued and special stress is laid upon the disinfection of the wound. Baccelli's method of using carbolic acid for this disorder is to first thoroughly cleanse the wound with strong antiseptic solution, place the patient in a quiet room, observe the ordinary rules of diet, etc., and give hypodermic injections of a 2 per cent. solution of carbolic acid at two or three hour intervals. If the case is of only moderate severity, the commencing dose may be 0.20 gm. in the twenty-four hours. This, however, should be rapidly increased to at least double or triple the quantity. According to the table given in Ascoli's paper, the mortality was only 3.2 per cent., while under the Tizzoni and Behring toxins it was 17.8 and 35.7 per cent. respectively. The figures are certainly very remarkable.

61.—**Treatment of Acute Pneumonia.**—Mays says that the main indications are the reduction of fever, diminution of the body of blood in the lungs, and support of the nervous system. He believes ice applied to the head and chest will meet these indications in the most satisfactory manner. He applies it in a flat rubber bag, wrapped in thin toweling, and continues it as long as the fever is high, gradually removing the ice as the fever falls. As to drugs, strychnia as a stimulant to the heart in doses of 1/30 gr. four times a day, capsicum in doses of 10 drops to a teaspoonful of the tincture every three or four hours, in water, gives often the very best results in cases of low alcoholic pneumonia. The other indications are to secure sleep, oxygen given by inhalation to relieve dyspnea and cyanosis, and in case it fails to relieve these symptoms, venesection is advisable. If a rheumatic or grip complication exists, the salicylates are used. These measures, with concentrated nourishment, comprise the treatment he advises.

62.—**Some Uses of Strychnin.**—Jackson calls attention to the value of strychnin in cases of chloral and morphin poisoning and reports a case in which injection, hypodermically, of 1/100 gr. every twenty minutes saved the life of a man who had taken, designedly, 280 grains of chloral and a grain of morphin. Strychnia is also better and more reliable than ergot as a uterine motor stimulant.

63.—**Rheumatism.**—Eshner briefly discusses the etiology and treatment of rheumatism. He thinks that it is probably the outward manifestation of the effects of various causative factors, some infective, some toxic. The salicylates hold first place in the treatment and should be given in sufficient doses; local treatment to relieve the pain, heat, counterirritants, electricity, etc.

64.—**Trional.**—Coile believes that this drug is a prompt and safe hypnotic when given in doses of about 15 grains, to an adult, repeated in an hour if sleep is not produced. He has never seen any unpleasant or dangerous symptoms.

65.—**Lumbago, etc.**—Gillespie's paper is chiefly a review of the diagnostic points between lumbago and lumbar sprain. He epitomizes them as follows: Lumbago has a short duration; its causes are predisposition, rheumatic or gouty diathesis, exposure or overfatigue; pain is tearing or aching and confined to a single muscle or group of muscles, and is aggravated by movement. There are no outward signs; it is rarely painful to the touch; no especial decubitus, and it is aggravated by heat, while constitutional symptoms are rare. In lumbar sprain the duration is fourteen to twenty-eight days; the cause is injury by twist, fall or direct force; the pain is acute, lancinating and diffuse; there is local heat, swelling, discoloration and local tenderness; special decubitus is present on one or the other side with the knees drawn up; heat relieves, and constitutional symptoms are nearly always present.

66.—**Diagnosis of Tuberculosis.**—McKay rapidly runs over the principal symptoms of incipient tuberculosis: loss of weight, condition of chest and lungs, accelerated pulse, increase of evening temperature, cough on rising and retiring, and the bacteriologic and tuberculin tests. He calls attention to a method of examining the chest, which he recommends: Direct the patient to fold the arms across the chest, placing the hands on the opposite shoulders, then carefully examine the apex beneath the scapular covering and whenever there is increased bronchial breathing with a slight crackling sound, especially after coughing, one should suspect incipient tuberculosis.

67.—**Infant Feeding.**—This paper discusses the method of supplying the nearest to the natural infants' food in cases where this can not be had. It is detailed and can not very well be abstracted.

68.—**Appendicitis.**—This paper is concluded from the previous number and emphasizes the importance of operation as opposed to the so-called conservative methods.

69.—**Cold a Producer of Scurvy.**—Botkin, from experience in the Klondike, believes that cold is a more important factor than diet in the production of scurvy. Sudden and radical change from a temperate to an excessively cold climate is also of importance. The blood had not time to fortify itself, and the cause continually operating, and with increased severity, allowed no opportunity for the system to prepare itself to meet the condition. It was like progessive anemia. In fact, the anemia was the essential condition that demanded treatment. In his experience scurvy affected the vigorous as well as the weak, and without regard to diet, which was all that could be desired.

71.—**Pulmonary Tuberculosis.**—This paper reports two cases in detail, out of twenty-four in which the disease had made severe inroads on the lung tissue, forming cavities and producing hemorrhage, six of them recovering. Another class of cases, in which the disease was less advanced, was forty-four in number, with twenty-one recoveries. The remedy which he seems to think most valuable is carbonate of guaiacol.

72.—**Homeopathy.**—Dr. Cole's paper is a criticism of the inconsistencies of modern homeopathy, which he thinks exists principally in name.

75.—**Retained Fetus.**—Adams reports a case of retention of a fetus from Aug. 17, 1892, the time it was due to have reached maturity, till Jan. 24, 1899, approximately six years and five months, when it was removed by operation, decomposition having taken place.

76.—**Sick and Wounded of the Revolution.**—Packard's paper is an interesting historic sketch of military surgery during the revolution.

77.—**Pus in Pelvis.**—Deaver calls attention to the importance of pus in the female pelvis, due to appendicitis, and gives in detail the important points for its recognition and the diagnostic points between it and other conditions, as salpingitis, tubal pregnancy, etc.

78.—**Wounds of Abdomen.**—McRae disagrees with some recent authorities who have minified the importance of abdominal wounds, and states his conviction that any case of penetrating wound of abdomen seen early, when there is reasonable doubt as to the injury of the viscera, should be subjected to at least an exploratory operation. He reports nineteen cases of gunshot and other wounds of the abdomen with seventeen operations and eight recoveries. One case not operated on recovered.

81.—See Journal, May 27, ¶ 127, p. 1168.

83.—**Posture in Occipito-Posterior Position.**—This paper is an argument for the use of gravitation in producing normal presentation of the head in cases of occipito-posterior position. The author has found that a kneeling posture with the body bent forward, the head and arms resting comfortably on a bed or chair, continued over a considerable period, is often an excellent method of producing anterior rotation. As soon as this is accomplished, the patient is advised to assume the most comfortable position she finds in bed until the time of delivery is at hand, when the left lateral posture is most comfortable.

84.—**Typhoid Perforation.**—Miller reports a very interesting case in which there was apparent cure after pronounced symptoms of perforation, followed by a subsequent relapse some eight or ten days later, causing death. The autopsy showed that a strand of the omentum had become attached to the ileum, serving to close an aperture in an ulcerated Peyer's patch. A subsequent perforation caused the fatal outcome. He believes that cases of cure of intestinal perforation without operation have been brought about many times in this way.

85.—**Mosquitoes and Yellow Fever.**—Finlay claims the credit of having attributed to mosquitoes the agency of transmission of yellow fever since 1881. He thinks that tropic mosquitoes are conveyed in the holds of vessels, etc., and that they do not voluntarily migrate to any great distance. He rather endorses the theory of Dr. T. H. Smith, which maintains that the faculty of transmission of the disease need not be limited to the individual mosquito first contaminated, but may be inherited by his descendants. Under such conditions any well-authenticated facts regarding the transmission of yellow fever can be explained. He suggests as a preventative the isolation of yellow fever patients from mosquitoes by windows protected by netting, well-ventilated hospitals, good drainage and sewerage and only the upper stories occupied. He believes that with such measures, well carried out by an efficient board of health, yellow fever might be stamped out of Cuba and Porto Rico and malaria might be reduced to a minimum.

86.—**Antitoxin in Diphtheria.**—This paper takes a somewhat reactionary view as regards the value of antitoxin, and the author goes into an extensive report of statistics in his efforts to show that the antitoxin has not been as effective as has been claimed. He tries also to show that antitoxin is dangerous, and that many lives have been sacrificed that might have been saved by the use of the time-honored remedies. It is doubtful whether his *ex parte* arguments will convince very many at the present time, but it is a good illustration of the tendency of some individuals to take the off side in important questions like this.

87.—**New Operation for Epithelioma.**—Grant criticizes the ordinary V-shaped operation for epithelioma. He advocates one of his own, which seems to be the extraction of a square section including the growth and bringing the sides together, making three triangular flaps. His method can only be best explained by the diagram which he gives. He reports several cases and claims that the flaps make traction of the cheek and not of the lip and that there is less tension on the lip, which is more prominent and natural in consequence and more flexible in use, and the mouth is less apt to be disfigured.

89.—**Vaccination.**—Lofton calls attention to certain clinic points in regard to vaccination. He does not believe that it is necessary to use elaborate methods of preparation; ordinary cleansing with cold water has been sufficient for him. The glycerinated virus in glass tubes retains its virtues almost indefinitely. He has carried them in his vest pocket for eight months and then they acted as if perfectly fresh. He believes that some people are naturally immune and also immune to smallpox. He has met a few such where vaccination could not be effected. He advises the use of the vaccin shield early and has been successful in vaccinating obstinate children when asleep.

92.—**Alcohol.**—Shaw's paper is an earnest plea for the profession to act against the evil of alcohol and avoid its use in medicine as far as possible.

93.—**Syphilis of Brain and Cord.**—Sachs' paper dwells on the general character of the morbid manifestations in the diagnosis of cerebral and spinal syphilis, on the multiplicity of symptoms, the tendency to remission and relapse, the incompleteness, so to speak, of the functional disturbances, paresis rather than paralysis, partial anesthesia and aphasia. As regards special symptoms of pathognomonic value, he suggests apoplectic seizures in the absence of renal disease in middle life, persistent headaches, epileptiform attacks, spastic paralytic symptoms of the lower extremities not following spinal injury or other tangible cause, in youth or middle life. But the most characteristic symptoms are to be found in the pupils and their reactions, such as unequal dilation or reflexes, complete pupillary rigidity, which has the sanction of Jonathan Hutchinson as a syphilitic symptom, and he also adds their irregularity of form when there has been no previous iritis. Syphilitic double optic neuritis is also a matter of great importance. He believes that disease of the blood-vessels is in all cases a primary factor.

94.—**Bovine Brain.**—Wood thinks that the brain of a bull is distinguished by a highly developed prorean lobule on the mesial surface, a tremendous cerebral development directly between the eyes, which is lacking in cows and oxen, and he attributes to this the will power so characteristic of this animal.

96.—**Inhibition.**—The general conclusion in Meltzer's paper may be briefly stated as follows: Inhibition co-exists with and is an integral part of irritability. The actual phenomena of life are not pure manifestations of either one of these factors but are the resultants of two antagonistic forces. There is no absolute rest in a living part and no action without an admixture of inhibition. All biologic laws heretofore formulated not recognizing these facts will have to be revised. In the peripheral, as well as in the central organs, activity and inhibition are apparently separately accessible by special nerve-fibers by which the required degree of inhibition or action is brought about.

100.—Inflammation of Spine.—Myers thinks the pendulum has swung too far in the direction of diagnosis of tubercular disease of the vertebræ, and points out a number of conditions in which other causes were present and tuberculosis absent. He illustrates these views with cases which he reports in more or less detail. The conclusions which he draws are: Syphilitic treatment should be pushed whenever there is a possibility of this disease being present. Brilliant results will often follow. Fractures should be more carefully protected for a longer period to prevent deformity and paralysis and relieve pain or disability. Rheumatoid arthritis can be rendered less deforming and less dangerous to life by securing ankylosis in a good position, if it can not be avoided. It is important to remember, from a medicolegal point of view, that not all chronic increasing kyphoses are tubercular, and therefore exorbitant damages should not be awarded in all such cases. The beneficial effect on the patient and his family of the recognition of this fact are also to be considered. Life insurance should not be refused such subjects in any general way. It is best to consider each case separately when mistakes in diagnosis can be so readily made.

101.—Black Water Fever.—Dr. F. B. Lynch of the Baptist mission in southwest Africa describes black water fever as it has occurred under his observation. It is a disease that attacks persons who are careless in their habits and have been one or two or more years in the country. It has very rarely occurred among women of European blood in this region. Convalescence is remarkably rapid when it occurs, but relapses may occur from neglect of precautions, or of continued use of quinin. Quinin is, he thinks, almost a specific against this disorder. A case of a man who after an attack had taken five grains of quinin daily for at least ten years, and had thus escaped a recurrence of the disease, is reported. He gives his method of treatment of a case in detail, but it can not be fully described here.

102.—Cancer and Consumption.—Pryor criticizes recent statements in regard to the increase of cancer as compared to that of consumption, and believes that the increase of the former and the decrease of the latter have both been exaggerated. He thinks that the possibility of the death-rate of cancer exceeding that of consumption in the near future can only be realized by some occurrence that is very improbable.

104.—Faith Cure.—Reedy's paper is an argument against faith curers, and in favor of interference by the authorities. He holds that they are responsible for all who die under their care and are dangerous to a community as favoring the spread of infection. They should be obliged to report to the health office so that investigation can be made as to the danger of infection and contagion and to determine whether the patient is under compulsion and denied the services of a regular physician and whether adequate steps have been taken for his relief.

108.—Whooping-Cough.—Creel depends on the time-honored remedies—belladonna, ipecac—in the treatment of whooping-cough. He gives also as an antispasmodic, sodium bromid in doses of five grains every four hours. He also thinks that the use of Schering's formalin lamp in the sleeping-room, consuming about one formalin pastile every three or four hours is of great service. It causes little irritation, and inhalation of the disinfectant has a good effect. He also urges the adequate feeding of these patients, which is often overlooked, and cautions particularly against exposure to the weather after the attack. Out of 100 cases of whooping-cough thus treated, 75 recovered in ten days, 10 feeble children suffered for fifteen days; and in 10 cases, complications with other diseases already existed, and 5 were not seen through the illness, but presumably recovered.

110.—See abstract in Journal, May 6, p. 999.

112.—The Symptomatology of Tumors.—Stewart records two cases, somewhat similar in character, but without symptoms of acromegaly. The first case occurred in a woman of 35 years. Symptoms: Headache, vomiting and temporal hemianopsia; finally, by infiltration of the growth into the ethmoidal and sphenoidal cells, causing hemorrhage from the nares. No nutritional disturbances were apparent: death occurred twenty months after the first symptoms appeared. Postmortem, a tumor was found at the base, lying in the sella turcica, and occupying the site of the pituitary body, of which no vestige could be seen. The tumor lay in the median line, in an oval evacuation in the base of the brain. The diagnosis of perithelial angiosarcoma of the pituitary body was made. Cirrhotic changes were observed in the kidneys, uterus and ovaries. Case two was a male, aged 42, the symptoms extending over nine years. Frontal headache, with occasional vomiting; gradual loss of vision of both eyes, terminating in total blindness in the left, and temporal hemianopsia in right; later, total extinction of light perception; giddiness, tendency to fall forward; profuse intermittent flushings, and perspiration about face and neck; slow cerebration; drowsiness; lowered temperature; hallucinations involving some of special senses; blood changes corresponding to those met with in pernicious anemia; skin lemon tinted; puffiness of the skin of hands and feet; last two years of life confined to bed; listless; rational; death preceded by coma. Post-mortem disclosed a large endothelioma of the pituitary. The bone in the neighborhood was found greatly atrophied and the fossa enlarged; of special interest is the fact that the case presented a myxedema-like state and a peculiar cutaneous pallor.

113.—The Anesthetizer.—Galloway makes a strong plea for the general recognition of the qualities of a thoroughly trained anesthetizer. While considering the field sufficiently broad for specializing, he points out the difficulties in obtaining anything like sufficient compensation at the present day.

117.—See Journal, June 3, p. 1254: "Phil. Col. of Phys."

119.—See Journal, March 25, p. 662.

FOREIGN.

British Medical Journal, May 13.

Encysted Vesical Calculi, with an Account of Twenty-Seven Cases. W. Bruce Clarke.—This paper contains reports illustrating the anomalous symptoms that encysted calculi produce. No one symptom was of important diagnostic value. Of the twenty-one cases in this series (six were reported before), fifteen were over 60 years of age, hence the presence of cystitis and enlarged prostate was not remarkable. In several instances, washing out the bladder sufficed to temporarily restore the urine to its normal state, thus further embarrassing the diagnosis. The stones also, in several cases, after extraction, were so coated with mucus as to give no audible note when struck with the sound. The fact that in less than one-half the cases was the existence of the stone known before the operation, shows the importance of bladder exploration. Clarke has, therefore, made it a rule to explore the bladder in obscure cases of enlarged prostate which remain irritable after repeated washing and has had no reason to regret the course.

Antistreptococcic Serum in Treatment of Smallpox. W. J. Lindsay.—The author noticed, while in charge of the Middlesborough Isolation Hospital, that death from smallpox most frequently occurred from three to seven days after the pustules began to dry and be absorbed. From the symptoms, he suspected that the poison of variola was reinforced by other pyogenic virus, and the remedy for this complication would be found in prevention of suppuration or injection of antitoxins. The difficulty of the former is very great, so he concluded, as the streptococcus seemed likely to be the pyogenic factor, to use antistreptococcus serum obtained from the Jenner Institute. Only the gravest cases were selected for the test, and the serum was injected into the abdominal subcutaneous tissue, either just before or coincidently with pustulation, at intervals of twelve to twenty-four hours, in addition to other treatment with digitalis and tinctura ferri chloridi or liquor strychninæ. He report ssix cases thus treated, with two deaths. The serum treatment shortened the critic period and lessened the tendency to cardiac failure or collapse. The pulse kept regular and strong. Convalescence set in earlier and progressed rapidly. Not one of the four patients that recovered developed a single abscess during convalescence, while others not so treated and as promising suffered much in this way. No inconvenient local effects followed the injections.

Treatment of Dysentery. D. M. Ross.—The author believes that in the individual treatment of cases of dysentery, ipecacuanha is not the antidysenteric for all cases. In his experience sulphate of magnesia seemed more effective in the blacks. A rough outline of the general treatment he advises is as follows: rest for the alimentary canal; fomentation, if needed, to relieve colic; removal and prevention of fecal accumulations by ipecacuanha, sulphur, magnesia or castor-oil, when it can be borne, lavage of large intestine by warm enemas of permanganate of potash or boric acid, followed, if needful, by starch and opium enemas to relieve tenesmus. When the stools become fecal, gradual substitution of intestinal antiseptics, bismuth salicylate or subnitrate, salol, resorcin, naphthol; if ulcers appear to be slow in healing, astringent injections carefully administered; tonics; where possible, change of air. Patients should be removed from sources of infection; should not continue drinking the water in which infection was possibly conveyed, etc. In severe, unresponding cases, care should be taken not to weaken the patient too much by a too protracted course of ipecac, or too long use of sulphate of magnesia. It is better to resort earlier to intestinal antiseptics and to interrupt this treatment by resorting to the former drugs, if indicated. The less opium used the better, in Ross's opinion, though sometimes it has to be employed. In all severe cases give careful attention to the circulatory system. He has never seen hepatic abscess follow dysentery contracted in Jamaica; all cases seen came from Central America.

Lancet, May 13.

Clinic Lecture on Secondary Melanotic Sarcoma of Liver. H. D. ROLLESTON.—The case reported by the author is that of a man aged 59, in whom a sarcoma existed in the right eye, and the diagnosis of liver sarcoma from the symptoms was therefore favored. A necropsy confirmed the diagnosis. He discusses the pathology and symptoms at length and recapitulates as follows: Malignant melanotic tumors, though usually spoken of as sarcomatous, are not so necessarily: probably a fair portion are carcinomatous. Secondary melanotic growths in the liver are more often found to follow primary growths of the uveal tract and reach a larger size than when secondary to cutaneous growths. The hepatic growths are more frequent in men than in women in the proportion of 2½ to 1. The average age of patients dying with secondary melanotic hepatic growths is 48.7 years. Ascites occurs in more than one-fourth of the cases, and jaundice in about one-sixth of the collected cases. The urine contains melanin, though when freshly passed it may be in a colorless form (melanongen). Its detection may be of use in diagnosing a doubtful case of hepatic enlargement.

New Method of Reduction in Separation of Lower Epiphysis of Femur. J. HUTCHINSON, JR., and HAROLD BARNARD.—The authors of this article supplement a former paper of theirs, in which they insisted on the value of full flexion of the knee in the reduction of separation of the lower epiphysis of the femur, and they now report three more cases, illustrated by skiagraphs. They conclude that separation of the lower epiphysis of the femur is a very serious injury and is attended, when compound, by a high mortality; that in the extended position of the knee, even with an anesthetic, reduction of the fragment is very difficult, if not impossible; that when the epiphysis is not reduced the patient is laid up for about three months and is lame for about six months, while the end of the epiphysis requires removal by operation. Shortening of the limb and secondary curves of the spine always follow. Nevertheless, the ultimate results in most cases that recover at all are good. The articular surface of the femur gradually grows into a useful position. With the method of full flexion reduction is always easy, the treatment is short, and it is the rule to obtain perfect movement in the knee without shortening or deformity of the leg.

Suggestion for Treating the Attached Border in Simple Suture of the Intestine. ERNEST FRAZER.—The author suggests as an aid to the union of the divided ends of the intestines the rotation on its longitudinal axis of each segment of gut, one forward and the other backward, so that the plane of the mesentery of one segment lies a little behind that of the other. When the two segments are fixed in position the tissues in the triangular intervals are opposed to the opposite peritoneal coat, to which they can adhere quickly and firmly, and when this portion of the circumference is united the remainder of the divided mesentery can be sutured in the usual way. The advantage he claims for this method is that at any point on the sutured circumference there is peritoneum on one or both sides, thus allowing no more danger at the attached borders than at any other part of the divided edges.

Annales de Dermatologie et de Syphilographie (Paris), April.

Etiology of Eczema. R. SABOURAUD.—"This question is the first on the program of the Congress of Dermatology in 1900, but no discussion of it can be profitable until we better define the meaning of the term, eczema. Does it include all eczematizations, intertrigos, red dermatitis with exudation, of medicinal origin or spontaneous, seborrheic eczema and eczema in trychophytoid patches on the back of the hand and arm and the callous and fissured eczema of the palm and sole? Until these lesions have all been made the subject of profound and individual study, it is useless to discuss the origin of eczema in general." "We must consider the problem of the etiology of eczema as an enormous fortress to be taken, a fortress that is still almost intact, and with scarcely a breach made. It is not even invested as yet, and to attempt a general assault is absolute folly. Sappers and miners, not generals, are needed for the present."

Treatment of Mercurial Stomatitis. A. LANZ.—A good dentifrice, gargle, and painting the gums with an antiseptic and astringent mixture, are the prophylactic measures recommended, but if the stomatitis has developed, nothing cures it more effectually than a 2 per cent. solution of peroxid of hydrogen used as a gargle.

Nord Medical (Lille), May 1.

Peripheral Nervous Troubles in Pulmonary Tuberculosis. G. CARRIÈRE.—By research and experimentation Carrière has established that in 50 per cent. the nerve troubles are purely functional disturbances; in 40 per cent. there is peripheral neuritis, and in 10 there are lesions in the brain and cortex appreciable by Nissl's method; also that they are caused by the toxins secreted by the Koch bacillus, or possibly in a few cases by some secondary microbic association. Medication by the stomach must be avoided in phthisis. If the pain is excessive, he relieves it with external local applications of methyl salicylate alone or with equal parts of guaiacol. He has also found methyl chlorid spray effective, and "menthalcetic ether."

Presse Medicale (Paris), May 10.

Bacteriology of Intestines. A. B. MARFAN and L. BERNARD.—The fact that fasting is one of the best means of realizing asepsis in the intestines and that the digestive juices destroy germs in proportion to their nearness to the pylorus, are the important results of recent research by these authors, who announce that the intestinal mucosa of a healthy animal, examined at once after death, does not contain microbes. Although they abound in the contents of the intestines they do not penetrate the epithelium nor into the glands. It is even rare to find them at the entrance to the glands, and this only occurs in the large intestine. Examined four hours later, and at intervals, the mucosa is still free from microbes. When found, they indicate pathologic conditions. In normal conditions the number of microbes in the contents of the intestines increases with the distance from the pylorus, while the cadaveric changes decrease in the same proportion, showing that the microbes are destroyed and the cadaveric changes produced, by the digestive secretions. The number of microbes is very much less after a fast of twenty-four hours. In this condition the small intestine, in accordance with the above law, is almost amicrobian. In enteritis produced in animals, with arsenious acid, the mucosa contains microbes, with the maximum in the large intestine, and they continue increasing after death. The fact was also noted that the microbes were less numerous two to four hours after death than immediately after or twenty-four hours later.

Different Forms of Paraplegia Produced by Compression of Spinal Cord. A. VAN GEHUCHTEN. Motor troubles appear first and persist to the end; first spasmodic paraplegia with exaggerated reflexes and no sensory disturbances; then the transition form of lax paraplegia with the reflexes exaggerated, normal or diminished; then the second degree of compression with lax paraplegia and the reflexes entirely abolished, which condition persists to the end. Sensory disturbances appear in the next transition form; decreased sensation of pain and heat, with muscle and tactile sensation normal. The following transition stage has the sensation of pain abolished; the other sensations normal. Then follows the third degree of compression with pain and thermic sensation abolished; the others normal. Complete anesthesia follows with the fourth and final stage of compression. The first stage, the spasmodic paraplegia and exaggerated reflexes, is caused by compression of the corticospinal and cerebello spinal fibers. As the compression increases and the paraplegia becomes lax and the reflexes abolished, it is evident that all the motor or descending fibers of the white matter have been interrupted, either anatomically or functionally. When the sensory troubles appear, they indicate by their character that the fibers of Gower's tract now feel the effect of the compression and that these fibers, of all the ascending fibers of the cord, are most readily affected by the traumatism. This is followed by loss of the muscle sensation [compression of the fibers of the cerebellar tract or of the posterior columns (?)]. Tactile sensation persists the longest [fibers of the posterior columns or of the cerebellar tract (?)]. The fibers of the posterior columns and of the cerebellar tract are therefore those which resist traumatism the longest, precisely the reverse of what occurs with syphilitic lesions. Besides these forms of paraplegia a few irregular, atypic cases have been recorded in literature, which proclaim the close relationship between them all, although explanation of their peculiar features must be left to future research.

Revue Hebd. de Laryngologie (Bordeaux), May 6.

Transportable Telephone for Detecting Simulated Unilateral Deaf-

ness. J. Kalcie.—The principle of Lawrence's stereoscope is applied to the ear in this little instrument, that is, the impossibility to distinguish between two impressions received at the same time. If a person speaks into each ear of a normal subject, the sound will be distinct only if each says the same words in unison. Otherwise only one or the other is understood, and probably, neither. The apparatus is in another room or behind a screen, and two persons speak into the receivers, one connected with each ear. As long as each speaks the same word together, the subject repeats it distinctly, but when each says a separate word, if he were really deaf he would still repeat one distinctly, only hearing one voice, but the blending of the two confuses him, and he frequently repeats the word heard in his assumed deaf ear. This test has never failed.

Semaine Medicale (Paris), May 10.

Have High Altitudes Therapeutic Value? R. Lepine.—The new and interesting question propounded in this article, whether acclimation to altitudes of eight to ten thousand feet, has prophylactic or therapeutic utility, is left unanswered, for time and experience to decide. The value of altitudes of 4500 to 5400 feet has been established beyond question for certain cases of phthisis, also in most cases of anemia, but not for all, as chlorotic subjects may not bear even moderate altitudes. (Dunin has recently reported several cases of chlorosis returning from St. Moritz with more aggravated symptoms and only recovering under the influence of iron and rest in bed. The same is true of anemia consecutive to hemorrhage. Mountain climates are too stimulating and make too great demands on their strength.) Even comparatively low altitudes are also injurious for persons with emphysema and heart troubles. Lepine does not consider Mosso's "acapnia" an important factor in the disturbances caused by decreased atmospheric pressure. He attributes them to anoxemia and mechanic modifications in the circulation, such as the diminished negative pressure in the pleura. He warns against deducing conclusions from the effects of the pneumatic chamber, as this has only one of the features of mountain climate. The sunlight in elevated regions has more violet rays than below (Cornu), and the air is not only richer in ozone, but may vary still more in chemic composition at different heights. He also warns against comparing tropic and temperate zone altitudes.

Revue de Chirurgie (Paris), May 10.

Intestinal Occlusion by Meckel's Diverticulum. L. Berard and X. Delors.—In the last twenty years over 100 cases of occlusion from this cause have been recorded. In 75 cases studied by the writers, 66 were males. As reported by various writers, a diverticulum has been noticed in 29 cases out of 1767 autopsies, which establishes its frequency as 1 in 55. As might be expected from a congenital anomaly, accidents occur most frequently from this cause in early life, the majority between 20 and 30. The immediate cause is something which temporarily increases the peristalsis, weight of the diverticulum or alters its position, stasis, retraction, torsion, possibly an indigestible meal, excess of beer or any fluid, some violent effort or the administration of a powerful purgative, or an electric lavement. A few cases have been observed in which the influence of heredity was prominent. The diverticulum may vary from 2 to 25 cm. in length, and may cause occlusion by invagination, torsion of the mesentery or intestine, or pulling, bending or crushing the intestine by a taut, adherent diverticulum knotting it into all kinds of shapes.

Ablation of the Gasserian Ganglion for Rebellious Facial Neuralgia. S. Coelho.—Pain, tactile, thermic, electric and stereognostic sensations are entirely abolished in the space between the vertex, the base of the chin, the ear, and the median line of the face. The masticating muscles do not contract and there was transient ulceration of the cornea on this side, vision confused, diplopia. Coelho considers the operation the last resort in the treatment of neuralgia of the trigeminus, and that it is dangerous on account of the possibility of injuring the internal carotid. Cerebral compression, shock and secondary infection have led to fatal results. The extirpation of the ganglion should be done by tearing out the trigeminus at the protuberance, to prevent recurrences, which can not be accomplished by extirpating the ganglion alone.

Centralblatt f. Chirurgie (Leipsic), May 13.

Prevention of Thrombosis in Lower Extremities After Operations Necessitating Long Rest in Bed. K. G. Lennander.—For a number of years Lennander has been in the habit of having the foot of the bed permanently raised from 10 to 50 cm. in cases with varicose veins, and he has now adopted the practice for all cases after laparotomies and operations for hernia, with most gratifying results. The aim is to produce an incline from the feet to the heart, thus accelerating the circulation, and this aim is not achieved by raising one limb alone. The pelvis must also be included in the slope. The elevation is about 10 cm. for comparatively healthy persons, increasing it for debilitated, anemic patients and those with varicose veins, to the maximum with anemia and feeble heart action, when he supplements it with salt solution and tonics. A soft, elastic bandage is applied to varicose enlargements. He even recommends the practice after childbirth and long illnesses.

Foreign Bodies in Male Bladder. R. Trazebicky.—After reporting half a dozen cases in which a glass tube, a quill, a stick or a catheter inserted in the urethra had escaped into the bladder, the writer calls attention to the necessity of fastening a string to the free end of catheters, as the urethra and bladder in some cases actually seem to swallow up long smooth articles spontaneously.

Transfusion with Solutions of Sodium Saccharate. A Schücking.—Seeking to perfect the salt solution employed in transfusion, the author has found in the alkaline saccharates substances that bind the carbonic acid in the blood in the same manner as the alkaline combinations in the serum globulin, and hence produce an artificial serum which fulfils every condition. With the formula: 8 per 1000 salt; 0.33 per 1000 sodium saccharate and 0.03 to 0.15 per 1000 calcium saccharate, he succeeded in keeping an isolated frog heart "alive" for 140 hours, and the isolated heart of a turtle that had died a natural death, for twelve hours, among other conclusive tests. Finding, however, that this formula occasionally produced slight smarting, although its harmlessness was fully established by numerous personal and other tests, he now prefers for man the formula: 0.08 per cent. salt and 0.033 per cent. sodium saccharate, omitting the other ingredient, and reports observations demonstrating the marvelous efficacy of transfusion of even a small quantity of this perfected artificial serum.

Muenchener Med. Wochenschrift, May 9.

Anthrax of Tongue and Treatment of Anthrax Carbuncles.—Rammstedt.—Professor v. Bramm of Halle considers all surgical intervention counterindicated in anthrax, as it opens the door to general infection. He has been very successful with ice, a stimulating diet, and alcoholics in a concentrated form, cleansing the surface with antiseptics; no incisions. The gangrene with this treatment remains circumscribed and recovery is prompt. He has a record of twelve cases thus successfully treated, some extremely severe.

Physiology of Organ of Hearing. G. Zimmermann.—The writer claims that the facts observed to date have not been interpreted aright, and that the tympanum and the chain of ossicles undergo only molecular vibrations during transmission of the sound waves. The tympanum, ossicles and muscles form a remarkably delicate reflex regulating apparatus with the fenestra rotundum as an automatic valve. There is only one way in which the sounds are transmitted to the labyrinth, and that is by the bones. This may be direct or indirect through the medium of the column of air. The tympanum and ossicles are in almost complete repose during the transmission of ordinary sounds, as regards their position. "Treatment should be founded on different bases than those hitherto accepted, and will be found much more effective."

Autotransfusion in Prophylaxis and Cure of Tuberculosis. E. Jacoby.—The writer suggested, in 1897, that the reason why the apices of the lungs are the chosen seat of tuberculous lesions is owing to the insufficient circulation in them, from the effect of gravity on the blood, especially in rapidly-growing persons. He therefore proposed, as a prophylactic or curative measure, lying flat on the back for certain periods each day, to improve the circulation in the apices, in connection with fresh air cures, etc. He now reports the results of his own and others' experience which confirm the benefits to be derived from this "autotransfusion," as he calls it, but cautions that it is best to assume the flat position gradually and arise in the same way, and recommends a reclining chair for the purpose, constructed so that it can be graduated at any position, even with the head lower than the feet. Expectoration is favored and the subjects are relieved for hours after.

Gazzetta degli Ospedale e delle Cliniche (Milan), May 7.

Tuberculosis and Pregnancy. E. Maragliano.—After reviewing our present knowledge in regard to the effect of pregnancy on tuberculosis, which he summarizes as a "distinctly pernicious influence," chiefly on account of the conditions which accompany the postpartum involution of the uterus, Maragliano continues: "The restoration of the circulation in the pulmonary tissues after months of profound modification, favors embolic accidents and the passage of toxic substances into the general circulation, resulting in hemoptysis, the formation of new tubercular foci and phenomena of general intoxication and congestion." As long ago as 1893 he asserted that whenever a tuberculous focus is discovered with commencing pregnancy, the immediate interruption of the pregnancy is indicated. He reiterates this now in still stronger terms. When the pregnancy is advanced, the question of interrupting it must depend on the circumstances: If the tuberculosis is being aggravated by the course of the pregnancy, it should be interrupted, but if not, it is best to await a natural termination, as there is little material difference between the conditions of the eighth and ninth months. He concludes by expressing his satisfaction in the progress that has been realized since the days when the principle was to save the fetus at all costs, even at the expense of the mother. "To-day we affirm that the rights of the mother and of society, menaced by the birth of a new tuberculous being, are superior to those of the fetus."

Societies.

COMING MEETINGS.

American Medical Association, Columbus, Ohio, June 6–9.
American Medical Editors' Association, Columbus, Ohio, June 5.
Association of American Medical Colleges, Columbus, Ohio, June 5.
Indian Territory Medical Association, So. McAlester. June 20 and 21.
Maine Medical Association, Bangor, June 7.
Massachusetts Medical Society, Boston, June 13.
Medical Society of Delaware, Wilmington, June 13.
National Confederation State Medical Examining and Licensing Boards, Columbus, Ohio, June 5.
Oregon State Medical Society, Portland, June 13 and 14.

LaPorte County Medical Association.—At the recent session of this society, the following officers were elected: president, Horace Wardner; vice-president, John J. Kerrigan; secretary and treasurer, E. L. Annis.

Connecticut State Medical Society.—The one hundred and seventh annual meeting was held at Hartford, May 24 and 25. The election of officers resulted as follows: president, Charles S. Rodman of Waterbury; vice-president, L. B. Almy of Norwich; treasurer, W. W. Knight of Hartford.

Montana Medical Association.—The annual meeting of this association was held in Butte, May 18 and 19, and the following officers chosen for the ensuing year: president, J. W. Gunn, Butte; first vice-president, T. A. Grigg, Butte; second vice-president, W. C. Riddell, Helena; secretary, B. C. Brooke, Helena; treasurer, George H. Barber, Helena; corresponding secretary and historian, J. F. Spelman, Anaconda. The next meeting will also be held at Butte.

Louisiana State Medical Society.—This society held its twentieth annual meeting in New Orleans, May 16–18, the last evening being given up to a banquet tendered by the profession of New Orleans. The next meeting will be held April 19–21, in New Orleans. Officers were elected as follows: president, W. G. Owen; vice-presidents for the six Congressional districts in numeric order: Felix Formento, F. W. Parham, W. A. Holloway, T. E. Schumpert, J. B. Bonney, G. C. Mouton; recording secretary, Hermann B. Gessner; corresponding secretary, A. G. Friederichs; treasurer and librarian, H. S. Cocram.

Philadelphia College of Physicians.—The following correction is noted concerning Dr. Charles A. Oliver's paper on "Implantation of Glass Balls into Orbital Cavity." (See Journal, April 29, p. 941.) The operation is a modification of that proposed by Frost and Morton, and, briefly, is as follows: The conjunctiva is dissected from the cornea as in ordinary enucleation, until the tendon of the recti muscles are in view; either of the lateral muscles is loosely secured to its antagonist by means of a long catgut suture introduced by means of a half-curved needle, in the same manner as the Kall stitch for corneal suturing; the vertical muscles are then treated in the same manner. This done, the tendons of the lateral muscles are freed from the globe, and their cut ends resected and brought together after the eyeball has been removed and the glass globe placed in position. The conjunctival wound is lengthened somewhat, then brought together by a series of silk sutures, thus enclosing the glass sphere within Tenon's capsule.

Medico-Legal Society.—At a dinner of the psychologic section of this medical society in New York City, recently, corporal punishment for crime was discussed, and nearly all who participated spoke in favor of the revival of the whipping-post for the punishment, in suitable cases, of certain crimes. The principal paper was by Judge Simeon E. Baldwin of Connecticut, who said: "I do not hesitate to avow my conviction that whipping would often furnish a mode of punishment for minor offenses, and a useful addition to imprisonment for graver ones. If we were to accept the sentimental or humanitarian position, that the right to punish rests on the duty to educate the ignorant, and reform the vicious, I should none the less insist that whipping was for many cases the best incentive to education and reform. He who has learned to refrain is half reformed, and a whipping has a very direct tendency to teach a man to refrain from whatever is likely to entail another punishment of the same sort." Among the other speakers was Frank Moss, counsel for the Mazet Legislation Committee, who said: "There is hardly anything reformatory about our prisons; their influence rather tends to the deepening of criminal impulses and the spreading of criminal influence. I have no doubt that whipping is a proper method of punishment for those offenses in which manhood is degraded. The perpetrators of wife-beating and cruelty to children could be flogged with benefit to themselves and with the approval of society."

Kentucky State Medical Society.*

Forty-fourth Annual Meeting.

(*Continued from page 1175.*)

PECULIARITIES OF HEART AFFECTION OF CHILDHOOD.

Dr. Philip F. Barbour of Louisville read a paper on this subject and mentioned the infrequency of inorganic and the frequency of organic lesions in children, also the association of endocarditis as a manifestion of rheumatism, with apparently trivial conditions, as growing pains, erythema, torticollis. In children heart murmurs are heard all over the chest, often best over the back; accentuation of pulmonary second sound is frequently found; heart occupies a more horizontal position in the child than in the adult, only approximates the adult heart at four years. Mitral insufficiency is the most frequent organic lesion in childhood. Exanthem and diphtheria often cause endocarditis, as well as rheumatism. In the treatment, iodids are not well borne by children, even iodid of iron, if given too long. Disappearance of endocarditic murmur is sometimes seen in childhood, and pericarditis as a complication frequently seen in pneumonia, empyema, pleurisy, rheumatism, and frequently unrecognized in life. The occurrence of fibrous adhesions of the walls of the pericardium is important to the well-being of the child. The compensation is easily perfected in the child, but if it does not exist hypertrophic dilatation and dropsies follow.

NORMAL SALT SOLUTION IN SURGERY.

Dr. James B. Bullitt of Louisville, opened this discussion with a paper. This treatment was suggested to take the place of theoretic practice of direct transfusion of the blood itself, the assumption being fallacious that animals, even of the same species, can use blood-cells of another thus transfused. Milk and other albuminous materials were of old suggested; though mentioned as early as 1879 by the French, it did not get into general use until 1899, using 6 per cent. saline solution quite hot. It is useful in extreme hemorrhage, acting mechanically, extreme shock stimulating the heart; in faulty and insufficient excretion of kidneys, sepsis and drug toxin (the use in the latter not being well established), diabetic coma, purpura, carbon monoxid poisoning, burns, painter's colic, carbolic acid, and mushroom poisoning. Its physiologic action is to increase the volume of blood, lessen specific gravity, stimulate cardiac ganglia and arteries; it gives more nutritive blood to the coronary arteries, stimulates nerve-centers, unstriped muscular fibers of vessels, and stimulates all organs to more work, also hemostasis. It is used as hot as the hands can bear, from 110 to 120 degrees. It is introduced in several ways, intravenous, intra-arterial, in connective-tissue spaces, in rectum and colon, and abdominal cavity after laparotomy. Red blood-cells are supplied with remarkable rapidity after saline infusion. Plain water is toxic, as it extracts hemogoblin from the blood and produces death. It is better to infuse small quantities and repeat, than to give large quantities at once.

Dr. August Schachner of Louisville emphasized the importance of careful preparation of the solution, sterilizing by boiling for ten or fifteen minutes the first day, and for five minutes for three days afterward, as this method destroys the spores and germs. Water, distilled, or ordinary water, is used, if boiled in this way; flocculi form and there is danger of emboli. The technic of making the injection was referred to. The veins do not come up readily; in collapse from hemorrhage it is difficult to expose them. If the water is allowed to flow up against the vein it opens the opening made, and continuous flow of the saline prevents entrance of air into the vein.

Dr. J. A. Lewis of Georgetown referred to the use of saline solution in non-surgical diseases, as in cerebrospinal meningitis. Treatment of this disease is acknowledged a failure, and he reiterated the point made in the discussion of that subject, to withdraw a pint of blood, inject the saline solution to take its place. The idea was original with the speaker, and he commended it as good theoretically. It stimulates the excretion as well as the whole system.

Dr. Arthur McCormack of Bowling Green did not see the use of taking the precaution suggested by Dr. Schachner in regard to the preparation of the saline solution. He suggested that saline solution, extemporaneously prepared, gave just as good results.

Dr. J. H. Letcher of Henderson had had considerable experience with its use, and as there was no practical danger from its use, he thought it would be oftener resorted to in practice. His preference was for the intercellular use, the most logical results being seen in profound shock. In this way time is saved, as it is difficult to find the vein.

Dr. W. C. Dugan of Louisville stated that the use of saline solution is a most important life saving measure. For injection the submammary spaces are important places. He has not found trouble in the location of the vein; it is easily exposed, lifted up entirely, opened, needle introduced well in, the tension and volume of pulse being a guide to the amount of fluid used. We should not use too much, but repeat it if necessary. Slight introduction of air was not considered harmful by the speaker.

Dr. W. B. Gossett of Louisville referred to the use of the solution following childbirth, giving it in postpartum hemorrhage in the form of hot douches through the vagina and rectum. It is also of use in severe hemorrhage in placenta previa.

Dr. C. L. Bonifield of Cincinnati believes the saline solution the greatest life-saving agent introduced in years. Intravenous injection is simple. If too much time is taken to prepare the solution the patient will die. In country practice and private houses elaborate preparation can not be made. A patient will not be killed if the proper amount of salt is not used. The subcutaneous injection is not so prompt as venous; can give it first under the skin in profound collapse, and then go for the vein. Obstruct the circulation in the vein and it stands out and requires no complicated apparatus. An artery forceps is best pushed under the vein, a catgut loop passed under to hold it up, an opening made, while the glass point of a medicine-dropper and fountain syringe complete the armamentarium necessary. There is no danger in using too much water at one time if the pulse is observed and there is not too much pressure. He has often used two quarts. It is not necessary to use the vein a second time, but one can resort to the rectum, as it absorbs saline solution readily.

Dr. R. C. McChord of Lebanon believes that the intravenous injection of water without salt is often fatal, Dawbarn's experiments in that line proving this important point. If there is severe hemorrhage, time is of material consequence, and intracellular infusion should be used first.

Dr. Edward Speidel of Louisville suggested an apparatus all ready in the form of a four-ounce glass bottle, two feet of rubber tubing and aspirating needle pushed in tube, all sterilized at home and wrapped in a towel. He believes the best locality is in the right or left hypochondriac region in the abdominal wall as, if given in the interscapular region, an abscess following, after-treatment would be difficult on account of the position.

Dr. B. F. Parrish of Midway suggested that there is no reason for carrying any apparatus, as the fountain syringe is always at hand, and every physician has a hypodermic needle, which was all that was needed. There is no excuse for failure to use it for lack of apparatus.

Dr. Bullitt, in closing the discussion, stated that simple water will not suffice, as it acts as a poison when injected into the blood; 6 per cent. is non-toxic, ordinary water almost non-toxic, distilled water quite toxic. Preparation of the fluid is a simple affair. It is important that the surgeon and physician should know its many uses. If in a hospital, the solution can be gotten ready; the ideal way of sterilizing is for it to be repeated for three days, but it is not essential. Prepare it in double strength, and add hot water for dilution. The apparatus used in making the infusion should be sterile, and this is easily accomplished if boiled, the domestic teapot being one of the best vessels to use; the basin is not surgically clean. Everything should be boiled before using.

PERITONITIS FROM SURGICAL STANDPOINT.

Dr. August Shachner of Louisville read this paper. He classifies according to causation and pathology; the former as primary, secondary and specific; the latter toxic, the patient dying in forty-eight hours in shock; hemorrhagic, with great virulence also. Fibropurulent, a slower process and purulent, there being much pus present and flocculent matter; cause of death is interference of the ebb and flow of serum in the peritoneum; currents move toward diaphragm. The absorbing capacity of the peritoneum is great. Prophylaxis is the first element in treatment, both before and during operation; post-operative peritonitis is the most virulent we can have. The best guides as to progress are distension and alteration in the face, as well as pulse; face shows anxiety, not pain.

Exclude infection, preserve the integrity of the peritoneum during the operation and afterward. Operate before the patient is *in extremis*, express prognosis early. Any percentage of recoveries, no matter how low, is a credit to surgery. It is not what is to be done, but how? Some favor large incision, evisceration and washing; others, washing without evisceration; others remove the deposit of fibrin covering the intestine, some say it opens new avenues of infection; others advise mopping the intestine. A good method is injection of sulphate of magnesia into the cavity; may anchor knuckle of gut to abdominal incision as also of value.

CLOSURE OF ABDOMINAL WOUND AFTER LAPAROTONY.

Dr. Arthur McCormack of Bowling Green presented this paper, which will appear in full in the Journal.

WHAT CAN WE DO FOR THE CHRONIC INVALID.

Dr. Curran Pope's paper was a discussion of neurasthenia. He mentioned as causes: 1, heredity, mental disease in one generation producing nervous disease of this character in the next; 2, lithic diathesis, producing gastric and vasomotor types; 3, overwork, but few cases being thus produced, unless with worry and overstrain and the use of alcohol. In the treatment moral control and discipline were mentioned, with dietetics, water, rest—full rest being applicable to but few cases; exercise and symptomatic treatment, with laxatives, cascara in pill form being the best; bromids, nux vomica and arsenic. He laid stress on the fact that there was no medicine in the treatment of neurasthenia which would of itself cure the patient. The effect of pepsins, pancreatins are *nil*. Use no alcohol for the flagging appetite. He condemns travel and climate as of no benefit, valuable time being wasted, chronicity being induced and recovery postponed.

The president, Dr. David Barrow, delivered the president's annual address, taking for his subject "Rest and Exercise," which was followed by a brilliant popular address by the Rev. Carter Helm Hones of Louisville, which was received with much enthusiasm.

Second Day.

Dr. Henry E. Tuley, chairman of the committee on constitution and by-laws read the proposed change in the constitution suggested by the president in 1898 and reported by the special committee appointed by him. The change has to do with the appointment of delegates by the county societies of the State to the State society, membership in the latter being dependent on the membership in a county society.

The treasurer made his annual report, and in it a suggestion that the nominating committee combine the offices of secretary and treasurer, as it is the secretary who must needs do the correspondence in the collection of dues between the annual meetings. On motion of Dr. Tuley this suggestion was referred to the nominating committee. A balance of $24.00 was reported in the treasury.

Dr. C. B. Graham of Henderson presented a resolution passed by the local medical society of that place for endorsement by the State society. This resolution condemned the action of the Fiscal Court in refusing to approve the bills for expenses incurred in stamping out and controlling an epidemic of smallpox now prevalent in Henderson, and commending the physicians of the county and city boards of health for refusing to serve under the jurisdiction of the court, they having referred to the members of these boards in severe terms.

On motion of Dr. J. N. McCormack, the resolution was unanimously endorsed by a rising vote.

(To be continued.)

Illinois State Medical Society.

Abstract of Proceedings, Forty-ninth Annual Meeting, held at Cairo, May 16, 17, and 18, 1899.

(Continued from page 1174.)

COMPLETE PROLAPSE OF OVARIAN TUMOR THROUGH ANUS.

Dr. J. A. Baughman of Neoga reported this case in a woman 40 years of age, weighing 120 pounds, and who had passed the menopause. The prolapse of the rectum was to the extent of five inches. Careful examination showed that a hard round tumor about the size of a black walnut lay in the dilated cul-de-sac of Douglas. An abdominal operation proved that this mass was an ovarian tumor.

CAPUT OBSTIPUM MUSCULARE.

Dr. M. L. Harris of Chicago presented this paper. He said that this condition is not congenital in the sense of having an intrauterine origin. The primary factor in the etiology is a trauma to the sternomastoid muscle during labor or shortly thereafter. The secondary factor is a hematogenous infection. As far as the pathology is concerned, it is an interstitial myositis, usually chronic and progressive. The changes are not limited to the muscle per se, but involve the sheath and neighboring structures. As regards the treatment, simple myotomy is seldom sufficient; myectomy with the removal of the sheath and the surrounding insular tissue is essential to obtain perfect results. The operation must be supplemented by orthopedics.

FOUR HUNDRED HERNIOTOMIES BY THE IMBRICATION METHOD.

Dr. E. Wyllys Andrews of Chicago detailed this method, which is familiar to surgeons. He imbricates or overlaps the aponeurotic layers, producing a double thickness of the wall behind the cord. The lower flap of external oblique aponeurosis is imbricated upward to form a new anterior wall of the canal in front of the cord. The posterior wall is often very deficient. The Bassini operation needs supplementing in the large internal rings. Flaps of various kinds have been suggested. The author's imbrication operation is a true flap method, without serious displacement of the structures. A new strong layer is incorporated behind the cord; the obliquity of the canal is preserved. The canal may be lengthened or not as desired. Dr. Andrews reported 300 cases of his own operated on by this method, and also mentioned 100 cases by other surgeons who have performed this operation.

USE OF SCHLEICH'S MIXTURE FOR GENERAL ANESTHESIA IN ONE HUNDRED AND TEN OPERATIONS IN THE NOSE AND THROAT.

Dr. W. K. McLaughlin of Jacksonville read a paper on this subject. This method of anesthesia is very rapid, and the usual period of excitement entirely absent. Although no attention was paid to abstinence from food prior to the operation, there was comparatively little disturbance of the stomach; no sequelæ such as bronchitis or bronchopneumonia. There is a rapid return to consciousness and control of the mental faculties, which is especially desired in operations in the nose and throat where sudden and copious hemorrhages are so liable to be encountered. There is no increased secretion of mucus in the respiratory tract. The tension of the pulse is increased. The patient becomes unconscious as naturally as one falls asleep, and in from two to five minutes as rapidly becomes conscious. Universally all described the sensation as one of sweet dreams, no odium being associated with the operation because of the anesthetic. Finally, these mixtures are, when properly administered, safe, especially in short operations.

ADIPOSE TISSUE AS AN ETIOLOGIC FACTOR IN HERNIA.

Dr. Alexander Hugh Ferguson of Chicago contributed this paper. The evidence which proves adipose tissue to be a causative factor of hernia is: 1. Its physical properties; its tendency to accumulate in spaces and cavities and then to descend. 2. Its locality and frequent accompaniment of hernia. 3. Its association with the development of certain forms of rupture, the fatty mass forming first and the true rupture following. Small lipomata form in the openings where hernia is most liable to occur, and by intra-abdominal pressure atrophy of the rings occurs. They thin out and weaken and become enlarged, and then the ball of slippery fat urged out by the *vis a tergo* protrudes more and more, and drags the elastic peritoneum with it. If, however, the abdominal wall had no congenital deficiencies in the structures protecting the normal rings, a hernia would be rare indeed, and no accumulation of fat would be liable to take place.

SURGICAL TREATMENT OF HEMORRHAGE FROM GASTRIC ULCERS, WITH REPORTS OF TWO CASES AND ANIMAL EXPERIMENTS.

Drs. E. Wyllys Andrews and Daniel N. Eisendrath of Chicago contributed this paper. The following conclusions were drawn:

1. The result of the practice of the best modern surgeons warrants the statement that only operative interference can save the lives of a part of the patients affected with bleeding ulcers of the stomach, namely, those not improved by internal medication.
2. Surgical intervention is to be recommended: *a*, in small repeated hemorrhages; *b*, in severe ones occurring more than once, especially if more than five hundred cubic centimeters is lost at each hematemesis.
3. A single copious hemorrhage is not necessarily an indication for operation.
4. In the ulcers at or near the pylorus, pyloroplasty (Heineke-Mikulicz) is ideal. It makes local treatment possible and gives all the benefits of gastro-enterostomy, and is safer.
5. Cauterization and curetting of the ulcer should give place to resection wherever the stomach wall can be reached from without.
6. If adherent posteriorly and at the ends of the stomach, cauterization, curettement and ligature en masse are best substitutes for excision.
7. Ligature en masse is shown by the experiments to endanger perforation, except when supported by external sutures.

MOVABLE KIDNEY.

Dr. A. E. Halstead of Chicago discussed this subject. He first considered the normal topographic anatomy of the kidneys, then spoke of the position of the kidneys, their relations, means of fixation and their normal mobility. He then dwelt upon the pathogenesis of movable kidney, a knowledge of which is necessary to a proper appreciation of the surgical treatment. He briefly reviewed the most generally accepted theories of origin, among which are anatomic peculiarities or defects of the natural supports of the kidney; a general relaxation or weakening of all the so-called abdominal ligaments; the effect of prolapse of the female organs of generation, pendulous abdomen; rapid absorption of fat; menstruation; improper clothing and injuries.

Under the head of symptomatology he briefly considered those symptoms referable to the nervous system and digestive organs, changes in the secretion of urine, and the symptoms of acute incarceration of the kidney. He pointed out the indications for and contraindications against operation. He mentioned the complicated and uncomplicated cases, and described the methods of operating.

ADRENAL TUMORS OF THE KIDNEY.

Dr. Bayard Holmes of Chicago read a paper on this subject. He said that Grawitz had described a group of tumors of the kidney resembling adrenal tissue, which he believed to grow from fragments of adrenal tissue left in the kidney from the earliest embryonal period. Since that time these tumors have been more or less generally recognized. They appear: 1, as masses troublesome only on account of their size, or on account of their tendency to metastasis in the lungs and bones; 2, as sources of adrenal intoxication, producing a complexus of symptoms diametrically opposite to those of Addison's disease, and parallel with the intoxication produced by hypertrophy of the thyroid observed in exophthalmic goiter. The cases presented by Dr. Holmes illustrated both of these manifestations of the disease.

TRAUMATIC RUPTURE OF URETHRA.

Dr. E. J. Senn of Chicago presented this paper and mentioned the classifications of Onax Oberst and Terrillon. In speaking of the etiology, he referred to the theories of Terrillon, Ollier and Poncet, and then discussed the pathology, symptoms, differential diagnosis and treatment of these urethral ruptures.

GALL-BLADDER SURGERY.

Dr. J. E. Allaben of Rockford read a paper in which he reported cases in gall-bladder surgery and dwelt upon the sequelæ. He made some introductory remarks on the difference of opinion in the profession as to the treatment of medical and surgical cases and made a plea for more harmonious action. The paper reiterated the claim of its author, made in an article in the *North American Medical Review* of October, 1897, that the gall-bladder has no function whatever, and that it is merely a sort of diverticulum or a rudimentary organ like the appendix vermiformis.

Case 1.—In this case of empyema of the gall-bladder, operation was followed by recovery. A second operation (cholecystectomy) was done two years later for a mucous fistula, there being occlusion of the common duct, and a stone was found in a pocket of the gall-bladder. Recovery.

Case 2.—Cholelithiasis. Cholecystenterostomy with the Murphy button was performed, with recovery. A laparotomy was done two years later for hernia, which contained omentum, ascending colon, and coils of small intestines. Recovery.

Case 3.—In this case he resorted to cholecystenterostomy with the Murphy button. Recovery. A laparotomy was done four months later; the button was found lodged at the pylorus and was removed by an incision in the intestine.

Case 4.—Cholecystitis with peritoneal adhesions. A cholecystostomy was done and the gall-bladder drained. There was a return of the trouble after drainage was discontinued. Daily lavage of the stomach was given for two weeks. Recovery.

Case 5.—Obstruction of the common bile-duct by a ball-valve action of the stones. A cholecystostomy was done and the stones removed. Recovery.

Case 6.—Cholelithiasis. Operation was declined in this case and the patient died shortly after. Autopsy revealed empyema of the gall-bladder, two stones of great size, and extensive carcinoma occluding the common bile-duct and involving the liver and stomach by adhesions. The author exhibited these stones and photographs.

OPERATIVE TREATMENT OF EXOPHTHALMIC GOITER.

Dr. Carl Doepfner of Chicago read this paper. He stated that the physiologic pathology of this disease is not yet known. The most prevalent hypotheses are and have been: 1, dyscrasia of the blood; 2, neurosis of the heart; 3, alteration of the sympathetic nerve; 4, lesions in the medulla oblongata; 5, primary disease of the thyroid gland. The followers of the first, third and fifth of these theories resorted to surgical measures, such as bleeding, injections of different chemic solutions into the goiter, setons, galvanopuncture, cauterization, and other minor operations. Since 1880 we have had strumectomy, ligation of the thyroid arteries, enucleation, partial extirpation, and exothyreopesia. The year 1896 gave from different operators section of the sympathetic nerve (uni- and bilateral) and resection of the sympathetic nerve, unilateral and bilateral.

As the physiologic pathology of exophthalmic goiter is not yet known, the author takes the stand that there is no reason why surgical treatment of this disease should not be tried. There is no reason either why exophthalmic goiter should not be treated first by scientific internal methods. The patient who does not improve under the prolonged care of a reliable physician should be subjected to operation. Partial excision of the thyroid gland should be done in the first place and always where there is dislocation and compression of the trachea. This is in connection with the surgical indication for thyroidectomy in struma cases. The writer, without adhering to any lofty theories, performs, first, the partial excision of the struma, if possible, of the dislocating or compressing part of the gland.

WHY AND WHEN OPERATE FOR APPENDICITIS.

Dr. W. F. Grinstead of Cairo, in his paper drew the following conclusions:

1. If catarrhal appendicitis can be diagnosed and the acute symptoms begin to subside by the third or fourth day, without tumor or board-like hardness remaining, it should be treated medicinally.

2. If a recurrence, with the same train of symptoms, takes place, it should be treated medicinally, but an operation strongly urged in the interval of health immediately succeeding.

3. If about the third or fourth day there is no improvement of symptoms, it is reasonably certain that they will grow worse and an operation should not be deferred.

4. If at the beginning of an attack perforative appendicitis can be diagnosed, having followed a train of trivial symptoms which the patient has disregarded, an operation should be advised at once.

5. If severe symptoms subside about the third or fourth day and the patient appears convalescent, except a circumscribed induration in the cecal region, it is safe to conclude that we have a localized peritonitis from perforation; that abscess or diffuse septic peritonitis must follow. We should advise laparotomy.

TWO AFFECTIONS OF THE KNEE JOINT—GONORRHEAL SYNOVITIS AND LOOSE BODIES IN THE JOINT.

Dr. George N. Kreider of Springfield read this paper. Gonorrheal invasion of this joint is not uncommon, but frequently overlooked. When the knee-joint is alone involved, the possibility of this character of disease should always be considered. He then dwelt on the pathology, treatment and results. Loose body in the joint should always be looked for in obscure disease of this joint. He has treated several of these cases which had previously been confined to bed for months and subjected to various tortures by competent practitioners without benefit. He then described the methods of detection and the removal of these bodies.

(*To be continued.*)

Physicians' Club of Chicago.

Regular Meeting held March 27, 1899.

(*Concluded from page 1177.*)

WHAT WOULD PROFESSIONAL ETIQUETTE DEMAND?

Dr. John Ridlon—Professional etiquette in hospitals should be very much the same as out of hospitals. When the profession comes to the point where they are willing to accept the Golden Rule as a good working proposition, there will be no occasion for any such discussion as this to-night. As a matter of fact, we have not reached that point. Too frequently, on the part of members of the profession, it is "dog eat dog." There are two sides to this question. One is the relation of the doctor to the other doctor, with the patient intervening. The second aspect is the relation of one doctor to the other, with the hospital management intervening. It depends entirely on one's own position in the fight as to which way the right appears. It appears to us that we are always in the right, and that the other fellow is always in the wrong. You have had a patient taken to the hospital perhaps, or one that you are very much interested in. You may have started a certain line of treatment which you believe to be the only right treatment. Your service ends; your colleague comes in, and he changes the treatment entirely, which is tantamount to saying that your treatment has been wholly wrong, whether the opinion is expressed in so many words or not. You feel that the colleague who has succeeded you has treated you very unfairly; that he has tried to do you harm. Let us change the position. You succeed your colleague, and find that a patient, in your judgment, has been treated wholly wrong; you believe that your colleague, especially if it is in a specialty, is wholly incompetent; that he does not know anything about his specialty; that he has been appointed either by political or social influences, or by monetary influences, by wire-pulling, by any possible means; that he does not know any more about treating a case of gynecology than I know about treating a case of ophthalmology. He happened to be put in that department because it was the only vacant place. You treat the case as you think it should be treated with credit to yourself, and your colleague thinks you have been trying to do him up. Both men may be honest; both men may be dishonest. Where is the chief obligation? Is it your duty, when you are the first man, to cover up the faults of the second man and not to squirm and not object to being placed in the wrong from the patient's standpoint? If you are in the second place, you must continue his incompetent treatment so as to save him? Must you sacrifice the patient, your professional standing, by treating a case wrongly, or continuing your colleague's treatment when you do not think he is in the right? Personally, the patient has the chief right; the patient must be considered before my reputation or that of my colleague. I will admit that my remarks do not agree with some of those you have heard to-night, but I honestly believe in the rectitude of my position.

The other proposition is where two members of the staff come in conflict with the authorities in management. When such a conflict occurs, the hospital authorities may make a vacancy in order to put in a man who needs the place. There are frequently such circumstances. You do not like to admit it, I know. How do they proceed to get that place? Do the hospital authorities go to that man whom they want out, and say, "We don't want you any more; get out"? They do not do that, but they go to the executive committee of the medical board and say: "Rumors have come to us that a certain member of the staff is not quite up to our own standard; investigate, and report to us." And this committee are so carried away with the thought of "eating dog," they proceed to investigate this man, when they had nothing to do with his appointment. They make their report, and they have acted as executioners of that man's reputation, and he goes. Shall we continue to act as executioners for hospital boards? I guess we will. Why? Simply because we are lacking in sufficient courage to risk our hospital appointments. We have not a sufficiently high degree of professional etiquette. We have not yet risen to the standard of blacksmiths or journeymen tailors in our standard of etiquette. If we do not do as we are told by boards of managers, we have to go, and we know there are three thousand men in Chicago who are ready to fight one another for our places. We have not the courage we ought to have; we are slaves of the hospital, and we do the hospital's bidding.

The essence of professional etiquette appears to me to be to mind your own business; if you mind your own business, you will not have such trouble as you are having to-day. If you do not interfere with things that are not your affairs, you will not have so much trouble. If you leave other doctor's patients alone, you will not come into serious conflict with those doctors. Stop commenting unfavorably in the presence of the house staff and censuring the work of your colleagues in the presence of the nurses. Mind your own business, and when the board of managers asks you to be executioners of one of your colleagues, say to that board of managers, we had nothing to do with the appointment of this man, therefore we will have nothing to do with his execution.

The whole difficulty, it seems to me, lies in the manner of hospital appointments, and the whole remedy lies in changing the manner of making the hospital appointments.

Men are now appointed on the staffs of hospitals for two reasons. In some hospitals they are appointed because the hospital authorities think they will bring revenue and private patients to the hospitals. But generally they are appointed because *they* think they are needed on the hospital staff. The existing staff do not think they are needed; they know that they have already a great many more men than they need. But Dr. So-and-so wants to get on the staff, and he moves heaven and earth to get there. He uses every political pull. He may resort to the most disreputable tactics, and give anything and everything that is desired by the politician in order to get an appointment. He uses all the influence he can socially; he uses all the influence he can in the church. He goes to every man whom he knows on the staff and privately asks them to support his candidacy, and generally they have not the courage or nerve to say that they can not support his candidacy. They say, "Yes, we will support you," and he gets in. What sort of opinion will the board of managers have of a man who gets his position in that way? They do not have a very high opinion of him, because most of them who are on the boards of managers of our hospitals are business men, and they think that a man who asks the privilege of working without pay is either a fool or a knave. If we would not seek hospital positions so earnestly, if we would wait until the hospitals wanted us, and if we are ready to go out when the hospital does not want us, and when our colleagues do not want us, we would save ouselves a lot of trouble. How can it be brought about? Would it not be possible for the profession in Chicago to bring enough influence to bear to induce the hospitals of Chicago to let the profession appoint the attending staff in the hospitals? This surely could be brought about if the profession of the city would unite in this regard.

Dr. William H. Baum—There can be no question as to the attitude which should be assumed by medical men toward their brethren in the profession. As Dr. Ridlon has said, the object to be striven for is that we should all do unto others as we would expect others to do unto us. The proceeding of covering or making public the mistakes of a brother practitioner sometimes leads into error in many ways. In the first place, in order to properly appreciate the position of the practitioner at the time that the mistake is supposed to have been made, we should be in a position to see the patient and investigate before jumping to a conclusion. It has happened to almost every one here to have seen a patient at a date far remote from the time the first practitioner had an opportunity to make his examination, and what may have been obscure at first becomes apparent later. There is no way at present by which we can make a definite diagnosis of typhoid during the first, second or third day; it is only when the typic signs of the disease are present that a proper diagnosis can be made. The same is true of surgical procedures. Unless we are conversant with the conditions present at the time of the operation every practitioner must admit that it is difficult to pass judgment, and every physician should have the right to defend whatever course he pursues if there is a condition present which justifies his method of procedure, and it is the duty of the profession to uphold that individual in every possible manner and shield him from public criticism. The public expects a higher grade of honor among medical men in their relations to each other than it does among business men, and we should carry out their expectations by protecting each other against unjust criticisms. Since the law requires but ordinary care and diligence from the physician, the profession should at least do this justice to its members.

RELATION OF EXECUTIVE BODY TO STAFF.

Dr. Thos. A. Davis—I am quite familiar with the relations existing between the executive body of the Cook County Hospital and attending staff, and have been for years, and these relations have uniformly been very pleasant. The prevailing ethics between the executive, the Board of Cook County Commissioners, represented in the hospital by a layman as warden, and the medical staff of the hospital, is precisely that which exists between any political appointor and appointee. The executive of Cook County Hospital has always established such a prudent policy toward the medical staff of the institution that there has always obtained the fullest degree of happiness for both bodies, the executive and the staff. And again, the medical staff is given the function of regulating and carrying on the entire medical work of the institution, and, so far as I know, its policy has not been disturbed by the executive body. The medical staff prescribes its own policy and regulates its own ethics without the intervention of the executive body. We are placed under no restraint whatever. There is no limitation to our freedom. It is only when we can not obtain the moral sociability of ethics among ourselves that we must appeal to the executive department of the institution.

GENERAL DISCUSSION.

Dr. Charles S. Bacon—Further light might be thrown on the subject of Dr. Stubbs by a consideration of a related subject, "How should members of the profession treat the mistakes of irregular practitioners?" This is not only a practical question, but has an important bearing on professional ethics. Both as members of hospital staffs and as practitioners we have to do with men who do not belong to the regular medical profession, such as homeopaths, eclectics, osteopaths, and others who may have graduated from regular medical schools, but have lost their standing by the employment of quackish methods. Shall we cover up their mistakes? I do not speak of deceptions. Of course, we would expose their humbuggery. But they may be honest men, and yet make mistakes. Now, if we ask the question, "Where shall the line be drawn to separate the practitioners whose mistakes we are going to cover up from those whose mistakes we expose?" the relation between the ethic rules which should govern members of the profession in their dealings with one another, and those to govern them in their dealings with outsiders, becomes apparent. Shall this line be drawn by a medical board, by a medical society, or by each one for himself? It is a well-known fact that there are many physicians whose names in our directories are followed by an "R," who belong to our medical societies, or who are connected with our hospital staffs, who are not as honest and competent as many of the irregular practitioners. Suppose we know that a man is dishonest or grossly incompetent, although he has succeeded in getting enrolled among the regulars. I should think that we might sometimes feel obliged to put such a case outside of the favored category, just as we often include among those whom we protect honest homeopaths and eclectics. In other words, each must make his own classification of regular or honest and irregular or dishonest practitioners. The honest practitioner deserves the same charitable judgment that we would ask for ourselves. The dishonest man, whether he be nominally a regular or irregular, merits our condemnation when either his ignorance or humbuggery leads to the commission of grave blunders. Only with such a limitation as this can we accept the rules laid down by Dr. Stubbs.

Dr. William E. Morgan—I do not feel like saying much about medical ethics; I might say a few words regarding the treatment of our brother practitioners, not only the honest, but the dishonest, the quack and irregular, and as to whether a quack, admitted to the regular profession, should be recognized by the profession as a regular practitioner. I refer to the advertising or newspaper quack, and I put them all in the same box, whether they are admittedly members of the regular profession or not. Should we criticize those men to our patients? This is a question which is rather undecided. The open, advertising quack or irregular practitioner is a conscientious sort of animal. We talk against him among ourselves as much as we please, but it is questionable whether we do the profession any good by talking about him to our patients. The laity do not look upon us as a profession as we do; we live in a society amongst ourselves. The laity look at doctors at large as all belonging to one general class of men. People have been fooled by the regular just as they have been by the quack; they have been deceived time and again by the regular as well as by the charlatan, and consequently the quack flourishes. It is a question in my mind whether we had not better keep still concerning the irregular practitioner to our patients. Let us talk about him as we will amongst ourselves.

As to the attitude we should show toward our brothers in cases of mistakes, I do not think that any physician should measure the conduct or act as a critic of his brother practitioner, whether asked to do so by the executive committees of institutions made up of members of the laity, or committees made up perhaps largely of the trustees of churches or of politicians. I do not think it is our duty to yield to any of their demands to criticize our professional brethren. We should fight to cover up the mistakes of the regular medical profession; just as Dr. Stubbs has said, we should be charitable, because we are all fallible. I have made mistakes; all of you have made mistakes, and many a man could have ruined our reputations in the community. I do not think it is hard to cover up the mistakes made in regard to patients. When I am called in consultation to see a case, and have perhaps discovered something that a brother practitioner has not found, I have little difficulty in pleasing the patient, so that the regular family physician, or the man who has been in attendance before, is retained. This is especially the case with the young practitioner, the young man who is struggling for existence in the community. I am afraid we sometimes forget ourselves in dealing with the younger members of the profession, and in our forgetfulness we override them occasionally. It is not the intention of the older practitioner to do the younger member of the profession any harm, but in a moment of thoughtlessness he may do him an immense amount of harm. I do not think it is really necessary to deceive patients in these matters and lie to them; but matters can be smoothed over in a nice sort of way, so that patients will feel kindly toward the man with whom they are already waiting to find fault. The laity is very easily led into side channels. If we treat the younger members of the profession in a kindly way, it leads them to afterward do likewise toward their fellow-practitioners. Charity in the medical profession ought to be paramount, especially toward our fellow-practitioners.

Dr. B. MEYER—As a physician graduated from an European university, where medical ethics and professional etiquette are thought of so much, that though one can become an M.D. he will not be considered a gentleman without knowing all about and also practicing it, is somewhat surprising to me to listen to a discussion such as this to-night, not because the subject, hospital ethics, is unfit for discussion—on the contrary, it is a very good one, but because, if I am not mistaken, it has been deemed necessary on account of an occurrence which recently happened in Cook County Hospital, of which I read in the newspapers. I don't hesitate to state that anything like that could not have taken place in a hospital in Europe—at least, I never heard of one; and being in this country fifteen years, and knowing very well that America has at the present time as many gentlemen in the medical profession as has Europe, I have a right to be surprised. We must all agree that delicate professional matters should be kept strictly within the profession; what have the daily papers to do with them? It can not be doubted that every man who tries to ruin his fellowmen by climbing on their shoulders will suffer sooner or later, and how a physician can be benefited by pointing out to the laity the mistakes of brother practitioners is more than I can understand. Practice of this kind tends to lower the dignity of the whole profession, of which he is a member himself, and even the most ignorant of our patients, with only one grain of common sense and self-respect, will admit that it is wrong and can do nothing but harm. I agree with the gentleman (Dr. Ridlon) who said that the patient has the first right, but although I never had much sympathy for the cause of death, "professional courtesy," I do not think we have a right to overlook the interests of our profession. Should we find mistakes made, let us cover them as well as possible; that is our duty toward our profession, our fellow practitioners, ourselves, and, I will add, toward our patients as well.

In regard to public charity hospitals, for I have watched the workings and movements of hospitals for a number of years, and not being attached to any hospital staff, I am more free to criticize, and must include our medical colleges and free dispensaries in the same category. They practice a sort of "confidence" on the medical profession, students, and a sympathetic public. The colleges do an injustice to our young men whom they graduate and send out into the active competition of the world, by bringing before their classes and clinics charity patients, who are well able to pay a reasonable fee, and doing the work gratuitously.

The young, active, ambitious and competent physicians work up cases and prepare to operate or give general treatment, when without due professional notice the patient hies himself or herself to a hospital and gets treatment, or an operation, free, without a dollar's expense to themselves, when a fee had been agreed on, and the patient was able to pay. The doctor has been "confidenced" out of his patient, the hospital has been imposed on, and a charitable public has been wronged. This is all wrong. The public gives to hospitals for charitable purposes, not to give gratuitous medical and surgical services, board and nursing to those who are able to pay. The public have a right to complain, because they are asked in various ways every year for the support of such institutions for charity, and not to make mendicants out of those who are able to remunerate for services rendered. I will mention one or two cases in point: Within a hundred miles of this city, a practitioner in good standing, competent and skilful, expected to operate on a woman whose husband was a well-to do farmer. The fee was to be $100. A few days before the date for operating she was taken to our city, placed in one of our best public hospitals, had the operation performed by one of our leading surgeons, services rendered, nursing and board, for how much, think you? Why, for nothing; not a dollar expense to the well-to-do farmer. The actual cost to the hospital was about $1.50 per day for thirty days. The general public had to pay the bill, with your and my assistance, and the physician who has spent time and money and long experience to obtain the requisite knowledge to perform such operations is "bunkoed" out of his honorarium, and worse than that, he is brought into discredit in his neighborhood as not being able to render such services.

Another young physician in one of our suburbs worked up a case for operation, a price agreed on, $50, nurses engaged, when off flies the object of his solicitude to a liberal hospital, and has all done for not even "thank you." The young physician was euchred out of his fee, patient and prospective reputation, which was to have amounted to far more than the paltry fee; a charity-giving public wronged, and the hospital again imposed upon, and hatred and disgust engendered in the hearts of the doctor and his brother friends against the course pursued by said hospital.

The aforesaid parties were able and willing and expected to pay a fee. Now, who is to blame for such a state of affairs? Physicians as well as the public have a right to complain because some of the parties connected with our hospitals are going about the community asking the charitable for funds for charity purposes, then turn around and give charity (?) where it is not deserved and not required. I could relate many more such cases, if time would permit. We sometimes complain of unions among laboring men; better assist them. I think we had better have one of our own to stop certain forms of unprofessional etiquette and from being confidenced out of our legitimate patients by the so-called public charity hospitals. The managers of hospitals are not particular enough in making inquiries and examining cases coming to them for charity as to their financial ability to compensate for services. Our clinics and our public dispensaries are largely a public curse, for the reason that many cases are treated free who could well afford to pay a reasonable fee. Many a patient who has the appearance of being poverty-stricken has a bank account. It is near time that the regular practitioners, whether they be allopaths or homeopaths, if they are honest men doing an honest business, should try to put a stop to this kind of proceeding. Physicians, how long are you going to stand this imposition and outrage?

Dr. JOHN RIDLON—I want to relate a personal experience in connection with the remarks made by the last speaker. A young man with clubfoot gathered together $125 to have the foot straightened. He was ready to spend that amount. He came to my office; we talked the matter over, and he agreed to pay $50 for the operation, and $75 for his hospital expenses. He was sent to a hospital, but was delayed a little in going there. During this delay two wealthy ladies, well known in this city, brought their influence to bear on the board of managers, and he was sent to the hospital as a charity case. Under the rules of the hospital I am not permitted to receive one cent as a fee for a charity case. He remained there five or six weeks longer than necessary; the hospital was beaten out of the board and nursing by the kindly ladies, and the hospital, by its arbitrary rule, deprived me of my fee, and the young man was $125 ahead. Why did I not object? I did not dare to. There are lots of other fellows ever ready to take my place, so I didn't do a thing.

Orleans Parish Medical Society.

Meeting held May 13, 1899.

ANTISTREPTOCOCCIC SERUM IN PULMONARY TUBERCULOSIS.

Dr. T. S. DABNEY called attention to a line of treatment recently pursued by him in cases of pulmonary tuberculosis. Bearing in mind the fact that other bacteria are frequently associated with the tubercle bacillus in the sputum of consumptives, and convinced of the possibility of these bacteria exerting an important influence on the disease, he had of late treated several cases with antistreptococcic serum.

In the first case, seen in consultation with Dr. L. G. LeBeuf, 30 c.c. of the serum had been given daily for five days, and again on the seventh day. In this man, whose sputum had been examined and found teeming with tubercle bacilli, there was rapid improvement. The temperature fell promptly from 102.6 to 99 degrees, then to normal, above which it has not since risen; he has gained flesh and is now able to work, though before this treatment was begun he had lain in bed five weeks.

In Case 2, seen with Dr. C. F. Sauter, the temperature, which had risen to 102.6, fell to 100 degrees after the first injection, to 98.5 after the second; while tubercle bacilli were originally present in his sputum, none are now to be found, and the patient is apparently well.

Case 3, occurring in his own practice, was one of laryngeal tuberculosis; no benefit was received from the three injections given, the patient dying promptly. In the last case subjected to this treatment, which was begun six days ago, two injections of 30 c.c. have been given, the first was followed by acceleration of the pulse from 110 to 140 per minute, with dyspnea, anorexia and dizziness. However, this injection had brought the temperature down from 103 to 100 degrees, and the second to 96.

Dr. F. W. Parham asked whether cultures had been made to determine the presence of streptococci in the sputum of the patients treated. He did not believe that an antistreptococcic serum would do good in a case of staphylococcic infection. As to the cases related, it could hardly be a coincidence that several of them improved promptly under the treatment described. Of the harmlessness of the serum used, when given with proper precautions, he was convinced from experience with it in a case in his own family. Of course, it must be plain that this treatment could be beneficial only by combating the secondary infection in tuberculous cases, destroying, not the tubercle bacilli, but material for their growth. The value of the culture method he had realized lately in a case of sequestrotomy of the femur. An agar-tube had been planted by means of the platinum loop with material from caseous foci discovered in the course of the operation. A pure culture of tubercle bacilli had been obtained, showing the absence of pyogenic cocci from the depths of the bone, though they were no doubt present in the pus given off from the sinus.

Dr. L. G. LeBeuf said in the case under his care the physical signs had improved, and there was no longer any expectoration nor any febrile temperature; in spite of very unfavorable hygienic conditions, the patient, whom he considered improved but not cured, had kept quite well.

Dr. T. S. Dabney, in answer to Dr. Parham's question, stated that the sputum report of one of the cases mentioned the presence of "numerous other bacteria" in addition to the tubercle bacilli. No specific mention of the presence of streptococci had been made in the sputum reports, though he had realized the importance of determining this point, and had asked that it be investigated.

Dr. W. M. Perkins called attention to the fact that the antitoxins of individual germs are stated to possess a certain curative effect on diseases caused by other germs; similarly, the agglutination reaction may be obtained in a certain proportion of cases with other bacteria than the one with which it would naturally be expected.

OBSTETRIC CASES.

Dr. T. S. Dabney reported an obstetric case that terminated in the expulsion of a large mass, weighing 1100 grams, and resembling placental tissue except in this detail, that it was covered with serous membrane over its entire circumference. On the following day a smaller mass, weighing 500 grams, was expelled. After this the uterus was found small and firmly contracted. The patient who presented this condition was a colored woman who had previously brought a number of children safely to term. He was at a loss to explain the expulsion of this mass unaccompanied by any trace of a fetus.

FRACTURE OF THIGH IN NEW-BORN.

Dr. R. J. Mainegra told of a case of fracture of the thigh in a new-born baby, in which considerable difficulty was experienced in reducing angular deformity on the fourteenth day, on account of the firmness of the callus already formed; ultimately good union was obtained, without perceptible shortening, an anterior splint being used in addition to the lateral splint. In two cases of fracture of the femur occurring in adults, he had observed shortening only after the patients had begun walking, careful measurements having been made during the course of treatment: the patients had been allowed up about the seventh or eighth week after the occurrence of the fracture.

Dr. H. B. Gessner said that while he had never seen a case of fracture in a new-born infant, he had known union of a fractured clavicle to take place in fourteen days in a child of 3 years.

Dr. John T. Jones knew a case of fracture of both bones of the forearm, occurring in a boy of 12 years, in which apparently good union had been obtained in ten days; in another case, a colored child of 4 or 5 years, good union took place in a week.

Topeka Academy of Medicine and Surgery.

Meeting held May 8, 1899.

RENAL INSUFFICIENCY: SOME OF ITS CAUSES, ANTECEDENTS AND CONSEQUENCES.

Dr. O. P. Davis read a paper on this subject, emphasizing that the exclusive function of the kidney is secretion and elimination. The insufficiency may be either functional or organic. It may be temporarily overworked, and yet not have any organic changes in its substance. Sometimes the kidney is not performing its proper function, yet no symptoms of renal disease are present. A healthy person should pass from 500 to 1100 grs. of solids every twenty-four hours, and when the amount is reduced to 200 or 300 grs., there is serious trouble and the kidney is not performing its duty properly. Infection is most frequently the cause of nephritis. Normally the kidney excretes toxins from the system, but when it is diseased the toxins accumulate and are not properly eliminated. Bacteria are not always indicative of renal disease; they may enter the urine from other sources, such as the bladder. He spoke of the frequency of nephritis after infectious diseases. Acute nephritis following scarlet fever is frequently followed by desquamative nephritis. Amyloid disease more obviously depends on some infection. The effect of alcohol on the kidney is overestimated, and cirrhotic kidney is not due to alcohol as frequently as many suppose.

The most important symptoms are: albuminuria, the quantity of which varies with the severity of the disease, and it is never present physiologically; dropsy and dyspnea. When a person over forty years of age complains of dyspnea, examine the urine at once. Dyspnea is due in part to uremia and in part to edema of the lungs.

Treatment: First find the cause, if possible, and eliminate all reflex disturbances. Combat the infection, lessen the strain on the kidney and relieve symptoms as they arise.

Dr. R. E. McVey spoke of unusual exercise frequently causing a temporary derangement of the kidney because it could not take care of the additional waste material. Increased frequency of urination may be due to disease of the prostate or bladder or to sexual excesses.

Dr. W. E. McVey pointed out that the intimate relation between the heart, kidney and liver should always be considered when either is affected.

Dr. S. G. Stewart said that the state of nutrition of the body had a great deal to do with the cause of the disease. The epithelium of the kidney suffers from overwork in eliminating extra waste, and from germs in infectious diseases. Sometimes there is degeneration without inflammation. Inflammation is not caused by increased metabolism, but by bacteria.

Dr. R. S. Magee spoke of the selective action of the tubular epithelium. Albumin is not present in normal urine because it is not a crystalline substance and can not pass through the epithelium unless diseased. Dyspnea is due to an increased amount of carbonic acid gas in the blood.

Fictitious Mineral Springs.—It is said that once during the progress of some extensive engineering and building works in the State of New York, a sulphur spring of great medical virtue was discovered, and was enclosed in a marble basin and exploited throughout the community. When the operations were complete and the army of workmen left, the spring lost its special qualities, and on investigation it was found that they were solely due to the sewage contaminations from the workers camp. A somewhat parallel case to this is reported from a city in Iowa, where the board of health ordered the filling up of a filthy well, the owner of which was bottling the water and selling it as mineral water. He had procured scores of testimonials as to the benefits received from those who have used it, and threatens to prosecute the board for damages. The guardianship of the public health is sometimes a thankless task.

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SATURDAY, JUNE 3, 1899.

THERE ARE twelve expresidents of the AMERICAN MEDICAL ASSOCIATION now living, and it was the intention to group all these on the title page of this souvenir edition; through a mistake, however, the photographs of two of these were omitted from the plate, and are therefore printed on page 1211.

OUR SOUVENIR NUMBER.

Commencing on Tuesday next, at Columbus, Ohio, the AMERICAN MEDICAL ASSOCIATION will hold its fiftieth annual meeting. Further, this will be the last meeting held in the nineteenth century, or, to avoid criticism we will say during the eighteen hundreds. For these reasons it has been thought an opportune time to commemorate the event by issuing a special number of the JOURNAL. It is a fitting opportunity to stop for a moment and look over, not only the fifty-two years since the ASSOCIATION was formed, but also over the century that will soon close. While American medicine has done much in the century that is nearly ended, the future will show more marked influence year by year. It is only during the last decade that the influence of American medical literature and work has been felt abroad. And even now these are not given the recognition deserved. One object of this souvenir number is to in a slight way show to the world something of what has been done by the medical profession of our country in the grand work of relieving suffering humanity from its various ills, and what has been its influence on the progress that has been made in the various branches of medicine. The determination to publish such a number was not made until it was almost too late to obtain suitable material, as it necessarily takes much time to look up the literature necessary in some of the departments, in order to present the subject satisfactorily in every way. At the last moment some of those on whom we had depended were compelled to disappoint us—for good and sufficient reasons in each case. Hence some branches are not touched upon at all. The JOURNAL extends its thanks to those who have so kindly written for this number.

THE AMERICAN MEDICAL ASSOCIATION.

The AMERICAN MEDICAL ASSOCIATION probably occupies at the present time a higher place in the estimation of the medical profession and the public than at any previous period in its history. There has been no time when its membership has been larger or has included a greater proportion of the leading lights in medical science than the present.

Its democratic organization, covering in its sections the whole field of medicine, and permitting membership to every reputable physician, through the local organizations, gives it an altogether special value as a professional bond of union throughout the whole extended territory of our country. There is or can be no other national body comparable to it in this respect; all other existing organizations, not strictly local in their character are essentially limited in their membership and functions, and can not represent the profession as a whole. The ASSOCIATION, therefore, occupies a unique position—it is the one organization that represents the whole regular medical profession and through which it can act. Its activity is not confined to its actual membership, for all the societies represented in it are co-operating factors and should be reckoned in estimating its influence.

What its influence has been in the past is best shown by a comparison of conditions that formerly existed, with those at the present. When the ASSOCIATION was first organized medical matters in the United States were in a chaotic state. What laws had existed regulating practice in the older States had been mostly repealed, and the process of elimination of all checks on quackery was being vigorously carried on to the finish. Medical schools had begun to multiply, but their standards were distressingly low, and there was no apparent tendency to elevate them. Even the authorities of Harvard entered a protest against the early attempts of the ASSOCIATION for the reform of the medical education of the day, and what better could be expected of the less favored institutions. This reform was from the beginning one of the fundamental objects of the ASSOCIATION; it was the first, and long the only, worker in the field, and must be largely credited with whatever good has been accomplished in this direction. This, however, is only one of its leading objects; its interest has been active in behalf of the medical profession and its members, in whatever might, in the terms of the first resolutions, "be for the protection of their interests, for the maintenance of their honor and respectability, for the advancement of their knowledge and the extension of their usefulness."

It is needless here to review the details of the progress of the past fifty years, they are familiar to us all, and in all the American Medical Association has had its part. Whatever may have been the honorable record of its past, the present and the future of the Association will be not less rich in opportunity, and we trust also in accomplishment. There will always be work for it to do and its fields of usefulness will widen with the years. The medical millennium will not soon be reached; ignorance, prejudice, and superstition are always to be combatted, and it is only through such an organization as ours that physicians will be best able to meet many of the problems that arise from time to time in the social and political evolution of the age. More even than this are we to count in the functions of the Association its due share in the scientific advance of our profession, a field that, while not neglected in the past, should be yet more earnestly cultivated in the future. Our organization, while not less popular, should grow more and more scientific, keeping well in the advance line of progressive medicine. It is in this way that the future of the Association largely lies, and it will be the duty of its members to do all in their power to further it. All can not be investigators and discoverers, but study and observation are within the possibilities and opportunities of everyone. Our organization can, better than any other, set the tone and elevate the standing and consideration of American medicine, both at home and abroad.

MEMBERSHIP IN THE AMERICAN MEDICAL ASSOCIATION.

It will not be out of place at this time to say a word in reference to the classes of membership in the Association. The Constitution speaks of four kinds of members: 1, delegates; 2, members by invitation; 3, permanent members; and 4, members by application. Delegates are those who are appointed by State societies, or by county or district societies, recognized by their respective State societies. The medical departments of the army and navy and the U.S. Marine-Hospital Service are also entitled to send delegates. The basis for delegates is one for each ten members or major fraction thereof. Delegate members have a right to vote, but none others have this privilege. Members by invitation are those who are from sections of the United States not otherwise represented. They must be endorsed by three members. They have the right to take part in the discussions, but can not vote. Permanent members are those who have served as delegates. These have the right to the floor, but can not vote. The fourth class, members by application, have the same rights. They are those who join the Association by application, and must be members of State, county or district medical societies which are entitled to representation. Hence it may be supposed that a large majority of those attending the annual meetings do not have the privilege of voting. The foundation principle is that while all are invited to attend and take part in Section and scientific work, the number who shall engage in the business part of the meeting should be limited.

FIN DE SIÈCLE.

We are all of us sadly tempted to believe that this year will end the nineteenth century, and some may have to be convinced before they will acknowledge that it does not do so. Even such a correct body as that of the General Assembly of the Presbyterian Church, which is supposed to be well up in such fine points, had to go through a discussion of the matter before it was willing to vote affirmatively on the resolution, which declared that the end of the century will occur on Dec. 31, 1900. Some who have written for this number of the Journal have allowed the reader to assume that this year is to end the century, and while we are compelled to agree with the Presbyterians in the matter, we do so with the wish that it were otherwise. When we have to write "19" instead of "18," as we have been doing all our lives, we feel justified in unrighteously assuming, for the purposes of this souvenir number at least, that this is the end of the nineteenth century. P. S. Our "Correspondence" columns are *not* open to a discussion of this matter.

DURATION OF LIFE.

The *Bulletin* of the health department of Chicago, for April, gives some interesting statistics and diagrams showing the increased duration of life during the past quarter-century. According to it, the average age at death of 10,203 persons whose deaths are recorded for 1872, was fifteen years, two months and ten days. In 1882, the average age at death in 13,606 recorded was nineteen years, seven months and one day. In 1892 it was twenty-two years and eight months, and in 1898 the average age of 22,897 decedents was twenty-nine years, four months and sixteen days. These figures, remarkable as they are at first sight, are explainable by two facts: one, the increase of elderly and aged persons in the population, a factor to be considered in the statistics of every new and growing community, and the other, much more significant from a sanitary point of view, the reduction of infantile mortality. Thus we find that while the percentage of deaths of those over 50 has more than doubled since 1872, and that of those between 5 and 30 has been nearly stationary, the percentage of deaths under 1 year has been reduced from 33.8 to 23.7 per cent. of the total, and that between 1 and 2 years cut down from 13.8 to 6.1, or less than half what it was in 1872. This decrease, especially in those under 1 year old, has been steadily progressive, a fact that indicates a regular advance in the sanitation of the city. Going back a little farther, it is stated that in 1869 the percentage on the total of deaths of children under 5 years of age was 62.8, while in 1898 it was hardly half that (35.2). Chicago certainly seems to be a much healthier city for children than it was formerly.

ORIGIN OF PERCUSSION.

DR. HENRY SMITH WILLIAMS, in a paper on "The Century in Scientific Medicine," in *Harper's Monthly* for June, gives CORVISART, physician to the first Napoleon, credit for introducing to the profession the method of examining the chest by percussion. While AVENBRUGGER, a German physician, was the first to call attention to the method, in a book published in 1761, yet, for some reason, no one until CORVISART made use of it paid any attention to the German discovery. It seems strange, as shown by Dr. WILLIAMS, that the still more important, yet simple idea of auscultation should not have been thought of for so many years after, and only an accident revealed to LÆNNEC the value of listening to the sounds of chest-auscultation. The magazine article referred to is a concisely stated account of the progress made in scientific medicine during the century, and the more such papers are placed before the general reader, showing what scientific medicine has done, is doing, and the progress it is making, the sooner will the reading public appreciate the difference between it and the quackery humbug and the various delusions which are so popular to-day.

A NEW METHOD OF TREATING TAPEWORM.

The editor of the *Iowa Medical Journal* announces a method of treating tapeworm that is certainly novel. It not infrequently happens, he says, that in removing these parasites several feet are passed, while the rest, with the head, remains in the intestine, and can not be readily detached. As the worm has a pair of longitudinal vessels extending throughout its length from the head, it occurred to him to utilize these, and he therefore in such a case cut off the lower projecting portion with the scissors and administered to the upper section of his wormship a hypodermic of one-half a grain of morphin, followed in a few minutes by a copious injection of water. The remainder of the worm promptly came away with the head, showing no signs of life whatever, while the previously severed section retained its vitality for an hour or more. The editor believes that in such a case as this, when there is danger of retention of the head in spite of efforts, the hypodermic syringe may be very useful. He certainly deserves credit for this novel therapeutic suggestion. We are strongly reminded, however, of the advice so freely given to younger members of humanity, to put a little salt on the tail of the bird they are anxious to catch.

CAUSE OF RHEUMATOID ARTHRITIS—ARTHRITIS DEFORMANS.

So far it can not be said that we have any exact knowledge of the real etiology of rheumatoid arthritis. It is therefore worth while to note the results obtained by v. DUNGERN and SCHNIDER[1] from the bacteriologic examination of the synovial fluid, and also the blood and internal organs, in a case of this disease. At first only the mucus of the gall-bladder was found to contain bacteria, in the form of small diplococci, but later, after the synovial fluid had been standing for a few days, similar diplococci appeared in it also. In both cases the organisms stained by Gram's method. The cultures, however, made under aërobic and anaërobic conditions, and from many joints, all showed the same diplococci, which do not correspond with any known organism. They were also isolated from the liver, and in large numbers from the bile. Without entering into any morphologic and cultural details concerning this microbe, which is quite like the micrococcus lanceolatus, it is of great interest to observe that when injected into the joints of rabbits it produces the same lesions as are found in arthritis deformans. Such changes were not obtained by injecting other micro-organisms, such as the common pus microbes. For these reasons the authors are inclined to emphasize the probable etiologic importance of this diplococcus. Satisfactory evidence that arthritis deformans is a chronic infection, a view which has gained some ground of late, has hitherto not been forthcoming, the facts at hand speaking just as much in favor of the older neurotic view. The above observations, coupled with the finding of the micro-organisms in the joints by other observers (SCHÜLLER, BALLANTNYE and BLAXALL), as well as the frequent association of arthritis deformans with previous acute infections, should stimulate investigators to continued bacteriologic examination of this intractable disease.

CURRENT MEDICAL LITERATURE.

As most of the contents of this number is retrospective, we may be pardoned for taking a little space to speak of the future. It has always been against the policy of the JOURNAL to make promises of what it would or would not do, but under the circumstances we desire to say a word as to the future in regard to one department—"Current Medical Literature." While the JOURNAL is the organ of the AMERICAN MEDICAL ASSOCIATION, it is also the organ of the American medical profession, and as such, attempts to reflect American medicine and its literature. To do this in part it gives each week a list of practically all the important original articles published in this country, whether these appear in the most popular metropolitan weekly or in the most obscure provincial monthly, recognizing the fact that some of the best work may originate in the most obscure places. It also gives an epitome of salient points of the most worthy of these articles, although it does not claim to abstract all. Hereafter the plan will be to give as nearly as possible digests of the more important papers, especially if they contain anything new or of value. When the title of the paper does not indicate the character of its contents and no abstract appears, sufficient mention will be made to indicate its tenor. Thus each week the reader will be informed of all noteworthy papers published in this country on any subject in which he may be interested. Further, to make this department still more valuable, and that of a permanent nature, at the end of each volume there will be given an alphabetic list of authors, with page references, to which the reader may refer for the title. In this way it will be shown what each man has published during the six months preceding. This "authors' list" will, it is believed, prove of great value, especially to those who desire to look up particular subjects in the literature of the day. In the ensuing volumes, it is our purpose to give also a list of papers published, arranged alphabetically according to subjects. It is not necessary to call attention to the value of such a list of authors and subjects published every six months. In other words, the Journal will be an *index medicus* of American medical literature, making it of value, not for the present only, but also for the future. One difficulty which has been encountered thus far in making up these lists is the lack of a ready means of discovering whether a paper published as original is really such. Frequently it is found that what was at first supposed to be an original paper proves to be one that has been published elsewhere and copied without giving credit. In the future it is hoped that by a system now adopted it will be possible to avoid repetition of titles, so that when an article has been indexed once under one journal, it will not be indexed again, though published by others.

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[1] Munich Med. Woch., 1898, No. 43.

REPORTS OF ANALYSIS OF CITY WATER BY CHICAGO HEALTH DEPARTMENT.

The health department of Chicago has made an enviable record for itself during the last few years, and is now doing decidedly effective work along the usual lines followed by municipal health departments, including the daily analysis of the city water-supply. The department is pursuing a rather peculiar policy, however, in the manner of publication in the daily press of the results of the chemic and other analyses of the Chicago water. As is well known, the water-supply of Chicago comes from Lake Michigan, and from the same part of Lake Michigan into which the sewerage of the city is at times discharged in larger or smaller quantities. Depending on the character of the prevailing winds and other rapidly changeable conditions, the sewerage is liable to find its way into the water-mains through the intakes in the lake, and thus it is brought about that there is established a circle of the most vicious nature. Now, the reports in the public press of the analyses of this water by the Chicago Health Department are liable to be misleading for the general public because the reports are accompanied with, it seems to us, an unnecessary word or two of general advice as to the nature of the water in this or that district, for such and such a day or period. Thus to-day we will read that the water from the Lake View intake is bad and *should be boiled!* Day after to-morrow the same water will have changed its quality and be "usable," which in the lay mind would most likely be interpreted as meaning that it can be consumed with impunity without being boiled. Manifestly this way of doing things is misleading. A water which is bad a day or two every week or so, is bad all the time, from the standpoint of public hygiene, and should be boiled every day when used for drinking purposes. How is the public to know at what hour the water to-day reported as "usable" becomes so bad again that it ought to be boiled? The changes in the water occur quite rapidly, it is true, but yet so gradually that a family relying on this sort of advice from the municipal laboratory would be continually misled. It, seems, indeed, that the custom here outlined, the exact reason for which it is difficult to understand, would tend directly to defeat the very purpose for which the analysis is made, namely the prevention of water-borne diseases. The health department of Chicago should have the courage of its convictions and every single statement concerning the city water emanating from its laboratories should be coupled with the warning, "boil the water"! This is the only consistent policy to pursue —no matter what effect this may have upon the reputation of the city and its goverment—until such a time as the completion of the great drainage canal permanently changes the existing unsanitary conditions.

TUBERCULOSIS CONGRESS.

The tuberculosis congress just held in Berlin must be recognized as of greater importance as regards its subject and its possible consequences than the peace congress now being held at The Hague. War is only an unfortunate incident in modern civilization, but tuberculosis is an ever-present and active enemy to mankind the world over. The present meeting is not the first general movement against the foe, but it is the first with general international sanction and as such deserves all the attention and interest it receives. That the Governments should take up the matter is in its way a triumph for medicine, which has long urged the necessity of more than mere local or individual action against the pest. The public is beginning to recognize its danger and, as is usually the case, it is liable to exaggerate it and to go to extremes, causing needless hardships to the unfortunate, and useless and extravagant measures for imagined protection. As physicians we know that tuberculosis is a contagious disorder, but we also know that it is preventable to a very large extent by altogether rational measures, and that its fatality is not so great as has been estimated by some pessimistic writers. On the other hand, we know that it is a far more disseminated cause of evil than is appreciated by the public, and that while consumption produces perhaps 11 per cent. of deaths, tuberculosis in other forms, if properly estimated, would show a very appreciable percentage of mortality and a vastly increased sum of human misery. The congress will have done an immense service if it be only by authoritatively stating facts, which statements coming from it will have far greater weight with the public than those of individuals, however eminent, or even those of lesser sanitary bodies. This implies what we believe is a justifiable inference, that its dicta will be governed by an enlightened and liberal spirit, avoiding any extreme as well as any ultra-conservative views or theories. The need of such an educational influence on the public is too manifest to require argument; at present there is far too much general indifference based on ignorance and varied only by occasional panicky and futile propositions. A community that endures the spitting nuisance without remonstrance may agitate and even attempt to legislate for the absolute exclusion of consumptive immigration or the rigid isolation of all victims of the disease. It is to be hoped that when the conclusions and recommendations of the congress are published they will be such that no government or community can reasonably decline to endorse and adopt them. Consumption is already on the decrease, among men, and there is every reason to hope that it will before long lose its bad eminence as a destroyer of our species.

Medical News.

The death of Dr. Norman Kerr, is cabled from London, England, May 31.

The first death from yellow fever, in New Orleans, La., this summer, occured May 30.

Dr. Bayard Holmes, Chicago, leaves this week for Europe, expecting to return about October 1.

On June 13, the Johns Hopkins University will graduate 120, including 43 A. B's, 39 Ph. D's and 33 M. D's.

Dr. G. C. Savage, Nashville, Tenn., has been elected secretary of the medical department of Vanderbilt University.

Dr. Wm. L. Ballenger, Chicago, has resigned the chair of otology in the Chicago Eye, Ear, Nose and Throat College.

Dr. Arthur Dean Bevan, professor of anatomy in Rush Medical College, Chicago, has been made associate professor in surgery.

A case of smallpox was recently discovered in the public almshouse on Blackwell's Island, N. Y., and the institution was at once placed under strict quarantine.

The annual commencement of the Woman's Medical College of the New York Infirmary for Women and Children, was held May 25, with a class of eighteen.

Chief Good, of the bureau of health, Philadelphia, has supplied the police stations with antitoxin to be given to the needy poor on the physician's personal application.

Dr. J. G. Carpenter of Stanford, Ky., recently delivered a course of lectures on gynecology in Barnes Medical College, St. Louis, in the absence of Prof. James T. Jelks.

Methodists of Chicago and vicinity have raised $150,000 for the erection of the new Wesley Hospital, to cost $200,000. Ground for the new building will be broken next month.

The military bands in France visit the military hospitals once or twice a week to play to the inmates, and it is now proposed to extend this practice to include the general hospitals in garrison towns.

The State medical council, at a meeting held in Harrisburg, Pa., May 24, adopted a resolution that it is the sense of the council that the practice of osteopathy is illegal, and amenable to the laws of the State.

The fourth annual course of the Levi C. Lane lectures, beginning June 28, will be delivered at the Cooper Medical College, San Francisco, Cal., by Prof. N. Senn. This course will consist of ten lectures on "Emergency and Military Surgery."

Dr. Wm. F. Lockwood has been elected professor of therapeutics, materia medica and clinical medicine, and Dr. Samuel J. Fort, associate professor of materia medica and pharmacy, in the College of Physicians and Surgeons, Baltimore.

Sixteen cases of smallpox were found in Philadelphia, May 21, affecting colored inhabitants of Nicetown. On the 26th five more cases were discovered, and later several more. In all there were twenty-nine being cared for at the municipal hospital.

Dr. Louis Bazet, San Francisco, has been made, by the king of Portugal, a Knight of the Ancient Military Order of Jesus Christ, a rare honor to be conferred on a foreigner, and made in acknowledgment of Dr. Bazet's kindness to the Portuguese residents of San Francisco.

Dr. John C. Hemmeter, University of Maryland, who, before the American Medical Association at Baltimore, a few years ago, performed his "Cantata of Hygiea," has now written the music to the twenty-third Psalm. It is of the Hayden style, for full male chorus, solo, quartette and orchestra.

New England alumni of the Albany Medical College organized an association at the Hunt Memorial Hall, Hartford, Conn., May 25. The following officers were elected: president, T. D. Crothers, Hartford; secretary, W. G. Murphy, East Hartford; treasurer, John O'Flaherty, Hartford.

The new Michigan State medical bill has passed both houses of the legislature, and awaits the governor's signature. "Christian Scientists" are excluded from the provisions of the measure and will be at liberty to continue their so-called "healing," so far as the bill is concerned, should it become a law.

Prof. Wm. K. Brooks, Baltimore, the author of "The Foundations of Zoology," with Messrs. G. A. Drew, E. W. Berger and Caswell Graves, all of the biologic department of Johns Hopkins, will spend the summer at the laboratory of the U. S. Fish Commission, Beaufort, S. C., working especially in marine biology.

A physician of Pennsylvania has asked for a mandamus against the State medical council to show cause why he should not be permitted to practice, since he had complied with the law in another State, regarding this question. The deputy attorney reserved his opinion as to whether the mandamus would be granted.

Governor Roosevelt of New York has signed the bill recently passed by the legislature allowing cities of the first class to establish and maintain, subject to the approval of the State board of health, hospitals for the systematic treatment of pulmonary tuberculosis; also the bill providing for compensation to owners of cattle destroyed by order of the department of health of New York City.

In examining the throat of a woman who had applied for laryngologic treatment, according to *Archiv. f. Laryng.*, E. Berthold noticed that the vocal chords had the appearance found only in the male adult. Further investigations disclosed that the individual was a hermaphrodite, who eight years later returned for a certificate to allow the change of sex, having fallen in love with a woman.

It is stated that four persons living at Buffalo, N. Y., have been indicted under the United States law for not permitting medical attendance on a child of one of the defendants who had been treated by "Christian Scientists," and who subsequently died of pneumonia. Under the indictment the father of the child becomes one of the defendants. The parties were released under bail of $2500.

The State Agricultural department of New York has commenced an active crusade against dealers found with "bob" veal in their possession, and a large number of carcasses have been seized and destroyed along the line of the railways between Utica and New York city. Under the recently amended law the penalties (which are fixed at from $25 to $100 for each offense) can be sued for, and almost fifty cases have been sent to the attorney-general for prosecution.

The State board of charities has refused the application of Mrs. Rose Hawthorne Lathrop for articles of incorporation for the Free Home for Incurable Cancer, which she has been conducting for some time in the lower part of the borough of Manhattan, N. Y. The reasons are that the institution is not needed in the locality where it is situated, and that the patients for whom it is designed can be accommodated and cared for better in the department of charities' hospitals.

Dr. Floyd W. McRae has sufficiently recovered from the operation for appendicitis, referred to last week, to be able to give the oration in Surgery next Wednesday. He is still in New York City.

Delegates to the International Conference for the Prevention of Syphilis and Venereal Diseases, to be held at Brussels Sept. 4, 1899, have been named as follows: Prof. I. N. Bloom of Kentucky, chairman; Profs. Jas. C. White of Massachusetts, J. Wm. White of Pennsylvania, Geo. Chismore of California, John P. Bryson and W. A. Hardeway of Missouri, J. Frank Lydston and James Nevins Hyde of Chicago, L. Duncan Bulkley, Sigmond Lustgarten and R. W. Taylor of New York.

The following promotions have been made in the teaching faculty of the medical department of the University of Pennsylvania; Dr. James Tyson has been elected professor of practice of medicine, and will give both the didactic lectures and clinic instruction; the chair of clinic professor of medicine has been bestowed on Drs. J. H. Musser and Alfred Stengel. There will be four assistant professors of medicine, as follows: Drs. Judson Daland, M. Howard Fussell, John K. Mitchell and Frederick A. Packard.

The Paris daily press has been commenting with much glee on the discovery that a person who had been attending the courses at the Lariboisière Hospital, following the visits of the prominent medical attendants, even assisting occasionally at operations, is not a diplomate physician at all, but an oil merchant. Owing to his connection with the Lariboisière he had acquired quite a little practice outside, in eye and ear troubles and obstetrics, his "specialties."

The annual session of the American Surgical Association opened in Chicago May 31. Dr. De Laskie Miller of Chicago delivered the address of welcome, and Dr. W. W. Keen of Philadelphia, the address on "The Technic of Laryngotomy." The discussion of the "Surgery of the Spanish War," was by Drs. Senn of Chicago, N. M. Ferebee, U. S. N., G. R. Fowler of Brooklyn, and C. B. Nancrede of Ann Arbor. The afternoon of June 1 was devoted to a clinic held in the amphitheater of Rush Medical College, with a banquet in the evening at the Chicago Athletic Club. A fuller report will be given next week.

Correspondence.

Army Medical Service.

War Department: Surgeon-General's Office,
Washington, D. C., May 22, 1899.

To the Editor:—Your editorial note relating to "The Army Medical Service" (See Journal, May 20, p 1123) indicates that a misapprehension exists with reference to the appointment of medical officers in the army, and I consider it my duty to correct this at the earliest possible moment.

Appointments in the regular army are made entirely on the recommendation of army medical boards convened for the purpose of examining the candidates who present themselves, and neither political nor personal influence has any weight in these appointments.

Regimental surgeons of volunteer regiments under existing laws are appointed by governors of States, and neither the secretary of war nor the surgeon-general of the army has anything to do with these appointments.

Division and brigade surgeons of volunteers, and the medical officers of the so-called immune regiments, have been appointed by the President upon the recommendation of the surgeon-general of the army.

Acting assistant-surgeons have been appointed and discharged by the surgeon-general of the army or by the chief surgeons of military departments and armies in the field. These appointments are of a temporary nature, and during the first months of the war the urgency for medical assistance was so great that it was not practicable to convene medical examining boards for the selection of "contract surgeons."

It is a mistake to suppose that the secretary of war has attempted to control the appointment of commissioned medical officers or of acting assistant-surgeons. In a few instances he has suggested the appointment of physicians personally known to him, and naturally his wishes have had due consideration. In making recommendations for presidential appointments or in appointing acting assisting-surgeons, I have not been influenced by political reasons, but a large number of those seeking appointment filed with their applications letters from members of Congress and other influential persons. These letters have been considered simply as testimonials as to character and professional standing, and it has been my aim in all cases to obtain satisfactory professional endorsement for candidates not personally known to me. No doubt mistakes have been made, but I believe that a large majority of those appointed have proved themselves to be competent physicians and many have shown a special aptitude for the military service.

Very respectfully, GEO. M. STERNBERG,
Surgeon-General, U. S. A.

Upper Panes Replaced With Double Panes.

ELLICOTT CITY, MD., May 18, 1899.

To the Editor:—I note in the JOURNAL of April 29, under "Public Health," that a prize has been awarded Dr. Caslaing "by the French Academy of Science, for his suggestion that two upper panes in each window be replaced with double panes a short distance apart, the outer pane leaving a narrow opening at the bottom, as it does not reach quite to the sash below, and the inner pane leaving a similar opening at the top, as it does not reach quite up to the top of the sash."

This seems a curious thing, when we read in Parkes' "Hygiene" (Edition 1883, Wood's Library, p. 174, Vol. i), in speaking of natural ventilation and its practical application: "Various plans have been proposed by different persons. The panes of glass may be made double, spaces being left at the *bottom* of the outside pane and the *top* of the inner one, so that the wind is obliged to pass up between the two panes before it enters the room."

Is there nothing new under the sun? And under the circumstances does not this prize belong to the original suggestor? Our French colleague must have thought of this independently, for no one would accuse him of plagiarism, but where, oh where, was the board of censors of the Academy that they did not know something taught in our medical schools for the past sixteen years?

Very truly yours,
S. J. FORT, M.D.

Clinic Gynecology in Paris and America.

CINCINNATI, OHIO, May 16, 1899.

To the Editor:—It seems strange that in this day when the efficiency of medical study and medical practice is accomplished chiefly by specialization, the University of Paris should not long since have established a chair of clinic gynecology. It would seem, however, from recent proceedings of the municipal council of Paris (*Le Progrès Médicale*) that this long delayed step is at last an accomplished fact. An address to that august and conservative body by M. André Lèfevre, recounted the fact that such a chair exists in the faculties at Besançon, Bordeaux, Dijon, Grenoble, Montpelier, Nancy, Nantes, Poitiers, Rennes, Limoges and Rouen; yet at the great metropolis this department is not organized. M. Lèfevre reviewed at length the development and present status of the chair in Germany and wound up by saying that they teach clinic gynecology, "not only in all the universities of Europe and the United States but also at Melbourne Tomsk, Bombay, Madras, Cordova (Argentine Republic), Bahia, Lima and Tokio." After slight opposition the municipal council voted a "subvention" for a chair of clinic gynecology to be opened November 1, consisting of 12,000 francs for the professor, 1200 for the chief of clinic, 2200 for the chief of the laboratory.

It is highly gratifying to feel that Paris by this step has increased the efficiency and the attractiveness of medical teaching in that great capital. It is gratifying also to observe that in taking this step, the principle of substantial reward for labor in a clinic department is recognized. While the United States anticipated Paris by many years in the establishment of this chair in the various universities and medical schools of the country, yet, almost without exception, the professors receive no direct compensation for their services. It is assumed that their reward will come in the nature of increased private patronage. The natural tendency of such a policy must be to minimize interest in and devotion to the strictly professional work and to stimulate attention to that labor which will yield the bread of life. The sooner America ceases to offer these professorships as gratuitous advertising media, and adopts the tardy example of Paris, the better for America.

CHARLES A. L. REED, M.D.

Hydrophobia in California.

PASADENA, CAL., May 22, 1899.

To the Editor:—I wish to report the occurrence of the first truly authenticated case of hydrophobia in Southern California. The onset, course of the disease, and death were typic, and subdural injections of cerebrospinal fluid of the patient into rabbits were followed by death of one of the three animals experimented on (after a period of twelve days) in convulsions followed by paralysis. As the whole case was a characteristic one (and it was my privilege to see a great many cases with Pasteur, in Paris, in the spring of 1893), the details are hardly worth publishing; but as Southern California has so far been considered exempt from this disease, the occurrence of this first authenticated case, I believe, merits chronicling in the interest of medical statistics and of public sanitation. Any details of the case, of postmortem finding, etc., will be gladly forthcoming, should you desire them.

Respectfully yours,
ALFRED C. CROFTAN, M.D.

Fluid Vaccin Virus.

McCOOK, NEB., May 17, 1899.

To the Editor:—At a meeting of the Nebraska State Medical Society, held May 9, I called attention to a new method of handling fluid vaccin virus. The method is simple, quick and efficacious, and will at once appeal to readers of the JOURNAL: Break off both ends of the capillary tube of virus and blow the contents into a sterilized spoon or other small receptacle. The one or two drops which go to make up the contents of the tube are then drawn into a sterile hypodermic needle, and the needle pushed just under the outer skin, where pressure on the piston of the hypodermic deposits the drop of serum.

No dressing is necessary, for the skin furnishes a protection for the virus, and you will find that nearly all, if not all, of your cases thus inoculated will "take." The method takes less time and is more cleanly, sure and scientific than any of which I have knowledge. Sincerely yours,

W. V. GAGE, M.D.

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Public Health.

Typhoid Fever and Drinking Water.—It is seldom that a disease in man fulfils the conditions of an experimental test on animals, and some recent cases of typhus in France are interesting on this account. The town of Falaise has excellent water, and typhoid fever is almost unknown at the barracks. But the water was shut off for some repairs and the men were ordered to obtain their supply from certain wells. A few insisted on using water from some contaminated wells near by, and four of them promptly succumbed to typhoid.—*Rev. Gen. de Path. Int.*, May 5.

Maternal Assistance.—The little town of Maule, France, with 1400 inhabitants, has a "maternal assistance society" which is a model worthy of imitation. For at least a month before the birth of the child lay members of the society visit the mother at her home, assist her financially if necessary, and instruct her in the principles of the hygiene of pregnancy and infant-raising. These members are the wives of physicians, lawyers, merchants, farmers, etc., who are trained by a special course of lectures and object-lessons. By their devotion and tact they win the respect and affection of their charges and lay the foundations for hygienic households. At the first indications of labor a paid nurse is sent with sublimate, solution of phenic acid, alcohol and cotton, with a basin, syringe, etc., supplied by the society, with also a bag containing six sheets, four nightgowns, six napkins, one pillow-case and three handkerchiefs. These articles, washed and disinfected, are later returned to the society headquarters, which consists of a wardrobe in the town hall, and are ready for the next case. The infant trousseau is presented complete with fourteen articles. The nurse remains until the mother is fully restored. The funds are supplied by dues, donations and a small subsidy from the town and charity organizations. The society also owns an incubator.—*Bul. de l'Acad. de Méd.*, May 2.

Health Reports.—The following cases of smallpox, yellow fever, cholera and plague have been reported to the surgeon-general of the United States Marine-Hospital Service for the week ended May 27, 1899:

SMALLPOX—UNITED STATES.

California: Los Angeles, May 6 to 20, 4 cases.
District of Columbia: Washington, May 6 to 20, 2 cases, 1 death.
Florida: West Tampa, May 13 to 20, 3 cases.
Georgia: Savannah, May 9 to 24, 10 cases.
Indiana: Evansville, May 13 to 20, 7 cases.
Kentucky: Louisville, May 11 to 23, 18 cases.
Louisiana: New Orleans, May 12 to 20, 5 cases; Shreveport May 13 to 20, 1 death.
Massachusetts: Swampscott, May 19, 1 case.
Minnesota: St. Paul, May 6 to 13, 1 case.
Missouri: St. Louis, May 2 to 22, 12 cases.
Ohio: Cleveland, May 13 to 20, 13 cases.
Pennsylvania: Johnstown, May 13 to 20, 1 case; Nicetown, May 25, 25 cases; Philadelphia, May 13 to 20, 6 cases.
Porto Rico: Ponce, April 29 to May 6, 4 cases.
Virginia: Newport News, May 24, 4 cases; Norfolk, May 19 to 25, 9 cases; Portsmouth, May 19 to 25, 14 cases.
Washington: Spokane, May 13 to 20, 4 cases.
Wisconsin: Milwaukee, May 13 to 20, 2 cases.

SMALLPOX—FOREIGN.

Belgium: Antwerp, April 22 to May 6, 18 cases, 5 deaths.
Bohemia: Prague, April 29 to May 6, 6 cases.
China: Hongkong, April 2 to 22, 28 cases, 16 deaths.
England: London, April 22 to 29, 3 cases.
Germany: Hamburg, April 29 to May 6, 3 cases.
Greece: Athens, April 29 to May 6, 21 cases, 8 deaths.
India: Bombay, April 18 to 25, 9 deaths; Calcutta, April 1 to 15, 3 deaths; Madras, April 15 to 21, 1 death.
Japan: Nagasaki, April 1 to 20, 4 cases, 1 death; Osaka and Hiogo, April 15 to 22, 1 case.
Mexico: Chihuahua, May 6 to 13, 3 deaths; Mexico, May 1 to 14, 35 cases, 10 deaths; Nuevo Laredo, April 29 to May 13, 2 deaths.
Russia: Moscow, April 15 to 29, 14 cases, 9 deaths; Odessa, April 29 to May 6, 1 case, 2 deaths.
Nicaragua: Bluefields, April 29 to May 13, 2 cases.
Straits Settlements: Singapore, February 1 to March 31, 34 deaths.

YELLOW FEVER.

Mexico: Vera Cruz, May 4-18, 45 cases.

CHOLERA.

India: Bombay, April 18 to 25, 6 deaths; Calcutta, April 8 to 15, 9 deaths.

PLAGUE.

China: Hongkong, April 1 to 22, 60 cases, 57 deaths.
India: Bombay, April 18 to 25, 442 deaths; Calcutta, April 8 to 15, 135 deaths; Madras, April 15 to 22, 1 death.

Necrology.

Robert S. Tracy, M.D., College Physicians and Surgeons, New York City, 1896, whose funeral took place from his father's residence in Plainfield, N. J., May 14, was drowned in the Saranac River, April 13. He was an inmate of the sanatorium at Saranac Lake, where he had gone for the recovery of his health. A recent break in the ice and a lonely midnight walk toward the hospital after a social gathering, were the only clues of the accidental disappearance. His body was found about May 10, in a net stretched across the river to intercept it in case it floated down when the ice broke up. Dr. Tracy was 27 years old and had served as interne at the New York Hospital and afterward at the Sloane Maternity Hospital.

Henry Baird Lazear, M.D,, Monongalia, W. Va., died May 11, aged 69 years. He was graduated from Jefferson Medical College, Philadelphia, in 1858, served two years in the Civil War as captain of Company E, Seventh West Virginia Infantry, and was badly wounded at the battle of Antietam, and resigned his captaincy in 1863, soon afterward being commissioned surgeon, and serving in that capacity until the close of the war.

Enoch W. Moore, M.D., a physician at Decatur, Ill., since 1856, former surgeon of the 115th Illinois, died at Cleburne, Texas, aged 78, May 19.

Samuel W. Budd, M.D., Bellevue, N. Y. 1875, of Petersburg, Va., died May 13 at the Johns Hopkins Hospital, Baltimore, aged 47 years. After a house service in the Roosevelt Hospital, New York City, in 1875 and 1876, he settled in Petersburg, in which vicinity he was born.

Joseph William Stickler, M.D., College of Physicians and Surgeons, New York City, 1879, of Orange, N. J., died May 17 from apoplexy, at a hotel in New York, while on a visit to that city. He was born in Hoboken, N. J., in 1854, but went to Orange in 1858, and there became prominent as a sanitarian, climatologist and bacteriologist.

E. B. Ward, M.D., died in Laingsburg, Mich., May 12, aged 64 years. In 1858 he was graduated from the medical department of the University of Michigan, and in 1869 went to the Legislature for a term.

George M. Wallhauser, M.D., Newark, N. J., died May 19, aged 28 years, leaving a widow. He was a younger brother of Dr. H. J. F. Wallhauser, also of Newark.

Colby D. Buffington, M.D., Atwater, Ill., died May 11 aged 52 years. . . James A. Clarke, M.D., Erie, Pa., May 16, aged 36 years. . . John Bordon Fulton, M.D., Harvard, 1869, of Irvington-on-the Hudson, N. Y., died there May 20. . . D. Harris, M.D., Whitney, Texas, May 15. . . A. J. Hart, M.D., Pacific Grove, Cal., May 7., aged 67 years. . . Dennis Kearnes, M.D., Alpena. Mich., May 13, aged 42 years. . . A. J. Longfellow, M.D., Fostoria, Ohio, May 15, aged 68 years. . . O. A. Moreland, M.D., Jamestown, Pa., May 18, aged 42 years. . . A. B. Younkman, M.D., Bremen, Ind., May 16.

DEATHS ABROAD.

Dr. Norman Kerr, according to the associated press dispatches, died in London, England, May 31. Dr. Kerr received his degree of M.D. and C.M. in Glasgow, 1861, and was widely known as a specialist in inebriety. Among other honors he was a Fellow of the Linnean Society, president of the Society for Study of Inebriety, Fellow of medical and obstetric societies, vice president International Congress of Medical Jurisprudence, corresponding member of American Society for Study and Cure of Inebriety, etc. Among his prominent works may be mentioned: "Inebriety, its Etiology, Pathology, Treatment and Jurisprudence;" "Truth About Alcohol;" "Inebriate Criminal Responsibility;" "Stimulants in Work-houses;" "Does Inebriety Conduce to Longevity?" "Inebriety" (*Ann. Univ. Med. Sci.*); "Alcoholism and Drug Habits" (Twentieth Century Practice of Medicine).

Miscellany.

Erratum.—In the advertisement of Howard University (see this issue, adv. page lxix), tuition fee should read $80 in the medical and dental colleges and $70 in the pharmaceutic college.

Philadelphia Mortality Statistics.—The deaths for the week just ended numbered 384, a decrease of 6 over last week, and of 25 over the corresponding period of last year. Of the total number, 102 occurred in children under the age of 5 years. The principal causes of death were: apoplexy, 14; nephritis, 34; cancer, 17; tuberculosis, 55; diabetes, 3; heart disease, 30; influenza, 1.

Pathogenic Microbes in Flowers.—D. Freire has found the streptococcus pyogenes and the pyocyaneus in a rose and a peach blossom. He suggests that there may be some connection between the colors of the flowers and the pigment of the microbes that are found in them, and calls attention to the fact that certain microbes emit odors similar to the perfume of the flowers which they inhabit.—*Presse Médicale*, May 10.

Hemorrhoidal Diathesis.—Federn believes that hemorrhoids proceed from a general disturbance of the organism, manifested by increased resistance in the arteries and capillaries, exaggerating the cardiac contractions. When the heart can no longer overcome the resistance in the abdominal vessels, stasis results, particularly in the hemorrhodial veins. Extirpation of the hemorrhoids does not remove the cause. The aim should be to reduce the blood-pressure, which can be accomplished by purgatives in fresh cases.—*Semaine Méd.*, May 10.

Appendicitis Larvata.—By this term Ewald describes a rare syndrome which is caused by a diseased appendix, but develops without any symptoms pointing to it, assuming the form of digestive disturbances, kidney or liver troubles. After years of ineffectual medical treatment, the subjects are declared neurasthenics, hysterics or incurable. He has observed eight cases since 1894. As soon as the appendicular trouble is diagnosed and the appendix removed, a permanent cure is effected. Practitioners should pay especial attention to this "borderland" affection, as the subjects never think of applying to a surgeon for relief.

Operative Difficulties of Symphysiotomy.—A recent Paris thesis (M. Rubinrot) observes that the worst enemies of symphysiotomy are those who preach its simplicity without mentioning the accidents that may occur. Among the difficulties that may be encountered in incising the soft parts are dilated, possibly inflamed, paravulvar veins, nodules of fat, and cicatricial tissue from previous operations. It is also sometimes difficult to locate the articulation, owing to ossification, obliquity or deformity of the interline. The sacroiliac articulations may prevent the separation of the divided bones, by commencing ossification or atrophy. Then there is the possibility of hemorrhage, generally from the plexus of Santorini, but sometimes of arterial origin. Prolapsus of the cord occasionally occurs, also lacerations of the uterus, vagina and vulva, owing to the lack of support of the bony frame which has been divided. The urethra may also be involved. Closing the breach may also be rendered difficult by hernia of the bladder between the pubes.—*Presse Méd.*, May 10.

Questions, Answers, Etc.

LOOK OUT FOR HER.

Minneapolis, Minn., May 12, 1899.

To the Editor:—The accompanying letter and the reply indicate that I and probably other physicians have been imposed upon by a very plausible swindler.

Minneapolis, Minn., April 28, 1899.

Dear Doctor Riddell:—A young woman giving the name Miss Margaret

C. Brodic, and presenting very flattering testimonials from Drs. Donald McLcan and Theo. McGraw of Detroit, came to me last November in great apparent distress, claiming to have been left here without money by a family for whom she had been nursing and who were largely in her debt. She said she had an engagement with one of your cases, provided she could get to Chippewa Falls. I gave her five dollars, and have heard nothing from her since. Can you inform me if she is an impostor? I ought to have written before, but have had other things to think of. Thanking you in advance, I am, sincerely yours,

Edward J. Brown, M.D.
Chippewa Falls, Wis.

Dr. E. J. Brown, Minneapolis:

Dear Doctor:—The woman you write about I do not know and never knew. She never nursed any one for me nor ever had the promise of it to my knowledge. I think you have been swindled.

Fraternally, S. S. Riddell, M.D.

If you think it worth while at this late date to warn the profession, please do so. Yours very truly, Edward J. Brown, M.D.

WORKS ON HYPNOTISM.

Milnor, N. D., May 15, 1899.

To the Editor:—I desire some work on hypnotism—something that instructs how to apply it, as well as its uses. Can you direct me as to what to get, and where? H. W. Emanuel, M.D.

Answer:—The most recent medical work on hypnotism in our language, so far as we are aware, is that of Wetterstrand, a Swedish author. The second edition of this appeared this year. Other works are those of. Bernheim, published in 1880, and giving the point of view of the Nancy school, Moll, and others. Bernheim's and Wetterstrand's works are published by G. P. Putnam's Sons, N. Y. Moll, on "Hypnotism," is another work which has had a recent edition, and is published by Scribner's Sons, N. Y. Either Wetterstrand or Moll will probably meet the requirements indicated by our correspondent. Any of these can be obtained through booksellers.

PRACTICE IN ILLINOIS.

Plymouth, Ind., May 29, 1899.

To the Editor:—Will you please inform me through the medium of the columns of the Journal whether a physician who is now registered in the State of Illinois, will have to re-register under the new medical law of that State. The question will interest a great many who are registered, but now practicing in other States, and would not like to lose their Illinois rights. Fraternally yours, T. A. B., M.D.

Answer:—No.

The Public Service.

Movements of Army Medical Officers under orders from the Adjutant-General's Office, to and including May 26, 1899:

Dallas Bache, colonel and asst. surgeon-general U.S.A., president of a board to meet at West Point, N. Y., to examine candidates for admission fo the U.S. military academy.

W. H. Brooks, acting asst.-surgeon, leave of absence extended.

Chas. C. Byrne, colonel and asst. surgeon-general U.S.A., leave of absence granted.

Geo. H. Calkins, acting asst.-surgeon, from Matanzas, Cuba, to Gowanda, N. Y., reporting by letter to the surgeon-general.

Powell C. Fauntleroy, lieutenant and asst.-surgeon U.S.A., from the general hospital at Savannah, Ga., to San Francisco, Cal., for duty in the Dept. of California.

Clyde S. Ford, lieutenant and asst.-surgeon U.S.A., from Camp Meade, Middletown, Pa., to San Francisco, Cal., for duty in the Dept. of California.

Chas. M. Gandy, captain and asst.-surgeon U.S.A., member of a board to meet June 1, 1899, at West Point, N. Y., to examine candidates for admission into the U.S. military academy.

Chas. R. Greenleaf, colonel and asst. surgeon-general U.S.A., from Washington, D.C., to Camp Meade, Middletown, Pa., to inspect the camp, returning thereafter to his proper station.

Vernon J. Hooper, acting asst.-surgeon, leave of absence granted.

Merritte W. Ireland, captain and asst.-surgeon U.S.A., to examine recruits at Detroit, Mich., in addition to his duties at Fort Wayne, Mich.

Louis A. LaGarde, major and surgeon U.S.A., member of a board to meet at West Point, N. Y., to examine candidates for admission to the U.S. military academy.

Thos. H. Landor, acting asst.-surgeon, from Washington, D.C., to Canton, Ohio, for annulment of contract.

Wm. E. Purviance, captain and asst.-surgeon U.S.A., from Washington, D.C., to San Francisco, Cal., reporting thereat by June 7, 1899, to accompany Major P. H. Ray, 8th U.S. Inf., to his station in Alaska.

Edw. O. Shakespeare, major and brigade surgeon vols., assigned to duty in Washington, D.C., to complete report of board appointed by par. 40, special orders 194, Aug. 18, 1898—the typhoid fever board.

Alden E. Smith, acting asst.-surgeon, from Matanzas, Cuba, to Freeport. Ill., reporting by letter to the surgeon-general.

Victor C. Vaughan, major and division surgeon vols., assigned to duty in Washington, D.C., to complete the report of board appointed by par. 40, special orders No. 194, Aug. 18, 1898—the typhoid fever board.

S. T. Weirick, acting asst.-surgeon, previous orders directing him to report for duty with troops at Pyramid Harbor, Alaska, amended so as to direct him to report to the commanding general, Dept. of California, for assignment.

Wm. H. Wilson, captain and asst.-surgeon U.S.A., from the Josiah Simpson Hospital, near Ft. Monroe, Va., to San Francisco, Cal., for duty in the Dept. of California.

Robt. H. Zauner, acting asst.-surgeon, from Camp Meade, Middletown, Pa., to San Francisco, Cal., for duty in the Dept. of California.

Movements of Navy Medical Officers.—Changes in the medical corps of the U.S. Navy for the week ending May 27, 1899.

Surgeon F. Rogers, ordered to the marine rendezvous, Philadelphia, Pa., May 23, for duty in connection with recruiting.

Asst.-Surgeon C. H. DeLancey, detached from the marine recruiting rendezvous, Savannah, Ga., and ordered to the "Amphitrite."

Asst.-Surgeon Barton L. Wright, appointed May 16.

Surgeon E. H. Marsteller, detached from the "Raleigh" when put out of commission, and ordered home to wait orders.

P. A. Surgeon J. M. Moore, detached from the "Raleigh" when put out of commission, and ordered home to wait orders.

P. A. Surgeon W. F. Arnold, sick leave extended two months.

Marine-Hospital Changes.—Official List of Changes of Stations and Duties of Commissioned and Non-Commissioned Officers of the U.S. Marine-Hospital Service, for the seven days ended May 18, 1899.

Surgeon R. D. Murray, relieved from duty at Mobile, Ala., and upon expiration of leave of absence granted by bureau letter of the 11th inst., to proceed to Key West, Fla., and assume command of the service.

Surgeon John Godfrey, bureau order of May 10, 1899. directing him to report to the chairman of the board of examiners at Detroit, for examination to determine his physical condition, revoked.

Surgeon F. W. Mead, upon being relieved from duty at Portland, Me., to proceed to Vineyard Haven, Mass., and assume command of service.

Surgeon C. T. Peckham, relieved from duty at Pittsburg, Pa., and directed to proceed to Galveston, Texas, and assume command of the service.

Surgeon J. H. White, to proceed to New York City for special temporary duty.

P. A. Surgeon G. M. Magruder, granted leave of absence for thirteen days from May 19, 1899.

P. A. Surgeon A. C. Smith, to rejoin station at Norfolk, Va., reporting at Washington, D.C., en route.

P. A. Surgeon J. M. Eager, to proceed to Detroit, Mich., and report to medical officer in command for duty and assignment to quarters.

P. A. Surgeon W. J. S. Stewart, upon being relieved from duty at Vineyard Haven, Mass., to proceed to Mobile, Ala., and assume command of the service.

Asst.-Surgeon A. R. Thomas, bureau letter of March 30, 1899, directing him to proceed to the Tortugas quarantine station and assume command of the service, revoked.

Asst.-Surgeon H. S. Cumming, granted leave of absence for one day. Bureau order of March 30, 1899, assigning him to duty at the Cape Charles quarantine, revoked; upon being relieved from duty at Norfolk, Va., to proceed to the South Atlantic quarantine station and assume command of the service. Granted leave of absence for twenty-seven days.

Asst.-Surgeon Taliaferra Clark, upon being relieved by Asst.-Surgeon H. S. Cumming, to report to him for temporary duty. Relieved from duty at the South Atlantic quarantine station and directed to proceed to the Tortugas quarantine station and assume command of the service.

Asst.-Surgeon John McMullen, relieved from duty as sanitary inspector on U.S. transport "Buford," and directed to report to medical officer in command, U.S. marine-hospital service at the immigration depot, New York City, for temporary duty. Relieved from temporary duty at the immigration depot, New York City, and directed to proceed to Portland, Me., and assume temporary command of the service.

Asst.-Surgeon J. F. Anderson, to proceed to Norfolk, Va., on special temporary duty, and then to proceed to New York City and report to medical officer M.-H.S., at the immigration depot, for temporary duty.

Asst.-Surgeon W. R. McAdam, relieved from duty at Key West, Fla., and to continue in temporary charge of the Tortugas quarantine station. To report to medical officer in command Tortugas quarantine station for duty.

Acting Asst.-Surgeon R. C. Craig, relieved from duty at New York City, and directed to proceed to Pittsburg, Pa., and assume temporary charge of the service.

Sanitary Inspector R. E. L. Burford, granted leave of absence for thirty days on account of sickness.

Bureau order of May 10, 1899, convening a board of officers of the service to meeet at Detroit, Mich., for the physical examination of Surgeon John Godfrey, revoked.

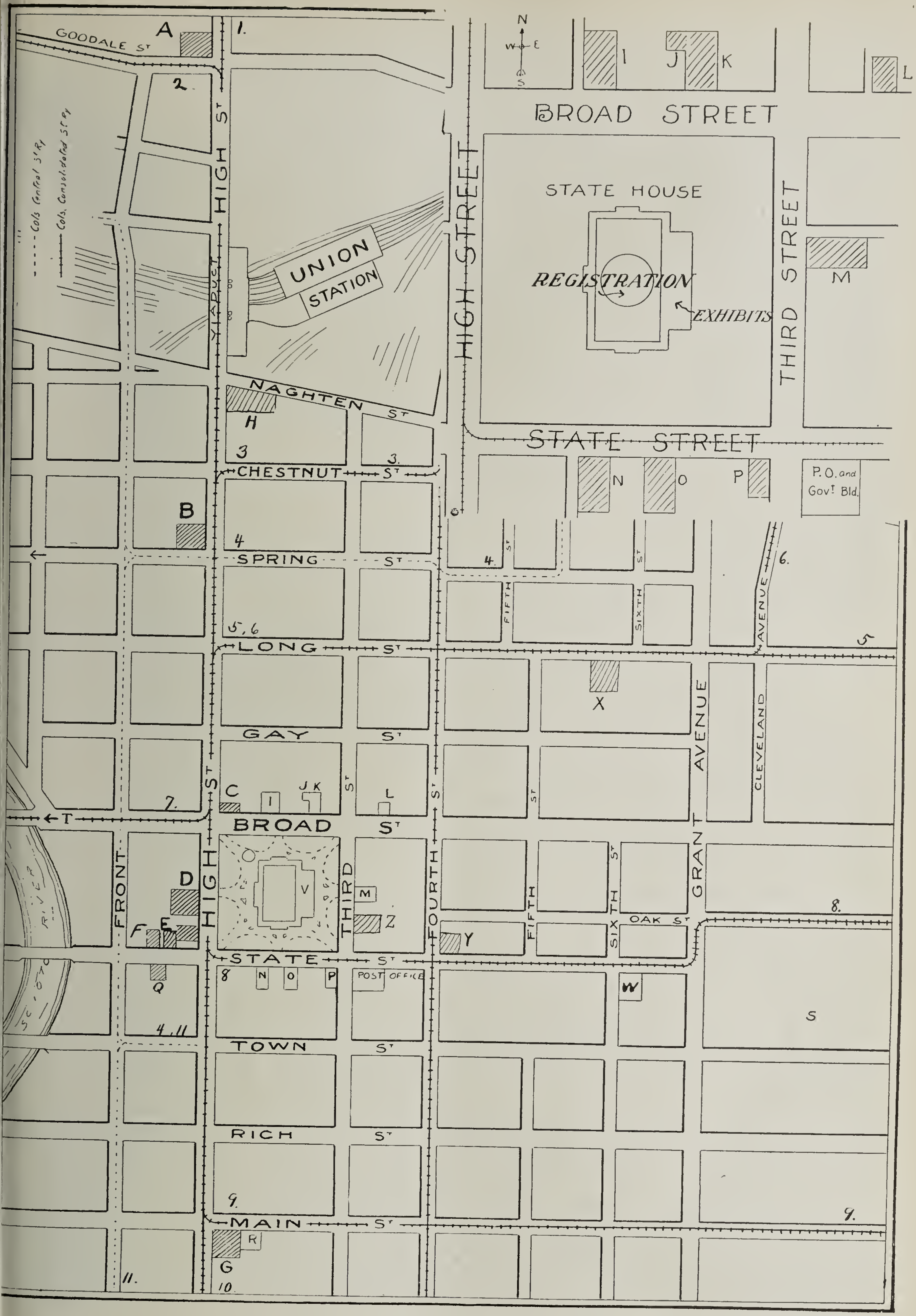
APPOINTMENTS.

Walter E. Merrill of Maine, appointed acting asst.-surgeon U.S. marine-hospital service, for duty at Portland, Me.

W. S. Henderson of Michigan, appointed acting asst.-surgeon U.S. marine-hospital service, for duty at Port Huron, Mich.

CHANGE OF ADDRESS.

Auld, J. M., from 714 Monroe St. to 475 Ogden Ave., Chicago.
Ashmead, A. S., from 210 W. 4th to 65 W. 12th St., New York City.
Bell, P. E., from Preston to Trip, Ga.
Bishop, F. L., from 626 to 516 N. Garrison Ave., St. Louis, Mo.
Burns, S. L., from Harrison, Ark., to Campbell, Ind. Ter.
Crume, G. P., from Chicago to 214 E. 34th St., New York City.
Copeland, W. L., from 866 W. Monroe St., to 918 Warren Ave., Chicago.
Callemo, U. A. D., from Merrill to Bay City, Mich.
Collard, L. R., from Galveston to 505 W. 13th St., Austin, Tex.
Dronin, G. L., from New Orleans to Mansura, La.
Dolan, A. N. J., from 311 E. Superior St. to 905 Wilson Ave., Chicago.
Furay, C. E., from South Omaha to Box 46, Chadron, Neb.
Gronnerud, A., from Chicago to Beaver Falls, Minn.
Hering, E. R., from Chicago to Cross Plains, Wis.
Harwood, W. E., from Denver, Colo., to Joliet. Ill.
Hightower, L. H., from Carrollton to McCarley, Miss.
Knopf, S. A., from 955 Madison Ave. to 16 W. 95th St., New York City.
Longfellow, R. C., from 109 W. 9th to 1228 Vine St., Cincinnati, O,
McKelvecn, F. G., from 150 to 242 S. Broadway, Denver, Colo.
Mooney. E. W., from Windsor. Ont., to Marine Hospital, Detroit, Mich.
Norwood, F. H., from Carrington to 5085 Wells Ave., St. Louis, Mo.
Norris, W. L., from Toledo. O., to San Mateo, Cal.
Nance, W. O., from 5311 Madison to 5213 Hibbard Ave., Chicago.
Palmer, W. A., from Evanston to Ada, Minn.
Patterson, C. L., from Chicago to Marengo, Ia.
Reynolds, H. R., from Chicago to Clinton, Ia.
Roberts, O. B., from Philadelphia, Pa., to Jacksonville, Vt.
Riggs, E. S., from Allegheny to Washington, Pa.
Ritter, J. K., from Marion to Seymour, Ind.
Rivers, E. C., from 16th and Stout Sts. to 1632 Welton St., Denver, Colo.
Robinson, P. R., from Chicago to Ennis, Tex.
Stewart, J. L., from Chicago to Breman, Ind.
Schoenbeny, A. E., from 319 Hermitage to 422 E. Irving Park Boul., Chicago.
Terrill, L. B., from Memphis, Tenn., to Anderson, Ind.
Thornton, J. W., from Omaha, Neb., to Earling, Ia.
Van Zant, B., from Galveston to Paris. Tex.
Wiley, H. H., from 247 Second to 208 Harrison Ave., Detroit, Mich.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Association News.

AMERICAN MEDICAL ASSOCIATION.

Meets in Columbus, Ohio, June 6, 7, 8, 9, 1899.

LOCAL COMMITTEES.

COMMITTEE OF ARRANGEMENTS.

Starling Loving, Chairman.
F. F. Lawrence, Vice-Chairman.
H. M. Platter, Secretary.
Thomas C. Hoover, Treasurer.
Frank Winders, Assistant Secretary.

CHAIRMEN OF SUB-COMMITTEES.

Ways and Means—J. M. Dunham.
Reception—Frank Warner.
Entertainment—C. S. Hamilton.
Hotels—C. F. Turney.
Assembly Rooms—J. H. J. Upham.
Exhibits—N. R. Coleman.
Souvenir Book—F. W. Blake.
American Academy of Medicine—Edwin F. Wilson.
Medical College Association—Starling Loving.
Membership—J. U. Barnhill.
Registration—C. M. Taylor.
Rush Monument Fund—E. B. Fullerton.
Correspondence with State Medical Societies—D. N. Kinsman.
Foreign Correspondence and Visitors—C. A. L. Reed, Cincinnati.
Section Dinners—F. F. Lawrence.
Medical Journals—J. E. Brown.
Hospital Day—W. D. Hamilton.
Information—J. F. Baldwin.
State Medical Examiners—N. R. Coleman.
National Legislation—L. B. Tuckerman, Cleveland.
Department of Public Health—C. O. Probst.

PLACES OF MEETING—SEE MAP.

1. General Sessions, Grand Opera House, O.
2. Practice of Medicine, House of Representatives, south end State House.
3. Diseases of Children, Senate Chamber, north end State House.
4. Surgery and Anatomy, Congregational Church, K.
5. Obstetrics and Dis. of Women, Y.M.C.A. Auditorium, M.
6. Cutaneous Medicine and Surgery, Congregational Church, Sunday School Room, J.
7. Ophthalmology, Trinity House, L.
8. Laryngology and Otology, Trinity House, L.
9. Neurology and Medical Jurisprudence, First Presbyterian Church, P.
10. State Medicine, Committee Room, State House.
11. Stomatology, Committee Room, State House.
12. Physiology and Dietetics, Committee Room, Board of Trade, I.
13. Materia Medica, Pharmacology and Therapeutics, Council Chamber, City Hall, N.
14. National Confederation State Examining and Licensing Boards, Senate Chamber. (Monday 10 A.M.)
15. Medical Editors, Y. M. C. A., M.
16. American Medical College Association, House of Representatives. (Monday, 10 A.M.)
17. American Academy of Medicine, Chittenden Hotel Assembly Room, B.

TRANSFER COMPANY, PASSENGER RATES.

Depots to or from any hotel: omnibus, passenger with trunk, 25c.; carriage, with trunk, 50c.; coupe, without trunk, 25c.; with trunk, 40c. Hand luggage free.

Carriage for driving: first hour, $1.50; each additional hour, $1; coupe, per hour, 75c.

STREET CAR SERVICE—SEE MAP.

1. Protestant Hospital, Ohio Medical University; Ohio State University; North Columbus; Olentangy Park; Worthington.
2. Auditorium; Goodale Park; State University.
3. United States Barracks.
4. United States Barracks; Minerva Park; Westerville.
5. St. Anthony's Hospital; Franklin Park.
6. United States Barracks.
7. T. & O. C. Depot; Mt. Carmel Hospital; Cemeteries; Imbecile Asylum; Insane Asylum; Camp Chase.
8. St. Francis Hospital; Starling Medical College; Children's Hospital.
9. Capital University; Bullit Park.
10. South Columbus; City Park; Driving Park.
11. Baseball Park.

Street car fare, 5c.; tickets, 6 for 25c. No transfers between the two companies, but universal between the different lines of each company for one cash fare.

All hotels are on direct street-car lines from Union Depot.

All lines reach the State House square.

HOTEL RATES—SEE MAP.

Park, A, $1.50 to $2.50. Chittenden, B, $2.50 to 4. Smith's, C, (European), $1.50. Neil, D, $2 50 to $3 00. Goodale, E, (European) 75c to $1.00. American, F, $2.00. Emerson, F, $2.00. Great Southern, G, $2.50 to $4.00. Davidson, H, $2.00. Corrodi, Q, $2.00. Normandie, X, $1.50. Norwich, Y, $1.50. Vendome, Z, $1.50.

DIRECTORY—SEE MAP.

A, Park Hotel.
B, Chittenden Hotel.
C, Smith's Hotel.
D, Neil House.
E, Goodale.
F, American and Emerson.
H, Davidson House.
I, Board of Trade.
J, Sunday-School Room Congregational Church.
K, Congregational Church.
L, Trinity House.
M, Y.M.C.A.
N, City Hall.
O, Grand Opera House.
P, First Presbyterian Church.
Q, Corrodi Hotel.
R, Great Southern Theater.
S, Deaf and Dumb Asylum.
T, T & O. C. Ry. Depot.
V, Exhibit Hall.
W, Starling Medical College & St. Francis Hospital.
X, The Normandie.
Y, The Norwich.
Z, The Vendome.

For further information address the chairman of the appropriate sub-committee, or

J. F. BALDWIN, M.D.,
Chairman Committee on Information.

Smoker and Concert.—For Wednesday, June 7, at 8 P.M., a smoker and concert, in honor of the AMERICAN MEDICAL ASSOCIATION, will be given by the Humboldt Verein at Wirthwein's Hall, 339 S. High Street, Columbus, Ohio.

Meeting of Medical Librarians.—The undersigned committee on medical libraries, appointed by the arrangements committee of the AMERICAN MEDICAL ASSOCIATION, invites all medical librarians, editors, writers and all interested in the growth and increase of medical libraries in the United States, to attend the second annual meeting, to be held in connection with the meeting of the AMERICAN MEDICAL ASSOCIATION, Monday, June 5, at 3:30 P.M., at the new lecture hall of the Starling Medical College.

Com. { ADOLPH FEIEL, M.D., Chairman,
H. C. FRAKER, M.D.,
W. L. TOWNS, M.D.

General Business Committee.—The first meeting of this committee will be held on Monday afternoon, June 6, at 5 o'clock, in the Columbia Rifles Armory, seventh floor of the Great Southern Hotel, Columbus, Ohio; subsequent meetings in the same place at 5 P.M. on each day of the meeting. It is very important that all the members of the committee should attend the meetings, in order that the business of the ASSOCIATION may be properly transacted. L. Duncan Bulkley, M.D., secretary General Business Committee.

Railroad Rates for the Columbus Meeting.—The committee on transportation of the AMERICAN MEDICAL ASSOCIATION presents the following, as the final rates agreed upon in the different territories for the Columbus meeting:

The New England Passenger Association, Trunk Lines Association, Southwestern Passenger Bureau and Southeastern Passenger Association grant a rate of one and one-third fare for the round trip on certificate plan.

The Central Passenger Association has granted a one-fare rate for the round trip. The Western Passenger Association has granted a one-fare rate plus $2 for the round trip. In the latter territory, where the rate for passage to the eastern gateway is $6 or less, the rate will be one and one-third fare for the round trip, provided that where one-third fare to Chicago is $2 or less, 50 cents additional will be added to the cost for return transfer. (See JOURNAL, May 6, p. 1012.)

Tickets will be on sale in the various railroad territories on time, in advance, sufficient for reaching Columbus, the place of meeting, by continuous uninterrupted trip. Delegates should notify ticket agents in advance, in order to secure the certificate platform.

H. L. E. JOHNSON, M.D.,
Chairman Transportation Committee.

The Journal of the
American Medical Association

Vol. XXXII. CHICAGO, ILLINOIS, JUNE 10, 1899. No. 23.

Address.

ADDRESS OF THE PRESIDENT.

DELIVERED AT THE FIFTIETH ANNUAL MEETING OF THE AMERICAN MEDICAL ASSOCIATION, HELD AT COLUMBUS, OHIO, JUNE 6-9, 1899.

BY JOSEPH M. MATHEWS, M.D., LL.D.
LOUISVILLE, KY.

In assuming the duties of the presiding officer of this ASSOCIATION, I must confess that it is with a feeling of great diffidence. For many years I sat at the feet of the masters in medicine, as they were wont to assemble at their annual meeting, and was content to listen only to their wise counsels, to emulate as far as I could their example, and to profit by the words of wisdom which fell from their lips. When I reflect upon the names of my predecessors who have occupied this chair, their great achievements in medicine, the high rank to which they attained and the good which they accomplished, it is no wonder that I assume the rôle with some trepidation. You will therefore permit me to offer you my very sincere thanks for the honor which you have conferred upon me.

In assuming the duties as your chairman I hope to be just to all, and if at any time my decisions should appear otherwise, please attribute it to my head rather than my heart. It pains me to look over this great body and recognize the fact that not only many of its most prominent members in the past are absent, but also that the majority of those who have served you as president have likewise gone to their eternal home. Let their departure remind us that we, too, must soon lay aside our armor and join the silent majority. This thought brings me to consider for a moment:

OUR NATIONAL BODY; ITS PURPOSES AND DESTINY.

I imagine that when the father of this ASSOCIATION, the Nestor of American medicine, called around him a few devoted friends, accomplished physicians and surgeons, and effected an organization to be known as the AMERICAN MEDICAL ASSOCIATION, the first thought which filled their minds was the unification of the profession which they loved so dearly. It was their desire, no doubt, to bring together each year the men who were laboring earnestly and honestly for the elevation of the profession, that they in conclave could impart to each other the advance that each succeeding year had brought forth in their chosen calling: and done in order that the sick and the afflicted could be profited thereby.

Sacrifices and great personal discomfort were endured by them to obtain the good; but what splendid results were accomplished by their efforts is evidenced in the assembling of the great body here to-day. I opine, too, that anything that partook of the nature of jealousy, unfairness or politics was deprecated by them, but to the contrary, they desired that peace and good-will should always obtain. What could be more beautiful than the fruition of this hope? How grand the thought that here in the mother society men of all grades, so far as education and accomplishments are concerned, be they great or small, poor or rich, the rank and file of the profession can meet on common ground and exchange views for the benefit of suffering humanity. Some must be teachers or instructors; others listeners; they each in their way contribute their mite. It may be that some member from a far-off and sparsely-settled country has heard some truth in the application of which a life may be saved, or in return he can give an experience which may prove of incalculable benefit to his more fortunate brother. Let me impress upon you, then, that no class legislation should be indulged in by this body. Let it not be said of us that we rule without reason, or that we are a set of politicians trying to secure benefit for the few against the many, or for the many against the few, for in nowise are we a legislative body. In lieu of all this, let us receive with open arms all who represent honesty, fair dealing, and entertain an honest desire to elevate the standard of the medical profession, and of this ASSOCIATION. Let no wrangling come into our midst, but rather let peace and harmony prevail, with love to one another, as becomes gentlemen.

SHALL WE HAVE A LOCAL HABITATION?

It is to be seriously questioned whether this ASSOCIATION, so numerically great as it is destined to be, or in truth is now, profits in any manner by its migration each year to distant parts of the Union. It can not be denied but that a mistake has been made in the past in going to cities too small to entertain it. It certainly adds no dignity to this distinguished body to be thus traveling about, not to speak of the inconvenience occasioned to the majority of its members by the so doing. Nor is it right or proper to impose upon a local profession the expense and trouble that it takes to entertain it. If the members will give the subject careful thought and consideration, I believe that they will come to the conclusion that the ASSOCIATION should have a local habitation. The natural question would then be, where could such habitation be found? In the selection of the same, many things would have to be considered. A city within easy reach, which offered the most attractive advantages. Of all, the City of Washington is the best suited. The capital of the nation. it has advantages that no other place can offer. With its great free libraries, it is the seat of learning; its magnificent Government buildings, its natural beauty, its select society, its two houses of Congress, the rendezvous of foreign representatives and diplomats, the home of the medical departments of the Government, army, navy and marine-hospital corps. Then, too, the idea is not far-fetched that the Government, liberal always, would at some time lend the ASSOCIATION a helping hand in the way of securing a suitable building in which to hold its meetings and to become the owner thereof. Again, it would be in touch with the legislative department of the Government, and it can readily be seen of what value this would be in securing much-needed reforms in a medical way. The Journal would here find the most suitable of all abodes; an atmosphere of refinement, education and wealth. Its editor would all the time be on the alert, and much profit would come to the Journal from such surroundings and associations. I beg of you to give this matter your most serious consideration.

IMPORTANCE OF ATTENDING THE LAST DAY'S SESSION.

I desire to call your attention to the importance of attending the general session on the last day of the meeting. Business of the very greatest importance always comes up for consideration on that day, and, strange to say, often there is scarcely a quorum present. At the meeting at Denver last year less than fifty members were in attendance on the last day of the meeting. If, therefore, resolutions are rushed through on that day which displease you, it is your own fault. Besides, if the business transacted on that day comes up for consideration at the following annual meeting, it takes up time which it has no right to. Please, therefore, see to it that nothing interferes with your attendance on that day.

CLINICS, DINNERS, ETC.

It has been a noticeable fact for a long time that the clinics which are held each year during the meeting of the Association by the local profession of the city in which it happens to meet, very materially decrease the attendance at both the general sessions and the various Sections. This should not be, and it is the duty of the proper officials of this Association to deprecate the holding of such clinics. Time and again many of the very best men of the Association have been kept away a half day, and often a whole day, from the meeting, when their counsel and presence were much needed at the different Sections, or at the meeting in general session. Need I remind you that absence of the same kind and duration is often observed at dinners to which members are kindly invited. This can be easily obviated.

THE JOURNAL.

It is my painful duty to announce to you the death of Dr. John B. Hamilton, editor of the Journal of the Association. This Association never had a truer friend than he. Possessed of a clear-cut individuality, he was always outspoken, and what he did he at least believed to be for the best. We will miss his wise counsel in our deliberations. He made a most excellent editor of the Journal, and by his efforts it was brought up to the high standard which it occupies to-day. The Board of Trustees of the Journal, after careful consideration and deliberation, has selected Dr. Geo. H. Simmons to succeed Dr. Hamilton as editor. You are to be congratulated upon this wise selection. Dr. Simmons is not an experiment, for he has won his laurels in medical journalism, and already stands among his editorial friends as the peer of any. Having come up from the ranks in journalism, he is acquainted with every detail, and that he will make a good editor goes without saying.

THE MANAGEMENT OF THE JOURNAL.

I trust that it will not be considered out of place if I make a suggestion or two in regard to the management of the Journal. It has been frequently urged that much appears in it that should be expurgated; in other words, that a censorship should be established and many articles withheld from publication. I desire to disagree from this sentiment entirely and unequivocally. The Journal is simply the mouthpiece of the Association, and if one single paper read before this body is to be refused publication, then you have violated your pledge and obligation. Any member has the inalienable right to disagree with the sentiment of any paper, and the editor is in nowise responsible for said sentiment. If a paper is good enough to be read before any Section in this Association, it is good enough to be published in the Journal. If any action is taken, it should be by the chairman of the Section before which the paper is to be read, saying to the reader that his paper does not come up to the standard. But who will assume this responsibility? and who is to judge the judges? May it not be that a paper, although couched in bad English, might contain matter of real merit? Many articles, too, with high-sounding titles and verbiage beyond the comprehension of man may contain but little that is of worth, although written in perfect English, with deductions that would puzzle a philosopher, and which contain illustrations that would do credit to *Puck*. By all means let the editor improve the Journal in any way that he deems proper, but let every paper read before this Association or its Sections be published in the Journal. Let the reader select the wheat from the chaff, the good from the bad.

In connection with the business interests of the Journal, I beg to make the following suggestion: Let a suitable man be selected, preferably a doctor, to travel in its interest, thereby increasing the membership of the Association—this agent, secretary, assistant secretary, or whatever you may choose to call him, to solicit subscriptions for the Journal and encourage membership. He should visit the meeting of each State society, district and county society besides calling on individual members of the profession. Of course, only those who are endorsed by accepted or recognized organizations can become members of this Association. There are many hundreds of worthy physicians in the United States who would readily join the mother society if properly approached: Many, very many of them are ignorant of the manner of becoming members. It may be urged that the salary necessary to secure such an agent would be too large to justify the employment of such. In refutation I would urge that by such individual solicitation many more would be added to the membership than would be necessary to pay said salary, and they would become permanent members. It can be said, especially to young men, that the mere wearing of the button of the Association adds dignity and confidence. Then, too, it can truthfully be asserted that the Journal alone is worth more than the sum paid for membership. By this means I am sure that the treasury would be so increased as to enable the Journal to be the peer of any published. Besides, our ranks would be so increased as to make this Association not only the largest but the most important in all the world.

THE SECRETARYSHIP.

For several years there has been a heated debate if not wrangle, at each annual meeting, in general session, over the secretaryship. This is both unseemly and undignified, and is to be much deplored. It seems to me that there is an easy solution to this matter. Let the editor of our Journal be the secretary of the Association. The board of trustees has wisely insisted that he devote his whole time to the Journal. It does, therefore, appear that the secretaryship should be one of his duties. By so acting he is brought into a closer relation with the business management of the Association and with the active membership of the same. He would himself be responsible for a correct report of all proceedings, and be enabled to keep them without fault. The question whether or not any addition should be made to his salary for this additional work can be determined by the board of trustees. Our present secretary has served us long and well, and for his services in the past the Association should, and no doubt does, feel deeply obligated to him. I am sure that he would be the first to acquiesce in any move that would enhance the business interests or the prosperity of the Association. I therefore very respectfully offer the suggestion as above stated.

SOCIETIES WHICH SHOULD BE RECOGNIZED.

In the last few months many good medical societies which have adopted the "Code of Ethics" have communicated with me through their secretaries, asking how they could get recognition by this body. I have found, in many instances, that the State society had failed to recommend them, but for no particular reason. Anyway, they are debarred from recognition by this Association. In several instances I found that said societies had a greater number in attendance at their meetings than did the State society. I trust something will be done in regard to this matter, in order that these good societies can obtain recognition from this Association.

The appointment by your nominating committee of three such distinguished gentlemen to read the several addresses before this Association in general session assembled, relieves me of any duty in that line. I shall therefore content myself with employing the balance of my time in asking your consideration of a few things which are not only a menace to the public health, but also to the safety of society. Having served as a health officer for many years, my mind naturally turns into this channel, especially so when I see an opportunity to enlist the interest and co-operation of this large and influential body of physicians.

TUBERCULOSIS.

It behooves this national body of American physicians to take some action, or at least to approve the movement to stamp out, as far as scientific effort can do so, that dread disease that kills one-seventh of the world's population—tuberculosis. A few days ago, May 24-27, there was held a tuberculosis congress in Berlin, international in character. The Liverpool Medical Institution, one of the most important medical societies in England, has recently appointed a committee of its members "to consider what further steps can be taken for the prevention of tuberculosis, and for the treatment of the disease in the human subject." This committee proposes to consider: 1, the nature of pulmonary tuberculosis, its communicability and preventability; 2, the provision of sanatoria; 3, the more effectual methods of controlling spread of infection, and 4, the desirability of adopting some form of notification. The eradication of bovine tuberculosis received a powerful stimulus throughout the empire when recently Her Majesty the Queen gave orders to have killed such of her herd of Jerseys as were shown by the tuberculin test to be infected.

At the recent meeting of the French Association for the Advancement of Science, the section of hygiene, at the suggestion of Professor Nicholas, passed a resolution pointing out that the convection of tuberculosis by inhalation is only one of the modes of infection, and that a larger part of the diffusion of the disease is played by contagion through the alimentary canal, as proved experimentally and clinically, urging the necessity of taking adequate measures to insure the sterilization and harmlessness of articles of food. All Europe is wide awake to the importance of this subject.

From carefully prepared statistics it is found that of the deaths from all causes between the ages of 15 and 60 years, one-third of the number are victims of tuberculosis, and that it kills four and a half times as many people as do smallpox, scarlet fever, typhoid fever, and diphtheria combined. It is estimated that at any given time in Germany alone 1,300,000 persons are affected with tuberculosis, and Osler says that 1,200,000 in America have the disease at all times. One in every fifty persons has the disease. Over 13,000 die of tuberculosis in the State of New York every year. In every other American city the proportion of deaths is equally as great. So important has this subject become that at a recent convention held in England to consider the question, "How to Prevent the Spread of Consumption," the Crown was represented by His Royal Highness, the Prince of Wales, who presided over the meeting. Great encouragement was given the move by royalty and all others. The medical profession all over the world is deeply interested in the subject, the aid by governments solicited, and every effort is being made to suppress this formidable disease. Since the germ which causes it is known, and its habitat, the condition under which it thrives, and that the disease is contagious, it does appear but rational to assume that it not only can be prevented by precautionary measures, but that it can be cured by proper environment and treatment. It is equally true that, even in the best of homes, the treatment usually accorded the patient is *nil* in effect and accomplishes nothing. Something more than this must be done if we expect to materially decrease the death-rate. What is that something? Detweiler believes that over 24 per cent. of cases of tuberculosis are curable, Meisen, 27 per cent., Braymer, 21.5 per cent., and this under ordinary climatic and hygienic treatment. A much higher percentage of recoveries could be recorded if a real systematic and scientific treatment could be afforded these patients. Such a course can be instituted only in well-ordered and equipped hospitals designed especially for such inmates. In regard to the extent of the disease, I can do no better than to use the words of Professor Hirsch. He says, "It is emphatically a disease of all times, all countries, and all races No climate, no latitude, no occupation, no combination of favoring circumstances forms an infallible safeguard against the onset of tuberculosis, however such conditions may mitigate its ravages or retard its progress. Like typhoid fever, phthisis dogs the steps of man wherever he may be found, and claims its victims among every age, class, and race." In answer to the question, What is to be done to prevent its progress? I would suggest a remedy in using the words of a resolution adopted at the International Congress of Hygiene in Brussels, in 1897: "The hospitalization of tuberculosis is urgent and will not long be withheld." In several large cities in the United States an earnest effort has already been made to carry this thought into practical utilization, especially so in Chicago and New York. It can readily be seen, however, that but a comparative few out of this great number of afflicted can be accommodated in this manner. A country or State that is ever on the alert to prevent the landing of a foreign foe, or a hostile army, surely should ever be ready to aid in the suppression of a foe to the human race ten times more destructive to human life than the invasion of the country by an army of great size armed with the most improved rifles. Let us, then, in the name of humanity, invoke aid from the government of this very humane people, in order to help put down and thoroughly conquer this foe.

During the last session of the New York legislature a report of the Senate committee appointed to investigate the advisability of establishing a State hospital for the cure of consumption was made. Many reasons for the same were presented in the report. Among other things, the report read: "Tuberculosis is one of the most fatal diseases that the human race has to combat at the present day; its yearly victims inflict a serious and unnecessary drain upon the resources of the State. Unnecessary because it is now demonstrated beyond question that by the adoption of proper preventive measures a large proportion of those who suffer from this disease may be saved. This is proven not only by the revelations of science, but by the results which have been obtained in the practical application of the means to prevent the spread of the disease. A large proportion of the cases brought under treatment have been cured, and so many have so improved as to be restored to the producing class. It is also shown that the efforts of the boards of health of this and other States, as well as in other countries, have so far succeeded in reducing the percentage of deaths from tuberculosis by the measures adopted that there is good ground for assuming that with wise laws properly enforced this disease may be almost wholly obliterated." Is it too much, then, to suggest that this Association, representing the most advanced thought of the medical profession of America, take action in this important matter? I would most respectfully urge you to appoint a committee to prepare a careful report on this subject and present it to the next Congress sitting, beseeching that this Government erect, prepare or donate hospitals or reservations in and at which the poor or others shall receive treatment for the cure of consumption; also that the advisability of the respective States erecting similar institutions be impressed upon the various State boards of health. The blind, the deaf, the insane, the feeble-minded and other classes are so provided for; why not these? They are not able to care for themselves and they are a menace to the public health. It must be confessed that in so far as the prevention of the disease is concerned, that must come from the education of the people to the facts. The best way to accomplish this I leave to you.

THE ANTIVACCINATIONISTS.

It may appear superfluous to ask that you consider, in the proper way a rebuke to a certain class that is doing much to endanger the lives of our citizens, and whose meddling ways are giving the health boards of the various States much annoyance. I allude to the antivaccinationists, encouraged as they are by an antivaccination society. It seems strange and beyond belief that citizens of respectability and supposed intelligence should band themselves together to prevent a means of saving human life. But "'tis true, and pity 'tis, 'tis true." If these misguided people would only inform themselves of facts, patent to every reader of history, they might at least stop long enough in their mad career to think.

The true condition is so well described by Dr. Seys in a recent paper that I beg to quote from him: "Well has smallpox been termed the most terrible of all the ministers of death.' It dates back to the early history of our race, but from whence it came no man can say. Then all expected to have it and but few escaped. No respecter of persons, it was found in the palace and in the hovel, in the fair green fields and in the foul dungeon. All ages yielded to its noisome touch, and no season of the year was free from its deadly breath. One-third of the children born to the daughters of men died before they were a year old because of this pestilence, and one-half before the age of 5. In epidemic years it is estimated to have caused 50 per cent. of all deaths in Europe, and in non-epidemic years not less than 10 per cent. Two-thirds of the pauper blind in Europe of that day looked no more on the faces of their loved ones or the blue sky, nor saw the light of day, because of its blighting visitation. In Mexico it is said in a few years to have caused the death of three and a half millions of people. Iceland and Greenland were almost depopulated by it, and it has well-nigh rendered extinct some of our Indian tribes. It was the all-important factor in keeping down the population of Europe. Nor would the task be a difficult one to-day, should we desire to do so, to bring back the horrors of but a few years ago."

We may rest in peace and disregard the efforts of these half-mad people, but we must not close our eyes to the fact that, by their loud cry, aided by political influence, given often for self-aggrandizement, they are endangering the lives in every community. So far has this thing gone, that the vaccination law in England has but recently been amended so that only those who may desire shall be vaccinated. This is a menace to the public health and smacks of the dark ages. I again respectfully ask that you give to the medical profession in America an endorsement of their views in a resolution sustaining *compulsory* vaccination. The safety of the people from this most direful malady demands it.

A CRUSADE AGAINST SYPHILIS.

An international medical conference will be held at Brussels, Belgium, in the month of September next, known as the International Conference for the Prevention of Syphilis. A statement of the fact has been sent the Honorable Secretary of State of the United States, through the Belgium minister at Washington, with request that he appoint a delegation to attend this important conference. The honorable secretary in turn requested me, as your presiding officer, to name said delegation. This I have already done, as the call was for immediate action. In the preamble which accompanies this notice the following language was used: "The increasing propagation of syphilis and venereal diseases has become a serious danger to society, and it is important while there is still time to take efficient measures to stop the progress of this scourge. The spread of the evil is an incontestible fact; on this point all physicians who are in a position to know or observe its progress are agreed. The number of victims increases daily, and a serious consideration is that this malady is penetrating into strata of society where it was formerly rarely seen. Scarcely any attempt hitherto has been made to check this social evil, or rather while some attempts have been made, they were without concerted action, without preconceived plans, and without an international understanding to success."

What can be said of Belgium in this regard can be said of the United States. Perhaps the ratio of cases is not so large, but this matters little. It is estimated that there are in this country between six and seven million people who are afflicted in one way or another with syphilis. A distinguished French authority says that one man in every four has the disease in France. When we consider that by this the very foundation of society is shaken, our families imperiled, the constitutions of our youths undermined, our women wrecked, it is high time, as this official says, that we turn our attention to the subject. The warning should be in words that the most illiterate man or woman could understand, and it should emanate from sources and places that would reach the greatest number. Our false modesty in the past has been too pronounced, and has prevented us from giving to the common people valuable information; so we are in a measure, as a profession, much to blame for the great spread of this blighting curse.

The time has arrived when we as physicians, singly or when in convention assembled, should throw aside all restraint when dealing with this vital question, Fathers, mothers, sisters, brothers and all others should be informed, and this information should be in the plainest language. The minister and the priest should aid the doctor in this praiseworthy undertaking. The doctrine should be inculcated into the youth of both sexes, that freedom from this awful condition should exist before the marriage relation is thought of. Upon this declaration rests the hope of the State, as well as of families, for neither good soldiers, good citizens nor good husbands, with tainted blood can be had. Please permit me to suggest that a committee be appointed from this body, to report at the next annual meeting, on the subject: "What is the Best Means of Preventing the Spread of Syphilis?"

A PLEA FOR HARMONY.

In conclusion, let me beg of you that this meeting be one of perfect harmony and peace. Let nothing of an acrimonious nature be indulged in, but rather let your deliberations be characterized by patience, love for each other, and a desire to ennoble the profession to which you belong. For are we not brothers indeed, fighting for a common cause—the obliteration of the common enemy, disease? May your future life, each and all of you, be one of peace and perfect happiness; and may God grant to all a long life filled with good deeds. If fate should decree that any one of you should pass away before we meet again, may you find eternal rest in "God's next country."

By the will of the late T. W. Robbins, Philadelphia, $1000 has been devised to the Pennsylvania Hospital and $400 to the Episcopal Hospital.

Orations.

A CENTURY OF MEDICINE IN AMERICA.

THE ORATION IN MEDICINE AT THE FIFTIETH ANNUAL MEETING OF THE AMERICAN MEDICAL ASSOCIATION, HELD AT COLUMBUS, OHIO, JUNE 6-9, 1899.

BY J. C. WILSON, M.D.
PHILADELPHIA.

The duty of the hour is always the logical outcome of other duties previously done. This distinguished assembly, in whose presence, by your courtesy, I have the honor to stand, is but one of a long series of meetings of those who hold the idea higher than the act, the profession nobler than the art. The fables of the birth of Aphrodite and of Pallas Athene are deeper allegories than the schoolboy suspects. To the poet the combing of a wave and lo, upon the foam, the embodiment of all that is beautiful in nature; a flashing bolt and at Jove's brow the incarnation of all that is pure and wise in spirit. But to the student there is no such instantaneous achievement. Beauty and wisdom do not take the world by storm. The forces of nature are at work through all time, till Venus comes and eons pass away in dubious thought before Minerva stands forth. Progress is from point to point, by slow degrees, and often with painful retracing of disappointed steps. Life is a relay race; those who are weary dropping out to give place to newcomers. When some goal is won, the last runners are too apt to think the victory theirs No man's success is all his own. We are what those who have gone before have made us, and the splendor of our time is the long result of theirs.

The most wonderful century of the world's history draws to a close. Not in all time has there been such a period. The diffusion of knowledge, man's power over nature and organized human energy have yielded results that mark the latest as the most brilliant epoch of our civilization. But the advance has been by no means an even one. In those things that lend themselves most readily to the inductive method of investigation, to observation and experiment, the progress has been greatest. Hence, an era of brilliant material success. In things more elusive, the doubts, uncertainties and perplexities of the past remain to harass us. Yet the great growth in knowledge of material things begets in the human heart a longing for a deeper knowledge in loftier matters. The inductive method is of ever wider application. May we not hope that as this century has been magnificent in physical advancement, the century that is to come may be glorious in intellectual and moral development?

Has medicine, that branch of human endeavor in which we are especially interested, kept progress with the times? Has the century done for it what it has done for other things? This is not hard to answer. For medicine the changes of this year-hundred have been the awakening from the sleep of ages. The work of the early anatomists, the great discovery of Harvey, Auenbrugger's laborious revelation, Jenner's patient investigation, were stirrings in the slumber.

The dawn of the century was auspicious. Vaccination was widely practiced and its value everywhere recognized. Corvisart rescued the inventum novum from oblivion. Lænnec invented the stethoscope and discovered auscultation. The methods were practically complete, but it took forty years and the influence of Skoda to make physical diagnosis a familiar art The era of speculative medicine was fast drawing to a close. Fads and isms arose, as they will arise from time to time among the half-educated and the degenerate, but their influence has been, with few exceptions, short-lived, and its reaction on scientific medicine, favorable. The microscope ceased to be a scientific toy and became an instrument of precision. New sciences ranged themselves as the handmaids of medicine. In 1858 Virchow issued the "Cellular Pathology as based upon Physiological and Pathological Histology." It was but a step onward to experimental physiology, physiologic chemistry and experimental therapeutics. In truth, the "close and severe" methods had come, and had come to stay. It was evident that these methods, and these only, could be successfully used in the search for truth. The fairy tales of science had become the every-day handbook of the doctor. We had fully entered upon the era of experimental medicine. Ether and chloroform anesthesia, for operative purposes, robbed surgery of half its terrors, and rendered possible operations previously impracticable. The germ theory of disease came into prominence as a working hypothesis. Lister made the astounding discovery of surgical cleanliness, and early in the last quarter of the century the new surgery replaced the old. Marvelous change! Anesthesia had robbed surgery of half its terrors; an almost perfect antiseptic technic has taken away the rest. In fact, there are those, chiefly of the gentler sex, for whom surgery appears to have no terrors whatever.

The obvious impossibility of the individual mastery of the medical sciences and of the art of medicine, gave rise to the specialties. In truth, the laboratories were the beginning of specialism, which became an imperative need, partly on account of the necessity of more limited fields of investigation, partly because of the requirements of a precise and extended technic skill. If the specialties have been multiplied somewhat beyond the needs of the profession or the people, and if isolation of thought and shortcomings of practice have come of their too narrow cultivation, these are errors which tend to correct themselves, and despite its faults, specialism is a power in the medicine of our times, both in promoting knowledge and in direct healing, the importance of which can not be overestimated.

Clinic medicine, great as had been its advancement, began to lag in the progress. It fell behind surgery and for a time scarcely kept abreast of the minor specialties. The explanation was not far to seek. It was to be found in the complexity of the problems and in the greater number of unknown values, especially in causation. For a time this great branch of medicine waited for that new science which was to place it foremost among the specialties, to render possible the study of origins, to reveal the nature of infection, to set preventive medicine upon a sure foundation, to point the way to rational systems of therapeutics. The germ theory of disease ceased to be a working hypothesis and became a demonstration. The science of bacteriology came into existence. Youngest of the biologic sciences, it has accomplished more for medicine in three decades than all the rest had been able to accomplish in three centuries. Bacteriology has done away with speculation in medicine forever and has for all time established experimental research as the final court of appeal.

In counting up the gains in medicine during the century I must not overlook the progress in therapeutics. It is a common criticism of modern medicine that, with all the advance in pathology and diagnosis and above all in knowledge of the causation of diseases, we have made but insignificant gains in the art of healing. It is asserted that we are doubly losers since we have also cultivated a distrust for many of the remedies which our forefathers learned to rely on as the result of their empiric employment; that we have discarded many things that were good and found few to take their place. The criticism is of the most superficial kind. It is true that we have thrown away a host of useless drugs. The pharmacopeia of the future, so far as concerns mere drugs, will be but a slender volume. But we have kept those that are useful and acquired the art of employing them with precision and effect. We have learned to turn over to the surgeon, in the confident hope of speedy cure, many cases of disease until recently left to slowly perish under the unreasoning administration of drugs. The list of such diseases is growing from day to day. Who will say that the brilliant successes of modern surgery do not mark an advance in therapeutics? But wholly within the field of internal medicine the progress is far from insignificant. I for one do not hesitate to say that the abandonment of useless drugs is a most important step in that progress. But there are other gains of a most positive kind. The list is a long one and I only remind you of the analgesic group, the greater number of them synthetic products of the most advanced chemistry, of the nitrites, the bromids, of arsenic in pernicious anemia, the salicylates and of the serum therapy in diphtheria and of organotherapy in myxedema. Nor do we forget the systematic use of baths, gymnastics and massage, nor of climate—long-forgotten measures of treatment that modern scientific medicine gladly accepts from antiquity. But by far the most important gains lie in the direction of preventive medicine and prophylaxis. In the beginnings of disease— no, before the beginnings—the medicine of our day plays its most important therapeutic part. Disinfection means something; preventive inoculations, whether against cholera in swine or against diphtheria in man, are scientific measures; quarantine no longer means a senseless forty days' detention but very often the salvation of a people.

But it is not what modern medicine has done in therapeutics that so much exalts it in our eyes as what it is in the sure way of doing in the future. The lines are laid straight for it. The problems are set before it. They are difficult and abound in unknown values. But, one after another, many of those disturbing quantities will receive an approximate valuation, and in the solution of problems now being worked out lie therapeutic possibilities of the highest import. The aim of modern medicine and the object of modern therapeutics is not so much to cure disease as to prevent it. The human mind is now chiefly concerned in the study of origins. In every department of research, whether the natural sciences, criticism, history, even theology, the same method of inquiry is pursued. In the words of Allbutt, the analytic method "is leading to a revolution which as yet we have not fully understood. This revolutionary conception is that death is not to be driven away by the apothecary, nor by any cunning compilation of drugs, but is to be prevented by the subtle strategy which consists in knowing all the moves of the game." And he predicts that "the medicine of the future will consist in setting our wits to nature, in recognizing that when evils have befallen us there is no counsel, and that in the simple beginnings of things are the time and place to detect where stealthy nature, atom by atom, builds and unbuilds, feeds us or poisons us." Modern medicine is no longer content with trying to make some salvage out of the wreckage of disease, but is earnestly seeking for measures by which the storm can be avoided, the channels deepened and the rocks upon which high hopes are wrecked beaconed.

The century is the most wonderful in history. To my thinking, nothing in it is more wonderful than the advance in medicine; an advance which not only has covered the widest achievement, but has also brought us to the borders of the most abundant promise; an advance which is greater than its achievement and its promise because it consists in a revolution in our conceptions of the purposes of our art and was only rendered possible by the final exchange of the empiric method for the scientific. All that is best in the older medicine is to be found in the new, but the new is something essentially different. The old was an art based on empiricism, relying largely on so-called specifics and not altogether scornful of charms and magic. The new is an art based on a group of correlated sciences and deriving its power from the forces of nature. But the new is the outcome of the old; for the empiric method is the gateway to science and the accumulation of facts necessarily precedes generalizations in regard to them.

It is of interest to note the position of the United States in regard to modern medicine. It is no long time since our people were pushing westward over the wilderness, and a famous poet and story writer has accused us of being some centuries behind Europe in learning and manners. Railroads and the telegraph are great civilizers and the postal union is a wonderful teacher. There is no wilderness now except that beyond the seas, and "a few centuries" is a figure of speech. In medicine the world's knowledge is ours. The latest work of investigators in every field of research and in every country is quickly before us and we give something in return. Laveran discovered for us the malarial parasite, and Marchiafava, Golgi and others of the Italian school elaborated his observations; but an American, the late Prof. J. K. Mitchell, had anticipated the discovery, being "the first to approach in a scientific spirit the nature of infective disease and particularly in malarial fever"; and Laveran's observations were early confirmed on this side the Atlantic by Councilman, Osler, Thayer and others. Roux and Behring gave to the world the treatment of diphtheria by antitoxin serum, but the uncertainties concerning its efficacy were settled by Welch's analysis of the statistics and the two collective investigations of the American Pediatric Society. Ernest Brand devised the method of treating enteric fever by systematic cold bathing and showed that by it the mortality is cut in half, but it remained for American practitioners to demonstrate that the plan is not only feasible in hospitals but also in private practice. Macewen and Horseley showed that cerebral tumors could not only be definitely localized, but also that they could be successfully removed, but cranial surgery was carried to its full development and a perfect technic laid down by Keen. Here and there we have given more than we have received. We recall the contributions to neurology and especially the sucessful treatment of neurasthenia and hysteria by Mitchell, the second in the line of an illustrious medical family, and speak of intubation in grateful memory of the gentle O'Dwyer, and in surgery we are reminded that the New World has given something to the Old by the work of Senn, Murphy, Richardson, McBurney, my colleague, Deaver; and by that in earlier times of the clear-minded Grosses, father and son, the brothers Atlee and the heroic McDowell. The instances of accord, response, co-endeavor between the workers in medicine on the opposite shores of the Atlantic could be indefinitely multiplied.

In the field of literature the conditions are the same. On the one hand are the great weeklies of Berlin and Munich, and the *Lancet* and the *British Med. Jour.*; on the other the journals of Boston and New York, and the *Phila. Med. Jour.*, and the Journal. It is impossible to speak here of individual monographs and treatises. But against such storehouses of medical lore as Ziemssen's "Encyclopedia" and Nothnagel in Germany and Allbutt's "System" in England, may we not set Pepper's "System" and that of Loomis, and the "Twentieth Century Practice?" It is an exchange of courtesies, of products. It is a well-balanced reciprocity.

If America is a little behind in original research, she is very alert in the application of that which is serviceable. If her investigators are less laborious and less numerous, her practitioners excel in adaptability, tact and skill. Meetings of national societies such as this, and the national and international congresses are a strong force in the process of unification. One of the finest things in the medicine of our day is its solidarity. In the institutions where medicine is taught and in the organization of the instruction we are making hopeful advancement. Much remains to be done, but the defects are chiefly in the direction of want of uniformity of requirement and of full co-operation among the several States, and are in a fair way of correction. An open-handed philanthropy has scattered among the great centers of population from the Atlantic seaboard to the Pacific slope commodious, well-appointed, fully-equipped hospitals, not at all inferior to the great hospitals of the Old World. Their foundations are less ancient, as must be in a young country, but their spirit is more plastic. Traditions are fine, but they sometimes fetter thought. To the noble-hearted non-medical managers of these institutions it is clearer than ever before that while the care of the sick poor is the primary object, it is by no means the whole object of a modern hospital. The instruction of the student, the training of the doctor, clinic and pathologic research, the accumulation of facts for immediate or future use in scientific medicine are secondary functions of essential importance. So it has come to pass that to the non-medical mind, as it has long been to the medical, the necessity of the set of laboratories, pathologic, bacteriologic, clinic, is paramount.

The correlative fact that the number of the staff must be much greater in proportion to the number of the patients than formerly has also become apparent, so that by a process of evolution hospitals are taking a much larger part in the education of the doctor than ever before, even those in which a very conservative management is hostile to clinic instruction.

It is clear then not only that medicine has kept pace with the progress of the times, nay more, that it has made advances even more wonderful than many other departments of thought, but also that in America the position of the profession compares favorably with that of any other country. Medicine with us is to-day one with the medicine of the world. Yet it is little more than one hundred years since the country was without a medical profession, in the sense in which the term is now used and was then used in the old world.

This is not the time or place to rehearse the history of medicine in the Colonies. The subject is set forth in great detail in the writings of Beck, Clark, Bigelow, Ruschenberger, N. S. Davis, and Billings. In 1760 the General Assembly of New York ordained that no person should practice as a physician or surgeon in the City of New York before he had been examined in "physick" and surgery under certain specified conditions, and prescribed a penalty of five pounds for violations of this law. A similar enactment was passed in the colony of New Jersey in 1772. Those were the only attempts to regulate the qualifications and practice of physicians by any of the Colonial governments previous to the time of the Revolutionary War. The first institution for the teaching of medicine, the Medical School of the College of Philadelphia, begun in 1765, continued its usual courses of instruction until June 1, 1777, when all the departments of the college were closed in consequence of the occupation of the city by the British army. In 1768 an effort was made to establish a medical school in connection with King's College in New York, which had been in operation for several years. The success which attended this effort was moderate, and it is stated that in 1774 "about twenty-five persons attended the anatomic lectures, some of whom were students from the West Indies." During the War of the Revolution there was little time or opportunity for the cultivation of any art or profession save that of arms. Many of those who had been most active in the medical life of the Colonies shared the toils and privations of the army as surgeons; others, as Warren and Mercer, assumed the responsibilities of active military careers. The military occupation of New York and Philadelphia necessitated the suspension of the medical schools for a period of many months. The feeble beginnings of professional organization in the colonies were arrested. When, at the close of hostilities, they were resumed it was with an earnestness that argued well for the future, but upon a scale commensurate with the limited resources of the exhausted colonists and the sparse population of a new country.

The medical school in Philadelphia was reopened in 1778, and became, after some vicissitudes, the medical department of the University of Pennsylvania. Among those comprising the faculty we find the names of Shippen, Wistar, Kuhn, Rush and Barton. An attempt to revive the medical department of King's College in New York came to an unhappy issue by reason of a popular outbreak caused by the suspicion that some bodies had been stolen from the graveyard for dissection. It was not until 1792 that this medical school was reorganized with a faculty consisting, among others, of Post, Rogers and Bard. In 1782 some courses of lectures on the different branches of medicine were given in connection with Cambridge University, and in 1788 a medical faculty was established, at the head of which was Dr. John Warren, with Waterhouse and Dexter as associates. At the time of which I speak the classes were small and the number of those who received the degree of doctor in medicine few. The requirements for admission were low and those for the degree not difficult. But in the absence of legislative requirements in order to practice, save in the City of New York, and because the degree of doctor in medicine carried with it neither honor nor special privileges, comparatively few availed themselves of the opportunity to obtain it. Many of the more prominent men in the profession had received degrees in foreign universities, but among the ordinary physicians were many who had entered upon practice as apprentices or as bachelors of physic, or had picked up some knowledge of medicine and surgery in military hospitals or in service upon the field. There was a limited medical literature, of which Davis has given a list of titles, together with the statement that many of the productions "are characterized by a variety of learning, an accuracy of observation and an originality of thought that would do credit to any age or country." But these were mostly of the nature of essays and dissertations, and the books in general use were European. The latter consisted of the writings of Sydenham, Boerhaave, Van Sweiten, Mead and Huxham; Haller's "Physiology"; in anatomy, Chiselden, Cowper and Monro; Sharp's "Surgery"; Smellie on "Midwifery" and Lewis' "Materia Medica." The instruments and many of the drugs were imported. The best men of the time were trained abroad. On their return they brought with them learning and books, for which there was nothing to give in exchange save here and there a tract on yellow fever or the indigenous flora. The buildings of the New York Hospital had been destroyed by fire before the war; the Pennsylvania Hospital was practically the only institution of the kind. Men practiced medicine and did their best, but an organized profession can not be said to have existed. Compared with the older countries medicine was in a condition of chaos from which it was struggling to emerge. Certainly it was far enough behind them.

It must be admitted that the rapid strides with which the medicine of the younger country has overtaken and is now keeping pace with the medicine of the world were largely due to the facilities of intercommunication that constitute one of the peculiarities of modern life. Knowledge travels far and fast. It has the wings of the light. It must be also conceded that such progress has been aided and accentuated in a remarkable manner by the master spirits who, from time to time appearing upon the scene, seem to be charged with an especial mission, and whose presence marks eras in the course of human events. Easily and by far the greatest of these, *primus inter pares*, is Rush. Others among his contemporaries I have already referred to. Nor do I intend to enumerate a complete list. Permit me to name one here and there, sometimes a group, as fine examples of medical men who, to say the least, are not commonplace. It is easy for one who has read our medical history to recall John Morgan, Redman, Hosack; Drake, who wrote the "Diseases of the Mississippi Valley"; that coterie of Louis' pupils, including Shattuck, Oliver Wendell Holmes and Gerhard, who brought back from France physical diagnosis, the distinctions among the fevers and reasonable methods of clinic work; Jackson and Morton and the controversies concerning ether; the group of men who, representing others it is true, really effected the organization of the AMERICAN MEDICAL ASSOCIATION, whose officers were Knight, Bell, Delafield, Arnold, Stillé. Jones of New Orleans is to be mentioned among those whose writings have powerfully influenced the trend of medical thought in the United States, and Flint, and Otis and Woodward, to whose industry and ability we owe the "Medical and Surgical History of the War of the Rebellion," and Billings and Fletcher, who have given to the medical world the "Index Catalogue of the Library of the Surgeon-General's Office" of the United States army, and that unique and most useful of current medical publications, the *Index Medicus.* I mention with that feeling of emotion with which we speak of a companion newly passed away, John B. Hamilton, of whose skill as an organizer this Asssociation has had abundant proof, and Pepper, a life of matchless energy and devotion to the widest human interests, whose rare gifts as a physician, abilities as a teacher, civic pride and high patriotism will place him, when the dispassionate history of our times comes to be written, among the great Americans and in the foremost rank of the citizens of that commonwealth which reverently claims Franklin and Rush as her own.

It is not wholly to the ease with which knowledge is spread nor to the great men of the profession that we owe the advanced position of medicine in America to-day. Important as each of those factors is, it may well be questioned whether their combined influence could have impressed upon the art of medicine that peculiarity in which the profession of our country stands preeminent, and which is at once of the greatest practical value and of the richest promise for the future. That peculiarity is the prevalence of high ideals. All kinds of men engage in the pursuit of physic from all kinds of motives. But to the necessity of a livelihood and to personal ambition the American doctor adds, and very often in the absence of those he cherishes, a sort of chivalric devotion to some principle allied to his calling, but only indirectly bearing on his every-day affairs. It may be a collateral science, or preventive medicine, or schemes for the welfare of the poor, or belles-lettres, or medical libraries, or for himself a broader knowledge and a keener art, or toward his fellowman a greater gift of usefulness. Such thoughts are solace in his toil and recreation in his hours of leisure; with widening opportunities and high examples he must have something more than his every-day work. Without some cherished ideal he can not be content. This wholesome mental restlessness is peculiarly American. It comes of our physical restlessness. We lack repose because we abound in energy. Contentment means conservatism and conservatism points in the direction of stagnation. When we speak of stagnation we think of loneliness, of isolation.

The tendency which distinguishes American medicine is essentially opposed to isolation, to individualism. It exerts itself in the direction of a higher, more complete and more specialized organization of the profession. It is this tendency that has made the general fund of knowledge accessible to all members of the profession who care to share in it; that has given to the independent worker in whatever department an uplifting sense of companionship, of community of interest, of sympathy in a common cause. It is this that has brought into the life of the toiling practitioner, in the monotony of his every-day duties and cares, a saving consciousness of personal dignity and power.

To the physicians of northern New Jersey must be ascribed the credit of having made the earliest attempt to promote the interests of the profession by means of organization. In the year 1766 a meeting was held at New Brunswick, attended by delegates from all parts of the State, and a permanent organization effected. The objects of the association, as set forth in the preamble to the constitution, were "mutual improvement, the advancement of the profession, the promotion of the public good, and the cultivation of harmony and friendship among the members." This society held regular meetings twice a year until the breaking out of the war. In 1781 the Massachusetts Medical Society was incorporated. Toward the close of 1786 the College of Physicians of Philadelphia was instituted. Other similar organizations followed from time to time until that memorable meeting of May 7, 1847, at which, by the election of Nathaniel Chapman as president; Jonathan Knight, Alexander H. Stevens, James Moultrie and A. H. Buchanan, vice-presidents; Alfred Stillé and J. H. W. Dunbar, secretaries; and Isaac Hays, treasurer, was finally carried into effect the organization of the American Medical Association.

All honor to those who conceived the far-sighted plan. Every State, local and district society may be included within its scope. Every reputable physician in this great country may become eligible for membership. What a power for good is it not capable of wielding! How great this power is may be seen in the growing membership, in the earnest and advanced work of the Sections, in the keen discussions, in the splendid Journal which serves as the permanent record of its transactions, in the illustrious line of its presiding officers. But there are other manifestations of the power of the Association for good that are less obvious, but scarcely less important. They are constantly and steadily increasing over the whole land. They consist in most vigorous growth and activity in the local societies, a higher standard of professional attainment among the members of the profession, a deeper sense of responsibility, a loftier conception of the duties and privileges of our calling. No man who comes within the influence of this far-reaching organization stands alone. He becomes aware that he is a member of a profession to which he owes duties, and from which he derives honor and help. This unseen, wide-spread influence tells quite as powerfully in advancing the general interests of the profession as its splendid annual meetings. But we are less apt to think of it. We need have no concern about the power of the Association. As it has been in the past so will it be in the future, steadily augmenting. It has the intrinsic elements of strength found in all great and comprehensive organizations. What most interests us is how we may best use that power for the good of the profession and the people. We have been half a century gathering strength. Let us put it to some purpose. It is no part of my present duty to go into details, but it may be permitted to me to indicate certain matters in which the influence of the American Medical Association may be of importance. There are several organizations with specific purposes which hold their annual meetings at the same time, and whose work is in harmony with ours. It is important that we should give these bodies our full support. This is especially the case with the Association of American Medical Colleges, to the recent action of which we are already committed.

In general, as regards the requirements for the degree, the American Medical Association should, in my opinion, exert an influence to secure uniformity in the requirements of admission, a systematic graded course, with uniform tests at the end of each year, with uniform requirements for graduation. With reference to written examinations, the question of the honor system should be persistently agitated. If that system can be carried out at many of the colleges, at West Point and Annapolis, and at the University of Virginia, why not in all our medical schools? Its general adoption would go far in determining a high standard of personal and professional honor.

It should exert its influence also to secure general uniformity in the examinations for the license to practice among the States and a general reciprocity among those boards by which the licenses may be transferred.

It should strongly exert its influence in the direction of the regulation of the specialties and the requirement of evidence of clinic experience in general medicine as prerequisite to the practice of them.

It should exert its influence in the matter of expert testimony in courts of justice. This subject is a growing scandal. A change of practice is urgently necessary, both in the interest of justice and in that of the medical profession.

It should exert its influence to secure such legal enactments in the several States as will protect the people from the various forms of unorganized and organized quackery and to the end that no license to practice medicine in any of the branches shall be granted to any applicant until such applicant has successfully passed an examination in anatomy, physiology, pathology, surgery, midwifery and the diagnosis of disease; and that a stringent penalty shall be enforced against all unqualified persons who seek to practice on the sick, injured or deformed by any means or on any pretext whatever, except in the case of accident or emergency, and then only for the purpose of immediate relief and assistance.

It should exert its influence to build up in the secular and religious press of the country a proper sense of responsibility in regard to lewd, indecent and criminal advertisements, thinly disguised as medical, and against the appearance in such publications and in certain so-called medical journals of advertisements of nostrums and cure-alls.

It should exert its influence to secure such legislation as will obtain uniform divorce laws for the whole country and do away with the legal enormity of a man and woman being legally married in any State and living in adultery so soon as they have crossed its borders. The question is primarily one of morals, but it is also one of health.

It should exert its influence strongly in favor of proper rearrangement of the status of military and naval medical officers to the end that the efficiency of those branches of the public service may be increased and the recompense and rank of the medical officers properly adjusted.

It should exert its influence to secure the dual appointment of surgeons and physicians to regiments and posts, since the work of the two is complementary and can not in the present state of the art of medicine be properly performed in all its details by any one man, especially in active service; also to secure the establishment of clinic laboratories in connection with the military hospitals in the tropic stations, with the detail of medical officers especially fitted by training and experience for the investigation of tropic diseases and conditions.

It should exert its influence to secure a national quarantine service with full jurisdiction over the seaboards and the lake borders and over internal regions affected with general epidemics or endemic conditions not amenable to the control of the local authorities.

It should exert its influence to secure the appointment of a secretaryship of public medicine, the portfolio of which should be assigned to a medical man, to the end that the President may be promptly and authoritatively advised concerning technic questions of vital importance to the welfare of the Nation.

To many of you these suggestions seem Utopian, impracticable. Not so. If we earnestly desire them they will come to pass. Their fulfilment rests with you and in your hands is the power of an organized profession.

MEDICAL ASPECTS OF CRIME.

ORATION ON STATE MEDICINE, BEFORE THE FIFTIETH ANNUAL MEETING OF THE AMERICAN MEDICAL ASSOCIATION, COLUMBUS, OHIO, JUNE 6-9, 1899.

BY DANIEL R. BROWER, A.M., M.D., LL.D.

Professor of Mental Diseases, Materia Medica and Therapeutics, Rush Medical College; Professor of Diseases of the Nervous System, Post-Graduate Medical School; Professor of Diseases of the Nervous System and Clinic Medicine, Northwestern University Woman's Medical School, etc.

CHICAGO.

The limitation and treatment of crime is one of the great questions of the day. The closing hours of the nineteenth century are full of wonders. The progress in science, in literature and in art has been marvelous. Medicine and surgery have made mighty strides. The insane, the feeble-minded, the deaf, dumb and blind have received in these later years treatment that is scientific and successful. The care of the criminal is the one great question that baffles society, and great difficulties have arisen from the fact that the medical aspects of crime have not been sufficiently considered. Criminology of to-day is much in the same condition that psychiatry was when Pinel and Tuke appeared and wrought their memorable reforms, substituting patience and scientific treatment for brutality and chains. This transformation in the care of the insane was brought about by the medical profession, and it is our duty to-day with equal zeal and earnestness to consider this question of criminality, find out its etiology, and provide means for its cure. Already the pioneers, Gall, Lombroso, Benedikt, Ellis and a host of others, all physicians, have done a great work, the practical results of which are now manifest. They have established the fact that the habitual criminal is an abnormal man, the abnormality manifesting itself: 1, physically in the criminal physiognomy, in stigmata of degeneration, in anomalies of the muscular, sensory, respiratory and circulatory systems, and 2, psychically, in moral insensibility, lack of forethought, low grade of intelligence, vanity and egoism and emotional instability.

In approaching the study of this subject we are first surprised by the rapid increase in crime—rapid much beyond the ordinary increase in population. The census reports of our own country make the following exhibit:

Year.	Prisoners.	Ratio to Population.
1850	6,737	1 in 3442
1860	19,086	1 in 1647
1870	32,901	1 in 1171
1880	58,609	1 in 855
1890	83,329	1 in 757

These figures represent the prisoners that were incarcerated, and it has been estimated that only about one-third of them are thus disposed of. This being the case, the number of criminals in 1890 in the United States was about one-quarter of a million. The cost of maintenance, arrest and trial for them has been estimated at about $59,000,000. Now, these statistics, I may say, have been disputed by some criminologists, for the reason that they regard the census reports, prior to 1890, or possibly 1880, as unreliable. Even these doubters admit an increase in crime, objecting simply to the great increase that this table manifests. The statistics of the State of Pennsylvania confirm these national statistics.[1]

	1880.	1890.	Per cent. increase.
Population of State	4,282,891	5,248,574	22.5
Inmates of penal institutions. . . .	5,449	7,340	34.7
Defective classes.	6,070	9,712	60
Sane in almshouses.	6,648	6,905	3.8
Totals, . . .	18,167	23,957	31.8

The same is more emphatically true in New York City. The population of that city has increased in the last ten years about 33⅓ per cent., while crime has increased more than 50 per cent. In Chicago the number of arrests for ten years has been as follows:

Year.	No of Arrests.	Year.	No. of Arrests.
1884	39,434	1889	48,119
1885	40,998	1890	62 230
1886	44,505	1891	70 556
1887	46,505	1892	89,833
1888	50 432	1893	96,976

The consideration of these several reports can not leave the least possible doubt in the mind of any one that crime is increasing throughout the United States in a vastly more rapid ratio than is the population. The two great etiologic factors in the causation of rime are criminal parentage and environment. The ffects of these two agencies are strikingly illustrated n the history of the Jukes family, as related by Dugdale.[2] The ancestor of this family, born between 1720 and 1740, lived to an old age and left descendants who ave been traced with varying completeness through ive generations. The total number of his descendnts is 1200. While it includes a certain number of onest workers, it has been a family of criminals, rostitutes, vagabonds and paupers, costing the public reasury about a million and a quarter dollars.

Another of these remarkable exhibits is the tribe of en Ishmael, studied by McCulloch.[3] He discovered nd identified 1750 descendants of this man living in Kentucky in 17[illegible]0, who had been criminals and pauers, among whom 121 were prostitutes. In six genrations 75 per cent. of the cases treated in the City ospital in Indianapolis were of this man's offspring.

Professor Pelman, of Bonn University, has discoved and identified 709 descendants of Frau Ada Jurke, notorious drunkard, who was born in 1740, and died 1800. Of these 7 have been convicted of murder, of other crimes, 144 were professional beggars, 61 ved on charity and 181 were prostitutes. This famy has cost the German government for maintenance, st of courts, almshouses and prisons, one and a arter millions of dollars.

Similar studies would bring to light hundreds of just such cases, these three being by no means a remarkable exception in the procreative capacity of criminals and in the effect of parentage and environment.

An important factor in the cause of crime is intemperance. Fully 50 per cent. of the criminals arrested in Chicago are inebriates, and the police reports of New York show about the same proportion. As Macdonald[4] has well expressed it: "The saloon is the place where the criminal finds his accomplices; it is the abode where they not only meditate their crimes, but where they spend the money obtained by crime. The saloon is the true home of the criminal, and sometimes the keeper plays as backer."

Ferri[5] has shown beyond question that in France crime increases and decreases with the more or less abundant vintage, and we may safely attribute, at least, some of the increase of criminality and pauperism in the United States to the increase of intemperance, and we may estimate that alcoholics are the direct or indirect cause of probably 75 per cent. of all the crime committed. None to-day, I think, will gainsay Morel's statement that alcoholism has produced a demoralized and brutalized class of wretched beings, characterized by an early deprivation of instincts, and by indulgence in the most immoral and dangerous actions.

The constant and rapid increase of the urban population is another etiologic factor. The recent growth of cities is one of the phenomena of our social system. When our government was established a century ago, its first census showed only about 3.3 per cent. of the inhabitants of the country living in cities of 8000 and over. The census of 1890 shows such an increase that 27.6 per cent. of our population is urban. None know better than physicians what this crowding together of people means; with the bad air, poor and insufficient food, impure water, children in the midst of want, misery, immorality and vice, it is no wonder that the increase in crime goes *pari passu* with the growth of a city.

The criminal laws and their unreasonable execution are another factor in the causation of crime. The code of to-day is largely the Roman code. In ancient Rome it did well because the death penalty was common. The Coliseum had to be furnished with material for the amusement of the citizens, and "to the lions" was a common sentence; and then Rome had her Tarpeian Rock from which the defectives could be hurled and thus disposed of before the State could be troubled by their presence. To-day, with the death penalty rarely enforced, and with no such cutting off of the supply of criminal material, the law contributes to its increase rather than to its diminution. One of the absurdities of the law is the frequent conviction of the same criminal, not only an absurd work, but an expensive and unprofitable one.

The case of Jane Cakebread of London, with her 269 convictions, is but an exaggeration of daily occurrences in our own courts. Jane Cakebread, like many of our own criminals, should have been convicted but once. Our jails are schools of crime. The delay of the law gives the children, sometimes arrested for trifling offenses, weeks and months of tutelage under old and often incorrigible masters in crime, even before their guilt or innocence has been established, and after conviction further instruction in the same arts, so that when they leave, after their brief period of restraint, they are experts and will do much damage to person or property before they are again sent up for further instruction.

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[1] Boies: Prisoners and Paupers. P. 10. G. P. Putnam & Sons, 1893.

[2] The Jukes: A Study in Crime, Pauperism and Heredity. By R. L. gdale. G. P. Putnam & Sons, 1877.

[3] Boies: Prisoners and Paupers. Page 176. G. P. Putnam & Sons, 1893.

[4] Macdonald: Criminology. P. 88. Funk and Wagnalls Co., 1893.

[5] Ferri: Criminal Sociology. P. 117. D. Appleton & Co., 1896.

Then, again, the laws are defective because they are directed against the crime and not the criminal, overlooking the important fact that the crime is an accident, and the criminal may be the product of a long line of etiologic factors demanding for his cure, not punishment but reformation. The law says that if two men commit the same crime their guilt is equal, and the same punishment must be inflicted on both, overlooking the possibility that the one may be a hereditary habitual criminal whose whole life has been a war against society, and who is utterly incapable of reformation, and that the other may be simply the victim of circumstances, whose life previously may have been pure and noble. To the one man the prison may be a haven of rest; to the other, a living tomb.

The habitual criminal, who constitutes the great bulk of the class, is a biologic study, and his anatomic, physiologic and psychologic nature demands our most careful investigation, in order that we may determine the ways and the means to settle the various and vast questions to which he gives rise. There is a criminal physiognomy, by no means easy to describe, but the same, no matter whether seen in our jails or in the jails of any other country on the globe. Any physician, by looking at the face, without being able to describe its anatomic peculiarities, can reach conclusions, as Mantegazza writes, on five important problems: 1. The condition of health or of sickness. 2. The degree of beauty or of ugliness. 3. The moral worth. 4. The intellectual worth. 5. The race. The study of physiognomy, regarded as of such great importance by the physician of the last century, is too much neglected by the physician of to-day.

Prognathism is a prominent characteristic of the criminal face. The lower jaw is often remarkably developed. Manouvrier found that while the average weight of the Parisian criminal skull is, if anything, below that of the ordinary Parisian, the jaw of the latter averages 80 grams, and that of the former 94 grams. The prominence of the zygoma has been noticed by many observers, and anomalies of the teeth and jaw are common. Talbot[6] has worked out the following table, which is interesting in this connection:

	JAWS.								TEETH.			
										Tubercles of Teeth.		
	Number examined.	V-shaped.	Partial V.	Semi V.	Saddle.	Partial Saddle.	Semi-Saddle.	Normal.	Irregular.	Present.	Absent.	Regular.
Criminals at Pontiac, Ill.	465	75	71	3	66	63	16	171	123	13	552	342
Criminals at Elmira, N. Y.	1041	381	49	1	157	26	. .	422	220	26	1015	821
Criminals at Joliet, Ill.	468	13	79	19	59	92	24	163	. .	. .	. . . .	. .
Prostitutes at Chicago Bridewell	30	10	17	7	27	10	10	. . .	. .	. .	. . . .	. .
Insane at Dunning, Ill.	700	26	47	.	12	. . .	. .	486	. .	. .	. . . .	. .
Insane at Kankakee, Ill	613	69	107	29	89	105	61	163	. .	. .	. . . .	. .
Idiots, imbeciles	1977	129	236	. .	207	. . .	. .	1095	. .	. .	. . . .	. .
Deaf and dumb	1935	169	192	. .	203	. . .	. .	901	. .	. .	. . . .	. .
Blind	207	7	9	. .	11	. .	. .	105	. .	. .	. . . .	. .
Inebriates[1]	514	1.5	24.4	0.3	9.3	15.2	7.7	25.4	. .	. .	. . . .	. .

No cases of arrested or excessive development.

[1] Per cent.

The ear is a feature of great importance. It is so sensitive to vasomotor changes, to extremes of heat and cold and to varying emotional states, that it is an organ which frequently shows degeneracy. Talbot thus describes the normal ear: "It should have a gracefully curved outline, be nowhere pointed or irregular, having a well-defined helix, separated from the antihelix by a distinct scaphoid fossa, extending down nearly to the level of the antitragus; its roots to be lost in the concha before reaching the antihelix. The antihelix should not be unduly prominent, and should have a well-marked bifurcation at its upper extremity. The lobule should be shapely, not adherent, not too pendulous, and free from grooves extending from the scaphoid fossa. It should not average over two and a half inches in length, and one and a quarter in breadth."

The ears of criminals show many deformities, such as Darwinian tubercles, absence of helix, of antitragus, of lobule, and excessive development of antihelix and of the tragus, and the auriculo-temporal angle undergoes a gradual progression from below 90 in the normal, above 99 in criminals, up to above 100 among apes.

The criminal nose has been measured and studied with great care by Ottolenghi. He finds that the criminal nose in general is rectilinear, more rarely undulating, with horizontal base of medium length, rather large, and frequently deviating to one side. He has established the anatomic relationship between the criminals, insane persons, epileptics and monomaniacs.

Pallor of the skin is common among criminals. Ottolenghi has investigated wrinkles on the faces of 200 criminals as compared with 200 normal persons, and found that they are much more marked in the criminals than in the non-criminal, that they occur much earlier in life and are of greater prevalence about the nose and mouth, that is, about the least contemplative and more material parts of the face.

The beard in criminals is usually scanty; as against 1 5 per cent. of absence of beard in normal persons, Marro found 13.9 per cent. in criminals, and a very large proportion as having scanty beards. On the contrary, the hair of the head is usually very abundant, often coarse and woolly.

The cranial capacity of criminals has been studied by many with diverse conclusions. The average size is probably about the same for the two classes. The cephalic indices are frequently an exaggeration of those of the race to which the criminal belongs. The auricular angles, which depend on the form of the cranium, give interesting results, as determined by Quatrafages,[7] Hamy, and confirmed by others:

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[6] Talbot: Degeneracy, Its Causes, p. 257. Charles Scribner's Sons, 1898.

[7] Macdonald: Criminology, p. 49. Funk and Wagnalls Co., 1893.

	Nasal orbital angle. Degs.	Frontal angle. Degs.	Parietal angle. Degs.	Occipital angle. Degs.	Angle of cerebellum. Degs.	Total cerebral angle. Degs.
Gorilla	61	35	58	. . . .	. . . .	. . . .
Chimpanzee	59.5	35	54	19	43	108
Microcephalics	52.5	41.2	59.3	36.5	35.7	137
Idiots (not microcephalic)	47.5	44	62.5	38.3	32.3	144.8
New Caledonians { Men	. . .	49	63	36	30	148
New Caledonians { Women	. . .	52	61	32	27	145
African negroes	43.3	51.4	61.7	36.6	35.1	149.7
French assassins (22 in No.)	51.8	50.9	67.1	40.9	29.9	158.9
Modern Parisians { Men	50.3	54.6	59.7	40.1	30.6	154.4
Modern Parisians { Women	48.5	55.4	59.8	37.7	30.1	152.9

This table shows a diminished volume in frontal territory. This I have demonstrated to my own satisfaction by numerous conformature observations.

Dr. Corre has arranged the following table that gives some interesting facial characteristics:

FACE.

	NORMAL MEN.			CRIMINALS.								
	TOPINARD.			ORCHANZI.	CORRE.							LOMBROSO.
	Parisians.	Italians.	Negroes.	Assassins.	Violation.	Murder under sectional influences.	Murder under diverse influences.	Murder and theft.	Murder and suicide.	Murder premeditated.	Average.	Criminals in general.
Total length	128 (?)	. .	124.0	. . . . . .	135.5	131.0	132.2	138.0	133.0	140.0	. . .	. . . . . .
Simple length	87.7	86 0	. . .	89.0	90.0	87.6	90.4	86.0	92 0	92.6	89.7	92.0
Bizygomatic, breadth	132.2	. .	130.0	133.6	131.0	133.3	132.8	135.0	132.0	133.0	132.7	. . . . . .
Indices:[1]												
Facial	65.9	. .	68.6	65.3	68.6	66.2	68.0	63.6	69.6	69.6	67.0	
Nasal	46.8	. .	. . .	45.6	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . . . . .
Orbital	83.7	. .	. . .	88.4	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . . . . .
Palatal	74.7	. .	. . .	81.5	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . . . . .

[1] Facial index expresses relation of maximum breadth to simple length of face. Nasal index expresses relation of maximum breadth to maximum length of nose. Orbital index expresses relation of vertical diameter of the base of orbit to its horizontal diameter. Palatal index expresses relation of width to length of palatal vault.

Macdonald[8] has gathered together the following interesting facts in craniology: 1. Frequency of the median (or metopic) frontal suture. This character appears with brachycephalic heads and may be regarded as indicating inferiority. 2. The parietal or parieto-occipital sutures grow together earlier. Thus the parietal or occipito-parietal sutures are soon effaced, so the parieto-frontal and temporal. 3. The notched sutures are the simplest. This anomaly (as an interparietal bone in Peruvians and negroes) is considered by Anouchine as a sign of inferiority; it is normal in certain animals and constant in embryonic life. 4. The supernumerary or Wormian bones are frequent in the region of the median posterior fontanelle and of the lateral posterior fontanelles. 5. Other characters are the development of the superciliary ridges with the effacement or even frequent depression of the intermediary protuberance; the development of the mastoid apophyses. These characters are correlative with the great development of the temporo-parietal region, which in turn is related to the development of the jaw. 6. The backward direction of the plane of the occipital depression, as in inferior races, is more frequent in criminals.

Anomalies of the skull in criminals have been noted by many observers. Ferri[9] has prepared the following interesting table, comparing homicides with soldiers:

Perrsons in whom I detected	Homicides sentenced.		Soldiers—711.
	To penal servitude—346.	To imprisonment—363.	
	Per cent.	Per cent.	Per cent.
No anomaly	11.9	8.2	37
One or two anomalies	47.2	56.6	51
Three or four anomalies	33.9	32.6	11
Five or six anomalies	6.7	2.3	0
Seven or more anomalies	.3	.3	0

The brain weight of the criminal does not differ materially from that of the non-criminal. The potentiality of the brain does not depend so much on its size and weight as on its structure. The brain of Gambetta was very small, but very elaborately convoluted, so that it doubtless contained more and better neurons than that of the average person; one of the heaviest brains on record is that of a bricklayer who could neither read nor write. Flesch, out of fifty brains of criminals, did not find one without anomalies. From an examination of twenty-eight brains he found alterations in the meninges to the extent of 50 per cent. in the way of adhesions, various forms of meningitis, hemorrhage, atrophy and atheroma; these observations have met with abundant confirmation.

Benedikt, one of the most thorough and conscientious workers in this field of criminal pathology, found in an examination of nineteen brains of criminals a confluence of fissures. If we imagine the fissures to be water-courses, it might be said that a floating body in any one of them could enter almost all the others. While this type is not necessarily criminal and while the criminal may have another type of brain, yet this is a type of low organization, an absence of brain substance because of the absence of connecting gyri. Benedikt also emphasizes the fissures which he terms the external orbital, very constant in apes, not commonly distinct in the human brain, but rarely absent in the criminal brain.

Another interesting anomaly noted by this observer is that the frontal lobe is sometimes divided into four convolutions instead of three, which he considers an evidence of reversion to the carnivorous type. Professor Benedikt has found other anomalies in brain structure in criminals. In a recent communication he writes: "As we know not the special psychologic values of these anatomic anomalies for the intellect, for the morality, for the esthetic sense and for the will, we must not be hasty with our conclusions, and principally with their application to individual cases or to special individual qualities. I insist always that from exceptional and atypic forms of the skull, as well as of the brain, we can generally deduce only the right of suspect of physiologic anomaly."

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[8] Macdonald: Criminology, p. 52.

[9] Criminal Sociology, p. 12. D. Appleton & Co., 1896.

The feet of the criminal frequently show a tendency to revert to the flat foot of the lower races, and this is usually associated with a low instep.

The thyroid glands of the inmates of the Elmira and Pontiac reformatories were examined by Dr. Talbot, who has given me the following figures:

	Number examined.	Normal.	Excessive.	Deficient.
Elmira.	1045	106	909	36
Pontiac	465	145	183	137

Bono, in studying the eyesight of criminals, found 60 per cent. of 221 young criminals color-blind. Biliakow, who made similar on a hundred murderers, found 50 per cent. of them color-blind.

Tactile, temperature and pain sense are rarely normal in criminals. They are usually much diminished, especially pain sense. Anomalies of patellar tendon reflex are common; they are either exaggerated or very frequently absent.

In fifty autopsies, Flesch found 20 per cent. which showed affections of the heart so grave as to be the cause of death. On calculating accidental affections of the pericardium and endocardium the rate was 50 per cent. In this respect the criminal resembles the insane. Many of the manifestations of insanity are due to cardiovascular disturbances, and this might reasonably be expected, when we remember that the blood-supply of the brain is much more extensive than that of any other organ not concerned in blood-making or blood-purification.

The practice of tattooing is very common among criminals, and this, I take it, is remarkable, for one would suppose that among a class whose identity for their own sake should be concealed as much as possible such a practice would not exist at all.

On the psychic side of the criminal's character we find moral insensibility; a lack of forethought; a low grade of intelligence, vanity, egoism and emotional insanity.

The next important aspect of this question is the treatment; this should be based on etiology, to be scientific, and as criminal parentage and environment are the two great causative factors, the treatment should be directed against them. We should stop the propagation of crime. We should make it impossible for there to be any more Jukes, Ben Ishmael or Jurkes families, and to do this marriage should be regulated. There should be no possibility under the law for these people to marry and propagate their kind. Those who oppose the regulation of marriage contend that it would simply multiply prostitution, but multiplying prostitution does not necessarily mean, fortunately, promoting the propagation of criminals; for while the criminal man may have and does have remarkable virility, yet the prostitute rarely has the capacity of propagation. Very early in her career, by a wonderful conservatism in nature, her maternal passages become diseased to such an extent as to make conception almost impossible or very rare.

The operation proposed by Dr. Ochsner,[10] consisting in a resection of the vasa deferentia, does not mutilate the person; it does not destroy his sexual power, but it does prevent his power of propagation, and it is an operation attended with very little risk to life, and in my judgment it may be made a most useful agent in preventing an increase in criminals. Castration has been proposed by some, but the operation is vastly more dangerous. It is a great mutilation, and destroys sexual power, and for these several reasons is by no means as useful an operation as the one proposed above.

The children of these degenerates should be taken in charge by the courts and placed at the very earliest possible age, certainly not later than 7 years, in a favorable environment, and by this means the great bulk of them might be made useful citizens. Alcoholism is a very important and exceedingly difficult etiologic factor to dispose of. The saloon is such a powerful factor in our political system that it seems to be impossible to have legislators enact laws that will properly regulate this great traffic. We see no way to accomplish any positive results except as physicians spreading information among the people as to the baneful influence of intemperance, and so educating the old and the young that the powerful influence of the great factor in politics may be neutralized. We need to-day legislation for inebriates; authority to place them in prolonged confinement, during which they may undergo such treatment as may be necessary for their cure, and we certainly need some legislation by which the traffic in alcoholics may be diminished, and by which the quality of the liquor furnished may be improved. But the best way out of it is not by prohibition at this time, surely, but it may be by a high license system. There should be some remedy provided against the constant increase in urban population. Some method should be provided for the restoration of the equilibrium, some way by which the unproductive citizen might be transported to the country and made productive.

The last etiologic factor—the laws and the unreasonable manner of their execution—demands such changes that those who are concerned in the sentencing of criminals should know something about their biologic condition, and surely the ordinary juryman can not possibly possess this knowledge. It would seem best, therefore, that the determination of this question should not rest with the ordinary juryman; that all sentences should be indeterminate; that the criminal should be sent to a prison or reformatory, not for any specific time, but until he is reformed or cured, precisely as the patient is sent to a hospital. A person who has committed his first offense should not be permitted to associate with hardened criminals; trials should be speedy and prompt. The pardoning power should be taken out of the hands of governors of States and placed under the control of a board of pardons, whose members shall be skilled in criminal anthropology. For criminal minor children there should be reform shools, where, through a protracted period these children should be educated by manual training, and taught some useful occupation that may be to them the means of earning an honorable livelihood, and when the time comes for their discharge,

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[10] Ochsner: Surgical Treatment of Habitual Criminals. Journal, April 22, 1899.

... SUPPLEMENT TO ...

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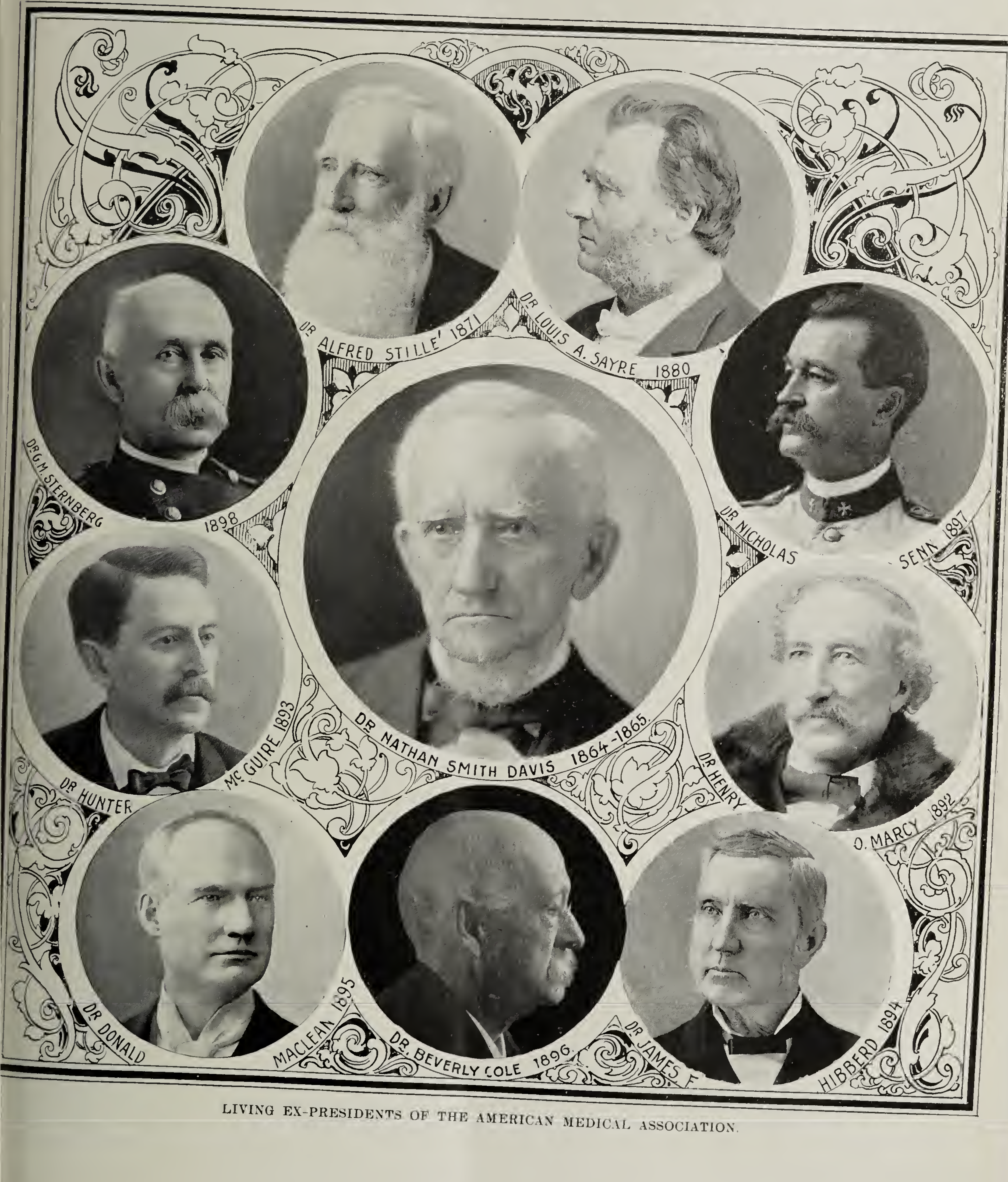
(To face page 1212; see page 1261).



LIVING EX-PRESIDENTS OF THE AMERICAN MEDICAL ASSOCIATION.

they should be furnished with the means by which they may establish themselves in the occupation for which they have been trained. This is not an untried proposition, but is to-day in practice in Russia. There should be reformatories for the older criminals who are capable of reformation, and these also should be taught not only the rudiments of an English education, but useful arts, and their confinement should be until they are able to withstand temptation and earn an honest living, and when released from the care of the reformatory they, too, should be provided with a reasonable capital with which to make a start in life. And, lastly, for those who are incapable of reformation there should be penitentiaries for their life-long incarceration, and these should be made as near self-sustaining as possible by having the prisoners employed in useful occupations.

Original Articles.

SANITARY LESSONS OF THE WAR.*

BY GEORGE M. STERNBERG, M.D., L.L.D.

SURGEON-GENERAL U. S. A.

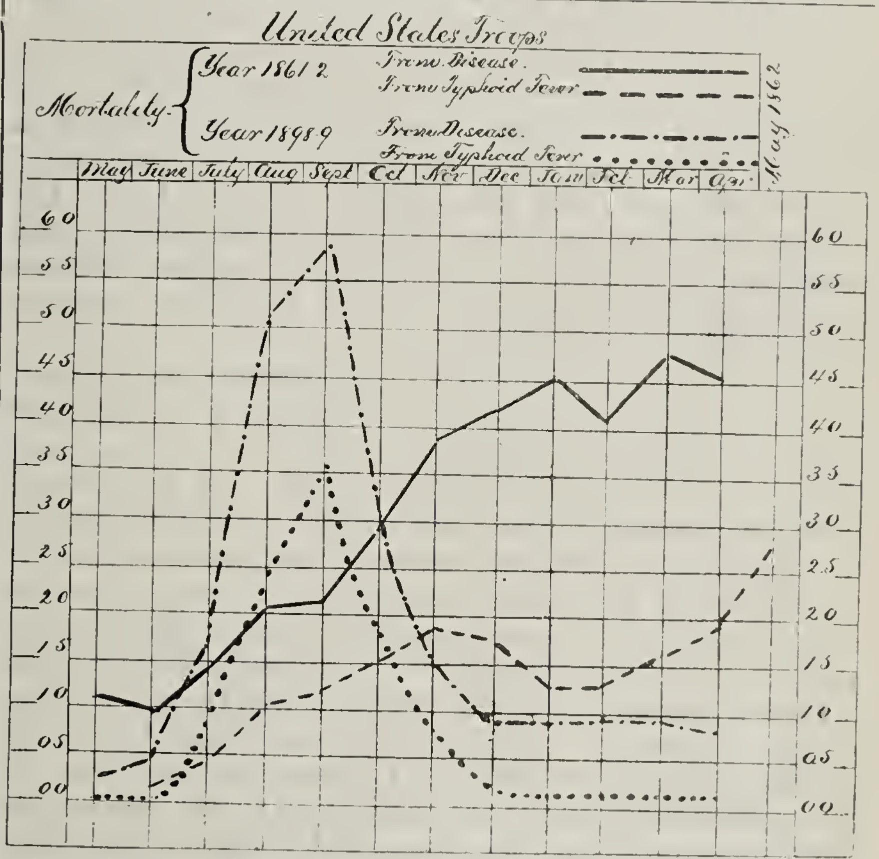
As compared with the Civil War and with other great wars during the present century, the mortality from wounds and disease among our troops during the war with Spain has been low. Our wounded have, to a large extent, had the advantage of prompt treatment with antiseptic dressings and a very considerable proportion of those who were not killed outright have recovered without any mutilating operation or septic complication. The mortality from disease has also been comparatively low, but unfortunately during the first months of the war, that scourge of new levies of new troops—typhoid fever—prevailed in many of our camps and claimed numerous victims. It is well known to sanitarians and military surgeons that as a general rule more soldiers succumb to disease than are killed by the bullets of the enemy, and our recent war has not been an exception in this regard. The total number of deaths reported in our enlarged army, including regulars and volunteers, from May 1, 1898, to April 30, 1899, is 6406. Of these, 5438 died of disease and 968 were killed in battle or died of wounds, injuries or accident. During the Civil War the number of deaths from disease was 186,216.[1] The number who were killed in battle or died of wounds was 93,969, or about one-half of the deaths from disease. The total deaths from disease in the Union armies from the commencement of the war to Dec. 31, 1862, was 34,326, and in the Confederate armies during the same period, 31,238.

The accompanying table gives the monthly death-rates from disease in our armies from May 1, 1898, to April 30, 1899, and, for comparison, the rates for the same period in the first twelve months of the Civil War.

In comparing the death-rates from disease during the year of the Spanish-American War, May 1, 1898, to April 30, 1899, and the first year of the Civil War, May 1, 1861, to April 30, 1862, note should be taken in the first place that the mean strength in May, 1861, was only 16,161, as compared with 163,726 men in service in May, 1898. The mustering in of volunteer troops was more slow in 1861 than during the recent war, so that it was not until September and October, 1861, that the mean strength assumed proportions equal to that of corresponding months of the Spanish War. Although the number present in the camps of 1861–62 after October, 1861, was largely in excess of those aggregated during the past year, the average annual strength during both wars did not differ greatly. Nevertheless, the deaths from disease in 1861–62 numbered 10,522, while in 1898–99 they amounted only to 5438. The death-rate per thousand of strength mounted gradually month by month in 1861–62, and indeed it did not reach its acme until February, 1863, when the rate of 6.39 was reached. In 1898, on the other hand, the acme, 5.89, was reached suddenly in September, but owing to the sanitary measures adopted, the fall during October and November was as rapid as had been the rise.

COMPARISON OF MONTHLY DEATH-RATES (PER 1000) FROM DISEASE.

	1861–1862.			1898–1899.		
Months.	Mean Strength.	Number of Deaths.	Ratio per 1000 of M. S.	Ratio per 1000 of M. S.	Number of Deaths.	Mean Strength.
May	16161	18	1.11	.26	42	163726
June	66950	55	.82	.44	90	202526
July	71125	106	1.49	1.72	451	362613
August	112359	242	2.15	5.21	1400	268507
September	165126	365	2.21	5.89	1541	261824
October	256884	725	2.82	3.17	809	255000
November	301848	1145	3.79	1.51	365	242000
December	343184	1471	4.29	.84	201	240000
January	352760	1593	4.52	.85	180	211000
February	327734	1346	4.11	.87	156	180000
March	328878	1575	4.79	.90	123	136000
April	410416	1881	4.58	.71	80	113000
Annual	229452	10522	45 86	25.73	5438	211350



The same gradual rise is seen in the mortality statistics of typhoid fever during the Civil War. The highest death-rate, 2.81, was not reached until May, 1862, the thirteenth month of the aggregation of the troops, when 1092 men died of this disease, and the fall of the rates was as gradual as the rise. On the other hand, the rise in 1898 was sudden, the maximum rate, 3.57, being reached in September, when 933 men died of this disease; but the fall during the months of October and November was as notable as the rise. This sudden suppression of the disease can not be attributed to an exhaustion of the susceptibility of the troops to attack from this fever, as they only suffered at the rate of 12.37 per thousand of strength during the twelve months, whereas the troops of the Civil War suffered at the rate of 19.71 per thousand. It can be attributed only to the active preventive measures that were instituted, and especially to moving the troops to fresh camp sites and the greater care exercised in the disposal of excreta.

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[1] In addition to this 24,184 deaths are recorded as from unknown causes, and probably most of these deaths were from disease.

The foregoing chart shows by the graphic method the same comparison as is given in the above table. The notable rise in the general death-rate from disease, and in that from typhoid fever alone, which occurred in August and September, was undoubtedly due to the insanitary conditions resulting from the hasty assembling of large bodies of undisciplined troops in our camps of instruction.

The average annual mortality from typhoid fever in our regular army since the Civil War has been: for the first decade (1868–1877), 95 per 100,000 of mean strength (.95 per 1000); for the second decade (1878–1887), 108 per 100,000; for the third decade (1888–1897), 55 per 100,000. This latter rate compares favorably with that of many of our principal cities. For example, it is exceeded by the typhoid death-rate in the city of Washington, which is 78.1 per 100,000 (average of 10 years—1888–1897); by that of the city of Chicago, which is 64.4 per 100,000; by that of Pittsburg, which is 88 per 100,000. These figures, however, do not show the entire mortality in the cities mentioned as a result of typhoid fever, for without doubt many of the deaths ascribed to "malarial fevers" were in fact due to typhoid infection. Thus in the city of Washington the deaths reported from typhoid and typho-malarial fever (average of 10 years) numbered 78.1 per 100,000 of the population, while 25.4 per 100,000 are recorded as due to malarial fever. In Baltimore the mortality as recorded from typhoid fever is 41.5, and from "typho-malarial and other malarial fevers" 18.3 per 100,000. In St. Louis the figures are: typhoid fever, 35.7, typho-malarial and other malarial fevers, 49 per 100,000; in New Orleans typhoid fever 26.1, typho-malarial and other malarial fevers, 107.2 per 100,000.

It will be seen that sanitary conditions at our military posts in time of peace, as judged by the typhoid death-rate, compare favorably with those in our large cities in various parts of the country. As a matter of fact great attention has been given to post sanitation for many years past, and through the persistent efforts of officers of the medical department great improvements have been made, especially during the past ten years. The result is shown in a reduction of the typhoid mortality from 108 per 100,000 in the ten years ending in 1887, to 55 per 100,000 in the decade ending in 1897. Hygiene is made one of the principal subjects of examination for candidates desiring appointment in the medical corps of the army, and at subsequent examinations for promotion to the grade of captain and major, is given a most prominent place. It is also the most prominent subject in the course of instruction at the Army Medical School, where the student-officers spend five hours daily for a period of five months in practical laboratory work relating for the most part to the cause and prevention of infectious diseases. It should be remembered, however, that the Army Medical School was not established until 1893, and consequently but a small proportion of the medical officers of the army have had the advantage of this course of instruction.

The comparatively small number of medical officers of the regular army available for duty in the large camps occupied by our volunteer troops at the outset of the war proved to be entirely inadequate to control the sanitary situation in these camps, and as a result of the conditions existing, the mortality from typhoid fever in our armies during the year ending April 30, 1899, has been more than twenty-two times the annual mortality in our regular army during the decade immediately preceding the war period. As compared with the first year of the Civil War, however, there is a decided improvement, the typhoid mortality for the first year of the Civil War having been 1971 per 100,000 of mean strength, and for the Spanish-American War, 1237 per 100,000. Moreover, as shown by the chart, the vigorous sanitary measures enforced enabled our troops to quickly free themselves from the ravages of this infectious disease, and while the line of typhoid mortality continued to ascend during the first year of the Civil War and subsequently, it rapidly fell after the middle of September last and for the last six months of the period under consideration has been remarkably low. Indeed, in the history of large armies the record has never heretofore been equaled.

In view of the great progress which has been made since the Civil War in our knowlege of the etiology and prevention of those infectious diseases, which have in the past been most fatal to armies, the writer had hoped that the mortality from preventable diseases might be greatly reduced from the outset, notwithstanding the difficulties inseparably connected with the hasty assembling of large bodies of undisciplined troops in our camps of instruction.

As we now know the cause of typhoid fever, the biologic characters of the typhoid bacillus, and the physical and chemic agents by which this bacillus may be destroyed, sanitarians have no difficulty in formulating rules relating to its prevention, which if strictly followed, would, to a great extent at least, protect our armies from its ravages.

In the writer's prize essay on "Disinfection and Personal Prophylaxis in Infectious Diseases," published by the American Public Health Association in 1885, the following directions will be found:

> In the sick-room we have disease germs at an advantage, for we know where to find them, as well as how to kill them. Having this knowledge, not to apply it would be criminal negligence, for our efforts to restrict the extension of infectious diseases must depend largely upon the proper use of disinfectants in the sick-room.
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> *Disinfection of excreta, etc.*—The dejections of patients suffering from an infectious disease should be disinfected before they are thrown into a water-closet or privy vault. This is especially important in cholera, typhoid fever, yellow fever and other diseases in which there is evidence that the infectious agent is capable of self-multiplication, in suitable pabulum, external to the human body. Vomited matters and the sputa, in these and other infectious diseases, should also be promptly disinfected. This is especially important in cholera, diphtheria, scarlet fever, whooping-cough and tuberculosis. It seems advisable, also, to treat the urine of patients sick with an infectious disease with a disinfecting solution.
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> For the disinfection of excreta in the sick-room, a solution of chlorid of lime is to be recommended. This is an excellent and prompt deodorant, as well as a disinfectant. A quart of the standard solution (No. 1), recommended by the committee on disinfectants of the American Public Health Association, will suffice for an ordinary liquid discharge in cholera or typhoid fever; but for a copious discharge it will be prudent to use twice this quantity, and for solid fecal matter a stronger solution will be required. As chlorid of lime is quite cheap, it will be best to keep on the safe side, and to make the solution for the disinfection of excreta by dissolving eight ounces of chlorid of lime in a gallon of water. This solution should be placed in the vessel before it receives the discharge. The material to

be disinfected should be well mixed with the disinfecting solution by agitating the vessel, and from thirty minutes to an hour should be allowed for the action of the disinfectant before the contents are thrown into a water-closet or privy vault.

In the manual for the medical department, which at the outset of the war was distributed for the information of all medical officers, the following directions will be found:

91. *a.*—Disinfectants are issued, as are medicines, to be used by medical officers when actually required for some specific purpose. Chlorid of lime, carbolic acid and mercuric chlorid are issued by the medical department for use as disinfectants, properly so-called. A solution containing 4 per cent. of good chlorid of lime or 5 per cent. of carbolic acid is suitable for disinfecting the excreta of patients with cholera or typhoid fever, or the sputa of patients suffering from diphtheria, scarlet fever or tuberculosis. The floors, furniture, etc., in rooms occupied by patients suffering from an infectious disease, may be washed with a 2 per cent. solution of carbolic acid, or with mercuric chlorid of 1–1000. Soiled bed-linen, underclothing, etc., used by such patients, should be immersed in one of the above-mentioned solutions before it is sent to the laundry.

92. When accumulations of organic material undergoing decomposition can not be removed or buried they may be treated with an antiseptic solution or with freshly-burned quicklime. Quicklime is also a valuable disinfectant, and may be substituted for the more expensive chlorid of lime for disinfection of typhoid and cholera excreta, etc. For this purpose freshly-prepared milk of lime should be used, containing about one part, by weight, of hydrate of lime to eight of water.

93. During the prevalence of an epidemic, or when there is reason to believe that infectious material has been introduced from any source, latrines and cesspools may be treated with milk of lime in the proportion of 5 parts to 100 parts of the contents of vault, and the daily addition of 10 parts for 100 parts of daily increment of feces.

At the outset of the war with Spain the following sanitary circular was issued:

War Department: Surgeon-General's Office,
Washington, April 25, 1898.

Circular No. 1:

In time of war a great responsibility rests upon medical officers of the army, for the result of a campaign may depend upon the sanitary measures adopted or neglected by commanding generals of armies in the field. The medical officer is responsible for proper recommendations relating to the protection of the health of troops in camp or in garrison, and it is believed that, as a rule, medical officers of the United States army are well informed as to the necessary measures of prophylaxis and the serious results which infallibly follow a neglect of these measures, especially when unacclimated troops are called upon for service in a tropic or semitropic country during the sickly season. In Cuba our armies will have to contend not only with malarial fevers and the usual camp diseases—typhoid fever, diarrhea and dysentery—but they will be more or less exposed in localities where yellow fever is endemic and under conditions extremely favorable for the development of an epidemic among unacclimated troops. In view of this danger, the attention of medical officers, and of all others responsible for the health of our troops in the field, is invited to the following recommendations:

When practicable, camps should be established on high and well-drained ground not previously occupied.

Sinks should be dug before a camp is occupied, or as soon after as practicable. The surface of fecal matter should be covered with fresh earth, or quicklime or ashes, three times a day.

New sinks should be dug and old ones filled when contents of old ones are two feet from surface of ground.

Every man should be punished who fails to make use of the sinks.

All kitchen refuse should be promptly buried and perfect sanitary police maintained.

Troops should drink only boiled or filtered water and coffee or tea (hot or cold) except where spring water can be obtained which is pronounced to be wholesome by a medical officer.

Every case of fever should receive prompt attention. If albumin is found in the urine of a patient with fever it should be considered suspicious (of yellow fever) and he should be placed in an isolated tent. The discharges of patients with fever should always be disinfected at once with a solution of carbolic acid (5 per cent.) or chlorid of lime (6 oz. to a gallon of water), or with milk of lime, made from fresh quicklime.

Whenever a case of yellow fever occurs in camp the troops should be promptly moved to a fresh camping-ground located a mile or more from infected camp.

No doubt typhoid fever, camp diarrhea, and probably yellow fever are frequently communicated to soldiers in camp through the agency of flies, which swarm about fecal matter and filth of all kinds deposited upon the ground or in shallow pits, and directly convey infectious material, attached to their feet or contained in their excreta, to the food which is exposed while being prepared at the company kitchens or while being served in the mess tent. It is for this reason that a strict sanitary police is so important. Also because the water-supply may be contaminated in the same way, or by surface drainage.

If it can be avoided, marches should not be made in the hottest part of the day—from 10 a.m. to 5 p.m.

When called upon for duty at night or early in the morning, a cup of hot coffee should be taken.

It is unsafe to eat heartily or drink freely when greatly fatigued or overheated.

Ripe fruit may be eaten in moderation, but green or overripe fruit will give rise to bowel complaints. Food should be thoroughly cooked and free from fermentation or putrefactive changes.

In decidedly malarious localities from 3 to 5 grains of quinin may be taken in the early morning as a prophylactic, but the taking of quinin as a routine practice should only be recommended under exceptional circumstances.

Light woolen underclothing should be worn, and when a soldier's clothing or bedding becomes damp from exposure to rain or heavy dews, the first opportunity should be taken to dry it in the sun or by fires.

Geo. M. Sternberg,
Surgeon-General U.S.A.

Early in August the attention of medical officers was again directed to the importance of camp sanitation and disinfection of the excreta of "patients with fever," by Circular No. 5.

War Department: Surgeon-General's Office,
Washington, Aug. 8, 1898.

Circular No. 5.

The attention of medical officers is invited to Circular No. 1 from this office, dated Washington, April 25, 1898.

The extensive prevalence of typhoid fever in camps of instruction indicates that the sanitary recommendations made in this circular have not been carried out. If medical officers have failed to make the proper recommendations as indicated, the responsibility rests with them. If the recommendations have been made and not acted upon by those having authority in the various camps, the responsibility is not with the medical department, but these recommendations should be repeated, and commanding officers urged to move their camps at frequent intervals and to maintain a strict sanitary police.

George M. Sternberg,
Surgeon-General, U. S. A.

On September 5 the following circular was issued:

War Department: Surgeon-General's Office,
Washington, Sept. 5, 1898.

Circular No, 7.

The attention of chief surgeons and of all medical officers on duty with troops in the field is called to the following paragraphs from the Manual for the Medical Department:

92. When accumulations of organic material undergoing decomposition can not be removed or buried, they may be treated with an antiseptic solution, or with freshly burned quicklime. Quicklime is also a valuable disinfectant, and may be substituted for the more expensive chlorid of lime for disinfection of typhoid and cholera excreta, etc. For this purpose, freshly prepared *milk of lime* should be used, containing about 1 part, by weight, of hydrate of lime, to 8 of water.

93. During the prevalence of an epidemic, or when there is reason to believe that infectious material has been introduced from any source, latrines and cesspools may be treated with milk of lime, in the proportion of 5 parts to 100 parts of the contents of the vault, and the daily addition of 10 parts for 100 parts of daily increment of feces.

Quicklime should be purchased in such quantities as may be necessary for the purpose of carrying out these instructions, and vouchers sent to the surgeon-general of the army for payment from the medical and hospital appropriation.

George M. Sternberg,
Surgeon-General, U. S. A.

The following letter was addressed to the adjutant-general of the army on October 31.

October 31, 1898.

Adjutant General of the Army. Sir:—I have the honor to make the following recommendations with reference to the protection of our troops in permanent camps in this country and in the islands at present occupied by our forces, from the infectious diseases which are liable to prevail where insanitary conditions exist:

1. No camp should be established unless there is an abundant supply of pure water for drinking, bathing and culinary purposes. Experience shows that reliance upon filtration, or upon sterilization by boiling, is very uncertain, owing to the difficulty of enforcing the use of the appliances provided for this purpose. Nevertheless, I recommend that portable filters of an approved model be supplied to troops in camp, for use when on the march or under any circumstances where it becomes necessary to use water which may possibly be contaminated by the germs of any one of the infectious diseases which experience has shown to be most dangerous to troops in the field—typhoid fever, cholera, dysentery, camp diarrhea, yellow fever. Company commanders should be made responsible for the proper use of these filters, and, as they require frequent cleaning and careful using in order to preserve their efficiency, they should be placed in the immediate care of a reliable and properly instructed non-commissioned officer, who should have a suitable detail to assist him in operating them for the filtration of all water used for drinking purposes.

2. Disposal of excreta. It has been demonstrated that the germs of typhoid fever, cholera, dysentery and camp diarrhea are present in the discharges of those suffering from these diseases and the propagation of these infectious camp diseases results, to a large extent, from failure to properly dispose of excreta. These diseases are frequently not recognized in the earlier stages or when the cases are mild in character, and the discharges of such persons thrown upon the ground or in sinks which are not properly disinfected almost inevitably lead to a propagation of the disease and often to a general camp infection. This can only be guarded against by a complete system of sewers and water closets connected with them, by some efficient method of removing excreta from the camp, or by its prompt and complete disinfection *in situ* if sinks are used. Experience shows that the latter method is difficult to carry out and requires the most constant and intelligent supervision. The first cost of a complete system of sewers for a camp which is to be occupied for several months would be small compared with the expense resulting from an epidemic of typhoid fever, yellow fever or cholera. It may be safely said that the expense resulting from the large number of cases of typhoid fever in our camps during the past summer has been greatly in excess of the cost of a system of sewers, where this would have been practicable, or of some other efficient method of disposing of excreta. As the best alternative where a camp is not to be occupied long enough to justify the establishment of a complete system of sewers, or where for any reason this is impracticable, I would suggest the following method of disposing of excreta: I would provide a sufficient number of cylindric galvanized iron receptacles, eighteen inches in diameter and eighteen inches deep, provided with a galvanized iron cover and having a trough around the outside of the vessel, three inches deep, for the purpose of containing a disinfecting fluid, in order that when the cover is in position this may serve as a valve preventing the entrance of flies or the escape of foul odors. A second cover of metal, having a proper aperture to serve as a privy seat, should be provided. When about to be used the closed cover would be removed from the iron receptacle, leaving the seat exposed. After use the cover should at once be replaced. These cylindric vessels could be partly filled with a solution of carbolic acid, or the contents could be treated with quicklime, dry earth or ashes. They should be removed at regular intervals and the contents emptied into a pit far removed from the camp, or disposed of by cremation. There should be a sufficient number of these vessels to put a clean one in position when those requiring removal are taken away to be emptied and cleaned. These vessels should be cleaned by the use of boiling water (or by incineration if practicable).

(Signed) Geo. M. Sternberg,
Surgeon-General, U. S. A.

We have now to inquire why, with our precise knowledge as to the etiology and means of prevention of typhoid fever, this infectious disease prevailed to such an extent in many of our camps during the first four or five months of the late war.

The reasons are apparent, and even in the light of our recent experience I am not sure that under similar conditions we could avoid similar results. Sanitarians generally are familiar with the difficulties attending their efforts to restrict the ravages of infectious diseases in towns and cities. They have to contend with the ignorance and reckless indifference of a large proportion of the population, with the ignorance and mistaken parsimony of legislative bodies, and to some extent with the negligence or perfunctory performance of duties assigned to them by agents of the health department, often appointed as a reward for political services rather than on account of their special fitness for the work. Perhaps it was too much to expect that typhoid fever should be excluded from our camps, unprovided with sewers and occupied by new levies of troops, having for the most part inexperienced officers both of the line and in the staff departments. The medical officers of regiments were appointed by the governors of States, and as a rule were competent professionally, but they were called upon to assume new responsibilities for which they had no special training. Unfortunately, hygiene and practical sanitation are subjects which receive little attention in our medical schools or from physicians and surgeons engaged in the practice of medicine. But even in those cases in which the regimental surgeon was fully aware of the importance of camp sanitation and urgent in his sanitary recommendations, he was unable to control the sanitary situation unless the regimental and company officers enforced the necessary measures for protecting the health of the command. And just here is the fundamental difficulty when we are dealing with new levies of troops. The officers and enlisted men of our volunteer regiments were as a rule intelligent, patriotic and brave, but they were not disciplined. Each man was in the habit of judging for himself and of acting in accordance with his individual judgment. Discipline consists essentially in an unquestioning obedience of orders from those having proper authority to give them. Trained officers can not at once establish discipline among untrained troops, and when both officers and enlisted men are without military experience it is evident that, with the best material, time will be required for the establishment of discipline. And in the absence of discipline it is impracticable to enforce proper sanitary regulations in camp. The surgeon-general may formulate sanitary regulations, and the general commanding an army corps or a division may issue the necessary orders, but in the absence of discipline these orders will not be enforced. A reckless recruit will drink the water which has been condemned as unsafe, and at night will defile the ground in the vicinity of his tent rather than visit the company sink, which, possibly is in a disgusting and unsanitary condition because of a failure to carry out the orders to cover the surface of excreta "with fresh earth, or quicklime, or ashes, three times a day."

The difficulty in controlling the sanitary situation, even when under the supervision of an experienced medical officer of the regular army, is illustrated by the following extract from a personal letter to the surgeon-general, referring to one of the camps occupied by volunteers who had returned from Cuba to be mustered out of service. Colonel Greenleaf says: "I have never had a more trying time than during the past two weeks in efforts to keep the camps reasonably clean. The approach of the muster-out period made officers and men equally indifferent to ordinary cleanliness, and without the co-operation of the quartermaster their camps would have been quickly untenable. We have had to hire civilians to clean the latrines, remove their contents, the garbage, clean the camp streets, and finally to stay on duty at the latrines and cover excrement as it was deposited! Orders, written and verbal, requiring the soldiers to do anything in the way of police were repeatedly issued but were totally disregarded, and the sinks and kitchens were soon infected with such swarms of flies that I felt sure there must be an outbreak of disease."

New levies of troops are especially subject to typhoid fever and other infectious camp diseases, not only because of a lack of discipline and consequent difficulty in the enforcement of necessary sanitary regulations, but also because the individual soldiers are very susceptible to infection, owing to their age, the abrupt change in their mode of life, the exposure and fatigue incident to camp life, and last but not least, their own imprudence as regards eating, drinking, exercise, etc. The trained soldier has not only learned the lesson of obedience to orders, but has learned how to take care of himself in the field. He will carry a canteen of boiled water or tea rather than trust to luck and drink any water at hand when he is thirsty. He has learned to control his appetite within moderate limits, and when issued rations for five days does not suffer from hunger on the fourth and fifth as a result of extravagant consumption or waste on the first and second days of the period for which he has been rationed. He takes advantage of opportunities for bathing, and washing his underclothing; and when his blankets or outer clothing are unavoidably wet he hastens to dry them in the sun or by a fire at the earliest opportunity.

The value of experience and special training is recognized in all departments of human activity, and the military calling furnishes no exception to the general rule. This applies to the staff as well as to the line, and the medical staff is no exception. When, therefore, I say that the evils resulting from neglect of camp sanitation during the earlier months of the war were to some extent due to the inexperience of the regimental surgeons, I am not reflecting upon the professional qualifications of these gentlemen, but am simply stating a fact. I desire to say, at this point, that many of these regimental surgeons showed a decided aptitude for the service, and made themselves familiar with their various duties as medical officers within a comparatively short time. As a rule they have been assiduous in the care of the sick, and professionally they have been fully the equals of the average doctor in the sections of the country in which their regiments were raised. Indeed, in many instances they have been men who had attained distinction in their own State or even a national reputation.

There has been no failure on the part of the medical department of the volunteer army to accomplish all that could have been reasonably expected of it, but without doubt an adequate number of thoroughly trained medical officers could have done much at the outset of the war in the way of preventing the introduction and extension of typhoid fever in our camps, and in organizing and administering field hospitals, ambulance companies, etc.

Want of discipline and inexperience on the part of officers and enlisted men, together with the apparent emergency which caused them to be brought together in large camps in great haste and before proper preparation could be made for their reception and the supply of their many wants, were the fundamental, and to a large extent unavoidable, causes of the extension of typhoid fever in our camps. But the first step in the development of an epidemic of an infectious disease is the introduction of the specific germ to which it is due. Unfortunately, typhoid fever is endemic in nearly all parts of the United States, and when a thousand men are brought together from any section, there is a fair chance that one or more of them are already infected with this disease. Unless these cases are recognized at the very outset the camp site is liable to be contaminated by typhoid excreta, and the bacilli, through the agency of flies or in a desiccated condition carried by the wind, effect a lodgment on food being prepared in the company kitchens, and thus find their way to the alimentary tracts of susceptible individuals.

The attention of the profession has been largely attracted to the propagation of this disease through contamination of the water-supply, and to the distribution of the typhoid bacilli by the milkman, and there has perhaps been a tendency to overlook other modes of infection, which, in the absence of sewers and under conditions such as existed in our camps during the first months of the war with Spain, were even more important. It is evident that one or two unrecognized cases might be sufficient to inaugurate an epidemic in a regimental camp, and as a matter of fact the disease has prevailed in nearly every camp in the country which has been occupied for a period of a month or more. In many cases it was brought to our large camps from the State camps where the regiments were mustered into service.

And now, in order that the "sanitary lessons of the war" may not be lost sight of, and may be made available hereafter if we should again have occasion to assemble a large army on short notice, I consider it my duty to speak plainly with reference to one of the principal causes of the epidemic prevalence of typhoid fever in our camps. As a rule this disease was called by some other name by the medical officers, on duty with regiments, who first saw the cases. Usually it was assumed to be malarial fever, and was treated as such until the patient became so sick that it was found necessary to send him to the division field hospital or to a general hospital. This general statement is based upon the carefully made investigations of a board of medical officers appointed on my recommendation, made in the following letter:

SURGEON-GENERAL'S OFFICE.

WASHINGTON, Aug. 17, 1898.

To the Adjutant-General of the Army.

Sir:—I have the honor to request that a board of sanitary experts may be constituted for the purpose of visiting the various camps within the limits of the United States, and making a searching investigation with reference to the cause of the extensive prevalence of typhoid fever in many of these camps. The board to receive detailed instructions from the surgeon-general of the army, and to make a full report as soon as practicable after the completion of their investigations.

I would also recommend that this board be directed, while pursuing their investigations, to call the attention of the proper authorities to any insanitary conditions existing at the camps visited by them, and to make recommendations with a view to their prompt correction. I recommend the detail of the following medical officers for this duty: Major WALTER REED, Surgeon U. S. A., Major VICTOR C. VAUGHAN, Division Surgeon U. S. V., Major EDWARD O. SHAKESPEARE, Brigade Surgeon U. S. V.

(Signed) GEO. M. STERNBERG,
Surgeon-General U. S. A.

In a paper read by Major Victor C. Vaughan, at the meeting of the Association of American Physicians held in Washington, D. C., early in May, which paper may be regarded as a preliminary report of the board, the following statements are made:

> We had not finished our first day's work at Camp Alger before we saw that one factor in the problem must be thoroughly dealt with before we could hope to reach a satisfactory solution. Fortunately, we promptly took steps to acquaint ourselves with this factor. It can not be denied that scientific medicine would have gained much had this factor been provided for at an earlier date. I refer to the question of scientific diagnosis of typhoid fever. In the division hospital at Camp Alger we found most of the febrile cases diagnosed as malarial. We believed that they were typhoid fever, but the surgeon in charge had diagnosed them malaria. We requested that competent men properly equipped for making blood examinations for the malarial plasmodium and the Widal test, should be sent to each of the larger camps. The surgeon-general acted promptly on this suggestion. Drs. Gray and Carroll, of the Army Medical Museum, went to Camp Alger for this purpose. Subsequently Dr. Carroll continued this work at Jacksonville. Dr. Dock, of the University of Michigan, made investigations at Chickamauga, Knoxville and Meade. Acting Asst.-Surg. Craig also spent several weeks in making blood examinations at Sternberg Hospital, Chickamauga Park. Dr. Curry, acting asst.-surg. at Fort Myer, has made many hundreds of blood examinations on sick soldiers sent to Camp Alger, Jacksonville and other camps. As a result of the work done by these men we are able to state that malaria was a very rare disease among those troops who remained in the United States.
>
> To summarize concerning the so called protracted malarias reported by the regimental surgeons, I will say that, in my opinion, practically all of these were typhoid fever, and the following are my reasons for this opinion:
>
> 1. The uneven distribution of the so called malaria among regiments encamped side by side gives cause to suspect that these cases were not malarial.
> 2. Some of the surgeons who failed to record their cases as typhoidal, state in their comments that typhoid fever prevailed in the regiments. . . .
> 3. The results of several hundred blood examinations showed that malaria was a very rare disease among the troops that remained in the United States.
> 4. Malaria as it exists in this country is easily controlled by mild doses of quinin. All the so called protracted malarias in our camps were treated with large doses of quinin and were not improved thereby. Consequently, we must conclude that the diagnosis given these cases was erroneous.
> 5. The mortality of the so called protracted malarias corresponds with the mortality of typhoid fever and furnishes most positive proof that these cases were not malarial.
>
> When we began to study the regimental sick reports we found that in order to obtain satisfactory information, we must endeavor to ascertain how many cases of typhoid fever there were in each regiment, and it soon became evident that the regimental sick reports did not give this information. Of two regiments in the same brigade one had more than 200 cases of typhoid fever, as shown by the regimental reports; while the other regiment on like evidence had only two cases, but the records of the second regiment show more than 200 cases of protracted malaria, and these furnished a mortality as high as that of the typhoid fever in the first regiment. For the reasons already given, we have included all the protracted malarias among our list of typhoids. It may be asked how long we have considered it necessary for a so-called malaria to run in order to make it a probable typhoid. In answer to this I will state that we have regarded all so-called malarias of ten days or more in duration as possible cases of typhoid fever. We think that the great rarity of true malaria and the readiness with which these rare cases have yielded to quinin, and the fact that quinin was so generally administered justifies us in this conclusion. Practically, however, the number of doubtful cases is exceedingly small.
>
> Typhoid fever was not only diagnosed malaria, but it was covered up by many other names. In one regiment the death-rate from indigestion amounted to 15 per cent. of the completed cases. In another regiment at Chickamauga dengue was a frequent diagnosis of many cases which undoubtedly were typhoid fever. . . .

The mode of origin and spread of typhoid fever in our camps is illustrated by a recent epidemic in the camp of the 8th Cavalry at Puerto Principe, Cuba. Major Walter Reed, surgeon U. S. A., was sent at my request to make a special investigation with reference to the origin of this epidemic. The following quotation from his report shows that, as usual, this epidemic had its origin in a failure to promptly recognize the disease, and a consequent failure to disinfect excreta and to move the troops from the infected camp site:

> The total number of cases of typhoid fever that had occurred to date was reported by the regimental medical officers as 103, with 24 deaths. Taking the average mortality of this disease in military camps, I am of the opinion that not less than 250 cases of typhoid fever occurred in the 8th Cavalry during the epidemic.
>
> To sum up briefly the occurrence of typhoid fever in the 8th Cavalry, I find that the disease was imported by this regiment into its Cuban camp, but was mistaken by the various medical officers on duty with the regiment for malarial remittent fever, until the epidemic had reached serious proportions; that it was clearly not due to water infection, but was transferred from the infected stools of patients to the food by means of flies, the conditions being especially favorable for this manner of dissemination by reason of the close proximity of the picket lines to mess-tents and latrines. I also find that the lax methods of disinfection of stools and clothing of patients in hospital were additional sources of infection.
>
> I find here a repetition of the same story of mistaken diagnosis with regard to the character of camp fevers that occurred in every military camp in the United States last summer, and the same absence of any evidence pointing to the contamination of the drinking water.

This failure to recognize typhoid fever during its earlier stages is an error of diagnosis which was made on a very extensive scale during the Civil War, has been made on an equally extensive scale by surgeons of the British army on duty with troops in India, and is still being made by a majority of the practitioners of medicine in certain parts of our own country.

The fact that enteric fever often has an intermittent or remittent character has been pointed out by many authors and was referred to in the writer's work on "Malaria and Malarial Diseases," published in 1884, as follows:

> Probably one of the most common mistakes in diagnosis, made in all parts of the world where malarial and enteric fevers are endemic, is that of calling an attack of fever, belonging to the last named category, remittent. This arises from the difficulties attending a differential diagnosis at the outset, and from the fact that having once made a diagnosis of remittent, the physician, even if convinced later that a mistake has been made, does not always feel willing to confess it. The case therefore appears in the mortality returns if it prove fatal, or in the statistic reports of disease, if made by an army or navy surgeon, as at first diagnosed. Quite as frequently, perhaps, the physician remains convinced that his first diagnosis was correct, inasmuch as the fever was decidedly remittent in type during the first week, and is puzzled to know why he did not succeed in arresting the progress of the disease by the free administration of quinin. By referring to the literature of the subject he will find ample support for the view that remittent fevers are likely to assume a continued form, and that patients suffering from malarial fevers of a remittent or continued type frequently fall into a typhoid condition. It is therefore, not surprising that mistakes are frequently made, especially when we remember that during the first week typhoid has a decidedly remittent character, quite independently of any malarial complication, and that the periodic fluctuations of the pyretic movement are still more pronounced when it occurs in a malarial subject, i.e., one who has suffered frequent attacks of periodic fever. Moreover, there are undoubtedly cases of enteric fever of so mild a form that all of the characters commonly relied upon for making a diagnosis are wanting, and these cases of typhoid poisoning may be complicated by the most decided evidences of malarial poisoning when the case occurs in a malarious region, or in an individual who has been recently exposed in such a region. . . .
>
> Dr. Geo. B. Wood, in his "Practice of Medicine," (ninth edition), commences his article on enteric fever as follows:
>
> "This is a common febrile affection, presenting a considerable diversity of symptoms, yet having, in general, a certain recog-

nizable character, and probably constituting, in all its forms, one and the same disease. It is the ordinary endemic fever of continental Europe, and of those portions of the United States where miasmatic or bilious fevers do not prevail, and is more or less mingled with the latter within their own special limits."

On another page Dr. Wood says:

"In some instances the disease presents no other symptoms than those of a moderate fever, with the characteristic phenomena of a slight diarrhea or tendency toward it, some meteorism of the abdomen, and perhaps a few rose-colored spots. The tongue remains soft, moist and whitish throughout; there is no vomiting, no considerable nervous disorder, no great prostration; in fine, none of those peculiar symptoms usually denominated typhus. The disease runs its course in two or three weeks, sometimes even in less time, and then subsides spontaneously, leaving no unpleasant effects. Such cases are often mistaken for miasmatic remittent, especially as they not infrequently have a daily remission and exacerbation of the febrile symptoms."

There can be no doubt that this mistake in diagnosis, which, according to Dr. Wood, was often made at the time he wrote—more than twenty-five years ago—is a very common one at the present day, notwithstanding the very definite statement of our highest medical authority that a fever presenting the characters above given is enteric, and not malarial. Within the scope of the writer's personal observation cases corresponding exactly with the description above given by Dr. Wood have been pronounced malarial by well informed physicians, in and out of the army, in various parts of the country.

It is true that the diagnosis is commonly made, not from a complete clinic history of a case, but during the first week of its progress, when an exact diagnosis is, no doubt, in many instances impossible.

Speaking of the so-called typho-malarial fever in the work above referred to, I say:

This term, coined by Dr. Woodward in 1862, served a good purpose during our Civil War, as under this heading a large number of cases of typhoid fever were included, which in its absence from our nosologic tables, would inevitably have fallen under the denomination "remittent fever." The term can not, however, be sustained upon scientific grounds, for typhomalarial fever is confessedly typhoid fever. . . .

Wilson, in his admirable "Treatise on the Continued Fevers,"[2] says in his article on "Enteric or Typhoid Fevers:"

"The atypic or imperfect forms constitute in most epidemics a large proportion of the cases, and when the attention of physicians is more closely turned to the study of enteric fever from an etiologic as well as from a clinic standpoint, they will be found, I believe, to be much more common where the disease is endemic than has usually been thought. The cases are partly due to mild infection, or to use an expression already employed in this work, in speaking of other fevers, the smallness of the dose of the fever producing principle; partly to an imperfect susceptibility on the part of the patient."

In a paper "On the Mild Forms of Continued Fever which Prevail in Washington,"[3] Dr. W. W. Johnston says:

"The facts properly classified and studied in their mutual relations lead inevitably to the conclusion that there is no justice, but positive error, in affixing the term 'malarial' to all negative and doubtful cases of continued fever, as is the habit in diagnosis whenever the malarial and typhoid disease appear side by side."

This failure to recognize typhoid fever, especially in its earlier stages and in its milder manifestations, is not peculiar to American physicians, but has occurred in all parts of the world where the two diseases prevail in the same area. In India for many years the British medical officers denied that typhoid fever existed as an endemic disease. In my work from which I have already quoted, I say:

The following quotations from the recent work of Sir Joseph Fayrer show the enormous mortality in India from "fever," ttributed in a general way to malaria, and the marked influnce on the death rate of that most potent factor, scarcity of ood, to which the adynamic character of malarial fevers is requently due in that populous country:

"Let us now speak of the extent to which fever prevails, and ome of the reasons why it does so. Official records afford roof that it causes an amount of sickness and mortality that is hardly credible, and in some years almost challenges comparison with the black death which ravaged Europe in the fourteenth century and destroyed a fourth part of the whole population. The registered deaths from all causes in India in the year 1879 were 4,975,042; cholera accounting for 270,552; smallpox accounting for 194,708; bowel complaints accounting for 250,173; fevers accounting for (out of a population of 187,105,833) 3,564,035.

"Let us look at the statistics of fever prevalence as illustrated by the sanitary reports and returns of hospitals in Calcutta.

"The records of six of the principal Calcutta hospitals show that the number of cases diagnosed as 'remittent fever' greatly exceeded the number recorded under the heading 'typhoid or enteric fever,' being in 1880, 926 of the former to 8 of the latter. Professor McConnell, who obtained the statistics for Fayrer, remarks: 'A comparison of these tables is very interesting, as showing the relative frequency of typhoid and remittent fever in various years, these being the two kinds of fever often so difficult during life to differentiate.'"

As an example of the same confusion in diagnosis on the continent of Europe, I again quote from my work on "Malaria and Malarial Diseases."

Naples fever.—Dr. Borelli,[4] professor of medicine in the University of Naples, has given a very interesting account of the so-called Naples fever, which by many is ascribed to malaria. According to this author, cases of true malarial infection, of well-pronounced type, are rare in the interior of Naples, whereas the so-called "Naples fever" prevails most extensively in the central portion of the city. The opinion is expressed that typhoid infection is at the root of this form of fever, which exhibits every grade of violence from the mild and abbreviated forms, to which the name febricula is given, to complete and relatively severe typhoid. In all of the varieties intermittence is a symptom repeatedly observed. Dr. Borelli says that if the febrile intermittence depended on a malarial element, the salts of quinin ought to cure it rapidly, yet they invariably fail, and remarks further that: "In paludal infection, when the fever assumes a quotidian type, each fresh access almost invariably begins during the forenoon; whereas in intermittent typhoid, the type, although quotidian, has an evening rhythm—that is to say, the exacerbation occurs in the afternoon or evening, so that in that respect it resembles all those spurious intermittent fevers which accompany the other diseases that I have mentioned—tuberculosis, caseous inflammation of the lungs, chronic inflammation of serous membranes, pyemia, etc." We may remark that, in general, all forms of septic poisoning give rise to fevers having an intermittent or remittent type.

The differential diagnosis of typhoid and malarial fevers can be made at an earlier date and with much greater certainty by a microscopic examination of the blood and the application of the Widal test than was practicable before the discovery of the malarial parasite and of the specific agglutinating action of blood serum from a typhoid case upon a culture of the bacillus. But these scientific studies are so recent that the profession generally still depends upon specially trained experts for their application to the diagnosis of doubtful cases. It is to be hoped, however, that the time is not far distant when every qualified practitioner of medicine will be prepared to apply these invaluable means of diagnosis.

Finally, the principal lessons to be derived from our recent experience may be stated as follows:

A trained medical corps hardly adequate for an army of 25,000 men can not control the sanitary situation when this army is quickly expanded to 250,000. Physicians and surgeons from civil life, however well qualified professionally, as a rule, are not prepared to assume the responsibilities of medical officers charged with administrative duties and the sanitary supervision of camps. The proper performance of such duties can not be expected from a physician without military training or experience, no matter how distinguished a position he may have held in civil life.

Courage and patriotism on the part of line officers and enlisted men can not take the place of knowledge and experience; new levies of troops are, as a rule, ignorant of the first principles of camp sanitation, and reckless as to the consequences of their neglect of prescribed sanitary regulations. Therefore, training and discipline are essential factors in the preservation of the health of soldiers in garrison or in the field.

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[2] James C. Wilson: A Treatise on the Continued Fevers. New York, 881.

[3] American Journal Medical Sciences, Philadelphia, October, 1882.

[4] Medical Times and Gazette, London, July 8, 1876.

The value of the aphorism, "in time of peace prepare for war," has received additional support. This preparation should include a corps of trained medical officers larger than is absolutely necessary for the army on a peace basis, and systematic instruction in military medicine and hygiene for the medical officers of the national guard as well as for those of the regular army; also instruction of line officers in the elements of hygiene and especially in camp sanitation. It should also include the establishment of camping-grounds in various parts of the country, having an ample supply of pure water, a proper system of sewers, etc. If our volunteers could have been assembled in such camps during the late war a saving in lives and money would have resulted which would without doubt have demonstrated the economy of such preparation for war in time of peace.

SURGERY OF THE TRACHEA.*

TWO UNUSUAL CASES.

BY W. S. JONES, M.D.,
Clinic Professor of Laryngology, Jefferson Medical College, and
W. W. KEEN, M.D.,
Professor of the Principles of Surgery, and of Clinic Surgery, Jefferson Medical College.
PHILADELPHIA.

Case 1.—ATTEMPTED SUICIDE BY CUT THROAT FOLLOWED BY COMPLETE CLOSURE OF THE TRACHEA BY A DIAPHRAGM ABOVE THE CANULA, PERSISTING FOR THIRTEEN MONTHS; BREATHING THROUGH THE LARYNX AND SPEECH ENTIRELY IMPOSSIBLE. OPERATION: DISSECTION OF THE DIAPHRAGM; SUTURE OF THE TRACHEA; RESTORATION OF NORMAL BREATHING AND VOICE.

History by Dr. Jones.[1]—J. W., 30 years of age, a laborer, on Nov. 12, 1896, in a fit of despondency, attempted suicide by making a large cut in his throat with a penknife. He penetrated the trachea about the second or third ring, twisted the blade about and cut up and down an inch or more. He was taken to a hospital, where the wound was dressed, but not closed, nor was a tube inserted. One week later it was noticed that he could not breathe through the mouth when the wound was closed by pressure. It was deemed necessary to introduce a tracheotomy-tube; an anesthetic was given him, the tube inserted, and the wound stitched around it. Two weeks later, the surgeon attempted to pass a tube through the trachea and larynx from the tracheal wound, but did not succeed, the part being shut off. He was then sent home to allow the wound to heal before further operative interference was instituted. Nothing further, however, was done, and he was sent to me. The condition of the larynx was as follows: The right side was drawn slightly downward, the right vocal band was in the median line and immovable, being fixed by scar tissue beneath it; the left side was normal in situation, the cord was freely movable and could be brought to the middle line perfectly. The entire left side was free for three-fourths of an inch below the vocal band, while the right side had a band of cicatricial tissue just below the cord, which extended downward the same distance, and then spread out to the other side, completely occluding the trachea. The surface of the membrane was smooth and the lowest point was near the center. From below, the trachea was entirely closed above the tube, and the cicatrix was about one-half inch in thickness.

Operation by Dr. Keen.—When I first saw the man I was able easily to verify the facts observed by Dr. Jones. The patient had never breathed through his larynx nor had he spoken a word since the accident. He was still wearing a tracheotomy-tube. On removing this, one could look into the trachea very readily and see that the diaphragm observed by the laryngoscope below the glottis was not a horizontal one, but curved (Fig. 1), precisely fitting the curve of the tracheotomy-tube. In breathing, all the air passed through the tube. Naturally Dr. Jones and I first discussed the question whether this membrane could be punctured by an instrument passed through the glottis. If so, the opening could then be dilated and after the caliber of the trachea was restored, the tracheotomy opening could be closed. After considering this method of operation, we decided that it would be working too much in the dark in too narrow a space, and that it would be better to attack the diaphragm from in front. The result proved that this was a wise precaution.

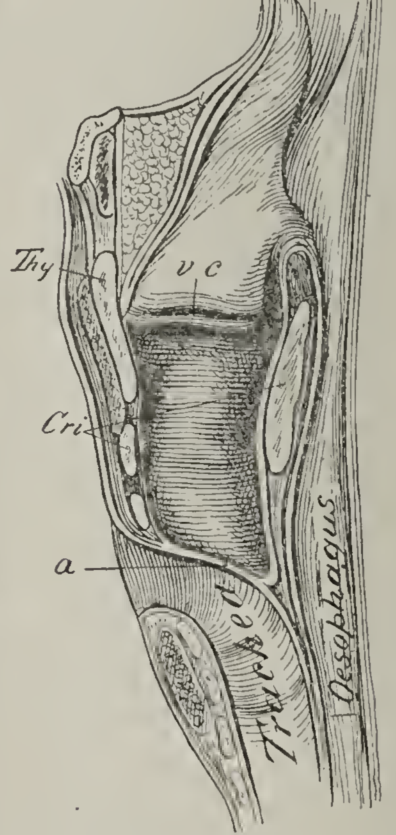

Fig. 1.—The apparent relation of the diaphragm (*Thy.*). Thyroid cartilage; (*Cri.*) cricoid; (*v.c.*) vocal chords; (*a*) the site at which I supposed an incision would open into the larynx and enable me to dissect away the diaphragm.

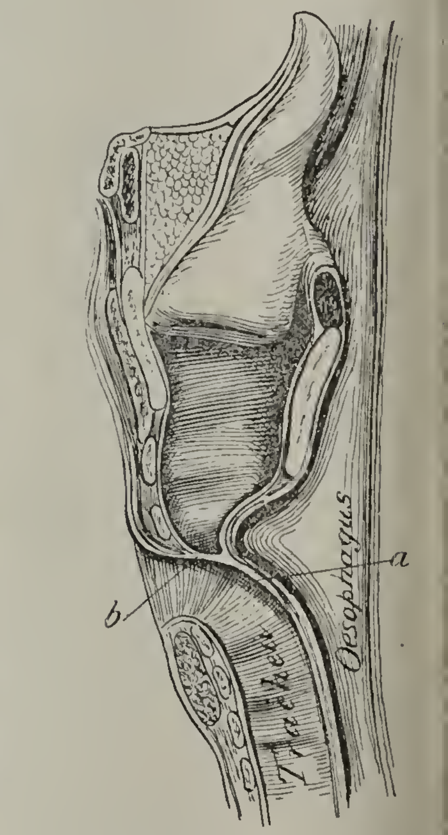

Fig. 2.—Showing the actual relations of the diaphragm and the forward displacement of the anterior wall of the esophagus. (*a*) The opening first made by error into the esophagus and at once closed; (*b*) the second opening entering the larynx, from which I dissected away the diaphragm.

The operation was performed on Dec. 15, 1897. I made an incision in the middle line from the tracheotomy opening up to the cricoid cartilage. This incision was very cautiously carried downward in the middle line of the obliquely curved diaphragm, and a little above the middle of the incision in the diaphragm a small opening was quickly made. (Fig. 1, *a*). Just at that moment, however, he vomited, and through the opening there escaped frothy mucus tinged with bile. This showed that instead of opening through the diaphragm into the upper air-passage my opening communicated with the esophagus. It was clear, therefore, that the esophagus, by contraction of the adhesions, had been drawn forward and that my incision was at *a* in Fig. 2. It was important, therefore, to close this very small opening at once. I dissected back the mucous membrane from its borders and then closed it under the mucous membrane, as if it had been an opening in the intestine, with two series of Lembert sutures and then sutured the mucous membrane over them. I next made another small opening about 7 or 8 mm. above it, anterior to the opening which I had just made into the esophagus (Fig. 2, *b*), and found to my satisfaction that I had opened into the upper air-passage. A pair of curved hemostatic forceps passed into the mouth readily protruded through the opening in the diaphragm. I now dissected out the diaphragm completely. As soon as this was done the anterior wall of the esophagus, which had been drawn forward by the contraction, fell backward into its normal position and left in front of it a trachea completely divided into an upper and a lower portion (Fig. 3). The two ends of the trachea vere now sutured together by four sutures on each ide and two posteriorly. I found that the lower trahea was easily approximated to the upper, having falen downward partly by its weight and partly by reraction, as if it were a spiral spring. The small nterior opening left was closed by three sutures. All ie sutures were of silk. The sutures uniting the two nds of the trachea were passed completely through ie thickness of the trachea, except posteriorly, where was careful not to penetrate the esophagus. As I as fearful that there might be swelling, which would iterfere with respiration and destroy the good results ius far obtained, or that some unforeseen complicaon might arise in so unusual a case, I continued my icision in the trachea below the site of the old traeotomy opening, and inserted the tube into the achea 2 cm. lower down. This made sure of easy eathing while the cicatrization of the recent tracheal ound above it was going on. If, then, the upper part of the operation-wound healed, the simple removal of the tracheotomy-tube at a suitable time would be followed by complete spontaneous closure of the opening

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*Presented to the Section on Surgery and Anatomy, at the Fiftieth Annual Meeting of the American Medical Association, held at Columbus, Ohio, June 6-9, 1899.

[1] From a former report in the Journal, March 12, 1898, p. 697.

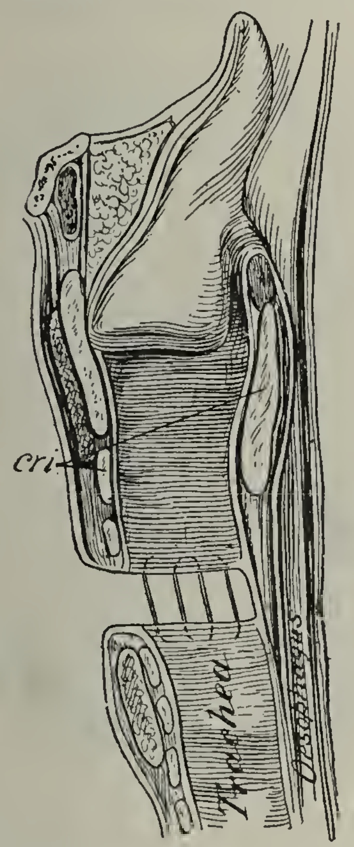

Fig. 3.—Showing the anterior wall of the esophagus fallen back into s normal position, and the complete severance of the trachea when the iaphragm had been dissected away. The lateral sutures uniting the rachea are indicated.

The entire operation was done with the patient in the Trendelenburg posture to prevent aspiration of wound fluids into the lungs, and after he was placed in bed, the foot of the bed was raised about eighteen inches. He lay without a pillow for the same reason. At the end of three days this inclined posture was abandoned. The nose and also the throat were sprayed every two hours with a boric acid solution, as they and the tracheotomy opening had been for two days before the operation. For three days he was fed entirely by the rectum in order to prevent motion of the larynx in deglutition. His temperature only once exceeded 100. After three days there was so little soreness that not only was his bed made level, but he was fed by the mouth, and on the fourth day he was allowed to be out of bed. On the sixth day I removed the tracheotomy-tube and found that he could breathe freely and speak audibly. I did not, therefore, replace the tube. The only dressing applied to the wound was gauze moistened with a bichlorid solution, 1-2000, sterile gauze being packed gently around the tracheotomy-tube and covering the opening of the tube. After the sixth day a simple dry gauze dressing with an apron of gauze hanging down over the second tracheotomy opening (from which the tube had already been removed, so as to protect it from dust, was used. The operation wound healed by first intention throughout. The tracheotomy wound, as soon as the tube was removed, gradually contracted and was entirely closed at the end of six weeks.

The sutures in the wound never gave him the slightest trouble. Only one of them was ever observed by the laryngoscope. His voice was slightly hoarse, but not to such a degree but that one would think it was his normal speech.

The present case, so far as we have been able to learn, is almost if not quite unique. We have seen a number of cut throats, but in those that recovered we have never seen any such membrane form. It must have been a result of the contraction following the extensive laceration, which drew the anterior wall of the esophagus over the curved upper surface of the tracheotomy-tube, for it exactly fitted its contour. Had an attempt been made to open it from above by any sharp cutting instrument, there would have been great danger of entering the esophagus, and one would not have had the facility, or even the opportunity, of closing it with ease. It has occurred to us that possibly if a blunt instrument, like a uterine sound, had been passed by the mouth between the vocal bands and made to bulge the membrane from above, one might have cut with a little more security and certainty through the diaphragm. On the whole, we are inclined to think that the mode of operation, by attacking it from the outside rather than by an intralaryngeal operation, was a fortunate one.

In the suicidal attempt the right recurrent laryngeal nerve was probably divided, or at least wounded. This accounts for the paralysis of the right vocal chord, which persists, and has resulted in a moderate hoarseness. At the present time, seventeen months after operation, his voice is almost normal and nearly free from hoarseness. The right chord is still paralyzed, the left freely movable; a slight narrowing of the lumen of the trachea at the site of the operation is observed, but not appreciably sufficient to obstruct the breathing.

Föderl has a very excellent paper on resection and suture of the trachea, in which a number of cases are reported, but none of them at all resemble this. The bayonet-resection of Colley was not adopted, since it was found that the parts could be so readily approximated and the adjustment seemed to be perfect. Silk sutures were used, and yet reluctantly. But we thought that in order to get the narrow edges of the upper and the lower portions of the trachea to unite satisfactorily they must be held in place for a considerable time, which catgut would not do. Probably silk would not only hold them in position for a sufficient length of time to secure firm union, but if any of the sutures cut or ulcerated their way through into the trachea they would be readily expectorated. The result more than justified our hopes, for the silk was scarcely any source of irritation.[3]

Case 2.—Stricture of the trachea; successful operation by dividing the trachea longitudinally, reflecting the mucous membrane, excision of the stricture, and immediate suture of entire wound; union by first intention.

History by Dr. Jones.—Miss E. K., aged 21 years, of Smithville, N. J. Her parents, one brother and one sister are living and in good health. At the age of 7 she had measles and chickenpox, malaria at 8, and whooping-cough at 9. Since having the latter she has had more or less catarrhal inflammation of the nose and throat. Her menstruation began when she was 14, and is regular. In July, 1895, she sang during the evening, in open air. The following morning there was a little soreness on both sides of the throat at the base of the tongue. In the course of a few days the pain centered at a point immediately above the sternum. There was a tickling sensation which caused paroxysms of coughing. Her condition remained about the same for a month, when, after a visit of two weeks to the seashore, she returned feeling perfectly well. In the autumn of 1896, she noticed a whistling sound in the throat after slight exercise. From November, 1896, to January, 1897, she was kept on a strict milk diet to remedy an indigestion from which she suffered, her general health being in the meantime rather poor. In the spring of 1897, while attending a ball, she experienced great difficulty in breathing, after dancing. Ever since that time, slight exercise has caused considerable dyspnea. In December, 1897, she had an attack resembling spasmodic croup. After this the pain in her throat became more severe, and she had considerable expectoration, the sputa being white and frothy, but containing dark specks. In February, 1899, during the blizzard, she again had an attack of what was supposed to be spasmodic, croup. From that time till now she has been suffering constantly from more or less dyspnea, especially marked on exercising. Even quiet respiration produces a slight sound, but after exercising, her breathing is distinctly audible and suggests stenosis of the air-passages at some point.

At this time, she consulted Dr. Jones, who immediately discovered the cause of her trouble. The laryngoscopic examination showed, at a short distance below the vocal bands, a small, nearly round opening (Fig. 4), the diameter of which was about half the distance of the vocal bands from each other. Dr. Jones made several attempts at dilatation, but found that the throat was so irritable that the patient could not endure the procedure. In view of this and the very long treatment which it would require, which was very inconvenient for her, as she did not live in the city, he asked Dr. Keen to see her in consultation with a view to operation. After a careful examination, we reached the conclusion that the stenosis was but a little distance below the cricoid and extended over somewhat more than one ring.

Operation by Dr. Keen.—On March 31, 1899, I made a vertical incision from the middle of the thyroid nearly to the sternum, and was extremely careful to see that every bleeding vessel was tied before opening the trachea. The patient first took chloroform in the horizontal position. As soon as I was ready to open the trachea, I placed her in the Trendelenburg position and then split the trachea longitudinally for about six or seven rings, but found that to get free access to the stricture, it was necessary to split the cricoid. I then placed in the lower part of the incision in the trachea a tracheotomy-tube, and connected it with the chloroform inhaler by means of the inner tube of a Hahn tampon-canula 12 mm. in diameter, fastening the tube in place by disinfected tapes. The outer sponge-covered portion of the Hahn canula was not used. I then found that the upper border of the stricture was at the third tracheal cartilage and extended over the third and fourth and to the upper border of the fifth. The somewhat puckered appearance of the mucous membrane suggested that it might be the result of a local ulcer, though her history scarcely furnished a sufficient basis for such a belief.

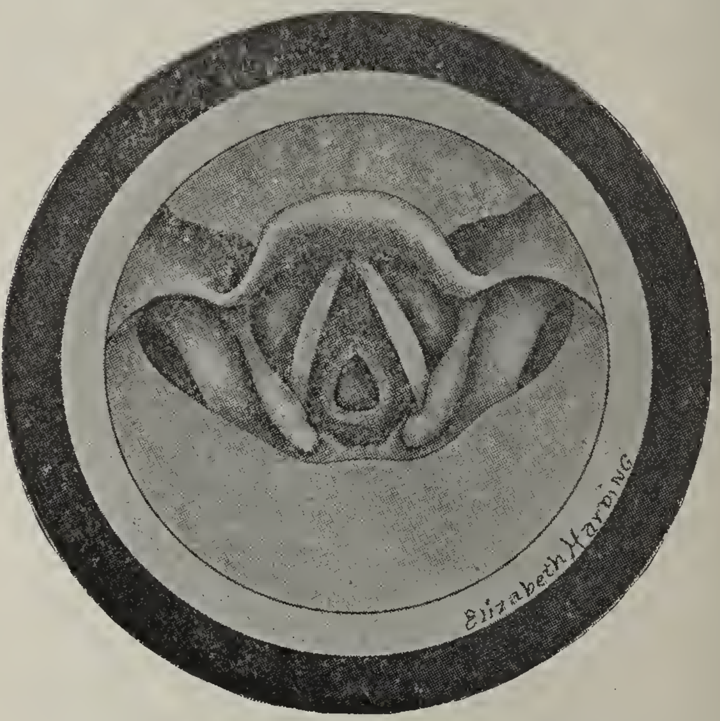

Fig. 4.—Appearance of the stricture in the laryngeal mirror.

I at first thought that I might do a Heineke-Mikulicz operation, but on making the incision and endeavoring to draw the sides apart, I found that the resistance of the submucous tissue was too great. Accordingly I dissected back the mucous membrane as two flaps upward and downward over all the area covered by the stricture. I next dissected out the fibrous tissue. By an unfortunate accident this was lost and so no microscopic examination could be made. During this procedure the sides of the trachea were held apart partly by narrow retractors and partly by two silk sutures, which were held by assistants. These silk retractors served especially well. The hemorrhage was not severe, but was troublesome by obscuring the field of operation. It was sponged away with small pads of gauze. One vessel on the wall between the trachea and the esophagus spurted to such an extent that I tied it with catgut. This I afterward removed and twisted the vessel so as not to have the projection of the knot. which by bulging forward the mucous membrane might interfere with respiration. The wall of the esophagus was exposed at one point. I next sutured the mucous membrane with silk, but in the middle line I could not bring it quite together. A little gap was left there to granulate. The chloroform tube was now removed, and the trachea, which had been already partially sutured, was completely closed by catgut stitches passing through the perichondrium and pre-tracheal tissues. The skin was then closed with silkworm gut. The whole operation required about an hour and twenty minutes.

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[3] The following papers are of interest in connection with case:
Föderl: Wien. Klin. Woch., 1896, p. 1258.
Fischer: Deutsche Chir., Bd. xxxiv.
Noll: Deutsche Zeitschr. f. Chir., Bd. xxvii.
Schüller: Ibid., Bd. xii.
Colley: Ibid., Bd. xi, 150.
Gussenbauer: Sitz. k. k. Gesellschaft der Aertze in Wien, Jan. 22, 1875.
v. Eiselberg: Deutsche Med. Woch., 1896, No. 22.

Her temperature on the afternoon of the operation rose to 100.4 F. After that it was never above 100, and by the second day had reached 99. The external sutures were removed a week after the operation, primary union having taken place without any untoward result.

The foot of the bed was kept elevated for forty-eight hours. On the third day after the operation she was on the lounge; on the fourth day she sat up in a rocking-chair, and after that got quickly about. She was perfectly able to travel at the end of a week, but in consequence of the fear of possible complications, she remained in the hospital four days longer, leaving on the eleventh day. At this time Dr. Jones and I both examined her throat and found its lumen entirely normal. One silk suture could be seen partially loose when she went home. This annoyed her very little indeed, there being almost no cough. In fact, excepting for the soreness in swallowing, she suffered almost no pain whatever. For two days she was nourished by the rectum and then small quantities of liquid food were given her. On the fifth day she was able to take solid food. Her voice was never in the least affected.

Laryngoscopic examination on May 23, 1899, two months after operation, showed slight redness of the vocal chords. The tracheal stricture showed no tendency to return. Her voice and breathing are normal.

The method adopted in attacking this possibly unique case—for we have not found any similar one recorded—was most satisfactory. The easy access to the stricture; the dissection of the mucous membrane from the surface of the stricture, and its replacement and suture; the avoidance of any tracheotomy; the advantages of the Trendelenburg posture, and the primary union obtained, are the points upon which we would lay the most stress.

THE managers of the large Mount Sinai (Hebrew) Hospital, Lexington Avenue, corner of Sixty-sixth Street, New York City, have decided to move farther up town, and some time since purchased a site consisting of thirty city lots, between Fifth and Madison avenues and One Hundredth and One Hundred and First Streets. The cost of the land was $400,000, and the estimated expense of the new buildings is $1,000,000.

CHRONIC MIDDLE-EAR SUPPURATION.*

WITH PERMANENT RETROAURICULAR OPENING; RADICAL OPERATION.

BY E. B. GLEASON, M.D.
CLINIC PROFESSOR OF OTOLOGY IN THE MEDICO-CHIRURGICAL COLLEGE. PHILADELPHIA.

I present two cases that have been operated on, one two and a half, the other one and a half weeks ago, by the method of Professor Passow of Heidelburg. In each the healing process is far advanced and there is now little doubt of a speedy cure of the chronic middle-ear suppuration for which the operation was done. The cases are of special interest because they represent the first operations of this kind that have been done in Philadelphia.

In Passow's operation the radical mastoid operation is performed in the usual manner as far as the bone chiseling is concerned. A right-angled slit is then made in the cartilaginous meatus and the quadrilateral flap so formed is stitched into the bone cavity to form a skin covering for its ceiling. A large quadrilateral flap is dissected up from the skin behind the auricle and turned into the bone cavity to form a skin lining for its floor. When these flaps have adhered firmly in their new position and the parts have become comparatively dry, skin grafts are placed on the granulations between the flaps, and under favorable circumstances the whole middle ear with surprising quickness becomes a skin-lined non-secreting cavity. The healthy condition of this skin-lined cavity, its freedom from eczema and dermatitis, are maintained by the free access of air which the permanent retroauricular opening secures. If the object of the radical mastoid operation be to secure such a skin-lined cavity, it would seem that Passow's method would secure it most speedily and certainly.

While the average time required for a cure after the radical operation as performed by various operators is three to four months, the average time required by Passow's method is only eleven weeks, and in a percentage of his cases a cure resulted within four weeks. After the radical operation relapses are by no means unknown, and the attendance of an aurist is required to bring about a cessation of the discharge. Should a relapse occur in a case operated on according to Passow's method, the patient or his friends can readily keep the parts clean and apply sedative or astringent powders.

The objection to the operation is the disfigurement produced by a permanent opening. The opening is, however, not conspicuous, as it contracts during the after-treatment and becomes slit-like in character; only oval or round by pulling the auricle forward. It is possible at any time to close the opening by a simple plastic operation if its presence is disagreeable.

The advantages of the operation are that at all times free access is secured to the middle ear, all parts of which are plainly in view. Until the parts have epidermized, each day after a radical mastoid operation is a critic one, for exuberant granulations may form and adhesions and contractions occur that destroy, to a greater or less extent, the benefit to be derived from the procedure. With a posterior opening such processes are always easily visible and the adhesions can readily be broken down. If necessary, the curette, chromic acid or pressure may be used to bring about the desired result. The great advantage of the operation is, however, the free access of air which favors rapid evaporation and prevents the parts being macerated by the secretions which occur from even normal skins and mucous membranes. Such dried secretions and also exfoliations of epidermis and dust can readily be washed or wiped away by the patient or his friends and thus the parts kept in a healthy condition. To maintain healthy skin on any part of the body, freedom from filth and moisture is absolutely necessary.

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*Read before the Section of Otology and Laryngology, Philadelphia College of Physicians, April 19, 1899.

After a simple mastoid operation, rendered necessary because of caries of the mastoid resulting from acute suppuration of the middle ear, a radical cure with almost or complete restoration of normal hearing may be expected. When, however, mastoiditis occurs in the course of chronic suppuration, the results of a simple mastoid operation are far otherwise. In some cases an apparent cure of the tympanic suppuration is brought about and may persist for years; but under such circumstances the attic and mastoid antrum gradually fill up with cholesteatomatous masses and ultimately, perhaps years after the first, a second mastoid operation is required. Should this consist of a simple mastoid operation, the same process is repeated and a third operation is required; but nature ultimately establishes a cure by means of a permanent retroauricular opening. Through this opening the parts are readily cleansed should a relapse occur, and a cessation of the discharge occurs within a few days or weeks. At the present time there are two or three cases with a history similar to the above, and one with a permanent retroauricular opening resulting from an old mastoiditis that was not operated, that occasionally come to me. If these cases keep their middle ears clean, suppuration does not occur, but if accumulations of dried secretions and epidermis are allowed to accumulate for a year or more suppuration ultimately results, but is very readily cured. It was my experience in the treatment of these cases that first called my attention to the great practical advantages of a permanent retroauricular opening.

For the same reason that a simple mastoid operation in chronic suppuration is usually little more than a placebo as far as a permanent cure of the suppuration is concerned, the same remarks may be applied to the simple removal of the remains of the drumhead and ossicles. If, as I believe, cholesteatomatous masses are the great cause of polypi, necrosed ossicles and continued suppuration, then the relapses into the former condition after a simple removal of the ossicles must be very numerous and an event confidently to be expected. The procedure no doubt does good in enabling the aurist to more readily remove accumulations from the attic as they occur from time to time and thus bring about a more speedy cure when a relapse does occur. If removal of the scute is practiced in addition to removal of the ossicles, the procedure is certainly much more valuable in the treatment of chronic suppuration but still scarcely adequate or likely to be permanently successful. To a less degree these remarks apply to the radical mastoid operation without permanent retroauricular opening. The patient is still unable to keep his middle ear clean and must from time to time apply to the aurist.

The history of the cases is, briefly, as follows: The man had had his ossicles and a large portion of his scute removed in Leicester two years ago. The otorrhea never ceased, although better after the operation. Last fall he came to me with the request that I do a radical mastoid operation. Instead of complying immediately I treated the case for four or five months, but did not succeed in curing the discharge. At the operation the antrum was found to contain cholesteatoma and granulations. The woman was operated on for mastoiditis one year ago last October, in Leeds, England. After the operation she wore a gold-wire tube for six weeks. It became necessary to do a second mastoid operation the following March. Her chronic discharge was not cured as the result of either of these simple mastoid operations. At my operation the antrum was found packed with cholesteatomatous material.

NASAL BACTERIA.*

THE RELATION THEY BEAR TO DISEASE.

BY D. BRADEN KYLE, M.D.
Clinic Professor of Laryngology and Rhinology in the Jefferson Medical College; Consulting Laryngologist, Rhinologist and Otologist to St. Agnes' Hospital, Etc.
PHILADELPHIA.

Within the past few years there has been considerable investigation as to the import of bacteria present within the nasal chambers, and the relation of such bacteria as causal factors in disease processes. Opinions differ as to the presence of pathogenic bacteria in the normal nasal secretions and normal membranes. This raises the question as to what constitutes a normal nasal mucous membrane. While the membrane may be normal as to its function, yet the construction of the nasal cavity may be such as to permit of the accumulation of normal secretion within that cavity. This accumulated normal secretion forms a suitable nidus for the lodgment of dust and other irritating materials, which would soon cause local alteration, besides perverting secretion and being nutrient media for the development of bacteria, which are constantly being inhaled and find lodgment in the localized irritated areas. Inoculations from a nasal cavity, in which, as regards structure, anatomic relations, and physiologic functions, the tissue is what is called normal, in the majority of cases will show bacteria present; however, unless the normal secretion has been retained and has undergone some chemic change, it does not form a suitable nidus or medium for the development of bacteria. Another important question which arises is the pathogenesis of the bacteria present. Although of the variety known as pathogenic, they may be non-virulent, and if the mucous membrane is not subjected to some irritation giving rise to lessened physiologic resistance of the epithelial cells, these bacteria do not find a nidus for proliferation and are practically harmless. From my own investigations,[1] which include over two hundred inoculations, I have been unable to draw any definite conclusions; however, the surroundings of the individuals have much to do with the presence or absence of bacteria, as well as the variety, found within the nasal chambers. For example, inoculations made from nasal cavities which presented normal appearances, made under different surroundings, gave entirely different results. Repeated inoculations were made from the same individual, from the nasal mucous membrane, on rising in the morning, after staying in an office or room for several hours, after having been exposed to the street dust, and after having attended places of amusement. The results were as varied as though the experiments had been carried on in different individuals. Again, inoculations made from individuals having various forms of catarrhal inflammations of the nasal mucous membrane gave the same varied result; however, in many instances I believe that the bacteria bore an important relation to the inflammatory conditions present, but that their etiologic relation was secondary and not causal, and that before the bacteria found access to the mucous membrane there was some alteration in the epithelial surface, brought about either by external or internal irritants, which lowered the physiologic resistance of the individual epithelial cells. Besides pathogenic bacteria, there are associated varieties of the blastomycetes, which, while not possessing any pathogenic properties, are capable of producing irritation and admit of absorption of saprophytic products. If the nostril is thoroughly cleansed, under the strictest antiseptic precautions, and a pledget of sterilized antiseptic cotton placed within the nose, which in turn is protected by antiseptic measures, in the majority of cases the secreted mucus will be free from bacteria; but from my own experience it is almost impossible to render the mucous membrane thoroughly aseptic. As to the antiseptic properties of the nasal mucus, I am willing to grant that in certain individuals the secretion possesses such properties, depending on the chemic reaction of the secretions—which differs in individuals—and it is largely controlled by the general health of the individual and by constitutional diathesis. In persons with irritated mucous membranes, and with excoriations about the nasal orifice, in which from urinary examination and from testing the nasal secretions, it was found to be decidedly acid, the bacteria present were non-virulent, and where growths were obtained on blood serum, they were feeble and slow of development. This can be explained by the fact that, with few exceptions, pathogenic bacteria require alkaline media. In diseases of the nasal cavities, in which there is accumulation of secretion, as is the case in the various forms of atrophic rhinitis, the bacteriologic examinations present such a variety of bacteria that no special one can be assigned as an etiologic factor. Besides, there are always present the bacteria of decomposition—the saprophytic bacteria; however, in such conditions it must be remembered that the products of these germs are constantly being absorbed from the mucous membrane surfaces, and in many cases may account for some of the ill effects on the general health of the individual, nearly always present in the advanced stage of disease. While the bacteria present may have largely lost their virulent properties, yet with suitable chemic constituents and reaction of the secretion, proliferation of the germ is favored and its normal virulence regained. Accumulated secretion in the nasopharynx and pharynx during sleep is frequently unconsciously swallowed by the patient. This infected material may bring about gastric disturbances, as is shown by the frequent association of gastric lesions with those of the upper respiratory tract; however, this does not explain many of the associated conditions, but often, when such apparent relation exists, the local lesions were induced by and dependent upon some constitutional condition which brought about the lowered resistance on the part of the local epithelial structures.

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*Read before the Section on Otology and Laryngology of the College of Physicians, Philadelphia, April 19, 1899.

[1] I have omitted from this paper, on account of the lack of space, the laboratory technic and experiments necessitated by these investigations.

The bacteria found present on the nasal mucous membranes and in the secretion include many of the pathogenic cocci and bacilli, besides many unclassified non-pathogenic germs. The bacteria most commonly found are the staphylococci or micrococci, especially the staphylococcus pyogenes aureus, citreus, and albus, the micrococcus pneumoniæ (Fränkel), bacillus tuberculosis, Friedlander's bacillus, Klebs-Löffler bacillus, Von Hoffman's bacillus (bacillus of pseudodiphtheria), the bacillus fetidus, Löwenberg's ozena diplococcus, and also various forms of sarcina. Quite frequently the streptococcus is present, although in the majority of instances it was associated with an acute inflammatory process. With this exception, frequently the isolated bacteria were not associated with any special inflammatory condition. The bacillus of diphtheria was found on the apparently healthy mucous membrane, after the individual had been exposed by passing through the diphtheritic wards in the hospital, although there was no associated inflammatory process. Frequently the bacillus of tuberculosis was found present after the individual had been exposed to dusty air of the street, the inoculations being made from the nasal mucous membrane after one-half hour's exposure to the dust. While I do not mean to belittle the importance of bacteriologic investigation, nor the important relation of bacteria to disease, yet I do believe that, in a great many cases of lesions of the mucous membrane of the upper respiratory tract, the part played by the bacteria is purely secondary. If the anatomic structure of the nasal cavities is such as to permit of accumulation of secretions and dust, or the physiologic resistance of the membrane is lowered by constitutional diatheses or organic lesions, the altered and accumulated secretion forms a suitable nidus for bacterial proliferation.

While the virulency of all the germs found present was not tested, yet this was done in a sufficient number of cases to warrant conclusions. Inoculations were made from the anterior nasal chambers, from all parts of the surface from the mucocutaneous junction to the nasopharynx. Fewer germs were found on the convex turbinal surface, especially the middle turbinal, than any other portion of the cavity. More bacteria were found in the atrophic rhinitis, due to contraction, than in any other diseased tissue. This is no doubt due to the fact that the accumulated secretions within the nasal cavity form a suitable nidus for bacterial proliferation. While the results obtained are almost directly opposite to those obtained by Thomson and Hewlett, or Würtz and Lermoyez, yet they to a great extent confirm the results obtained by Park and Wright.

ARM-TO-ARM VACCINATION.*

NASOPHARYNGEAL SYPHILIS A RESULT THEREOF.

BY P. S. DONNELLAN, M.D.
LARYNGOLOGIST TO ST. AGNES' HOSPITAL,
PHILADELPHIA.

The extreme rarity of the transmission of syphilis by humanized lymph, as well as the clinic interest in this case, has induced me to report it. The patient was referred to my clinic at St. Agnes' Hospital on Feb. 20, 1899, by Dr. John P. Mulrenan, to whom I am indebted for the following history:

Charles S. was born April 4, 1885, of healthy parents, his father being 22 years old and his mother 19 at the time of his birth. He was a perfectly healthy child and passed safely through the minor ailments of infancy and childhood until he was 5 years old, when he was vaccinated on the right arm by arm-to-arm vaccination. A few months later the submaxillary gland on the same side became enlarged and was poulticed but did not suppurate. In the course of six months the glandular enlargement gradually diminished in size until it was hardly noticeable, but after a brief interval of quiescence, it resumed its previous size and became quite indurated. The enlarged gland was then operated on, a bloody serum but not any pus exuding from the incision, which persistently refused to heal, and gradually increased in size until it became several inches wide and so deep that the inner structures of the neck were quite visible. The boy was then taken to St. Agnes' Hospital where the true character of the disease was recognized, and after three months of local and internal antispecific medication, the wound healed, leaving a serpiginous cicatrix quite characteristic of syphilitic disease.

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*Read before the Section on Otology and Laryngylogy, College of Physicians of Philadelphia, April 19, 1899.

When he was 9 years of age his parents noticed that he had a peculiarly offensive discharge from both nostrils and from the nasopharynx. Two spots of ulceration appeared on the soft palate above the uvula and perforation resulted. The boy's nose being continually obstructed, his father, who appears to have been somewhat of an amateur surgeon, endeavored to practice one of the fundamental principles of surgery, and having found the cause of the nasal obstruction he proceeded to remove it with a pair of tweezers. This was accomplished with great difficulty, and the removed obstruction was described as resembling on a small scale the wish-bone of a chicken. Two narrow strips of tissue left after the perforation of the soft palate were also removed in the hope of improving the condition of the boy's voice, which had become quite husky.

At the time of his first visit to my clinic the following note was made: The patient is undersized for his age and presents a prematurely old appearance. His nose has the "saddle-shaped" deformity, the nostrils looking directly forward and the bridge deformed. Two horizontal scars are seen on the right side of the neck and are the cicatrices of the submaxillary abscess from which he suffered in his sixth year. His speaking voice is harsh and rasping in character. Examination of the nasopharynx shows loss of both nasal bones with arrest of development of the cartilaginous septum. The turbinals are normal in appearance. There is nothing characteristic in the shape of the teeth nor is any abnormality noticed on the tongue or buccal mucous membrane. The soft palate is partially destroyed and no trace of the uvula remains, the free edge of the remnant of the palate being represented by a crescentic outline. The mucous membrane of the fauces and postpharynx is hypertrophied and reddened. The epiglottis presents the appearance of chronic hyperemia; the arytenoids and ventricular band are similarly affected. The cords are thickened and pinkish in color, and are only imperfectly approximated during phonation. Careful inspection fails to reveal the presence of any cicatrices or spots of ulceration on the cords or laryngeal mucous membrane.

From the history of the case and the clinic appearance of the nasopharynx and larynx, a diagnosis of accidental syphilis caused by arm-to-arm vaccination was made.

Vaccinal syphilis may occur in a variety of ways. The chief source of infection is in the virus taken from one suffering from syphilis. Inoculation may occur through infected lancets, dressings or vaccin points, or by applying the saliva from a syphilitic to the vaccin pustule for the purpose of softening it. In an editorial on "Syphilis and Vaccination," in the *Phila. Med. Jour.*, April 15, the well-established fact is emphasized that every attempt at the direct inoculation of lower animals with syphilis has been a failure, and the contention is made that if the beasts can not have syphilis, it follows they can not transmit it. The use of bovine vaccination when performed under suitable conditions and with proper precautions, is so uniformly successful and so devoid of danger, that the occurrence of cases of vaccin syphilis in the future will be even rarer than heretofore.

REPORT OF TWO INTERESTING CASES.*

BY W. D. TRAVIS, M.D.

COVINGTON, GA.

PECULIAR SEQUELÆ OF MEASLES.

The first case I wish to report is that of Lizzie F., a German, aged 14 months. She was taken sick September 4, and admitted to the hospital three days later with a well-defined case of measles. Her temperature being 104.2 on admission, she was given phenacetin and whisky, and for an annoying cough she was given Stokes' mixture for several days. She was convalescent three days after entrance, but it being customary to keep patients in the hospital in all cases of contagious diseases until desquamation was complete, she remained in the convalescent ward for some time.

On September 26 her temperature rose rapidly to 104.4 degrees, whereupon she was promptly isolated for observation. Her gums were considerably swollen from teething, and a very discrete rose-colored macular eruption was scattered over the body, but was not perceptible the following evening, the temperature having fallen to 99.4. From time to time phenacetin and whisky were given to reduce fever. The cough, which had persisted since the attack of measles, was still present. On October 1 there was a reappearance of the above-mentioned rash, which again disappeared in the evening, to reappear in patches and disappear in the same manner on the 5th. On the 6th the temperature rose rapidly to 106, the cough was dry and more troublesome, and there were crepitant râles in the chest at the lower part of the right lung. On the evening of the 7th the child vomited twice, and though the fever was high, it did not seem to render the patient uncomfortable. The first stage was followed by that of consolidation. Strophanthus and digitalis were added to the treatment, and sponge baths given on the 9th, 10th and 11th.

The condition of the bowels had been good and the patient had passed a sufficient quantity of urine up to the 12th, when there was no movement from the bowels and no urine passed. She was given nitroglycerin, concentrated solution of Epsom salts and hot baths. These rendered her more comfortable, but there was no urine passed until the morning of the 13th, when she passed only a small amount. Early in the afternoon of the same day her bowels acted and she passed a considerable quantity of urine and was perspiring freely. Râles had reappeared in her chest and her cough seemed quite painful. From this time until the 19th her bowels were regular and she passed a sufficient quantity of urine. On the afternoon of the 19th she had a rather severe general convulsion and was placed in a warm bath and given chloroform by inhalation, but died three hours later.

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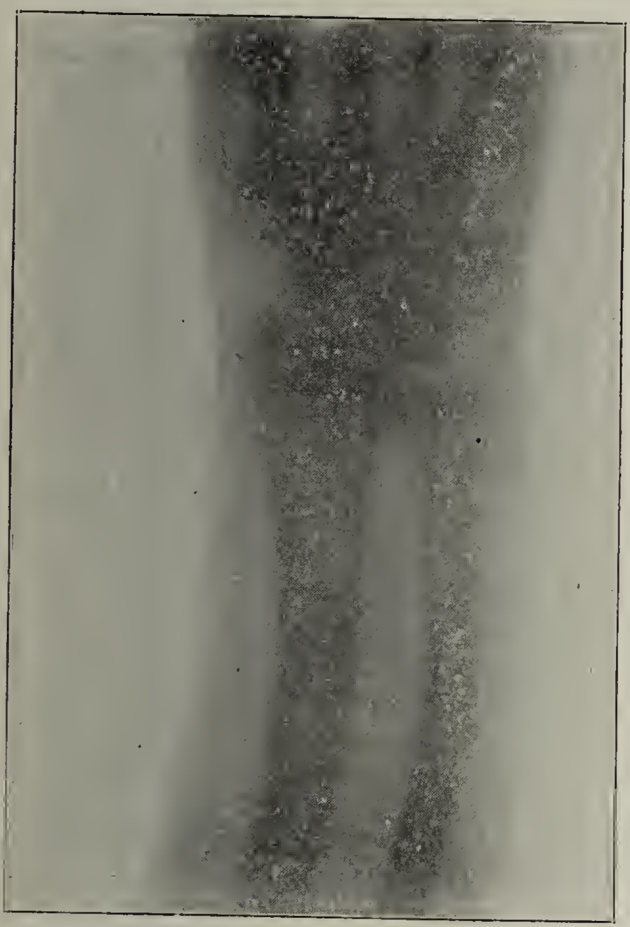
*Read before Medical Association of Georgia, Macon, April 19-21, 1899.

The result of the autopsy, simply stated, is as follows: Considerable quantity of serofibrinous fluid in pleura; no adhesions; upper lobe of left lung edematous; lower lobe of right lung completely consolidated; pericardium distended with fibrinous pus; as to kidneys, the capsules were free, both enlarged and pale and the pyramids distinct. The liver and spleen were apparently not affected.

A BADLY TREATED FRACTURE.

Kate B., aged 9 years, was thrown from a horse, September, 1896, and the horse stepped on her right wrist one and one-fourth inches from the wrist-joint. The ulna was fractured—simple fracture. Considerable extension on the hand was required to reduce it, under chloroform. Flat wooden splints were applied, internally, from the elbow to the wrist-joint, and an external splint from the elbow beyond the ends of the fingers, with little padding used. A bandage was tightly applied over the arm and hand to the fingers, before swelling and application of the splint. No cotton was used over the hand. Pain was very severe for two weeks; bandages were loosened one month after the accident; the fingers were found much swollen and discolored the morning after the accident. Two weeks after injury sloughing began at the outer side of little finger, proximal end of thumb, inner aspect of wrist, back of hand, and at end of splint near elbow. Ulceration at bases of little finger and thumb was deep, at other points superficial. Dressing was allowed to remain two weeks longer, during which time there was considerable suppuration. When dressings were removed four weeks after their application, they had adhered to the ulcerated surfaces, and a considerable amount of pus escaped. The ulcerated surfaces were covered with unhealthy granulations.



At this time there was no sensation in the fingers—they were pale in color—both fingers and wrist were straight and stiff and there was no motion in either of them. The ulcers were dressed with ointment. In one week, as soon as circulation was somewhat improved, there was decided wrist-drop and flexion of all the fingers tightly into the palm of the hand. The thumb was so closely bound down to the hand that a knife blade could hardly be passed between them. The radius and ulna were united. One week after removal of the first dressing, perforated tin splints were very loosely applied internally and externally, and an effort made to overcome the wrist-drop, without results. These were not left on long. The ulcers were healed some time in December. During the latter part of January, the patient was given electricity and massage in Atlanta for three weeks. She was given home treatment similar in character for about one year. The radius and ulna were separated about six months after the accident. The skin over the back of the hand, which was closely adherent at first, was gradually loosened by means of manipulations. At the present time, the length of the middle finger of the right hand is $2\frac{3}{8}$ inches, while that of the left is $2\frac{3}{4}$. The circumference of the right hand at the base of the fingers is 6 inches, while that of the left hand is $6\frac{3}{4}$ inches. The length of the right ulna is $9\frac{1}{4}$ inches, while the left is $9\frac{1}{2}$ inches. The accompanying radiograph gives a very good idea of the position of the bones as they were when patient first came under my observation.

I wish it to be expressly understood that this case was not seen by me until a short time ago—over two years after the injury occurred. Since that time I have been using electricity and massage, and have to some extent broken up a part of the firm adhesions.

TOXINS OF THE BODY.*

BY WALTER F. McCABE, M.D.

BELOIT, WIS.

The human body, in its normal or its pathologic state is the theater of the toxic elaborations carried on either by the organism itself, or by the microbes which are normal inhabitants, or by those which are guests of the alimentary canal.

In the first rank come the mineral substances taken with our food, even the most inoffensive, particularly on account of the mineral matters; then the products of physiologic secretion, the products of digestion, and toxic substances resulting from intestinal putrefactions. The poisons which exist in the tissue and in the intestinal canal are likewise found in the urine, either natural or modified by oxidation. In every disease of the intestinal canal there is an increase of urinary (indican) poison. There is an increase also in intestinal obstruction and strangulation. The blood, therefore, is the necessary medium between the seat of the formation of these poisons and their place of elimination. The carbonic acid which the lungs of an individual exhale in twenty-four hours is sufficient to poison a man many times.

In the alimentary canal we can not make the distinction between the toxins brought there by the secretions and those which are manufactured there. The difficulty of collecting the secretions of the skin, and the small amount taken make research in this line very unsatisfactory. We are, therefore, compelled to look to the urinary apparatus for the demonstration of the toxic products of emunction; by it are eliminated the toxic substances which are not volatile, allowing for those which are destroyed by the liver and the organism as a whole. We are inclined to blame the coloring matter of the urine, odorous and volatile, and mineral matters, especially potassium. They certainly are toxic, but constitute only a part of the toxicity of urine. We know urine taken as a whole is toxic. The degree of concentration causes its toxicity to vary, toxicity depending on the substances held in solution. On an average of fifty-two ounces, man makes a sufficient amount of urinary poison to kill himself. The toxicity of urines varies according to circumstances, cerebral activity, muscular activity, sleep, dieting, etc. The urines of sleep, although more dense, more rich in solids, are almost always less toxic than the urines of the day. During sleep man elaborates from two to four times less poison than during an equal time of cerebral activity. The urines of sleep are always convulsive, while those of the day are slightly so, if at all, but are markedly narcotic. Years ago it was the popular belief that during the day the body forms a substance which when accumulated induces sleep, and that during sleep it elaborates a substance which when accumulated would induce waking.

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*Read before the Central Wisconsin Medical Society, Madison, March 28, 1899.

The poisons of the day and those of the sleeping period are not only different in intensity and quality, but they are antagonistic, the one being an antidote to the other. Suppose we spend a day in the open air with vigorous exercise, we diminish the toxicity one-third in twenty-four hours. This toxicity remains less during the repose following the exercise, showing that a large part of the toxicity is due to organic substances incompletely oxidized. The increase of toxicity on keeping urine standing also makes us think that the toxicity is not due to the mineral substances alone. Decolorized urine, which has but little of its mineral substance, does not cause convulsions. Among mineral matters potassium is the one thing which makes itself felt in its toxic totality.

We ask, is urea toxic? There are few bodies in the organism less toxic than urea. The absence of urea is injurious to the individual because it is very important as a diuretic. Many have tried to accuse uric acid of being the cause of the toxicity of urine, but it is manufactured in the body in too small a quantity. Even in the gouty and rheumatic patient we do not find enough to produce intoxication.

We find in urine two substances capable of producing convulsions; one is organic, and found in less quantity in the day urine than the narcotic material; the other convulsive substance is potassium, although we can not attribute to it alone the convulsions which the injection of urine produces. We also have in the urine a narcotic substance which is organic; there is an organic substance which causes contraction of the pupil, an organic substance which reduces heat by diminishing heat production, and an organic substance which produces salivation.

Blood is toxic, and normal urine is constantly removing toxic substances from it. It receives from the tissues a certain quantity. We know that from the extract of muscle we can produce convulsions. It contains, therefore, in the normal state always a certain quantity of toxin. If elimination is prevented and the supply of it continues, accumulation of toxic material produces intoxication.

In order to study the toxic effects of bile we must examine it in the liver at the moment of its secretion. Bile is abundant; over 800 c.c. are secreted in twenty-four hours. Even in the normal state a certain quantity of the toxic matter may be reabsorbed in the duodenum. In twenty-four hours man makes by his liver alone enough bile to kill three men of his own weight. Man forms in eight hours, simply by his hepatic secretions, enough poison to kill himself. In twenty-four hours the urine does not eliminate one-half the quantity necessary to poison a man. The volume being equal, bile is nine times as poisonous as urine. In an equal period of time biliary secretions represent a degree of toxic power six times as great as the urinary secretions. The urine carries away part of the toxic matter secreted by the liver; the balance is neutralized in the intestines and liver. We are sure of the stoppage of the bile in hepatic colic, indicated by pain, and it is twenty-four hours before the icteric tint shows itself; the urine is colored quickly. It is because bile is so poisonous that a sudden injection of it does not produce jaundice—death ensues before the tissues have had time to become colored. The greatest danger in jaundice is renal impermeability. We never see accidents the outcome of intoxication with normal kidneys. Jaundiced urines owe their toxicity to the waste products of cellular disintegration. In the coloring matter of bile resides the greater part of its toxicity, because decolorized bile loses two-thirds of its toxicity.

In classing the toxic products the mineral substances come first, chiefly potassium; products of disassimilation, products of intestinal putrefaction, chiefly ammonia; next, the organic products of disassimilation, including a small quantity of bile. In the normal state potassium is present as an anatomic constituent, but not of the fluids. The mineral and organic poisons are, therefore, in general, poisons of disassimilation.

Putrefaction is a source of intoxication arising from imperfect metamorphosis of digested matter and from the micro-organisms in the intestinal canal. Putrefaction by heat develops a more intense toxicity; by cold, intoxication is not only slower, but modified.

Many of the accidents called uremic happen in a period of nephritis in which the retention of toxic substances is inadmissible. Uremia comprises various and multiple intoxications. It is a mixed poisoning, not by urine, but by what should have become urine, for the accidents from the retention of urinary substances are not those from the reabsorption of urine. The sources are disassimilation, a certain number of secretions, alimentation, and intestinal putrefaction.

There are cases in which we have been able to demonstrate that the grave accidents of a true indigestion were of a toxic order. It is the result, not o the food, but of the non-digestion. The digestiv juices cease to transform food which the stomach doe not care to receive. Urticaria often seems to be o toxic origin. Among many young girls we see acn on the temples and about the chin, with scarlet redness of the nose and cheeks, which develops about tw hours after meals. Are not these cutaneous manifestations of toxic origin? The odor of the breath is witness to the elimination of these poisons. Among dyspeptics we often notice recurring coryza and frequent sneezing in the morning, due probably to the elimination of the toxic substances. Whatever the disease of the stomach may be, certain functional disturbances are sufficient to cause the development of dyspeptic coma, which, symptomatically, is identic with diabetic coma.

In certain chronic diseases the toxic nature of the urine is the same as in the normal condition. Disease sometimes diminishes, sometimes augments, the toxicity. However, in the greater number of pathologic urines and in that of feverish diseases, we find an increase in the normal degree of toxicity, especially the power of producing convulsions. We also find new toxic properties. In typhoid fever the urine, which at first is only slightly toxic, when matter is being slowly destroyed, becomes decidedly poisonous at the period of convalescence, when rapid emaciation takes place.

The coloring matter is increased in the urine of fever patients, although the convulsive power does not disappear under decoloration, which proves that convulsions in these cases are due to a great extent, to potassium, and not exclusively to organic convulsive matter. It is the general opinion, however, that the urine in acute diseases owes its toxicity not to a special poison but to certain normal poisons in excessive quantities. Febrile urine produces the same phenomena as normal urine, only more quickly. We see in diabetic patients simply a phase of uremic poisoning with the distinction that the poisoning is produced by exaggerated disassimilation, and that it is retained in the blood through the inadequate action of the kidneys. It is probable that in these cases poisoning exists similar to that of severe dyspepsia.

How are we to combat these poisons? We know the liver stops and transforms certain portions of our food. It also plays an important part in arresting and destroying the poisonous substances, but it is insufficient to destroy those poisons formed in the tissues. Here the emunctory process acts as a safeguard. To avoid absorbing these toxins the emunctory organs must be in a state of anatomic and functional integrity. The alimentary canal should be made as nearly antiseptic as possible. Increase the renal secretions by diuretics, and thus hasten the elimination of the excess of poison that has been sent into the circulation. The liver should also be stimulated since it has the power of arresting poisons. The skin and the lungs should likewise be stimulated. If all these fail, we must have recourse to certain antidotes. Never give up the contest; keep up the strength of your patent so that he may have time to eliminate the poison. This, of course, is general. Each individual case, suffering from one of the many sources of intoxication, will demand a special line of treatment.

The pure beer bill (Journal, February 18, p. 387) n New York did not receive the governor's signature, as he is said to consider it for the most part simply a repetition of one of the articles of section 41 of the public health law, already in force, and therefore superfluous; while it is also objectionable for the reason hat its final section provides a heavier penalty for he adulteration of beer than for selling food composed of diseased or decomposed animal or vegetable ubstance.

Current Medical Literature.

Titles marked with an asterisk (*) are noted below.

Bulletin of Johns Hopkins Hospital, May.

1.—*Acute Diffuse Gonococcus Peritonitis. Harvey W. Cushing.
2.—*Case of Atrophy of Optic Nerves following Hemorrhage from Stomach, with a Consideration of Causes of Post-hemorrhagic Blindness. Samuel Theobald.
3.— Lichen Scrofulosorum in a Negro. T. Caspar Gilchrist.
4.— New Instrument for Measuring Heterophoria and Combining Power of Eyes. Frederick H. Verhoeff.
5.—*Solution of Mercury in the Body. Arthur S. Chittenden.

American Journal of Insanity (Baltimore), April.

6—*Katatonic Symptom—Complex. W. L. Worcester.
7—*Tetanoid Seizures in Epilepsy. L. Pierce Clark.
8.—*Intermittent Mental Stupor. H. S. Noble.
9.—*Symptoms Following Lumbar Puncture in Tabes Dorsalis. W. L. Babcock.
10.—*Clinic Cases II and III—Syphilitic Insanity. Henry J. Berkeley.
11.—*Insanity and Homicide. H. E. Allison.
12.—*Hydric Treatment of the Insane. G. W. Foster.
13.— Abstract of Historic Sketch of Canadian Institutions for the Insane. T. J. W. Burgess.

Annals of Gynecology and Pediatry (Boston), May.

14.—*Uterine Fibroma. O. Beverly Campbell.
15.—*Operations During Pregnancy. Charles P. Noble.
16.—*Cretinism and its Treatment. F. A. Pillsbury.
17.—*Case of Traumatic Neuritis with Complete Monoplegia of Right Forearm: Operation: Improvement. F. Savary Pearce.
18.— Consideration of Parenchymatous Inflammations of Mouth and Tongue. J. L. Goodale.
19.— Retropharyngeal Abscess and Retropharyngeal Adenitis. Johann v. Bokay.

Therapeutic Gazette (Detroit), May 15.

20.—*Varieties of Eczema and Their Treatment. Arthur Whitfield.
21—*Use of Tincture of Cantharides in Chronic Parenchymatous Nephritis. Julius Salinger.
22.—*Care of Teeth During Sickness, and the Philosophy of Lancing Children's Gums from the Standpoint of the Dental Practitioner Joseph Head.
23.—*Treatment of Ischochymia. A. L. Benedict.
24.—*Organotherapy in Gynecology. W. A. Neuman Dorland.

Canadian Practitioner and Review (Toronto), May.

25.— Astragalus in Congenital Talipes—Equinovarus. Clarence L. Starr.

Dominion Medical Monthly (Toronto), May.

26.— Recent Cases from Practice, Illustrating Four Types of Ovarian Cystomata with Photographs. Hunter Emory.
27.—Some Features of Medical Nomenclature. A. F. McKenzie.

Alabama Medical and Surgical Age (Birmingham), May.

28.—*Report of Epidemic of Smallpox in Jefferson County in 1897 and 1898. Wm. H. Wilder.
29.— Antipyretics: Their Uses and Limitations. T. H. Frazier.
30.— Cerebrospinal Meningitis: Report of Cases. J. D. Gibson.
31.— Aneurysm, with Report of Case of Brachio-Axillary Artery: Operation: Recovery. W. D. Gaines.
32.—*Non-Surgical Treatment of Buboes, or Inguinal Adenitis. W. H. Williams.

Brooklyn Medical Journal, June.

33.—*Static Electricity. Frederick J. Shoop.
34.—*Electrodes and Electric Devices. Lucy Hall Brown.
35.—*Actual Schleich Narcosis. A. F. Erdmann.
36.—*Appendicitis Complicating Pregnancy. Onslow A. Gordon.

New Orleans Medical and Surgical Journal, June.

37.—*Signs and Tests of Death (concluded). Justin Herold.
38.— An Unreduced Dislocation of Fifth and Sixth Dorsal Vertebræ. P. L. Bellingen.
39.—*Involvement of Heart and Brain in Case which First Appeared to be a Mild Attack of Acute Articular Rheumatism: Recovery. E. M. DuPaquier.
40.—*Occurrence of Nausea in Case of Pneumonic Infection: Its Prognostic Value. E. M. DuPaquier.
41.— Malarial Hematuria: Three Cases in Succession Treated Successfully with Quinin Sulphate. T. B. Odorn.

Woman's Medical Journal (Toledo, Ohio), May.

42.—*Injuries to Eyeball. M. Jean Gale.
43.—*Studies of Melancholia (concluded). Maria M. Vinton.
44.— Puerperal Infection, Report of Case. Ella Camp.

St. Louis Clinique, May.

45.—*Urino-Glucosometer, The. Heinrich Stern.
46.— Specialism in Medicine and Relations of Specialist and General Practitioner. A. C. Corr.

Northwestern Lancet (St. Paul), May 15.

47.—*How Shall We Quarantine Against Diphtheria. H. M. Bracken.
48.—*C linic Study of Cases Resembling Typhoid. O. C. Strickler.

Ophthalmic Record (Chicago), June.

49.—*Contribution to Treatment of Embolism of Central Artery of Retina. Casey A. Wood.
50.— Case of Chancre of Conjunctiva. E. C. Ellett.
51.—*Fistula of Orbit due to Disease of the Lachrymal Division of Ethmoidal Cells—Operation and Cure. G. E. de Schweinitz.
52.—*Abscission and Combined Keratectomy. Geo. C. Harlan.
53.— Brief Report of Case of Fibroma of Eyelid (painful subcutaneous tubercle of Wood). Chas. A. Oliver.
54.—*Clinic Study of Double Choked Discs in a Case of Quiet Otitic Thrombosis of the Sigmoid Sinus without Pyemia. Clarence A. Veasey.

Medical Register (Richmond, Va.), May.

55.—*Extragenital Chancre, with a Report of Cases. Louis C. Bosher.
56.—*Puerperal Eclampsia. T. E. Baird.

Southwestern Medical Record (Houston, Tex.), May.

57.—*Pneumonia—Its Treatment. S. C. Red.
58.—*Scraps of Surgical Cases. F. B. King.

Hot Springs Medical Journal, May.

59.—*Gummata and Chancre Redux. Henry G. Anthony.
60.—*Complications of Stricture. M. G. Thompson.

Dunglison's College and Clinical Record (Phila.), April 15.

61.—*Complication of Posterior Urethritis. Orville Horwitz.
62.— Treatment of Locomotor Ataxia. Frederick P. Henry.

Oklahoma Medical Journal (Guthrie), May.

63.— Cold Taking: Cause and Prevention. E. E. Hamilton.
64.— Lacerated Cervix Uteri and Treatment for Same. R. D. Love.

American Medical Compend (Toledo, Ohio), May.

65.— Nutrition in Diseases of Children. W. A. Dickey.
66.— Ureters, The. Byron Robinson.
67.— Relation of Microscopy and Embryology. C. S. Miller.
68.— Anemia. F. E. Hale.

Journal of Medicine and Science (Portland, Me.), May.

69.— Dyspepsia. R. F. Goodhue.
70.— Tuberculosis. C. W. Pillsbury.
71.— Hypnotism, Autosuggestion, Anesthesia and Hysteria. E. H. Judkins.
72.— The Proper Dosage of Thialion. E. M. Smith.
73.— Masso-Therapeutics. E. H. Judkins.

Plexus (Chicago), May.

74.— Obstetric Errors. A. McDiarmid.
75.— Twenty-five Indications for Incision of Membrana Tympanum (Myringotomy.) Wm. Lincoln Ballenger.

Virginia Medical Semi-Monthly (Richmond), May 26.

76.—*Report of Case of Gout, with Embolism of Posterior Tibial Artery by an Atheromatous Plate. Frederick A. Packard.
77.—*Vaginal Hysterectomy—Its Indications and Advantages. James N. Ellis.
78.— Cranial Injuries of Childhood and their Treatment. B. Merrill Ricketts.
79.— Melancholia. Barton W. Stone.
80.— Tetany Complicating Gastro-Intestinal Catarrh. Julius A. Faison.
81.— Prophylactic Treatment of Tuberculosis. T. A. Casey.
82.—*Report of Epidemic of Smallpox in Jefferson County, Ala., 1897 and 1898. Wm. H. Wilder.
83.—*Anomalies of the Aorta, with Specimen. Barnard L. Baker.
84.— Mitral and Aortic Lesions of the Heart. J. L. Campbell.

Medical Fortnightly (St. Louis), June 1.

85.—*Treatment of Prostatic Obstruction, with Special Reference to Vasectomy. Reginald Harrison.
86.—*Proctitis and Ischiorectal Abscess. S. G. Gant.

North Carolina Medical Journal (Charlotte), May 20.

87.— Dysmenorrhea and Treatment. Milton P. Creel.
88.—*Chloroform-Ether Controversy. Aug. Schachner.
89.— Report of Successful Cesarian Section. J. Whitridge Williams.

Medical Age (Detroit), May 25.

90.—*European Obstetrics. J. J. Mulheron.
91.—*Hawaiian Medicine. Charles Davison.

New York Medical Journal, June 3.

92.—*The Doctor Outside of Medicine. William L. Stowell.
93.—*Some Further Observations on Obstetric Cases. John H. Barry.
94.—*Occurrence of Streptococcus Scarlatinæ (so-called) in Cultures from Throats in Cases of Scarlet Fever. John S. Billings, Jr.
95.— Case of Transitory Mania Occurring in a Syphilitic more than Three Years after Apparent Cure of the Syphilis. Charles O'Donovan.
96.—*Diphtheria: Serum Treatment in General Practice. Palmer Heath Lyon.
97.—*Antinosin in Treatment of Enuresis, Cystitis and Urethritis. R. F. Amyx.
98.— Case of Right Lateral Displacement of Bladder with Fecal Impaction. Reported by Major L. C. Carr.

Cincinnati Lancet-Clinic, June 3.

99.—*Pityriasis Rubra Pilaris (Devergie) and Lichen Ruber Verrucosus: A Differential Pathologic Study. M. L. Heidingsfeld.
100.—*New Arts in Practice. Wm. B. Doherty.

Boston Medical and Surgical Journal, June 1.

101.—*X-ray Examinations an Aid in Early Diagnosis of Pulmonary Tuberculosis. Francis H. Williams.
102.—*Foreign Bodies in Larynx of Children. J. Payson Clark.
103.—*Massage and Galvanism in Gout. Douglas Graham.
104.—*Three Cases of Leukemia. J. N. Hall.

Philadelphia Medical Journal, June 3.

105.—*Effects of Violent and Prolonged Muscular Exercise on Heart. Harold Williams and Horace D. Arnold.
106.—*Nuclear Ophthalmoplegia. James Henrie Lloyd.
107.— On Tabes. M. Allen Starr.
108.—*Diagnosis of Trichinosis Made Through Increase of Eosinophilic Cells in Blood. A. Duval Atkinson.
109.—*Arsenic in Chronic Malaria. Charles E. Woodruff.
110.—*Successful Inoculations from Case of Rabies. J Hartley Anderson.
111.— Typic Case of Appendicitis. W. H. Roberts.
112.— Report of Case of Retroversion of Uterus, Complicated with Uterine Fibroma. Operation: Enucleation of Fibroma followed by Ventral Suspension; Subsequent Normal Pregnancy and Labor. Jacob C. Rutherford.

Medical News (N. Y.), June 3.

113.—*New Diagnostic Spots of Measles on Buccal and Labial Mucous Membrane. Henry Koplik.
114.—*Oroscopy; Items of Interest from a Dermatologic and General Standpoint. Jacob Sobel.
115.—*Gastro-enterostomy with Entero-anastomosis by Braun's and Gallet's Methods. Report of Five Successful Cases. (Illustrated.) Robert F. Weir.
116.—*Contribution to Study of Cerebrospinal Meningitis. Lewis A. Conner.

Maryland Medical Journal (Baltimore), June 3.

117.—*Serum Therapy, with Report of Three Cases in which Streptococcus Serum was Used. Jesse Shoup.
118.—*Headaches and Nervous Symptoms, Caused by Errors of Refraction and Heterophoria. James J. Mills.
119.—*Notes on Recent Scientific Literature. Wm. Lee Howard.

Medical Record (N. Y.), June 3.

120.—*Some Problems of the Alienist. Frederick Peterson.
121.—*Obscure Causes of Disease. W. Stanton Gleason.
122.—*Rubeoliform and other Eruptions: with Special Reference to Koplik's Phenomena. Jacob Sobel.
123.—*Remarks on Midwifery Question; Availability and Simplicity of the Midwife; Secret of Her Hold on the Masses. Thomas J. Hillis.

AMERICAN.

1.—Acute Diffuse Gonococcus Peritonitis.—Cushing's paper discusses the commonly received view that the gonococcus does not produce diffuse peritonitis alone without other associated infection. He reports two cases, both thoroughly examined, in which a general acute peritonitis was proven to exist with only the gonococcus as its cause. He claims that this paper brings for the first time convincing evidence of the existence of a diffuse, general inflammation of the abdominal cavity, caused by this germ. While such may occur, it must be either rare or unrecognized and may depend on some especially receptive condition of the serosa or the virulence of the organism. The peritoneum is not more immune than is the peri- or endocardium to the gonococcus inflammation, and being more exposed suffers more commonly in females, although the relatively benign course of the disease makes it a rare condition to come to the attention of the surgeon in an acute stage.

2.—Optic Atrophy from Hemorrhage.—Theobald reports a case of partial, nearly complete loss of vision due to hemorrhage from the stomach, and reviews the facts of similar cases so far as known. He concludes that the weight of evidence afforded by the ophthalmoscope points to thrombosis of the central retinal artery as the usual cause of the blindness which occurs in post-hemorrhagic anemia, and that the resistance offered to the already enfeebled blood-current by the intraocular tension is an important etiologic factor. In exceptional instances thrombosis occurs not in the artery but in the central retinal vein, as shown by the ophthalmoscope, and in other cases it may be that the lesions are the results of hemorrhagic or serous infusions into the optic nerve or its sheath (Samelsohn). Here also the obstruction of the blood-current in the artery by the intraocular tension may have its part.

5.—Mercury in the Body.—The therapeutic and toxic effects of inunctions and inhalations of mercury led Chittenden to investigate the method by which it is taken into the system. Insoluble mercury, as shown, does not pass through the intact epithelium in any part of the body and it must, therefore, be taken up in a soluble form either by the secretions of the surface or something in the menstruum. He instituted experiments to determine beyond criticism, as far as possible, the fact that mercury is absorbed and in what form it is eliminated, and reached the result that the solution is affected by the body juices and the mercury eliminated as an albuminate, but just how this is done it is impossible to say.

6.—Katatonic Symptom-Complex.—Worcester considers, from his observations at the Danvers Asylum, that katatonic symptoms are not rare, as they appeared in about 10 per cent. of the admissions in 1898. They are not usually isolated. Patients presenting one of these symptoms will generally, if carefully observed, be found at one time or another in the course of their disease, to show the clinic picture of katatonia in more or less completeness, although few, if any, fill it out entirely. Symptoms of this class must be considered to have an unfavorable prognostic significance. None of the men included in the table given have been discharged as recovered and none of those remaining are expected to recover. Four women have been classed as recovered, but he doubts the diagnosis. These figures are the more significant when we consider the shortness of the duration of the disease before admission. He reports nine cases in detail, the three last apparently showing that this symptom-complex may occur in the course of epileptic insanity and general paresis. Worcester feels justified in provisionally concluding that the katatonic symptom complex may occur in a variety of morbid conditions, though it is by far the most common in the class of cases to which Kraepelin has applied the term "dementia præcox."

7.—Tetanoid Seizures in Epilepsy.—With a general discussion of the literature as far as it goes on this subject, Clark reports at length a case of tetanoid epilepsy and concludes that the exclusive tonic convulsions of the petit mal epileptic fits are not identic with tetanoid seizures. Tetanoid seizures are clinic facts, although rare, but a distinct epilepsy, so called tetanoid epilepsy of Prichard, is not proven. Tetanoid seizures are only a modification of true epilepsy and probably have no relationship to tetanus.

8.—Intermittent Mental Stupor.—H. S. Noble reports a case in a male 13 years old, who exhibited a special form of stupor with intermittency, at first coming on every second day, but later occupying a much larger portion of his time irregularly. The final outcome was recovery.

9.—**Lumbar Puncture in Tabes.**—Babcock reports three cases in which lumbar puncture was employed, in one of which there was decided improvement, though the operation was undertaken in an advanced stage. In only one case was there any bacillary infection of the cerebrospinal fluid discovered—a few streptococci. The three cases are simply suggestive as to the utility of the procedure, and he thinks it is worth further investigation.

10. **Syphilitic Insanity.**—Berkeley reports two cases with very elaborate postmortem investigation in one. The microscopic examination shows how severe symptoms may follow vascular inflammation without actual syphilitic growths or hemorrhage. The second case was one of acute insanity beginning in the early stages of secondary syphilis and recovering under an energetic antisyphilitic treatment.

11.—See abstract in JOURNAL, xxxii, p. 1354.

12.—**Hydric Treatment of Insane.**—Foster reports quite remarkable results in epilepsy and paresis from hydrotherapeutic measures. In the paretic cases the disease appeared to have been completely arrested in six out of twenty-one cases. One has remained well for over three years and one other two years, and two others have steadily gained for one year and ten months respectively, and have been free from all mental manifestations of the disease for at least six months. Two others have improved steadily for seven months and only three are in a worse condition than at the beginning of the treatment. One, reported a year ago among the arrests, suffered a return coincident with malarial poisoning; two others are decidedly improving after one and two years' treatment, and nine, who have been under treatment less than a year, remain about the same as at the beginning. His paper concludes with a very extensive bibliography of the subject.

14.—**Uterine Fibroma.**—Campbell describes the forms and treatment of uterine fibroma, illustrating with brief notes of cases. The mere presence of uterine fibroma may not demand operative interference. Freedom from pain, hemorrhage and systemic disturbances should indicate tolerance of the tumor. The operation when performed, varies with the case. In submucous tumors, morcellation through the vagina may be practiced in selected cases where the tumor is small and can be readily reached. In a large proportion of cases hysteromyomectomy is required. In subserous tumors myomectomy is preferable to hysteromyomectomy or panhysteromyomectomy. In interstitial tumors any of the different methods may be adopted, but he prefers hysteromyomectomy with extraperitoneal treatment of the stump.

15.—See abstract in JOURNAL, April 29, ¶6, p. 929.

16.—**Cretinism.**—Pillsbury sketches the history of cretinism and its treatment, and reports a case of his own personal observation in detail. The one treatment indicated in this case, and which has come into vogue in the past few years, is that with thyroids. He has favored the use of the raw thyroids in his own practice, but speaks well of some of the various preparations. He believes that the most obstinate cases of cretinism extending even over many years are amenable to this treatment.

17.—See abstract in JOURNAL, March 25, p. 664.

20.—**Eczema.**—Whitfield adopts Unna's division of eczema into two classes, simple and seborrheic, excluding from the latter class, however, psoriasis and simple pityriasis of the head. This still leaves some cases which seem to have supervened on simple seborrhea, beginning in the follicle but spreading to other parts, always sharply defined at the edges of the patches and tending to extend itself serpiginously. He also excludes the form described by Morris under the name of eczema follicularum, and the disorder named by Hans Hebra, eczema mycoticum, and lastly, Crocker's eczema circumscriptum. As regards simple eczema we know little of its etiology, but there is one definite disease believed to stand in casual relation with it, i. e., gout. He rather favors the idea that the degree of toxicity of the urine present is due rather to the state of the skin than that the disorder of the skin is dependent on that of the blood as reflected in the urine, and that therefore, there might be danger from sudden suppression of discharge where the kidneys are not sound from accumulation of toxic material in the blood. There is always danger also from the absorption of septic infection from large areas of the skin denuded of its protective horny layer. As stated, we know little of the etiology of simple eczema, and its parasitic origin is not accepted by Whitfield, though admitted as possible in cases of the seborrheal form. In the latter, therefore, we may use antiparasitic remedies, which are not so strongly indicated in the former. It is usually enough to employ some application that is not at all irritating, or very slightly so, and yet has an inhibitory action on the growth of any ordinary cocci. He mentions the Hebra's unguentum diachyli as suitable, and when the inflammation has disappeared some mildly stimulating application, such as a mild tar ointment.

21.—**Cantharides in Nephritis.**—Salinger believes that the tincture of cantharides has fallen into unmerited disuse as a diuretic, and reports two cases in which he found it of decided advantage, giving it in two drop doses with liquor ferri et ammonii acetatis, in chronic parenchymatous nephritis. He believes it will have one of the chief places in the treatment of this affection. Care should be taken to avoid large doses that would be irritating to the kidneys.

22.—**Care of Teeth.**—This paper treats of the necessity of special care of the teeth when taking drugs, especially acids, and advises as the only sure method of preventing injury, to use an alkaline wash held in the mouth after swallowing the acid. Also in case of sickness acids are formed in the mouth by fermentation, and are little less effective than the medicinal acids, so when a patient suffers from any disorder effecting the mucous membrane of the mouth it should be rinsed with a mild antiseptic wash every four hours and the teeth brushed every morning and evening. It would be well also to add a rinsing of the mouth with milk of magnesia or use a small piece of lump magnesia soaked in a 3 per cent. pyrozone solution, chewing thoroughly before ejecting. Regarding the lancing of the gums of infants, he thinks it a very important measure and objects to the use of hard material for rubbing the gums, so commonly employed. The lancet is the best resort in these cases.

23.—**Ischochymia.**—Benedict's paper treats of the motor disorders of the stomach and their management, giving full details as to diet, lavage and other local treatment. He does not believe in allowing patients, however, to learn to use the tube themselves as the treatment is apt to get beyond the physician's oversight and be improperly carried on. As regards surgical treatment, he speaks of it in cases where there exists stenosis or malignant disease. He refers to Bircher's operation and rather disfavors it.

24.—**Organotherapy in Gynecology.**—Dorland reviews the literature on the use of organotherapy and oöphorectomy in malignant disease of the breast, and reports three observations of his own in which thyroid extract was used with apparently good results in relieving the condition. He concludes that the ovaries exercise an important but little understood influence over other organs, especially the breast, and that this is in part neutralized by the action of the thyroid glands or thyroid substances introduced into the body. The administration of thyroid extract to patients suffering from inoperable mammary or cervical uterine cancer, exerts a slight inhibitory action on the growth and temporarily produces decided relief of the symptoms of pain and discharge. The removal of the ovaries, provided they are actively functionating, in these cases frequently causes an arrest of the malignant disease, and sometimes its complete cure. This action is materially aided by excision of as much as possible of the growth, supplemented by the administration of thyroid extract in full doses. In women past the menopause, the excision of these organs is not so effective, while in others relief appears within twenty-four or forty-eight hours and in favorable cases is rapidly progressive. The dose of thyroid extract that can be safely employed varies from 10 to 15 grains daily. Though this method should not result in perfect cure, it is, he thinks, the best palliative, operative procedure yet devised.

28.—See ¶ 82, below.

32.—**Treatment of Buboes.**—Williams treats large, hard tumors in the inguinal region as follows: He puts the patient to bed forty-eight hours; has a poultice of ginger and meal applied with a liniment made of equal parts of laudanum, tincture of camphor, tincture of belladonna and sulphuric ether. Every twelve hours he alternates it with an application of tincture of iodin. He has the patient put on an alterative, having opened the bowels well at the start. After forty-eight hours he tells the patient to sit around and continue the liniment without the poultice, alternating twice a day with tincture of iodin, recalling the poultices to make the glands soft. Under this treatment he finds extirpation of the glands rarely necessary and has not removed one for four years.

33.—**Static Electricity.**—Shoop describes the methods of applying static electricity, static electric baths, the electric breeze, the head-piece electrode, the spark, large and small, and the static induced current. He thinks it is applicable in almost all diseases or derangements when any form of electricity is indicated other than where the cautery or electrolytic effect is desired. Among the prominent disorders treated by him are: muscular rheumatism, intercostal neuralgia, wryneck, muscular paralysis and atrophy, facial neuralgia, gastralgia, enteralgia, ovarian neuralgia, atonic dyspepsia and constipation, aches, uterine pains, menstrual pains, pains anywhere, insomnia, depressed heart action, tobacco heart, gymnasium heart, cold extremities, sprained wrist, ankle, knee, and other joints, nervous debility, melancholia and neurasthenia.

34.—**Electrodes and Electric Devices.**—Brown describes a number of electrodes, etc., of her own devising, among them a static machine brush, an adjustable stand, an electric heater, rubber covered cords, etc.

35.—**Schleich Narcosis.**—The writer has used the Schleich solutions for general anesthesia in some seventy-five instances, covering a large variety of patients and classes of operation. He speaks favorably of the Schleich method. The time of narcosis averaged fifty-two minutes and the average quantity of the anesthetic required before beginning the operation was little less than 6 drams, in no case more than 8. He thinks that the awakening was more rapid when once begun, as well as more pronounced, than when other anesthetics were used. The patients manifested less repugnance; the so-called second stage was only present in a few instances and never so marked as it often is with ether. One of the very comfortable facts was the absence of bronchorrhea; another was the comparative freedom from unpleasant odor; the third was the infrequency of cyanosis; and lastly, the quick re-establishment of anesthesia if the patient was becoming conscious.

36.—**Appendicitis Complicating Pregnancy.**—Gordon reports 11 cases of appendicitis complicating pregnancy, in a number of which operation was performed. Of the cases operated on, four ran to full term, the time of operation being 3 and 4½ months; two reported as operated on during early pregnancy. He believes that the removal of the appendix should be advised in a woman subject to recurrent appendicitis in order to avoid the possible complication of appendicitis in pregnancy. Operation should be urged in all cases where the diagnosis is clear, and especially in the early weeks of pregnancy, as the patient might recover from one attack and the trouble recur at a later stage, adding much to the danger of both mother and child. Pregnancy does not contraindicate operation, and success depends largely on early diagnosis and operative interference.

37.—**Signs and Tests of Death.**—In this concluding article of his series Herold reviews, as signs of death, sensibility and motility, electric and heat tests, muscular flaccidity, cadaveric ecchymoses, rigor mortis and putrefaction. He believes that the latter is the only unmistakable sign aside from the cutting of the radial or temporal artery. No other tests are alone adequate.

39.—See abstract in JOURNAL, May 13, p. 1059.

40.—Ibid.

42.—**Injury to Eyeball.**—Gale reports six cases of injury to the eye, that came under her care and observation, mostly in miners.

43.—**Melancholia.**—This article is concluded from the April number, and gives a very good account of several cases of melancholia.

45.—**Urine Glucosometer.**—Stern considers the fermentation test the most reliable for determining sugar in the urine, and describes and illustrates the instrument which he has devised for the better application of this test.

47.—**Quarantine against Diphtheria.**—The proper quarantining of diphtheria has been shown, says Bracken, to be a very difficult problem. The unreliability of any time limit of the infectiousness of the disease, the dubiousness of early diagnosis in many cases. and the tendency to conceal the disorder are serious difficulties. The quarantine regulations ought to be somewhat elastic, based on the condition of each individual case, and should depend chiefly on the bacteriologic findings in every stage of the disorder and its convalescence. He recommends regular examination of school children at frequent intervals by public inspectors, and he would have every tuberculous, as well as every diphtheritic individual, excluded from school. The deprivation of educational advantages, he suggests, would be for the benefit of the patient, as requiring them to adopt a more out-of-door and healthy occupation in adult life. He offsets this, however, by saying that they should have special schools separate from others. His notions seem slightly impractical in some respects, at least in our present social organization.

48.—**Cases Resembling Typhoid.**—Strickler's paper is devoted to the subject of the diagnosis of cases resembling typhoid, and he briefly reports nine such. A great step, both positive and negative, in these cases was discovered in the Widal and Ehrlich tests. While the latter is not positively conclusive and the absence of the former not positively negative, there can be no positive diagnosis of typhoid when the Widal reaction has not at some time been present.

49.—**Embolism of Central Artery of Retina.**—Wood reports five cases of embolism of the central artery of the retina in detail, and insists on the fact that the effects of it are often recovered from spontaneously. There is usually some collateral circulation. The extent of the damage and character of the embolism must also be considered in the prognosis. Another fact allowing improvement in vision in these cases is that of the possible absorption of the plug. Several autopsies have shown that this may occur within a comparatively short time. Iridectomy is as rational now as it was when proposed by Graefe in 1859. If the caliber of the obstructed vessel is increased even for a few days after the critic moment of the embolism, it is certainly to be desired. He also mentions amyl nitrite inhalations suggested by Gifford, paracentesis and massage. As regards the latter, he does not seem to believe in its effectiveness to any great extent.

51.—See abstract in JOURNAL, April 1, p. 714.

52.—Ibid.

54.—**Choked Discs.**—Veasey, after noticing the prior observations of optic neuritis, associated with sinus thrombosis, from ear disease, reports the case of a boy, 12 years old, who was operated on for mastoid and sinus disease. The case presented the following points of interest: an otitic facial paralysis that rapidly disappeared after the operation; early appearance of optic neuritis, with the cerebral symptoms more intense on the side opposite the lesions; the appearance of sinus thrombosis with acute purulent, middle-ear disease, and optic neuritis continuing and increasing after the operation until choked discs with excessive exudate were present. The scotoma were absolute early in the disease, being central in one eye and annular in the other. The case shows the importance of ophthalmoscopic investigation in all cases of middle-ear disease in which there is the least suspicion of intracranial extension. Recovery of vision in this case was incomplete.

55.—**Extragenital Chancre.**—Bosher reports or briefly mentions seven cases of extragenital chancre: two of the lower lip, one of the tonsil, one of the hypogastrium, one of the right index finger, one of the chin, and one of the left side of the neck. They were not all cases of syphilis insontium, but that on the finger was contracted by a physician in attendance on an obstetric case. In several of the others the source of infection was not known or is not stated.

56.—**Puerperal Eclampsia.**—Baird's paper reports three cases. He advises venesection in plethoric congestive cases, repeating it once, or even twice, if necessary, the total amount reaching twenty-four to thirty-six ounces. He would not use this method prior to the fifth or sixth month of pregnancy, and not to the exclusion of other measures.

57.—**Pneumonia: Its Treatment.**—This paper is a sequel to two preceding ones on the etiology and symptoms of pneumonia. Red believes in alcoholic stimulants in lobar pneumonia, and in strychnia as another valuable agent against heart failure. In severe dyspnea, inhalations of oxygen materially aid in the aeration of the blood. High temperature and delirium are to be controlled by sponging and ice-packs. Pleural effusions may demand aspiration and abscesses may require opening and cleaning out. He does not believe in expectorants nor in the use of digitalis. The serum treatment is theoretically a specific, and yet the data are insufficient as to its use. He thinks it entitled to the serious consideration of the profession. Other measures are the usual supporting treatment, relief of pain, counterirritants, etc. In bronchial pneumonia he does believe in the use of expectorants, and knows nothing better than the well-known brown mixture. In that form attending influenza moderate use of coal-tar derivatives may be advisable. There is no method, so far as he is aware, of affecting the course of cirrhotic pneumonia. Syphilitic pneumonia demands, of course, specific treatment. Tubercular pneumonia requires a treatment for this disease, and in the traumatic form, aside from the surgical rules, the treatment is the same as for the lobar disease.

58.—**Surgical Cases.**—King's paper describes his treatment of ingrowing toe-nails, rib fracture, fracture of the forearm, olecranon, and of the leg below the knee.

59.—See abstract in JOURNAL, March 11, p. 543.

60.—**Stricture.**—The special complication mentioned in Thompson's short communication is urinary infiltration. He insists on the importance of perineal operation and drainage in these cases. He especially cautions against calling in consultation any one not familiar with this class of cases, as an opinion against operation would be very embarrassing and sometimes dangerous.

61.—**Posterior Urethritis.**—The brief note of Horwitz is on septic complications of posterior urethritis and he calls attention to the fact that change of scene is very beneficial in these cases and sea air particularly so.

76.—**Embolism of Posterior Tibial.**—This paper by Dr. Packard is of interest as giving a report of an unusual case of gangrene of the foot in a case of gout which was diagnosed correctly, the diagnosis being confirmed by autopsy. A piece of calcareous plate was found, which had detached itself from the atheromatous aorta and lodged in the posterior tibial artery, cutting off the circulation of the foot. Amputation had been performed, but the patient died from exhaustion after sloughing of the flaps.

77.—**Vaginal Hysterectomy.**—Ellis argues in favor of vaginal hysterectomy over the abdominal operation as being less disturbing, less mutilating and more satisfactory in results. He thinks that it is indicated in all operable malignant diseases of the os, cervix or body of the uterus; in suppurative bilateral disease and incurable inflammation of the appendages; in complete prolapse; in incurable chronic inversion, inoperable (septic) puerperal mètritis; in myoma and fibromyoma (with morcellement when necessary) unless especially contraindicated by size, extensive adhesions, etc. In excessively corpulent patients with very thick abdominal walls, the vaginal operation is safer.

82.—See ¶ 28 above.

83.—**Anomalies of Aorta.**—Baker reports a case of the persistence of the fourth right branchial arch, forming a duplicature of the aorta, the false aorta, if it may be so called, having a large aneurysm developed in its walls. Similar conditions have been reported by Bouillaud, Paget, Welch and others.

85.—**Prostatic Obstruction.**—This paper by Reginald Harrison, notices the various operative procedures for the relief of prostatic urinary obstruction. The writer still advocates McGill's suprapubic section for pendulous prostatic fibroids and excrescences encroaching on the bladder interior and causing severe irritation. For other forms of trouble, he does not specially favor castration, but prefers vasectomy in advanced forms of obstruction after medication and catheterization fail, though its effects on the prostate are slower. To this gradual change he claims, however, much of the comparative safety of this operation is due. The tube can generally be felt and rendered subcutaneous in the upper portion of the shaved and disinfected portion of the scrotum, and exposed by a linear incision about an inch long over the line of the duct. It is then seized by a Morant-Baker artery clamp forceps, and drawn out of the wound, the base of the loop ligated and the free portion removed by curved scissors. The stump is then slipped back into the scrotum and the wound closed with one or two fine sutures. A collodion dressing on gauze is then applied and healing usually takes place in forty-eight hours. Harrison does not generally divide both vasa on the same occasion, but prefers an interval of several days. As an anesthetic he prefers nitrous oxid and ether to local anesthesia for the few minutes required. Pavone advises torsion of the ends of the canal to insure complete closure, in addition to excision. Bransford Lewis has shown that mere ligation may be ineffective. The cases selected for vasectomy are those of obstruction caused by general prostatic enlargement where the gland had not yet become largely fibroid but still preserved a fair proportion of its secreting and muscular structure. These cases have usually some residual but not necessarily disordered urine. The changes induced by the operation are immediate and remote. The former are commonly observed in a few days and are, he believes, explainable by vascular changes. The more remote changes come on between a fortnight and a year and are mainly in the atrophy of the organ. When the hypertrophy is regular, vascular and spongy, the changes are more rapid than when it is limited, pendulous and fibrous. A vesical sac, not an uncommon complication of hypertrophied prostate, may by its bacterial infection and its overflow of urine, minimize or even destroy the good effects of castration or vasectomy. Much depends on its position and form as regards the mischief it may do. Carcinoma, if slowly progressive, may simulate a hypertrophied prostate and lead to fruitless operation. Harrison thinks it likely that this operation will be extended to other disorders of the urinary organs, as these ducts may be the route of migration of microbes and thus the disseminators of disease.

86.—See abstract in Journal, May 27, ¶36, p. 1165.

88.—**Chloroform-Ether Controversy.**—Schachner shows the advantages, respectively, of chloroform and ether, believing that it would be unsurgical to be the devotee of any special anesthetic. The conditions which control the anesthsia are external and internal. External conditions, as in time of war, give the preference to chloroform on account of its rapidity of action, its portability and safety as regards inflammability. Internal conditions favoring chloroform are various. Tetanus and violent puerperal convulsions require it as the most rapid of the two agents. Very old subjects are too rigid about the chest to meet the demands of ether, and these senile changes give chloroform the advantage, but fresh A. C. E. mixture would be better than either. In extreme obesity ether is too exciting in many cases. When renal disease exists, with or without atheroma, chloroform is safer, but if heart lesion also exists, it may be difficult to decide. When secondary cardiac degeneration occurs, as in Bright's disease, ether is safest, also in valvular heart trouble. In diseases of the respiratory apparatus chloroform should have the choice. In organic brain disease, any anesthetic is accompanied with risk. As regards prevention of accidents, he believes that the administration of .5 to 1 oz. of whisky at least one-half hour before the anesthetic is given is a good practice, and if the circulation demands attention, hypodermic injections of strychnin or digitalis, singly or combined, according to the case. If the respiration is at fault, cocain, strychnin and atropin, alone or in combination. He mentions Rosenberg's method of using cocain in the nasal mucosa before anesthesia, but doubts its advisability. He alludes also to Porter's suggestion as to the indications derived from examination of the urine. Any flagging in circulation or respiration during anesthesia should be met with hypodermic injections. As regards restorative measures in case of accident, he thinks mechanic treatment is undoubtedly necessary, artificial respiration, pulling forward of the tongue, alternate raising and lowering of the body and flagellation on the chest with hot or cold towels. When signs of life appear, hypodermic injections may also be used. No agent is better than strychnin in doses of 1/10 to 1/20 of a grain.

90.—**European Obstetrics.**—Mulheron describes the methods in use at Vienna as fairly representative of European scientific practice. The features he finds essentially worthy of comment or adoption are the thorough preliminary (aufnahm) examination, including pelvimetry, which he thinks is applicable to private practice in this country, due regard to the feelings of the patient being perfectly compatible with the essential measures; the preparatory treatment for labor; the general recourse to episiotomy to forestall perineal rupture; and the method of tying the cord. The features he would not approve, aside from the Continental regardlessness of exposure, etc., are abstinence from the use of anesthesia and the exclusively scientific, rather than humanitarian, spirit of the Austrian schools. He would not think it necessary to also follow them in the complete disuse of digital interference and the postpartum douche.

91.—**Hawaiian Medicine.**—The paper of Dr. Davison gives a very interesting account of the practices of the native Hawaiian *kahunas*, or medicine men, and is of considerable ethnologic as well as historic medical interest as a record of the usages of a class that, with their race, must soon become extinct.

92.—**Doctor Outside of Medicine.**—This paper is interesting in its data and reminiscences of former physicians of New York and other seaboard cities. It brings things down to the present date, noticing physicians that are still living.

93.—**Obstetric Cases.**—Dr. Barry's paper is a review of 100 or more obstetric cases in addition to 250 previously reported. He reports a number of cases of abnormal labor and gives a series of points as to diagnosis, etc., of faulty position.

94.—**Streptococcus Scarlatinae.**—Billings notices the claims of Klein and Kurth, of the discovery of a streptococcus characteristic of scarlatina, and gives a tabulated statement of seventeen cases of throat examinations with cultures, made in the diagnosis laboratory of the New York City Health Department. In about 50 per cent. of the cultures colonies were observed which presented a spotted appearance as described by Klein, but the general results were practically negative. In only one case was there anything like the characteristic streptococcus scarlatinæ isolated. He concludes that while it does occur in some cases, it is either not constantly present or very difficult to isolate. As to its diagnostic value, he considers it very dubious, and failure to find it in no way negatives the diagnosis. He suggests the possibility of differences in the disease itself as observed here and abroad.

96.—**Serum Treatment of Diphtheria.**—Lyon believes in the efficacy of antitoxin treatment of diphtheria. He favors the injection in the left abdomen. As to the use of it per os, he thinks there is no call to resort to it at present. A much larger quantity would certainly be required. He concludes that, to be efficacious, the remedy should be administered early, the first three days being the reasonable time in which to expect good results and the longer the time that has elapsed before the first dose, the poorer the prospects. He thinks that all exposed individuals should be immunized. As severe cases, that under ordinary treatment would result unfavorably, do well under the antitoxin, he believes in its use as routine treatment to be employed whenever diphtheria is suspected and even before bacteriologic diagnosis, the serum being the standard, not over six months old, and administered with perfect asepsis. The only unpleasant effect is a slight urticaria, which is of trivial importance.

97.—**Antinosin.**—Antinosin (the sodium salt of nosophen) is highly recommended by Amyx in enuresis, cystitis and urethritis, and he reports three cases to illustrate its value. It was employed in solution by irrigating the bladder, and its effects were very satisfactory. It possesses the advantage of being absolutely non-toxic and soothing rather than irritating.

99.—**Pityriasis Rubra Pilaris and Lichen Ruber Verrucosus.**—This paper is a differential pathologic study of these two conditions, too much detailed to be abstracted. It is illustrated by a number of half-tone plates.

100.—**New Arts in Practice.**—Doherty's paper is a general review of some of the popular errors and sanitary questions that come before the medical profession.

101.—**X-Ray Examinations in Tuberculosis.**—Williams reports several cases of the use of the X-ray in the diagnosis of pulmonary disease and, while not giving up other methods, strongly urges its employment as of value in detecting certain early abnormal conditions. He thinks the danger of X-ray burns is slight, if it exists at all, when proper precautions are taken.

102.—**Foreign Bodies in the Larynx.**—Clark's paper deals with the question of foreign bodies in the larynx of children and he has been able to collect 34 cases of which only 3 died. In 1 case death was immediate, from suffocation, in another the child died from inanition and probably bronchial pneumonia. He thinks that, while foreign bodies in the air-passages are more common in children than in adults, the mortality is lower. Leaving out cases in which death is immediate from shock or mechanic obstructions, cases of foreign bodies in the larynx are less fatal than tracheal or bronchial cases. In all cases of suspected foreign bodies in the larynx, laryngoscopic examination should be made at once, under ether anesthesia, unless the child is unusually tractable. If dyspnea is urgent, tracheotomy may be first performed. If the foreign body is visible in the larynx, attempts should be made to remove it by the mouth before resorting to any cutting operation.

103.—**Massage and Galvanism in Gout.**—Graham reports a case in which the indurations and swelling of gout disappeared rapidly under galvanism preceded and followed by massage. He cautions against the turning of these patients over to the hands of non-medical massage operators on account of the possibility of the gouty kidney being not equal to the demand of carrying off the waste produced. He thinks that while electricity and massage are required in gout, they would be better applied by a competent physician than by a gymnastic masseur

104.—See abstract in Journal, March 25, p. 661.

105.—**Effects of Violent Exercise.**—Observations were made of thirteen participants in the annual Marathon running race of the Boston Athletic Club, the distance run being twenty-five miles. Before the race the radial pulse was strong and full without exception, and ranged from 72 to 88. After the race 11 showed a weak rapid pulse ranging from 104 to 120; 2 showed exhaustion with slow pulse, 60 to 70, 1 irregular, the other intermittent. The temperature taken before the contest ranged from 98.2 to 100 degrees; after the race, in every case it decreased from 2 to 5 degrees, the minimum temperature being below 94. Loss of weight was as low as 1¼ and as high as 5½ pounds. The urine was examined before and after in 6 cases, and showed the presence of not only albumin but casts in every case, after the race. Thirteen examinations made by percussion before the race demonstrated relative cardiac dulness increased in 11; 2 showed diminished or normal area; these two showing a diminished or normal area did not finish; of the 10 completing the race 7 showed a relative increase in cardiac dulness, while 2 showed a decrease of this area corresponding to the position of the left ventricle after the race. Heart sounds before the race were normal, loud and full; immediately after the race weak in all cases, while in 11 systolic murmurs were noted, their point of greatest intensity was over the base and slightly to the left of the sternum, transmitted downward in a line corresponding to the left border of cardiac dulness, in some they were transmitted to the apex, and in all heard in the back. These murmurs disappeared within a short time. The writers show the results of the examinations can be summed up as showing an extreme condition of general muscular exhaustion, the muscular structure of the heart participating with other muscles. The murmurs are explained by remembering that the mitral valves, because of their most essentially muscular structure, are the first affected, and the earliest to fail to perform their normal functions, permitting regurgitation of the blood into the left auricle.

106.—**Nuclear Ophthalmoplegia.**—Lloyd gives a preliminary report of a case which is typic of the disease. The patient shows, however, abolished patellar reflexes without any other evidence of a posterior sclerosis.

108.—**Blood Changes in Trichinosis.**—Before diagnosis was made blood examination was suggested by edema appearing about the eyelids. Atkinson found a marked leucocytosis and great increase in the eosinophiles, being above 50 per cent. during the continuance of the severer symptoms of the disease. The percentage, it was observed, gradually decreased as the patient's symptoms subsided. The diagnosis was made plain by the finding of a few non encapsulated trichinæ in a section of muscle.

109.—**Arsenic in Malaria.**—Woodruff considers it advisable to administer arsenic in all cases of malaria unless the case is promptly cured after the first chill. His method of administration of this drug does not differ materially from that ordinarily resorted to.

110.—**Inoculations from Rabies.**—Anderson obtained the brain and cord of a rabid dog (from the bite of which two authentic cases of hydrophobia subsequently developed), from the medulla of which he inoculated the subdural space of a guinea-pig; in a month convulsions occurred and the pig died in a few hours. From the medulla of this pig a second was inoculated subdurally; symptoms did not develop for fourteen days; they were quite typic of rabies. This animal also lived only a few hours. No further inoculations were made.

113.—**Koplik's Symptom.**—In this paper the author calls attention to the sign described by him two years ago, which has now come to be recognized as a pathognomonic symptom of early measles. He points out its peculiarities in detail. It consists, as is well known, in small irregular spots of a bright red color, in the center of which is a minute bluish-white speck, appearing on the inner surface of the cheeks from twenty-four hours to five days before the eruption on the skin. By attention to these points, it will be possible to isolate measles at a much earlier period than was formerly the case. (See Journal, xxx, April 30, 1898, p. 1063.)

114.—**Oroscopy.**—Sobel's paper goes thoroughly over the various symptoms and morbid appearances that may occur in the oral mucosa.

115.—**Gastro-Enterostomy with Entero-Anastomosis.**—Weir reports five cases of gastro-enterostomy supplemented by entero-anastomosis by Braun's and Gallet's methods. The paper is illustrated and he gives the methods of operation quite clearly.

116.—**Cerebrospinal Meningitis.**—Conner's paper is an analysis of 60 cases observed during the last six years, at the Hudson Street and New York hospitals. He calls attention to the comparative frequency of cerebrospinal meningitis in New York City, a frequency greater than seems to be generally supposed. The cases occur not only in epidemics, but in relatively uniform numbers year after year. If they are to be considered sporadic cases of the epidemic form, the disease must be considered endemic.

117.—**Serum Therapy.**—Shoup discusses the subject of serum therapy, its theories and those of immunity, and says that we are now, as physicians, past the point of following implicitly the direction of the pathologic laboratory, as clinic experience has added to our knowledge. He calls attention to the fact of some of the inconveniences and awkward symptoms that have followed the use of antitoxin, and reports three cases of the use of antistreptococcus serum. In all cases there was decided benefit following the administration, but in one there was very high temperature four hours after injection and a decidedly critic condition calling for heart stimulants. In another, an attack of subacute rheumatism followed five days after the injection, which he attributes to the serum. He thinks that the antistreptococcus serum as now prepared is altogether too bulky and should be prepared in a more concentrated form.

118.—**Headaches and Nervous Symptoms.**—Mills thinks that the cases of headaches due to some abnormal condition of the blood, nasal abnormalities, etc., form a very small portion of the total. He thinks that refraction errors are responsible for a large proportion and play a far more important part in nervous headaches than is generally supposed. He reports seven cases relieved by operation or proper adjustment of glasses. These are, he says, but a few of many cases which he could offer to show the relief derived from tenotomy.

119.—**Recent Scientific Literature.**—The article of Dr. Howard's is a criticism of the false modesty which condemned Dr. Havelock Ellis' work in England last year, in the well-known Bedborough case.

120.—See page 1325.

121.—**Obscure Causes of Disease.**—Gleason's paper is a discussion on the subject of auto-intoxication as a cause of disease, the special forms mentioned being those of gout, uric acid, rheumatism, which is considered by one theory as a disorder of malassimilation, diabetes mellitus and acetonuria.

122.—**Rubeoliform and Other Eruptions.**—Sobel points out the value of the Koplik sign as a differential diagnostic symptom of measles in distinguishing it from rubella, antitoxin rash, erythema multiforme, urticarial eruptions, generalized vaccinia, drug eruptions, pityriasis maculata, etc.

123.—**The Midwifery Question.**—Hillis' article explains the popularity of the midwife among the poorer classes and criticizes the criticisms that have been made about her. He compares her usefulness to that of the female doctor, somewhat to the disadvantage of the latter, and questions any justice in compelling people to employ the services of a physician, either male or female, as opposed to the employment of a midwife.

FOREIGN.

British Medical Journal, May 20.

Series of Cases of Arthrotomy for Relief of Pain and Removal of Synovial Fringes, Loose Bodies and Fibrocartilages. C. B. Lockwood.—This paper begins with a report of four cases of operation on the wrist-joint for the relief of pain. Three of them were in women. The operations were opening of the joint and evacuation of the fluid, some of which contained flakes of lymph or was turbid, but not purulent in the true sense of the word. Relief from pain in all the cases was quite satisfactory. He had often performed similar operations for acute septic arthritis, but these were only for the relief of pain. In two cases, both females, the knee-joint was opened, and inflamed and elongated synovial fringes were removed, and in three cases osteoarthritic joints were opened with like good success, though in one there was considerable stiffness left, which he thinks detracts from the results. The paper closes with a description of two cases, one previously published and one new, where the knee-joint was opened for the removal of the internal semilunar fibrocartilage and two others are briefly mentioned. In these cases the trouble was more from stiffness and locking of the joint, and the operation was for this rather than for the relief of pain.

Interpretation of Skiagraph. E. Muirhead Little.—The author calls attention to the difficulties in the interpretation of the skiagraph. It should be borne in mind that the image produced is practically a shadow and subject to the same distorting influences as other shadows. The greater the distance of the sensitized plate or the fluorescent screen from the object to be examined, the greater the distortion and vagueness of outline. The aim, therefore, of the skiagrapher is to place the bone as near to and the Crooke's tube as far from the plate as possible. But this affects the power of the X rays so much that the distance is practically limited to a comparatively short one. In no part of the body, he says, are mistakes more likely to be made than in the skiagraph of pelvis and hips, and he shows a number of views of the same normal left femur taken under different positions of light, posture, etc., not by the Crooke's tube, but by an ordinary photograph of the bone to show the differences that will exist. His figures illustrate them satisfactorily.

Modification of Neisser's Stain for Diphtheria Bacillus. Alfred C. Coles.—This paper gives a modification of Neisser's new method of double staining the diphtheritic bacillus so as to clearly show the contained granules. After films are spread on slides or cover-glasses, they are fixed in the ordinary way by heat or by immersion in ether and absolute alcohol. Neisser's acid methylene blue stain is now applied for ten to thirty seconds. After washing they are immersed in Gram's iodin solution or Weigert's modification, for ten to thirty seconds, again thoroughly washed and stained in the vesuvin solution for ten to thirty seconds, and lastly, dried and mounted in Canada balsam. He thinks the results of this method are decidedly better than by the Neisser method alone.

Lancet, May 20.

On the Respective Parts Taken by Urine and Feces in Dissemination of Typhoid Fever. P. Horton Smith.—This paper commences by alluding to the fact that the general consensus of opinion at the present time is that the feces are the principal means of the dissemination of typhoid fever. The author endeavors to sum up the knowledge of the subject and gives the results of personal bacteriologic observations. His methods can not be given in detail, but his general conclusions are that the stools of typhoid patients separate from the urine contain typhoid bacilli in fair quantities demonstrable by present methods, up to about the beginning of the third week. After this the number begins to diminish and they are not so readily found. If, however, a relapse occurs, it may be preceded by an increased appearance of typhoid bacilli in the feces, but during the greater part of the relapse and during the convalescence, they are not likely to be found. It follows, therefore, that stools of typhoid patients must always be regarded as highly infectious during the early stages of the disease, and they again become so in the commencement of the occurrence of a relapse. Their infectious character diminishes in the progress of the disease, but how soon they become absolutely harmless can not yet be said. The possibility of the urine being infectious in typhoid was suggested by the author in 1896, and in 1898 Richardson found the typhoid bacillus in nine out of thirty-eight cases of typhoid fever. Petruchsky also found typhoid bacilli in enormous quantities in three cases, their presence making the urine actually turbid. He also refers to Blumer's observations and states that he had obtained positive results in four out of twelve cases. He concludes that it can no longer be doubted that typhoid bacilli occur in the urine of certain of the patients, probably in about 25 per cent. of all cases. Generally, though present in sufficient quantities to be detected by bacteriologic methods, they are not usually in sufficient quantities to alter the naked-eye appearance of the fluid. In a smaller proportion, however, probably about 5 per cent. of all typhoid cases, the urine is rendered turbid by their presence. They are nearly always in pure culture. They first appear rather late in the disease, rarely, if ever, before the third week, and may make their appearance during convalescence. They can generally be found for weeks and even months. The character of the urine does not assist in diagnosing the condition unless it is turbid. It may contain no albumin, often contains but a trace, sometimes contains a good deal and sometimes has pus, all of which conditions occur quite apart from the presence of the typhoid bacillus in the urine. The prognosis of the case is not rendered more serious by the occurrence of this condition. Comparing the infectious character of the feces with that of the urine there are to be noted some differences. Typhoid bacilli are almost invariably present in the feces, but in only about 25 per cent. of cases in the urine. Typhoid stools are most dangerous in the early period of the disorder, while typhoid urine becomes dangerous toward its close. Typhoid stools may contain large numbers of the bacilli, but never in such excess as the urine. He concludes that as regards the relative danger of the two, we must give the palm to the urine. The stools are naturally readily detected and the slightest soiling of the bedding and linen is at once rectified, but this is not the case with the urine, and the chances of infection, therefore, are greatly increased. In conclusion, he refers to Richardson's latest article in the *Journal of Experimental Medicine*, and the effects there reported of urotropin in causing the disappearance of the bacilli from the urine.

Treatment of Insanity by Various Animal Extracts. Arthur W. Wilcox.—In this paper the author reports a number of cases of insanity treated by animal extracts, ovarian, cerebrinin, didymin and thyroid, all in five grain tablets. In all cases due precautions as to bodily conditions, diet, etc., were taken. The beginning daily dose was 15 grains, increased daily by 15 grains until 60 grains had been given. Treatment was usually continued for five, six or seven days, and longer if thought desirable. Five cases in which ovarian extract was employed were those in which there was complete amenorrhea. In three of these there were good results after re-establishment of the menses; one case is still improving and in one no effect was produced. In the cases of female epileptics treated by cerebrinin tabloids, the results were not especially favorable. In one case there was decidedly an increase in fits. No better results were obtained from the treatment of male epileptics by the extract of didymin, and he does not feel encouraged to use either of these substances further. In regard to thyroid treatment, he has but little to say. In few of the cases was there even a temporary improvement.

Infection of Tubercle from Song-Birds a Fertile Though Unsuspected Source of Phthisis. A. Tucker Wise.—The author, while engaged in an inquiry as to the source of infection in certain cases, was struck by the number of patients who had lived in contact with diseased canaries and other feathered pets. He thinks feeding and nursing sick birds, blowing the dust and husks from their seed and cleansing the cage are not without danger. He also mentions the infection from parrots, which has been so disastrous in some epidemics in France. Considering the unnatural life which we give these pets in their cages, it is not remarkable that they should suffer from such diseases as tuberculosis. He has found, on clinic inquiry, some remarkable coincidences of the occurrence of tuberculosis in families that have kept birds in the house, and believes that a number of healthy, sound individuals contract disease from this origin. He reports ten cases in which he thinks he has seen this cause the contagion. Although doubt has been expressed regarding the identity of avian and human tuberculosis, more recent investigations tend to show that both are produced by the same species, only modified by their respective modes of nutrition, and that canary birds and other pets suffering from tuberculosis may convey the disease in innumerable possible ways.

Medical Press and Circular (London), April 26 and May 3.

Deaths After Abdominal Celiotomy. W. J. Smyly.—The author classifies the causes of death after celiotomy as follows: shock, hemorrhage, ileus, uremia, inanition, tetanus, embolism and sepsis. The causes of shock are not exactly clear, but it is generally in direct proportion to the manipulation and duration of the operation, especially when long exposure and manipulation of the intestines occur, much blood is lost and the body is generally cooled. Its treatment principally consists in warming up the operating-room, reducing hemorrhage to a minimum, watching carefully for and meeting any symptoms of depression. Injection of sterilized salt solution after the manner of Kelly of Baltimore is, he thinks, a matter of importance. The patient should be placed in a warm bed, heat applied, and brandy, ether or strychnia given hypodermically. Ileus is a serious matter and one of the greatest disappointments met with in abdominal surgery. Much of the difficulty exists in the diagnosis, an early one being often impossible. Thrombosis is due to septic infection or some obstruction to the circulation. As it is a potential embolism, the patient should be cautioned against violent efforts and straining for some time after abdominal operation. The author has had no personal experience with tetanus. Regarding peritonitis, he is inclined to believe that it is not always sepsis. It may occur when the intestines have been long exposed or much manipulated, without any infection existing, as shown by Howard Kelly. The treatment recommended some years ago by Lawson Tait, i. e., free purgation, is, he believes, a recognized method at the present time. Septic infection must be prevented by perfect asepsis, and we must understand that anything coming in contact with the field of operation must be absolutely free from germs; this includes not only the operator, his assistants, instruments and dressing, but also the air and water. He places the most reliance in alcohol in after-treatment of septic cases, and concludes with the advice of Doyen, to operate quickly and thoroughly.

Notes on Four Cases of Intussusception. Albert E. Morrison.—In the first recovery occurred without operation, the patient passing about twelve inches of intestine which had sloughed away. The second case was seen too late for any operation and died a few hours after. It was a good example of a case allowed to run its natural course with the usual results. The third and fourth cases illustrate the failure of injection. The third shows the disadvantage of postponed, and the fourth the advantage of early operation. Morrison believes that as taxis is going out of date with strangulated hernia, such methods as injection will be less used in the future treatment of intussusception. Early operation in both is safest and most satisfactory.

Notes on the Plague. Sir Charles A. Gordon.—The author notes the data and opinions that have been advanced in regard to the disease. They are somewhat contradictory in some respects, some holding that the disease is endemic and others as imported. The native races are apparently about alike in their susceptibility, and there is no special seasonal aspect as to the outbreaks. The spread is attributed to various causes which seem very erratic. In some cases it was attributed to animals, rats, monkeys and squirrels. The effects of inoculation were variously reported on. No special form of treatment seems to have any particular evidence in its favor. In some instances segregation of patients was said to be successful, but in others was described as injurious. The same is said in regard to disinfection. Sanitation was not always effective and sometimes the epidemics ceased irrespective of any of these measures. These notes are made largely from newspaper accounts and not from authorized expert investigators.

Archives Orientales de Medecine et de Chirurgie (Paris), April.

Forcible Reduction of Curvature of Spine.—An article was published in the March number containing the description and illustrations of the method of forcible reduction of the hump practiced by Avicenna in the ninth century, the physician sitting or jumping on the back of the subject, taken from a work recently unearthed at Cairo. An epigram from the Greek anthology is also mentioned, on the death of a man whose hump Diodorus had promised to reduce, which he accomplished with three heavy stones, making the back as straight as a ruler, but killing the subject. The April number contains M. Bilhaut's latest results with the modern revival of forcible reduction, showing cuts of children before and after a sufficient length of time has elapsed for the gratifying final results to be determined, six months or more after all apparatus has been discarded. He has had no deaths nor aggravation in his last 100 cases. The weight of the child alone, suspended by the head, is sufficient to reduce the hump in fresh cases. The fixation in the normal attitude is perfect.

Journal de Medecine de Paris, May 14.

Morphinomania. A. Lutaud.—Many persons voluntarily apply for treatment in special establishments, but their will is not strong enough to carry the treatment through to a successful termination, and they leave with nothing accomplished. Lutaud urges legislation which will authorize the detention in the sanitarium of those who voluntarily apply, until sufficient time has elapsed for a cure to be effected. This is especially necessary in the case of abusers of cocain, as they may become as violent as persons in an acute stage of alcoholism.

Presse Medicale (Paris), May 13 and 17.

Traumatic Perforation of Stomach. R. Le Fur.—A case reported, requiring ligature of a small artery on account of threatening hematemesis, emphasizes the aseptic and otherwise favorable conditions for spontaneous cicatrization which prevail in this organ.

Cerebral Theory of Cheyne-Stokes Respiration. Rabé.—The writer concludes this review of the facts cited by various authors to prove a cerebral instead of a bulbar origin for Cheyne-Stokes respiration, by asserting that it is now established that if there is respiratory activity in excess of what is needed for ordinary pulmonary ventilation (Mosso's "respiration de luxe"), superadded to a functional hyperactivity of the hemispheres, cerebral insufficiency, whether experimentally produced or due to a pathologic process, induces slower respiration, "simple respiratory delirium." The respiration may become so slow as to assume a periodic type. When the Cheyne-Stokes' respiration appears in diseases or intoxications, it is always preceded by indications of profound cerebral inhibition, loss of the encephalic nerve influx. It frequently happens that parallel to the successive phases of the Stoke's cycle a number of other symptoms are manifested, proceeding from different spheres of nerve activity, and that these symptoms undergo regular rhythmic eclipses of their excitability, and that the periods of intensity and repose alternate exactly synchronously with the stages of polypnea and the respiratory pauses. One and the same functional deviation, one and the same periodic nerve disturbance, followed by a period of repose, governs the excitability of the cortex and of the central gray nuclei. It follows that the respiratory function, directly under the influence of the conditions of excitability of the gray covering of the hemispheres, undergoes the same rhythmic oscillations in its activity, and the Cheyne-Stokes' rhythm becomes one of the elements of the periodic syndrome.

Subarachnoidean Injections. A. Sicard.—Experimental research on over 150 dogs, and clinic experience in a number of cases, enable the writer to positively affirm the absolute harmlessness of lumbar puncture and the possibility of utilizing it in therapeutics. He finds that salt solution or serum can be introduced into the cerebrospinal fluid in quite large amounts without any intense or persistent meningeal reaction (200 c.c. in a medium-sized dog). Another point established by these researches and Bier's cocainization of the spinal cord (see Journal, p. 1169) is the slowness of the diffusion of an active substance introduced into the subarachnoid space, either cerebral or spinal. It remains at the injecting point, sinks or rises, according to its nature, density, the quantity or the rapidity of the injection, obedient to the laws of gravity, etc. Oily or gaseous substances rapidly make their way up to the brain, while heavy substances sink. The most effective technic is with a sacrolumbar puncture, more sacral than lumbar, at the lowest point of the dural cone. In two cases of violent tetanus 40 and 60 c.c. of antitetanic serum were thus injected without any bulbar symptoms or pain. The patients survived three days before succumbing to their intense infection. In another case of rapidly progressive general paralysis with epileptiform seizures, rebellious to all treatment, 25 centigrams of potassium bromid mixed with 5 to 6 c.c. of cerebrospinal fluid freshly obtained by lumbar puncture, were combined with 2 c.c. of pure oil and injected. There was quite severe cephalea for three days, slight nausea during the first night, temperature of 38 to 39 C. for two days. By the fourth day all morbid symptoms had passed away and with them ceased the epileptiform seizures. The latter recurred two weeks later, as frequent as before. The patient died in seven weeks, from bronchopneumonia, and at the autopsy droplets of oil were found, especially numerous in the frontal cornua of the lateral ventricles, and the cerebral cortex felt greasy to the touch. There was no superproduction of cerebrospinal fluid. Further tests are now in progress with solutions of bromid, iodin and cocain in cases of cerebrospinal syphilis, severe epilepsy, rebellious sciatica and tabes, with fulminating attacks in the lower members.

Semaine Medicale (Paris), May 17.

Pathogenesis of Gastro-Intestinal Infections in Young Children. P. Nobécourt.—The author ascribes many of these infections, and particularly the chronic, to the association of the coli bacillus and the streptococcus. Alone each is harmless, but combined in a certain proportion they produce infection. Animals inoculated with each separately at different points were unaffected, but when inoculated with the two combined, infection invariably followed. The streptococci then gradually disappear until nothing but the coli bacillus can be found, although infection would not have occurred without their presence at first. Possibly the pyocyaneus, mesentericus or proteus may also produce infection by association with the bacillus coli in the same way. He mentions finding pure cultures of the streptococcus in some samples of milk sterilized with the Soxhlet, and spores of the mesentericus after a temperature of 100 C., showing that these secondary microbes may easily find their way into the intestines in sufficient numbers. "The significance of this streptobacillary association and its prophylaxis are most important questions."

Grece Medicale (Syra), December to April.

Paludic Diathesis in the Caucasus. T. Triantaphyllides.—In this comprehensive study of the conditions which follow malarial fever or may exist without any acute manifestation of malarial infection, the chapter devoted to the symptoms describes the morbid psychic state and the latent neurasthenia. The vasomotor troubles, vertigo, either simple or accompanied by vasomotor cardiopulmonary troubles or disturbed general sensibility (Krishaber's cerebrocardiac neurosis), which frequently lead to gross errors in the diagnosis, as also occurs with many other of the manifestations, especially the neuralgias, often mistaken for gout, uterine or vesical affections. Labial herpes, urticaria, symmetric eczema and other trophic disturbances, impotence from local paresis of the vasodilators, and the respiratory, digestive and genito-urinary disturbances, all are caused by disturbances in the innervation, the digestive troubles usually the expression of a neurosis of the solar plexus. Purely functional at first, they may end in permanent organic changes. Diarrhea may be the first and only manifestation of the diathesis and, easily curable in the early stages, will, if unchecked, lead to an incurable enteritis, which is identic with "tropic diarrhea." Periodic asphyxia of both hands every morning was noticed in one case, disappearing at noon. His observations show that there is scarcely any affection of any organ that this diathesis may not simulate, and yet all can be rapidly cured if correctly diagnosed and treated in time with quinin and appropriate symptomatic and pathogenic measures. Any one of the various troubles mentioned may be and remain the primary and unique manifestation of the diathesis. A constant sign is the painful sensibility to pressure of the umbilic region a little to the left, and the right kidney is frequently lower than normal. Hypodermic injections once a day of 0.60 to 1 gram of quinin ("bimuriatic"), are much more effective than any medication per os.

Mittheilungen aus der Medicinischen Facultat (Tokio), 1899.

Diagnosis of Cancer of Stomach and Tuberculous Peritonitis. M. Miura.—"The discovery by rectal palpation of one or more metastatic nodules in Douglas' pouch will confirm the diagnosis of a malignant neoplasm in the stomach or abdominal cavity." "Tuberculous infiltration of Douglas' pouch is also an early symptom of peritonitis tuberculosa, easily palpated through the rectum."

Revista de Medicina y de Cirurgia (Havana), April 25.

Surgical Intervention in Wounds from Firearms. E. Nunez.—The writer details his experiences during his three years' campaigning with the Cuban forces. He observes that mutilating operations are destined to disappear altogether from military surgery, and emphasizes the necessity of prompt laparotomy with perforating wounds of the abdomen. He ascribes the benignity of "simple" wounds nowadays to the skill of the surgeon, asepsis and antisepsis, rather than to the small size of the bullets, and considers the indications for exploration and extraction of a bullet extremely limited, and that its retention in the tissues does no harm in most cases.

Centralblatt f. Chirurgie (Leipsic), May 20.

Suggestion for an Easily Removable Buried Suture. R. Minervini.—Two threads are used, one very long, of fine silk; the other, not much longer than the wound, but very stiff and straight, of stout silkworm gut or wire. The soft silk is used for the suture, making a row of loops like a sewing machine stitch through both lips of the wound, the thread very loose. The stiff gut or wire is then passed through these loops on the farther side, and also through the broad, slack loop left between the stitches, brought over from the other side between each of the small loops, making a double W with the four stitches in the tissues. The loose thread is then drawn tight after the upper end is fastened over the top of the wire or gut. The other end is brought out through the lower angle of the cutaneous suture with the end of the gut. When the straight, smooth gut or wire is removed, the fine thread pulls out without the least difficulty. The pressure on the tissues is minimal and experiments on dogs have confirmed the advantages of this method of suture. The outer integument is not shown at all in the illustrations.

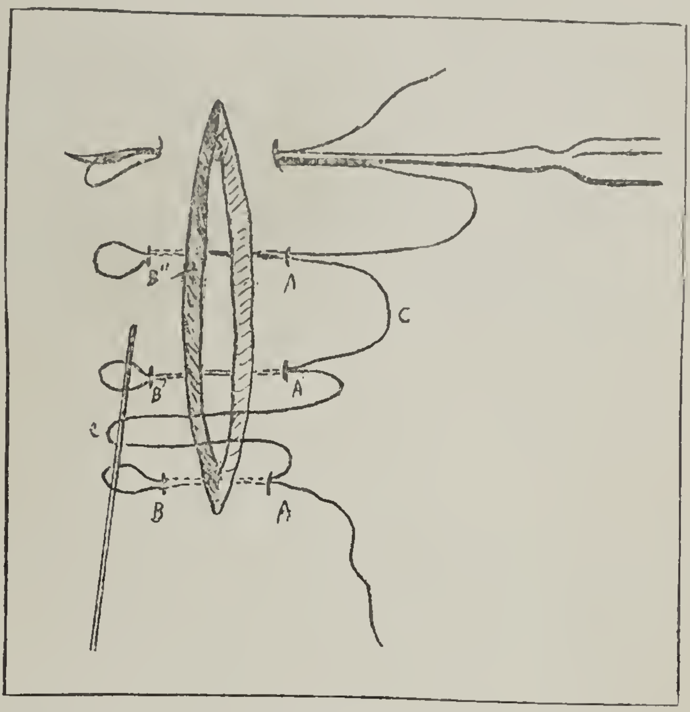

Figure 1.

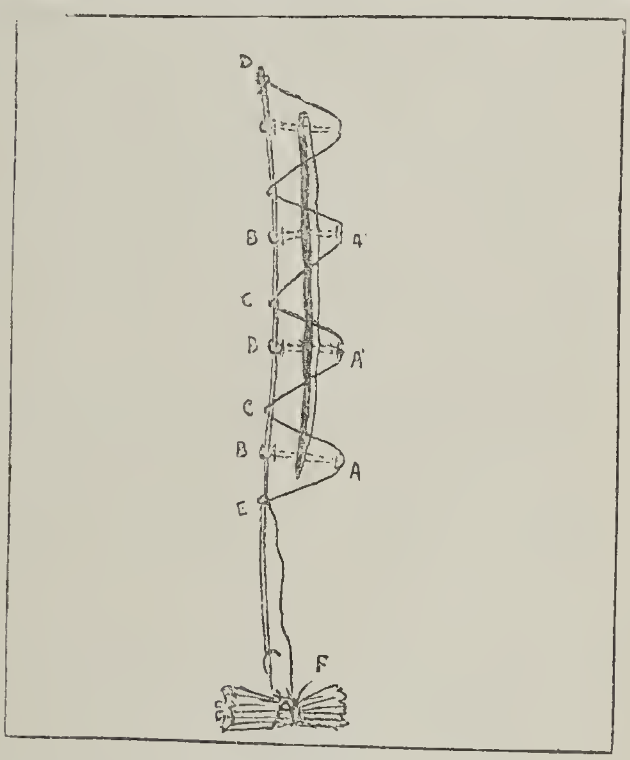

Figure 2.

Muenchener Medicinische Wochenschrift, May 16.

Treatment of Deafness in Pneumatic Chamber. G. v. Liebig.—Hovent claims that nine out of ten adults with chronic deafness, treated in vain by other methods, are materially and permanently improved by treatment with compressed air, and four out of five children (138 cases). The pressure should be higher than in the ordinary pneumatic chamber. The effect is probably due to the emptying of the veins and capillaries of the ear which have been chronically dilated, and this effect may extend to the portions within the cranial cavity. Liebig reports three personal cases extremely improved in regard to their hearing, who were being treated in the chamber for some other affection. Sandahl reports 114 cases followed. Sixty-two were cured or extremely improved. No improvement was perceptible in fifty-two.

Dermatologisches Centralblatt (Berlin), May.

Inhalation of Mercury as a Factor in Cure of Syphilis. A. Lieven.—The comparatively recent idea that the fumes inhaled materially assist the cure, has received an unexpected endorsement from the practice of the natives of Sumatra who cure syphilis by pouring a little pure mercury into one hand and rubbing it with the other until evaporated, carefully observing the precaution to remain seated, never lying down during the entire course of treatment, as they assert that the disease is especially malignant if the subject lies down. In a reclining position the effect of the fumes would be entirely lost in the airy native huts, and they have empirically discovered their importance.

Societies.

COMING MEETINGS.

Colorado State Medical Society, Denver, June 20.
Indian Territory Medical Association, So. McAlester, June 20 and 21.
Massachusetts Medical Society, Boston, June 13.
Medical Society of Delaware, Wilmington, June 13.
Minnesota State Medical Society, Minneapolis, June 21.
New Jersey Medical Society, Deal Beach, June 27.
Oregon State Medical Society, Portland, June 13 and 14.

Congress of German Physicians and Naturalists.—The seventy-first congress is to convene at Munich, September 11 to 16. A special section has been organized for medical history and geography.

New Mexico Medical Society.—At the eighteenth annual session of this society, held in Albuquerque, May 30, officers were elected as follows: president, G. S. Easterday, Albuquerque; secretary, W. G. Hope, Albuquerque.

Elkhart County Medical Society.—At the annual meeting of this society, held in Elkhart, Ind., May 25, the following officers were elected: president, J. A. Work, Elkhart; vice-president, Dr. Dutro, Bristol; secretary, H. O. Statler, Goshen.

Society of Washington Ophthalmologists and Otologists.—At the annual meeting for the election of officers recently held in Washington, D. C., the following were elected: president, J. H. Bryan; vice-president, Wm. H. Wilmer; secretary, E. O. Belt.

Indiana State Medical Society.—On June 1 and 2, at Indianapolis, the semicentennial of this State society was held. The following officers were elected: president, Walter Schell, Terre Haute; vice-president, Samuel Kennedy, Shelbyville; secretary, F. C. Heath, Indianapolis; assistant-secretary, John B. Fattic, Anderson; treasurer, A. E. Bulson, Ft. Wayne. The next annual meeting will be at Anderson.

Oklahoma Medical Association.—The seventh annual session of this association was held in Oklahoma City the last week of May. The next meeting will be in November at Guthrie, at which time the constitution and by-laws will be adopted. The election of officers resulted as follows: president, C. B. Bradford, Oklahoma City; vice-president, Chas. W. Fisk, Downs; secretary, B. F. Harriman, Chandler.

American Gynecological Society.—The twenty-fourth annual meeting of this society was held in Philadelphia recently. The address of welcome was made by Dr. Edward L. Duer. The following officers were elected: president, George Engelman, Boston; first vice-president, E. L. Duer, Philadelphia; second vice-president, S. C. Gordon, Portland, Me.; secretary, J. Riddle Goffe, New York City; treasurer, J. Montgomery Baldy, Philadelphia (re elected).

American Electro-Therapeutic Association.—The ninth annual meeting of this association will be held in Washington, D. C., Sept. 19-21, 1899, under the presidency of Dr. F. B. Bishop of Washington. Aside from the sessions of the association, the committee has completed arrangements for a trip to Mt. Vernon, one to Arlington, and several other social features. The headquarters will be at Willard's Hotel, where special rates will be given to members and their families during the meeting.

American Dermatological Association.—This association has just held its twenty-third session in Philadelphia, and elected the following officers: president, H. W. Stelwagon, Philadelphia; vice-president, G. T. Jackson, New York; secretary and treasurer, Frank H. Montgomery, Chicago. The next meeting will be held in Washington, D. C., in May, 1900, and will be considered a part of the Congress of American Physicians and Surgeons, which will be in session there at that time.

International Association of Railway Surgeons.—The following officers were elected at the recent meeting of this association, held in Richmond, Va., the first days of June: president, Alfred J. Bouffleur, Chicago: vice-presidents, Thomas A. Manley of New York, N. P. Shinkle of Mississippi, N. J. Pettijohn of Maryland, H. P. Merrill of Maine, W. L. Hoy of Ohio, F. H. Drake of Canada, N. C. Moore of Iowa; secretary, Louis J. Mitchell, Chicago; treasurer, Eugene R. Lewis, Kansas City, Mo.

American Surgical Association.

Abstract of Proceedings of Twentieth Annual Meeting, Held in Chicago, May 31, June 1 and 2, 1899.

TECHNIC OF LARYNGECTOMY.

President W. W. Keen of Philadelphia chose this subject for his address. He began by saying that he has been ill satisfied with the usual technic of laryngectomy, and as in a recent case he adopted a method which rendered the operation one of simplicity, caused but little loss of blood and little shock, and avoided the danger of aspiration pneumonia, he ventured to bring it before the association in the hope that it will be tested by others so as to determine its real value. Instead of being a very severe and dangerous operation, as it has hitherto been regarded, he hopes this will place it in the category of safe operations.

Nearly all authors, whether surgeons or laryngologists, speak of the operation as an extremely severe and dangerous one, and this view is warranted by its past high mortality. Thus Rutsch speaks of the "recovery as very doubtful." Sendziak states that up to 1881 thirty cases had been operated on with seventeen deaths, a mortality of 56.7 per cent., and that in all the thirty there was only one definitive cure, that is, in which three years or more had passed without recurrence. Later statistics, fortunately, have proved progressively more favorable. Thus Sendziak tabulated from 1873–1894, 188 cases of laryngectomy for carcinoma. The results are thus tabulated: 1. Recurrence, 32.45 per cent. 2. Relative cure (less than three years), 6.9 per cent. 3. Definitive cure (three years or more), 5.88 per cent. 4. Death, 44.7 per cent.

Schmiegelow has tabulated fifty cases of total laryngectomy from 1890 to 1897, and these still later statistics are far from encouraging. His table shows: 1. Recurrence 20 per cent., a fall of 12 per cent. from Sendziak's table. 5. Relative cure, 48 per cent., a rise of 41 per cent. from Sendziak's table. 3. Definitive cure, 10 per cent., nearly double that of Sendziak's table. 4. Death, 22 per cent., one-half that of Sendziak's table.

The mortality, it will be observed, therefore, has been halved and the definitive cures doubled, as compared with Sendziak's statistics. Were the cases occurring from 1890 to 1894 excluded from Sendziak's statistics the relative difference would be even more favorable.

The causes of the mortality are chiefly: 1, weakness of the patient by reason of the disease, the poor aeration of the blood and the entrance of septic discharges from the diseased larynx into the lung before the operation; 2, shock, including hemorrhage during the operation, and 3, after the operation, septic pneumonia, due to the aspiration of infected wound fluids. This is the greatest danger of all. The sources of these wound fluids are twofold: First, the tracheotomy wound, if as is usual, tracheotomy has been done; and secondly, the wound left by the removal of the larynx. These wound fluids are usually infected from the food, the secretions of the mouth and the packing by iodoform gauze which renders primary union impossible.

While the method which he wished to describe did not obviate the weakness or any other unfavorable influence from the general condition of the patient prior to operation, it minimizes the other causes of death, and especially the possibility of pneumonia.

He can not claim originality for any one of the steps, for they have all been employed, he believes, by others. Thus Bardenheuer closed the communication between the trachea and the pharynx, but he only kept it closed until the wound became covered with granulations, and complications were no longer to be feared, say fourteen days. The communication was then reopened for the insertion of an artificial larynx. After adopting this method he had had four recoveries, while by the former method he had had four deaths. Cohen united the stump of the trachea to the skin, one of the most important improvements in the technic, since it prevents in a large measure the access of wound fluids to the lungs. Other surgeons also have used the Trendelenburg posture, etc. But as a systematically planned operation, combining many advantages, the present technic as a *tout ensemble* may be called original.

1. The general preparation of the patient is the same as for any other operation.

2. As in all cases about the mouth, nose, pharynx and larynx, he is particularly careful to make a systematic attempt for two or three days beforehand to secure at least partial disinfection. While partial disinfection is not as good as complete, yet the results in treatment of fractures of the base of the skull, in the extirpation of rectal tumors, etc., shows its great value. He has the teeth very carefully cleansed by the tooth-brush. If there are any old stumps of teeth present it is better that they should be extracted, and the operation deferred a few days until these dental wounds heal. For two or three days before operation, every two hours, when the patient is awake, he has the mouth and each nostril sprayed separately with a solution of boric acid, listerin, or both.

3. Nearly all authors recommend a tracheotomy either as the first step of the operation or more frequently ten to fourteen days before operation. In the few cases in which dyspnea is great he should be disposed to do a tracheotomy, say two weeks before the laryngectomy; not, however, with a view of preventing the entrance of blood and wound fluids into the lungs by the introduction of a tampon canula, but for the purpose of improving the general condition of the patient. In the case which is the basis of this paper he did a tracheotomy at the time of operation, but removed the tracheal tube at the termination of the laryngectomy, immediately closed the wound in the trachea, and obtained absolutely primary union. In any future case he is strongly of opinion that it would be better to omit tracheotomy entirely. As he would show, it was not, in his opinion, needful, and by omitting it we would eliminate one cause of septic pneumonia.

4. The entire operation, after the trachea is invaded, is done with the patient in the Trendelenburg position. He is quite persuaded that the majority of surgeons do not appreciate to its full the advantages which this posture possesses in all operations about the upper air-passages. As he had pointed out in a previous paper, he employs it in epithelioma of the lip, in extirpation, or other operation on the upper and lower jaw, in removal of the tongue, in cleft palate, in operations on the tonsils and pharynx, and all similar operations. Blood will not run up hill any more than water, hence, if we employ this posture in laryngectomy, we avoid one of the chief reasons for tracheotomy and the employment of a tampon canula.

The disadvantages of tampon canulæ are very great. Kocher, like himself, has lately dispensed with them entirely. The three most commonly used are those of Trendelenburg, Hahn, and Gerster. Of the three, Gerster's is distinctly, in his opinion, the best. It can be more accurately adapted to larynges of varying sizes, and is much less likely to injure the parts either by undue pressure or by difficulty of introduction. In one case, in his attempts to introduce a Hahn canula, the rings of the trachea were considerably torn. The objections to Trendelenburg's canula are: arrest of respiration, which sometimes follows its introduction: the production of pressure gangrene in the trachea, obstruction to the lower end of the tube by the rubber ballooning into the trachea beneath it, the bursting of the rubber or its being cut, and if none of these mishaps occur, the air often gradually escapes and thus renders it useless.

The Hahn canula can not be made aseptic so easily as the others; and as Lennox Browne has pointed out, it requires sometimes twenty minutes for the expansion of the sponge after its introduction.

5. Anesthesia is at first done through the mouth, and is so continued until the larynx or trachea is invaded. A large tracheotomy canula (12 millimeters in diameter) is then introduced, and held in place by disinfected tapes tied around the neck. The inner tube of this canula is removed and the metal tube of a Hahn canula, which precisely fits it, introduced. A rubber tube connects this with the ordinary funnel for the administration of chloroform.

6. The operation proper, he described in connection with the case reported, and then indicated the improvement in technic which he purposed adopting in the next case he might have.

7. The after-treatment.

a. Posture.—The patient is kept in the Trendelenburg position by placing a chair under the foot of the bed. This posture prevents any wound fluids from running down (or rather up) into the lung. This position is to be maintained for one day. On the second day the bed is lowered to the horizontal plane. On the third day he is allowed to sit up in bed on a bed-rest; on the fourth, to get out of bed and sit in a reclining chair, and on the fifth day he may walk about the room.

b. Food.—For two days nutritive enemata only are to be used. After that a teaspoonful of liquid food is given, at first every half hour, always followed by a tablespoonful of sterile water to wash away any food that might possibly leak into the laryngeal wound. At the end of a week full diet as to quantity may be given, but no solid food is to be given until the tenth day. No catheter or esophageal tube is required. The present patient could swallow from the very first.

c. Dressing.—The primary dressing was described in connection with the case. On the day after the operation the small gauze drain is to be removed. Half of the stitches may be taken out on the fourth day and the remainder on the sixth day. In the case reported the temperature on the day after the operation rose to 101.8 F., and fluctuated between the normal and 101 for a week, when it fell to the normal.

8. The only objection to this method, which occurred to the author, is that it absolutely precludes the use of any artificial larynx. But the possession of voice is nothing when compared with a speedy recovery and a greatly diminished danger of a fatal result. Rutsch believes such a larynx is very unsatisfactory. The author recognizes the fact that one case does not prove the value of any method, but its advantages were so striking in this case that, as laryngectomy is a relatively rare operation, he has not thought it best to wait until he could accumulate a much larger experience before bringing it to the attention of the profession.

9. As to final results, it is too early to draw any inference as to the possibility of recurrence in this particular case; nor is this his purpose. His intention has been rather to demonstrate a method of laryngectomy which would diminish more especially the immediate mortality of the operation and secure speedy recovery by primary union. The chances of recurrence are no greater, nor yet any less, after operation by this method than by any other. This particular patient has been able to go out in all weathers during the past extremely severe winter, though living as far north as Waterville, Me., where the thermometer has been many degrees below zero.

At the conclusion of the president's address, a symposium on

SURGERY OF THE SPANISH WAR

was taken up.

FIRST-AID PACKAGE IN MILITARY SURGERY.

Dr. **Nicholas Senn**, Chicago, read the first paper, and stated that two things were brought out clearly during the Russo-Turkish War, namely, the value of a first-aid antiseptic occlusive dressing in the prevention of wound infection, and the importance of immediate immobilization of compound gunshot fractures. Dr. Senn suggests the following first-aid package for field use and emergency work: two pieces of lintin, a form of compressed cotton, four inches wide and sixteen inches long, sterilized and folded twice lengthwise; a teaspoonful of the borosalicylic powder in a small waxed aseptic envelope; between them a piece of sterile gauze, forty-four inches square, with two safety pins, folded to corresponding size with the lintin compress; all of these articles wrapped in tin-foil; two strips of rubber adhesive plaster, an inch wide and eight inches long, the whole to be sewed in an impermeable canvas or linen cover. In using the package the powder is applied to the wound, when the lintin is used as a compress, held in place by the strips of adhesive plaster, and the gauze bandage over it. If two wounds are to be dressed at the same time, as is usually the case in modern warfare, the contents of the package are equally divided and used, which can be done without materially impairing the efficiency of the dressing. The slight hemorrhage in wounds inflicted by the small-caliber bullet will soon saturate a part of the dressing, which by evaporation will soon convert the antiseptic powder and the cotton into a dry, antiseptic crust, the very best protection for the wound against infection. Many military surgeons have expressed themselves recently as being opposed to the employment of the first-aid package by anyone else than medical men. This position Dr.

Senn thinks will be found untenable during any great war, when the number of wounded would greatly exceed the working capacity of the limited number of surgeons.

In summarizing, the following conclusions were emphasized:

1. First-aid packages are indispensable on the battlefield in modern warfare.
2. The first-aid dressing must be sufficiently compact and light to be carried in the skirt of the uniform, or on the inner surface of the cartridge or sword belt to be of no inconvenience to the soldier or in conflict with military regulations.
3. The Esmarch triangular bandage is of great value in the school of instruction, but in the first-aid package it is inferior to the gauze bandage.
4. The first-aid package must contain, in a waxed, aseptic envelope, an antiseptic powder, such as borosalicylic powder, sterilized pins wrapped in tin foil, and between this package and the outside impermeable cover, two strips of adhesive plaster an inch wide and eight inches long.
5. The first-aid dressing must be applied as soon as possible after the receipt of the injury, a part of the field service which can be safely entrusted to competent hospital corps men.
6. The first-aid dressing, if employed behind the firing line, should be applied, without removal of the clothing, over the injured part, and fastened to the surface of the skin with strips of rubber adhesive plaster, the bandage being applied over and not under the clothing.
7. The first-aid dressing must be dry and should remain so by dispensing with an impermeable cover over it, so as not to interfere with free evaporation of the wound secretion.
8. The first-aid dressing should not be disturbed unnecessarily, but any defects should be corrected at the first dressing station.

BATTLESHIP IN WAR.

Dr. N. M. Ferebee, medical inspector of the United States Navy, Norfolk, Va., read a paper on this subject. He described a modern battleship, spoke of the preparation for, and the conditions during, war. He also narrated his experience with modern rifle bullets and with shells, and closed his paper by detailing interesting cases.

ORGANIZATION AND EQUIPMENT OF MILITARY FIELD HOSPITALS.

Dr. George R. Fowler, Brooklyn, read this paper. Under the head of organization the essayist dealt with executive offices, dispensary, property office, post-office, quartermaster's office, commissary office, medical ward, surgical ward, operating tent or pavilion, pathologic and bacteriologic departments, cooking department, diet kitchens, sanitary and disinfection departments. In referring to location and arrangement, he spoke of the importance of selecting a suitable site, and then dwelt on soil, drainage, arrangement of the wards, sinks, and emphasized the importance of cremating garbage and typhoid excreta.

In referring to equipment, he spoke of tentage, pavilions, furniture, linen, medical supplies, anesthetics and antiseptics, instruments, sterilizers, operating-tent furniture, ligature and suture materials, dressing materials, splint material, and transportation facilities. Lastly, he dwelt at length on the personnel, which comprises executive and administrative officers, professional staff, ward officers, operating staff, ophthalmologist, aurist, dentist.

EFFECTS OF MODERN SMALL-ARM PROJECTILES AS SHOWN BY WOUNDED OF FIFTH CORPS.

Dr. Charles B. Nancrede, Ann Arbor, Mich., followed with this paper. Reports show that about 1400 wounded were cared for at the hospital with which he was connected, for nearly all of the injured in this corps who survived for twenty-four hours sooner or later passed through their hands, so that flesh wounds, and those of a day to a week or more were observed.

Flesh wounds were always of a trivial nature, unless the ball became deformed by striking some extraneous object, or when stripping its mantle, as it sometimes did. This immunity enjoyed by the flesh wounds caused by Mauser and Krag balls resulted: 1, from the slight amount of contusion caused by the rapidly moving ball; 2, the aseptic condition of the ball, and, 3, the rarity of the carriage of fragments of clothing into the wound, as was not uncommonly done by the 43-caliber Remington, brass-mantled balls. If maintained aseptic, the majority of flesh wounds healed almost as if they had been incised wounds, not uncommonly cicatrizing under the primary field dressing made with the first-aid package.

Contusion or slight wounds of the great vessels leading to so-called traumatic aneurysms, or aseptic or septic sloughing of the vessels many days after the receipt of the wound, were far from uncommon. Thus, he saw one wounded subclavian where the patient survived over three weeks, to finally succumb to hemorrhage during an attempt to ligate the vessel, which was torn for a long distance. He also knew of another dying on the table some weeks after being wounded, during an attempt to secure the same vessel. He tied the common femoral for wounds and assisted a colleague in securing another, days after the receipt of the injury. He tied one radial for secondary hemorrhage and ordered the tying of an ulnar for ball injury several days after their division, and was compelled to amputate an arm after failing to secure a bleeding brachial in an apparently aseptic wound, two weeks after the man had been shot.

The greatest advance in military surgery on the battlefield in recent times is the first-aid packet, and the greatest boon conferred on the wounded soldier has been asepsis and antisepsis, because, in the majority of instances rendering his injuries so painless and their complication so slight, that even anesthetics no longer occupy the chief place as a blessing to the wounded, as they are comparatively rarely needed.

Antiseptic occlusion also proved the best treatment for most of the thoracic, abdominal and articular injuries.

All perforating ball-wounds of the abdomen operated upon, he was informed, perished, while a number he saw recovered without intervention, antiseptic occlusion being relied upon. Wounds of the liver and kidneys did not seem to give rise to dangerous infection in the small number treated. If section can not be done before peritoneal infection has become well established, both civil and military surgeons have long believed that poor as are the chances of recovery, they are lessened rather than increased by a section.

APPENDICITIS. *a.* SHOULD EVERY CASE BE OPERATED UPON AS SOON AS THE DIAGNOSIS OF APPENDICITIS IS MADE? *b.* SHOULD THE APPENDIX BE REMOVED IN EVERY CASE?

Dr. M. H. Richardson, Boston, read a paper on this subject. At the bedside, in a specific case of appendicitis, there would doubtless be little difference of opinion among even those surgeons who seem to differ materially in the expression of their views. What one may describe as a severe case, another may regard as a mild one; what one may consider a hopeless infection, another only a desperate one, and so on. The conclusions arrived at are the result of experience in more than nine hundred cases, personally observed and treated, and of personal observation of many others in the practice of hospital colleagues. The total number is 904. In 259 cases of operation in acute cases, 72 died, 4 of those deaths from the hands of other surgeons; 189 acute cases were not operated upon. Of these 31 died, probably all moribund at the time of first examination. The total operations are 569, of which 238 were interval operations, without a death. Total number of operations in acute stage, 331; mortality in acute stage, 21.5.

Many of these fatal cases were desperate ones. All were severe. The mortality in acute cases without operation was fully 31 in 189 cases. But practically all these fatal cases were moribund and hopeless when first seen. Had all acute cases been operated on, the mortality after operation would have been reduced, because most of the acute cases not operated on would also have recovered with operation. In fact, most of the cases were operated on in the interval. Deductions from mortality tables are misleading. It would be as unfair to conclude that because a long series of bad cases had died after operation, therefore no operation should ever be performed, as to conclude that because practically all the reader's acute cases unoperated on recovered (excluding the moribund), therefore no operation is ever necessary.

There is a wise middle course by which unnecessary operations are avoided, and necessary ones are performed. In the initial stage severe symptoms of onset demand immediate intervention. These symptoms are pain, vomiting, tenderness, rigidity, shock—those common to most acute abdominal emergencies. In many cases these symptoms will subside, but the general trend of a case can not be determined at one observation. Exploration is therefore indicated. The surgeon must expect often to find other lesions than appendicitis at the initial stage, but lesions quite as important and often demanding intervention even more urgently. Cases of mild onset may well wait until a second observation shows the probable course of the case. Time thus spent is wisely spent.

The most important question is not whether to operate in appendicitis, but rather when to operate. In view of the great mortality after operation in severe cases, of the disadvantages following the drainage necessary in septic cases, weakness of muscles, stretching of scars, hernias and the like, the best time to operate is in the period of perfect health following the attack. In a large percentage of acute cases, recovery from the acute attack will take place, and operation can be safely performed through a small incision which will not weaken the abdominal wall. Cases must not be watched, however, unless there are reliable signs of convalescence.

After the initial stage the question of intervention becomes more difficult; when observed for the first time on the second, third, or fourth days severe cases should be operated on at once, unless they are improving so rapidly that there is a strong expectation of complete recovery and interval operation. Intervention is still more strongly indicated if the symptoms are increasing in severity. Operation is indicated, too, if the symptoms after marked improvement recur as if, though moderate, they are not improving.

In the consideration of symptoms after the early hours, the character and extent of pain, tenderness and rigidity are important as determining the width and depth of the area of infection. The constitutional signs are less reliable than the local; they may be deceptive guides.

The chief objection to operating in every case is the danger of converting a localized into a general infection. Every case which at the time of operation has an uninfected general peritoneal cavity, and which dies with general infection after operation (and they are more numerous than we know) excites the doubt as to the wisdom of operating in every case. We know that very many cases of localized peritonitis recover and are successfully operated on in the interval; cases showing improvement in an enormous proportion go on to recovery and intermediate operation.

If the patient is improving with a successfully localized peritonitis of considerable extent, especially if centrally localized, as in the pelvis, let operation be postponed until intervention can be safely practiced, because these cases comprise, in the absence of general peritonitis, the most dangerous ones. Moreover, intervention becomes safer with a few hours' or days' delay in improving cases: 1, because the general exudate, so easily infected during operation, becomes absorbed; 2, because the local exudate diminishes in size; 3, because walling off with gauze is practicable when the adhesions are firm, impossible when they are thin; 4, operation at once ruptures the localized peritonitis, and starts the too-often fatal peritonitis. Moreover, the patient's general strength improves with the local improvement. If the patient is not actually improving, this serious danger must be deliberately encountered because the localized peritonitis will probably do so by itself, i. e., rupture, which is chiefly to be feared at operation. When there is a tumor situated to the right side, or directly under the abdominal wall, so that walling off with gauze is practicable, operation may be performed under conditions that would contraindicate intervention when the tumor is centrally located or in the pelvis.

Cases on the verge of the grave should obviously be let alone, on the ground that the simplest active intervention will turn the scales against the patient. In areas with firm walls, simple drainage by a small incision is preferable to removal of the appendix because of the risk of causing general infection by separating adhesions. Of 105 cases of simple drainage, all recovered but 2. Many were operated on subsequently for hernias and for removal of the appendix.

An attempt should always be made to remove the appendix whenever the peritoneal cavity is opened unless the patient's condition forbids long search. In many cases of abscess with firm walls, a slough will be found which on examination will prove to be a necrosed or exfoliated appendix. In such cases no subsequent operation for removal of the appendix will be necessary.

If, after recovery from simple drainage in acute appendicitis, there is evidence of renewed appendicular trouble, the appendix should be removed, the scar of the original wound incised and the wound carefully closed. This operation is especially desirable, if there is hernia in the scar, or even stretching or discomfort. Hernia of itself after all operations for acute appendicitis should be operated upon if it causes discomfort or disability. In very rare instances there may be a recurrence of infection in the region of the ileocecal valve, even after the removal of the appendix. In the writer's experience two such cases have been noted, one recovering from operation, the other requiring drainage.

Dr. John B. Deaver, Philadelphia, said that the paper had brought out many points on appendicitis about which an active warfare has been waged for some years. Upon the surgeon's individual decision at the bedside often depends the life of the patient, and in every case the very points about which the paper deals have to be faced and a decision made. As to the question: Should every case be operated on as soon as the diagnosis is made, his answer is yes, with two exceptions: 1, acute active general peritonitis; 2, collapse. Should the appendix be removed in every case of appendicitis? Yes, with the exception of those cases where the bowel forming a part of the abscess wall has undergone necrotic changes rendering the bowel friable and apt to rupture during the necessary manipulation.

Dr. Richardson has most wisely divided his first heading into two classes, those in which the diagnosis has been made in the early hours, and the speaker takes it for granted that he means within twenty-four hours, and those in which a diagnosis is made after this period of time has elapsed. In answer to the first question, Dr. Deaver most emphatically asserts that the early hours is the time *par excellence* for operation in this most serious of intra-abdominal affections: 1. Because practically all cases operated on at this time get well or at least give the lowest mortality, this mortality increasing with the interval between the onset of the attack and the time of operation. Thus, of 18 cases operated upon within the first twenty-four hours, only 1 died, a mortality of 5.5 per cent. Of 30 acute cases, on the other hand, operated on within forty-eight hours, 10 died, a mortality of 33.3 per cent. As far as his experience goes, a careful examination of the statistics of acute cases convinces him that the local pathologic changes reach by progressive stages their severest limit within the first forty-eight hours, and after that period the changes are more in the nature of sequelæ following the primary stage of infection. 2. The percentage of cases that have one attack and then remain perfectly well and free from other attacks is very small. Of 460 of his own cases, 312 had more than one attack. In fact, it seems to him unjustifiable to offer a patient the faint hope of any attack of appendical inflammation being the last.

Should we operate when the diagnosis is made after the early hours, if the symptoms are severe? He would say, that his experience has led him to the belief that symptoms are very unreliable and are not in proportion to, nor do they indicate the severity of the pathologic processes which are taking place in the abdomen. Many times he has opened the abdomen of a patient with a normal temperature, flat abdominal walls, and a quiet retentive stomach, in whom tenderness or deep pressure was the only sign of persistent trouble, and has found pus or a gangrenous and perforated appendix. The surgeon who waits in the case of appendicitis for the appearance of severe symptoms, or worse yet, waits until the symptoms increase in severity, for an indication to operate, will have many unnecessary deaths to his credit.

Should the appendix be removed in localized abscess with firm walls? The success in the removal of the appendix in a localized abscess with firm walls depends on the skill and the technic of the surgeon. Under these conditions the appendix should be removed, the only occasion for a difference of opinion being as to the time of its removal i.e., at the primary operation or at a subsequent operation. If the appendix can be removed at the primary operation without additional risk to the patient, it seems to him that this is the time of election. That it can be done without additional or any risk has been repeatedly demonstrated, and in his own practice he does it in nearly all cases, because in 257 primary removals his death-rate in the past has been 16.7 per cent., and in 13 secondary removals the death-rate was 30.7 per cent.

The reasons for the removal under these conditions are that surgeons do not subject their patients to the danger of an attack of acute appendicitis occurring before the secondary operation. There is less likelihood of fistulæ, either fecal or simple. The patient is cured with one operation instead of two, with the consequent saving of a variable period of invalidism for the patient.

When a patient's strength does not permit, a prolonged search for the appendix should not be attempted. It can hold but one of a few positions. It must be either postcecal, pointing into the pelvis toward the spleen, or confined in the ileocolic or subcecal or ileocecal fossa. If the appendix is imbedded in exudate, the exudate itself will indicate its position. He agrees with the essayist as to the necessity of the ultimate removal of the appendix, only differing from him in the length of time before the complete operation is performed.

Dr. Christian Fenger, Chicago, indorsed in the main nearly everything that Dr. Richardson had said. He, however, disagreed almost entirely with the views expressed by Dr. Deaver.

Dr. Francis B. Harrington, Boston, thought there was very little difference of opinion between Dr. Richardson and Dr. Deaver. He said Dr. Deaver does not operate on every case; he considers the condition of the patient. If the patient is in collapse, he waits, and so do all surgeons. It is better to wait not only in cases of collapse, but in other instances. He likes to remove the appendix in every case where it is possible to do so. On the other hand there are certain conditions in which he is inclined to wait perhaps twelve or twenty-four hours, or even longer, before operating.

Dr. S. H. Weeks, Portland, Maine, considers the teaching of Dr. Richardson safe. It must be remembered that most of the members are teachers of surgery, and it is unsafe to instruct students to operate and remove the appendix in every case.

Dr. Joseph Ransohoff, Cincinnati, thought the doctrine advocated by Dr. Deaver would do a great deal of harm, if followed by most men who operate on cases of appendicitis. An important point to remember was this, that five-sixths of the operations for appendicitis are performed by general practitioners, men who had very little experience in handling the intestines, in dealing with abscesses within the cavity of the abdomen, etc.

Dr. Nicholas Senn, Chicago, said uniformity of practice in the treatment of appendicitis would probably never prevail. Each man formulates his own indications and follows his own rule of practice. Personally, he feels weakest in making an early diagnosis in the first attack. Dr. Senn narrated two instructive cases in which it was extremely difficult to make a differential diagnosis between perforative appendicitis and perforative typhoid ulcer, one of the cases being an honored colleague.

Dr. P. S. Conner, Cincinnati, believes it is not wise to be governed in surgical judgment by the citation of one or two cases; neither is it wise to neglect the warning of a single case. While he does not operate on all cases, he believes in operating on suitable cases, and at the proper time, if it can be had.

Dr. Dudley P. Allen, Cleveland, removes the appendix in an increasing number of cases, but of those cases of abscess with sloughing of the wall in which he has not removed the appendix he recalls but three that did not heal of themselves. He had seen fecal fistulæ follow a considerable number of cases, some of which had persisted, but others had healed of themselves.

Dr. Richard H. Harte, Philadelphia, favors the removal of the appendix in cases of early operation. He thinks conservatism in the treatment of this disease is a great mistake, and maintains that in nine cases out of ten the appendix can be successfully removed.

ON SOME CONDITIONS OF HEALING BY FIRST INTENTION, WITH SPECIAL REFERENCE TO DISINFECTION OF HANDS.

Dr. Theodor Kocher of Berne, Switzerland, contributed this paper. The conclusion of the author as to the possibility of securing primary union of operation wounds, with or without gloves, is the following:

"1. Either, do use sterilized rubber gloves for every operation when you wish to be quite independent as to the form of your nails, the touching of everything you like, and the liberty to wash or not wash your hands, and when you can spend plenty of money. Put your covered hand, from time to time, in a strong antiseptic solution (best, 2 per cent. sublimate) during a long operation, if you wish to be very careful.

"2. Or, never wear gloves for operations; do what you like between your operations, but poison yourself every time before you operate by brushing and bathing your hands for ten minutes in a strong, hot sublimate solution, after thorough washing and cleansing with hot water, soap and alcohol, for fifteen minutes. Repeat a short antiseptic ablution frequently during a long duration, when you wish to be very careful.

"3. Or, go the golden middle way; avoid touching with uncovered hands any infective or septic material between the operations, or wash it carefully away at once; cut your nails as short as possible; brush your hands thoroughly with hot water, soap and alcohol (85 to 95 per cent.), avoiding any poisonous disinfectant before you operate, and, if you wish to be very careful, put cotton, silk, or best rubber gloves on when you touch the threads for ligatures and sutures and when you have much to tear the tissues and to rub your fingers in the depth of a wound.

"4. But don't forget that the healing of the wounds *per primam intentionem* does not depend exclusively on your hands, but also upon the same preparation of the patient's skin, upon sterilization of everything else coming in contact with the wound and its surroundings, upon complete arrest of bleeding, exact closing of the wound by sutures, or avoiding accumulation of fluids in cavities, necessarily left, by drainage, and last, but not least, upon the use of antiseptic threads for ligatures and sutures, as long as impermeable threads are not yet invented."

NEPHRECTOMY VS. NEPHROTOMY.

Dr. Joseph Ransohoff, Cincinnati, read a paper on this subject. He said that renal surgery is essentially the product of the past twenty years. The occasional operations on the kidney performed before that time paved the way for a clearer appreciation of the conditions demanding operative relief. Betterments in the mode of examination, and the consequently greater accuracy in diagnosis, the recognition of the early gross changes wrought by disease, as seen by operation rather than by autopsy, and the comparative safety of incisions through healthy kidney tissue have brought to the fore the element of safe conservatism in the domain of renal surgery. Several interesting and instructive cases of pyonephrosis were reported. Nephrotomy, per se, is doubtless an operation nearly devoid of danger. When performed on a healthy kidney, as for stone, the mortality is less than 5 per cent. When performed for suppurative diseases the mortality rises. He has tabulated records of 78 nephrotomies for pyonephrosis exclusive of tuberculosis, published within the last three years from various clinics. Of these 78 nephrotomies, 17 were followed by death, a mortality of 21.8 per cent. In the hands of some surgeons the mortality has been very large. Four out of 5 cases were fatal in the Vienna clinic. Out of six cases of nephrotomies at the Roosevelt Hospital, 3 died. On the other hand, Israel lost only 1 out of 8, and Thornton 1 out of 12. From the same sources he has tabulated 37 primary nephrectomies with 9 deaths, giving a mortality of 24.3 per cent., and 17 secondary nephrectomies, with 7 recoveries and 10 deaths, a mortality of 58.8 per cent.

The advantages of nephrotomy for pyonephrosis are obvious: 1. It is an operation readily tolerated even in patients greatly reduced by fever. 2. It permits the surgeon to determine the condition of the opposite kidney. 3. By it the saving of even a small amount of functionating kidney tissue may throw the balance in favor of recovery. In dealing surgically with a pyonephritic kidney, statistics can guide the operator only in a general way in the choice between nephrectomy and nephrotomy.

Nephrotomy is indicated in pyonephrosis: 1. When the condition of the opposite kidney can not be ascertained. 2. When the reduced condition of the patient will not permit the major operation if this is indicated. The nephrotomy is then but the preliminary step to be followed by nephrectomy as speedily as possible. 3. When the operation reveals the pressure of considerable kidney tissue, and an approach to the normal on the part of the pelvis and proximal portion of the ureter. Here a later ureteroplasty may avert the need of nephrectomy. 4. When there is evidence of suspicion of disease in the other kidney.

Primary nephrectomy is indicated: 1. When there is a sound second kidney. 2. When inspection of the exposed kidney shows many or large pouches that can not be successfully drained. 3. When there is little kidney tissue left. 4. When an examination of the pelvis and proximal portion of the ureter makes it reasonably certain that a return to the normal can not take place. 5. In para- and perinephritic suppurations where the kidney acts as a valve, impeding successful drainage. (Israel.)

HERNIA FOLLOWING OPERATIONS EOR APPENDICITIS.

Dr. Francis B. Harrington, Boston, read this paper. He made a personal examination of the condition of the abdominal wall in 236 cases of appendicitis operated on at the Massachusetts General Hospital by various surgeons. They represented all varieties of the disease. The period which had elapsed since operation varied from nine months to nine years. No case was included which was operated on since July, 1897. Total number examined, 236; males, 190; females, 46; 27 true hernias in all—11½ per cent.; 21 true hernias in males—11 per cent.; 6 true hernias in females—13⅓ per cent. Eighty-five wounds closed at the time of operation, 3 hernias, 3½ per cent.; 85 wounds partly closed at the time operation, 11 hernias, 12.5 per cent.; 63 wounds left entirely open at the time of operation, 13 hernias, 20 per cent. If with these cases of true hernia are included 10 cases of punctiform hernia, and 53 cases of more or less bulging in the scar which did not constitute true hernia, the following percentage of weak scars is noted: in 85 closed wounds, 6 per cent.; in 88 partly closed wounds, 51 per cent., and in 63 open wounds, 62 per cent.

Intermuscular spaces: An opening between muscles or tendons, or both could be detected in the scars. In 85 closed at the time of operation, 26 per cent.; in 88 partly closed at the time of operation, 83 per cent., and in 63 open wounds, 87 per cent.

General abdominal bulging: In 85 closed incisions, 7 per cent.; in 88 partly closed incisions, 45 per cent., and in 63 open incisions, 46 per cent.

During the period in which these cases were operated on, that is, from 1888 to 1897, some of the muscles or tendons were cut at right angles to their fibers in the acute cases, and often in the cases which were tightly closed at the time of operation. The writer advocates the use of an enlarged McBurney incision in all acute cases, which will obviate the cutting transversely of any muscle or aponeurosis.

Résumé.—Hernia and bulging occur frequently after operations for appendicitis, and result from the separation of muscles and other tissues in the scar. They are more common when drainage has been used. The muscular and tendinous tissues should not be transversely cut in any appendix operation, unless it is unavoidable. As little drainage material as safety will permit should be used, and when necessary at all the wound should be closed as far as possible with sutures and the drainage removed early. If the wound can be closed immediately the tissues should be restored to their normal position by suturing each layer. Stout belts and trusses are of little value in preventing hernia and may even do harm. The abdominal muscles, from the earliest period possible after operation, should be developed by appropriate muscular exercises. If hernia or marked bulging appears, operation for cure is safe and satisfactory.

SOME UNUSUAL CASES OF APPENDICITIS WITH COMPLICATIONS.

Dr. **Albert Vander Veer**, Albany, N. Y., followed with a paper on this subject. Operative surgery, in its relation to the appendix, will ever present rare and unusual cases. This was brought out strongly last year when the president of the association and others gave the histories of some very unusual lesions of the abdomen. Surgeons may examine their cases with ever so much skill, employing diagnostic intelligence to the best advantage, yet when they enter the peritoneal cavity they must be prepared for surprises. From the knowledge acquired from these isolated and rather rare cases, it is more possible to increase the percentage of recoveries. A hernial sac with the appendix therein is not particularly rare, but to find it with a foreign substance like a pin, immediately in the appendix,and not having caused trouble, is something unusual. To operate for the relief of femoral hernia and find not only the appendix, but a prolapsed bladder in the female, is certainly decidedly rare. Dr. Vander Veer then detailed eight somewhat unusual and complicated cases.

CASES OF FRACTURE OF THE SKULL, FOLLOWED BY RECOVERY.

Dr. **Dudley P. Allen**, Cleveland, Ohio, presented a paper with this title. He reported ten cases of fracture of the skull, all but one of them involving the base. The first five reported were fractures at the base of the skull without any injury to the vault. Of these, three were rendered totally unconscious at the time of the accident, one was in a semiconscious condition, and the third, so far as could be ascertained, retained consciousness. Bleeding from both ears occurred in two of these cases, whereas in three of the cases there was bleeding at only one ear. Deafness in one case occurred in both ears at the time of injury. Whether in the other cases deafness occurred at the time of injury could not be definitely determined. In two of these cases, however, deafness was complete and permanent in one ear, and in one case the hearing was much impaired in one ear. Loss of smell was complete in one case and greatly impaired in one. Paralysis of one side of face occurred in two cases, in one of which it remained permanent. These five cases of fracture confined to the base of the skull are alive and well at the present time, except for the disabilities just described.

There were two cases of children who fell from heights, upon the vault of the skull, causing most extensive fracture and great deformity of the cranium. In one of these cases there was a great deal of hemorrhage from the ears. In both the scalp was lifted, the cranium was laid bare, and by means of a hook the fragments making up the depressed vault were raised to their normal positions. Both cases have recovered. One, however, has impaired hearing in one ear.

Two cases reported received injuries in the frontal region extending into the base. In one of these there was extensive injury to the frontal bone, and a large amount of bone and considerable lacerated brain tissue were removed. There was a fracture in this case, extending across above the frontal eminence to the temporal fossa, on the opposite side of the skull to that which received the greatest injury, and there was a fissure from the base of the skull extending from the frontal bone backward to the sella turcica. This case had a large cerebral hernia. In the other case the injury to the frontal region and the involvement of bone was small.

The point of interest in the latter case was the temperature, which rose gradually at two different periods to 105 degrees, the case presenting many of the symptoms of typhoid fever with a relapse of the same. The other characteristic symptoms of typhoid fever were, however, entirely lacking, and the presence of optic neuritis, indicating probably a basal meningitis, placed the diagnosis of the cause of fever in considerable doubt. Both cases made a complete recovery.

The tenth case was one of severe injury in the region of the right parietal bone, followed in some weeks by impairment of mental activity, and also of motion of the right arm and leg. This was found to be due to a large subdural collection of blood on the left side, notwithstanding there was no evidence of injury on this side. The accumulated blood amounted to several ounces. It was removed and the patient is now well.

These cases which have recovered are reported because of the interest attached to the symptoms attending fracture, namely, hemorrhage from the ears, facial paralysis, loss of hearing and loss of smell.

The following officers were elected for the ensuing year: president, Robert F. Weir, New York City; first vice president, Charles B. Nancrede, Ann Arbor, Mich.; second vice-president, Edmond Souchon, New Orleans, La.: secretary, Herbert L. Burrell, Boston; treasurer, George R. Fowler, Brooklyn, N. Y.; recorder, DeForest Willard, Philadelphia; member of the council, W. W. Keen, Philadelphia.

The next place of meeting will be Washington, D. C., May 1–3, 1900, in conjunction with the Congress of Physicians and Surgeons.

N. Y. State Medical Association, Fifth District Branch.

Fifteenth Annual Meeting, held in New York City, May 25.

DISCUSSION ON MALIGNANT DISEASE.

Dr. **Joseph D. Bryant**, New York City, the president, opened this discussion. In suggesting this topic, he had done so for two reasons: 1. Because now that the solution of the problem of tuberculosis has been marked, there is no subject attracting so much attention in the scientific world, on account of its increasing frequency and marked fatality. 2. One of the principal causes of its great fatality is the hesitancy to resort to prompt surgical interference. One of the most melancholy features of the disease is that hope and good cheer desert the sufferer from the beginning. At the present time much is being done toward a solution of the character of the conditions which result in the development of malignant diseases.

Having referred to Snow's statement that cancer is essentially a disease of civilization, being practically unknown among savage nations, he stated that in 1894 he had called attention to the marked increase of the disease in the United States and on the continent of Europe. He then gave the latest statistics of a large number of American and European cities. In Chicago, in 1879, 2.05 of every thousand deaths were due to this; in 1889, 2.24, and in 1898, 3.92. In all parts of the civilized world there has been a decided increase, although, according to Newsholme, this is an apparent rather than a real increase, due to more correct diagnosis and more frequent autopsies. Personally, he is convinced that the increase is real, and that the most energetic action should be taken to arrest its progress. An early resort to operation will not entirely do away with this great mortality, but it will undoubtedly rob the affection of many of its terrors, and it is our only resource until science has revealed some more efficient method of treatment.

He said that cancers occur more frequently between the ages of 45 and 55 than in all other periods combined, and is rare in the first forty-five years of life, the period of greatest activity and exposure—which argues against the parasitic origin of the disease. He also spoke of the importance of not only early, but thorough, operative procedure—all the lymphatic connections of the cancerous growth, whether implicated or not, should be completely removed. There has been a vast improvement in the results of operation since 1870, when Sir William Paget said that he did not know of a single instance of a recovery with the patient free from recurrence after ten years. Very recently Watson Cheyne has called attention to the excellent results now obtained and to the progress made in surgical technic, by which this thorough removal of the disease, and consequently more frequent success in operating, has been accomplished. The truth is, that in many instances no one can state whether glandular involvement exists or not, and it is a fact that enlargement of lymphatic glands does not result until some time after they really become affected. In operating on mammary cancer it is essential that the axilla be completely emptied. It should also be remembered that Gross determined that when the axillary glands are involved the suprascapular glands are also affected in over 6 per cent. of the cases. Promptness and energy should be the watchwords of the medical attendant, and the moment that the presence of a tumor in any part of the body is discovered, steps should be taken to determine its character with a view to its immediate removal should the existence of malignant disease be established. If any benefit is to be derived from an operation, the earlier and more thorough the latter, the greater its benefit.

NATURE OF MALIGNANCY IN NEOPLASMS.

Dr. Edward K. Dunham, New York City, read this paper, pointing out that as to what constitutes a neoplasm, there is still some difference of opinion. In order to understand the matter, it is necessary to study the normal development of a new individual. He referred to the various forms of normal cellular activity, and considered the cellular activities met with in morbid processes. Inflammation, he said, is one of the results of damage to tissues, and the effects of such damage may be classified under four heads: total destruction, necrosis, degeneration and irritation. When irritation occurs, there is to some extent a revival of the processes characteristic of normal tissue growth; but in the true neoplasms the tissues do not develop to meet any definite purpose having a direct relation to the formation of special tissues. The nutritive and formative activities of the cells are retained, but not the reproductive; and clinically the growths are recognized as benign in character. In the most malignant tumors (sarcomata), however, while there is reproductive and nutritive activity, the normal activity of the cells is nearly, if not totally, lost. Such tumors are characterized by rapidity of growth and metabolic activity, and show a tendency to implicate surrounding tissues. They are attended with infiltration and a liability to metastasis. Intermediate between sarcoma and benign tumors there is a variety of others, and it is, indeed, quite impossible to draw a positive line between the benign and the malignant. The degree of malignancy which they display may be said to be proportionate to the loss of formative activity in their cells. This point of view is, however, by no means universally accepted. Speaking of San Felice's experiments to show that the nucleated bodies supposed to be characteristic of cancer cells are blastomycetes, he said that, while not prepared to absolutely deny that the presence of parasites might draw the cells from their normal allegiance, he does not hesitate to express his doubt as to the correctness of this hypothesis.

MALIGNANCY IN FEMALE GENITO-URINARY SYSTEM.

Dr. L. Grant Baldwin of Brooklyn read this paper. Out of 3787 gynecologic cases of which he has records, 60 were cases of some form of malignant growth. In two of these the disease affected the bladder and urethra, and in three the ovaries. He gave an outline of these 5 cases, and said that in the remaining 55 the uterus was the organ attacked. In 17 of these hysterectomy was performed, and 4 of the patients so operated on remain well at the present day. As all these women but one had been pregnant one or more times, it seems reasonable to infer that procreation is a positive factor in the causation of uterine cancer, and there can be no question that laceration of the cervix is a specially prominent etiologic factor. In his experience the prognosis in this disease is very bad. For this result family physicians and the patients themselves are largely at fault, for it is a lamentable fact that in nearly all his cases the disease had already existed from six months to two years before the patients were brought to him. There is certainly, therefore, a widespread misapprehension on the part not only of the public but of the profession, since our only hope of cure lies in an early and complete removal by operative means.

How can this long delay in making a diagnosis be avoided? The occurrence of hemorrhage, whether at the time of the menopause or any other, is the one thing of all others which should call for an immediate and thorough vaginal examination. In some cases, also, a thin watery discharge from the vagina precedes hemorrhage, and this should at once excite suspicion. The absence of pain and of loss of flesh are apt to be misleading, for both these symptoms, as a rule, only appear comparatively late in the course of the disease. The absence of odor is also not to be relied on, and by the time the characteristic cancerous cachexia has developed, it is usually too late to save the patient.

As to the treatment, vaginal hysterectomy is now generally regarded as the most approved procedure. In the technic of the operation, clamps or forceps should be employed as far as possible, and if sutures and ligatures can be done away with entirely, it will be a great step in advance.

MALIGNANT DISEASE OF NOSE AND THROAT.

Dr. Jonathan Wright of Brooklyn, in this paper, said that there appears to be some exceptions to the usual fatality of the affection, since he has observed instances of recovery without operation in cases in which the diagnosis of malignancy had been made by competent authorities. It is possible that in these cases there were errors in the microscopic examination. It is a fact, however, that such growths in the nose present a clinic picture entirely different from that met with in similar neoplasms treated in the larynx. Adenoma in the nose is rare, and when there usually becomes converted into adenocarcinoma or adenosarcoma. Such tumors are usually of slow growth and would seem to present a favorable chance for operation: but he has found that they are very apt to occur in the aged and feeble and that the operation is often a most difficult one. In many cases it is almost impossible to secure a fragment of tissue for microscopic examination. Clinically there is very little difference between adenosarcoma and adenocarcinoma. In some cases it is very difficult to distinguish between syphilitic granulomata and small round-celled sarcoma, the most malignant of tumors. The surgeon should, however, always bear in mind the possibility of the existence of syphilis, and in any doubtful case place the patient on iodid of potassium. He pointed out that the number of cases of malignant disease of the pancreas is much smaller where the diagnosis is for any length of time attended with doubt. Sarcoma of the tonsil is by no means rare, and he has himself met with thirty-four cases of the small round-celled variety. When affecting the tonsil it is sometimes very difficult to make the differential diagnosis between sarcoma and simple hypertrophy or syphilitic hypertrophy.

EARLY RECOGNITION AND MANAGEMENT OF MALIGNANT DISEASE IN DIGESTIVE SYSTEM.

Dr. Max Einhorn of New York City read a paper on this subject. Judging from analogy, he said, malignant tumors, if discovered early enough, should be just as successfully operated on in the digestive tract as elsewhere, and it should, therefore, be the aim of the clinician to perfect his diagnostic ability. The stomach-tube and, in conjunction with it, the chemic analysis of the gastric contents, has made a decided advance, while transillumination of the stomach may also, in favorable instances, be of some service; but still it must be conceded that our methods are as yet comparatively crude, and, as a rule, permit us to recognize the malignant affection only at a stage where it had already progressed to a considerable extent. Those places along the digestive canal subjected to the most marked mechanic irritation are also most often the seats of malignant disease.

His rules for treatment are: 1. Whenever the tumor is accessible for operation, and there is the slightest hope of curing the patient, the complete extirpation of the growth should be performed. 2. If the tumor is not accessible for operation or the entire removal practically impossible, palliative operations which serve to alleviate suffering and prolong life should be undertaken in cases requiring them. 3. Cases of malignant disease operated on, as well as those without operation, require for their management a skilful physician, who is able to lessen suffering and nearly always to lengthen life, even under the most trying conditions.

Cancer of the esophagus and cardia, he said, does not for the present permit of any radical operation. Whenever the patient becomes unable to take sufficient nourishment, gastrotomy should be performed whenever feasible. Practically the outlook for a cure after a radical operation in the intestinal tract becomes less encouraging the farther away from the anus the tumor is situated. Malignant disease of the pylorus can often be recognized quite early through the ischochymia which it usually produces. Here a laparotomy should be performed quite early, and the pylorus resected, with the establishment of a new communication between the stomach and duodenum if possible. If not, a gastroenterostomy alone should be made. Cancer of the lesser curvature of the stomach, or the posterior wall, is usually recognized quite late, rendering radical procedure impossible. If cardia and pylorus are not involved there will be no need of any operation, and the usual palliative remedies should be given.

Cancer of the rectum can be recognized quite early, and resection of the neoplasm is here accompanied by brilliant results; but if the tumor is located farther up in the large bowel, or in the small intestine, the results of an operation are not as promising. Excision of the tumor and resection of the intestines in the neighborhood of the neoplasm, with an end-to-end anastomosis, should be practiced whenever feasible. In case, however, total resection is impossible, an enteroenterostomy or enterocolostomy or, if the cancer is situated in the rectum, a colostomy (artificial anus) would be of benefit. These palliative operations are intended to allay the symptoms of obstruction and to carry off the fecal matter over a new route, not passing through the cancerous area. In some instances of inoperable cancer of the rectum, curettage, followed by the application of the thermocautery, might be of benefit for a short period.

MALIGNANT DISEASE IN MALE GENITO-URINARY SYSTEM.

Dr. J. W. S. Gouley of New York City read this paper and said that there is one location in which he is positive malignant growths have decreased very decidedly of late years,

i. e., the scrotum. Formerly what was known as "chimney-sweep's" cancer had been comparatively common, but now that the practice of climbing chimneys had been given up and men are so much more cleanly in their habits, this is almost unknown. Sarcoma of the scrotum is a little more frequent. but still rare. Chondrosarcoma is a rare form of disease met with in the testicle, and, curiously enough, found also in the parotid gland. The kind of disease known as "chimney-sweep's" cancer may also attack the prepuce in filthy people: and venereal warts, which are due simply to filth, are liable to terminate in malignant disease. They should, therefore, always be cauterized with chromic acid or some other escharotic. Any growth on the penis should be promptly removed by the surgeon, for even if benign at first, it is liable to be converted into a malignant one. The round-celled sarcoma he believes to be of microbic origin, while spindle celled sarcoma is certainly a different disease, and quite controllable. In conclusion, he spoke briefly of cancer of the prostate, the bladder and the kidneys.

TREATMENT OF INOPERABLE MALIGNANT TUMORS.

Dr. **William B. Coley**, New York City, in his paper expressed his conviction that malignant disease is of parasitic origin, and that the links in the chain of evidence going to establish the correctness of this view are being slowly forged, and but few now lacking. In support of it he referred to San Felice's recent experiments with blastomycetes on dogs. Having passed in review various forms of treatment, such as the injection of pure ferments and of thyroid extract and the parenchymatous injection of alcohol, he spoke of the treatment by means of mixed toxins of erysipelas and bacillus prodigiosus, to which he has been giving special attention for more than seven years. The case that led him to take up this line of investigation was one of small, round-celled sarcoma of the neck, which had been operated on by Dr. W. T. Bull five times. It was found impossible to remove all of the tumor, and the last operation was performed in 1884. Shortly after the operation the patient had two successive attacks of erysipelas. During the course of this disease the tumor tissue entirely disappeared, and the patient was alive and well in 1891, seven years after.

The cases treated with mixed toxins now number 150: 87 are cases of round-celled sarcoma, of which 39 are more or less relieved: 1 patient was quite free from disease five years after undergoing the treatment: 22 are cases of spindle-celled sarcoma, and of these, 8 have been free from the disease for from three to seven years, and 11 for from one to three years. His conclusions, in part, are as follows: Mixed toxins exert a controlling action on malignant growths. They are less efficient in their action on carcinoma than on sarcoma. In a large proportion of cases of inoperable sarcoma the patients survived for more than than three years after the treatment, the best results being in the spindle-celled variety. The action of the toxins in no wise resembles that of a local escharotic.

New York County Medical Association.

Stated Meeting. May 15, 1899.

RESECTION OF INTESTINE AND SIGMOID FLEXURE FOR CARCINOMA.

Dr. **Frederick Holme Wiggin** reported a case of a woman, 38 years of age, who had begun, two years before coming under his care, to suffer from painful defecation and rectal hemorrhages. Physical examination had revealed an organic stricture, and accordingly he had operated by an incision through the perineum down to the anal border, and around the anus and down to the coccyx. He had found the sigmoid flexure, mesorectum and mesosigmoid all involved in the carcinoma, and had therefore brought up the lower end of the descending colon through the left rectus muscle, and made an artificial anus. Some suppuration had taken place in both the abdominal perineal wounds, but the granulating process had progressed fairly rapidly. So far, there had been no recurrence, and no special tendency to prolapse.

Dr. **E. D. Ferguson** of Troy spoke of the comparative ease with which one could gain access to the higher portions of the pelvis in women by splitting the rectovaginal septum and dissecting off and throwing forward the posterior vaginal wall.

IMPACTION OF FOREIGN BODY IN LARYNX; RECOVERY AFTER HIGH TRACHEOTOMY.

Dr. **Francis J. Quinlan** reported this case. The patient, a boy, had been admitted to St. Vincent's Hospital on April 26, suffering intensely from dyspnea. Although the foreign body had been located on the true cords, efforts to remove it by the intralaryngeal method had proved of no avail, and he had then done a tracheotomy, and, on exposure of the object, had discovered that it was a double flanged screw, and that this accounted for the great difficulty in removing it. After some difficulty it had been extracted, and the wound closed. The latter procedure had been objected to by some of the surgeons present, but he had done it on the ground that there would be less danger of pneumonia. Recovery had been uninterrupted, and only a very slight scar remained.

SUDDEN DEATH FROM FOREIGN BODIES IN LARYNX.

Dr. **William T. Jenkins** presented a series of specimens and reports of cases of this kind. In the first case, a boy, while playing in the park, had suddenly become cyanotic and died before medical aid could be summoned. The autopsy had shown the opening between the vocal cords occluded by a bone collar button. Several cases were cited in which almost instantaneous death had followed the lodgment of a bolus of meat over the larynx. In another case, some of the teeth had been knocked down the throat, and had been found, after death, lodged at the bifurcation of one of the larger bronchi. In another case, sudden death had resulted from the rupture of a broken down bronchial node into the trachea.

Dr. **R. H. M. Dawbarn** spoke of the danger while operating about the face and mouth, of blood running into the air-passages, and causing death by asphyxiation. Immediately on the appearance of the first symptoms of this complication, the surgeon should not waste time in doing a tracheotomy, but should, with one plunge, make an opening into the cricothyroid space.

Dr. **J. W. S. Gouley** recalled the well-known case in which the late Dr. James R. Wood had saved a child's life by inserting his finger into the little one's throat and fishing out a thimble which had been swallowed.

COLLOID CANCER IN ABDOMEN.

Dr. **E. D. Ferguson** of Troy presented a paper in which he reported a case of this, and from it made certain deductions regarding the origin and dissemination of cancer. In the case quoted there had been carcinomatous deposits studding the entire peritoneal surface. Some of the colloid material had been free, while the remainder was confined in vesicles. In another case, seen last November, there had been also a quantity of colloid material, and a firm cancerous mass in the right iliac fossa. As the epithelioid cells in the nests, which were the seat of this colloid change, had not been changed, it followed that on their rupture and the escape of the glue-like material, some cells retaining their original characteristics must go with it. From the fact that only twenty-eight cases of cancer of the penis had been reported as occurring in men whose wives were affected with cancer of the vulva or cervix, it did not seem probable that cancer was readily inoculable. The supposed rapid increase in the number of cases of cancer, both in England and in this State, may possibly be explained by the greater number of cases of cancer now recognized and treated. In the present state of our knowledge one can not deny the possibility that extraneous organisms, by irritation, may result in cancer. The idea of autoinfection from the cancer elements themselves is, at least, an encouraging working hypothesis, and point out the great need for early and thorough removal of the disease.

Dr. **R. H. M. Dawbarn** said that to Dr. W. S. Halsted very great credit is due for his radical operation for carcinoma of the breast. It is important that the axillary contents be removed first, and the cancerous breast last, otherwise the necessary manipulations of the parts favor the dissemination of the cancer juice. Many years ago, Dr. Bryant, in the face of strong opposition, demonstrated that it was possible to starve out a cancer of the nasopharynx by ligating both carotids. The first case was completely successful. He did this operation himself in sixteen cases, and was surprised at its comparative simplicity, and the freedom from such complications as gangrene of the tongue. His first operation of this kind was performed three years ago, and the patient is still alive.

Dr. **Gouley** expressed his skepticism regarding the microbic origin of epitheliomatous cancer, but thought it much more probable that round-celled sarcoma, which ran a rapidly fatal course, would prove to be of this nature. Among the older surgeons, and notably Dr. James R. Wood and Dr. Carnochan, this method of ligating the arteries about the face in the effort to cure cancer, had been tried, but with very little success. Some years ago, when he expressed the opinion that all tumors should be removed as soon as detected, the idea found but little favor: now, the general consensus of opinion is in favor of such practice.

Dr. **Parker Syms** expressed regret that so much credit had been given to Dr. Halsted, while Dr. Willy Meyer of New York, who had devised a very similar and somewhat better operation, had been ignored. In both operations the aim was to remove the highest accessible lymphatic nodes, together with fat, fascia and muscle, removing the breast last along with the pectoral muscle. The method of ligation recommended by Dr. Dawbarn had been thoroughly tried, and, for the most part, discarded.

Dr. JOHN J. MCGRATH said that colloid degeneration occurs chiefly in connection with carcinoma of the mucous membranes. The process appears to consist in a change in the cells of the tumor chiefly, although, at times, the stroma is involved. He agreed with Dr. Gouley in believing that sarcoma will probably be found to be microbic, yet such a view seems to logically lead to an absurdity, for sarcoma is composed of the normal elements of the body, and as the same is true of lipomata, one should expect fatty tumors also to be of microbic origin. It is not necessary to suppose a microbic infection to explain metastases, for they may be the result of embolism.

Dr. DAVID P. AUSTIN described a case of colloid cancer of the abdomen observed by him in a woman of 80 years, in which, at autopsy, an enormous quantity of colloid material had been removed.

Dr. FERGUSON, closing the discussion, stated that as he believed in transplantation of cancer, he must necessarily accept the theory of infection. At present, however, he would not accept the view that cancer originated through the agency of an extrinsic micro-organism.

Kentucky State Medical Society.

Forty-fourth Annual Meeting.

(Concluded from page 1256).

USE OF CHLOROFORM IN LABOR.

Dr. WALKER B. GOSSETT of Louisville, in his paper on this subject, referring to the history of chloroform in labor, paid a tribute to Dr. Henry Miller of Louisville, who in 1858 was the first to use chloroform in labor west of the Alleghanies. It should be used with the patient in the horizontal position, intermittently and not profoundly. The intermittent contraction of the uterus prevents asphyxia. It does not predispose to postpartum hemorrhage, but does lengthen labor if given early. No shock is produced; suffering is lessened; useful in obstetric operations; relaxes the uterus in version; promotes dilatation of cervix; in eclampsia, convulsions and mania; relaxes the abdominal wall in removal of retained secundines; craniotomy; symphysiotomy; bipolar version; precipitate labor; diagnosis of phantom tumors, and between intrauterine and extrauterine pregnancy; primary suture of the perineum. Chloroform after labor is to be avoided if possible. It should be administered only at the correct time and that the perineal stage, the last half of the second stage. The inhaler should be placed firmly over the nose and mouth and a dram or two placed on it, not a few drops, and with the next contraction there will be a full deep inspiration and the patient will be brought in the obstetric degree. The inhaler is removed between pains. When given in the first stage the uterus is tired by long work.

Dr. C. C. LEWIS of Stamping Ground, stated that the mission of the physician on this earth was certainly to relieve suffering, but he confesses he had used chloroform in labor sometimes with regret afterward. It is not only digital examination which denotes the progress of labor, but the woman's condition, and the amount of disturbance created, which is also valuable. It should not be used indiscriminately, and he does not consent to the statement that it should be used in every case, as there are often many disadvantages.

Dr. B. M. TAYLOR of Greensburg, was even more enthusiastic than the essayist on the use of chloroform in labor. He uses it as soon as the head is through the cervix, and when the head is distending the perineum the patient is almost fully under its influence. He does not think it interferes with contractions of the uterus.

Dr. G. G. THORNTON of Gravel Switch stated that all cases do not need chloroform, as many get through with but little pain; the higher in the social scale woman gets, the more pain she endures at this time. The danger in its use is more than counterbalanced by the advantages derived. He was not of the opinion that it would retard labor if properly used.

AMETROPIA AND HETEROPIA WITH REMARKS ON EYE-STRAIN.

Dr. A. G. BLINCOE of Bardstown, in this paper, said he had for years been skeptic in regard to muscular eye troubles, but after experience in refractive work, found it very prevalent. Cases of serious constitutional disturbance can be improved by correction of eye-strains. He reported one case of epilepsy, in which a graduated tenotomy of the external recti had not been productive of good, but he had been completely cured by a complete tenotomy of the external recti and shortening of the internal recti, which was necessary before the restoration of the muscular balance.

Dr. J. M. RAY of Louisville stated that the eye specialist has been accused of being narrow minded, but it was his opinion that not so many cases of great difficulty from eye-strain were seen by eye specialists, benefited or cured by correction, as were seen by the general practitioner who had drifted into refraction work. He did not believe that any case of chorea or epilepsy could be cured by the adaptation of lenses. The emmetropic eye is a rare condition. The majority of people are hypertropic, and he did not see why correction of a quarter diopter could relieve epilepsy.

GUNSHOT WOUND OF FEMORAL ARTERY.

Dr. H. K. ADAMSON of Maysville read this paper, reporting a case with ligation, in a colored man, of 40 years, wounded with a 38-caliber ball entering the right thigh by Poupart's ligament, coming out below the knee-joint, and with immediate swelling; forty-three days after injury, he was seen by the essayist, and operation performed. Aneurysm instead of pus was found, and severe hemorrhage after removal of clot; ligation of femoral was done. He reacted well from the operation, but secondary amputation was done because of gangrene, on the sixty-first day after injury, and knee joint saved.

ETIOLOGY AND TREATMENT OF LOBAR PNEUMONIA.

Dr. F. C. WILSON of Louisville read this paper. He stated that it is almost as great a scourge of the human race as tuberculosis. Cause influenced by latitude, race, age, sex, habits of life, diseases of the heart. Infectious nature of the disease is demonstrated beyond a doubt. It can be arrested in the first few days, if seen in the first stage, ergot and salicylates being the chief drugs used. He has used antipneumococcus serum with good results, and advises stimulants when indicated, rest and quiet, strychnia, digitalis, strophanthus and carbonate of ammonia, and opiates, the latter only for severe pain. Oxygen gas is important; also cold, by reducing congestion as advocated by Mays, was favorably mentioned.

TREATMENT OF LOBAR PNEUMONIA.

Dr. JOHN G. CECIL of Louisville presented this paper. It is in the nature of the disease to run a definite course, uninfluenced by treatment, which should be with reference to the patient, and not to the disease. In the sthenic type he advises a purgative dose of calomel, opium in some form for pain, according to the extent of pleurisy; it quiets pain, allays a harassing cough, gives rest and sleep, answers the purpose of cough medicine, an eighth of a grain of morphia often being all that is necessary. The ice-bag is an improvement on the time-honored hot poultice; temperature of 104 is not a bad indication. Veratrum viride and aconite have no place in therapeutics, as they depress the heart. Loss of the second sound indicates a need of stimulants; give for effect, regardless of dose; whisky and strychnia, one-sixtieth to one tenth for effect; whisky in plain or aerated water without sugar. If nitroglycerin is used, it being a definite stimulant and rapid in elimination, it should be often repeated. Digitalis is inferior to strychnia. Give oxygen for cyanosis, and do not delay its use too long; none are too hopeless for its use. We are more likely to overfeed than underfeed—meat broths, milk, aerated water. Solid foods, milk punch and eggs are not indicated. If diagnosis is made, frequent examinations are contraindicated. The sitting posture is dangerous.

Dr. GEORGE BEELER of Clinton advised blood letting. He used tartar emetic and veratrum viride in beginning of his practice, bled hundreds of patients, and his experience with the lancet and tartar emetic was favorable, but he has been gradually weaned from this method, and believes when this treatment was used he was more successful than now. He would not use coal tar products. He believes in the infective theory, and has had five cases in one family.

Dr. T. J. YEAGER of Campbellsburgh endorsed the previous speaker, and believes the best results were obtained by use of the lancet in old times. He has followed the trend of the new theory, takes hold of new systems, and does not believe whisky is the best stimulant, nor does he endorse the use of opium.

Dr. SNIDER of Mt. Eden vigorously protested against taking up the treatment our forefathers used, as bleeding, tartar emetic, etc., in pneumonia.

Dr. T. A. STUCKY of Louisville said that the abortive treatment by ergot and salicylate of soda had been instilled in him when a student. He has either used the drugs wrongly, or they have failed to do the work expected. Action on the vessel wall can not stop hyperemia, which is active and passive as well. Eliminations by various channels is indicated. Interference with oxygenation interferes with oxidation. We should eliminate carbonate of ammonia from drugs. Nausea and gagging produced, interferes with the stomach, the chief organ to be preserved. Relieve pain with the cold pack for the temperature, strychnia from the start, and not waiting until needed from second sound. Oxygen is of greatest value.

Dr. W. W. Richmond of Clinton endorsed veratrum viride when given during the first twenty-four or thirty-six hours, but of no use afterward. With active heart, strong pulse, pleuritic stitch, opium is good, veratrum viride does little harm, and is least harmful of all heart sedatives, more so than aconite. Strychnin, if given early, is the best stimulant; can not rely on digitalis. Veratrum viride best relaxes, equalizes the circulation and relieves engorgement.

Dr. Wilson, in closing, stated that ergot had a selective action over the arterial vessels when in a state of vasomotor paralysis.

Third Day.

The nominating committee reported as follows: president, Wm. Bailey of Louisville; first vice-president, Jas. H. Letcher of Henderson; second vice-president, R. C. Falconer of Lexington; permanent secretary, Steele Bailey of Stanford; treasurer, C. W. Aitken of Flemmingsburg; librarian, B. W. Smock of Louisville. On motion the election was unanimous.

HERNIA AND ITS OPERATIVE TREATMENT.

Dr. J. L. Johnson of Louisville stated in this paper that operation for radical cure should be advised by the surgeon in every case occcurring between 6 and 50 years of age, when the health is otherwise good. Palliative treatment is non-curative, and should only be resorted to when radical means can not be used. The truss is often applied over irreducible hernia and causes varicocele. The injection plan was condemned, as it may cause sepsis; inflammatory reaction leaves hernial canal more patulous than ever. The principal dangers of operation are sepsis and hemorrhage from loosely ligated section of omentum; cicatricial tissue to hold hernia is abandoned; primary union regarded as of first importance; unsurgical to plug canal with omentum. Kangaroo tendon is recommended as best material, and Bassini's operation as the best, it having stood the test of time.

Dr. W. C. Dugan of Louisville believes a truss in children, if properly applied, will get union and cure in all cases. Pressure of the truss on the cord will not cause varicocele; if so applied it is a misuse of the truss. The pad should not be conic, as absorption occurs, and a larger ring results; should be broad and not too strong spring. In the Bassini operation the anatomic parts are restored. Separation of the cord by the fingers, from surrounding structures, is an essential feature. The sac should not be opened until thoroughly separated. Pass the finger well into the cavity and tie on the finger. This will prevent including part of the omentum and intestine, which has frequently been done. It is an important point and was emphasized. We also in this way are liable to place the ligature well on the peritoneum, and get rid of the infundibulum which nature has left.

TRAUMATIC TETANUS.

Dr. John A. Lewis of Georgetown read a paper in which he pointed out that the origin is often most puzzling. Of paramount importance is prevention; old treatment absolutely valueless; new treatment by serum is not to be accepted without further investigation. In the first twenty years of practice he had twenty cases, in the last ten years but one case, that in a lying-in woman, three weeks after instrumental delivery, with death three days afterward, from tetanus. There is a dropping off in the cases in the last ten years of practice, which he believes due to a more general use of anesthetics in surgery, making more complete surgery possible. Wounds are freed from foreign substances, and thorough asepsis is possible. Surgeons were less plentiful thirty years ago, and anesthesia not generally used. Then this kind of wound was left to take care of itself; no drainage, pus burrowed, marvelous (?) drawing poultices applied. The advanced method of teaching and graduation requirements gives more careful treatment.

There are two forms, acute and chronic; acute occurring a week or ten days after the wound, and violent and fatal; chronic, from an old injury, which has nearly passed out of mind, as frost bites. Treatment has little to do with recovery; time is a prominent factor. He believes it an acute infection, since the bacilli are often found in gardens, street dirt, excrement of animals, especially horses, and virgin soil. The germ is anaërobic, and must have a wound for its development. Bromid and morphia are of no value; 95 per cent. die. The best treatment is the preventive. Every wound, no matter how trivial, should have the best of modern surgery.

Dr. Lecke of Leitchfield does not agree that medical treatment is of no value. He related a case in which there was an injury received from a mower. Ten days afterward tetanus developed, amputation having been done. Heavy doses of bromid of potash and chloral were given, and the patient recovered.

Dr. I. A. Shirley of Winchester reported one case recovering under antitoxin use. The wound was from a splinter in the foot, and developed tetanus in a few days. All his other cases had died; morphia and chloral were of no value.

Dr. T. B. Greenly of Meadow Lawn, in fifty-four years of practice, had seen two cases, both recovering under morphia and chloroform. One case seen late in the attack, in consultation, died.

Dr. W. C. Dugan of Louisville stated that all of his cases of traumatic tetanus died. Injuries to the foot and hand are liable to develop tetanus because of the impregnation with dirt and other bacilli. He advised the use of peroxid of hydrogen, as the germ is anaërobic.

Dr. Lewis, in closing, mentioned having known cases to recover under all sorts of treatment. In his observation the treatment was practically worthless. He believes the suggestion of the previous speaker in regard to peroxid of hydrogen a good one.

HYGIENE OF VISION. READABLE PRINT.

Dr. Wm. B. Meany of Louisville, in his paper, said in part: We are confronted with hygienic and sanitation attempts by unenlightened individuals or, worse, a barbaric ignorance and a reckless indifference to the laws relating to health and to human life. Full acquaintance with the rich literature of modern hygiene and sanitation should be required by law of all persons seeking election as school trustees or appointment on school boards. Unless our school system provides the necessary aids by which the act of vision is performed the accommodation apparatus refuses to work in the normal way. Imperfect light, bad print on unsuitable paper, impure atmosphere, faulty ventilation, overheated and crowded school rooms, unwholesome water supply, lack of suitable recreation halls and grounds, too long continuous study hours impair muscular tonicity so necessary to keep up eye tension for acute visual requirements.

Blackboards should be placed opposite windows—kept scrupulously clean, so that the dark, lusterless color of the board presents. Lessons placed on blackboards for pupils to copy are injurious to the eyes, by reason of the rapid change of focus required from the distant board to the paper on the desk. The deadly septic-generating slate should be banished from the schoolroom.

All work placed on the blackboard for object-lessons must have a certain minimum that the area of each letter will correspond to the square of a visual angle equal to five minutes (one-twelfth of a degree) and should be at a distance of not less than fifteen, or better, twenty feet from the nearest pupil, for beyond this distance the objects to be looked at are brought to a focus on the retina and produce a clear image with the minimum effort or strain of the accommodation on the part of the normal (emmetropic) eye. The normal eye should never be subjected for any length of time to a type smaller than one-sixteenth of an inch. The size of the type must be such as to maintain a just relation between the length of the line (not to exceed four English inches—100 mm.), and the ideas to be conveyed by the printed matter, but not so small as to require an effort to decipher it; and the lines must not be long enough to cause fatigue by undue use of the rotators of the eye; in short, all the appointments of the school should be so regulated as to give the eye a fair chance.

A NEW DEVICE FOR MODIFICATION OF MILK.

Dr. Henry E. Tuley of Louisville presented this device, consisting of a measuring glass, containing seven panels, on each of which was marked by horizontal lines the amount of each ingredient of the milk mixture to produce certain formulæ. The material needed is milk, skimmed, 20 per cent. cream, water and milk sugar. The results are practical and the method easy of use. Reference was made to the gradually increasing use of modified cow's milk as an infant food, and a plea made for its more general use.

Professor Brissaud of Paris, agrégé, has been elected to the chair of the history of medicine, vacant since the death of the last incumbent, some months ago.

Illinois State Medical Society.

Abstract of Proceedings, Forty-ninth Annual Meeting, held at Cairo, May 16, 17, and 18, 1899.

(Concluded from page 1174.)

SECTION ON STATE MEDICINE.

Dr. C. B. Johnson, Champaign, chairman.

PREVALENCE OF ALCOHOLISM AND ITS INFLUENCE ON MORTALITY.

Dr. George W. Webster of Chicago summarized his studies and observations in the following conclusions:

1. Alcohol acts by destroying congenital immunity, increasing susceptibility, favoring by its direct influence the development of pathogenic micro-organisms, lessening the absolute strength of muscles, obtunding the delicacy of the special senses, causing changes in the nervous system whereby insanity is produced, the latter being transmissible, inducing inebriety, which is a nervous disease and hereditary, and increasing the death-rate both directly and also by its tendency to exterminate the race, and directly causing such diseases as cirrhosis of the liver and chronic nephritis.

2. As a result of the foregoing, infection is favored, the healing of wounds retarded, the infection of them by erysipelas facilitated, and the mortality increased.

3. The liability to infectious disease, especially tuberculosis and pneumonia, is very greatly increased because of the increased susceptibility, diminished powers of resistance, greater readiness of germ development, less care in providing against exposure or in providing proper clothing, and also because the portal through which death enters in a case of pneumonia is commonly the right heart, and its absolute strength being impaired, the mortality is thus increased.

4. Alcohol is one of the most potent factors in the etiology of cirrhosis of the liver, chronic nephritis, general arteriosclerosis, and the non-inflammatory diseases of the heart.

5. Alcohol is the chief cause of most of the cases of murder, suicide, and many other deaths by violence and accident.

6. Alcohol has caused more deaths in Chicago in the last three years than has smallpox in the last forty-three years.

7. The mortality lists for Chicago are not introduced by way of criticism of the department of health, because it does not assign the causes of death, it simply records them; but rather to show that they are misleading and fallacious because members of the profession are not calling things by their right names. It is done out of respect for the feelings of their friends; why not call smallpox an eruptive fever for the same reason, shut our eyes to its presence, put up no warning cards, and make no effort to stamp it out or prevent its occurrence? We may argue that alcohol kills not less surely.

8. At least a part of the mortality is fairly chargeable to the medical profession because of a want of knowledge of the action of alcohol, and because of its improper use as an alleged stimulant.

9. Drs. Kerr and Richardson of England estimate that 10 per cent. of cases of death in England and Wales are due to alcohol. Dr. T. D. Crothers of Hartford, Conn., estimates that 50 to 60 per cent. of all inebriates die directly from that cause. Dr. N. S. Davis of Chicago estimates that 50 per cent. of all cases of chronic nephritis, cirrhosis of the liver, non-inflammatory diseases of the heart, cerebral apoplexy and deaths by violence are due to alcohol. Undoubtedly, we may safely charge more than 10 per cent. of all mortality of all large cities to alcohol, thus making the death-rate in Chicago alone over 2300 per year.

10. To be successful in the fight against alcohol, medical men can, more than any others, contribute substantial aid by calling the attention of medical men to this disease of contemporary humanity, by calling things by their right names and designating alcohol as a narcotic, not a stimulant, in their writings and speaking about it; by taking the necessary steps in the investigation of its effects, and then a concurrence of opinion in teaching both publicly and privately as to what constitutes an inebriate, and then his relationship as a diseased person toward the church, the law and the medical profession.

NERVOUS COMPLICATIONS AND MEDICOLEGAL RELATIONS OF ALCOHOLIC INEBRIETY.

Dr. Daniel R. Brower of Chicago pointed out these complications and relations. The constant characteristic nervous symptom is the tremor. In acute alcohol it occurs only on movement, and is irregular and coarse; it is most conspicuous in the arm, face and tongue. In chronic alcoholism, the tremor is voluntary, fine and regular, and seen in the hands, lips and tongue. Acute intoxication, acute alcoholic mania and delirium tremens are the three ordinary mental manifestations. The first and third are common; the second is quite rare, and they lead to alcoholic dementia, or alcoholic general paresis. Acute alcoholic intoxication is most promptly relieved by a hypodermic injection of 1/60 of a grain of apomorphin to produce emesis, to be followed by full doses of strychnia sulphate, and chloralamid in from fifteen to twenty grain doses, with an abundance of easily digestible food, to which red pepper should be freely added. In acute alcoholic mania a combination of sodium bromid, 20 grains, with the hydrobromate of coniin, 1/50 of a grain, every three or four hours, to subdue the excitement, followed by strychnia sulphate, with an abundance of nutritious food is good treatment.

In delirium tremens the indications are to produce sleep and to sustain strength, and they are met by paraldehyde in 30-minim to dram doses, or trional in 20-grain doses, repeated, if necessary; a generous diet, with strychnia sulphate in full doses.

Another important nervous complication is multiple neuritis. Probably over 50 per cent. of all the adult cases of multiple neuritis are alcoholic. The indications for treatment of alcoholic multiple neuritis are to quiet pain, sustain the patient, and relieve the resulting paralysis.

The medicolegal relations of inebriety are important; but its jurisprudence needs to be rewritten. Law is eminently conservative, and it is to-day one hundred years behind the progress of neuropathy. Medicolegal relations may arise with reference to life insurance. That excessive drinking does impair the health is beyond dispute, and life insurance companies ask plain questions as to the existence of indulgence. Life insurance companies undoubtedly lose largely from alcoholic inebriety. Evidence of an intoxicated person is not competent; but the fact that a person has been declared an habitual drunkard does not raise the presumption of incompetency. A confession made by an intoxicated person is admissible as evidence against himself and others, provided it is corroborated by circumstances. Contracts made by an intoxicated person are voidable, but in order to void them, it must be shown that the degree of drunkenness must be such as to deprive the defendant of his understanding and make him what in law is called *non compos mentis*. An alcoholic inebriate is not necessarily incapacitated for making a will. It must be shown, in order to invalidate it, that he was both intoxicated and incompetent at the time. Habitual drunkenness for two years in the State of Illinois gives good grounds for divorce proceedings. In the State of Illinois an habitual drunkard may be pronounced by the courts incapable of managing his estate.

The author believes that physicians should have the power to confine the alcoholic inebriates in suitable hospitals for a sufficiently long time to eradicate at least some of the effects of the drug upon important organs. One or more years of continuous treatment will be necessary in many cases to produce permanent results, and the power to so restrain for a sufficient time should be given by proper legislation.

The society has decided to publish a monthly journal to take the place of the annual volume of Transactions, and it is thought that the membership can be increased more rapidly in this way.

The following officers were elected for the ensuing year: president, Harold N. Moyer, Chicago; first vice-president, J. T. McAnally, Carbondale; second vice-president, Weller Van Hook, Chicago; treasurer, George N. Kreider, Springfield. Place of meeting, Springfield, the third Tuesday in May, 1900.

Denver and Arapahoe Medical Society.

Regular Meeting, held May 23, 1899.

RABIES.

Dr. Chas. Gresswell, M.R.C.V.S., read this paper and said in part: There is more mystery and less accurate knowledge of this disease, both in animals and man, than is the case in any other disease known. At the same time it is one of the earliest diseases mentioned in history. Ignorance and superstition have had the full effect in the determining of people's minds to one side or the other as to the real existence of a terrible and infectious disease, certainly communicable to all animals, or the absolute denial of the existence of rabies.

It is needless to say that both extremes, in the light of present-day investigation, have been proved to be wrong. Rabies does exist in animals, and is also capable of being communicated to man, but not with the certainty that all writers supposed in all cases, nor with the train of horrible symptoms so vividly portrayed by the present-day reporter of sensational news.

The symptoms may be briefly described as follows: slight increase of temperature on the first day, from 1 to 3 degrees; dry throat; constipation; torpid liver; acute indigestion; restlessness; sleeplessness; increased activity of the cerebrospinal nerve-centers. In the day, these symptoms are especially characterized by a marked change in the disposition of the animals. They may become either exceptionally affectionate, constantly trying to jump upon their masters, with an evident desire to lick them, or to take hold of the hand or arms with their teeth. Or, on the other hand, they will be from the first morose, moody, shunning the light and all companionship, and be generally restless and snappy. During this period they will eat all kinds of food they have been hitherto unaccustomed to. This stage lasts from twelve to thirty-six hours. Then the affectionate manner turns into a more or less vicious attempt at biting, the tendency being spasmodic, intermittent and convulsive. When the animal has bitten it seems immediately ashamed of itself, and will cower down when spoken to, and retire to the most secluded place it can find.

In this stage, there at intervals appear a dilatation of the pupils and a peculiar expression on the face, characteristic of impending mania or delirium. The gastric symptoms are more marked. The animal, after twenty-four hours, will become more irritable and more inclined to bite when interfered with, and will soon start out and leave its home. The salivary secretions are increased. There is convulsive action of the muscles of the head, face and throat, intense thirst, and swallowing is accompanied with some difficulty at first, gradually increasing until scarcely anything can be swallowed on account of the spasmodic action of the muscles in and around the throat.

During these first three days brain symptoms may occur at intervals, but with the peculiarity that perfect lucidity can be restored at a word of command from the master, but they immediately recur the moment the master's attention is called off. The symptoms are characterized by hallucinations of various kinds, evidenced, in the dog, by snapping at imaginary foes or jumping in the air to catch at imaginary flies. After three or four days of these symptoms, the disease will develop into either the form known as furious rabies, when the animal will attack almost anything or anybody, or it may develop into the form known as dumb rabies, when the lower jaw becomes paralyzed and drops, with little or no power of the animal to close the mouth. In the furious form the animal may live from twelve to thirty-six hours; in the latter form it may live from three to five days. The most common form is that of dumb rabies; the animal being comparatively harmless.

Treatment.—It has been claimed by some that in the early stages, very large and repeated doses of calomel have the effect of arresting the progress of the disease. Dr. J. J. Ligget records (*Med. News*, March 18, 1899) a cure of a case in a man by means of the exhibition of 260 grains of calomel.

Here the author gave an account of a recent outbreak of rabies in Colorado. There have been in all 150 cases of a contagious disease among dogs in Denver and the neighborhood. In almost all cases a previous bite from another dog occurred. All cases, if left to themselves, died on or about the ninth day. Some developed the disease from fourteen to twenty-one days after. Be the disease rabies or not, it is sufficiently fatal to dogs to require the active interference of the authorities.

Rabies is comparatively frequent in animals, especially dogs, in this country. It is communicated to other animals by direct contagion only. It is claimed that one of the skunk species, while healthy itself, is capable of communicating the disease to other animals. The carnivora are most susceptible to rabies, omnivora less susceptible. The period of incubation after direct inoculation varies from five to twenty-one days in rabbits, from five days to three months in dogs, and from twenty-one days to thirteen weeks in man. The virus is not taken up by the blood-vessels direct, but by the nerves. Cauterization, even after an interval of twenty-four hours, is highly preventive of the after-effects of virus, injection of fuming nitric acid being the most successful.

Spurious rabies in man is an undoubted fact, and is a nervous or hysteric condition induced by fear of the disease. It can be distinguished from true rabies by absence of increased temperature, no salivation, absence of aversion to light. Another point of great distinction is the fear of water in spurious cases, whereas in the scientifically recorded cases there is no fear of water, but of the convulsion which the act of swallowing water causes.

As the percentage of human infection from animals is at the worst only 15 per cent., and as thorough cauterization in even twenty-four hours after the bite will reduce this to 1.35 per cent., it is fair to presume that treatment of ordinary bites as quickly as possible will reduce the human infection to a minimum. If to these precautions there is added the Pasteur treatment where large and important nerves are torn, it is safe to assert that medical science has won a victory as complete or more so than in the antitoxin treatment of diphtheria.

RABIES IN A BOY.

Dr. E. P. **Axtell** reported a case in a boy 8 years old, who was bitten on the lip, Nov. 2, 1898. The dog at once hid itself under the bed and could not be induced to come out. The lip healed kindly under treatment. November 26, the boy took cold, ate but little and complained of soreness in the throat. November 29, for the first time, he complained of stiffness of the neck and inability to swallow. When seen in the morning, he was sitting in bed, perfectly rational, exceedingly nervous, and could not maintain one position for any length of time. He answered questions rationally, watched the door and seemed to be on the alert for any sudden noise. Pulse was 126, temperature 101.4, respiration not specially disturbed, except that he would make a deep sighing respiration occasionally; reflexes exaggerated; throat slightly congested.

Had some water brought the Doctor to wash his thermometer in, and the boy began to whine most pitifully, his eyes stared, and he went out of the bed on the opposite side with lightning-like speed. The fear depicted on his face was that of impending death. On coaxing him, the minute he would make up his mind to take the glass, he would jump away chattering with fear.

In the afternoon the symptoms were much the same. He passed urine freely and his bowels moved. The tendency to take deep inspiration was more marked. Late in the evening he was still wide awake, active, nervous, anxious, alert to every sound, and rational. He was given morphin.

In the morning he was worse, and appreciating the fact that he was going to die, he talked affectionately to those about him. He was tossing his arms and legs, twisting his head, and his speech was choked in the midst of a word. He complained of pain in the left thigh, of cramps in his left leg and in both arms. Drs. Eskridge, Sewall and Mitchell saw him that morning. Dr. Eskridge tested him with a glass of milk, which he took in his hands, looked at it for a long time, made some effort at swallowing, and declared he could not drink it. He was told to soak some bread in milk and eat it, but when the milk would drop off the bread he would at once get nervous and want to have the glass put away from him. After allowing the milk-soaked bread to drain off, he could then take and eat it; pulse 132; temperature 102.

From that time the course of the disease was steadily and frightfully progressive. Even under the influence of large doses of morphin he would have spells of fear and intense hyperthesia. A definite spasm of the cervical muscles was now noticed, pulling the mouth open and causing him to take a jerky irregular respiration. Fear of impending danger was marked on his countenance. He uttered peculiar sounds which were akin to the low bark of a dog. About noon the first evidence of salivation began, which was persistent and copious until his death, which occurred at 5:30 p.m.

Dr. J. T. **Eskridge** thought it high time the physicians of Denver should seriously and scientifically study the question of rabies, for there is not a shadow of a doubt that cases of rabies have occurred in Denver and its vicinity. He wished to take issue with the first speaker's statement that the virus is taken up by the nerves. The subject has been thoroughly discussed by Gowers, Mills, Horsely and others, and the weight of the arguments is against this theory. The theory itself was first advanced by Pasteur. But for the effects of the poison to be carried to the central nervous system by the nerves it has to be done by a neuritis extending from the distal portion of the nerves to their spinal cord or medullary origin. This has never been found. It is indeed inexplicable how the nerves otherwise can conduct the virus, or the effects of it, to the medulla and spinal cord, the parenchyma of the nerves being free from lymphatic or other vessels. He had never observed the affectionate stage of which Dr. Gresswell spoke. The stage that he observed can be described as one merging into melancholy. He thought the absence of the affectionate stage in a Delaware epidemic he had seen might be due to the fact that they were country dogs. He was not certain whether anybody is able to distinguish the howl of a rabid dog.

As to the rabid dog eating all kinds of food, this can not be considered a distinctive symptom. Dogs in good health will eat all kinds.

The phenomenon of arousing the dog from his delirium by calling to him is not limited to rabies. It is present in man in cases of brain abscess, and it may be present in meningitis in dogs or other animals.

He does not think that the poison gives rise, directly, to the disease. The probabilities are that the poison is retained in or near the wound, and probably a micro-organism. This may be encapsulated and a secondary poison develop from this, which may give rise to the disease days, weeks or months later. Those cases where the disease followed the bite one to many years after its infliction, he was not trying to discuss. They may be genuine and they may not. From the fact that the poison does not immediately find its way into the general circulation, we are encouraged to use timely and thorough cauterization of the wound.

The period of incubation is certainly longer in man than in dogs. Its average duration is probably from a few to a number of weeks. It is said to be shorter in woman than in man, some giving the average duration in man at twelve weeks and in woman nine weeks. Those cases of prolonged periods of incubation extending from one to as many as eighteen years, are extremely doubtful. This long incubation period is a great stumbling-block. Dullers of Philadelphia is certainly one of our brightest men, and yet he was led astray by this long period of incubation, and went to the extreme of utterly denying the existence of such a thing as rabies in man at least.

Dr. Eskridge does not think that a dog free from rabies poison is able to communicate rabies to man. All such cases may be due to the fact that the dog had an attack of the mild form of rabies, or the poison may be in the saliva of a dog recently engaged in a fight with a rabid dog.

When he saw Dr. Axtell's case the first time, he was not ready to admit that it was a case of rabies. The symptoms were not pronounced on account of the morphin treatment. But when he saw it the second time, all was changed. Of especial diagnostic value was the jerky inspiration. Thus it is obvious that we may through our treatment so mask the symptoms that it would be impossible to make out the diagnosis.

The temperature of rabies in man is rarely normal. It may range from 99.5 to 101 in the early part of the disease, but will frequently reach 102 to 103, and may go to 104 or 105 F. It has been known to rise twenty minutes after death to 108.8. The pulse as a rule is exceedingly rapid. The respiration is not only rapid, but peculiarly jerky, especially during inspiration.

The diagnosis is based on the history, though it must be accepted with caution. The patient may have been bitten by a dog, yet he may suffer from something else than rabies. The spasms of the muscles of deglutition and of respiration are the most important points. The fear of water may be absent.

Differential Diagnosis:—Acute insanity may be almost impossible to differentiate, unless death supervenes, in which case the rapidity with which death occurs in rabies never occurs in acute insanity.

In meningitis, the cranial nerves are affected, while diverging eyes, inflammation of optic nerves, absence of spasm of inspiration are against rabies.

Meningeal hemorrhage may be very difficult to differentiate, but the local symptoms are more marked. The jerky inspiration, if present, differs from that of rabies, and there is no fear of water.

In tetanus there is lock-jaw and no jerking inspiration. Hysteria may be superadded. He has seen a case of hydrophobia complicated by hysteria. Pseudo-hydrophobia is nothing else but hysteria.

Chicago Academy of Medicine.

Regular Meeting, held April 14, 1899.

DIETETICS.

Dr. Harold N. Moyer opened the discussion, saying: Dietetics touches every branch of medicine. I desire to say a word or two about too much food or *luxus consumption.* We can divide persons into two classes: Those who eat too much, and those who eat too little. A large proportion of the human race fall within the class of those who eat too much; it is difficult to say what is too much. In this connection I wish to refer to a long series of observations made by a German author, whose name I can not at present recall, in which he analyzed the total nitrogenous output in relation to the food supply. He found, among certain classes of underfed peasantry, the average nitrogenous output only about half of what it was in those who were well fed. It is questionable which class is better off, those who are underfed, or those who are overfed. A careful study of cases does not tell us whether those who consume an excessive quantity of food are benefited by it any more than those who take just sufficient food to keep their tissues from absolute waste. The question of excess of consumption of food is necessarily associated in many minds with an increase of uric acid or the so-called uric acid diathesis. This phase of the subject is about on its legs, and a more fashionable theory is coming into vogue, namely, auto-intoxication. I refer to the extractives of urine which contain nitrogen. Whether or not it is to be attributed to uricacidemia or auto-intoxication, there is a sort of feeling in the profession—and it is reflected in its practice—that in some way there is an accumulation of these substances in the body, and failure to eliminate them causes certain diseased processes. The deduction is then drawn that these substances would not be within the body if people did not eat too much; if, in other words, there was not a luxus consumption, and people are dieting themselves on that basis. If we take the experiments of physiologic chemistry, on the other hand, we find urea is a diuretic which has been given in Bright's disease and various other affections, it being a nitrogenized product of retrograde metamorphosis which stimulates the renal function and promotes elimination. How far it is true that luxus consumption or increased blood supply stimulates the kidneys and emunctories, instead of blocking them and making it difficult for the emunctories to get rid of the waste products, we do not know. So much for that branch of the subject.

I wish to invite your attention briefly to a phase of the subject which I consider quite important, and that is the question of starvation or underfeeding patients. While this may be true of people that are considered well, I am satisfied there is another branch of dietetics, particularly in relation to the sick, in which we give too much food. I am convinced of this in cases of typhoid fever and other conditions. I believe too much food is given, and that many such cases would be much better off if they were not given as much food. The idea is that the strength of the patient must be supported, and if you can put food enough into him it is going to impart vitality enough to tide the patient over the effects of the disease, and then he is going to get well. This is an error. Experiments go to show that animals with varying forms of acute infection that are not fed have survived longer than those that have received food, particularly those infections with the typhoid bacillus. Possibly the food introduced into the intestinal canal furnishes a culture-medium; it increases the number of germs rather than diminishes them, and our fathers were not so far away from the facts when they literally starved their patients and physicked them. It might be better if we did a little more purging and starving of patients.

Of late I have been starving some of my acutely sick patients with great benefit, but the laity object very much to starvation, believing that if they miss a meal it is dangerous. It is in this class of cases that beef tea is of such great value. It is practically a starvation diet, and at the same time strongly suggestive of food and strength.

DIETETICS IN OBSTETRICS.

Dr. C. S. Bacon read a paper on this subject, to appear in full in the Journal.

DIETETICS OF CHILDREN'S DISEASES.

Dr. Rosa Engelmann, in her paper, said that as early life divides itself into the periods of infancy and childhood, so does its dietary conform to these periods. In health as well as disease it differs materially from that of adult life. By reason of nervous instability and physiologic peculiarities of digestion and circulation almost, if not all, diseases to which young patients succumb are ushered in by gastro intestinal disturbances that are treated accordingly, viz., as if for primary gastro-intestinal disease.

Except in the inanition fever of the first few days of life, not food, but absolute abstinence from food for from four to eighteen hours, is indicated. Next, the regulation of the existing diet, or a substitution for a predigested concentrated liquid form, is desirable. If a suckling be affected, the breast is withdrawn for a period of from four to six hours and iced egg-albumin-water or whey used for a like period. If, after an examination of the mother's milk, it still continues to disagree with the babe, its food is artificially supplemented by cream and water. If patient effort fails to change the character of the wet-nurse's milk, then the question of artificial feeding confronts us.

Colonic flushings are an important factor in the withdrawal of food products from the lower as well as the upper bowel, by reflex peristalsis. Ice pellets and water are essential adjuvants in the feeding of sick children. Primary withdrawal of food and a later regulation or change of the same applies as equally to bottle-fed babies as to nurslings. Since the former are notoriously ill-fed, in a measure, the entire subject can be summed up under the heading of modified milk. The time limit prevents my entering into the details of this matter. Temperament and disposition in older children is another serious element that requires consideration, for no matter how tractable and placid a child may be when well, the irritability and nervousness of disease interfere radically with proper nourishment. A nervous dyspepsia often occurs that even induces rejection of food by vomiting. Another immediate feeding is indicated. Thus we are obliged to depend on concentrated nutriments and stimulants of small bulk, such as somatose, peptonoids and diluted whisky, often for days at a time, until we can return to the ordinary liquid fare of milk, broths, orange juice, etc.

In grave emergencies I often call on the skin for service, using oil, lanolin or cocoa-butter by inunction as supplementary aliments. I reserve rectal feeding or the stomach-tube as a last resort. As children approach the age of puberty, the adult dietary of disease is adopted. The simplicity of the health dietary in children in a measure simplifies that of disease.

(*To be continued.*)

State and Provincial Boards of Health of North America.

This body held its fourteenth annual conference in Richmond, Va., May 24 and 25. Sixteen States were represented. The discussion of the proposal to establish a national health bureau elicited the liveliest discussion, and the longest. The result was nearly a unanimous vote, endorsing the Spooner bill.

DANGER OF YELLOW FEVER.

Dr. Felix Formento of New Orleans, president of the organization, discussed this subject. He dwelt especially on the importance of the topic relating to the necessity of extra precautions to prevent the importation of infectious diseases from the new possessions of the United States. He said that of all foreign infections which threaten this country, yellow fever is the one to be most dreaded. The plague has not always limited itself to the South, and the danger of more northerly sections becoming infected is greater now than ever before, owing to all parts of the country being so closely connected by means of rail and steamship lines.

In the meantime, to guard against this importation, to protect as far as practicable our extended shores, there seems to be one system which, while securing protection to the whole country, offers justice and impartiality to all sections, North and South, with no undue discriminating commercial advantages to one port over another. This system can only be enforced by the United States Government. It consists in the disinfection of all ships, with their crews, passengers and merchandise, sailing from an infected port for any port of the United States, at the very point of departure, and not at the home port of arrival, where varying State and local laws and interests are often in conflict and quarantine practices often entirely inefficient. The same rigid regulations should apply to all points of destination, North as well as South, for nowadays, with our unlimited railroad facilities, the disease, once introduced through any of our ports, may soon be carried all over the country, developing and spreading naturally in those sections whose climate and sanitary conditions are most favorable to the disease. All home ports should be put on the same footing, and the same measures should apply to all passengers, whether destined to northern or southern points. A ship having been disinfected and purified at Havana, for instance, arriving at an American port, would only be detained at quarantine for a sufficient time to cover the period of incubation. This system would render impossible an occurrence which I have often witnessed in New Orleans, namely, the arrival in that city of passengers, baggage and merchandise from Havana via Tampa or New York (with little or no restrictions) several days before the release from our Mississippi quarantine station of steamers which had left Havana direct for New Orleans on the very day those coming via New York had sailed from Havana.

In conclusion, Dr. Formento stated that since preparing his address he had learned that vessels destined to some parts are recently being disinfected at Havana. If this is done by the Government, it is a move in the proper direction and serves to confirm his views on the subject. But to be really efficacious, he thought the system should be practiced in all infected ports, and should apply indiscriminately to vessels sailing for all American ports.

ANTITUBERCULOUS LAWS.

Dr. Pelletier of Quebec, in his treatment of this subject, held that all animals, alive or dead, should be subject to inspection; that every owner having an animal known to be suffering from a contagious disease, or every veterinarian knowing of the existence of such affections, must report the same to the proper authority. The owner of an animal suffering from such disease should not be allowed to sell it without informing the buyer of the fact. He thought it important that laws regarding the importation of diseased cattle should be strict, and that any animal which belongs to the food class, when affected by any disease, whether contagious or not, should be killed only in the presence of an inspector.

Dr. Hurty of Indiana explained what was being done in Indiana to stamp out the disease. The newspapers were first used to stir up public sentiment to the dangers of the plague, and then the Indianapolis Board of Health induced a dairyman to have his sheds made to conform to the proper sanitary model, and then to have his cattle tested for disease, the board promising to give him a certificate setting forth that his cows had been tested and were healthy. The day this certificate was published the dairyman was overrun with customers, and all the dairyman in the city wanted their cows tested. Every dairy herd supplying Indianapolis is now tested. He gave other instances of what had been accomplished in Indiana towns in the direction of purer milk.

American Medico-Psychological Association.

The fifty-fifth annual meeting of this association was held in New York City, May 23.

PRESIDENT'S ADDRESS.

Dr. Henry M. Hurd of Baltimore, in his presidential address, expressed regret that the students in our medical colleges were afforded so little opportunity for the practical study of insanity. He also spoke of the urgent need of the establishment in all large cities of detention hospitals for the insane poor, who often might be cured in such institutions without having to suffer the stigma of a commitment to a State asylum.

PRACTICAL VALUE OF PROPHYLAXIS IN MENTAL DISEASE.

Dr. A. B. Richardson of Massillon, Ohio, in this paper, presented the danger of hereditary transmission. While it was possible in certain cases to calculate the aptitude of transmission of mental defects, he said, in the majority of instances marriages between persons inheriting tendencies to such defects should not be permitted. It was high time that attention should be given to the breeding of children, as well as to that of horses and dogs. In this connection he advocated such modification of our school systems as would relieve children inheriting mental defects from the strain of close competition with normal children.

Dr. Edward Cowles, Waverly, Mass., held that heredity was not commonly the determining cause of insanity, but that the latter was the result in all cases of distinct pathologic processes.

CONTAGION OF INSANITY.

Dr. Richard Dewey, Wauwatosa, Wis., presented this topic. He spoke of the liability of those living in close association with insane persons to themselves contract mental disease. Incidentally he advocated the somewhat radical measure of judicially ending the lives of the hopelessly insane, and expressed the opinion that this would ultimately be adopted.

LEGAL VS. SCIENTIFIC TEST OF INSANITY IN CRIMINAL CASES.

Dr. Charles J. MacDonald, New York, read this paper. Having stated that the highest court of the State of New York had decided that the test on which the responsibility of a criminal who pleads lunacy is established is, the knowledge of the distinction between right and wrong, and the knowledge of the quality of the act which has been committed, he said that such a test is in direct conflict with the law of nature and the discoveries of science. An abstract knowledge of right and wrong is not uncommon in many cases of insanity. Insanity in its relation to crime is always a fact to be determined by medical science, and whenever it is so determined, the fact should be sufficient to acquit. The legal test referred to is a serious menace to human rights and liberties, since only a small percentage of the insane who come under the jurisdiction of the courts belong to the types in which there occurs a loss of the knowledge of right and wrong. The real questions of fact to be decided in the case of a criminal pleading insanity are two: 1. Did the defendant at the time of the alleged crime rationally apprehend its nature, and, if so, did he possess the power of the will to choose between right and wrong? 2. If he had lost the power of choosing, with reference to this particular act, was the loss due to disease or to the heat of passion, or some other self-induced state?

ANNUAL ADDRESS.

Dr. Frederick Peterson, in this address, advocated the establishment in all large cities of State hospitals for acute cases of mental disorder, to be known as psychiatric hospitals or clinics, to which should be attached a variety of laboratories where the biologic side of man could be studied by experts.

Officers were elected as follows: president, Jos. G. Rogers of Indiana; vice-president, P. M. Wise of New York; secretary and treasurer, C. B. Burr of Michigan. The next session will be held at Richmond, Va., beginning May 1, 1900.

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SATURDAY, JUNE 10, 1899.

ACUTE ANTERIOR POLIOMYELITIS.

The question whether acute anterior poliomyelitis is a primary degenerative parenchymatous process, or an interstitial inflammatory change connected with the vessels, has remained a disputed question since the time of CHARCOT. BULOW-HANSEN and HARBITZ[1] had occasion to study two cases of acute anterior poliomyelitis, in which death occurred in one case on the seventh, in the other on the fifth day. The cases concerned young brothers, one 5 years old, the other 4; the third brother, 2½ years old, was also attacked at the same time but recovered.

Nothing definite could be found in regard to the external etiology of this small group of cases. The changes in the two fatal cases were quite alike; there was quite marked hyperemia of the cerebrospinal membranes, with some perivascular invasion, especially in the bottom of the anterior commissure. The hyperemia has spread to all the vessels in the spinal cord, and also up into those of the medulla. Where the hyperemia was most intense there was also more or less exudation and round-cell infiltration, together with proliferation of the neuroglia. In both cases the inflammatory phenomena were most marked in the cervical enlargement of the cord. This part of the cord was remarkably soft, and even with the naked eyes changes could be noticed upon the cut surface. The distinction between the white and the gray substance was not as plain as normally. Where the inflammatory process was most marked the ganglion cells in the anterior horns were largely absent. In the less noticeably affected areas the ganglion cells appeared small and shrunken, the protoplasm granular, and the nuclei indistinct. In other places, but more rarely, the ganglion cells were larger and more or less vesiculated. These changes in the ganglion cells were closely connected with the inflammatory vascular changes already described, showing that the development of the morbid process was closely connected with the blood-vessels. In both cases the inflammatory changes extended for a longer or shorter distance up into the medulla.

STRUMPELL, as long ago as 1884, expressed the opinion that acute poliomyelitis and acute multiple neuritis are acute infectious diseases of similar origin. One of the strongest evidences in favor of the infectious nature of acute poliomyelitis is its occasional appearance in the form of an epidemic. In 1890 MEDIN reported an epidemic in Stockholm and vicinity, in which 43 cases occurred, with 3 deaths; CORDIER described an epidemic in Lyons, in which 13 cases occurred, with four deaths. MEDIN states that he has not been able to find any case in the literature, of more than one attack in the same individual. It is unnecessary to say that the clinic picture of many cases of acute poliomyelitis speaks in favor of its infectious nature. Emphasis should also be laid on the marked gastro-intestinal symptoms present in many cases. The presence of parenchymatous changes in the internal organs, such as the liver and kidneys, the splenic swelling and the enteritis, are noticeable evidences of the infectious nature of the disease.

But the great and important question as to the exact nature of the infection and its mode of entrance into the body is still open. The few bacteriologic examinations which have been made throw no light on this problem. BULOW-HANSEN and HARBITZ review the cases in the literature in which the post-mortem was made during the acute stage of the disease, including their two cases. Eleven such instances are now available for any deductions that may bear on these points. The number is small, but the presence of marked changes in the intestine in four cases suggests that the intestinal tract may be the point of invasion of the disease. In some of these cases the acute gastro-intestinal symptoms began several days before the nervous symptoms developed.

Thorough bacteriologic examinations have been made in very few cases, only three in all, and two of these are the cases reported by BULOW-HANSEN and HARBITZ. In these cases the examination was entirely negative.

Animal experiments have shown that the inoculation with pathogenic microbes or their toxins may produce spinal-cord diseases, which resemble very much certain well-known human diseases, especially anterior poliomyelitis, progressive muscular atrophy, and diffuse myelitis. These experiments have been made especially by French investigators, particularly by Roger and Bourges, who experimented with streptococcus cultures.

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[1] Zeigler's Beitrage, 1899.

In connection with this, reference should be made to the extensive and interesting observations of Homen[2] and his students, on the changes which result in the nerves and spinal cord from the introduction of streptococci into the nerves.

The so-called Landry's paralysis is also a rather obscure nervous disease, which presents many things speaking in favor of an infectious origin. In many cases of this disease the spinal cord has not presented anything pathologic; in other cases degenerative and inflammatory changes have been demonstrated, often resembling the lesions of acute poliomyelitis. In some cases microbes of different kinds have been found, and it may be assumed that this disease depends directly or indirectly on the action of various infectious agents on the spinal cord.

The great vascularity of the spinal cord and the susceptibility of the nervous system to poisons, point to the possible action of toxins on vasomotor nerves, leading to local circulatory disturbances and other changes.

While the facts at hand are too few to allow of any definite conclusions to be drawn with reference to the exact cause of acute poliomyelitis, there is much which speaks in favor of infections of various kinds, and finally, the consideration may be allowed that this disease might also depend on intoxication due to a primary focus of infection outside of the spinal cord, as for instance in the intestinal tract. Future experiments must throw further light on this problem.

TYPHOID FEVER IN CITIES.

From the reports of the registrar general we find that during the five years, 1893–97, inclusive, England and Wales annually lost 17.7 persons from enteric fever out of every hundred thousand living. We cannot compare this rate with the mortality from typhoid fever in the United States during the same period, because we have no statistics. We have no national board, nor department of health, to gather up and consider the vital statistics of the country as a basis for inquiring into the causation and prevention of an unusual mortality. Many of our cities, however, have excellent systems of registration, and their published reports enable us to compare their rates of mortality with those of English and other transatlantic cities. The latest reports issued at the present time are those for 1897. During the five years ending with the year stated, the annual mortality from typhoid fever in London was 13.9 per 100,000 of the population. As compared with this, the average annual rate for the five years in New York City was 17.5, but a rate of 6.3 from typho-malarial and malarial fevers deserves notice in this connection; in the Borough of Brooklyn, N.Y., 15.9 with 12.4 of deaths from malaria; in Cincinnati, Ohio, 40.1 with 4.6; in Washington, D.C., 70.8 with 20.3; in Philadelphia 36 and in Pittsburg, Pa., 74.0, with practically no typho-malarial cases on the record. The excessive death-rates of this country are acknowledged by the medical profession to be due to the dissemination of the typhoid bacillus in the water-supplies. We are fully aware that this fever is propagated in other ways than by an infected water. The nurse who is careless of sanitary cleanliness, and the laundress who handles undisinfected bed linen, may become victims. The spread of the disease in the military camps of last summer shows that the infection may be propagated from man to man in the close contact of camp life through the agency of soiled blankets and clothing, and from infected soil and sinks through the agency of dust and flies. But the evidence that the water-mains constitute the main channels of propagation in our cities is too well known to require recapitulation at this time. The difference between the typhoid fever death-rates of Washington, D. C., and London, England, is an expression of the price paid by the citizens of our national capital for the failure of the authorities to give the river water-supply that degree of purification which has been effected in London. A fair approximation to the unnecessary deaths from typhoid fever in our cities can be calculated so readily and has, indeed, been presented so often by health officers and sanitarians, that it seems at first sight difficult to understand the hesitancy of those in power to apply the remedy.

Filtration, through beds of sand and gravel, is no new experiment. The first large filter of this kind was constructed in London, as long ago as 1829, by the Chelsea Water Company. A royal commission had reported that the Thames water, when free from extraneous matters, was a water of considerable purity, but that as it approached the metropolis it became loaded with much filth, from which, however, it was possible to purify it by filtration through sand, and this with all requisite rapidity and within reasonable limits of expense. In experimenting, with a view of carrying out the suggestions of the commission, the water company found that the sand bed speedily became choked by the mass of fine matter filtered from the water, but, that, if the water was permitted to stand for some hours in a settling-basin to rid it of its grosser and heavier particles, the sand filter would afterward give satisfactory results. Since then settling-basins and filter-beds constitute an essential part of the water-supply plant of every English company which pumps up river water for its consumers; and the prevalence and mortality of typhoid fever have fallen in proportion to the efficiency of the filtration. The efficiency of sand filtration has been demonstrated by hundreds of municipalities in England and continental Europe. The cost of the installation and the subsequent working expenses can be calculated readily and closely. This question of cost has probably a bearing on the slow progress which has been made in this direction in the United States. Are we so eager after riches, individually, that we decline to expend any of our accumulated wealth for the general good, or is it that we regard the method of sand filtration as crude and below what we consider should be the standard of this advanced age, or do the climatologic conditions interfere with successful results in this country? Climatologic conditions present no difficulty which cannot be overcome by the engineer. This is merely a question of money. Our advanced age has had many years to study the subject of purification of water-supplies, but it has discovered nothing which gives better results than the sand-bed filtration of Europe. We are left, therefore, to infer that our slow progress in providing pure water for the people results from the difficulty of getting energy enough to overcome the inertia of the status quo, and from a hesitancy to put money into an undertaking which has merely the conservation of human health and life, instead of quarterly dividends, as its primary object.

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[2] Zeigler's Beiträge, 1899.

The need of pure water appears, however, to have attracted attention of late in many of our cities. The pioneer work done by the Massachusetts Board of Health, in its surveys of the drainage areas of public water-supplies, and in its experiments on filtration, has been of great value. St. Louis has expended much money on its settling-basins. Cincinnati and Louisville have been investigating. Philadelphia and Washington have been discussing the prevalence of typhoid fever and reaching the conclusion that something ought to be done to remedy existing conditions. The present epidemic in Philadelphia may hasten action in that city. Meanwhile Pittsburg has presented to the public the report of a filtration commission appointed June 10, 1896. This commission, after an exhaustive consideration of the subject, concluded that the present water-supply from the Allegheny and Monongahela rivers is objectionable, because of the mud which it contains and because of its pollution by sewage. It further concluded that sand filtration and the method of mechanic filtration can be successfully used as purifying agencies; but that when cost, efficiency, durability and simplicity of operation are considered, the former method must be regarded as having given better results than the latter. As to the initial expense, the cost of the land required for sand filtration would determine in favor of mechanic filtration were other things equal. So far as concerns efficiency in bacterial removal, the weight of evidence obtained by experiment is in favor of sand filtration. The members of the commission saw filter-beds in Europe which had been in use for forty years and which bid fair to render efficient service for many times this period, while mechanic devices are subject to rapid deterioration from wear and tear. Besides, with the sand filter, slight neglects and errors of judgment on the part of workmen do not impair the quality of the water, whereas, the mechanic filter requires careful attention and nice judgment to insure purity. The weight of evidence is, therefore, decidedly in favor of sand filtration, so far as simplicity of operation is concerned. Recommendation is made by the commission for an issue of bonds to provide funds for the establishment of the filtration plant. We commend this recommendation to the city authorities of Pittsburg, and the report of the commission, as a whole, to the authorities of those cities which have an unpurified surface water-supply and large death-rates from typhoid fever.

CONSERVATIVE VS. RADICAL TEACHING.

In the discussion of the somewhat unsettled question of when to operate in appendicitis, at the late session of the American Surgical Association, an idea was brought out which, while not new, has a very important bearing on the subject and is well worth considering. One of the speakers, referring to the doctrine advocated by certain others that every case calls for operative interference, called attention to the fact that a great majority of these assumedly operative cases occurred in the practice of general country practitioners who have little experience in major abdominal operations, and who are without the hospital and nursing appliances that contribute so largely to the good results of our more successful operators. The important point in the discussion was, he said, "that conservatism ought to be advocated in dealing with cases of appendicitis, not so much for the Fellows of the association as for the surgeon who has not so much experience as those here to-day." There is much for consideration in this view of the subject. It is well to remember that the leaders and teachers in surgery are considered as authorities, and their utterances go out to the public and the profession, and carry weight; like legal decisions, they make the law by which the correct practice is to be estimated. If it is their unqualified opinion that every case of appendicitis calls for operation, it necessarily implies that whoever fails to operate is guilty of surgical, if not criminal, neglect. We all know the value of experience, of long hospital training, of the skilled eye, of manual dexterity and of the confidence gained by prior success. The surgical corypheus has all these, and a failure in his hand is only a providence of God; no fear of criticism or legal consequences need disturb him or affect his nerve. With the general country practitioner it is different. He may be a thorough student, a skilled physician, a man equal or even superior in education, courage and common sense to the great teachers and operators; he may be in every respect that highest product in medicine—a thorough, all-around practitioner, and there are thousands such—but this very fact puts him at a disadvantage as compared with the narrower specialist in the mere operative facility. He can not in the natural order of things command the experience or have at his hands the needed appliances and surroundings, and, while perfectly competent to judge and operate in a case of urgency where life depended on it, his own best judgment might be against any such rule as here discussed, so far as his own conduct was concerned. If this is true of the abler general practitioner, it is still more so of those less experienced and less able. Yet, if the dictum is to go out, backed by the authority of the great surgical authorities of the day, that operation is advisable or imperative in every case of appendicitis, inexperienced and untrained men as well as those better skilled will be compelled to operate.

Any such statement made by those, so to speak, in authority, should be made with reservation; as one gentleman said in the discussion, there should be no such words used in surgery as "never" and "every," and he was right. Each case is a law to itself, and all the conditions must be duly considered. While there may be hundreds of men in this country so qualified and situated that they could possibly safely adopt the rule to operate in every case, there are thousands who could not, and this may be said not at all to their discredit. Any such unqualified radical assertion as that every case calls for operation should not be made, much less sent out as the verdict of one of the highest surgical assemblies in the land. We are glad, therefore, to note the qualifying opinions there expressed. (See p. 1314.)

PRESIDENT MATHEWS' ADDRESS.

The presidential address, published in this issue of the Journal calls for more than a passing notice. It is not for us to comment on some of the recommendations it contains, but others may well be noticed here. The points made as to the need of recognition of medical societies that can not obtain such under present rules, and as to a more thorough canvassing of the profession in the interest of the Association, are timely and well worth the consideration of its members and friends.

That the Journal alone is worth more than the sum paid for membership, we trust is true, and it will be our endeavor to so increase its value that the fact will be even more self-evident, and that its title to rank as peer to any medical journal published anywhere will be beyond all question. To some extent the Journal is in this respect in the hands of its contributors, but there is little fear of trouble from that quarter. The program of the Association this year would sufficiently indicate this, and there is no reason to look for deterioration hereafter. It is a matter for congratulation that it has reached a point of development where the ablest men in all specialties find it one of the very best mediums for the publication of their best work. Dr. Mathews' remarks on some of the living questions of modern medicine are well chosen and we trust have accomplished their purpose and maintained the traditions of the Association as a foremost worker in all matters of medical progress.

CHICAGO DEATHS FROM "CHRISTIAN SCIENCE."

One can hardly imagine a greater misfortune than for parents to have lost a child through their own misguided beliefs and then to be held criminally responsible for the same. This, however, is the position to which the belief in "Christian Science" brings some individuals. With loss of faith in cherished beliefs that ought naturally to follow such an event, the affliction itself and the self-accusation, comes the additional affliction of publicity, and criminal prosecution is also a near possibility. How far the law would demand exemplary punishment in such a case can not perhaps be said; it should err if possible on the side of mercy toward the unfortunate and already afflicted parents—but there is little ground for similar leniency toward the mercenary "healers" who mislead and exploit their credulity under a hypocritic religio-medical guise. The occurrence of two recent cases of deaths of children from diphtheria in Chicago, and the exposure of an entire school of children to the disease, by "Christian Science" foolery, are the latest facts of the kind. We would be glad never to have to mention "Christian Science" again; neither the name nor the thing itself is a pleasant matter of contemplation to anyone who has faith in the common sense of his fellows, but it is forever thrusting itself before the public in some unsavory and unsanitary way. Its victims have our sympathy if not always our respect, but their active deluders have neither. Recent events in more than one populous center have begun to teach the public that their performances are perilous not only to individuals but also to the general welfare of the community.

A SANITARY LAWSUIT.

According to the daily press, a peculiar suit has lately been instituted by a Boston physician, with a special purpose aside from the ostensible cause. The suit is to recover the price of an Angora kitten sold the doctor by a dealer, and for damages on account of risk and trouble incurred. The cat died very soon after its purchase and examination revealed the cause of death to be tuberculosis of acute type. The doctor held that his family had been unduly exposed to infection, and began the lawsuit mainly for the purpose of calling the attention of the public to the dangers to which they heedlessly and ignorantly expose themselves in the matter of domestic pets. Tuberculosis may in this way be very easily introduced into a family, and this may explain many cases of mysteriously originating disease. It is a serious matter, regarded in this light, to sell animals that may thus be the source of contagion. The comparatively recent local epidemics of "psittacosis," reported from France, and such cases as are published by Dr. Tucker Wise in a very recent issue of the London *Lancet* are strongly in point in this connection. If we are to have a crusade against tuberculosis, the domestic pets, and especially the exotic ones, will have to come under pretty strict supervision. Probably in the interest of sanitation, the less we have of the monkey and parrot, as well as cat business, the better.

CARCINOMA AND TUBERCULOSIS OF STOMACH.

The simultaneous development of carcinoma and tuberculosis is very rare in any locality. There are only three or four examples of this combination of morbid processes recorded as occurring in the stomach. Claude[1] found at the post-mortem of a patient with tuberculosis of the lungs and intestines an irregular, soft tumor projecting from the posterior walls of the stomach near the pylorus. Surrounding its base ran a narrow ulcer, and the free surface of the mass showed that the mucous membrane had been destroyed; in the vicinity of the large tumor were three smaller polypoid outgrowths, but otherwise the remainder of the stomach seemed normal. Histologic examination of the smaller nodules showed a typic adenomatous structure and submucous tubercles with giant cells and tubercle bacilli. The large tumor was an adenocarcinoma; between the muscular coat and the overlying tumor were numerous caseous tuberculous foci extending into the carcinomatous tissue. Thus there had developed an adenocarcinoma which had become infected with tubercle bacilli, showing that this organism can thrive on a carcinomatous basis and overcome the tumor cells. When the great rarity of tuberculosis of the stomach is considered it would seem that carcinoma of the stomach really favors the development of gastric tuberculosis by diminishing the excretion of hydrochloric acid and disturbing the functions of the gastric glands.

AVOIDABLE RAILROAD ACCIDENTS.

The report of the coroner's juries investigating the recent wreck on the Reading Railroad, where twenty-nine lives were lost and fifty persons more or less maimed, strikes the medical reader with utter amazement. Had their verdicts been anything but the sworn conclusions of men who have personally investigated the matter they would have found few believers. This railroad system has been considered one of the important and well-managed roads of the eastern States, and yet we find these two juries reporting that they find the company censurable for not establishing a color test for such of their employes as are compelled to distinguish between colored lights and signals. It seems incredible that such a criticism could be seriously made of any railroad of our times. If it is true in addition, as these juries report, that the Reading has no modern system of communication between the signal towers and the central offices, that employes are not obliged to carry accurate timepieces, that trains are dispatched too close together, and finally, that although the trainmen on the night of the accident made some mistakes, the accident could not even then have occurred if the road maintained a proper method of signalling, then some of the high officials of the road should be tried for criminal negligence and manslaughter. The example of a president and manager of such a negligently operated railroad spending ten or twenty years in the penitentiary would be most salutary. Only the thorough airing of this matter in the courts can remove a blot from this road and its officers if these things be not true. If they are true, punishment should be prompt and certain.

INSANITY IN CHINA.

It has been claimed that the Chinese were not especially liable to mental disorders, at least in their native country, where the existence of any very great number of insane has been denied. It seemed to be assumed that their particular type of non-progressive civilization, and the stereotyped habits and modes of thought, while not favoring the highest intellectual development, were equally unfavorable to tendencies toward pronounced mental disease. The fact, too, of the comparatively low value set on human life in China was thought to be a possible cause for the non-survival for any long period of helpless, demented individuals, who without care must quickly succumb, and the accumulation of insanity, that is one of our most serious social problems, has been thought, therefore, not to be one that troubled to any extent Chinese economists or statesmen. This last may be true, but the number of insane in China has evidently, according to Dr. Kerr, an American medical missionary on the spot, been vastly underestimated. In an editorial note in the last number of the *American Journal of Insanity*, he is quoted as estimating the number of visible insane in China as so great that to adequately shelter them at least 300 institutions, with a capacity of 1000 each, would be required. This brings the ratio of insane to the general population up to a point not far, if any, below that of European states, and spoils one argument in favor of Chinese civilization and institutions. The pace of life may not be so fast under those conditions, but evidently it is too severe for many who have to try it.

EARLY DIAGNOSIS OF CHOLELITHIASIS.

It is a matter of common observation that biliary calculi are often found after death when they were unsuspected during life. In some instances the condition is unattended with clinic manifestations, and in others these are so vague in character as not to suggest their true origin. For the diagnosis of gall-stones it has been thought necessary that there should be present attacks of hepatic colic, jaundice and the passage by the bowel of the concretions. It has, however, been shown that morbid conditions and manifestations exist independently of, and in the intervals between, attacks of colic.

In a considerable experience at Carlsbad, Pollatscheck (*Weiner Med. Woch.*, April 8, 1899, p. 702), has found that in many of the cases referred to him as examples of cholelithiasis there have been present previously one or more attacks of hepatic colic. In a large proportion of these there was also jaundice, while the stools were pale, the urine contained biliary coloring matter, and occasionally concretions were found in the stools In most cases further, there had long been intermittent symptoms of gastro-intestinal derangement. Examination disclosed, as a rule, enlargement of the liver and evidence of peritoneal irritation. The physical examination is facilitated by standing on the right side of the patient placed as nearly flat as possible, and depressing the fingers of the left hand gently from above downward toward the margin of the liver, and then placing the fingers of the right hand at an acute angle upon those of the left in such a way that the tips of the former project slightly beyond those of the latter. Then firm pressure is made with the right hand upon the released left. The enlargement of the liver following attacks of hepatic colic, is variable in degree and duration in direct proportion to the severity of the attacks.

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[1] Compt. rend. de la Soc. de Biol., Jan. 28, 1899.

When inflammatory conditions arise from the presence of gall-stones, attacks of boring or compressing pain in the right hypochondrium occur, particularly after the ingestion of fatty food, as if induced by expulsive contraction of the gall bladder. When the biliary passages are inflamed or ulcerated the liver may not be enlarged, although its neighborhood is tender. In erethistic individuals there may be fever and chills, but these are usually associated with suppurative processes. Patients with gall-stones often suffer from feelings of faintness, while they appear to have a much greater tolerance for the Carlsbad waters than do ordinary dyspeptics and neuralgics.

COLEOTHRIX METHYSTES.

Rum is the characteristic strong drink; its name is commonly used by metonymy for the whole class. Its average alcoholic strength is about 70 to 75 per cent.; it would therefore be properly considered as only a moderately diluted alcohol, and consequently hostile or incompatible with any known form of animal or vegetable life. It has long been known, however, by dealers and connoisseurs in this line of beverages, that it is sometimes liable to become affected in such a way as to endanger its marketable value—to be subject to a condition that has received the name of "faultiness" in which when mixed with water it throws down a flocculent precipitate. The cause of this condition, hitherto unexplained, has been recently shown by a couple of English investigators (husband and wife in this case) at Oxford University, who discovered that the spoiling of the rum is due to a micrococcus, to which they have given the name that heads this note, derived from its two assumed peculiarities (κολεος. a sheath, and μεθυστης, a drunkard). It lives in the rum, encapsulated in its gelatinous envelope, through which it absorbs the sugar it requires for its nourishment, and still prevents the noxious action of the spirit upon itself. The origin and other life history of the microbe are unknown, and it does not appear to be pathogenic to guinea-pigs. In short, it is apparently an enemy to rum alone as far as known—a sort of humble worker for temperance—and inasmuch as it imbibes only the nutritive sugar and, though surrounded by temptations, lets the noxious alcohol alone, its specific designation would appear to be a misnomer.

SURGICAL SHOCK.

It is a matter of wonder that surgical shock has received such scant consideration at the hands of investigators in the field of surgery. This fact is forcibly borne in on the medical reader by the recently published work of Crile[1]. For the first time we have presented the accurate records of an extended and careful research into the cause of shock, conducted on the lines of experimental physiology. In a sense it might be said that the facts and conclusions in this essay are not all new, the chief addition to knowledge being the clear and unquestionable exposition of the mechanism of the production of shock, and as a consequence some very pertinent conclusions as to its prevention and treatment. It is of importance to surgeons to have it positively proved that, as a rule, the amount of shock is in direct proportion to the extent of excitable tissue injured and the time occupied in operation. Of inestimable importance is the new observation that the profound shock which results from manipulations about the base of the epiglottis and superior portion of the larynx, can be entirely prevented by previously painting the mucous membrane of this region with a weak solution of cocain, which completely blocks the afferent impulses from this area and prevents their reaching the respiratory center, whose failure is the distinctive feature of this shock. The terrible circulatory failure that follows manipulation of the various tissues in the splanchnic area was found to be due to enormous dilatation of the abdominal veins, which practically cuts off the supply of blood to the heart. The experimental evidence well bears out the earlier conclusions of many surgeons that, as a rule, respiration fails much earlier than the circulation in shock and in anesthesia. Also, it was found that after shock has occurred, the heart possesses infinitely more recuperative power than the respiration. In 103 cases of death in dogs while in shock, respiration failed first and most severely in ninety, while the heart alone failed in only four. The immediate cause of death in injury of the brain was found to be respiratory failure. Strychnin sulphate, artificial respiration, intravenous injection of normal saline solution, application of heat and depression of the head were found to be the best measures in the treatment of shock. Having at hand now the first really connected and well-studied record of minute observations on the cause of shock, it is certain that the surgeon will work with greater assurance, because of foreknowledge as to where and when and how this dreaded complication of the operating-table is likely to appear. No doubt other investigators will be stimulated to make further observation in the field, and we shall soon have filled in a breach in our knowledge which has been a reproach to surgery for some years.

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[1] George W. Crile: An Experimental Research into Experimental Shock—An Essay Awarded the Cartwright Prize for 1897. Philadelphia: J. B. Lippincott Co.

Medical News.

Dr. Wm. Osler has resigned the deanship of the Johns Hopkins Medical School.

The late Mrs. Sarah M. Griswold has willed the Silver Cross Hospital, Joliet, Ill., $1,000.

Dr. H. H. Mudd, St. Louis, has been elected dean of the medical department of Washington University.

Commencement exercises of the medical department of the State University, Boulder, Colo., were held May 31.

Dr. John Dean, St. Louis, has resigned the assistant superintendency of the City Hospital to go into private practice.

Dr. H. L. Nietert, superintendent of the City Hospital, St. Louis, gave a farewell dinner to the retiring internes May 31.

Dr. Wm. E. Quine has withdrawn his resignation as dean of the faculty of the College of Physicians and Surgeons, Chicago.

It is officially announced that the plague has appeared on the "Ivory Coast," at Bassam, and vessels from that port are quarantined.

Dr. E. Küster, professor of surgery in the University of Marburg, has been elected a life representative of the University, in the Prussian Senate.

In the different parks of New York City, depots for the sale and free dispensing of sterilized milk during the summer months are to be established.

The Paris Academy of Medicine has been endowed with another prize, by a legacy from Lieut. Boggio, to be awarded for the best work on tuberculosis.

Dr. Henry B. Stehman, superintendent of the Presbyterian Hospital, Chicago, recently operated on for empyema of the lung, is reported convalescing.

The new Free Hospital for the Destitute Sick, an extensive addition to St. Vincent's Hospital, New York City, was formally opened, with impressive ceremonies, on May 30.

Governor Roosevelt has found it impracticable to approve the bill, as passed by the New York legislature, providing for shorter hours for drug clerks. (See Journal, May 27, p. 1189.)

A novel means of raising money was the Medical Dog Show recently held for the benefit of the London School of Medicine for Women. No dogs were admitted except those belonging to physicians or students or their families.

Dr. Jos. W. Holland, recently assistant superintendent at the University of Maryland Hospital, Baltimore, has been elected first assistant at Spring Grove Asylum (Maryland Hospital for Insane), succeeding Dr. Jos. Clement Clarke.

The American Academy of Medicine, in session at Columbus, Ohio, June 5, elected the following officers president, G. H. Makuen, Philadelphia; secretary and treasurer, Charles MacIntyre, Easton, Pa.; assistant secretary, W. L. Pyle, Philadelphia.

Dr. J. William White, professor of clinic surgery at the University of Pennsylvania, Philadelphia, has recently been appointed by President McKinley a member of the board of visitors of the Military Academy at West Point.

Chloroform was recently administered in the street to a woman whose foot was crushed and caught between the wheel and platform of a street-car in Berlin. The car was raised with lifting-jacks and the foot released in the course of an hour.

The tuberculosis congress finished its session at Berlin on May 27. Its meetings were full of interest, and the congress is regarded as having been a great success. America was well represented, and two Americans, Drs. Boyd and Nuttall, were appointed honorary presidents of the first section.

The plague, after traveling over a large portion of China, has now found its way into Egypt. At Alexandria, on May 29, there were eight cases, with two deaths, while there were in Hongkong and Red Sea ports a total of 143 cases and 134 deaths in two weeks. Since March 4, in Hongkong 498 cases have occurred, with 436 deaths.

Asst. Atty.-General Boyd, Washington, D. C., has decided that in the bill reorganizing the army, Congress conferred the title of brigadier-general on Col. F. C. Ainsworth, M.D., personally, and did not intend that the title should go to any one who may hereafter be made chief of records and pensions in the war department.

According to the *Berliner Tageblatt*, four young women attending the University of Halle have recently passed all examinations, receiving the *tentamen physicum*. All had completed their education at a Berlin college before entering the university. This is the first time in the history of German universities that women medical students have taken this examination.

There are over thirty physicians in the French legislature, and at a banquet offered them not long ago by the "Medical Syndicate of the Seine," they decided to hold meetings to discuss questions before the Senate affecting the profession. Expert testimony, accident insurance, the overcrowding of the profession, etc., have been discussed and much good will undoubtedly result.

An international congress has recently closed at Rouen, according to the *Gaz. Méd. de Paris*, May 13, entirely devoted to the discussion of questions relating to hygiene of textile manufactories. Resolutions were adopted, appealing to architects and proprietors and all concerned, to adopt the improved methods of heating, cooling, ventilating and supplying moisture, which were approved by the congress.

By the bequest of Baroness Hirsch, a large dispensary and night shelter has been erected in a populous district in Paris. The buildings recently opened comprise a large refectory (70 places), night shelter for women and children (70 beds), a large dispensary for children, with special halls for throat troubles, whooping-cough, etc.; bathing rooms with sixty tubs and shower-baths, etc.

Association News.

AMERICAN MEDICAL ASSOCIATION.

Fiftieth Annual Meeting, held at Columbus, Ohio, June 6–9, 1899.

OFFICIAL MINUTES OF THE GENERAL SESSIONS.

June 6—First General Session.

The Association convened in the Grand Opera-House, and was called to order at 10 a.m. by Dr. Starling Loving of Columbus, chairman of the committee on arrangements.

The president invited ex-presidents and vice-presidents to occupy seats on the platform, and among those who responded were: Drs. N. S. Davis, George M. Sternberg, W. W. Keen, H. O. Marcy, Nicholas Senn, Augustus P. Clarke, Henry D. Holton.

Divine blessing was invoked by Rev. Washington Gladden.

His excellency, Asa S. Bushnell, Governor of Ohio, was then introduced by Dr. Starling Loving, and delivered the following

ADDRESS OF WELCOME.

We are told if you came to Columbus you would expect us to give you a "hot old time." I think you will not complain of the manner in which we have received you in that regard. Your welcome is as warm as the weather. I do not know how much warmer we shall make it for you before you leave, but we will endeavor to meet your expectations in every respect while you are in the capital city of Ohio.

The people of the State of Ohio, and especially those of our capital city, appreciate highly the honor conferred by this annual meeting of your great and important Association. It is another Ohio triumph, if I may call it such, and it is one which I assure you will not be soon forgotten. As a representative of the people of a commonwealth which has ever been in the advanced line of progress, not only in the medical profession, but in the other important affairs of mankind, I extend to you a most hearty and sincere welcome. Believe me, you could not have a more appreciative environment than you will find in this capital city of our State. Those of the laity with whom you will come in contact are fully mindful of the dignity and the importance of this conclave. In common with all other States of the Union, Ohio has produced men distinguished in the professions. Science has had some of the hardest working, the most devoted and enthusiastic disciples in Ohio, and the results of their labors, as shown before the world, have carried to us a distinction hardly inferior to that of any of the sister States. I do not say all this in the way of boasting, but simply to exhibit to you the character and attainments of the people among whom you are to sojourn for a few days. You will be sure, therefore, that our people will do what they can for you, although they may fall far short of their desire.

Standing before you as a man who has led a comparatively long and busy life, I have been in a position to know something of the changes that have been wrought by you in the medical profession, and it seems like a dream to me when I realize the vast improvements instituted by your great and noble profession for suffering and ailing humanity. A portion of my younger life was spent in a vocation which enabled me to come into the closest contact possible for a layman with your profession. In my time as a druggist, I was more or less familiar with the methods of treatment and the relations of medicines and remedies which were in vogue. My lines very early fell in other places, and for many years to a certain extent I somewhat lost sight of the doctors, although in my early business experience, to which I have adverted, I often heard the members of the medical profession called by a variety of uncomplimentary names which indicated a doubt as to the value of their services. I became indentified with another species of reaper and mower, and have been with them ever since. (Laughter.)

You have made wonderful strides in the treatment of the sick and the injured. What person who has experienced pain does not realize the inestimable benefit to mankind that came with the discovery of the first anesthetic of Wm. J. Morton and his co-laborers. Who besides you can properly estimate the value of the great discoveries of Lister, Louis Pasteur, and the other great men who, year by year, have been adding to your knowledge which is so dear to men engaged in the saving of human life or in lessening the ills that flesh is heir to.

In the presence of such an assemblage as this, one should endeavor to pay tribute from the heart, and I can not express to you in suitable words my sense of appreciation and honor for your profession. It is a hard and arduous life at best, one of unselfish cares, of deep sympathies and many sorrows. Its trials are not well understood, nor are the victories gained rewarded as they should be. (Applause.) If you will pardon a personal reference, I think I may say with great truth—for one who occupies the chief executive place in a great State has an opportunity for obtaining good ideas of the work and the value of the labor of a physician—we have in the State of Ohio, as in other progressive States, institutions which are for the benefit of the afflicted class, that is, great hospitals where are gathered the insane, the epileptic, the feeble-minded youth and the deaf and blind. It has been my good fortune to see marvelous results wrought in many instances with the aid of the intelligence, skill and devotion to duty of those who administer for the State. I am sure all of you, in your individual capacities, will say that as good results are being accomplished by you. Doubtless, with hope, spirit, strength and skill at our command, we may be able to bring about conditions which will be to our credit. I regret that few of the great charitable and benevolent institutions of Ohio are open for your inspection. We believe that Ohio has taken a decided march forward in the matter of caring for and aiding the afflicted, and our hospitals and institutions are models of their kind. It has been the aim of this State to appropriate ample funds for the proper maintainance of these institutions. As an instance of the intent and purpose of our work I need but call your attention to a fine institution located in one of the southern counties of the State for the treatment and study of the epileptic and insane, which is proceeding under the most favorable auspices, and it is expected, through the work of those having matters in charge, that before long methods will be devised, if not discoveries made, which will gratify your profession.

Another example is that of the State assuming custodial charge of imbeciles. Ohio recently inaugurated this plan by purchasing a splendid tract of land, establishing the foundation for good work, by which it is hoped there will be provided a home for those who are morally, if not legally, objects for the State's perpetual care. The value of such an institution will readily be recognized by all, and particularly by you who are confronted daily with the evil effects of the neglect of such duty. We believe the future of all these institutions will be as good, if not better, than the past, and especially if removed as far as possible from politics. (Applause.) As you have doubtless noticed, the ingredients of politics and of medicine do not make a very homogeneous compound. (Laughter.) By the way, I arrived at a clearer conception of these matters about three years ago, when it devolved upon me to take a final step in a matter which has done much for the medical profession in Ohio. I refer to the appointment of a board for the examination and registration of medical practitioners. There were seven men to name, but 200 applicants mentioned by their friends. I found it hard to avoid politics, but I believe my efforts were successful, and I believe we have a board which is an honor to the profession and to the State. We do not claim everything for Ohio, but I think you must all admit that some good things have come out of Ohio. (Laughter.) We do not say that other States have not as able and conscientious boards of examination and registration as Ohio, but if any State has as good or a better board, I congratulate that State. (Applause.)

I have offered these remarks to bear testimony to our welcome and the appreciation in which you are held and to the honor which has been paid us by your coming. To say more would be to repeat, still I feel that we can not too many times assure you of the pleasure we have in welcoming you and wishing you a happy and profitable meeting. In the name and on behalf of the people of this State and city, I offer you a formal and yet a sincere and heartfelt greeting. May your proceedings be of the utmost benefit to all, and when you leave us, may it be impressed on you that we have not failed in doing that which we have aimed to do. I thank you for the honor accorded me and for appearing before you, and again desire to express my good will and esteem for you all. I do not forget my duty and the proprieties of the occasion. My duty is to welcome our distinguished guests, and the proprieties of the occasion are to make you happy. I hope you will all be happy during your stay in this city, and should you need me at any time, my telephone number is 437. (Loud applause.)

MAYOR'S ADDRESS OF WELCOME.

Hon. Samuel J. Swartz, mayor of Columbus, was introduced by Dr. Loving, and spoke as follows: I assure you I only speak the sentiments of all the citizens of our city when I say, you are welcome. You are welcome not only for your individual and collective work, for your rank in science, but for the sake of your profession. We welcome you as ministers of healing—men who minister to the wants and distress of all men and of all nations, who follow in the war marches of the armies and face the deadly perils of the camp—men who comfort the fever-stricken soldiers of all ranks and conditions of society. (Applause.)

I do not intend to offer you the keys of the city. You have captured the capital and Columbus is yours. I promised the secretary of this Association that the police would be as gentle as lambs. In connection with the remarks of Governor Bushnell, if you were to consult the telephone directory and call up Governor Bushnell by the number he gave you, I think you would be mistaken, for I have grave suspicions that number belongs to the Ohio penitentiary. (Laughter.)

In looking over this audience I notice that you have brought your wives and daughters with you, and perhaps some of you have brought your sweethearts as well. We welcome them all and hope they will have a royal good time.

On behalf of all our citizens, I again extend to you a hearty welcome to this city. We hope your sessions will be pleasant and profitable, and that your sojourn among us will be full of happiness, and that you will return safely to your homes at the conclusion of your labors.

REPORT OF THE COMMITTEE OF ARRANGEMENTS.

The President—"The next thing on the program is the report of the committee of arrangements, by Dr. Starling Loving, chairman."

Dr. Loving then mentioned the places of meeting of the various Sections, the entertainments, when and where they were to be held, the Section dinners, etc., all of which are printed in the official program.

At this juncture the first vice-president, Dr. W. W. Keen of Philadelphia took the chair, and the president, Dr. Joseph M. Mathews of Louisville, delivered his address. (See page 1273.)

At the conclusion of the president's address, Dr. H. O. Walker of Michigan arose and said: "I move, Mr. President, that the thanks of the Association be extended to the president for his admirable and instructive address, and that a committee of five be appointed to re consider the recommendations he has made and report back to the Association before the end of the meeting." Seconded.

The first vice-president—"I would make the suggestion that the address be referred to the executive committee."

The suggestion was accepted by Dr. Walker, and the time for making the report to be Thursday morning. Carried.

REPORT OF CHAIRMAN OF RUSH MONUMENT COMMITTEE.

The President—"The order is the report of the Rush Monument Fund, and in the absence of Dr. Gihon, the report will be read by Dr. Henry D. Holton of Vermont."

Dr. Holton then read the report as follows:

You may remember the enthusiasm which prevailed at the meeting of the Association at Philadelphia when the sum of $100,000 was fixed by common consent as the amount which should be contributed by the profession to erect a suitable memorial not alone of the great medical patriot of the Revolution, but of the part which the profession of medicine represented by him had had in the foundation of this great Republic, and as the expression of the patriotic sentiments and love of country of the medical men of the present day. You must also recollect how the delegates from State after State rose and pledged their several constituencies, each for its quota for this commendable project. You may further remember how, at the meeting at Denver, two States, New York and Colorado, redeemed that pledge, and a third, Pennsylvania, conditionally, and how, at my request, the permanent secretary was directed to communicate with the officers of the State medical societies, urging them to appoint without delay, representative members of the committee from their several States and Territories. I know that he promptly performed this duty; six State medical societies have appointed such representatives; $355.50 have been added to the moument fund, which, now, by increase of interest on the money invested, amounts to about $10,000 actually in the treasurer's hands. A Washington despatch reads: "the sum of $4200 was to-day (January 3) received at the office of the Layfayette Monument Commission from the Ohio State Commissioner, being the amount contributed by school children of the State of Ohio for the monument to Lafayette to be erected in the city of Paris in the year 1900. With contributions sent direct from various schools, this makes $5000"—one half the fruits of fifteen years' appeals to over one hundred thousand members of the medical profession in the United States for a monument at their own national capital, to their own countryman and professional confrère, whose services in the cause of national liberty were every whit as great.

Your business committee at Denver did not approve my request that the Association should defray the expense of attendance at the meeting of at least one of the officers of the Rush Monument Committee. As these officers have continued from year to year, it is evident that the action of the business committee virtually requires them to contribute annually from their own private means from $50 to $200, according to the distance traveled. In my own instance, by reason of my retirement from active duty in the navy by limitation of age, I am no longer eligible for official detail and would be subject to an outlay on account of the monument, which no other member of the Association is asked to make. After fifteen years of persistent, earnest effort, the time has come when I must admit that I can do no more. I reminded you at Philadelphia that of the eleven men originally interested in this project, all but two had died since its inception. In February of this year the secretary of the committee, George H. Rohé of Maryland, my friend of friends for many years, my always enthusiastic colleague and active coadjutor, also died; so lest death come unaware to me as it did to him, it is advisable that I transfer this duty to some younger, and I hope more successful, worker. It has been from the first a labor of love for me. From the beginning of my professional life—and this was almost half a century ago—the personality of Rush has been familiar to me, through my preceptor, Dr. Rush Van Dyke, whose father, Dr. Frederick A. Van Dyke, a courtly cultured gentleman of the highest type of the old-time physician, was himself a favored pupil of Benjamin Rush, whose name he bestowed on his son, for whom he selected the honorable career which his famous teacher and himself so worthily graced. I would that every physician of this day should appreciate his indebtedness to this great man, who, had he lived among us, would have been no less distinguished—this physician, who, great when he lived, is still the greatest physician this country has ever produced—this typic manly doctor, whose faults were those which belong to every man of his impetuous, earnest, far-seeing and far striving nature. To honor him with a monument is only to honor our profession, and it must be a monument in keeping with the dignity of this greatest of human vocations—hence, I felt you acted wisely at Philadelphia in determining $100,000 as the proper sum to be devoted to its erection.

The secretary of the navy has assigned an unequaled site for the structure, on the beautiful park fronting the U. S. Naval Museum of Hygiene, especially appropriate in that Rush was a pioneer in sanitary science, which men like the surgeon Gross and the physician Flint, as they laid down their lives, declare to be the highest aim and crowning glory of the science of medicine.

At the sluggish rate at which this fund has grown in my hands, it would be futile for me to hope to see it reach the proportions I think with you it should obtain, especially as I shall have left for an indefinite residence abroad when this report is presented. So, thanking you for your repeated expressions of approval of the little I have done, and cordially wishing success to my successor in office, I hereby resign the trust with which you first honored me in 1884, and have repeatedly renewed the past fifteen years. Respectfully submitted,

[Signed] Albert L. Gihon, M.D.

REPORT OF TREASURER OF RUSH MONUMENT FUND.

Dr. Holton also presented this report:

Henry D. Holton, Treasurer, in account with Rush Monument Fund.

		DR.	
1898.			
Aug.	13.	To cash from Geo. H. Rohé, former Treasurer	$ 8,373.63
"	13.	To Seymour W. Tullock, mortgage	1,000.00
"	13.	To certificate of cash on deposit Riggs National Bank,	261.39
		Total received from former Treasurer	$ 9,635.02
Sept.	2.	To cash from Ohio Medical Society	13.00
Oct.	14.	To cash from Vermont Medical Society	38.50
Nov.	19.	To cash from Medical Association Dist. of Columbia,	250.00
Dec.	1.	To cash, interest on Tacoma bonds	150.00
"	22.	To cash from Ohio Medical Society	3.00
1899.			
Jan.	16.	To cash from Wm. M. Edwards, Kalamazoo, Mich	5.00
"	16.	To cash from E. H. VanDusen, Kalamazoo, Mich.	5.00
"	16.	To cash from E. A. Christian, Pontiac, Mich	5.00
"	16.	To cash from N. D. Kean, Ishpeming, Mich	1.00
"	16.	To cash from C. C. Worden, Ishpeming, Mich.	1.00
"	16.	To cash from G. G. Barnett, Ishpeming, Mich	1.00
"	16.	To cash from J. H. Andrews, Ishpeming, Mich.	1.00

"	16.	To cash from J. Vanderwater, Ishpeming, Mich	1.00
"	16.	To cash from T. A. Felch, Ishpeming, Mich	1.00
Feb.	16.	To cash, interest on Fort Worth stock	66.00
"	16.	To cash, interest on Tullock mortgage	50.00
June	1.	To cash, interest on Tacoma bonds	150.00
			$10,406.52
1898.		CR.	
Sept.	15.	By Tullock mortgage	$ 1,000.00
"	15.	By purchase of Tacoma bonds	6,000.00
"	15.	By purchase of Forth Worth Realty Co. preferred stock	2,200.00
"	15.	By paid interest on same	104.00
"	15.	By paid premiums and commissions	220.00
1899.			
June	1.	By cash on hand	882.52
			$10,406.52
1899.			
June	1.	Securities and funds on hand at this date:	
		Tullock mortgage	$ 1,000.00
		Tacoma Water and Light bonds	6,000.00
		Preferred stock Fort Worth Realty Co	2,200.00
		Cash on hand	882.52
		Total fund	$10,082.52

On motion, both reports were received and the committee continued.

REPORT OF PERMANENT SECRETARY.

THE PRESIDENT—"The next order of business is the report of the secretary.

Secretary Wm. B. Atkinson presented the following report:

At the last meeting you directed me to open correspondence with the State medical societies asking each one to appoint a representative to the Rush Monument Committee. In several instances those not already represented on that committee notified me in due time of the appointment of a representative.

You also asked that each State medical society be requested to consider the propriety of making such changes in the time of meeting that their meetings should not conflict with those of this ASSOCIATION. It was found that but few so conflicted, and in each case it was found impossible to arrange for such change in time to prevent such interference this year. It was, however, agreed that every effort would be made to prevent any conflict unless in cases where such change demanded an amendment of the constitution. Here it was insisted that those who desired to attend our meeting could do so and for that time omit attendance on the State Society. I also took this opportunity to suggest to each State society the great importance of so amending the laws that our law could be more fully complied with and yet the local medical societies could be recognized, thus admitting many in certain States to the opportunity of becoming members by application. This suggestion was favorably received and I have been assured in several instances that an effort would be made to amend the law of the State society so as to recognize the many county or district medical societies which are now being carried on in full accordance with our laws but owing to the original organization of the State body have never been in any way connected with it. I hope in a short time that all the State medical societies will be so organized that the local societies may be in full relation to them and to this ASSOCIATION.

The resolutions adopted relative to the non-reception of professors or graduates of colleges which are not carrying on the curriculum, etc., in accordance with the resolutions adopted by this body some years ago, were printed and forwarded to every medical college and journal in the United States. These were generally published in the journals, and many colleges replied, acknowledging the reception and agreement with the rules. Several, however, dissented from them, and I have received from the State medical societies of Alabama, Tennessee, Texas and Louisiana resolutions in opposition, which are herewith presented. Respectfully submitted,

[Signed] W. B. ATKINSON, M.D.

ASSOCIATION AND THE COLLEGES.

In connection with the secretary's report, Dr. Atkinson presented the resolutions of several State societies concerning the relation of the ASSOCIATION and the Association of American Medical Colleges. With the exception of the resolutions passed by the Texas State Medical Association below (received too ate to appear in last week's JOURNAL), the above resolutions have been printed in full in the JOURNAL. (See May 6, pp. 1009, 010; May 27, p. 1193.)

RESOLUTIONS OF TEXAS STATE MEDICAL ASSOCIATION.

To the Permanent Secretary.—We beg to state that while we sympathize with the spirit of the resolution, we are mindul that its immediate adoption, in accordance with its provisions, would operate to the disadvantage and injustice of a large number of honorable physicians in the United States We, therefore, respectfully suggest that a committee be appointed to memorialize the AMERICAN MEDICAL ASSOCIATION to the end that the ordinance in question be not carried into effect until 1902, to give time for the various medical schools to be able to comply with its exactions.

Respectfully submitted.
J. F. Y. PAINE, Chairman.
E. P. BEATON, } Committee.
H. C. GHENT, }

The above resolution was adopted by the Texas State Medical Association at its recent meeting in San Antonio, April 27–30, 1899, responding to request for action upon enclosed resolution.

H. A. WEST, M.D., Sec.

The following is the circular letter referred to by the secretary, sent according to instructions:

Dear Sir:—At the recent meeting of this association the following was unanimously adopted:

WHEREAS, The AMERICAN MEDICAL ASSOCIATION did, at Detroit, in 1892, unanimously resolve to demand of all medical colleges of the United States the adoption and observance of a standard of requirements of all candidates for the degree of doctor of medicine which should in no manner fall below the minimum standard of the Association of American Medical Colleges, and

WHEREAS, This demand was sent officially by the permanent secretary to the deans of every medical college in the United States, and to every medical journal in the United States, now, therefore, the AMERICAN MEDICAL ASSOCIATION gives notice that hereafter no professor or other teacher in, nor any graduate of, any medical college in the United States, which shall, after January 1, 1899, confer the degree of doctor of medicine or receive such degree on any conditions below the published standard of the Association of American Medical Colleges, shall be allowed to register as either delegate or permanent member of this ASSOCIATION.

Resolved, That the permanent secretary shall within thirty days after this meeting send a certified copy of these resolutions to the dean of each medical college in the United States, and to each medical journal in the United States.

Respectfully yours,

[Signed] WM. B. ATKINSON, M.D.

THE PRESIDENT—"What will you do with the secretary's report?"

DR. BISHOP of Pennsylvania—"I move that the secretary's report and the resolutions accompanying it be referred to the executive committee." Seconded and carried.

REPORT OF TREASURER.

THE PRESIDENT—"The report of the treasurer is next in order.

THE treasurer, Dr. Henry P. Newman of Chicago then read his report as follows:

ANNUAL REPORT OF THE TREASURER OF THE AMERICAN MEDICAL ASSOCIATION FOR THE FISCAL YEAR COMMENCING JAN. 1, 1898, AND ENDING DEC. 31, 1898.

In presenting my annual report as treasurer of the AMERICAN MEDICAL ASSOCIATION, it is a source of gratification to be able to state that the membership receipts of this office during the past five years have steadily increased from year to year.

Notwithstanding the very large attendance at our centennial meeting in Philadelphia, and the fact that there was some apprehension as to the success of our following Denver meeting—owing to our late war, which was then in progress—still our sister city came nobly to the front with 500 new members, giving us an increase in membership receipts over any previous year.

At the close of the fiscal year of 1898 there were 8000 members of this ASSOCIATION, of whom only 92 were dropped for non-payment of dues. Thirteen hundred and twenty-five new members have been added, and 567 have been discontinued by reason of death or resignation.

The total receipts from members during the year were $33,760, and the cash on hand is $18,729,95, to which should be added the $3,000 in the sinking fund, making our total cash assets at the close of the fiscal year, Dec. 31, 1898, $21,729.95.

H. P. NEWMAN, M.D., in account with the AMERICAN MEDICAL ASSOCIATION

1898.		RECEIPTS.	
Jan.	1.	To cash, balance on hand	$14,092.85
June	10.	To cash, registration fees, Denver meeting	4,815.00
"	10.	To cash. Dr. J. W. Graham, Chairman of Committee of Arrangements, expenses of Denver meeting refunded	1,000.00
"	10.	To cash. Dr. W. A. Jayne, Sec. Reg. Com., expenses of registration at Denver meeting refunded	130.25

Aug.	24.	To cash, U. S. Treasurer, deposit on war bonds refunded	200.00
Nov.	14.	To cash, interest on building fund or investment of $3000, less exchange.	179.85
Dec.	31.	To cash, Journal A. M. A., advertising, subscriptions, press work and sales	34,130.31
"	31.	To cash, membership dues for the year, not including registration fees of Denver meeting	28,945.00
		Total	$83,493.26

DISBURSEMENTS.

Jan.	19.	By cash, printing press for Journal office		$ 2,700.00
Feb.	19.	By cash, Dr. E. E. Montgomery, Trustee, expenses of attendance at Trustees' meeting at Chicago		62.50
"	19.	By cash, Dr. C. A. L. Reed. Trustee, expenses of attendance at Trustees' meeting at Chicago		34.00
"	19.	By cash, Dr. W. J. Herdman, expenses of Section on Neurology at Philadelphia meeting		18.00
"	19.	By cash, Dr. G. F. Hanson, expenses of Section on Materia Medica at Atlanta meeting		5.00
"	19.	By cash, Dr. D. B. Kyle, expenses of Section on Laryngology at Philadelphia meeting		15.24
March	22.	By cash, one year's rent of safety deposit box		10.00
April	28.	By cash, Dr. E. Cutter, expense of Section on Dietetics at Philadelphia meeting		12.00
"	29.	By cash, Dr. J. B. Hamilton, Editor, transfer of membership fees		20.00
June	10.	By cash, Dr. A. Garcelon, Trustee, expenses of attendance at Trustees' meeting at Chicago and annual meeting at Denver		199.00
"	10.	By cash, Dr. I. N. Love, Trustee, expenses of attendance at Trustees' meeting at Chicago and annual meeting at Denver		106.50
"	10.	By cash, Dr. Joseph T. Priestley, Trustee, expenses of attendance at Trustees' meeting at Chicago and annual meeting at Denver		92.00
"	10.	By cash, Dr. J. M. Mathews, Trustee, expenses of attendance at Trustees' meeting at Chicago and annual meeting at Denver		103.00
"	10.	By cash, Dr. Joseph Eastman, Trustee, expenses of attendance at Trustees' meeting at Chicago and annual meeting at Denver		95.00
"	10.	By cash. Dr. G. C. Savage, Trustee, expenses of attendance at Trustees' meeting at Chicago and annual meeting at Denver		90.00
"	10.	By cash, Dr. J. B. Hamilton, Editor, expenses of attendance at annual meeting in Denver		63.00
"	10.	By cash, Dr. H. P. Newman, Treasurer, expenses of attendance at annual meeting in Denver		87.00
"	10.	By cash, Dr. W. P. Munn, Chairman Registration Com., expenses of registration at Denver		269.25
"	10.	By cash, Dr. W. P. Munn, expenses collecting registration fees prior to Denver meeting		20.75
"	10.	By cash, Dr. J. W. Graham, Chairman of Committee of Arrangements, expenses of Denver meeting		1,000.00
"	10.	By cash, Ira J. Williams, stenographic report of Section on Neurology, Denver meeting		150 00
"	28.	By cash, Dr. H. P. Newman, half-yearly honorarium to June 1, 1898.		500 00
July	9.	By cash, membership fees refunded		15.00
"	12.	By cash, U. S. Treasurer, deposit of $10,000 war bonds		200.00
"	15.	By cash, Dr. U. O. B. Wingate, Chairman of Committee of Public Health, expenses, including trip to Washington.		431.26
"	15.	By cash, premium on bond of Treasurer.		100.00
"	29.	By cash, H. O. Reik, stenographic report of Section on Ophthalmology, Denver meeting		150.00
"	29.	By cash, G. E. Malsbary, stenographic report of Section on Diseases of Children, Denver meeting		120.00
"	29.	By cash, Wm. Whitford, stenographic report of Section on Obstetrics and Diseases of Women, Denver meeting		140.00
"	29.	By cash, E. F. Smith, stenographic report of Section on Practice of Medicine, Denver meeting		150.00
Aug.	9.	By cash, Dr. W. B. Atkinson, Secretary, salary and expenses at Denver meeting		484.20
"	29.	By cash, sundries and supplies for Treasurer's office.		52.80
Sept.	29.	By cash, I. J. Williams, stenographic report of Section on Surgery, Denver meeting		160.00
Dec.	31.	By cash, bank, expenses and collection fees of drafts		38.60
"	31.	By cash, Dr. H. P. Newman, Treasurer, half-yearly honorarium to Dec. 1, 1898		500.00
"	31.	By cash, postage of Treasurer's office for the year.		270.00
"	31.	By cash, Dr. R. F. Stone, expenses in reference to badge adopted at Denver meeting		68.90
"	31.	By cash, requisition paid to Journal expense account		22,100.00
"	31.	By cash, total Journal expense account	$56,230.31	
		Less cash requisition	22,100.00	34,130.31
"	31.	By cash, balance on hand		18,729.95
		Total		$83,493.26

Respectfully submitted, Henry P. Newman, M.D., Treasurer.

The President—"What disposition will you make of this report?"

Dr. E. Fletcher Ingals of Chicago moved that the report of the treasurer be received and referred to the board of trustees. Seconded and carried.

RESOLUTIONS CONCERNING TRAINED NURSES.

Under the head of miscellaneous business the following resolutions were offered by a delegation of the Philadelphia County Medical Society, and referred to the executive committee:

Resolved, That the American Medical Association cordially endorses the general plan of an organization as set forth in the amended bill supported by the Associated Alumnæ of Trained Nurses, known as Senate Bill No. 5353, and respectfully urges upon the attention of Congress, of the President, and of the surgeon-general of the army the great need and usefulness of such a systematized and competent department of trained women nurses as a permanent branch of the military service.

[Signed] Delegation of the Philadelphia Co. Med. Society.
Jay F. Schamberg, M.D., Sec.

[Fifteenth Congress, 3rd Session.]

In the Senate of the United States, Jan. 25, 1899, Mr. Burroughs introduced the following bill, which was read twice and referred to the committee on military affairs, Jan. 30, 1899; ordered reprinted.

A BILL TO PROVIDE FOR THE EMPLOYMENT OF WOMEN NURSES IN MILITARY HOSPITALS OF THE ARMY.

Be it Enacted by the Senate and House of Representatives of the United States of America in Congress Assembled:

Section 1.—That from and after the passage of this act women nurses in the proportion of not less than .5 of 1 per cent. of the number of men in the United States Army shall be employed in military hospitals and shall constitute the Women's Nursing Service of the Army.

Sec. 2.—That there shall be a commission known as the nursing service commission, of five women appointed by the President, three of whom shall be nurses, graduates of a general hospital training school, giving a course of instruction lasting not less than two years, and which shall serve as an examining board and present an eligible list from which the surgeon-general shall select and appoint nurses, and that this commission shall, subject to the provisions of this act, have general charge of the nursing service.

Sec. 3.—That there shall be a superintendent of women nurses in the army, who shall be a woman graduated from a general hospital training school for nurses having a course of instruction lasting not less than two years, and who shall be appointed by the President for a term of seven years, and confirmed by the Senate from candidates nominated by the commission. The superintendent shall be subject to the orders of the surgeon general.

Sec. 4.—That the nurses in the service shall be divided into an assistant superintendent, chief of nurses, head nurses and assistant nurses, all of whom shall be graduates of general hospital training schools having courses of instruction lasting not less than two years, and shall present credentials and pass an examination to the satisfaction of the commission, and give three months' probationary service in any army preparatory school. Each chief of nurses shall be subject to the orders of, and responsible to, the surgeon in charge of the hospital for the nursing care of patients. Any nurse may be suspended by the chief of nurses, or by the surgeon in charge of the hospital, through the chief of nurses, for incompetency or misconduct, and may be discharged by the surgeon-general and the superintendent of nurses.

Sec. 5.—That all further rules and regulations regarding admission to, and conduct of, the nursing service shall be formulated by the superintendent of nurses, subject to the approval of the commission. Ward masters and hospital corps men, when detailed for service in hospital wards, shall be subject to these rules and regulations.

Sec. 6.—That the salary of each woman member of the commission shall be $6 per day when in actual service. The salary of the superintendent of nurses shall be $3,000 per annum. She shall be provided with suitable office facilities and necessary clerks for the transaction of business. The salary of the assistant superintendent shall be $2,000 per annum. The salary of chiefs of nurses shall be $85 per month. The salary of head nurses shall be $50 per month. The salary of assistant nurses shall be $40 per month. The salary of probationers in army preparatory schools shall be $30 per month. *Provided*, That in addition to the salaries above provided each woman member of the commission, the superintendent of nurses, and each nurse in the woman's nursing service shall be entitled to transportation and necessary expenses while traveling on public business. And *provided* further, That the nurses herein provided for except the superintendent of nurses and the assistant superintendent of nurses shall be entitled to subsistence, uniforms, laundry, medical attendance, nursing and medicines during illness.

Sec. 7.—That the number of nurses necessary for the immediate establishment of the woman's nursing service may, upon the passage of this act, be appointed by the surgeon-genera without serving a probationary term.

RESOLUTIONS OF MEDICAL ASSOCIATION OF GEORGIA.

The secretary read the following resolutions from the Med cal Association of Georgia, and moved that they be referred t the executive committee. Carried.

Whereas, The position of the surgeon-general of the United States army involves great and grave responsibility, the direction of vast interests, the highest order of professional skill and learning and executive ability, and

Whereas, The number of officers and soldiers under the direction of the surgeon-general in an army, organized as is the army of the United States, is greater than the command of a division commander, be it

Resolved, By the Medical Association of Georgia, that it is the sense of this body that the surgeon-general of the army should have the rank, pay and allowance of a major-general, and

Resolved, That the Medical Association of Georgia request all the medical societies of the United States to join in this appeal, and

Resolved, By the Medical Association of Georgia, That copies of these resolutions be transmitted to the President of the United States, the honorable secretary of war and our senators and representatives in Congress, with the request that all co-operate in attaining the end sought; and, further, that copies be also sent to the American Medical Association, and all other medical associations in the United States, with the request that they join in this memorial to Congress, and urge prompt action upon this subject by our national legislative authorities.

I hereby certify that the above is a true copy of preamble and resolutions passed at the fiftieth annual meeting of the Medical Association of Georgia, held at Macon, Ga., April 19-21, 1899. [Signed] R. H. Taylor, M.D., Sec.

AMENDMENTS TO CONSTITUTION.

Dr. L. B. Tuckerman of Ohio offered the following, and as they were amendments to the constitution they were laid over for one year.

The committee on legislation recommends the following amendments to the constitution and by-laws:

Section 3, Standing Committees.—The committee on legislation shall consist of three members: one of whom shall be a resident of Washington, one of Baltimore and one of Philadelphia. It shall be the duty of this committee to represent before Congress the wishes of this Association, regarding pending medical and sanitary legislation. This committee shall also invite to an annual conference to be held at Washington, one delegate each from the army medical service, the navy medical service, the marine hospital service and from each State society of legally qualified practitioners of medicine; such conference to consider questions of national medical and sanitary legislation and report to their representative bodies for action.

In By-Laws, Section 3, Standing Committees, insert after "board of trustees" the words, "committee on legislation," and after the duty of "boards of trustees" the following clause: "The committee on legislation shall report annually to this Association its action during the previous year and shall recommend to the Association such action regarding pending legislation as it shall deem proper.

"L. B. Tuckerman, M.D., chairman.
"F. A. Larue, M.D., secretary."

Under this head the secretary read the following amendment, offered by Dr. W. L. Wills of California:

Constitution, Art. 4, Officers. Amend to read: "The following officers, namely, president, four vice-presidents, treasurer, librarian, secretary, assistant secretary, and chairman of committee of arrangements, shall be nominated by a special committee of one member from each State represented at the meeting, and shall be elected annually by the vote on a joint ticket, and shall hold office until their successors are elected.'

Dr. T. J. Happel of Tennessee—"I move that action on this amendment be deferred until to-morrow, as the board of trustees in their report have the subject matter of that amendment under consideration in connection with the resolution offered last year by Dr. Wm. Bailey of Kentucky." Seconded and carried.

RESOLUTIONS ON "INDEX MEDICUS."

Dr. George M. Gould of Philadelphia, presented the following resolutions, which were referred to the executive committee:

Whereas, The suspension of the publication of the *Index Medicus* is a deplorable event, which will result in greatly increased labor on the part of medical men in all literary work, and will seriously hinder the progress of medical science, practically as well as literally, be it therefore

Resolved, That the executive committee of the American Medical Association appoint a committee of three members of the Association to take general charge of the publication of the periodical, perfect plans for the same, and engage the services of an editor and of such editorial assistants as may be required, etc., to choose a publisher and make contracts with him for the printing, distribution, etc., of the work, all in such a manner that it shall continue the high standard of accuracy and bibliographic usefulness so well established by the previous editors; and,

Resolved, That the treasurer of the Association be instructed to pay all bills endorsed by said committee in payment of the necessary expenses of such editing and publication, provided that these do not exceed an annual outlay of over $3000.

RESOLUTIONS CONCERNING OPTICIANS.

Dr. L. J. Lautenbach of Pennsylvania presented the following resolution, which was referred to a special committee of three or five, at the discretion of the president, to be appointed and presented in regular order Wednesday morning.

Resolved, That it is the opinion of the American Medical Association that opticians are not qualified by their training, nor are they legally qualified, to perform the work of the oculist, and they should not be the consultants of regular physicians. Further, it is

Resolved, That all physicians are requested to call their brother physicians in consultation, thus discountenancing the growing pretences and assurances of the optician and his brother, the graduate optician, or, as he is beginning now to call himself, the "ophthalmotrician."

RESOLUTION ON DEPARTMENT OF PUBLIC HEALTH.

Resolved, That the American Medical Association recommend the creation of a national department of public health with a cabinet minister at its head. [Signed]
Philadelphia Co. Med. Ass'n Delegation.

This resolution was referred to the executive committee.

On motion, the Association adjourned until Wednesday morning, 11 o'clock.

June 7.—Second General Session.

The Association was called to order in the Grand Opera-House at 11 a.m., with President Joseph M. Mathews of Louisville, Ky., in the chair.

Dr. Starling Loving of Columbus made an announcement of a memorial and floral decoration at the Confederate cemetery at Camp Chase.

Dr. Wm. B. Atkinson, permanent secretary, then read the minutes of the previous general session.

Dr. L. Duncan Bulkley, New York City, arose to correct the minutes, stating that the resolution offered by Dr. George M. Gould of Philadelphia, in regard to the publication of the *Index Medicus*, was referred to the board of trustees of the Association, instead of to the executive committee. The permanent secretary was ordered to make the correction as noted.

REPORT OF COMMITTEE ON MEDICAL LEGISLATION.

Dr. Joseph M. Mathews, president—"We will now listen to the report of the committee on medical legislation."

Dr. L. B. Tuckerman, Cleveland, Ohio, chairman of the committee, presented the report as follows:

Whereas, This Association has repeatedly taken action on matters of medical and sanitary legislation pending before Congress, and

Whereas, there is no permanent committee to which is assigned the duty of representing us before the committee of Congress and presenting to such committees our actions and the reasons therefor,

Resolved, That the nominating committee appoint a special committee on legislation to consist of three members, residing, one in Washington, one in Philadelphia, and one in Baltimore, to whom shall be assigned the duty of representing this Association before the committees of Congress; and that the expenses of this committee be borne by the Association; and,

Whereas, there exists at present no means of regularly securing concert of action between the American Medical Association and the various organizations of legally qualified practitioners of medicine regarding medical and sanitary questions coming before Congress for legislation.

Resolved, That the special committee on legislation be authorized to invite, in the name of the American Medical Association, the army medical service, the navy medical service, the marine-hospital service, and each State society of legally qualified practitioners of medicine, to send one delegate each to a conference to be held at Washington, D. C., at such time as the committee may determine; such conference to consider the medical and sanitary legislation now pending, and the members to report to their respective societies such action as in their judgment ought to be taken.

Respectfully submitted,
L. B. Tuckerman, M.D., chairman.
F. A. Larue, M.D., secretary.

Dr. I. N. Love of St. Louis moved that the report and resolution be referred to the executive committee.

REPORT OF EXECUTIVE COMMITTEE.

Dr. L. Duncan Bulkley of New York presented this report as follows:

The executive committee respectfully reports that with thirty members present they have considered most of the subjects referred to them by the Association and report as follows:

The resolution offered by the Philadelphia County Medical Society, in regard to the organization of a national department of public health with a cabinet minister at its head, is recommended for adoption by the Association, with the further recommendation that it be referred to the committee on public health to further formulate and further this project.

Dr. Bishop of Philadelphia moved that the recommendation be adopted. It was adopted.

Dr. H. S. Drayton, New York City, at this point introduced a resolution bearing on this subject, which was referred to the executive committee.

Resolved, That the board of trustees be and hereby are authorized and requested to set aside out of the funds in the treasury not otherwise appropriated, the sum of $500 in addition to that which is already appropriated for the purpose, for the use of the special committee on a department of public health. [Signed] H. S. Drayton, M.D.

MEDICAL CORPS OF ARMY AND NAVY.

The resolutions of the Philadelphia County Medical Society, in regard to the medical corps of the army and navy, is recommended for adoption, with the change that Congress be directly appealed to, and that the president of the Association appoint a committee of twenty-five to memorialize Congress on the subject.

It was moved and seconded that the recommendation of the committee be adopted.

Dr. Bishop of Philadelphia moved, in amendment, that the committee be appointed from each State and Territory where there were medical societies, and also one from the army, navy and marine-hospital service. The amendment was seconded, accepted and carried.

The resolutions, as proposed by the above society, are as follows:

Whereas, The morbidity and mortality statistics of the late war served to call to the attention of physicians of the United States the weighty and enlarging problem of the care of soldiers and sailors in peace and during campaigns, under widely varying conditions of climate and environment, now and in many respects presenting themselves for the first time; therefore, be it

Resolved and recommended by the American Medical Association:

1. That the medical corps of the army and navy be enlarged to meet properly all demands that may be made upon them.
2. That transportation of medical supplies be under the control of the medical department.
3. That a corps of sanitary inspectors be created, whose duty it shall be to examine into the sanitary condition of camps and bodies of troops in transit, and advise in relation thereto.
4. That the government establish permanent camp sites, the selection to be subject to the surgeon general, for use in the mobilization of large masses of troops.
5. That a professor of military hygiene be appointed at West Point to instruct the cadets in the principles of sanitation.
6. That the medical officers of the national guard be subjected to rigid examination both for admission to the service and for promotion.
7. That the surgeon-general of the army and navy in time of peace and war be empowered to call into requisition the services of skilled specialists.
8. That the President of the United States be respectfully urged to recommend to Congress the appointment of an army medical commission, to be composed of physicians and sanitarians to be taken from civil and military life, including the surgeons-general of the army and navy, whose duty it shall be to prepare a report containing a detailed plan of a modern system to govern the medical departments of the army and navy in peace and war. Be it furthermore

Resolved, That a committee be appointed by the president of the American Medical Association to wait upon and present these resolutions to the President of the United States for his favorable consideration.

RANK OF SURGEON GENERAL IN THE ARMY.

The resolution offered by the Medical Association of Georgia, in regard to raising the rank of the surgeon-general of the army to that of a major-general, was recommended for adoption, and on motion, was adopted.

EMPLOYMENT OF WOMEN NURSES.

The bill to provide for the employment of women nurses in military hospitals of the army, presented by Dr. Gould, was approved by the executive committee. Dr. Gould appeared before the committee and explained its features, and said that it had been endorsed by all the leading physicians and nurses and others, and the committee recommended that the Association endorse the plan. On motion, the recommendation was adopted.

ASSOCIATION AND THE COLLEGES.

The communications from Tennessee, Louisiana, Alabama and Texas medical associations (see Journal, May 6, p. 1009; May 27, p. 1193), in regard to the action taken by the Association last year, on the motion of Dr. Dudley S. Reynolds of Louisville, in regard to the limitation of membership to those who conformed to the requirements of the Association of the American Medical Colleges (see Journal, xxxi, p. 83), were fully considered in connection with the resolution referred to. Dr. Reynolds and Dr. Savage, by invitation, appeared before the committee and explained the position of their association. After free discussion it was decided that in the opinion of the committee the action taken last year was unconstitutional, and therefore ineffective, and the entire matter was referred to the judicial council for opinion and decision. On motion, the report was so referred.

Last year the Section on Materia Medica, Pharmacy and Therapeutics introduced a resolution which was referred to the executive committe and not reported on. The committee placed the matter in the hands of a subcommittee to investigate the matter during the year and to report at this meeting. The committee now report that they endorse the preamble and resolution and recommend that a copy of the report be sent to the Decennial Pharmacopeial Convention for 1900. On motion the recommendation of the committee was adopted.

There were one or two other matters referred to your committee. The report of the secretary was not considered by your committee for lack of time, and the president's address is under consideration by several special committees which will report this afternoon, and a full report will be given to-morrow morning when the full committee shall have considered the recommendations.

NOMINATING COMMITTEE.

Dr. W. B. Atkinson, the permanent secretary, announced the nominating committee as follows: Arizona, W. Duffield, Alabama, H. A. Moody; Arkansas, T. E. Holland; California; H. Bert Ellis; Colorado, T. H. Hawkins; Connecticut, T. D. Crothers; Delaware, ———; District of Columbia, H. L. E. Johnson; Florida, John B. Maloney; Georgia, W. F. Westmoreland; Illinois, T. W. Miller; Indiana, M. F. Porter: Indian Territory, ———; Iowa, C. M. Hobby; Kansas, James A. Lane; Kentucky, J. N. McCormack; Louisiana, ———; Maine, C. E. Norton; Massachusetts, A. P. Clarke; Maryland, R. Winston; Michigan, L. Connor; Minnesota, ———; Mississippi, J. J. Bethea; Missouri, J. D. Griffith; Montana, T. J.

Murray; Nebraska, A. D. Wilkinson; Nevada, ———; New Jersey, P. Marvel; New Hampshire, A. P. Richardson; New Mexico, ———; New York, E. E. Harris; North Dakota, ———; North Carolina, J. A. Burroughs; Ohio, N. M. Coleman; Oregon, A. W. Moore; Pennsylvania, H. M. Fenton; Rhode Island, ———; South Carolina, ———; South Dakota, ———; Tennessee, G. C. Savage; Texas, H. L. McNew; Utah, H. D. Niles; Vermont, E. R. Campbell; Virginia, George B. Johnston; Washington, W. C. Cox; West Virginia, S. L. Jepson; Wisconsin, D. J. Hayes; U. S. Army, Major Davis; U. S. Navy, J. R. Tryon; U. S. Marine-Hospital Service, P. H. Bailhache; Wyoming, R. Harvey Reed.

ORATION ON SURGERY.

Dr. F. W. McRae, Atlanta, Ga., then delivered the address on surgery, which will appear in the Journal.

Dr. W. H. Daly, Pittsburg, at the conclusion of Dr. McRae's address, moved that a vote of thanks be tendered to Dr. McRae for his very able and instructive address in surgery. The motion was seconded and carried.

ORATION ON STATE MEDICINE.

Dr. Daniel R. Brower, Chicago, delivered the oration on state medicine, which was profusely illustrated by stereopticon views. (See p. 1281.)

On motion, a vote of thanks was extended to Dr. Brower for his interesting and unique oration.

The President—"The next item is the report of the board of trustees."

Dr. T. J. Happel of Trenton, Tenn., advanced to the platform to read the report, when Dr. D. W. Graham of Chicago moved that inasmuch as the attendance was very small and the report was an important one, it be deferred until Thursday morning, to the first item of business. The motion was carried.

The President - "There is a report of the special committee on a department of public health, to be read. Will you make the same disposition of it?"

On motion, the reading of this report was also deferred until Thursday morning, to be read after the report of the board of trustees.

On motion, the Association then adjourned until Thursday morning, June 8, at 11 o'clock.

June 8.—Third General Session.

The Association was called to order at 11 a.m. by the president. The secretary read the minutes of the previous general session, and there being no objection, they were approved as read.

The President—"The report of the board of trustees is now in order."

Dr. T. J. Happel of Tennessee, presented the following report of the board of trustees:

REPORT OF THE BOARD OF TRUSTEES.

The board of trustees would respectfully present the following report for the year ending Dec. 31, 1898.

RECEIPTS.

Jan. 1, 1898. Cash in Journal office	$ 1,494.90
Jan. 1, 1898. In hands of Treasurer	14,092.85
Subscription and membership fees	39,771.20
Advertising	23,629.71
Sales	3,162.91
Interest	179.85
	$82,331.42

EXPENSES—JOURNAL.

Paper	$11,933.13
Labor	16,764.66
Salaries	8,265.06
Editorial	5,378.31
Postage	4,284.31
Commissions	1,569.94
Rent	1,500.00
Miscellaneous expenses	1,212.72
Clippings	210.87
Hauling	202.55
Electric power	428 10
Telephone	175.00
Electrotypes	582.82
Petty cash expense	303.09
Stationery	81.83
Gas	87.76
Copyrights	25.50
Oil and benzin	30.70
Ink	854.54
Reporting	686.87
Type	487.70
Grinding	28.00
Bindery supplies	96.10
Expressage	32.72
Toilet supplies	17.50
Telegrams	23.65
Folder supplies	4.30
Press supplies	107.83
Binding	126 65
New press	2,700.00
	$58,202.21

EXPENSES—TREASURER.

Meetings, etc	$1,520.29
Treasurer's bond	100.00
Com. Pub. Health	431.26
Secretary's salary and expenses	484.20
Trustees' expenses	932 00
Treasurer's salary	1,000.00
	$4,467.75
	$62,669.96

Balance	Cash in Journal office	$ 931.51	
	In Treasurer's hands	18,729.95	
		$19,661.46	
			$82,331.42

Ten thousand dollars of this surplus has been placed in the sinking fund and invested in bonds, making a total of $13,000 thus invested. As will be noticed by the report, a new printing press has been secured during the year, at an expense of $2700.

The growth of the Journal has gradually increased—thus the issues for the month of January, 1898, were: January 1, 9600; January 8, 9700; January 15, 9700; January 22, 9700; January 29, 9700; but were 13,000 for each week in December, 1898. The weekly average for the year was 11,270.

For the last three months of the year the management was greatly embarrassed by the sickness and death of the late editor, Dr. John B. Hamilton. Under his personal supervision the Journal had increased to nearly three times its original subscription, and had gradually obtained a well-equipped plant and a large reserve fund, but more than all, a recognized position among the reputable journals of the country.

On Jan. 1, 1899, shortly after the announcement of the death of Dr. Hamilton, a called meeting of the board of trustees was held, at which it was resolved to continue the conduct of the Journal business under the direction of the resident trustee, Dr. Truman W. Miller, who had very generously, at the sacrifice of his own interests, assumed the management, upon the demise of the editor. At the direction of the board he had the accounts of the Journal office and the treasurer examined by an expert accountant, who pronounced them correct. At the annual meeting of the board, February 17 last, after a careful canvass of the available editorial material, Dr. George H. Simmons of Lincoln, Neb., was chosen editor for one year, at a salary of $5000, with the stipulation that he should move to Chicago and devote his whole time to the work of the Journal. Your board congratulates itself that the wisdom of its selection of editor has been efficiently demonstrated by the subsequent progress of the Journal. The changes that have been made render it more valuable to its patrons, and justify the hope of the board that it shall become the representative medical journal of the world. Other progressive features are under contemplation. A better grade of white paper will be used in the next volume, and the board has authorized the purchase of two Mergenthaler linotype machines, at an expense of $6700, which will insure the use of new type for every issue.

The board would recommend that article v, of the by laws, be amended by substituting the words, "one year," for the words, "three successive years," in second paragraph of section 5, as it is not good business to permit any member to become so indebted to the Association that the payment of his dues will be a burden, nor should we furnish the Journal three years for nothing, as we are now obliged to do.

Now in conclusion, the board of trustees would report further upon the resolution of Dr. Bailey, of Louisville, Ky., offered last year at Denver, referring to the election of a grand secretary for the Association, which resolution was referred to the trustees, inasmuch as it involved the expenditure of money. We have carefully considered this question from its various standpoints, keeping always in view the interests of the Association, and not of any one individual. We are satisfied that a radical change is needed in the management of the secretary's office. The fact that there are on hand no written minutes of the various meetings of this Association properly signed by the secretary, and the adoption of these duly attested by the signature of the president; and the further fact that the only minutes presented for adoption by this Association are in the form of notes, excerpts from newspapers, stenographic reports, read from various scraps of paper in such a form that they can not be signed by the president, so as to make them valid; and the further fact that, in spite of adverse criticisms, this state of facts has continued for years, your committee has unanimously agreed to report, recommending what we think a proper change in this matter. We offer the following substitute for Dr. Wills' amendment offered last year at Denver, Colo.: Amend article iv of the constitution, by substitution for paragraph one and two of said article, the following: "The officers of the Association shall be a president, four vice-presidents, a secretary and an assistant secretary, a treasurer and a librarian. All of them except the secretary shall be nominated by a special committee of one member from each State represented at the meeting, and shall be elected by vote on a general ticket."

Each officer except the secretary shall hold office for one year and until his successor is elected. The editor of the Journal of the American Medical Association shall be the secretary of this Association and shall serve as such without additional compensation.

We further suggest that the word "permanent" preceding the word "secretary" in other places in said Art. iv, or elsewhere in the constitution or by-laws be stricken out.

We would state that we recommend this action not from any hostile feelings toward our present secretary, but for the reasons already presented and the following in addition—

If the editor of the Journal is made your secretary, all the papers of the meetings will go at once into his hands, and he becomes responsible for them. As it is, they may not reach the editor's hands for more than a month, as was evidenced by our Denver meeting.

The minutes will be written out in proper form each day and presented for adoption by the Association, and then for the signature of the president in the presence of the meeting, so that these minutes may be valid. On the adjournment of each annual meeting the minutes will be kept in the Journal office with the other papers of the Association. The secretary having at each meeting his Journal stenographer with him, the work of keeping the minutes can be accurately done, at no additional cost to the Association from the stenographic reports kept for the Journal.

The editor of the Journal would then become responsible for the correctness both of the report of the meeting and of the minutes, which correctness of the latter would be duly attested by the signature of the president of this Association. Such an arrangement as this would in our opinion prevent any charges of omissions from, and inaccuracies of, the minutes of our meetings, a thing which has too often occurred heretofore.

With your secretary in one city and your editor in another, delays in the transmission of matter often occur, and the editor can not promptly present the proceedings of the meeting to the readers of the Journal. This is evidenced by the fact that the minutes of the Denver meeting are found in the following numbers of the Journal—June 25, July 9 and July 23, when the proceedings should have been published June 11–18.

This report is respectfully submitted and we bespeak for it your careful consideration.

A. Garcelon, President.
E. E. Montgomery,
H. L. E. Johnson.
Chas A. L. Reed,
Joseph Eastman,
J. T. Priestley,
Truman W. Miller,
T. J. Happel,
I. N. Love, Trustees.

At the conclusion of the reading of the report, Dr. Duncan Eve of Nashville moved its adoption. Seconded.

The secretary arose and asked whether he could speak to a question of privilege.

The President—Yes, sir, you can.

Secretary W. B. Atkinson—I do not desire in any way to oppose the adoption of this report by a unanimous vote, but I claim the right to place these matters before you in the proper light. There are statements made in the report which are not correct in regard to the conduct of this office, and for that reason I demand that these changes be made, so that I shall be reported correctly. In the first place, I have here the minutes of the meetings of the Association from the time it became a journal printing association. Before that I always supplied the printer with a certified copy with my name attesting the minutes as they were read and adopted by you. These are all signed, with the exception of the last two. Another thing, I have never failed to present to the stenographer, who has been our stenographer for years, full minutes of the Association, but not in the form of newspaper excerpts, scraps of paper, etc., as mentioned in the report. On the occasion of every meeting I have furnished him with the minutes written out either by myself or typewritten under my supervision, signed by myself, and the minutes taken with him on every occasion. If you doubt the correctness of this statement, the stenographer is here and will tell you that I am correct.

Another point I want you to think of is with reference to the meeting at Denver in regard to the minutes not being promptly printed. When Mr. Whitford and Dr. Hamilton left Denver they took with them the minutes properly certified to by me, with the exception of the report of the executive committee. I could not furnish this because it had been taken away by the secretary of that committee. I have a letter from the secretary of that committee in my pocket acknowledging that he had taken it away and saying that he could not furnish it for some little time. The result was that after I had written him twice asking for the report, he sent it to Dr. Hamilton at Chicago, and this accounts for the delay in the printing of the minutes of the Denver meeting. You have my explanation, and I ask that you have the report of the board of trustees corrected in accordance therewith.

Dr. T. J. Happel, speaking for the board of trustees, said: "Mr. President and members of the Association I am not here on the floor of my own volition. I am the youngest member of the board of trustees. I have seen the least service on the board, and they thought it was a fine opportunity to break me in. We dislike to be put in the attitude of appearing to prosecute or persecute any one in connection with this matter. With all due deference to the secretary, your board weighed carefully every item of this report which has been presented to you. We do not say in our report that these minutes were not gotten up and put into the hands of the printer in proper form, but we do say that the report was read from scraps of paper, from stenographic reports, from newspaper clippings at our meeting. I think the facts in the case warrant the assertions made by the board. If any of you will pick up the Journal containing the last day's proceedings at Denver, and occupy your time in reading them; you will find that the proceedings of that day fully verify every position taken in this report as regards the printed proceedings of the occurrences of that day. The minutes may be gotten up after the meeting adjourns, and may be signed by your secretary and presented for printing in proper form, but they do not constitute the legal minutes of your proceedings. Legal minutes of your proceedings must be written out in proper form, in a book properly prepared, and then adopted. This must be done before they are valid or are worth the paper they are written on, and they must be signed by the president of the Association (Applause). You, therefore, have not legal action taken on any matter so far as the proceedings of your Association go. I do not know but what the secretary may have these minutes somewhere, but they are not in book form. We have no valid minutes of the Denver meeting, and I take it that the same applies to reports of any other meetings. As to how these matters have come into our hands, we have not gone into this matter of our own volition. You will remember that Dr. William Bailey introduced a resolution at the Denver meeting for the appointment of a general secretary at a salary of $3000 per annum, and as this resolution involved an expenditure of money, it carried the matter into the domain of the trustees of the Association. Had there not been an expenditure of money involved in that resolution, it would have gone to the general business committee. Dr. Bailey's resolution (see Journal, xxxi, p, 94) was referred to us and we have tried to carry it out in constitutional form, considering the resolution offered by Dr. Wills to amend the constitution in the way we have done. We do not intend to cast any reflection on the action of Dr. Atkinson, but the board of trustees does not want to be placed in a false light in this matter. We feel it is for the best interests of the American Medical Association that this change should be made. We feel that with your editor as secretary you have somebody to whom you are paying a salary sufficient to hold responsible for doing the work in a business-like way. If we are a business body, the work should be done in a business manner. If you want the business transacted properly, place the responsibility on somebody's shoulders, and if he does not attend to it he can be ousted from his office and some one else put in his place; hence the recommendation in our report to make the editor of the Journal the secretary of this body.

Dr. Bishop of Pennsylvania—"Inasmuch as we have heard the reply of the secretary, and the final reply of the board of trustees, I now move that further debate be closed and that we vote on the report of the committee."

The President—"There is already a motion before the house to adopt the report." The president then put the question on the adoption of the report, which was carried.

OFFICERS OF THE ASSOCIATION FOR 1899-1900.

President, W. W. Keen, Philadelphia.
First vice-president, Chas. A. Wheaton, St. Paul.
Second vice president, E. D. Ferguson, Troy, N.Y.
Third vice president, J. M. Allen, Liberty, Mo.
Fourth vice-president, Wm. D. Middleton, Davenport, Iowa.
Treasurer, Henry P. Newman, Chicago.
Secretary, George H. Simmons, Chicago.
Assistant secretary, J. A. Joy, Atlantic City, N. J.
Chairman committee of arrangements, Philip Marvel, Atlantic City, N. J.
Librarian, Geo. W. Webster, Chicago.
Board of trustees, E. E. Montgomery, H. L. E. Johnson and C. A. L. Reed, re-elected.

JUDICIAL COUNCIL.

J. D. Griffith, Kansas City, Mo.
P. H. Bailhache, marine-hospital service.
J. E. Cook, Cleveland, Ohio.
J. P. Lewis, Topeka, Kans.
F. H. Wiggin, New York City.
J. W. Irwin, Louisville, Ky.
Walter Wyman, Washington, D. C.

ANNUAL ORATIONS.

On Medicine—John A. Witherspoon, Nashville, Tenn.
On Surgery—W. L. Rodman, Philadelphia, Pa.
On State Medicine—Victor C. Vaughan, Ann Arbor, Mich.

SECTION OFFICERS.

SURGERY AND ANATOMY.

Chairman—H. O. Walker, Detroit, Mich.
Secretary—Ramon Guitéras, New York City.
Executive Committee.—

PHYSIOLOGY AND DIETETICS.

Chairman—Elmer Lee, New York City.
Secretary—R. Harvey Cook, Oxford, Ohio.
Executive Committee—A. P. Clarke, Cambridge, Mass.; Randall Hunt, Shreveport, La.; James Weir, Jr., Owensboro, Ky.

PRACTICE OF MEDICINE.

Chairman—Geo. Dock, Ann Arbor, Mich.
Secretary—Dr. Futcher, Baltimore, Md.
Executive Committee—

OBSTETRICS AND DISEASES OF WOMEN.

Chairman—W. E. B. Davis, Birmingham, Ala.
Secretary—F. F. Lawrence, Columbus, Ohio.
Executive Committee—

DISEASES OF CHILDREN.

Chairman—Edwin Rosenthal, Philadelphia.
Secretary—Louis Fischer, New York City.
Executive Committee—

MATERIA MEDICA, PHARMACY AND THERAPEUTICS.

Chairman—Leon L. Solomon, Louisville, Ky.
Secretary—J. W. Wainwright, New York City.
Executive Committee—T. H. Stucky, Louisville, Ky.; John V. Shoemaker, Philadelphia; Warren B. Hill, Milwaukee, Wis.

LARYNGOLOGY AND OTOLOGY.

Chairman—Christian R. Holmes, Cincinnati.
Secretary—J. A. Stucky, Lexington, Ky.
Executive Committee—

NEUROLOGY AND MEDICAL JURISPRUDENCE.

Chairman—Hugh T. Patrick, Chicago.
Secretary—F. S. Pearce, Philadelphia.
Executive Committee—

OPHTHALMOLOGY.

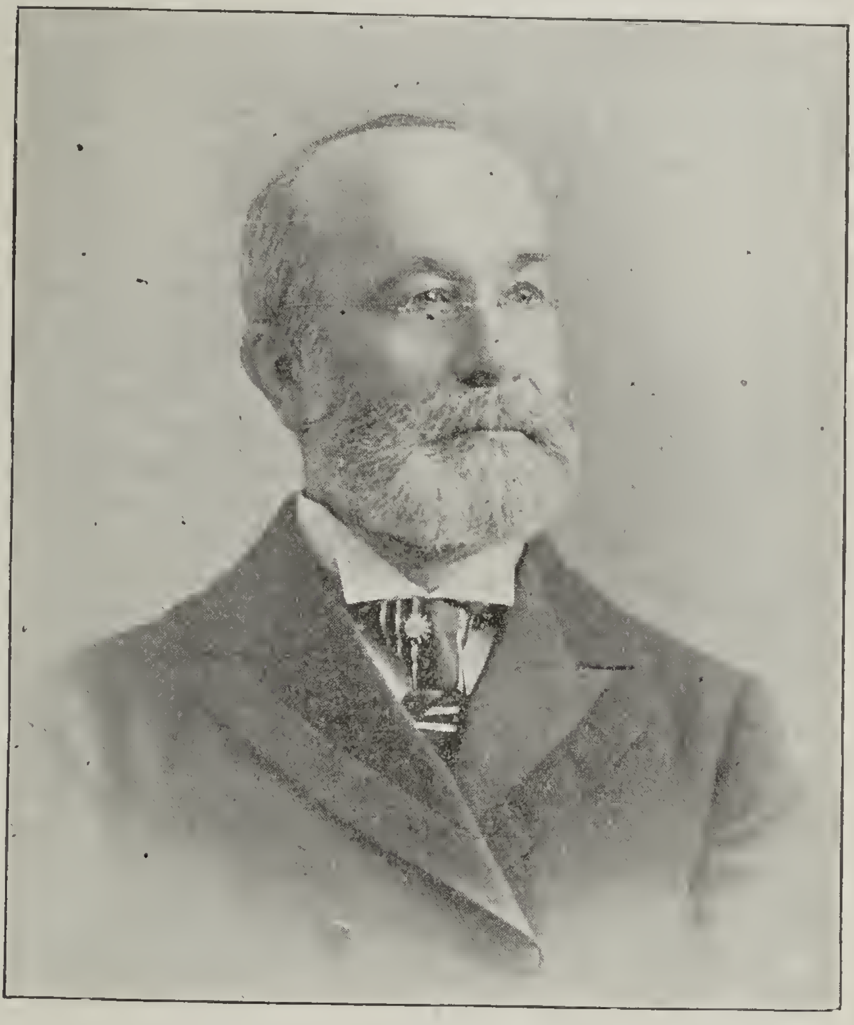
Chairman—H. V. Würdemann, Milwaukee, Wis.
Secretary—C. F. Clark, Columbus, Ohio.
Executive Committee—

(To be continued.)

PRESIDENT-ELECT W. W. KEEN, M.D.

William W. Keen, M. D., of Philadelphia, who has just been elected president of the American Medical Association, was graduated at Brown in 1859, and at Jefferson Medical College in 1862, and received his degree of LL.D. from Brown University in 1892. He was lecturer on pathologic anatomy in Jefferson Medical College for nine years, following 1866, and conducted the Philadelphia School of Anatomy Since 1884 he has been professor of surgery in the Woman's Medical College of Philadelphia, and also professor of artistic anatomy in the Pennsylvania Academy of Fine Arts.

From May, 1862, until July, 1864, he served as acting assistant-surgeon in the army, and was in charge of the Ascension, and the Eighth Street General Hospital at Washington, D. C., and also of the U. S. Army Hospital for nervous diseases at Turner's lane, Philadelphia. He is professor of principles of surgery in Jefferson Medical College; a member of the College of Physicians of Philadelphia; of the Philadelphia Academy of Natural Sciences and the Philadelphia Pathological Society, having served as secretary of the latter society from 1869 to 1872.



W. W. Keen, President-Elect.

In his work in surgery of the nervous system he originated several operations, among them one for tapping and draining the lateral cerebral ventricles, first performed by him in 1888. In 1890 he published his experiences relating to the determination of the rupture of the bladder by the injection of filtered air, and in 1891 his process of exsecting the nerves supplying the posterior rotator muscles of the head for the relief of spasmodic wryneck. In 1894 he was elected *member correspondant étranger* of the Société de Chirurgie of Paris.

Dr. Keen, during the past year, has been president of the American Surgical Association and last year published a book on "Surgical Complications and Sequels of Typhoid Fever," his latest work, which has received the highest commendations here and abroad.

Correspondence.

Medical Sessions at Columbus.

[Staff Correspondence.]

Columbus, Ohio, June 6, 1899.

To the Editor:—The American Academy of Medicine met in this city yesterday with forty-six members present. Advertising was the principal topic discussed and officers were elected. (See p. 1332.)

The American Medical Editors' Association also met in this city on the same date and adopted a revised constitution and by-laws. Dr. J. D. Emmett of New York City read a paper on "The Ends and Aims of Medical Journalism," which elicited a lively discussion. [To be published in the Journal.—Ed.] At the annual banquet in the evening, Dr Thos. H. Hawkins of Denver presided and Dr. I. N. Love of St. Louis served as toast-master. This society also elected officers as follows: president, I. N. Love, St. Louis; vice president, J. E. Brown, Columbus; secretary, Dillon Brown, New York City; treasurer, Alexander Stone, St. Paul.

Another organization—the National Confederation of Medical Examining and Licensing Boards—also held its annual meeting here on Monday, and further report will be sent next week for publication in your "Societies." The new officers for the confederation are: president, J. M. McCormack, Bowling Green, Ky.; first vice president, N. R. Coleman, Columbus, Ohio; second vice-president, B. F. Crummer, Omaha, Neb.; secretary and treasurer, A. Walter Suiter, Herkimer, N.Y.

Dr. Quine on Homeopathy.

Seattle, Wash., May 15, 1899.

To the Editor:—Relative to Dr. Quine's address, in exposition of the tenets of homeopathy (see Journal, April 29 and May 6), I wish to say that my perusal of it afforded me the greatest pleasure, as well as imparting much information. It was the opportunity of a lifetime—"to beard the lion in his own den." Those homeopaths scarcely realized what the Doctor had in store for them. It is so easy to be deceived and even to deceive oneself when only one side of a proposition is presented or thought upon.

Many of those homeopathic students went away from that hall wiser then when they came. If homeopaths everywhere could read that address, it would do more toward the collapse of that "pathy" than anything that has happened since the crazy Hahnemann promulgated his dogmas of "similia similibus. curantur," "potentization," and "infinitesmals."

Professor Palmer's work, "Homeopathy, What Is It?" is a grand thing in its way, but it is too large for extensive circulation and reading. But when the whole fabric of homeopathy can be scattered to the winds by arguments confined to a few pages of paper, it furnishes a document for general distribution and reading. That address should be reprinted in thousands. It will become classic. Homeopathic journals will scarcely publish it.

A. C. Simonton, M.D.

51 Hinckley Block.

Miscellany.

Association Programs.—Physicians desiring a copy of the official program of the Columbus meeting can obtain same by addressing the Journal and inclosing postage—3 cents.

Journals Wanted.—While we have had a liberal response to our recent request for certain copies of the Journal, to complete a file for a State library, we still need, and will pay 25 cents each for, copies of the following Journals: Vol. iii, No. 4; Vol. v, No. 17; Vol. xxvii, No. 14.

Treatment of Lupus Erythematosus.—In a paper read before the Harveian Society of London, Whitfield (*Brit. Med. Jour.*, April 29, p. 1029) divided the treatment of lupus erythematosus into palliative and active. The first included the use of soothing and protective lotions, powders and ointments; the second the use of such drugs as pyrogallic acid and chrysarobin and their oxidized compounds, mercurial ointments and plasters, as well as operative measures, such as scarification and the application of the fine galvanocautery.

Nocturnal Asthma.—Pawinski (*Revue de Méd.*, March 10), reports five interesting cases of nocturnal asthma associated with unsuspected retention of urine. Arteriosclerosis, pseudoangina and cardiac weakness were present in all the cases. The nocturnal attacks of dyspnea could be promptly relieved by catheterization. Frequent nocturnal micturition was present, but it was shown that this simply represented the overflow from a full bladder which did not empty itself. The retained urine, either by reflex action or intoxication, caused the respiratory and circulatory disturbance. In no case was cystitis present. Needless to say the cases were all in the aged. No doubt attention directed to this point will discover here the cause of not a few almost inexplicable cases of asthma in old persons.

Washington.

Health of the District.—The report of the health officer for the week ended May 27 showed the total number of deaths to have been 89, 58 white and 31 colored. There were 6 deaths from cerebrospinal meningitis, 2 from diphtheria and 1 from scarlet fever. At the close of the week there were 6 cases of smallpox, 27 of diphtheria and 53 of scarlet fever under treatment.

Medical Department of Columbian University.—At the commencement exercises of the Columbian Medical School, diplomas were awarded to 31 graduates. The general examination prize was awarded to L. H. Reichelderfer; the faculty prize to R. B. Grubz; the H. L. E. Johnson prize in clinic gynecology to Sothern Key; the Sterlin Ruffin prize in medical jurisprudence to L. H. Reichelderfer; the C. W. Richardson prize in laryngology to W. K. Ward; the W. L. Tompkins prize in neurology to P. M. Cox; the G. N. Acker prize in pediatrics to H. A. May; the H. C. Yarrow prize in dermatology to Randolph Keiner.

Central Dispensary and Emergency Hospital.—Dr. J. L. Adams has been appointed resident physician. Drs. W. E. Whitson and W. C. Williams have been appointed assistant resident physicians. The retiring physician, Dr. W. H. Mohart, goes abroad for a post graduate course in Europe.

Philadelphia.

Mortality Statistics.—The number of deaths reported in this city for the week just closed was 426, an increase of 42 over last week, and an increase of 20 over the corresponding period of last year. Of the total number 115 occurred in children under the age of 5 years. The following were the principal causes of death: Apoplexy, 16; nephritis, 36; cancer, 12; cerebrospinal meningitis, 2; tuberculosis, 64; membranous croup, 2; diabetes 2; diphtheria, 16; heart disease, 38; scarlet fever, 3; peritonitis, 5; septicemia, 2; whooping cough, 3.

New Site for Hospital.—A meeting of property owners adjacent to the Municipal Hospital recently held a mass meeting relative to that institution, which they think is detrimental to the value of property. It is held that the neighborhood is rapidly building up and because of the number of cases of communicable diseases treated there and of the overcrowded condition existing, a new site should be chosen, now that the city has the money.

Almshouse.—Since $200,000 has become available through the loan bill, the question of removal of the almshouse from the Philadelphia Hospital proper is still being agitated. The department for the insane will doubtless be the first to be removed, as it is the most overcrowded.

Jewish Hospital Report.—The thirty-fourth annual meeting of the Jewish Hospital Association was recently held in this city, at which time the president submitted his annual report as follows: The number of patients treated in the hospital was 825, and in the dispensary 12,678, an increase of 89 patients in the hospital and 924 in the dispensary. At no time during the year was there a vacant bed, cots having to be made use of frequently. The net receipts from all sources amounted to $37,096.05 and the expenditures to $43,058.78, leaving a deficit of $5962.73.

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Oration.

ORATION ON SURGERY.

DELIVERED AT THE FIFTIETH ANNUAL MEETING OF THE AMERICAN MEDICAL ASSOCIATION, HELD AT COLUMBUS, OHIO, JUNE 6-9, 1899.

BY FLOYD W. McRAE, M.D.
ATLANTA, GA.

I have determined to follow the example of some of my worthy predecessors and not attempt a general review of the progress of surgery for the year, but to confine my discussion to certain points in the surgery of the alimentary canal, which had impressed me as being of greater interest to the profession. No startling discoveries in surgical science have been made, but there has been a steady advance all along the line in surgical practice. The more extended use of normal salt solution has continually demonstrated its life-saving properties so that it is now almost universally employed. The surgeon who would fail to give his patient the benefit of this valuable agent after a prolonged or bloody operation would be little less reprehensible than he who would knowingly put his patient to bed with bleeding vessels unsecured.

Salt solution may be used in so many ways and the methods of using it are so simple and easily applied that there is hardly any sufficient excuse for its non-employment when indicated. Perhaps no better exposition of its usefulness and scientific application in medical and surgical practice has been given to the profession than the excellent and exhaustive paper of Dr. Bovée, read before the Southern Surgical and Gynecological Association, Memphis, Tenn., Dec. 6, 1898.

Salt solution seems to be the very best agent with which to flush the abdominal cavity, and large quantities may be left in the abdomen with benefit. It is also rapidly absorbed from the rectum, but where a prompter and more decided effect is desired a subcutaneous infusion is better. Intravenous transfusion is only indicated in extreme conditions where an immediate effect is imperative.

The value of rubber gloves in diminishing the danger of wound infection by the hands of the surgeon and his assistants has been proven beyond question. In America Halsted and McBurney especially deserve the thanks of the profession for their scientific and practical work in this field of research. Bacteriologic investigation has repeatedly shown the impossibility of absolutely sterilizing the hands. The micro-organisms of the deeper layers of the skin gradually find their way to the surface during operations requiring prolonged manipulation. While this source of infection by surgeons who take care of their hands and clean them thoroughly must be small, it is right to avoid " even the appearance of evil." Facility in the use of gloves is readily acquired. The slight inconvenience experienced at first is more than compensated for by the greater feeling of security which they give.

It is not my purpose to discuss surgery of the stomach, but the results of complete gastrectomy deserve notice. Four cases of complete gastrectomy are now on record: 1. The celebrated case of Schlatter of Zurich; 2, the case by Dr. Brigham of San Francisco; 3, that of Dr. Richardson of Boston; 4, the one by Dr. McDonald of San Francisco. These cases clearly demonstrate that an individual may exist for an indefinite length of time in comparatively good health without a stomach.

The post-mortem in the case of Dr. Schlatter, published in the *Medical Record*, showed that there had been no dilatation of the upper part of the intestinal tract to take the place of the stomach, which had been removed, and that death was due to general infection and not to inanition from the removal of the stomach. Dr. Richardson's case also died, I think from the metastasis. The cases of Drs. Brigham and McDonald of San Francisco are probably still alive, as there has been no published account to the contrary.

These cases show clearly that not the surgical difficulties surrounding complete removal of the stomach militate against successful results, but that when the disease is so extensive as to indicate this operation, it has already extended beyond the possibility of complete cure.

The Roux gastro-enterostomy "en Y," is an original procedure, which has received the highest professional commendation.

I quote Coley in *Progressive Medicine*, June, 1899 (for advance sheets of which I am indebted to the author), as follows:

"Roux[1] refers to the very great progress in the surgical treatment of diseases of the stomach during the last two years. During this period, instead of not being able to perform any operation in 35 per cent. of the patients that came to him, there were but two patients in which he performed only exploratory laparotomy, and but two others in which no operation at all was indicated. He has performed eleven pylorectomies against fifteen gastro-enterostomies. Simple exploratory laparotomy was performed in the proportion of 4 to 100."

"As to the method employed, he has performed six ordinary pylorectomies, with one death; two according to Kocher's method, without mortality; four by the combined methods, with two deaths; in all twelve operations with three deaths. He has performed gastro-enterostomy by his own method—"en Y," in thirty-one cases, with three deaths. He states that the most important fact to show is that posterior gastro-enterostomy "en Y" with three layers of suture, is not a dangerous operation in itself, in spite of its long duration and the possibility of the outflow of some of the gastro-intestinal contents. In a series of twenty-four gastro-enterostomies for non-malignant affections of the pylorus he has not had a death.

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[1] Congress of French Surgeons, 1898.

"Roux states that he can but recommend the trial of gastro-enterostomy 'en Y.'" The results obtained in non-malignant disease show that the operation itself is not the cause of the failures, but the debilitated condition of the patients on whom one is often constrained to operate.

Monprofit[2] gives the results of nineteen gastro-enterostomies for cancer and chronic gastritis; fourteen were for cancer, with two deaths; five for chronic gastritis, with no deaths, and in all five of these cases the gastric trouble entirely disappeared as a result of the operation. These cases are very important, inasmuch as only very recently has the operation of gastro-enterostomy been proposed or advised for this trouble. Nine operations were performed by Wolfler's method, with five perfect results, two satisfactory and two bad; six were operated by von Hacker's method, with five excellent results, one fairly good; two operations were performed by the method of Roux, "en Y," with two perfect results. Monprofit believes in using posterior anastomosis, either lateral or "en Y," whenever possible. He employs no mechanic aids, using silk sutures.

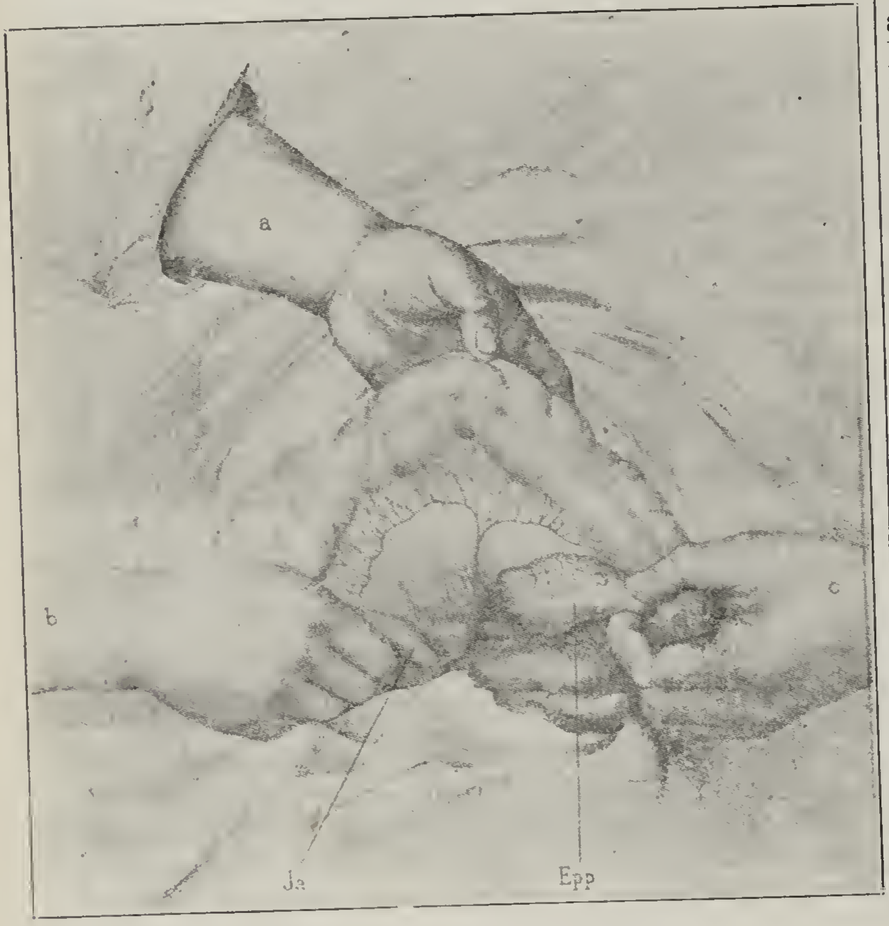

Fig. 1.—Roux's method of gastro-enterostomy "en Y."

Method of Roux[3]—gastro-enterostomy "en Y." Every patient in feeble condition is given medicated injections for several days prior to operation. He has great faith in subcutaneous and intravenous saline solutions, and these are always ready for use, day and night. Ether narcosis is used. As to the method of procedure, the abdomen having been opened, the tranverse colon is lifted up and the mesocolon opened widely, exposing the posterior wall of the stomach. The upper portion of the jejunum is then quickly recognized. The jejunum is then divided between two Kocher clamps and the incision prolonged through the mesentery to the first arterial bifurcation at about 20 or 30 cm. from its origin. The upper portion of the cut jejunum is wrapped in gauze and placed to the left side; the lower portion is grasped by an assistant, who draws the stomach toward the opening in the mesocolon, and by gentle traction of the forceps brings the end of the gut into contact with the stomach while the operator introduces the first row of seroserous continuous sutures—using an ordinary sewing needle—into what will be the posterior border of the opening in the stomach. An incision is then made through the serous and muscular coats, and a second seromuscular continuous suture applied. Opening the mucosa of the stomach, abrasion of the intestine behind the Kocher clamp, a third continuous suture of the mucous layers entirely around, and a seromuscular suture anterior followed by a seroserous suture, complete the anastomosis. The stomach is then loosened and the mesocolon is fastened around the intestine, like a collarette, by a few catgut sutures.

The principal sutures are of silk. The hemorrhage attending the operation is trifling, seldom requiring ligatures. The incision in the stomach is parallel to the greater curvature.

Roux sees no advantage in the perpendicular incision of Doyen or in the oval incision of Jaboulay. He endeavors to prevent stenosis by making a large opening in the stomach by implantation of the end of the gut instead of lateral anastomosis, and, above all, by securing healing by first intention of parts; these unite firmly and perfectly in a few days if one takes the trouble to suture in three layers without any appliance and modifications incompatible with immediate reunion. The implantation of the upper end of the jejunum is then made in the same manner, choosing, when possible, the face opposite the mesentery, and making the incision shorter.

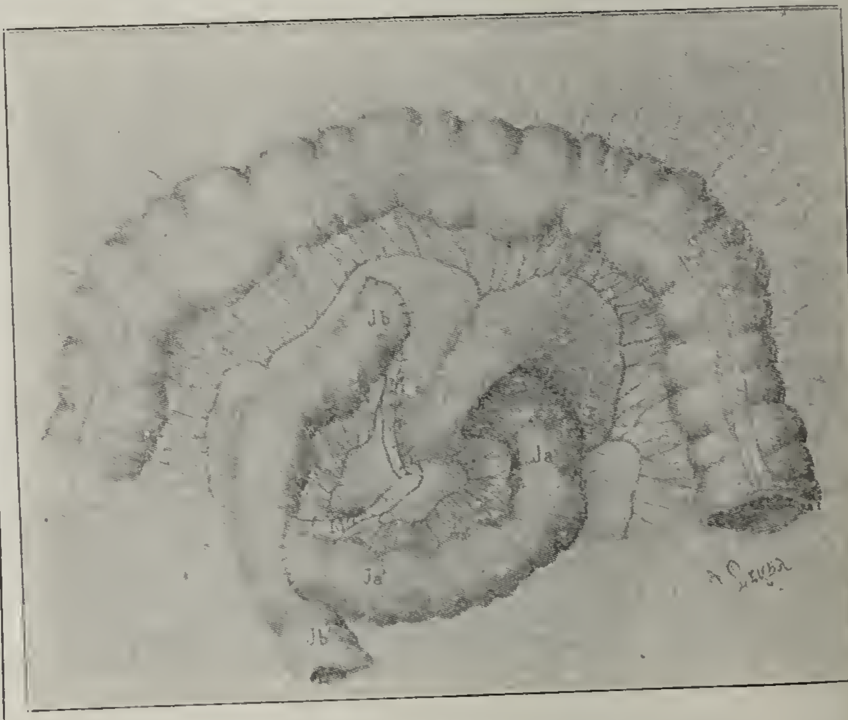

Fig. 2.—Roux's method of gastro-enterostomy "en Y."

Roux advises fixing the edges of the mesenteric incision in two or three places in order to prevent internal strangulation—a danger which advocates of other methods seem not to have considered. Roux attributes the fact that it has not been more often noted to the small number of autopsises performed on fatal cases.

Immediately after operation an injection of salt solution is given (800 to 2000 c.c.), and later on nutritive enemata, champagne, bouillon, often with a little strychnin. Above all, as soon as recovery from ether is complete, e.g., two or three hours after operation, the patient is given something to drink, such as champagne, milk, tea, etc. If vomiting occurs, the stomach is at once washed out, and the patient is allowed to drink on the following day. The patient has what he likes, and if he has no desire to eat, one should tempt him, if possible, to take food.

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[2] Congrès Français de Chirurgie,, 1898.
[3] Revue de Gynecologie et de Chirurgie Abdominale, 1897, No. 1. p. 89.

Roux states that this method of after-treatment would undoubtedly cause death in a wound badly sutured or held by a button, yet he holds that far more patients die although the operation has been well performed, because, in spite of every care in the matter of artificial feeding, they continually become weaker. These cases he believes can be saved if one is able to make them ingest something by the stomach, thereby establishing the functional activity of the upper portion of the digestive tract. Even a slight evacuation, it may be no more than gas, contributes as much to the cure as all our efforts.

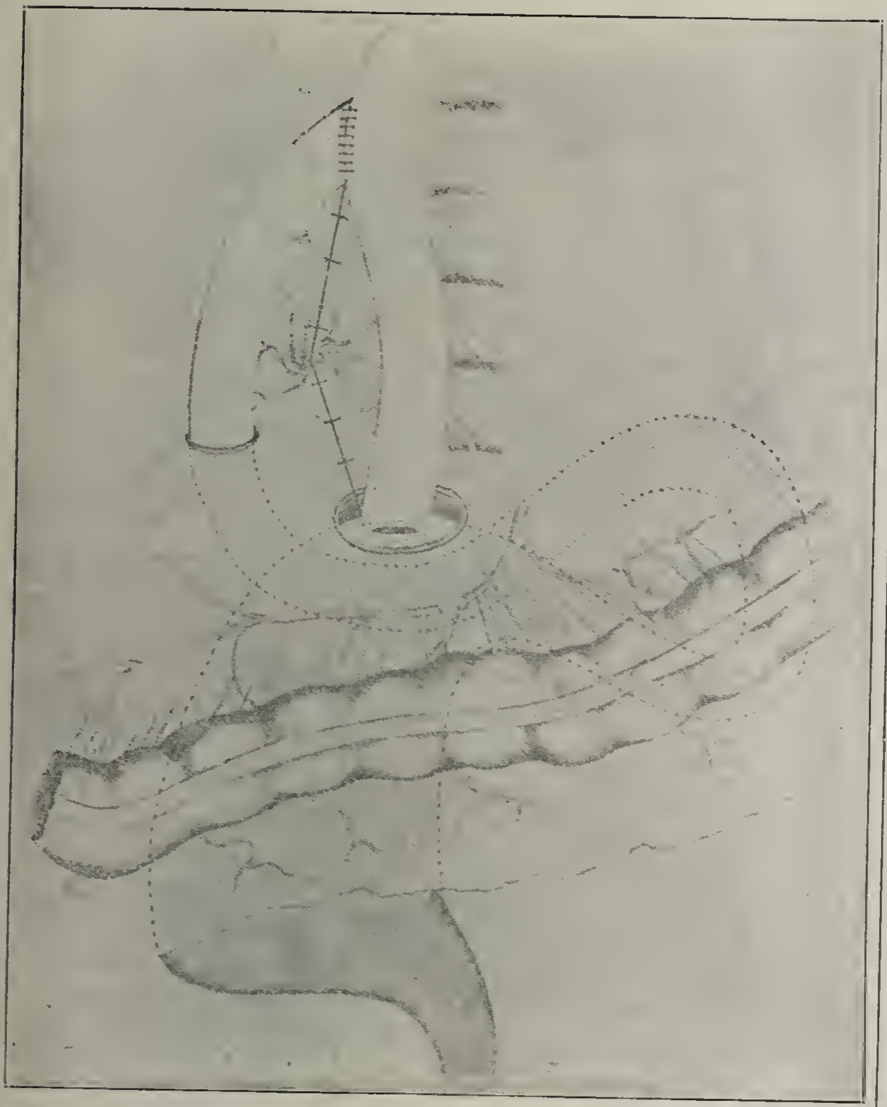

Fig. 3.—Roux's method of gastro-enterostomy "en Y."[4]

Although Keen,[5] in the Cartwright lectures for 1898, stated that the ideal method of gastro-enterostomy had yet to be discovered, I believe that the method of Roux comes very near the ideal. It is certainly ideal in the skilled hands of its inventor, though I do not believe it would give as good results as the button in the hands of surgeons but little accustomed to intestinal work; yet this should not weigh against it, for cases requiring such operation are rarely emergency cases, and can almost always take the time to secure the experienced surgeon.

Roux's mortality in 31 cases operated on by his own method is only 9.6 per cent., and in 24 cases for non-malignant stenosis he has not had a single death. Comparing the mortality with that of Chlumskij's statistics—38.09 per cent. in 231 cases operated on by Wolfler's method, and 35.52 per cent. in 152 cases operated on by Von Hacker's method—we see that while all the disadvantages of the older methods as regards the reflux of bile and food have been done away with, this great gain has been accomplished without additional risk, and, moreover, with a far lower mortality.

Roux performs his operation, without mechanic aids, in forty-five to fifty minutes. This time could probably be shortened by use of Laplace's forceps.

The cases of gunshot wounds of the abdomen received during the late war with Spain (reported by Senn, Parker and others), that recovered without surgical interference have given a new impetus to the discussion on penetrating wounds of the abdomen. It is unquestionably true that the wounds made by bullets of small caliber and high velocity, in individuals who are fasting, show a greater tendency to recovery without surgical interference than do similar wounds met with in civil practice. Under the above conditions, the holes in the hollow of the viscera are apt to be small and clean cut. The intestine being comparatively empty there is very little tendency to leakage of its contents into the peritoneum. The holes may become filled by a plug of mucus, later by organized lymph, and recovery takes place. The probability of such a desirable termination in civil practice is exceedingly small. In a large proportion of the cases occurring in civil life, these injuries are sustained by individuals laboring under great excitement, in the midst of excesses in eating and drinking—conditions which manifold the difficulties of making correct diagnoses. Not only are the difficulties of diagnosis increased, but the danger to life of penetrating wounds of the abdomen under such conditions of debauchery is greatly enhanced. Practically, the only hope under conditions like these is in prompt and thorough surgery. Is it right to waste time waiting for definite signs of hemorrhage or peritonitis? Is it right to place reliance on the hydrogen-gas test, which has only an affirmative value? Are not the dangers of increased extravasation of the intestinal contents and the delay consequent on the application of this test too great to justify its use? I am satisfied that practically each member of this ASSOCIATION would give the same answers to these questions, had he to decide them for himself. If he should receive a gunshot wound of the abdomen, apparently penetrating, with a clean, competent surgeon accessible, I feel sure he would elect immediate operation.

It is claimed, and statistics apparently bear out the claim, that when the point of entrance of the missile is above the umbilicus and the injury is received in the standing posture, there is greater probability of escape of the hollow viscera. My own observation, however, does not bear out these statistics.

In a paper read before the Southern Surgical and Gynecological Association, Memphis, Tenn., Dec. 6, 1898, and published in the *Virginia Medical Semi-Monthly*, May 12, 1899, I reported nineteen cases of penetrating wounds of the abdomen. In four of these cases the wound of entrance was situated above the umbilicus and the injuries were received in every instance in the standing posture. All four cases were subjected to laparotomy and in all them extensive injuries to the hollow viscera were found.

I do not mean to advocate operation in every case of penetrating wound of the abdomen, but I do mean to advocate operation in every case where the condition is not absolutely hopeless, or where there is any doubt as to the abdominal cavity having been penetrated. Nor would I advocate operation under all conditions, for I do not believe that there is any wound of the abdomen more dangerous than that made by a dirty and incompetent surgeon. The danger of the simple tracing under anesthesia of these wounds is very small indeed. If the abdominal cavity has been entered, it is then the duty of the surgeon to satisfy himself that no injury exists, or when damage has been done to either the solid or hollow viscera, to repair the same as far as possible.

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[4] Figures 1, 2 and 3 reproduced by courtesy of Lee Bros. & Co.

[5] Phila. Med. Jour.

Carefully prepared statistics show that recovery follows inversely to the time elapsing between the reception of the injury and surgical interference.

It is the duty of the surgeon, therefore, to decide promptly and act immediately, unless he can reconcile his conscience to that plan of "masterly inactivity" which must consign a very large proportion of his victims to untimely graves.

On account of the frequent necessity of intestinal resection in this class of injuries, I deem it proper at this point to call attention to the new operation for intestinal astomosis devised by Dr. M. L. Harris of Chicago, Ill. Dr. Harris' operation may be done very quickly (he has done it in twelve minutes) without the intervention of any foreign body. He departs from the time-honored practice of suturing serosa to serosa, and quotes Greig Smith's views as to the desirability, whenever practicable, of stitching the peritoneum to the fibrous structures. Advantages claimed by Smith and Harris for this method are stronger, better and more permanent union. Dr. Harris, in a paper read before the Chicago Medical Society, and published in the *Chicago Medical Recorder*, Vol. xii, describes his operation.

> The intestine should be divided transversely, taking care to preserve the mesentery well up to the edge. The distal end of the gut is now denuded of its mucosa for a distance of one to one and a half centimeters. This is best accomplished by means of a sharp spoon or curette, but in the absence of this the blade of a scalpel or scissors may be used. The mucosa is very soft, like the "pile" of velvet, and is very easily removed by simply scraping it off.

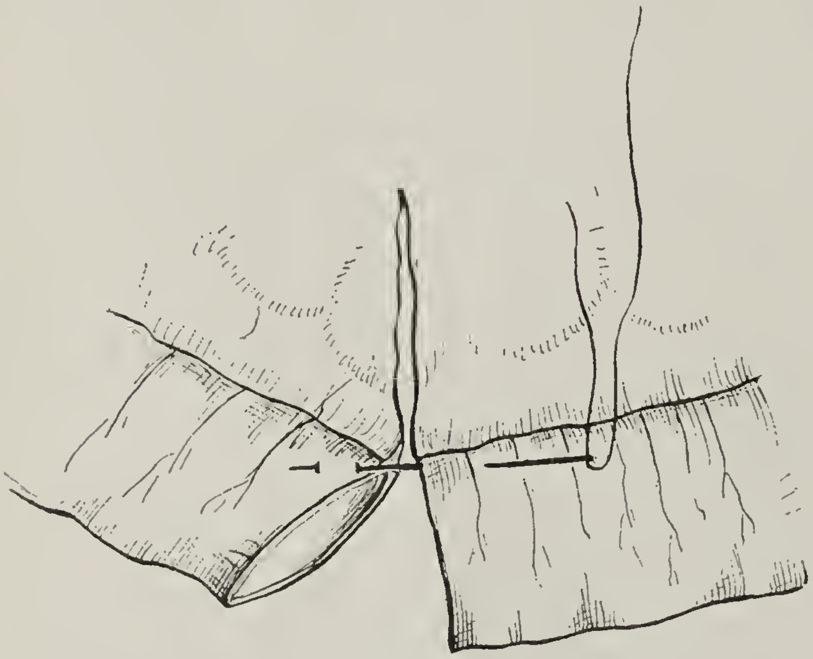

Figure 4.

> The submucosa is so tough there is no danger of wounding it. Care should be taken that all the mucosa be removed, but the difference between the soft, pulpy mucosa and the smooth, tough submucosa is so apparent to the eye that there is no difficulty in determining when this is accomplished. The hemorrhage attending this removal is slight and soon ceases. Next comes the invagination of the proximal into the distal end, and while this procedure is somewhat difficult to describe it is very easy and simple to execute when once seen or understood. Three ordinary sewing needles of a good length are threaded with fine sterilized silk. The first needle is made to transfix the thickness of the lower or denuded end of the bowel, just to one side of the mesentery, and at the inner limit of the denudation. It is not drawn clear through, but only until the point projects from the caliber of the bowel a little beyond its free edge. The point of the needle is made to pick up a bit of the other end of the bowel, transversely, just to one side of its mesentery and very close to its edge. (Fig. 4.) Now, by drawing the needle back a little and using it as a lever by turning it around its point of transfixion in the lower end, it will be readily seen that the upper end, on this side, is invaginated into the lower end as far as the part is denuded of its mucosa. The point of the needle is then pushed on through the lower end from within outward a short distance in a line transversely, where the needle is left temporarily, transfixing the bowel and holding that part of the upper end invaginated. (Fig. 5.) The

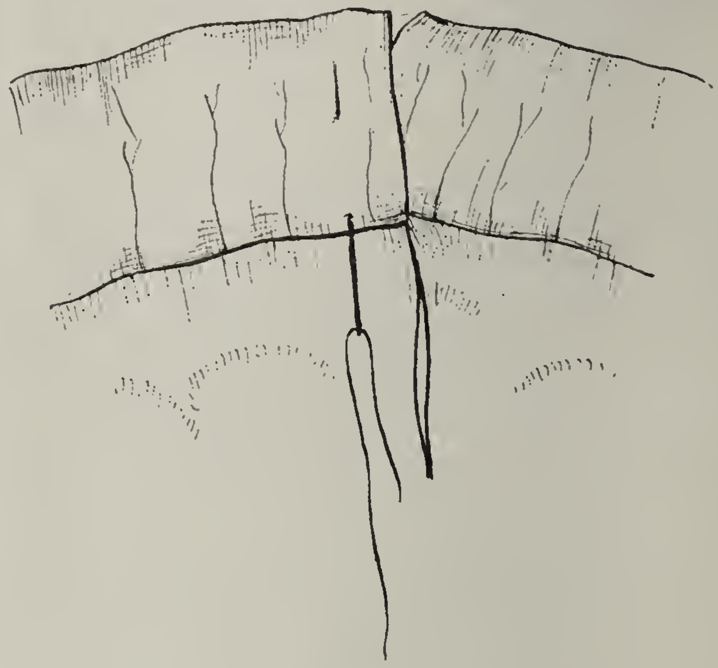

Figure 5.

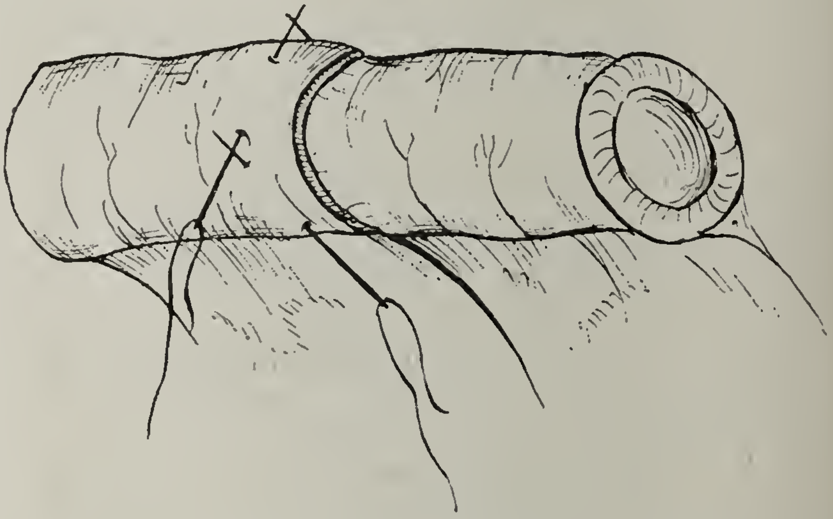

Figure 6.

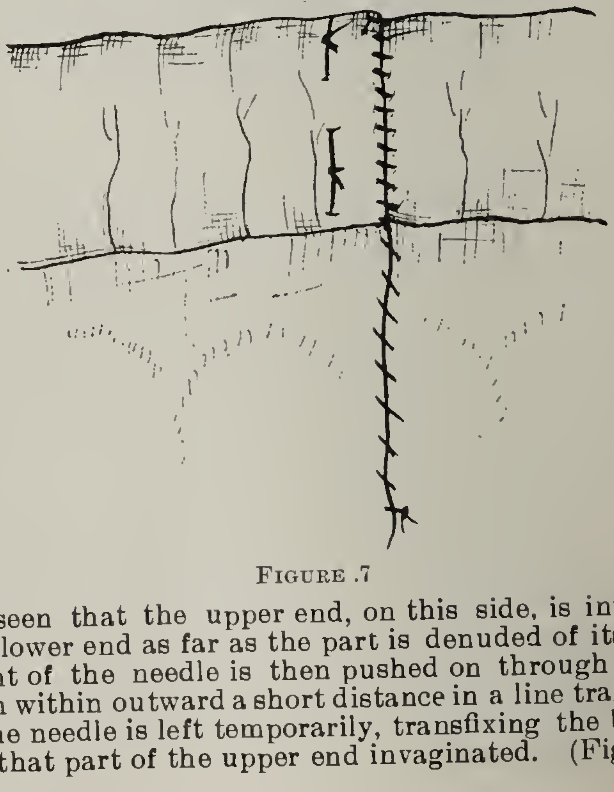

Figure .7

same process is repeated with the second needle at a corresponding point of the bowel on the opposite side of the mesentery, while the third needle is used similarly at the part of the bowel opposite the mesenteric attachment. (Fig. 6.) The needles are successively drawn through and the stitches tied, thereby permanently fixing the invaginated end to the inner limit of the denudation.

The stitches should not be too long nor too tightly tied as to pucker the bowel wall. While three stitches were originally used and described, and they are sufficient in the thicker and smaller gut of the dog, more are perhaps advisable, according to the size of the bowel in the human subject. Their object is to keep the end of the intussusceptum in accurate contact with the intussuscipiens. By an interrupted or continuous suture the exposed end of the bowel is now stitched all around to the invaginated part, care being taken not to penetrate the inner lumen of the gut. If a continuous suture be used, which, of course, is much quicker than an interrupted one, it is better to break it at least once so that when drawn tight it will not constrict the caliber of the bowel. Two or three stitches are taken on either side of the mesentery, when the operation is complete. (Fig. 7.) As will be observed there are two rows of sutures around the bowel, one at either end, thus permanently keeping the opposed surfaces in accurate contact, regardless of the varying caliber of the bowel.

The operation impresses me as almost an ideal one in suitable cases, unless a more extended trial proves that such invagination is more likely to be followed by intussusception and stricture than is liable to follow simple suture or the use of the Murphy button or the Laplace anastomosis forceps.

The question of drainage must be decided in every case where there has been much soiling of the peritoneum. General surgeons, almost without exception, prefer to drain in these cases, while a great many gynecologists close without drainage. I do not think the investigations made by Clark of the Johns Hopkins Hospital prove at all conclusively that drainage is of little value or that the drainage tract is liable to become the avenue of peritoneal infection. I am firmly convinced that many lives are saved by intelligent drainage; unquestionably many cases are drained that would do well without it.

I have collected from various sources 107 cases of typhoid perforation that have been subjected to operation. Of these 107 cases operated on, 85 died, a mortality of 79.439 per cent. I append carefully prepared tables of these operations, giving the name of the operator, the stage of the disease and the time elapsing between the occurrence of the perforation and the operation. A review of these cases shows that here, as in penetrating wounds of the abdomen, the best results are obtained by prompt operation. These tables also show that the tendency to recovery is greater where the perforation occurs late in the course of the disease. These results are most encouraging, and we may confidently expect recovery in 25 to 30 per cent. of operative cases where the operation is undertaken within twelve hours after the occurrence of perforation.

I have collected statistics of 2903 cases of appendicitis reported during 1898 and 1899; of these cases 399 died, a mortality of 13.744. I have classified these cases as interval cases, removal of the appendix during the interval; acute cases, removal of the appendix during the attack; periappendicular abscess drainage, appendix not removed; appendicitis with general peritonitis, removal of the appendix; appendicitis treated medically.

Some of these statistics were so indefinite that I found it necessary to put a large number in the unclassified list. How many of these were operations during the attack of periappendicular abscesses or appendicitis with general peritonitis it was impossible to determine. These cases properly classified might materially change the statistics of the classified cases.

There were 457 operations during the interval, with one death, a mortality of 0.022 per cent.; 874 operations were done and the appendix removed during the acute attack, with 170 deaths, a mortality of 19.45 per cent.; 238 periappendicular abscesses were drained, appendix not removed, with 59 deaths, a mortality of 24.78 per cent. In 37 operations where the appendix was removed, general peritonitis existed at the time: of these 37 cases, 22 died, a mortality of 56.75 per cent.; 896 cases were treated medically, 103 of these died, a mortality of 11.83 per cent.; 401 cases are unclassified, of which 41 died, a mortality of 10.22 per cent.

These statistics might be used in support of any of the various methods of treating appendicitis and I have presented them thus in detail, because no surgical subject during the past year has been so extensively discussed as has the treatment of appendicitis. I had translated from the *Bull. et Mém. Soc. de Chir. de Paris*, 1898, a lengthy and heated discussion extending over several months indulged in by the members of that society. The French surgeons are about equally divided for and against immediate intervention as soon as the diagnosis is made, each surgeon arguing strongly for the opinion he holds. Of the English surgeons a decided majority seem to incline rather to the medical than the surgical treatment of the ordinary mild cases of acute appendicitis. This opinion seems to be held also by the majority of the American surgeons. Almost without exception, however, surgeons throughout the world advise interval operations where the individuals have recovered from mild recurring attacks or one severe attack of appendicitis. They also advise surgical interference during the quiescent period, in cases of chronic appendicitis; in fulminant appendicitis an early operation is almost universally advised. Persistent tumor in this region with continued constitutional symptoms, whether fluctuation be present or not, demands surgical interference.

Those who advocate intervention in all cases as soon as the diagnosis is made and at all stages of the disease are not a few, and claim in their ranks many of the ablest surgeons throughout the country. Unquestionably all are equally sincere and are equally anxious to arrive at absolutely correct conclusions, and do that which will save most lives. It is doubtless also true that more than 80 per cent. of all primary attacks of appendicitis recover under proper medical treatment. These cases are, however, by no means cured, and it would be wrong to so classify them: they have simply recovered from the one attack and are ever afterward liable to recurrence with all or even greater dangers than obtained in the primary attacks.

With these facts before us, and with the strong arguments on all sides of this question, there are many of us who find it very difficult indeed to reconcile our consciences and regulate our practice by any fixed rules. There are two extremes: one representing the medical side of this question—those who claim that all cases should be treated medically—and on the other side those who claim that all cases are at all times surgical. But between these two extremes there is an army of earnest physicians and surgeons who find they must settle the question of intervention or non-intervention for themselves in each individual

	Interval cases.			Acute cases. Operation during attack.			Periappendicular abscess. Drainage. Appendix not removed.			Appendicitis—with general peritonitis.			Medically treated.			Unclassified.			
	No. cases.	Deaths.	Per cent. Mortality.	No. cases.	Deaths.	Per cent. Mortality.	No. cases.	Deaths.	Per cent. Mortality.	No. cases.	Deaths.	Per cent. Mortality.	No. cases.	Deaths.	Per cent. Mortality.	No. cases.	Deaths.	Per cent. Mortality.	Total per cent. mortality.
Richardson and Brewster	151	0		284	63								180	31					615-94=15.28
Rotter													192	51	26.51				192—51=26.51
Czerny	26	0	0	15	5	33.3	13	3	23.07										54—8=14.81
Southam	5	0	0				3	0	0	1	1	100							9—1=11.11
Cordier																16	0	0	16—0=00
Crile																62	2	3.22	62—2=3.22
Chadwick													2	2		3	0	0	5—2=40.00
Sawyer																1	0	0	1—0=0.0
Herrick				1	1	100													1—1=100.00
O'Connor				20	0	0													20-0=0.0
Rutier	35	0	0	33	0	0				24	11	45.83							92—11=11.95
Walther	5	0	0	10	1	10	2	0	0										17—1=5.88
Walther	23	0	0				2	0		2	1	50							27—1=3.7
Kummel	104	0		4	0														108—0=0.0
Armstr'ng	84	0	0	305	63	20.65							228	7	3.07				617-70=11.34
Porter. Webster	14	1	7.14	149	29	19.46	208	54	26.44				95	13	13.68				466—97=21.03
Hawkins.													190	0	0	84	37	44.04	274—37=13.14
Sullivan													1	0	0				1—0=0.0
Homans							2	2	100										2-2=100
Deaver																235	2	.85	235-2=.85
Walker				4	0	0	2	0	0				1	0	0				7—0=0
Rodman	1	0	0																1—0=0
Hamilton							1	0	0										1—0=0
Boone							1	0	0										1—0=0
Porter	1	0	0				1	0	0				2	0	0				4—0=0
Bryant	7	0	0	3	1	33.3													10—1=10.00
Long, G. W.				1	0	0													1—0=0
Stirling				37	7	18.91	1	0	0	6	6	100							44—13=29.3
Long, W. J.	1	0	0	1	0	0				1	0	0							3—0=0
Long, (N. C.)				1	0	0							2	2	100				3—2=66.66
McCoy				5	0	0	2	0	0	3	3	100	3	0					13—3=23.07
Moore				1	0	0													1—0=0
Total number cases 2903—Deaths 399. Total percentage mortality 13.744.	457	1=	.0221	874	170=	19.45	238	59=	24.78	37	22=	56.75	896	106=	11.83	401	41=	10.22	. . . .

case. It seems to me manifestly wrong and unscientific to lay down dogmatic and inflexible rules for the treatment of a condition so protean in type. One of the strong arguments against always operating as soon as the diagnosis is made is that the time of making the diagnosis is so variable. It is sometimes made immediately, sometimes only after several days, or even weeks, have elapsed.

That the diagnosis of appendicitis should be made early, I readily concede. Only exceptional cases should prove at all confusing to the practiced diagnostician. But we must deal with facts as they are, not with ideal conditions. The diagnosis of appendicitis is not always promptly made. Every surgeon who sees much of this disease knows that a large number of the cases have gone beyond the period of early intervention when first seen by him. Then it seems to me he should be guided in his advice by the conditions that obtain. If the case is progressing favorably—good facial expression, pulse, temperature improving, less pain, tenderness and muscular tension—I think it best to wait and operate after the acute symptoms have subsided. That some of these cases will die, that an operation might have saved, is true; but would not a larger number die if all were subjected to immediate operation? This is the question that must be settled. It can only be settled permanently by fair and impartial statistics gathered from both medical and surgical sources—statistics that are definite in all essential details.

My personal experience comprises between 125 and 130 cases of appendicitis. I have operated 37 times on 35 individuals. Of the 37 operations done by myself, in 5 I simply drained large abscesses late in the disease and the appendices were not removed. In all these cases firm, strong adhesions existed, and the abscesses were surgically extraperitoneal. In none of them was the general peritoneal cavity opened. Of these five abscess cases, one has gone more than six years without the slightest symptoms of recurrence. One died a few months after the operation, from entirely independent causes; 1 has gone two years and 1 a year without recurrence. The other case suffered constantly for one year with a persistent fistula and frequently recurring abscesses. I removed the appendix in this case just exactly one year from the date of the primary operation. I have operated 7 times in this interval; all cases cured. I have removed the appendix fourteen times during acute attacks. All of these cases were pus cases and in all the general peritoneal cavity was opened. In three of them there was beginning general peritonitis, the infection having extended from perforated or gangrenous appendices to the peritoneum. In none of them was there pus in the peritoneal cavity. In one case there was a large perforation right at the cecal attachment of the appendix which had evidently occurred a short while before the operation, and there was a considerable quantity of fecal matter in the peritoneal cavity. Of these 14 cases all except 1 recovered. That was a very simple operation. The man's general condition, however, was very poor, as his attack came on in the midst of a protracted drunken spree, and he had retained absolutely nothing on his stomach for three days prior to the operation. After the operation the vomiting persisted until his death, which occurred four days later. There was no apparent general peritonitis following operation—no post-mortem.

I have attended as physician or seen as consultant over 60 cases of appendicitis that were treated medically. Of those 60 cases, 6 had peritonitis of several days' standing when I first saw them, and 1 died just as I entered the house. In all of the 6 cases I advised operation as the only hope, but in every instance it was declined; all died. The other cases treated medically recovered from these attacks; 3 were subsequently operated on by myself in the interval. A number that I have kept under observations have had no recurrence, but the large majority I have been unable to follow up. I have seen in consultation and assisted other surgeons in 15 or 20 operative cases, but have kept no records except of my individual cases.

Medical treatment or the simple drainage of periappendicular abscess can not be considered curative. In a certain proportion of these cases—just what proportion no one can say in advance—no further trouble is experienced, but in by far the greater number there will be recurrent attacks. There is much less confidence felt now in the complete destruction of the appendix by the suppurative process. Where these abscesses had simply been drained, many that had apparently recovered required radical operation later. The statistics show a very large mortality in this class of cases. When we take into consideration the large mortality following the operation and subsequent danger to the individual, one would hardly seem justified, except in extreme cases, in allowing the appendix to remain. There are cases, however, where it seems to me to be good surgery to drain the abscess primarily, to get the patient into better condition, and remove the appendix later, when the operation can be done under much more favorable circumstances. A very large proportion of the cases of appendicitis operated on during an acute attack where drainage is employed will eventually develop ventral herniæ. Every one of my cases except one, where I had to leave drainage for forty-eight hours or longer, has a ventral hernia. Some of these herniæ are very small and cause no inconvenience; one or two are quite large, requiring support. The greater danger of ventral hernia following operations during the acute attack is to be considered.

I have just been the victim of an acute attack of appendicitis myself. My attack was sharp, decided, and the acute symptoms lasted about five days. I decided for myself, just as I would have for a patient with a similar attack, to treat the case medically, watching every development with the utmost care, and as soon thereafter as practicable I had the operation done in the interval. I was operated on May 13, 1899, by Dr. W. T. Bull of New York, just exactly three weeks from the beginning of the attack, and a little more than two weeks after all the acute symptoms had subsided.

I believe it would be safest to operate on every case of appendicitis if the operation could be done within twelve to twenty-four hours from the onset of the attack.

Every case of fulminant appendicitis is an operative case, and medical treatment is useless.

I believe every individual who has recovered from a decided attack of appendicitis should be advised to have an interval operation done.

Every case of relapsing appendicitis should be operated on during the quiescent stage if possible.

If after forty-eight hours, under appropriate medical treatment, there is a distinct improvement in all the symptoms, I should be in favor of continuing the medical treatment under careful surgical supervision. If, however, the symptoms are progressive in the face of medical treatment, immediate operation is indicated. A sharp recurrence of the acute symptoms during the progress of a medical case pursuing an apparently favorable course also indicates operative interference.

According to my observations children under 12 years of age bear appendicitis poorly and should be operated on at once. I have seen 10 cases of appendicitis in children; 4 of these I saw only when they were practically moribund from general peritonitis; 1 died on the third day, 1 on the fifth, 1 on the eighth and 1 on the tenth day from the onset of the disease. All were treated medically throughout. In all except the first I advised operation as the only hope, but surical intervention was declined. I have removed the appendices of three children; all recovered, I assisted one of my friends in Atlanta in two operations on children; 1 died, the other recovered—1 case seen in consultation, where I advised operation recovered from the attack. The five operations on children revealed conditions from which it would have been absolutely impossible to have recovered without surgical interference. Appendicitis is a surgical disease and every case should be considered from a strictly surgical standpoint.

It is very pleasant indeed to pass from this subject to that of hernia. It is especially pleasant to consider the brilliant work that has been done in the radical cure of hernia by American surgeons—notably Marcy, Bull and Coley, De Garno and Halsted. To Dr. Marcy of Boston more than to any living surgeon perhaps belongs the credit of first advocating the closure of the separate layers of the hernial incision with buried animal sutures, and it was he who demonstrated to the profession the value of kangaroo tendon, of proper quality and carefully prepared, which seems to be the very best material for suturing the deeper layers and the radical operation for the cure of either inguinal or femoral herniæ. The mortality of the operation is probably less than 1 per cent. The percentage of recurrences is comparatively small.

Peritonitis—Cases reported by		Operations.	Deaths.
Sir Spencer Wells, 1862		1	0
Cecherelli, several years later		88	33
Tezebicky, 1888 (collected)		54	14
Kummel		40	5
Tait, 1888		1	0
Tait (subsequently)		8	2
Webster	Treves	100	70
	Kaiser	30	19
	Korte Mickulicz Kronlein	40	29
	Krecke	119	68
	Hawkins	11	11
Kirmisson		1	0
Van Arsdale		13	4
Van Arsdale, 1898		10	5
Lilienthal		6	4
McCosh		6	6
Middleton		1	1

Total of 601 cases, with 317 deaths or 52.41 per cent. mortality. The last case (Dr. Middleton's) died forty-eight years after operation, of heart failure.

Typhoid Perforations.—Platt, in London *Lancet*, February, 1899.

Peritonitis—Cases reported by	Cases.	Deaths.
Keen (recent collection)	83	67
Platt	3	2
Nicholas	2	1
Gesselewitsch and Warrach	1	1
Gesselwitsch and Warrach (case of Poders)	1	1
Deaver, J. B	1	1
Deaver, H. C.; reported by J.B.D.	1	1
Burrall and Bottomley	2	1
Handford and Anderson	2	1
Goodall	1	1

Woodward	1	1
Cushing	3	2
Bigger and Campbell	1	1
Taylor	3	2
Abbé	2	2

Total number of cases, 107; deaths 83; percentage of mortality 79.439.

Successful cases.—Mickulicz, 1884; Wagner, 1889; Van Hook, 1891; Abbé, Wetschajew and Trojanow; Dandridge and Fenaresi, 1894; Hill, Murphy, Price (two cases); Watson, Sifton, 1895; Finerly, Brunton and Bowlby, 1896; Fauton, 1897; Deaver, Burrall and Bowlby; Handeford and Anderson-Cushing, 1898.

In England thirteen cases are on record, including Platt's and excluding doubtful case of Greig Smith.

Time between perforation and operation in 69 of the 103 cases.

Time between perforation and operation.	Number of cases.	Recoveries	Percentage of recoveries.
Under 12 hours	17	4	23.5
From 12 to 24 hours	26	9	34.6
From 24 to 48 hours	14	1	7.1
From 2 to 3 days	6	2	33.3
From 3 to 4 days	4	0	.
Five days	1	0	. .
Thirty-eight days	1	0	. .

Stage of Disease.—Analysis of 76 of the 103 cases.

Perforation in course of	Cases.	Recoveries.
First week	3	2
Second week	16	3
Third week	33	6
Fourth week	5	1
Fifth week	5	1
Sixth week	1	1
Seventh week	1	1
During convalescence	3	2
Relapse	6	1
Convalescence from relapse	2	1

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Pathogenesis of Gout.—Zagari of Naples has recently reported the results of extensive research in regard to gout. He accepts De Renzi's classification of the cellular elements in the general metabolism: albuminates which produce urea and nucleins which produce the alloxur bases and uric acid. The eliminated uric acid is not an index of the gouty process and is not the essential cause of gout. This is to be sought in disturbances in the life of the cell nuclei of those tissues which are affected in gout. With defective metabolism, the deposits of their chief product, uric acid, are eliminated from the cell. Increased production and elimination of uric acid are by no means peculiar to gout. They also occur in leukemia, in epilepsy, with the application of electricity and with the ingestion of substances rich in nuclein, such as the calf's thymus. There may be in these cases a process similar to that of gout, only in other tissues; in the circulating leucocytes and blood-forming organs in leukemia, or in the nervous system with epilepsy, chorea and hemicrania. He mentions a number of cases in which temporary inflammatory processes in the lymphatic system were observed, and also asserts that the liver and spleen participate in the production of uric acid.—*Munch. Med. Woch.*, May 9.

Address.

CHAIRMAN'S ADDRESS.*

BY A. H. CORDIER, M.D.

KANSAS CITY, MO.

I assure you I feel that the words at my command are inadequate to express my appreciation and thanks for the honor you have conferred on me in selecting me for your chairman. It is an honor of which any one, I am sure, should feel proud. To preside over a Section composed of the stars of the gynecologic world is a function of much honor and responsibility—the responsibility for a successful meeting not falling alone on the officers of the Section, but on each individual, as on your co-operation hangs the success of this meeting. I desire to express my thanks for the efforts of each member of this Section; and to your worthy secretary, Dr. W. D. Haggard, too much praise can not be given for his untiring efforts and enthusiastic zeal in the arranging of the excellent program for our work.

The most difficult task to me, as your chairman, has been the writing of this address. I fully realize that the membership of this, the most important Section of the greatest medical society in the world, is made up of the representative hard-working and most scholarly gentlemen in the territory in which they reside. A recognition of this fact, I assure you, does not make the writing of an annual address more easy—far from it. I realize that each and every one present, during the past year has kept himself thoroughly informed on the progress in our special department, hence what I may say to you in this paper is merely the performance of a duty as prescribed by the by-laws of the Association.

It is a pleasure to review the progress made in gynecic and pelvic surgery by American physicians. The birthplace of most gynecic operative procedures is found within the domain of the United States, the originator in many instances having been at some time a member of this Association. What an inheritance for operators of to-day! Review the list and it is inspiring. We doff our hats in humble adoration to those who, by their labors, have smoothly paved the way and removed the stumbling-blocks of difficulty and uncertainty.

We owe our predecessors a debt of gratitude that we can only pay in installments by accepting their good precepts and endeavoring to follow or improve the same when possible. The great work of our faithful and skilled predecessors would soon become a lost art and the wheel of scientific progress cease to turn forward were it not for the labors of the members of our profession who are not content to idly look on at the suicide of the created works and results of the past masters of our art. "Perpetual work is the law of art, as is the law of life."

The supreme benefit of these annual meetings exists in the remembrance of the priceless works of those who attend and enter into these discussions.

The beneficent yield of the fruits of the labor of those gone before is gathered by us to-day, and a new crop sown, with cultures of modern technic as the fertilizer. The architects and pattern-makers of much of our work of to-day wrought long ago and have passed on, their places being filled by others. The yoke is taken up by the younger generation at the point where it was laid aside by those pioneers. Sufficient traces of their noble designings have remained to show us that they must have been masters at the period in which they lived.

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*Presented to the Section on Obstetrics and Diseases of Women, at the Fiftieth Annual Meeting of the American Medical Association, held in Columbus, Ohio, June 6-9, 1899.

"Originality, after all, in most instances is the ability to do better what has been done before." Many old and long since abandoned surgical procedures have been resurrected under new names and made life-saving and comfort-giving methods by the skilled modern gynecologists. While the above statement is in the main true, yet as we reflect on some of the abandoned ideas or practices of a few years ago, there comes a feeling of sad enlightenment, a sagacity that lays our errors bare and leaves us without excuse in our own eyes. The adaptability of the human intellect in the selection of the good and worthy and the just rejection of the harmful and useless is nowhere better amplified than in the noble profession to which we have the honor to belong. It is true, too many modifications of ideal surgical procedures have been placed before our profession by over-zealous members, but when tried and found wanting they have been quickly rejected, thrown into the rubbish heap, to remain unless resurrected by some one to follow who has not kept abreast with the history of their birth, life and death.

> Life is a leaf of papers white,
> Whereon each one of us may write
> His word or two, and then comes night.

The justifiability of removing the uterus for cancer of that organ remained in the balance for a long time, but I trust the merits and limits of this procedure are settled on the side of surgical interference when resorted to early. While statistics of cures and failures of cures vary according to the experience of various surgeons, I feel safe in saying that while quite a percentage of the cases operated on remain cured, the post-operative history of these cases is not yet what we desire. Early recognition and prompt, thorough surgery offer the solution in part to this disappointment. Carbid of calcium, a remedy a year ago lauded very highly as a cure for cancer of the uterus, in the hands of several has had fair and faithful trial, but has been found to be no better than other remedies used for this disease, all being failures as cures.

With a better knowledge of the pathology and progress of pelvic diseases in the female, the gynecologist of to-day is in a position to intelligently advise the course to be pursued in the management of the same.

The question of most importance to us to-day is one of early and correct diagnosis, for on early discoveries the all-essential problem of prophylaxis and cure hangs.

The early detection of a gonorrhea and its proper management by the necessary local treatment and the avoidance of intrauterine sounding have materially reduced the number of tubal and ovarian specific diseases.

I am sure most surgeons will agree with me when I say that fewer suppurating tubes and ovaries are removed to-day than five years ago, not so much because these structures are being saved by the so-called conservative incisions, etc., but that there are fewer of them to treat. A few years ago the French and German gynecologic schools startled the surgical world by a dazzling array of statistics of cases of suppurating pelvic diseases operated by vaginal enucleation of the uterus and all, or part, of the diseased tubes and ovaries. This idea was quickly adopted by a number of our very best American operators, while the procedure was as vigorously opposed by others in the United States equally as skilled. A war was inaugurated, in which vaginal retractors, vulsella, tissue forceps, vs. the scalpel, fingers and ligatures were the weapons, the combatants being the leaders of the two schools, both claiming the field by favorable reports. While the conflict is not settled in the minds of many, all are agreed that there are good ideas and correct surgical principles in both methods in selected cases. Yet I am disposed to believe that the abdominal route for dealing with adherent and suppurating tubes and ovaries will remain the route of choice by the majority of American pelvic surgeons, the mortality by this method being low, the surgery complete and the relief nearly perfect. The local treatment of diseased conditions of the female pelvic organs, when amenable to such treatment, the removal of the same by surgery when otherwise incurable, in the insane and the neurasthenic, are justifiable and established procedures, and need no argument, plea nor excuse for their existence. The neurologist and gynecologist should get together on this subject, and by so doing many insane women will be restored to comfort and bodily health and in many instances to a physiologic mental state. Careful selection of cases, early diagnosis and cautious prognosis as regards the mind, but relief of pain and better health should be the promise in dealing with the insane patients with diseased pelvic viscera.

As the general practitioner becomes more familiar with the clinic phases of ectopic gestation and recognizes the dangers of the same, this condition is found more frequently. It is a common expression from a physician of a long experience, after witnessing an operation for ruptured tubal pregnancy, to say that he can now recall two or three cases of ectopic pregnancy in his experience that was a mystery at that time but clear to him after seeing a case operated on and getting the clinic history of the same. All cases of ectopic pregnancy should be operated on as soon as the diagnosis is made, unless in the latter months of pregnancy; when it may be advisable to wait until the end of gestation with the view of saving the child, this procedure should be a questionable one. The abdominal route is the safer and surer route by which to approach a ruptured and bleeding tube. I persuaded myself, after hearing the discussion on this topic at the Denver meeting last year, to open the vaginal vault in a case of ruptured tubal pregnancy, and a hemorrhage, such as I have never witnessed elsewhere, immediately began and was controlled only by quickly opening the abdomen and securing the bleeding surface with a good silk ligature. Early diagnosis of this condition and immediate and complete surgery offer the greatest chances for the patient's recovery. The everpresent danger to the woman in placenta previa is more frequently recognized by the profession than a few years ago. The surgical management of the same has lately been revived by Mr. Tait. No one who is competent to perform an abdominal hysterectomy, having under his care a case of placenta previa, should fold his arms and wait for nature to safely and successfully manage the case. It took years of missionary work to convince the profession that the destruction of a healthy, living child, undelivered from a contracted pelvis, was not only wrong but a useless sacrifice of a human life, the mortality to mothers being far greater than that of a Porro or Cesarean section in skilled hands.

Kroenig has shown antepartum douches to be not only worthless but positively harmful. His experiments proved that the vagina is naturally sterile in as far as concerns infective bacteria, and that if douches were given in cases where the vagina had been inoculated with the streptococci and staphylococci, these germs were not destroyed by antiseptic douches, and it took the vaginal secretions from nineteen to thirty-six hours to destroy the microbes that, without the douche, would disappear in from eleven to twenty-four hours. A large percentage of the cases of puerperal fever are due, as is claimed, to unclean fingers and introduction of infected instruments. Douches may be used at the time of labor in women who have gonorrhea, with the sole idea of protecting the child's eyes, yet it is a more certain plan to rely on the prophylactic idea of dropping a drop of a 5-grain nitrate of silver solution into the infant's eyes immediately after birth.

The use of diphtheria antitoxin as a prophylactic and curative measure in this, the most dreaded disease of childhood, has passed beyond the experimental stage and is to-day almost universally used even by those who were not early converts to its certain virtues. The introduction of serotherapy in other channels up to this time is in the experimental stage, but I feel sure that in the near future other diseases, septic in character, will be successfully combated by this form of treatment.

The subject of most interest to the Section in the line of infective processes being puerperal fever, it has been shown that micro-organisms of seeming identity are capable of generating different poisons under modified surroundings. This being true, the last endeavors have been the use of immunizing and curative doses of the streptoserum in puerperal infection, this being obtained from animals infected by a number of different streptococci, as in the laboratory of Louvain, where animals are being injected with as many as five different varieties of septic micro-organisms—a species of shotgun bacterial prescription. In the Borough of Manhattan, N. Y., during the last year, there were 376 deaths from puerperal diseases. Thus it would seem that there is much yet to be done in the prevention and cure of this disease of the puerperal woman. In a late paper by Dr. S. S. Jones of New York City, he calls attention to the use of Credé's ointment of silver in puerperal sepsis. He says Credé uses a 15 per cent. ointment containing soluble uncombined metallic silver, using three grams for the initial inunction, about four grains of pure silver being absorbed into the system. In local processes the inunctions were made as far away from the seat of the disease as possible. He found that in acute and recent cases one inunction was usually sufficient to effect disinfection of the system in from twenty-four to thirty-six hours. Improvement was usually observed in ten hours; "indeed, it was so sudden as to astonish both physician and patient," says Dr. Jones.

"This silver salt occurs in small, hard pieces, having a greenish metallic luster, but when subjected to trituration it becomes pasty and assumes a yellowish tint." A 15 per cent. ointment is rubbed into the skin on the inner side of the thighs. It is presumed, in the management of these cases, that by the use of this salt all pus pockets in the pelvis are emptied by surgical methods, the treatment being reserved for purely simple septicemic cases. While this report is one very favorable in character, endorsing the use of the silver ointment, I feel that time and its further use will bring disappointment.

Original Articles.

A STUDY IN PERSPIRATION.*

ORIGINAL RESEARCH IN ONE HUNDRED AND THIRTEEN CASES.

BY JULIUS H. HOELSCHER, M.D.
Attending Physician German Hospital, Alexian Brothers Hospital; Member Chicago Medical Society, Chicago Society of Internal Medicine, American Medical Association, etc.; Professor of Internal Medicine, Chicago Clinical School.
CHICAGO.

This paper deals with 113 individual analyses of human sweat, of normal and abnormal subjects It will be conceded that the study of sweat has been overlooked, and before we can fully appreciate all that pertains to it, it is essential that we familiarize ourselves with the composition of normal sweat, and how certain drugs modify its composition. I submit the following arrangement: 25 cases of passive, normal sweats; 22 cases of passive, normal, sodium salicylate sweats; 25 cases of passive, normal, pilocarpin sweats; 10 cases of passive, normal, acetanilid sweats; 7 cases of passive, normal, quinin sweats, and 24 miscellaneous sweats.

The chemic analysis is limited to the determination of reaction, specific gravity, total solids, organic and inorganic, urea and nitrogen. The quantitative analysis of phosphates, chlorids, etc., will be taken up at a later time.

A chemist can readily appreciate the difficulties one would encounter if all the ingredients of human sweat were to be isolated from a single specimen; because it would require a large quantity of sweat, which in many instances could be utilized for analyzing only one ingredient. The incentive for undertaking this work is based on the fact that we are constantly using the skin for eliminative purposes in many abnormal conditions, such as uremia, rheumatism, diabetes, neurasthenia, auto-intoxication, septicemia, etc., without having a well-defined knowledge about what the skin is eliminating in a given case under normal or abnormal conditions.

Urinalysis has obtained a very important position; sweat analysis has been neglected and may play a more or less important part in the practice of medicine. Before proceeding with the analysis I will briefly review the history of perspiration as far as I have been able to obtain it from some of the literature now written.

Aliparido Noriggia is impressed by the similarity between sweat-glands and kidneys and the similarity between substances excreted by both, being more abundant in the urine. He kept a patient on a vegetable diet until the urine remained alkaline, then gave a bath and induced sweat by means of active exercise. The sweat so obtained gave an acid reaction; the urine, on the other hand, retained its alkalinity. Repeated experiments always gave the same results.

In the next trial a mule was fasted until the urine was acid and remained so; when sweated, the perspiration was alkaline. A sick horse was fed on an animal diet until urine remained acid; the sweat gave an alkaline reaction. He draws the conclusion that the sweat of herbivora is always alkaline, no matter what the reaction of the urine may be, and that the human sweat is always acid.

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*Read before the Chicago Society of Internal Medicine.

Dr. J. A. Wesener, who made all the chemic analyses for me, has observed some neutral reactions and once it was faintly alkaline; this in individuals, however, who had been sweated profusely once in forty-eight hours two or three times successively.

Dr. K. B. Hofmann, "Ueber Chromidrosis," found blue sweat which contained indigo; in several syphilitic females he found a magenta-red sweat under the axilla, which colored the linen an ochre yellow; treated with alkalies, it became red.

Duremberg and Peter found urea in sweat.

Trumpy and Luckinger, in Zurich, found normal sweat of acid reaction. That from cats' paws gave an alkaline reaction. Sweat from man was found alkaline if brought on by exercise; or if induced by pilocarpin, the reaction was always alkaline; however, if the skin was not thoroughly cleaned the reaction was acid, but soon became alkaline as the perspiration continued. They assume that the acidity is due at first to the sebum found in the sebaceous glands, which is washed out after prolonged sweating. (Here I would mention that I encountered material difficulty in properly interpreting the reaction with litmus paper, because it is not sensitive enough, and therefore submitted the question to Dr. Wesener in order to avoid error. I have already mentioned the fact that repeated sweating of one individual does apparently result in a neutral or faintly alkaline sweat.)

Turbini found jaborandi sweat acid even when the patient had been kept on a vegetable diet for one week.

Vulpian found the reaction of sweat from dogs' paws alkaline.

Turbini Anserinno found that jaborandi increases sweat at the ratio of 239 to 100. The reaction before and after was acid.

Stefano Copranica obtained 450 c.c. of sweat by means of a steam bath. Its specific gravity was 1005–1006. He found sulphur by the spectroscope, and creatinin by means of Weil's reaction.

Babesin found a red perspiration in the axilla, evidently due to ovoid bacteria which formed zoöglea masses. Treated with sulphuric acid it turns violet, and later violet-blue. Nitric acid causes the masses to change to a light yellow and then, when treated with alkalies, they assume their original color.

A. Kast writes about aromatic products in human sweat. The sweat of convalescents was collected in a bath tube. The fluid, after being chemically treated' gave the following results: .2422 gm. of normal sulphates, .022 gm. of aromatics. The internal administration of salol altered the proportion in sweat as compared to urine. Normally, the ratio of aromatic sulphates was about the same in sweat and urine. The ratio of inorganic salts of sweat, compared to the same of urine, was:

	Chlorids.	Phosphates.	Sulphates.
Sweat	1	.0015	.009
Urine	1	.132	.397

By distillation phenol and oxyacid were found.

Biusine found malic, succinic and benzoic acids in the sweat of herbivora.

C. Tichborne found uric acid in sweat after using a Turkish bath.

G. B. Gueriolo reports the sweat of smallpox, malaria, typhus fever and rheumatism toxic to rabbits.

A. Leblerc says that the white foam of horses' sweat contain urea, chlorids and a coagulate proteid or albumin.

Dr. Fred Smith found that horse sweat is not modified by pilocarpin; he also found albumin in horses' sweat.

P. Argutuisky found nitrogen in two specimens of sweat; one contained total N of .2475; the other total N of .2555.

L. Devoto obtained sweat by means of a hot-air bath, and by means of chemic processes found acetone in two cases of malaria, one case of typhoid fever and one case of diabetes. In 2000 c.c. of normal sweat, he always obtained a reaction for acetone.

Ernst Heuss says the reaction of normal sweat is acid, except when very profuse, it reacts alkaline or neutral.

F. Gaube found normal sweat acid, while that of horses, oxen, cats and pigs was found to be alkaline. He found urea and .425 per cent. of albumin in human sweat, also pepsin, diastase and other ferments; in horses, 15.6 per cent. of albumin.

Erich Harnack found in a case of rheumatism, total solids, 91 per cent., .24 per cent. of this being organic and .67 per cent. being inorganic: .52 per cent. NaCl or $K.H_2P_4$—.01 magnesium phosphate.—.06 H_2SO_4 .05 potassium. The urea represented one-half of the inorganic substance.

N. Nironowitsch, in reference to the excretion of medicinal substances, found that the sweat of syphilitics treated by mercury salts contained more mercury than the urine.

Charles Colombo says massage increases the amount of sweat, which, however, was poor in urea, potassium and acids, but rich in sodium chlorid. The reaction was alkaline.

G. B. Guerrolo injected sweat into the veins. Normal sweat was non-toxic; that of smallpox, typhoid fever, articular rheumatism, was very toxic; that of tetanus was non-toxic.

S. Arloing says dogs were susceptible, guinea-pigs and rabbits less affected; 10-15 c.c. of normal sweat, by intravenous injection, will usually kill a one-kilogram dog; 20-25 c.c. is necessary to kill a one-kilogram rabbit; 20 c.c., a one-kilogram guinea-pig.

Capitan and Grey found sweat collected under aseptic conditions to be non-toxic; 20-60 c.c., by intravenous injection into a rabbit, produced no action.

Arloing found the sweat of active exercise one-fourth more toxic than passive sweat. The variation of toxicity runs parallel with the toxicity of urine.

Naveozannis says there are many conflicting opinions in reference to toxicity. Guerrolo and Calitso injected 60-100 c.c. sweat without producing toxic symptoms.

Naveozannis found that 60 c.c. were fatal to a rabbit, death following in twenty-four hours. Two rabbits died within an hour. Smaller doses produced emaciation, lasting about four or five days. Immediately after the injection there was a slight rise in the temperature, and exhaustion; paresis of hind extremities, hemoglobinuria and hematuria. Post-mortem usually found kidneys and intestines congested. The sweat possesses slight antiseptic properties toward the bacillus pyocyaneus.

PILOCARPIN PASSIVE SWEATS OF NORMAL INDIVIDUALS.

Number	Reaction	Spec. Grav.	Quantity	Total Solids	T. Inorganic	T. Organic	Total Nitrogen	Total Nitrogen Urea	Total Urea	% Solids	% Inorganic Solids	% Organic Solids	% Nitrogen	% Nitrogen Urea	% Urea
1	Acid	1.0065	60 c.c.	.78720	.41760	.36720	.04590	.03180	.06840	1.3120	.6960	.6120	.07650	.05300	.11400
2	"	1.0038	125 "	.94162	.44825	.493375	.08625	.05400	.11500	.7533	.3586	.3947	.06900	.04320	.09200
3	"	1.005	95 "	.90563	.38000	.27665	.06260	.03942	.08360	.9533	.4000	.5533	.06530	.04150	.08800
4	"	1.002	100 "	.57700	.23300	.34400	.04480	.03000	.06400	.5770	.2330	.3440	.04480	.03000	.06400
5	"	1.003	120 "	.92790	.42396	.50400	.08040	.05376	.11520	.7733	.3533	.4200	.06700	.04480	.09600
6	"	1.0034	120 "	.84792	.28800	.55992	.08511	.05376	.11520	.7066	.2400	.4666	.07093	.04480	.09600
7	Neutral	1.0046	600 "	5.71980	2.7600	2.95980	.34680	.22920	.48000	.9533	.4600	.4933	.05780	.03820	.08000
8	Acid	1.0045	120 "	2.31990	.38712	1.93284	.10200	.07872	.16800	1.9333	.3226	1.6107	.08500	.06560	.14000
9	"	1.007	140 "	1.56800	.79240	.77500	.10262	.06280	.13346	1.1200	.5660	.5540	.07330	.04486	.09533
10	"	1.003	240 "	1.22544	.63024	.59520	.12312	.06624	.14064	.5106	.2626	.2480	.05130	.02760	.05860
11	"	1.004	160 "	2.38928	.66128	1.72800	.10844	.08528	.18128	1.4933	.4133	1.0800	.07740	.05330	.11330
12	"	1.005	100 "	1.20660	.56660	.64000	.08120	.05520	.11730	1.2066	.5666	.6400	.08120	.05520	.11730
13	"	1.002	250 "	1.63325	.46000	1.17325	.14500	.09550	.23650	.6533	.1840	.4693	.05800	.03820	.09460
14	"	1.0067	170 "	2.15322	.57800	1.57522	.12376	.12016	.2346	1.2666	.3400	.9266	.07280	.06480	.13800
15	"	1.003	250 "	1.5565	.64000	.91650	.16325	.09675	.23650	.6226	.2560	.3666	.06530	.03872	.09460
16	"	1.0067	40 "	.44264	.23732	.24532	.01680	.01276	.02836	1.1066	.5933	.6133	.04200	.03190	.07140
17	"	1.0018	160 "	1.01896	.23248	.77648	.08656	.04416	.09376	.6306	.1453	.4853	.05410	.02760	.05860
18	"	1.0047	138 "	1.65600	.73636	.91963	.090114	.04278	.09642	1.2000	.5336	.6664	.06530	.03100	.07060
19	"	1.005	120 "	1.19520	.60000	.59520	Accident	.05808	.12312	.9960	.5200	.4960	Accident	.04840	.10260
20	"	1.004	360 "	3.75200	1.19988	1.75284	.27540	.10800	.22320	.8200	.3333	.4869	.07656	.03000	.06200
21	Neutral	1.0065	250 "	2.80000	1.51650	1.28350	.45275	.27675	.59225	1.1200	.6066	.5134	.18110	.11070	.23690
22	Acid	1.008	150 "	1.24990	.66970	.60000	.11900	.04110	.08925	.8466	.4466	.4000	.07460	.02740	.05950
23	"	1.0065	100 "	1.53330	.71330	.82000	.11200	.04440	.09660	1.5333	.7133	.8200	.11200	.04440	.09660
24	"	1.004	80 "	.61008	.15680	.43328	.05744	.05480	.11728	.7626	.1960	.5666	.07180	.06850	.14660
25	"	1.0078	95 "	1.26663	.52687	.74076	.05937	.05133	.10953	1.3333	.5346	.7787	.06250	.06250	.11530
Sodium Bi Carbonate Sweats of Normal Individuals.															
1	Acid	1.0024	150 c.c.	1.33650	.63390	.70110	.12600	.08820	.18630	.8910	.4226	.4674	.08400	.05880	.12420
2	Neutral	1.0025	160 c.c.	1.26928	.60800	.66128	.09400	.06112	.13072	.7933	.3800	.4133	.06250	.03820	.08170
Splenic Myelogenic Leucaemia. Passive Sweats.															
1	Acid	1.0029	120 c.c.	.89112	.36792	.52320	.16632	.08712	.18552	.7426	.3066	.4360	.08860	.07260	.15460
2	"	1.0027	285 c.c.	.77840	.42340	.85500	.13074	.08835	.20691	.6240	.3240	.3000	.04570	.03100	.07260
Catarrhal Jaundice Passive Sweat.															
1	Acid.	1.005	165 c.c.	2.91489	.63789	2.44200	.17094	.10230	.219945	1.7666	.3866	1.4800	.10360	.06200	.13330
Passive Sweat. Acute Pleuritic Effusion															
1	Neutral	1.0023	210 c.c.	1.07793	.40026	.65667	.08232	.05733	.12306	.5133	.1906	.3127	.03920	.02730	.05860
2	Neutral	1.0024	255 c.c.	1.34263	.53040	.81090	.09756	.07191	.15300	.5266	.2080	.3180	.03826	.02820	.0600
Diabetes. Passive Sweat.															
1	Acid	1.002	200 c.c.	1.4800	.82000	.66000	.11560	.06906	.14772	.7400	.4100	.3300	.1578	.03453	.07386

PASSIVE SWEATS OF NORMAL INDIVIDUALS.

Number	Reaction	Spec Grav	Quantity	T. Solids.	T. Inorganic	T. Organic	T. Nitrogen	T. Nitrogen Urea	T. Urea	% Solids.	% Inorganic S.	% Organic S.	% Nitrogen	% Nitrogen Urea	% Urea
1	Neutral	1.0050	100.cc.	1.06800	.50080	.45720	.05600	Accident.	Accident.	1.0680	.5008	.4372	.05600	Accident.	Accident
2	Acid.	1.0035	75 "	.57780	.19980	.37800	.04200	.03885	.08295	.7704	.2664	.5040	.05600	.05180	.11060
3	"	1.0069	100 "	1.46960	1.46960	.75360	.05264	03400	.07280	1.4696	.7536	.7160	.05264	.03400	.07280
4	"	1.0072	80 "	1.04960	.58944	.44016	.05510	.03232	.06688	1.3120	.7368	.5752	.06888	.04040	.08360
5	"	1.0074	70 "	.84560	.46480	.38080	.04200	Accident	Accident	1.2080	.6640	.5440	.06000	accident	accident
6	"	1.0045	100 "	.65484	.30000	.35480	.05130	.03000	.06400	.6548	.3000	.3548	.05130	.03000	.06400
7	Neutral	1.0075	84 "	1.27411	.67934	.59472	.07656	.03628	.07761	1.5168	.8088	.7080	.08400	.04320	.09240
8	Acid.	1.0020	180 "	.86976	.39168	.47808	.07761	.05601	.11088	.4832	.2176	.2656	.04312	.03112	.06160
9	"	1.0030	190 "	1.22664	.54720	.67944	.07448	.05601	.11856	.6456	.2880	.3576	.03920	.02948	.06240
10	"	1.0020	105 "	.60900	.24465	.36435	.04515	.02898	.06090	.5800	.2330	.3470	.04300	.02760	.05800
11	"	1.0040	105 "	1.56150	.61500	.94650	.10500	.05700	.12000	1.0410	.4100	.6310	.07000	.03800	.08000
12	"	1.0050	120 "	1.13520	.60000	.53520	.17200	.04300	.09192	.9460	.5000	.4460	.06000	.03600	.07660
13	"	1.0020	180 "	1.17108	.58788	.58320	.07560	.04320	.09234	.6506	.3266	.3240	.04200	.02400	.05130
14	"	1.0034	100 "	1.30000	.53200	.76800	.05600	.02813	.06133	1.3000	.3320	.7680	.05600	.02813	.06133
15	"	1.0024	80 "	.60000	.25600	.34400	.04560	.03304	.07040	.7500	.3200	.4300	.05700	.04130	.08800
16	"	1.0045	75 "	.73500	.43500	.30000	.03360	.02070	.04350	.9800	.5800	.4000	.04480	.02760	.05800
17	"	1.0038	150 "	1.05000	.54900	.50100	.06990	.04140	.08700	.7000	.3660	.3340	.04660	.02760	.05800
18	"	1.0034	115 "	.77395	.35995	.41400	.04830	.02875	.06210	.6730	.3130	.3600	.04200	.02530	.05400
19	"	1.0052	115 "	1.29000	.66895	.55005	.06819	.05175	.11040	1.0600	.5730	.4870	.05930	.04500	.09600
20	"	1.0034	145 "	1.34357	.64757	.69600	.05814	.04495	.09570	.9266	.4460	.4800	.04010	.03100	.06600
21	"	1.0056	120 "	1.40760	.72000	.68760	.06840	.04320	.08796	1.1730	.6000	.5730	.05700	.03600	.07330
22	"	1.0057	120 "	1.47120	.80400	.66720	.07836	.05376	.11520	1.2260	.6700	.5560	.06530	.04480	.09600
23	"	1.0040	95 "	.88407	.28880	.59527	.07448	.04750	.10003	.9306	.3040	.6260	.07840	.05000	.10530
24	"	1.0037	65 "	.46739	.20540	.26650	.03029	.01794	.03807	.7206	.3160	.4100	.04660	.02760	.05860
25	"	1.0040	105 "	.75600	.30765	.44835	.08032	.05439	.11613	.7200	.2930	.4270	.07650	.05180	.11060
Passive Sweats of Nephritis.															
1	acid	1.0048	95c.c.	.72715	.50350	.44374	.06203	.04560	.04747	.9970	.5300	.4670	.06530	.04800	.10260
2	"	1.0049	150 "	1.38990	.76995	.61995	.08115	.06225	.13200	.9260	.5130	.4130	.05410	.04150	.08850
3	"	1.0054	90 "	.87957	.40770	.47187	.05517	.04977	.10800	.9773	.4530	.5243	.06130	.05530	.12000
4	"	1.0055	360 "	4.72788	1.08000	3.64788	1.03536	.86688	1.82376	1.3133	.3000	1.0133	.28760	.24080	.50660
5	"	1.0062	250 "	4.46825	.80000	2.16825	.56000	.47700	1.04250	1.1873	.3200	.8673	.22400	.19480	.41700
6	"	1.0054	120 "	1.50072	.46560	1.03512	.26752	.21072	.45000	1.2506	.3880	.8626	.21460	.17560	.37500
7	"	1.0057	171 "	1.59056	.55626	1.04429	.31122	.22845	.48871	.9360	.3258	.6107	.18200	.13360	.28580
Passive Sweats of Acute @ Chronic Rheumatism, taking Sodium Salicylate.															
1 chronic	acid	1.0030	45c.c.	.49977	.21645	.28332	.03987	.01935	.05460	1.1106	.4810	.6296	.08860	.04300	.12000
2 acute	"	1.0080	50 "	.88565	.37000	.51665	.08305	.05785	.11000	1.7733	.7400	1.0333	.16610	.10370	.22000
3 "	alkaline	1.0038	900 "	7.24770	3.80340	3.44430	.52920	.41400	.89370	.8052	.4226	.3827	.05880	.04600	.09930
4 "	acid	1.0036	440 "	2.58104	1.32000	1.21704	.18480	.13420	.28732	.5866	.3000	.2866	.04200	.03050	.06530
5 "	"	1.0068	250 "	3.66650	1.16650	2.50000	.67650	.59950	1.28300	1.4666	.4666	1.0000	.27060	.23980	.51320
6 "	"	1.0020	360 "	2.30400	.99828	1.30572	.20160	.14688	.31428	.6400	.2773	.3627	.05600	.64080	.08730
Passive Sweats of Post-Malarial Anæmia and Toxæmia.															
1	Acid	1.0037	100c.c.	.89300	.45000	.44300	.0570	.03960	.08460	.8730	.4500	.4430	.05780	.03960	.08460
2	Neutral	1.0030	130 "	1.01049	.53209	.47840	.06552	.05112	.10946	.7773	.4093	3680	.05040	.03933	.08420
3	Acid	1.0023	180 "	1.26000	.54000	.72000	.08064	.65562	.11916	.7000	.3000	.4000	.04480	.03090	.06620
4	Neutral	1.0028	240 "	.77462	.83184	.49608	.07152	.05084	.10800	.5533	.3466	.2067	.02980	.02160	.04500
5	"	1.0039	125 "	1.08750											

PASSIVE SALICYLATE OF SODIUM SWEATS OF NORMAL INDIVIDUALS.

Number	Reaction	Spec. Grav.	Quantity	Total Solids	T. Inorganic	T. Organic	T. Nitrogen	Total Nitrogen Urea	T. Urea	% Solids	% Inorganic S.	% Organic S.	% Nitrogen	% Nitrogen Urea	% Urea
1	Acid	1.0084	100 c.c.	1.68260	.84260	84000	.08306	.03950	.08453	1.6826	.8426	.8400	.08306	.03950	.08453
2	"	1.0074	85 "	1.24550	.54400	.70150	.10548	.06630	.14212	1.4653	.6400	.8253	.12410	.07800	.16720
3	"	1.0056	132 "	1.01019	.42839	.5808	.15153	.05021	.109956	.7653	.3253	.4400	.11480	.03880	.08330
4	Neutral	1.004	720 "	3.25672	3.07152	2.27520	.26856	.13752	.29520	7426	.4266	.3160	.03730	.01910	.04100
5	"	1.004	750 "	4.63950	2.88975	1.74975	.27975	.20100	.43050	.6186	.3853	.2333	.03730	.02680	.05740
6	"	1.0046	750 "	5.94975	2.89950	3.05025	.32250	.26325	.56325	7933	.3866	.4067	.04300	.03510	.07510
7	Acid	1.0036	440 "	4.78104	1.32000	1.26004	.18480	.13420	.28732	.5866	.3000	.2866	.04200	.03050	.06530
8	"	1.003	430 "	2.49400	1.20400	1.29000	.16051	.11180	.23994	.5800	.2800	.3000	.03733	.02600	.05580
9	"	1.0038	360 "	2.53872	1.50696	1.03212	.15588	.11520	.24696	.7052	.4186	.2867	.04330	.03200	.06860
10	"	1.003	460 "	2.60636	1.34918	1.25718	.20608	.13156	.27600	.5666	.2933	.2733	.04480	.02860	.06000
11	"	1.0039	180 "	1.50588	.80388	.70308	.06714	.12628	.05634	.8366	.4466	.3906	.03730	.01460	.03130
12	"	1.0043	190 "	1.73767	.68647	1.04120	.12160	.08160	.17860	.8096	.3613	.5480	.06400	.04400	.09400
13	"	1.004	175 "	1.50727	.92855	.57872	.08155	.05950	.125825	.8613	.5306	.3307	.0466	.03400	.07190
14	"	1.002	177 "	1.34980	.63252	.71508	.11331	.08248	.17576	.7626	.3586	.4040	.06346	.04660	.09930
15	Neutral	1.0016	400 "	2.20800	1.13040	1.07760	.17920	.14584	.31200	.5520	.2826	.2694	.04480	.03646	.07800
16	"	1.003	90 "	.79794	.36000	.43794	.06534	.04437	.09486	.8866	.4000	.4866	.07260	.04930	.10540
17	"	1.004	120 "	1.27992	.59832	.68160	.10632	.07872	.16800	1.0666	.4986	.5680	.08860	.06560	.14000
18	"	1.003	175 "	1.42327	.80500	.61827	.08982	.06125	.13400	.8133	.4600	.3533	.05133	.03500	.07486
19	Acid	1.002	210 "	1.07793	.57240	.56553	.09786	.06124	.13230	.5133	.2440	.2693	.04660	.02940	.06300
20	Neutral	1.002	445 "	2.01718	1.21618	.80100	.13706	.10413	.22339	.4533	.2733	.1800	.03080	.02340	.05020
21	"	1.0023	160 "	1.31840	.62168	.69872	.11040	.04160	.14576	.8240	.3873	.4367	.06900	.04160	.09110
22	"	1.0038	170 "	1.26922	.63682	.63240	.06341	.02600	.09469	.7466	.3746	.3220	.03730	.02600	.05570
				Passive Acetanilid Sweats. of Normal Individuals.											
1	Neutral	1.002	145 c.c.	.87000	.509385	.36051	.05388	.03378	.07250	.6000	.3513	.2487	.03730	.02330	.05000
2	"	1.0025	175 "	1.33000	.758275	.38120	.07350	.041475	.07647	.7600	.4333	.3269	.04200	.02370	.04370
3	Acid	1.004	110 "	.81400	.55286	.26114	.05126	.03773	.08063	.7400	.5026	.2374	.04600	.03430	.07330
4	Neutral	1.0025	125 "	.84162	.484125	.35750	.04425	.031625	.06825	.6733	.3873	.2860	.03540	.02530	.05460
5	"	1.0024	130 "	.92729	.52000	.40729	.05213	.03601	.07709	.7133	.4000	.3133	.0401	.02770	.05930
6	"	1.002	180 "	1.15434	.63000	.52434	.07740	.04932	.10566	.6413	.3500	.2913	.0430	.02740	.05870
7	"	1.004	120 "	1.17600	.62400	.55200	.07200	.05976	.11040	.9800	.5200	.4600	.06000	.04980	.09200
8	"	1.0043	90 "	.99000	.47997	.51003	.05796	.02880	.06201	1.1000	.5333	.5667	.06440	.03200	.06890
9	"	1.0026	100 "	.57060	.32000	.25060	.04200	.02950	.06320	5706	.3200	.2506	.04200	.02950	.06320
10.	Acid.	1.001	120 "	.60392	.30072	.40320	.07500	.04716	.10152	.5866	.2506	.3360	.06250	.03930	.08460
				Sulphate of Quinine. Passive Sweats of Normal Individuals.											
1	Neutral	1.004	200 c.c.	1.42660	.80000	.62660	.09332	.05520	.11720	.7133	.4000	.3133	.64666	.02760	.05860
2	"	1.002	160 "	.94928	.59728	.35200	.06560	.03936	.08416	.5933	.3733	.2200	.04100	.02460	.05260
3	"	1.003	180 "	1.49994	.77994	.72000	.10476	.03888	.08280	.8333	.4333	.4000	.03820	.02160	.04600
4	"	1.0025	200 "	.90660	.48000	.42660	.07460	.04000	.08310	.4533	.2400	.2133	.03730	.02000	.04310
5	"	1.0025	320 "	2.29536	1.42080	.87456	.13760	.08352	.17888	.7173	.4440	.2733	.04300	.02610	.05590
6	Acid	1.0049	180 "	2.00394	1.08000	.92394	.10800	.06408	.13716	1.1133	.6000	.5133	.06000	.03560	.07620
				[illegible]	[illegible]	[illegible]	.08020	.06000	.12000	.5333	.2573	.2760	.04070	.03000	.06000

Johnel found crystals of urea on the skin of nephritics.

Calitso says the organic secretions of epileptics possess toxins. He states that the toxins are stored up in the blood and can be removed by sweating. The sweat is very toxic and causes convulsions. While 100 c.c. of normal sweat will not kill, 18 c.c. of epileptic sweat does. The toxicity during the prodroma is much increased and later gradually diminishes. At other intervals it is normal.

It will be noticed that the question of sweat toxicity is far from answered. Indeed, it is surrounded by many conditions that stamp toxic experiments with more or less doubt. Among the more important are such as individual animal susceptibility; intravenous injection of a fluid which invariably has an acid reaction, into the alkaline blood; accidental introduction of micro-organisms into the circulation, or body; the effect of sterilization on the toxins in sweat; the difficulty encountered in differentiating between the symptoms of fright and shock and those peculiar to the injection of sweat.

I have made a limited number of experiments with reference to toxic effect which I will cite later.

The following method was adopted to procure normal sweat, without loss by evaporation, and as free as possible from skin impurities. The skin was thoroughly cleansed with alcohol and ether; soap was not used, for apparent reasons. The next step consisted in enveloping the body with sterilized gauze; over this an oilcloth was secured, completely covering the body, leaving only the head exposed; thus prepared, the subject was exposed to dry heat of a temperature not exceeding 120 F., for from one to two hours, or till it became apparent that the heat was becoming unbearable. We noticed a great difference between the numerous individuals; some responded freely at once; others, only after the third exposure; also in many instances the thin individual bore more exposure than the robust. When the point of toleration had been reached, the soaked gauze was quickly removed and submitted to pressure; in this way we obtained from three ounces to thirty-two ounces of sweat.

The individuals used for sweating were all of a normal type, on full diet, and while they, in some instances, were convalescents from mild, acute, local lesions, they were not classed as normal until completely well. Furthermore, urinalysis will not be considered in connection with sweat in this paper.

My object simply consists in adding more knowledge relative to the physiology of the skin, with more or less bearing on therapeutics and clinic facts.

The following table gives the highest and lowest percentage of ingredients of each series of sweats:

		Per cent. Solids.	Per cent. Inorganic solids.	Per cent. Organic Solids.	Per cent. Nitrog'n.	Per cent. Nitrogen urea.	Per cent. urea.
Normal	Highest.	1.5168	.8088	.7080	.08400	.04320	.09240
	Lowest.	.4832	.2176	.2656	.04312	.03112	06160
Sod. salicylate	Highest.	1.6826	.8426	.8400	.08306	.03950	.08463
	Lowest.	.4533	.2733	.1800	.03080	.02340	.05020
Pilocarpin . .	Highest.	1.9333	.3226	1.6107	.08500	.06560	.14000
	Lowest.	.5106	.2626	.2480	.05130	.02760	.06860
Quinin	Highest.	1.1133	.6000	.5133	.06000	.03560	.07620
	Lowest.	.4533	.2400	.2133	.03730	.02000	.04310
Acetanilid . .	Highest.	1.1000	.5333	.5667	.06440	.03200	.06890
	Lowest.	.5706	.3200	.2506	.04200	.02950	.06320
Nephritis . . .	Highest.	1.3133	.3000	1.0133	.28760	.24080	.50660
	Lowest.	.9260	.5130	.4130	.05410	04150	.08800
Rheumatism .	Highest.	1.7733	.7400	1.0333	1.66100	.10370	.22000
		1.4666	.4666	1.0000	.27060	.23980	.51320
	Lowest.	.5866	.3000	.2866	.04200	.03050	.06530

Briefly, first twenty-two normal, sodium salicylate, passive sweats, resulted as follows:

1. In ten the organic solids are higher than the inorganic.
2. Eleven out of twenty-five passive, normal sweats contain more organic solids than inorganic.
3. Twenty-three out of twenty-five normal, pilocarpin, passive sweats contain more organic solids than inorganic.
4. Two out of ten acetanilid sweats contain more organic than inorganic solids.
5. Seven quinin sweats contain less organic than inorganic solids.

Note that the pilocarpin sweats, with a few exceptions, contain more organic than inorganic solids; that the quinin sweats exceed in inorganic solids; that the salicylate sweats are about evenly divided, relative to organic and inorganic solids; that the passive sweats slightly favor the inorganic solids; that the acetanilid sweats favor the inorganic solids.

From the chemic analysis it at once becomes apparent that the drugs herein mentioned have more or less selective action.

Note that the first sweat obtained from a case of acute articular rheumatism during the height of the disease, contained a large excess of solids. (See Rheumatism, No. 5.) This fact opens up some interesting questions relative to the cause, or conditions, that accompany rheumatism, and I can hardly dismiss the subject without discussing the disease. The causes, direct or indirect, can be classified as follows: 1, retention of normal tissue waste material; 2, perverted functional activity, or tissue metabolism, whereby substances foreign to the normal body are produced, which cause rheumatism; 3, septic infection; 4, one or both of the first two causes which favor infection, just as diabetes mellitus renders infection more possible.

Returning to cause 1, I do not believe that it alone causes rheumatism; because if this were true, the disease would be much more amenable to treatment and would not be affected so much by other circumstances, such as atmospheric changes, epidemic features, etc.

The second cause is related to the first, differing from it, however, in that the cause is due to abnormal tissue products, and not retention of normal tissue waste. A thorough consideration of this cause would involve an extensive analysis of nutrition, special organic functions and chemistry of waste material. However, recalling now that the first sweat of a rheumatic, obtained during the height of the disease, is excessively charged with solids, we are led to assume that these solids represent tissue waste; furthermore, coincident with this feature, marked amelioration of the rheumatism follows, and especially so where profuse sweating is produced by the combined hot-air and sodium salicylate treatment. Those who favor the infection theory may argue that the tissue waste is more or less a feature of all infections, and that the salicylate aids in eliminating, as is shown by the analysis of sweat.

In reference to the third cause, this may be said: there is an infection, which, however, is rendered possible only by pre-existing, non-septic conditions mentioned in the first or second causes; believing that salicylate has an active effect on the joint symptoms, as based on clinic facts, it must be conceded that the secondary lesions, such as pericarditis, endocarditis, etc., are not modified by this drug, and that the former, from the standpoint of some pathologists, are due to pathogenic micro-organisms. This fact rather strengthens the belief that we are dealing with both auto-intoxication and infection. This, it seems, is at present the most plausible theory.

Note that the first sweat from a case of uremic poisoning, the result of chronic interstitial nephritis, contained a large excess of solids (see Nephritis No. 4), a feature that was followed by marked amelioration of the uremia; the succeeding sweats were nearly normal. This case plainly illustrates that the skin can be used for eliminating purposes to the exclusion of other emunctories in nephritis; furthermore, this sweat feature is always present in those cases where the renal lesion forbids sufficient elimination; those wherein the urinary excretion is nearly or quite normal have not brought to light any marked sweat features from a chemic point of view; however, this statement must be accepted as purely provisional until more investigations have been made. Recalling my experience with various uremic manifestations, I feel safe in asserting that the induction of sweat by means of externally applied heat, and with or without pilocarpin, is the most reliable method of eliminating rapidly and effectively.

Here I will interpose a comparison, including the added totals of six normal, passive sweats, compared to six nephritic and six sodium salicylate, acute rheumatic, passive sweats, given in percentages as follows:

	Per cent. Inorganic.	Per cent. Organic.	Per cent. Nitrogen urea.	Per cent. Total nitrogen.
Six cases normal	3.6406	2.6045	.18356	.39835
Six cases nephritis	4.73354	9.09804	1.90274	2.32336
Six cases rheumatism. . .	9.83698	12.16181	.90195	2.02510

Note the preponderance of organic and inorganic solids in rheumatism over the nephritic sweats, and the striking difference when compared to the normal, passive sweats. Among the clinic features it should be mentioned that the induction of passive hot-air sweats, coincident with the administration of the drugs mentioned in this article, lessens the toxic effects of the former; thus cinchonism was rarely noticeable enough to cause distress; the sialogogue effect of pilocarpin was rarely observed, this applies with equal force to the toxic effects of pilocarpin; acetanilid in 10-grain doses was not followed by marked cyanosis or prolonged depression. The drugs used were given in the following doses: Quinin, 10 grains; acetanilid, 10 grains; pilocarpin, from $\frac{1}{8}$ to $\frac{3}{4}$ grain; sodium salicylate in 30-grain doses.

A number of cases of malarial hemoglobinemia and toxemia were treated with quinin and hot-air baths, and, it appears, with better results than without the hot-air bath. Furthermore, all malarial cases responded more readily than normal to sweat induction; this feature was particularly noticeable. The good results following this treatment are due, I believe, to the eliminant effects of the sweat and, secondarily, to the physiologic action of the hot-air bath, which indirectly causes increased functional activity or tissue metabolism.

We are familiar with the fact that mercurial inunctions can be used with more satisfaction when combined with passive sweats. Thus I had a case of secondary syphilis which was extremely sensitive to mercurial salts; however, I prescribed mercurial inunctions and about eight hours thereafter a passive sweat; so treated, I was able not only to continue the inunctions but gave mercurial salts internally as well, without occasioning mercurial poisoning. You will recall that one observer claims that the skin eliminates more mercury than the kidneys. I am aware that this method is not new, but mention it on account of its importance from a clinic and therapeutic standpoint.

A brief review of the physiologic action of the hot-air bath will not be out of place. Without other aids the following conditions occur: 1, hyperemia and congestion of the skin, which then contains more fluids and becomes a better conductor of heat; 2, the skin becomes moistened by sweat, which in turn favors abstraction and increased excretion of heat; 3, the pulse-rate increases coincident with diminished arterial tension; 4, the bodily temperature becomes slightly elevated; 5, there is now increased respiration which Sihler claims is due to the warming of the blood, thereby augmenting the consumption of oxygen and excretion of carbon dioxid, the latter being due to increased tissue changes. Landois states that a man weighing sixty kilograms enlarges about sixty-two c.c. when his temperature is raised from the normal temperature to 104 F.; this enlargement is associated with expansion of the peripheral tissues and increased cutaneous congestion at the expense of internal depletion.

The administration of antipyretics in full doses, combined with the passive, dry-heat sweats in normal subjects does not modify the physiologic effects just mentioned. In fact, these drugs apparently lose their antipyretic effects. This fact opens up an interesting question; however, it would not be in keeping with the object of this paper to discuss it fully. But in all cases where quinin, sodium salicylate and acetanilid were given, and within thirty minutes were followed by the application of the hot-air bath, the temperature became elevated from 1 to 3 degrees F. above normal, reaching its highest about ninety minutes after the drug administration, and coincident with profuse sweating. Removal from the hot-air bath caused the temperature to fall rapidly.

In septic conditions, such as articular rheumatism, treated with sodium salicylate and the hot-air bath, there was no deviation from the effect just mentioned. Among the anomalous results of dry heat application I will cite the following case: A young woman, on account of a retained dead fetus, fell a victim to acute septic intoxication and acute septic nephritis. The pulse was constantly over 120 per minute, weak and compressible; the temperature ranged from 96 to 97 F.; the urine did not exceed four ounces in twenty-four hours and contained casts, albumin, blood-corpuscles, bile pigments and acetone. The whole condition was rendered more desperate by a violent uremic gastritis; it was imperative to eliminate effectively, and I realized that this could be accomplished most readily by inducing free sweating, and overcoming the depression incident thereto by means of strychnia. She was placed in contact with hot-water bottles; in the course of an hour the temperature rose to 102 F., and the pulse became stronger and did not exceed 95 per minute, however, instead of inducing free perspiration, the patient would excrete from six to eight ounces of urine after each application; this treatment was continued twice daily until recovery ensued. The case plainly illustrates the intimate relation between the kidneys and the skin, and is mentioned only for the sake of interest. It is well known that the renal secretion is often increased by diaphoretics; though as a general rule the reverse is true. Note, however, in the case just cited, the dry heat increased the pulse strength and lessened the frequency; just contrary to the results observed in normal individuals.

Toxic experiments, as I have already stated, were made in a few instances; I submit those that were made, with the understanding, however, that much work is to be done in the future relative to this item.

In the first experiment I injected subcutaneously, 5 c.c. into a guinea-pig weighing 300 grams. No effect was noticed beyond the usual symptoms of fright. The sweat used was from a normal case.

In the second experiment, 9 c.c. of sweat from a case of chronic articular rheumatism was injected intraperitoneally into a guinea-pig weighing 270 grams. In the next 20 minutes I noticed muscular tremor, rapid respiration, ears slightly cyanosed. All these symptoms disappeared within an hour.

In the third experiment I injected 20 c.c. of normal sweat into a guinea-pig weighing 300 grams, subcutaneously. No effect whatever followed.

In the fourth experiment I injected 9 c.c. of chronic malarial fever sweat into a 270-gram weight guinea-pig, directly over the lumbar spine, subcutaneously. Result: Immediate effect, breathing laborious, ears cyanosed, pig fell on its side and lay still about six minutes, when in attempting to get up it was discovered that the hind extremities were totally paralyzed. This condition was followed by atrophy of the hind limbs and in six weeks death ensued, without recovery of paraplegia. I believe the lesion was due to pressure of injected fluid, and not traceable to the effects of the sweat ingredients.

In the fifth experiment I injected 30 c.c., subcutaneously, of sweat from a case of chronic nephritis into a fifteen-ounce guinea-pig. The pig was quiet for three hours, refused to drink or eat, had occasional muscular tremor or rigor, but recovered fully in twenty-four hours.

In the sixth experiment I injected 20 c.c. of sweat from a case of chronic malarial toxemia and hemaglobinemia, subcutaneously, into a ten-ounce guinea-pig. No effect or departure from the normal was observed.

In the seventh experiment I subcutaneously injected 32 c.c. of sweat obtained from a case of post-malarial anemia, into a guinea-pig weighing eight and a half ounces. Within ten minutes there was a well-defined rigor, rapid respiration, cyanosis of the ears; pig seemed stupid and did not actively respond to pin prick. The rigor persisted thirty minutes, and the pig fully recovered in an hour.

In the eighth experiment, subcutaneous injection of 50 c.c. of normal, passive pilocarpin sweat into a guinea-pig weighing twelve ounces. No effect was observed.

In the ninth experiment I injected, subcutaneously, 55 c.c. of malarial sweat obtained during the height of temperature rise in a case of quotidian malarial fever after a well-defined malarial chill. The guinea-pig weighed eleven ounces. The immediate effect was a light rigor from that time up to death (which occurred within ten hours). The guinea-pig, which seemed in a stupor during the first few hours, gradually became comatose and died, refusing all food and drink. Post-mortem disclosed no abnormal conditions, except hyperemia and some cloudy swelling of both kidneys. I believe the sweat in this instance was toxic and the cause of death.

In the tenth experiment I injected, intraperitoneally, 45 c.c. of sweat from a case of splenic-myelogenic leukemia, into a guinea-pig weighing nine ounces. No abnormal effect whatever followed this injection.

This completes the toxic experiments made by myself with the assistance of Dr. Friedberg. No conclusions can be drawn from them except that it requires large doses to produce any effect. In no instance was the sweat sterilized, because it was assumed that extreme heat would modify the sweat composition and thereby cause fallacious results; however, the skin was thoroughly cleansed before the sweat, and only sterilized gauze was used in all the experiments.

Assuming that the extraction of considerable fluid from a body in a short space of time altered the specific gravity of the blood, we used the chloroform-benzol method for determining the specific gravity of the blood, before and after profuse sweating. We did not note any marked difference. While the method is not infallible, I believe it will at least show any important difference. Thirteen cases were submitted to this test. It simply adds an item to the belief that the blood is a fairly stable compound and that the tissues are used partly as storehouses, or the fluid obtained by sweating is indirectly eliminated from the blood in the short space of an hour: the blood, however, preserves a certain uniform composition by taking up substances from the tissues or cells of the bodily organs during the sweating.

Among the questions that suggest themselves is one that concerns the surgeon: Does sweat possess slight antiseptic properties, and thereby render more or less innocuous the large number of micro-organisms ever present in the skin? One observer quoted in the history claims that it does toward the bacillus pyocyaneus. I have arranged to answer this question in a later report.

Before closing this article it would be of some interest to briefly discuss some of the features that have a bearing on certain skin diseases. Recalling now that sweat is always of acid reaction, and that this acidity is due to the fatty acids and sebum in the sweat and skin, may it not be reasonable to assume that this fact has a direct bearing on the chronicity of some skin diseases, such as psoriasis or chronic eczema? Abrasions or external skin lesions, it seems to me, must be constantly irritated by the substances mentioned, and thereby cause not only the chronicity, but also the itching so constantly present. We have learned that repeated sweating finally brings about an alkaline or neutral reaction, and that acetanilid favors a neutral reaction, and I offer it as a suggestion that the treatment of skin diseases is open to considerable study, when looked at from the standpoint herein suggested. I assume that a neutral or alkaline sweat would be far less irritating to the skin lesion, and in removing the irritant factor give decided therapeutic results. At all events, I have found that repeated sweating does result in causing a soft, clean, non-odorless skin, avoiding, however, the drying of sweat on the skin, thereby preventing the effect bacteria would have in indirectly causing decomposition of fatty acids.

This completes the present paper and before closing I wish to extend thanks to Dr. Friedberg, who assisted me in all the work done and in obtaining specimens; to the German Hospital which made it possible to secure nearly all the material, and to the Alexian Brothers' Hospital; and lastly, to Dr. J. A. Wesener who made all the chemic analyses, and offered suggestions that materially aided in making the work successful.

CEREBROSPINAL PNEUMOCOCCUS INFECTION.

REPORT OF A CASE.

BY BAYARD HOLMES, M. D.

CHICAGO.

There are many cases of rare clinic interest unreported, because the history is incomplete or because of loss of interest on the part of the observer, after the puzzle is solved by the post-mortem. Such cases are however very instructive to the reader, and the following is reported, in the hope of illustrating a rather obscure manifestation of pneumococcus infection:

On Monday, February 26, I was called in consultation to see a girl 15 years old, who had been suffering during five weeks with a complex of symptoms resembling very closely the symptoms of relapsing fever. The sickness was initiated by a chill of great severity, followed by very high temperature and severe headache, and pain extending down the back and legs. The pulse was not as rapid as would ordinarily be expected with such a temperature. The temperature fluctuated about 104 and 105 F., for nine days, when there was a complete remission. The headache disappeared, the temperature and pulse became normal, and the young girl acted as a convalescent, ate and drank naturally, and slept well. This intermission lasted a little less than a week, when a second, but shorter, spell came on with a second chill. The temperature again rose to 104, the pain in the head, the distress, and the high pyrexia returned. The pulse was again a little lower than we could ordinarily expect. This attack lasted seven days, when there was again a complete intermission, the temperature coming down to normal and with a cessation of all the other symptoms, as before. The third relapse occurred at the end of another week, with a chill and high temperature which lasted only two days, when there was an intermission of four days. A fourth relapse followed. It was during the second twenty-four hours of this relapse that I was called in and observed the girl. The patient's temperature was at this time 104 and her pulse 96. The face and body showed some emaciation, the pupils were dilated and the child was vomiting at short intervals. The respirations were slightly accelerated. The little girl begged for some relief, complained of her dreadful headache, grasped her head in her hands, and complained of the lightest touch over the scalp or face or arms or any part of the body. This hyperesthesia seemed to me most accentuated over the left side of the head, behind the ear. Her favorite position was curled up on her right side. The tongue was not noticeably coated, but the lips were chapped and about the nostrils there was some evidence of sordes. The heart and lungs and abdomen and extremities were perfectly negative on examination, except during the first and second paroxysm of fever, when there was enlargement and tenderness of the liver and spleen. Careful search was made for an area of possible pneumonia, and the heart was carefully examined for endocarditis. The abdomen and pelvis were carefully examined for suppurative foci. All the joints were examined for evidence of infection. There was no tremor of the hands and no evidence of impairment of motion or of sensation—except the hyperesthesia mentioned. The hearing seemed to be equal in both ears and the sight seemed to be perfect in both eyes. There was no evidence of any perversion of taste and the only abnormal sensation was the general hyperesthesia and the severe headache, which was referred indefinitely to every part of the head.

The diagnosis seemed to rest between relapsing fever, malaria, typhoid fever, meningitis from middle ear disease, and meningitis from some other form of infection.

With the assistance of Dr. Hall, the blood was examined, and relapsing fever and malaria both excluded. The blood-count showed a slight leucocytosis, but otherwise was perfectly normal. As soon as this result had been determined a needle was introduced into the spinal canal at the junction of the third and fourth lumbar vertebræ, and the cerebrospinal fluid allowed to run off, drop by drop. Two agar tubes and two blood-serum plates were inoculated from this serum. In twenty-four hours they had every one shown a pure culture of a diplococcus, apparently the diplococcus of pneumonia. By this means the pathologic character of the disease was definitely determined. We had to deal with a case of pneumococcus infection of the cerebrospinal lymph-spaces. At this juncture, we determined on an experiment, and secured for a small fee, three ounces of blood from a healthy German man, 21 years old, one week after a crisis from a true pneumococcus pneumonia. The blood was taken from the median vein, with all antiseptic precautions, into a sterilized flask, which was immediately put on ice and encouraged to coagulate rapidly by the addition of a few drops of calcium chlorid solution and interrupted heat and cold.

A sufficient amount of serum was at hand in twelve hours and hypodermic injection of this serum was begun; at first 60 drops, at each subsequent injection, at intervals of six hours, a double quantity. The effects of the injections seemed to be noticed at once, in a lowering of the temperature and general improvement. This continued for three days, when all the symptoms grew worse. There were repeated chills and an excessively high temperature, tremor of the extremities and apparently paralysis or an inability to co-ordinate the motions of the right leg and right arm. The right side of the face seemed to be less expressive. The patient continued to lie on the left side of the head, but turned on the right side of her body. The pupils were equally dilated, although no remedies had been administered which could produce such result. After this stupor had continued for twenty-four hours with a gradual aggravation of the symptoms; the skin over the left mastoid seemed to be edematous. This was the first localizing sign which was incontrovertible, and I determined to act on the assumption that the pneumococcus infection was due to a primary pneumococcus infection of the ear, and resulting pneumococcus meningitis and probably sinus thrombosis.

The patient's head was, therefore, shaved and prepared for operation. After shaving, the edema of the scalp over the mastoid was much plainer and a lymph gland as large as a bean was felt. The operation was begun with more confidence.

The mastoid cells were found edematous, and cultures were made from the contents. The skull above the root of the petrous portion was opened and the dura incised. A small amount of serum flowed out, and cultures were made from this serum. The sigmoid sinus was exposed; palpitation did not determine whether it was obliterated by thrombus or not. A small incision was therefore made in the sinus, from which venus blood poured out readily. The hemorrhage was stopped by means of a tampon, and the wound in the head dressed in an ordinary fashion. This operation produced little or no effect on the course of the disease.

In twelve hours the child died; a post-mortem was made eighteen hours later. On removing the dressing there was evidence of only a trifling amount of oozing. The skullcap came off, leaving the dura behind with no evidence of adhesions. On opening the dura the interlobular spaces seemed to be filled with a cloudy fibrinous exudate, and the pia was everywhere moderately injected. There was evidence of a slight amount of pachymeningitis along the middle portion of the longitudinal sinus on both sides. There was no evidence of meningitis at the base of the cerebrum. The base of the pons and medulla was covered with a yellowish firm pus-like exudate, which extended over two-thirds of the right hemisphere of the cerebellum, and one-third of the left. Cultures were made from the exudate and the adhesions near the longitudinal sinus. The dura was stripped off from the base of the skull, with no adhesions whatever upon the left side. The left sigmoid sinus and the lateral sinuses were free from thrombi. The right sigmoid sinus was occupied by a white thrombus. The dura was adherent to the posterior side of the petrous portion of the temporal bone, and a superficial examination led me to think that the petrosa was the seat of infection, but a more careful examination revealed its integrity.

TREATMENT OF SYPHILIS.*

BY BACCELLI INTRAVENOUS INJECTIONS OF MERCURY.

BY DUDLEY TAIT.
SURGEON OF FRENCH HOSPITAL.
SAN FRANCISCO, CAL.

If therapeutics can be defined, "the knowledge of indications and the art of fulfilling them," it can be safely asserted and successfully maintained that the possession of so-called specific medications has been the signal of a retrograde step. No one will deny, for instance, the meager reflection accorded by the majority of medical men to the proper use and administration of such specific medicaments as mercury and quinin. The choice of the remedy being determined in advance, it would seem that nothing important remained to be considered; common sense is excluded by empiricism, and force of habit crowds out the all-important question of indications. In no other morbid entity is such culpable disregard manifested as in syphilis. When questioned regarding the mode of treating this disease, the majority of practitioners invariably outline in two words, a simple, constant and uniform method; no reasons are given; no questions asked. The diagnosis is the sole important factor. Thus, simplicity, which in therapeutics, medical and surgical, habitually marks progress, becomes a barrier to knowledge.

Convinced that syphilis presents a multiplicity of indications resulting from the variable degree of virulence of the infecting source, from the condition and resistance of the infected soil, and even from extrinsic factors, and believing that a vast number of the so-called incurable tertiary lesions[1] can be avoided or cured, that the pathogenic rôle of syphilis in medullary and cerebral affections is of greater import than is generally conceded, that mercury is superior to the iodins under all circumstances, especially in malignant and tertiary lesions, the writer desires to call attention to a much neglected method of treatment, which, in his observation and experience of over two years, possesses, under certain well-defined conditions, many advantages over all other methods.

The intravenous method of treatment is based on the incontestable fact that mercury has no effect on the organism until it enters the blood. Furthermore, it has been demonstrated (Stassano, Metchnikoff) that the leucocytes are the exclusive vehicle and agent of absorption of the mercurial preparations.

The most practical solutions habitually used are the cyanid, 1/100 and 1/200, and the sublimate 1/500 to 1/1000. The amount injected daily varies from 1 to 3 c.c.

The technic of these injections is both simple and safe; the skin over the flexor surface of the elbow having been cleansed, the arm is constricted by means of a rubber bandage, the ends of which are held by a clamp. Any prominent vein, any other region may be chosen, even the median basilic, for the needle can be controlled more easily than the lancet. The needle having been introduced obliquely, the constriction is removed by operating the clamp. With a little practice one will instantly know if the needle has penetrated the vein. This may be ascertained by separating the syringe from the needle and allowing a few drops of blood to escape. A better and safer plan suggested by the writer, is to use a medium-sized needle; in case the puncture is successful, within one or two seconds the blood will enter the syringe and color the mercurial solution. The patient should feel only the puncture of the skin, but if any fraction of the solution pass into the cellular tissue to the side or behind the vein, intense pain will be complained of immediately, followed by a painful induration which generally is absorbed after a period varying from two to three weeks. Extravasation of blood in the cellular tissue is a possible complication; it is most always due to the use of a needle of unnecessarily large caliber. The patient's arms should invariably be examined before the intravenous method is prescribed, for the cases are not infrequent (4 per cent. of the writer's cases) in which the veins can not be made sufficiently prominent to be punctured with safety. This difficulty is encountered particularly in women and in adipose patients. No dressing is required.

Danger of emboli and infection has been suggested as an objection to the intravenous medication, but upon theoretic grounds only. Experimentation demonstrates the contrary; no thrombus occurs in the vein in which an injection has been made. Hence, one can make a series of injections in the same vein; the writer has made as many as ten in the median basilic vein without causing the slightest local or gen-

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* Read at the Twenty-ninth Annual Meeting of the Medical Society of the State of California, April, 1899.

[1] Excluding tabes, 50 per cent. of medullary affections are of syphilitic origin. Gilles de la Tourette, Myélites Syphilitiques. Paris, 1899.

No.	Age and sex.	Lesions present.	Previous treatment and result.	Number of injections.	Results.	Remarks.
1	25. M.*	Marked diffuse glossitis of six months' duration.	Inunctions and iodids without effect.	20	Radical change after the fifth injection: tongue reduced one-third in size.	No relapse 14 months later: during one day mild stomatitis; no iodids used.
2	27. M.	Extensive secondary buccal and cutaneous.	Hg_2I_2 proved useless . .	14	All lesions cleared up within two weeks.	Subsequent use of Hg_2I_2 prevented relapse.
3	29. F.	Rupia	Inunctions daily during 8 days, without effect.	14	Radical change after the fifth injection.	Subsequent treatment with Hg_2I_2 satisfactory (4 c.c. 1 500 subl.).
4	35. M.*	Contracted from untreated source: early malignancy: phagedenism: grave buccal and laryng. lesions.	Six weeks of Hg_2I_2 and 12 inunctions failed to control the disease.	10	Favorable change after the 4th injection: phagedenism arrested on 6th day; healed 8 days later.	Massive daily doses were given without causing either buccal or intestinal disturbances.
5	25. F.	Recurring marked anorectal ulcerations.	Inunctions caused very grave buccal disorder.	15	Immediate favorable change.	Subsequent treatment with Hg_2I_2 and iodid.
6	27. M.	Phagedenic chancre	No previous treatment.	10 . . .	Destructive process arrested after 3 injections: rapid healing.	Alcoholic patient, Hg_2I_2 subsequently.
7	30. M.*	Infection at same untreated source as No. 4: early malignancy: periostitis, tuberculides.	Inunctions caused grave intoxication.	14	Rapid movement in both local and general condition.	No toxin symptoms developed after use of injections: mild recurrence 4 months later treated with Hg_2I_2.
8	40. M.	Sylvian syphilis	. . . .	12	Atrocious nocturnal cephalalgia ceased after third injection.	Subsequent successful treatment with KI and inunctions.
9	28. M.*	Chancre unhealed after five weeks: severe buccal lesions.	Hg_2I_2 Ung. Hydr. locally.	14	Chancre healed in one week; rapid improvement.	Mild symptoms of cerebral congestion followed second injection of 2 c.c. subl., 1 200, lasted 2 hours and did not recur with subsequent injection.
10	42. M.	Small gummatous lesion on hard palate.	Three years intermittent inunctions and Hg_2I_2.	12	Favorable change after 4 inject.; cicatrization after 9. No iodids used.	Two years previous gumma excised from penis.
11	45. M*	Eighteen months after chancre pseudo-tabetic symptoms, fulgurant lumbar pains. Romberg's sign, pupils unequal, patellar reflexes greatly exaggerated.	KI and inunctions during three months.	36 in three series.	Pain ceased after 10 inject.: gait improved rapidly: patient returned to work (tailor) three months later: subsequent treatment refused.	Died fourteen months later in China after a short illness.
12	32. M.	Multiple cranial gummata.. . . .	KI and inunctions used intermittently with no result.	24	Immediate favorable change: result excellent.	Surgical intervention in two lesions: only iodid continued.
13	22. F	Intense infection from untreated source, iritis before complete cicatrization of chancre, periostitis.	. . . .	14	Cessation of pain after four injections.	Subsequent treatment with Hg_2I_2 satisfactory.
14	30. F	Early malignant syphilis—necrosis of tibia: gumma of sub-thyroid region, extending to the sternum: dyspnea.	Intermittently KI and inunctions for two years.	8 inject. 3 c.c. subl. 1 200.	Pain and dyspnea diminished. after 2 inject. on 10th day, patient resumed her work, remaining free from pain and comfortable for two months	Gummatous tissue excised as far as prudent as a preliminary measure. Subsequent treatment refused; death six months later: C. & C. Hosp., S. F.

* Indicates Chinese patient.

eral disturbance. In order to determine and compare the effects produced on and in the veins by mercurial solutions of various strength, a series of injections was made with corrosive sublimate. The results were briefly as follows:

With a solution 1/50, after twelve hours, a painless indurated mass appeared on the course of the vein, extending from 2 to 4 cm. on the efferent and 1 cm. on the afferent side of the puncture point. The vein does not, however, collapse completely until the second day. On the fifth day, the induration shows signs of resorption, and generally the blood-current is re-established, though very feebly, ten days later. In two cases, the endoperiphlebitis gave rise to complete permanent occlusion. In two other cases, having received injections of 1/200, collapse of the vein persisted for seven weeks: nevertheless, the necropsy showed all the vessels previous.

With a solution 1/250 to 1/400; periphlebitis and bruising of the cellular tissue occurred much less frequently than with the stronger solutions. No permanent occlusion of the vein was noted.

With a solution of 1/500 to 1/1000, with proper needles, no accidents occurred. It is, therefore, evident that strong solutions of sublimate should be strictly avoided. Cyanid of mercury is more easily handled, and can be used for intravenous injections in solutions of .5 and 1 per cent. Moreover, it contains 80 per cent. of mercury, whereas sublimate contains only 73.72 per cent.[2]

The rapid absorption and complete elimination of the mercury, in the intravenous method, are demonstrated by its appearance in the urine within ten minutes after having been injected, and by its disappearance therefrom thirty-six hours later.[3]

Examination of the patient's blood affords an accurate mode of determining the effects produced by the mercury: with small diluted doses there occurs an increase of red corpuscles and hemoglobin, with diminution of white corpuscles, or retardation of their multiplication. With large does, the conditions are reversed: the white corpuscles increase immediately. Mercurial anemia may thus be easily and rapidly controlled or avoided.

COMPARISON WITH OTHER METHODS OF ADMINISTERING MERCURY.

The intravenous method will never supplant the older methods which have stood the test of time, especially the ideally simple and eminently practical method of ingestion, which is admirably borne by the majority of patients, and proves adequate in 80 per cent. of cases, this figure representing the average proportion of benign to grave syphilis. It must also be remembered that certain lesions—roseola, macular syphilis and polyadenitis—are more easily controlled by a certain mercurial preparation which can only be given by ingestion, i. e., protoiodid. For cases of average severity, requiring a long series of intermittent treatments, it is customary to prescribe the inunction method, a useful and active form of treatment, it is admitted, but for which, in many cases, the writer would substitute the intravenous method. Besides being unclean, inunctions constitute a blind irregular medication, with which the patient is indifferently requested to experiment. For the production of sudden grave buccal lesions, inunctions have no rival.

The hypodermic method comprises: 1, the injection of soluble salts of mercury: 2, injections of insoluble mercurial preparations. The necessity of daily injections, frequently followed by painful nodules, makes the first method impossible for routine treatment, and it is, moreover, not always sufficiently active for grave cases. The writer has used only one form of insoluble mercurial preparation, i. e., calomel—Scarenzio-Smirnoff method—and, notwithstanding the preliminary use of Schleich's infiltration, the majority of the patients rebelled, at an early stage, against its continuance. There is no more certain mode of emptying a hospital ward (Besnier).

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[2] The proportion of mercury in the various preparations for hypodermatic use is as follows: Soluble—cyanid, 79 per cent.; corrosive sublimate, 74; peptonate, 25 to 50; red iodin, 45. Insoluble—red oxid, 92 per cent.; calomel, 85; sulphate, 82; salicylate, 59; tannate, 25 to 50; albuminate, 10 per cent.

[3] Mercury appears in the urine (Linden), three to seven days after use by inunction: two to five after ingestion: two hours after hypodermic injection: ten minutes or less after intravenous injection.

Compared with the intravenous method, injections of calomel offer many disadvantages: 1. The pain experienced at the time of the injection, although severe in some patients, does not equal in severity that which generally occurs on the second day. The patient likens the latter pain to a sudden hard blow. A certain amount of rest is consequently necessary after each injection. Morel-Lavallee prescribes thirty-six hours. 2. Nodules can not be avoided: furthermore, many of the cases requiring mercury in an active form are already predisposed to eschars—myelitis. 3. Notwithstanding the most careful asepsis, abscesses will occur—aseptic suppuration. 4. The absorbtion of mercury in this method is subject to no definite laws: it varies with, and even in, each patient. Numerous chemic and histologic changes occur, according to the region and tissue injected, and the degree of leucocytic activity in the pocket thus formed must vary in consequences. Furthermore, sudden dangerous intoxication has been noted by several observers, after the syphilitic symptoms had entirely subsided—five weeks after injection in the case of Renault.

The writer has resorted to the intravenous method in the treatment of a large number of cases of syphilis, both as a routine, and as an exceptional or temporary mode of treatment. For obvious reasons, the first plan was abandoned. The value of the second plan is illustrated in the preceding table of selected personal cases:

No ill results followed the use of the usual solutions. Only two complications were noted: a mild stomatitis lasting twenty-four hours, and a submaxillary abscess shortly after a massive experimental dose of sublimate—15 c. c. of 1/200 solution. In the majority of cases the injections were made daily at the elbow—one in the saphenous vein.

INDICATIONS FOR USE OF INTRAVENOUS METHOD.

This method should be regarded as an exceptional measure, of infinite value in cases where other recognized methods have failed—glossitis, phagedenism—and in cases demanding rapid action, or early intense mercurialization—malignancy. It should be reserved for lesions of exceptional severity: phagedenic chancre, primarily malignant syphilis, tertiary of the eye, brain, cord, nerves and tongue. In the majority of these cases the patient will have already been submitted to some form of specific medication, but the disease has, nevertheless, continued its ravages. In the differential diagnosis of certain neoplasms in suspected tertiary syphilis, or in the presence of the numerous pseudo phenomena or grave symptoms, such as epileptiform, coma, etc., of obscure origin, intravenous injections of mercury constitute the only thorough test, of infinitely greater value than the iodins. The rapid and positive action of these injections can not be disputed, but, for obvious reasons, this mode of treatment must be followed or supplemented by some simpler and more practical method as soon as the special indications have been fulfilled.

In concluding, the writer urges a more thorough examination of syphilitic subjects, prior to making therapeutic deductions. The influence of many infections, it must be remembered, continues long after apparent cure. Do not, therefore, be content with inspection of the skin and mucous membranes. Observe the patient's walk, examine his limbs, consult his reflexes, palpate his arteries, his lymphatics, test his pupils, and do not forget his vesical and rectal functions. If syphilis is to be treated, let the task be undertaken at the opportune moment, and accomplished in an intelligent and thorough manner. What can mercury and iodid avail against a sequestrum, a thrombus, a sclerosed lesion, or secondary descending degeneration? Above all, do not allow the question of seed to obscure the factor soil. "We are equal in the presence of a chancre" (Ricord), but the inequality of individuals is nowhere more lucidly demonstrated than in the evolution of syphilis.

"CHRISTIAN SCIENCE" AND ALLIED FADS.*

THE ATTITUDE THAT SHOULD BE ASSUMED BY THE MEDICAL PROFESSION.

BY JOHN CHADWICK OLIVER, M.D.

CINCINNATI.

The past history of medicine has furnished many and diverse anomalies in the line of methods of treatment, and the present day has brought many queer practices to light. By an odd coincidence most of the modern vagaries have for their basis a religious idea or thought. They endeavor to supplant material treatment by a spiritual or religious agency. At least, the advocates of these methods endeavor to use the Bible as their text-book on modern medicine. An effort is made to substitute the Word of God for the efforts of man, and hence the very natural conclusion that the agency of man is entirely unnecessary and even presumptuous.

It is a great mistake on the part of the medical profession to ignore these peculiar people. It is equally unwise to abuse or uselessly antagonize them. Some of them are honest in their beliefs, and it should therefore be the aim of physicians to educate and enlighten them. Harsh criticism and ill-advised scolding will do more to upbuild their numbers, to convince them of the animosity of physicians, and cause them to pose as martyrs, than any other course that can be adopted. Let us then meet them on the field of reason and common sense. Let us inquire as to the principles upon which their claims rest, and then dispassionately review the subject from a common standpoint.

The first step in this consideration is to remove the religious or superstitious element from the discussion. Does the Bible anywhere teach that men must rely on the supernatural and leave out of consideration the natural? Is there anywhere the assurance given that natural and temporal means are of no avail?

It is beside the purpose of this paper to go into an exhaustive theologic discussion of the subject, for two reasons: 1, theology is somewhat out of our line, and, 2, it is entirely unnecessary to go into this phase of the subject, because all of the claim for supernatural intervention—one might almost say interference—can be much better and more clearly explained by the knowledge we possess of the ability the human body has of combatting disease, and of restoring itself to a condition of health.

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*Read before the Ohio State Medical Society at Springfield, May 11, 1899.

The result therefore attributed by these believers to divine intervention is more correctly interpreted by the medical profession to mean that the Creator has so constituted the human body as to render it able to throw off certain indispositions without assistance. The *vis medicatrix naturæ* has been known and worshiped by physicians for many, many decades. The more we know of this subtle and peculiar power of regeneration, the more we admire and use it. To a logical and well-informed mind this is the foundation-stone upon which all "Christian Science," "divine healing," etc., rests.

There is another element that enters into these fads, and that is "faith." Far be it from the medical profession to decry the utility and necessity of this element. Each one of us knows that faith or trust or confidence in one's physician is a very important factor in the battle with disease. Faith in God is very commendable. Faith in man is also necessary and essential. Each physician strives to so conduct himself as to gain the confidence or faith of his patient, and he knows the great value of this to the patient. We often hear sick people say: "Why! Doctor, it makes me feel better just to see you! Come again to-morrow." Many and many a time does a physician relieve his patient by his conversation and presence more than by the remedies prescribed, and often no medicament is at all necessary. This is the result of "faith."

The third element to be considered is the mental diversion wrought by having the patient fix his—usually her—mind on some other subject than the disease. The late Dr. Comegys frequently remarked that he had often been able to accomplish seemingly wonderful cures (?) by obtaining the patient's promise not to discuss his ills with any one, not even to refer to them, for twenty-four hours. At the expiration of the time the promise would be extended; and so on until the mind was diverted from its constant dwelling on one subject, and the ills would then gradually sink into insignificance. Mental diversion is given its widest application in the Weir-Mitchell treatment, and every successful and intelligent physician is ready to bear testimony to its efficacy in a certain class of disorders. The result is brought about very largely through the personal influence of the physician on the patient, and the beneficial effects are heightened by the omission of drugs. You may call this power whatever you please, but you can not deny its existence. Before passing from this phase of the subject let me remind you that these fads are not new; they are but slightly modified manifestations of the curious ideas that have gone before. Homeopathy, I mean the old-fashioned brand, when analyzed, was found to rest on the tripod of *vis medicatrix naturæ*—faith and hope. In this mode of treatment the faith was not of a religious nature.

Some of us, nearly all in fact, will go farther than do the "faddists." We can truthfully say that many, many sick people will get well without prayers and without drugs. The self-limitation of many diseases is much more thoroughly understood by physicians than by "Christian Scientists," and our faith in the accuracy of our knowledge is very profound. The mortality in patients treated (?) by "Christian Science" will be just the same as the death-rate among those receiving absolutely no medical treatment—nay, it will be higher, because they may become so much interested in their prayers as to neglect to obtain good nursing and proper diet. The early homeopaths were much wiser, because they devoted careful attention to dietetics.

It may therefore be admitted that the principles which underlie "Christian Science" are good, and that they have a real foundation in fact and experience. It should also be admitted that physicians have for centuries recognized and used these same aids in the treatment of disease. There is nothing new in the scheme except the mysticism and unwarranted perversion of scripture.

Now, having admitted that their claims for a certain percentage of recoveries have a veritable existence, we must point out to them that they are misleading themselves and others as to the source from which recovery comes. The idea of a Supreme Being interesting himself in each and every case of illness is a very pleasant one, and very comforting to one's idea of his own importance; it really adds very much to one's self-conceit; but alas! there is not one iota of evidence to prove that these people are especially anointed of the Lord, or that they recover their health in any larger proportion than do the very outcast and scum of creation; in point of fact, one may safely say that the more worthless—apparently—an individual, the more likely he is to regain health and strength.

Thus far we have journeyed along very amicably, the only difference being that we eschew any supernatural agency in accounting for the phenomena of recovery from disease, while our friends attribute to a divine agency what we know to be the result of purely natural forces. We substitute the *vis medicatrix naturæ* for divine intervention, but admit the efficacy of faith, hope and mental diversion. Up to this point our views are so similar that no serious disagreement need arise—we believe in the same things, but call them by different names.

The foregoing ideas constitute the entire armamentarium of "Christian Science." They now stand still, perfectly content with their very meager view of the possibilities of medical science, never dreaming but what they know it all. Happy in their ignorance, they complacently hug this little bit of knowledge to their breasts and fondly delude themselves into the belief that there is nothing beyond. Physicians take these same ideas as a starting-point from which to project long lines of patient, painstaking research. Surgery, with its long vista of possibilities, opens up before the assiduous labors of the physician, and he is enabled to save thousands of lives which would surely be lost were he to rely on a policy of waiting, watching, praying, hoping, and having faith. Thousands of hideous deformities are removed, blind eyes are made to see—the beautiful young child, choking to death because of the presence of a cruel membrane in the throat, is restored to its parents through the knowledge brought about by scientific experimentation and careful welding together of observations. The mother, whose life is endangered by a malposition or dystocia of her unborn babe, is saved from a cruel, painful death by the application of medical knowledge.

Many, many similar examples can be quoted to show the beneficent mission of the medical profession, but why multiply instances? If it can be shown that the medical profession is cognizant of the principles which underlie "Christian Science," and that they know much more, then the deduction is irresistible that "Christian Science" is a proof of the old saying that "a little learning is a dangerous thing," and that in many cases it is the most unchristian cowardice, and the most devilish mockery.

Now, one great mistake made in discussions similar to this is that physicians have allowed themselves to make intemperate and illy-considered statements, and have given their opponents the opportunity to pose in the light of martyrs tied to the stake of custom, and subject to the cruel fire of prejudice. This is a strong position to occupy before the public, and particularly the American public, because they love fair play, and usually take sides with the "under dog in the fight." Homeopathy would not be alive to-day were it not for the impetus received from its alleged persecution by the regular profession.

We should, therefore, learn from our past mistakes and not repeat them whenever we are given an opportunity to do so. What do we gain by denying any and all merit to the "fads" under discussion? Would it not be a much more sensible course to acknowledge that the powers of nature will give an appearance of truth to their claims, and then gently and kindly lead them to realize that physicians have employed these identic means for hundreds of years, and still employ them, but that they constitute but a part of the grand science of medicine?

Would it not be well, in view of the fact that they rely on faith and hope, for us to add the other virtue to the trinity, and have charity for their narrow, superficial and superstitious belief?

Let us, therefore, convince them and all the world, that breadth of knowledge breeds magnanimity and charity for the errors and superstitions of those to whom the light of science is unrevealed. By education they may be led to see the great harm they are doing, both to the cause of religion and to the cause of honest scientific endeavor. May we not trust that each physician will feel it his duty to act as a missionary among these benighted brethren, and that he will kindly and patiently seek to woo them, by reason, from the false gods of superstition and ignorance, for these are the foundation upon which they build? Or, failing in this laudable ambition, would it not be the part of wisdom to ignore their existence and thus quietly allow them to depart to that oblivion which enshrouds the remains of previous delusions and neurotic vaporings?

Etiology of Whooping-Cough.—A recent Paris thesis (A. Cavasse, 1899) is a complete study of the bacteriology of this affection in 330 cases. Nothing was found in the blood or urine; negative results also in the tracheobronchic ganglia and pneumogastric and in the cerebrospinal fluid. Staphylo- and streptococci were found in the liver and spleen, the latter also in the medulla, and strepto- and pneumococci and pneumobacilli in the pulmonary juice. In the sputa alone was found the polar bacterium of Czaplewski, and this was discovered in every case. Inoculations of animals with this Czaplewski bacterium and agglutinating tests were negative in every respect.—*Presse Méd.*, April 26.

CYSTICERCUS CELLULOSÆ OF BRAIN AND SPINAL CORD.*

BY I. B. DIAMOND, M.D.

CHICAGO.

FROM THE PATHOLOGIC LABORATORY, RUSH MEDICAL COLLEGE.

The relation between the common bladder-worm of the pig, or *cysticercus cellulosæ*, and the hook-bearing tapeworm that infests the intestines of man, known as tenia solium, was not recognized until 1853, when Küchenmeister first called attention to the resemblance of the bladder-worm head and the head of tenia solium.[1] His observations were soon corroborated, mainly on experimental grounds, by Leuckart,[2] Haubner, Van Beneden and many others[3]—that the eggs of tenia solium, when introduced into the stomach of the pig, by feeding pigs with ripe segments, develop into the familiar bladder-worm (measly pork)—and that the latter is the larval form of the above tenia. Furthermore, the life cycle of this parasite is completed by the metamorphosis of the bladder-worm into the adult tapeworm, when the bladder-worm is taken into the stomach of man and in a few of the lower animals. The knowledge of its life history is of considerable importance, since the larval stage of this worm, as is well known, is also capable of developing in man, and at times producing serious results, especially when the cysticerci are situated in the brain, eye and heart muscle.

Leuckart divides the life history of the tapeworm into five stages: 1, the six-hooked embryo; 2, the bladder-worm or cysticercus cellulosæ; 3, the tapeworm head without joints (scolex); 4, the proper chain-like form (strobila); and 5, finally, the isolated sexual animal, segment or proglottis. Practically two stages only are considered, the larval and the adult. Starting with the adult tapeworm in the intestine of man, the infection with the larval form and its mode of development in man is briefly as follows: The ripe eggs or six-hooked embryos escape from the uterus of the segment and pass out with the excreta, or segments may break loose from the worm and then pass out with the excreta. A person may soil his hands with the eggs by handling the segments, and afterward swallowing them, or they may gain access through contaminated water. Self-infection may also take place. The segments may be carried into the stomach by reverse peristalsis. On arriving in the stomach, the embryos bore their way through the walls of the stomach by means of the six little hooks and wander to the muscles, or penetrate a blood-vessel, and may then be carried to various organs of the body. The embryo loses its hooks when it comes to rest, increases in size and develops into a round bladder-worm or cysticercus. During its development it may become encapsulated by connective tissue of the host, as a result of reactive inflammation. A fully developed bladder-worm consists of the future tapeworm head (scolex) with its suckers and row of hooks. The head is formed in an invagination of the cyst wall. The whole process of formation is estimated as from ten to eighteen weeks. The bladder-worm is capable of living for years, but as a rule it undergoes calcareous degeneration when the cyst becomes quite old, resembling on examination a cheesy tubercle.

As to the frequency of cysticercus cellulosæ in America—it must indeed be a rare disease. Stiles,[4] who is an authority on the subject, calls attention to the rarity of tenia solium and its larval stage (cysticercus cellulosæ) in America, not only in man, but also in the hog. I have collected only eight cases from American literature. The first case seems to have been reported by Schilling[5] of New York, in 1857. The patient was a German woman, 31 years of age. She had epilepsy for a number of years, and other nervous symptoms. On post-mortem examination, numerous cysticerci were found in the brain, and several in the heart muscle. In five cases the parasite was present in the eye. Reynolds[6] of Louisville reported one case in 1874; Kipp[7] of Newark, N. J., one in 1876, and C. S. Turnbull[8] of Philadelphia a case in 1879. The other two cases quoted by him were reported, one by Calhoun of Atlanta, Ga., in 1878, and the other by Morton (Philadelphia?), in 1870. Osler[9] mentions a case in his "Practice of Medicine" which came under his observation; the cysticerci were present in the subcutaneous tissue. Recently a case was reported by Cattell;[10] the patient was thought to have died of hydrophobia—a few cysticerci were found in the brain.

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*Read before the Chicago Pathological Society, May 8, 1899.

The case now to be reported was that of a married woman, white, aged 34, a native of Germany, residing in Cook County, Illinois, for fourteen years, and admitted to the Cook County Hospital, Chicago, on Oct. 22, 1898, in the service of Dr. Blouke. At the time of admission the patient was unconscious, and the following history was obtained from the relatives: Menses began at 16; regular, but accompanied by more or less dizziness; was married at age of 21, but never became pregnant. She always had "fits" at the time of the monthly sickness, and they have become more severe during the last ten years. These attacks could always be foretold and the patient would remove her clothing preparatory to the attack, which would last for five to ten minutes. After the convulsion she would remain in bed for about eight days. On October 20 she became frightened, and recognizing the oncoming of a convulsion, went to bed. Afterward the convulsions continued quite constantly at intervals of half an hour, and during that time she had taken no food or drink. The eyelids were partly closed, pupils contracted, supraorbital reflex absent. There was labial stertor, lips and tongue dry. At intervals there were marked spasms, but no screaming and no vomiting. On catheterizing a small quantity of urine was obtained, which showed abundant albumin, but no sugar; a few hyaline casts. The convulsions continued until death, which occurred Oct. 23, 1898. The clinic diagnosis was uremia. The post-mortem examination was made by Prof. L. Hektoen, the following day, and he kindly furnished me the following notes, with the above clinic history:

Anatomic diagnosis: Cysticercus cellulosæ of brain and spinal cord; adhesive pleuritis; bronchitis; bronchopneumonia; menstruation; lymphatic constitution (persistent thymus, enlarged intestinal follicles); parovarian cyst.

The general nourishment is good; rigor prominent; lividity posteriorly. The abdominal cavity is empty, lining smooth; pleural and pericardial cavities are empty; there are some fibrous adhesions over the left upper lobe. Tongue, pharynx and esophagus normal; thyroid gland of ordinary size; thymus gland present in the form of a mass of fat tissue, which corresponds to the thymus in shape and size and which contains quite extensive islands of glandular tissue. The lungs float and crepitate. In the right lower lobe is a small grayish-red area which is solid and granular, and around which the bronchi contain pus. The peribronchial lymph-glands are normal. The heart is normal as to its internal lining. The flesh is rather flabby and loose; weight 300 grams. The coronary vessels and aorta are smooth. The spleen weighs 150 grams, capsule smooth, cut surface red, rather soft. The kidneys weigh 300 grams, capsule free except over small areas, color red, cut surface moist, cortical markings distinct; in the center of one pyramid is a whitish area as large as a grain of wheat. The liver weighs 1375 grams, surface smooth, yellowish-red, consistence normal, lobular markings rather indistinct. The biliary apparatus is normal. The pancreas, stomach, small and large intestine are normal, except that in the lower part of the ilium the Peyer's patches show rather prominent follicles. The bladder and urethra show no changes. The uterus presents a virgin os; in the cavity is a loose mass of blood. In the center of the right ovary is a mass of clotted blood, 2 cm. in diameter, red, and in places adherent to the smooth walls of the cavity in which it lies. In the right appendage is a parovarian cyst as large as a hickory-nut. The serous surfaces of the pelvic organs are smooth. The scalp and skull show no changes. The dura is adherent to the pia at several small areas, on account of the presence of rather small cystic bodies between the two membranes, the bodies being lightly adherent to both.

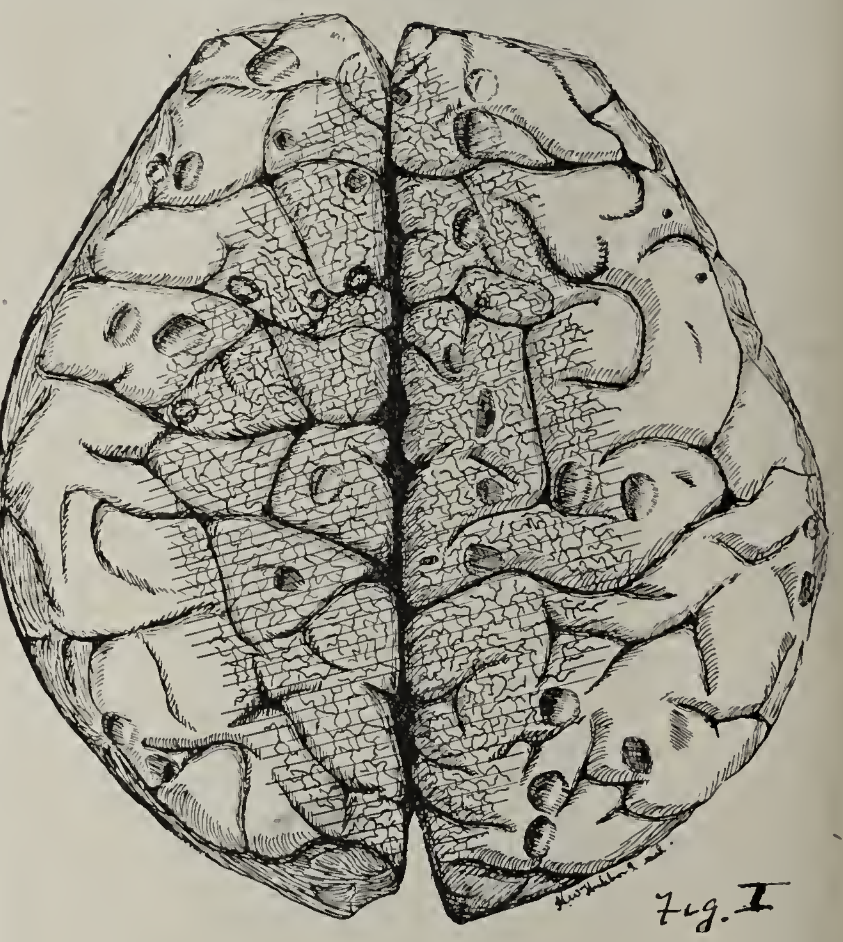


Figure 1.

The brain weighs 1250 grams. (Fig. 1.) Scattered over the entire surface are smaller and larger globular cysts with clear contents and thin walls, as well as shrunken, yellowish, irregular, granular, smaller masses. These cysts and masses are imbedded in the cerebral cortex, having made for themselves distinct depressions, clothed with pia, in which they lie loosely or slightly adherent. The largest of these cysts measure 2 cm. in diameter. There are perhaps ten or fifteen such masses scattered over the right occipital lobe. They also occur on the internal surface of the two hemispheres. The subdural space of the spine contains several flat, grayish, oval or rounded masses, similar to those on the cerebral surface. These are present in considerable numbers throughout the entire spinal subdural space.

Additional note.—There are six granular bodies attached to the inner surface of the dura. The adhesion of the dura to the pia is seen especially over the parietal and occipital lobes, and to a slight extent over the left frontal lobe. The fissures of the brain are obliterated by adhesions of the arachnoid and pia, which are thickened, opaque and grayish. The blood-vessels are distended with dark blood. The surface of the convolutions is somewhat flattened. The smaller cysts are usually situated in the fissures and sulci, while the larger ones, which have made deep depressions into the cortex, may extend throughout its entire thickness. On puncturing one of the medium-sized cysts, the contents is easily removed, consisting of an elongated, curled-up, hard body and enclosed by a yellowish, delicate membrane. The smaller, irregular, grayish masses, on section, are filled with a cheesy or calcareous substance, surrounded by a thick wall of connective tissue. There are seven cysts over the right superior frontal convolution, from 1 to 2 cm. in diameter. Several smaller masses are scattered over the right middle and inferior frontal convolutions. Two cysts 2 cm. in diameter are situated on the right middle frontal convolution, four in the left precentral fissure, and several smaller masses in the left inferior frontal convolutions. They are not so numerous over the parietal lobes, but are quite large and situated near the fissure of Rolando, more pronounced on the right. Several bodies varying in size from a pea to 2 cm. in diameter are situated in the fissure of Sylvius on both sides. The temporo-sphenoidal lobes are less involved, the bodies are present especially over the inferior convolutions. A number of the cysts are scattered over the base of the brain. One body, 2 cm. in diameter, is situated to the right of the optic nerve, making a deep depression in the frontal lobe, and another behind it, below the optic tract, surrounded by adhesions. (Figs. 2, 3.) Sections through the interior of the brain expose to view several dozens of these cysts. They are most numerous in the cerebral cortex of the frontal and occipital lobes, and especially of the right hemisphere. They vary in size from that of a pea to a large cherry. The smaller masses are calcified and surrounded by a connective-tissue capsule. These smaller masses are also scattered throughout the white substance, in the basal ganglia, optic thalami and corpus striatum. A cyst the size of a small cherry is situated in the posterior and lower portion of the corpus callosum, making an excavation for itself. Another, which is long and thin-walled, is in the right frontal lobe.

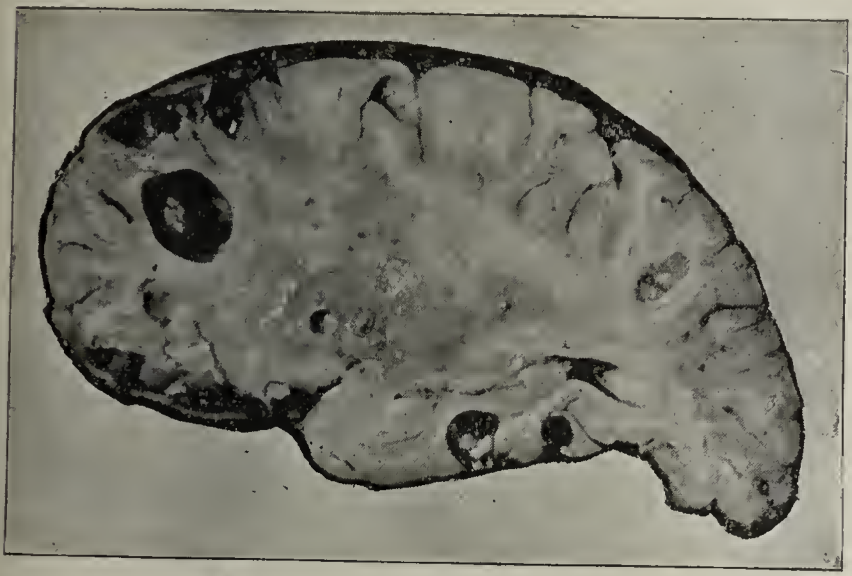


Figure 2.

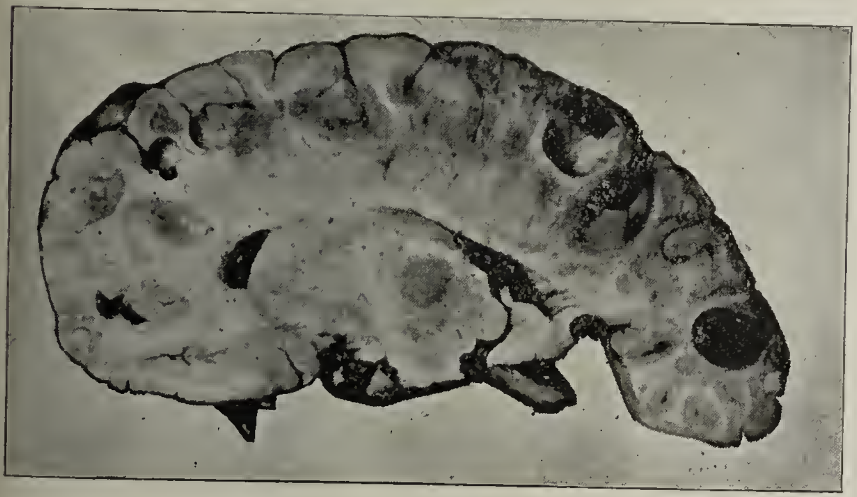


Figure 3.

Figures 2 and 3 are brain sections showing cysts in cortex and numerous calcareous bodies in basal ganglia.

Spinal cord.—The dura is adherent at many points to the pia. Over the anterior surface of subdural space are scattered a number of flat, calcified, oval masses, more numerous in the dorsal and lumbar regions, imbedded in the pia, averaging 1 cm. in diameter. Those in the cervical region are small, somewhat larger than a pin's head. The posterior subdural space contains but a few of these masses, in the lumbar and dorsal regions.

Histologic examination.—For microscopic study, several cysts were removed from the brain, dura and spinal cord, imbedded in celloidin, and sections stained with hematoxylin and eosin, Van Giesen, etc. A globular cyst containing a somewhat elongated calcareous body was punctured, laid open, flattened between two slides, which on examination with the low power revealed several rows of hooks and the suckers of a tapeworm head.

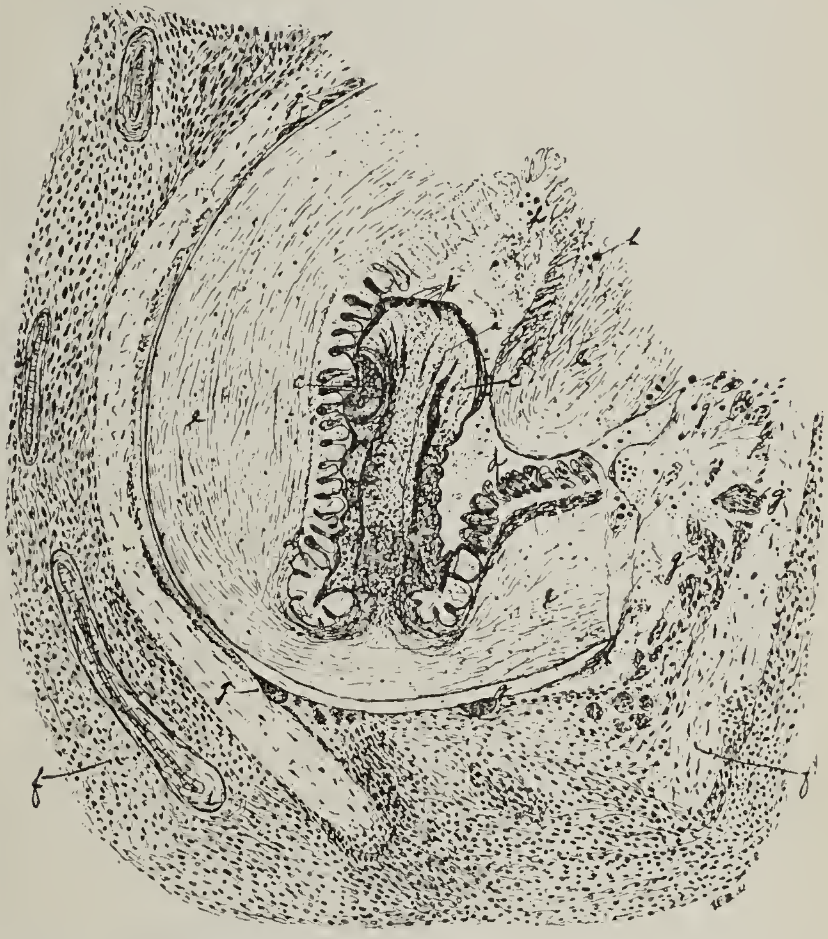
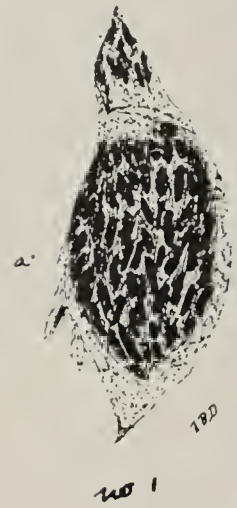


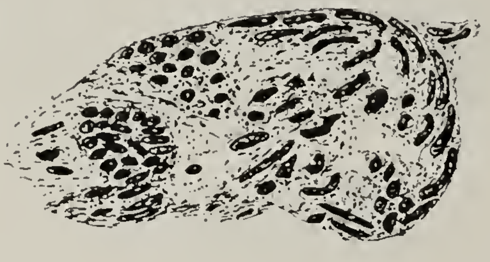
Figure 4.—*a*, Tapeworm head; *b*, hooks; *c*, suckers; *d*, folds; *e*, cyst wall; *f*, capsule of granulation tissue; *g*, giant cells; *h*, calcareous bodies.

Cysts of dura (Fig. 4).—In the center of a longitudinal section an elongated body is seen, resembling a tapeworm head. Several hooks can be made out, and beneath, on either side, are two suckers. The head arises by a kind of neck or base from the cyst wall, by which it is surrounded. The inner border of this wall is thrown into numerous folds, traceable to the sides of the head. The cyst wall is greatly thickened and has undergone calcareous degeneration. From the appearance and position of the head, it would seem, according to Leuckart,[11] that the head has protruded from its original position, and pushed itself into the cylindric body. The inner surfaces, formerly external, come in close contact, uniting and forming a solid mass, while the cuticular coat, mentioned above as folds, lies external. Scattered everywhere throughout the body and cyst wall are numerous calcareous bodies of various sizes, resembling ova and staining deeply with hematoxylin. The whole cyst is enclosed by a connective-tissue capsule, composed largely of granulation tissue. Lying next to the cyst wall, the tissue is fully formed and mostly fibrous in structure, throughout which are scattered a large number of variously shaped giant cells. Besides the giant cells, the cells of the tissue are of two kinds: 1, small cells with deeply staining nuclei; and 2, larger cells with vesicular nuclei, which stain lightly and in shape are either oval, spindle-shaped or oblong. Here and there through the tissue are seen the remains of obliterated larger and smaller blood-vessels. (Fig. 5.) The giant cells are, as mentioned, situated in the fully-formed fibrous connective tissue, and are most numerous next to the cyst wall. Others lie within the cysts, or partly within by shoots of their cytoplasm. They vary in size and shape. Some are round or oval, others spindle-shaped and irregularly oblong. Many of the giant cells have quite a large number of nuclei, which stain deeply, are rich in chromatin, oval or spindle-shaped, and fill completely by their numbers the protoplasmic masses. In others the nuclei are less in number, stain poorly, are swollen, elongated and vesicular, and are irregularly scattered or concentrically arranged around the periphery. A deep-stained nucleus may, however, be seen among them. In the last-named cells there are evidences of degeneration. The protoplasm is occasionally vacuolated and stains faintly with eosin. The degeneration is more marked in those cells lying within the cysts. There are giant cells apparently separated into protoplasmic masses or in the act of fusion. Many of the smaller-celled masses lying in the connective tissue, and having deeply and lightly stained nuclei, resemble remains of giant cells, their protoplasm blending with the surrounding tissue. It would here be proper to state, since Hektoen[12] has called our attention to the fate of the giant cells in healing tuberculous tissue, that they undergo progressive changes and separate into small living cells, and which he further demonstrated experimentally in the rabbit's eye.[13] It would therefore suggest from the general appearance and arrangement of the giant cells here described, that the majority are undergoing a like fate. This statement I believe is justifiable for the reason that the giant cells are, as a rule, well preserved, while the surrounding tissue is quite old; that their nuclei are rich in chromatin, become elongated and arrange themselves to the long axis of the cells, and that small protoplasmic masses seem to separate from the giant cells and become enclosed by the surrounding tissue.

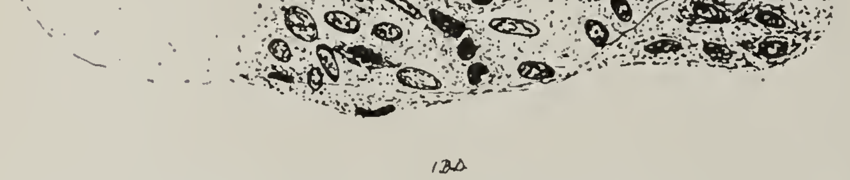


No. 1.—Giant cell, nuclei rich in chromatin and arranged to long axis of the cell. 1-12 oil-immersion; hematoxylin and eosin.

Figure 5.



No. 2.—A giant cell, with irregular-shaped nuclei collected in masses and evidently separating. 1-12 oil-immersion; hematoxylin and eosin.



No. 3.—A degenerated giant cell; nuclei swollen, among which are seen deeply-stained nuclei. Hematoxylin and eosin.

Transverse sections through a small cyst imbedded in the cerebral cortex and lying partly within a sulcus surrounded by pia, show the cyst completely degenerated. It is filled by a calcareous or cheesy-like substance, and encapsulated by a thick wall of fibrous tissue. Lying next to the cyst and embedded in the fibrous tissue are a small number of giant cells. Surrounding the capsule is a zone of granulation tissue, composed largely of small round, deeply-stained cells, throughout which are seen various-sized capillaries, with somewhat thickened walls. This tissue, which is identic with the pia, is adherent to the cortex. The change in the cortex is that also of a reactive inflammation. It is extensively infiltrated with small round cells, while next to the pia it is distinctly fibrillar. The blood-vessels are congested, and their walls thickened and infiltrated with small round cells. The lumen in others is obliterated. The changes of the ganglion cells are those due to pressure. Some have lost their outline, the nerve processes have disappeared and their nuclei are swollen. In others proliferative changes are present, the nuclei stain deeply, and there may be more than one nucleus in a cell.

An examination of sections of another somewhat larger, globular cyst, with clear contents and also taken from the cerebral surface, shows no head or hooks. The center is divided into several smaller cysts, throughout which are scattered a number of calcareous bodies. The cyst wall consists of two layers, an outer cellular attached to the capsule, and an inner, fibrillar, delicate-like membrane.

Compound cysts,[14] like this one, have been reported quite frequently. They usually are irregular in shape, and heads are but rarely found—C. racemosus of Zenker, who first described them.

Spinal cord.—The central canal is obliterated, and around its position are scattered a number of round, deeply-stained cells. The blood-vessels of the gray and white matter are distended with blood, and their walls are thickened. The ganglion cells as well as the nerve-fibers of the white substance are normal. The smaller and larger blood-vessels of the pia mater are congested, more like thrombosed. Around many of the blood-vessels are collections of small, round cells. To one side of the pia is seen one of the oval flat masses. It is dense and homogeneous, and throughout are scattered a number of nuclei.

Sections of the thymus show, on microscopic examination, a number of follicles imbedded in fat tissue. It is composed of closely-packed, deeply-staining cells. Many blood-vessels are scattered throughout these islands, and in the fat tissue. They are greatly distended with blood and contain quite a large proportion of leucocytes. The larger vessels in the fat tissue are thickened and some evidently contain thrombi, which are organizing.

Summary.—It is evident from the foregoing that we are here dealing with a long-standing infection from the larva of tenia solium. While it is impossible to say how long the cysticerci have been present in the brain, we may infer from the clinic history, as well as from the examination of the cysticerci, that it is of at least twelve years' duration, if not longer. Cases have been reported where the bladder-worm has caused cerebral disturbance for fifteen years. Marchand reported a case of over ten years' standing. In what manner the ova gained entrance in this case, I am unable to say. There is no history of tapeworm. I question, however, whether the infection is of American origin, for the reason that the convulsions began when she was 16, four years before she came to this country. Besides, the few cases reported were mostly in Germans.

Furthermore, Stiles states[15] that he has yet to see a "pork" tapeworm of American origin. He believes those cases reported in the literature as tenia solium are really, from the general description, the "beef" tapeworm—tenia saginata.

I believe we may safely conclude that the convulsions are the result of the constant pressure and irritation of the cysticerci on the brain, and which (finally) caused death; that the cysticerci acting as foreign bodies produced a chronic reactive inflammation of the brain and meninges; and, finally, that the giant-cells formed around these bodies participate in the formation of the capsules.

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587 S. Halsted Street.

PROPRIETARY PREPARATIONS.*

WHAT SHOULD BE THE ATTITUDE OF THE MEDICAL PROFESSION?

BY CHARLES C. YARBROUGH, M.D.
DETROIT, MICH.

This is a question of vital importance to the medi-al profession, and although it has been discussed and e-discussed in various medical societies and in numer-us medical journals, its solution has not yet been ccomplished. It is high time some definite stand ere being taken in the matter. This free and indis-riminating use of proprietaries is becoming a menace the welfare of the profession, working as it is reparable injury financially and professionally. I believe it is safe to assert that the great majority of physicians of this country have given the subject such little analytic thought and study that they do not properly appreciate the true significance of the term "proprietary" in this application. Some physicians are caustic opponents to the professional use of proprietaries, many even letting their prejudice lead them to vituperative denunciations of this class of remedies without insomuch as making an exception. Others go to the other extreme and give heed to the extravagant claims of interested promoters and prescribe and sanction without distinction all ready-prepared and concocted compounds whatsoever. These two classes of extremists do not see that one proprietary differs from another, but class them all in the same category. Why is this great diversity of opinion? The answer lies in what has been intimated above, that physicians are too careless and indifferent about the character of medicinal preparations and have not given the subject the proper thought that would lead them to definite and rational conclusions.

The number of proprietary preparations for which the physician's support is solicited and continually being urged upon him is simply prodigious. That all these preparations are worthless and without the sphere of ethic recognition is no more true than that all of them possess extraordinary virtues and may be used with professional impunity is true. Many of them are ideal preparations and are strictly in harmony with the spirit of the Code of Ethics; for while they are "proprietary" in the strict meaning of the term, they are not "proprietary" in the odious sense in which this word has come to be used. They are manufactured, advertised and marketed in such a way as to be in perfect harmony with scientific work and may be freely used by scientific and ethic physicians without a breach of professional ethics or laying themselves liable to culpability.

On the contrary, the majority perhaps of proprietaries are of such a nature that they are well characterized by the word "nostrums" and are worthy of the profession's severest condemnation and scorn. They are an insult to the profession, depending as they do on mystery, credulity and secrecy for their employment. The physician's endorsement, written or otherwise, of these preparations is solicited and obtained for the purpose of promoting their sale among the laity. The unscrupulous manufacturers of such nostrums are out for filthy lucre, regardless of what methods are necessary to obtain it. Their principles are subservient to the desire to accumulate. What untold injury has been done the profession by carelessness of physicians in giving recognition to these unworthy and illegitimate concoctions!

A physician owes it to his patient to employ the most agreeable and the most palatable remedies possible, consistent with efficacy. The days of nauseating, disgusting, crudely prepared drugs are forever gone. It has been demonstrated over and over again that disagreeableness in a medicine is not a necessary factor in efficiency. Physicians know this to be true. Their patrons have learned it and rebel at the idea of obnoxious mixtures, so much so that in employing a physician, strong preference is almost invariably shown for the one who gives his remedies in the most elegant and palatable form. It is enough for the patient to suffer the disease without having to force down vile, nasty-tasting medicine when the same may be administered in a palatable form with equal efficiency. On the other hand, the physician is indebted to his profession, and duty demands that he accord it the thoughtful consideration commensurate with its dignity and in keeping with the fundamental principle which has been instrumental in its being classed as one of the learned professions. Every time a physician prescribes a "nostrum" he antagonizes his profession's best interest. He adds one blot to the fair name of his profession, and every blot so added detracts from the honor and respect which it is his bounden duty to promote. The prescribing of "nostrums," semisecret, or secret, is a sad reflection on the physician's knowledge of legitimate materia medica.

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*Read at the meeting of Michigan State Medical Society, Kalamazoo,

Every pharmaceutic manufacturing concern has some one or more particular preparations which it has made an object of special research and study and in the elegance and excellence of which it takes especial pride. Many of these preparations, although proprietary, are indispensable to refined practice. This leads us to seek a rational definition of the word "proprietary" and a better understanding of the subject, to the end that a rule may be formulated by which a physician may be properly guided. I hold that the word "proprietary" in this connection signifies what it does anywhere else. It signifies some property in, but not necessarily exclusive ownership. For example, the "Columbia" bicycle is proprietary, the manufacturers of which own property in their special make of bicycle, but do not have exclusive ownership of bicycles in general.

I would define a proprietary preparation as one that has a proprietor or owner—a person, firm or corporation that manufactures the preparation according to a certain particular method and that controls the output of the preparation made according to his or its *particular process*. The proprietaryship is based upon some peculiarity of composition or manufacture, on a distinctive name (copyrighted or not), or on a patent.

Proprietaries may be divided into three distinct classes: those of secret, semisecret and nonsecret composition. And these may be further divided into three subdivisions, according to the way they are offered for sale: 1. Those advertised to the laity only. 2. Those advertised to the profession only. 3. Those advertised to both the laity and profession.

I do not wish to antagonize in this paper any particular preparation or manufacturer, and hence I hesitate to mention any selected ones as examples. My desire is to outline the correct underlying principles that should govern medical men in the use of proprietaries and leave it to each individual to draw his own conclusions as to the fitness and eligibility of particular preparations. However, illustrations add force to argument, and I hope I may be pardoned for mentioning a bare few to render my position more perspicuous.

Nervura is secret and advertised to the laity only.

Resinol is secret and advertised to the profession only.

Psychine is secret and advertised to both the laity and profession.

Hood's sarsaparilla is semisecret and advertised to the laity only.

Sanmetto is semisecret and advertised to the profession only.

Ozomulsion is semisecret and is advertised to both the laity and profession.

Scott's emulsion is non-secret and advertised to both the laity and profession.

Liquor sedans is non-secret and is advertised to the profession only.

Are not all these preparations proprietary? Does not each firm own property in its respective preparation? If not, why should they exercise such assiduity and spend large sums of money in advertising them to the best advantage? Since these are all proprietary, is there a physician who can not see that, in important respects, one differs very much from another? None is so blind as he who will not see. Is it policy, not to say ethic, for a physician to prescribe proprietaries without distinction? On the other hand, is it just to denounce proprietaries without exception?

It seems from this classification that it is an easy matter to select that class of proprietaries which a physician should prescribe and if a preparation can not be brought into this class it is not worthy of his recognition and is not manufactured by its promoters for the physician of intelligence and learning. No practitioner will admit that it is rational and scientific to prescribe a preparation of secret or even semisecret composition. This then narrows the question down to the point of strictly pharmaceutic preparations, including only those of which excellence of quality and elegance of preparation can be claimed. This obviates the brazen, unfounded and oftentimes ridiculous claims which are characteristic of some nostrum promoters, for intelligent physicians knowing the composition of a preparation know about what to expect of it. There is no dearth of eligible preparations. Of the many these may be mentioned: Gardner's syrup of hydriodic ccid; Chas. Marchand's hydrozone; P., D. & Co's euthymol; Stearn's kasagra; Wyeth's boracetanile, etc. The firms manufacturing them do not have a monopoly of these remedies, which would render them wholly unethic, but only possess such property in the preparations as reverts to them from excellence obtained by some peculiarity of manufacture. This however is considerable, as their wide use indicates and the extensive advertising which it warrants.

From the foregoing the following conclusions are drawn:

A physician can not consistently prescribe or sanction the use of any proprietary whose active ingredients are not stated and their exact amounts given, Secrecy of active constituents is then the great dividing line. But there are a number of preparations whose composition is openly published but are ineligible and unfit for professional recognition. These comprise all of such nature except those which are not advertised to the laity.

Now, who will dispute that this is ethic and scientific? If proprietaries must be prescribed, and there is scarcely a physician who does not use one or more in his practice, is not this a safe rule by which to be guided:

Do not prescribe or sanction the use of any preparation by the profession which does not give an entire formula of its active ingredients and their proportions and is advertised only in proper professional channels.

Vita Propria of Cells of Periosteum.—Grohe, in an extensive series of tests of flaps of periosteum taken from animals twenty-nine to one hundred hours post-mortem, has shown that the periosteum retains its vitality and proliferating power for this length of time and behaves exactly like still warm flaps when transplanted.—*Virchow's Archiv.*, clv. 3.

Association News.

AMERICAN MEDICAL ASSOCIATION.

Fiftieth Annual Meeting, held at Columbus, Ohio, June 6-9, 1899.

OFFICIAL MINUTES OF THE GENERAL SESSIONS.

(*Concluded from page 1341.*)

Dr. T. J. Happel made the following supplementary report on behalf of the board of trustees:

The board of trustees, in considering the various matters referred to them, would report that they have found much difficulty in finding the proper sections of our constitution and by-laws under which to examine them; hence, we would recommend that a committee of three be appointed to revise the constitution and by-laws of this Association and to codify and arrange them properly, and when the committee shall have completed its work, the editor of the Journal print a sufficient number of copies of the same and have them ready for distribution at the next meeting of this Association.

On motion, the report was adopted.

Your board of trustees, to which was referred the resolution of Dr. Tuckerman of Ohio, in regard to the appointment of a committee of three on national legislation, would recommend the adoption of the resolution, and would advise that not exceeding $250 be appropriated for the use of said committee, to be expended on vouchers approved by the local member of the board of trustees, who, under a former action of this Association, must be the District of Columbia member of this national legislative committee, with one member from Baltimore and one from Philadelphia.

On motion, the recommendation of the board of trustees was concurred in.

COMMITTEE ON DEPARTMENT OF PUBLIC HEALTH.

Dr. U. O. B. Wingate, Milwaukee, Wis., presented this report, as follows:

Your committee has only a short report of progress to offer at this meeting. At the last meeting, held in Denver, a somewhat full and lengthy report was submitted in printed form. Since that meeting, as is well known, Congress has held a short session and devoted its time largely to the consideration of matters relating to the late war and our relations to the new possessions. Matters pertaining to national public health legislation have become crystallized, so to speak, into two propositions in the form of two bills—one known as the "Cafferey-Hepburn bill," which provides only for extended quarantine powers of the marine-hospital service, and the other the "Spooner bill," which has been endorsed by this Association at its last two meetings.

It is unnecessary to refer to the merits of this measure, as they are well known—suffice it to say that since the last meeting much has been added to public sentiment in favor of this bill, and, as stated in the last report, it has been endorsed by the American Public Health Association, the New York Academy of Medicine, the New York Board of Trade and Transportation, the New York Chamber of Commerce, and since the last meeting it has received the endorsement of the N. Y. State Medical Association, which body has appointed a committee, with Dr. Stephen Smith as its chairman, to co-operate with your committee in aiding its passage. It has also received the endorsement of the Conference of State and Provincial Boards of Health of North America, recently convened at Richmond, Va., and it has also been endorsed by many medical societies throughout the country, as well as business organizations. Your committee does not hesitate to state that in its judgment no bill of its nature ever before Congress has received the support that this bill has received and is receiving.

Your committee is of the opinion that there have been two prominent causes in the delay of the passage of a measure to create a national bureau of public health, one the diversity of opinion existing in the profession as to the composition and details of such a measure, the other the lack of information on the part of members of Congress concerning the importance of such legislation, and it is hoped that these two obstructions have been largely overcome, and if the profession will now stand firm, and shoulder to shoulder, in favor of this bill, which has been endorsed by such a large number of the medical and business organizations, individual medical men and sanitarians throughout the country, it is believed that the "Spooner Bill" will become a law during the next Congress.

At the last meeting of this Association, your committee pointed out the need of having some one watch with care the progress of the bill, and that money was needed to carry on this work. Your chairman signified his willingness to give his time to this service if his actual expenses could be paid. It was recommended that $1000 be set aside for the use of your committee. That matter was referred to the board of trustees and that body set aside $200 for this purpose. But one visit to Washington was necessary during the last extra session of Congress, and a part of the expenses of that trip was borne by the Wisconsin State Board of Health. There was a small bill for printing, so that about $75 has been expended, hence there is about $125 left for the use of your committee. Your committee would strongly urge that at least $500 in addition be set aside, or so much thereof as may be necessary, for this purpose, as in all probability this will be the last call. Your committee believes that victory is in sight, and with a little more financial aid and the active co-operation of the individual members of the Association, success will crown our efforts before our next meeting.

If we are are not successful it will be the fault of those who fail to co operate with those who laid the foundation, for with the support of the medical, sanitary, and business organizations, as well as the great majority of State boards of health and the leading sanitarians of the country, such a measure will only be defeated by a lack of harmonious effort in influencing our members of Congress, and the activity of the few who oppose the many. Respectfully submitted,

[Signed.] U. O. B. Wingate, M.D., chairman.

Dr. Bishop of Pennsylvania "I move that the report of the committee be adopted and the money appropriated as suggested."

Seconded and carried.

RESOLUTIONS OF THANKS TO DR. GIHON.

The following preamble and resolution were offered:

Whereas, Dr. A. L. Gihon, who for so many years has served with earnest enthusiasm as chairman of the Rush Monument Committee, has resigned the office; therefore be it

Resolved, That the American Medical Association accept the resignation with extreme reluctance and regret, and tender to Dr. Gihon its sincere thanks for the efficient manner in which he has discharged the duty of the onerous office;

Resolved, That this preamble and resolution be spread upon the minutes and a copy of the same be sent by the secretary to Dr. Gihon.

On motion, the resolution was unanimously adopted.

RESOLUTION CONCERNING REGISTRATION.

Dr. T. J. Happel of Tennessee—I have a resolution which I wish to read, and desire to make a motion to adopt the same. The resolution is as follows:

Resolved, That Dr. Wm. B. Atkinson be appointed to take charge of the registrations at the annual meetings, until otherwise ordered by the Association, and to that end the committee of arrangements shall advise with him before the meeting and he shall go to the place of meeting at least one day in advance to perfect arrangements for registration. For this service he shall receive annually from the treasurer the sum of $100 and his expenses.

Seconded and unanimously carried.

REPORT OF EXECUTIVE COMMITTEE.

The President—The next thing in order is the report of the executive committee, which will now be presented.

June 8, 1899.

Your committee would respectfully report as follows:

It has carefully considered the topics mentioned in the president's address, and would advise as follows:

1. In regard to a permanent location at Washington for the meetings of the Association, your committee recommends that no change from the present plan be adopted.

On motion, this section of the report of the executive committee was adopted.

2. In regard to the clinics and entertainments interfering with the work of the Association, your committee recommends that the Association direct that such be avoided in the future.

On motion, this section was adopted.

3. In regard to a traveling assistant secretary to visit medical societies and secure membership, your committee advises that the solicitation of subscriptions to the Journal should be left to the trustees, as heretofore, and that membership in the Association is better advanced by the efforts of delegates in their own societies than by a paid commercial agent.

A motion to adopt this section was carried unanimously.

4. In regard to the editor of the Journal acting also as secretary of the Association, your committee recommends that it is desirable and that the plan be adopted if the amendment to the constitution and by-laws is accepted.

5. In regard to the recognition of delegates from other bodies than the State societies, that relates to the constitution and by-laws and the committee is not prepared to advise in the matter.

6. In regard to the memorials to Congress, referring to tuberculosis, your committee offers the following preamble and resolution:

REPORT OF EXECUTIVE COMMITTEE ON TUBERCULOSIS.

Whereas, From carefully prepared statistics it is found that of the deaths from all causes between the ages of 15 and 60 years, one-third result from tuberculosis, and that one in every fifty persons has this disease; and,

Whereas, Competent authorities claim that under proper treatment from at least one-fifth to one-quarter of those affected by tuberculosis may be cured; and,

Whereas, The European governments are actively engaged in endeavors to stamp out this disease, while in the United States nothing has as yet been done by us as a nation in this important work; therefore, be it

Resolved, That the president appoint a committee of five with power to add to the number, who shall prepare a report on the nature of tuberculosis; its communicability and prevention; the more effectual means of controlling the spread of infection and of educating the people in personal hygiene, so as to lessen the chances of their becoming tuberculous and to increase the prospects of their recovery; the advisability of establishing national and State sanatoria, and such other matters as may be pertinent to the subject.

Resolved, That this committee shall present this report to the Congress of the United States and to the legislatures of the various States of the Union and urge upon them that appropriate measures be speedily taken.

On motion, this section was adopted.

REPORT OF EXECUTIVE COMMITTEE ON VACCINATION.

7. In regard to the subject of compulsory vaccination, your committee offers the following preamble and resolutions with recommendations of their adoption.

Whereas, Before the discovery of vaccination smallpox was one of the most dreaded scourges of the earth, causing in epidemics as much as one-half of all deaths in a year; and,

Whereas, It has been proven by years of experience that smallpox can be stamped out by the efficient use of vaccinaation, and,

Whereas, When prejudice has prevented its employment in diverse communities for periods of years, these communities have in many instances been almost exterminated by epidemics of smallpox; and,

Whereas, Certain well-meaning but fanatical persons have, for some time past, been endeavoring to excite a prejudice against vaccination, and may, if they are not checked, succeed in rendering the entire country susceptible to an epidemic of smallpox such as has visited and laid waste the various isolated communities where vaccination has been abandoned or never adopted; therefore, be it,

Resolved, That the American Medical Association most strongly urges the adoption by local boards of health of laws requiring compulsory vaccination, and deprecates in the strongest way the efforts of those who are endeavoring to secure the abolition of compulsory vaccination; and,

Resolved. That a copy of this preamble and resolutions be sent to every health board in the country.

On motion, this section was adopted unanimously by a rising vote.

8. In regard to the spread of syphilis, the matter was referred to the delegates to the international congress at Brussels, in September, 1899, which have been appointed by the United States Government on nomination by the president of this Association, the committee to report next year, as suggested in the address.

In connection with this a resolution was offered that the Association requests the United States Government to make some appropriation for the expenses of the delegates, as is common on such occasions.

On motion, this section and the resolution were adopted unanimously.

9. The resolution offered by the Ohio State association in regard to the appointment of a permanent committee on national legislation has been fully considered by your committee, and Dr. L. B. Tuckerman and Dr. U. O. B. Wingate appeared before the committee in regard to the same. (For resolution see previous day's minutes.) Your committee recommends the adoption of the resolution with the proviso that one member of the committee should reside in Washington, the others elsewhere, and that the matter be referred to the trustees, as there may be some expenditure of money connected with it. (See President's Address, Journal, June 10.)

10. Your committee report that the report of the secretary was satisfactory and requires no action.

11. The Section on Materia Medica sent a resolution to the executive committee, which was duly considered and is recommended for adoption by the Association. The resolution is as follows:

Whereas, The Decennial convention for the revision of the Pharmacopeia meets in Washington in May, 1900, and,

Whereas, The American Medical Association has the right to send five delegates to that convention; therefore, be it

Resolved, That the Section on Materia Medica, Pharmacy and Therapeutics requests the Association to send delegates to this convention and suggests the names of Dr. George F. Butler, Dr. Hobart A. Hare, Dr. W. B. Hill, Dr. F. E. Stewart, and Dr. R. G. Eccles, to the president of the Association as suitable gentlemen to take care of the interests of the Association in the same.

The executive committee recommends that the committee be sent to the revision convention, and that the names recommended be accepted.

On motion, the recommendation of the executive committee was concurred in.

12. In view of the fact that the last published edition of the constitution and by-laws was dated March 28, 1891, and is imperfect, not containing some recent changes and ordinances, as, for instance, the organization of the executive committee of the Sections and the general executive committee, the election of officers of Sections by the Sections, etc., and it is impossible to know of many provisions of the same accurately, your committee recommends that the Association direct the trustees to issue a revised edition at the earliest possible date, containing also a list of the members of the Association, as provided by an ordinance. (Page 18.)

Dr. Bishop of Pennsylvania—"I move that it be adopted, and that in addition there be printed the Code of Ethics and the interpretations placed upon it by the American Medical Association." The motion was seconded and carried.

13. Your committee will call attention to the fact that there is no provision on the daily program for the reception of the report of this committee, although the Association ordered last year that this be done, and requests that the Association direct the secretary to have the same inserted in the future as early in the day at each meeting as possible, in order that the matters reported on may be duly considered and acted upon.

Dr. Bishop of Pennsylvania—"I move that it follow the reading of the minutes." Seconded.

The following was offered as an amendment to the motion: That there be a general order, after the reading of the minutes, for the reports of the committees. The amendment was accepted.

It was suggested that it would hardly be right for the report of the executive committee to be placed among the reports of committees in general, since the executive committee is constitutionally organized. It was also suggested that the executive committee be especially mentioned on the program, and a motion to amend to this effect was made, seconded, voted on, and carried.

Dr. Starling Loving—"I am requested by the president to announce that the next order of business will be the Address on Medicine, by Prof. J. C. Wilson of Philadelphia. Following Dr. Wilson's address, Dr. Sternberg, surgeon-general of the army, will, by the aid of the stereopticon, illustrate views of hospitals, the hospital ship *Relief*, and the camps of the American-Spanish War. (See Journal, June 10, p. 1277.)

A resolution from the Ophthalmological Section was read by Secretary Atkinson and adopted. (For resolution see minutes of previous session.)

REPORT OF NOMINATING COMMITTEE.

The report of the nominating committee was read. It appeared in the Journal, June 10, p. 1341; additions, p. 1375.

Dr. J. C. Wilson, Philadelphia, then delivered the Oration on Medicine, at the conclusion of which Dr. E. Fletcher Ingals, Chicago, moved that a vote of thanks be extended to Professor Wilson for his admirable address (see Journal, June 10, p. 1277), which was seconded and unanimously carried.

The president then introduced Surgeon-General Sternberg, who gave a stereopticon lecture.

Dr. Bishop of Pennsylvania moved that the thanks of the Association be extended to Surgeon-General Sternberg for presenting the pictures, and that he be requested by the secretary to write out his remarks embodying substantially his lecture. Seconded and carried.

At this juncture the retiring president, Dr. Jos. M. Mathews, appointed Drs. Daly and Marcy to escort the president-elect to the chair, and Dr. Mathews introduced his successor in the following language:

"Dr. Keen needs no introduction from me. His distinguished services have rendered his fame world-wide, and it affords me very great pleasure to yield the chair to so distinguished a man." (Applause.)

Dr. W. W. Keen, in accepting the presidency, said:

"I wish to assure you, ladies and gentlemen, and members of the Association, of my most sincere thanks for the honor that you have done me in electing me president. To follow such a line of distinguished predecessors, beginning with Nathaniel Chapman, fifty-two years ago, and ending with Mathews, at present, I am sure the responsibility of such a position in presiding over an Association which represents the entire profession of the country is not one to be lightly undertaken. I return you, again, my very sincere thanks." (Loud applause.)

TO AMEND CONSTITUTION.

The secretary read the following, which was offered by Dr. Dudley S. Reynolds of Louisville, Ky.: Proposition to amend article 2 of the constitution, by adding to the qualifications of membership in those societies eligible to send delegates to this Association. After the words "Marine-Hospital Service of the United States," at the conclusion of the second paragraph; provided, however, that no State, county or other auxiliary body sending representatives shall receive into its membership any one who may after 1900 have received the degree of doctor of medicine on less than four years of graded instruction or an equivalent requirement. (Laid over for one year.)

The secretary read the following, on which no action was taken:

The regular decennial convention for the revision of the United States Pharmacopeia will be held in Washington, May 4, 1900. It is important that the American Medical Association should have a voice in regard to what shall be made official therein. This Association is entitled to a delegation of five to the convention, and it is of the greatest importance that our delegates go prepared to express the wishes of the Association in this connection. Therefore, the discussion of the pharmacopeia will be continued by the Section on Materia Medica, Pharmacy and Therapeutics in its afternoon session at 2 o'clock to-day.

On motion, the Association then adjourned until 11 o'clock Friday morning.

June 9—Fourth General Session.

The Association was called to order at 11 a.m., by the president.

The minutes of the previous session were read by the secretary, and on motion of Dr. Frances Dickinson of Chicago, they were approved as read.

Dr. I. N. Love moved to reconsider section 12 of the minutes of the executive committee, just read, which provides for the printing of a list of the members along with the revised constitution and by laws. Seconded and carried.

Dr. I. N. Love.—"I now move, Mr. President, that that part of section 12 which provides for the printing of a list of the members of the Association in conjunction with the revised constitution and by-laws be eliminated. I do this because the board of trustees, after thorough and free discussion of the question, have arrived at the conclusion that it would not be to the best interests of the Association to have such a list published, as it might be used improperly and commercially. I make this motion on behalf of the board of trustees."

Dr. Dudley S. Reynolds.—"I rise to second the motion of Dr. Love."

The President.—"You have heard the motion of Dr. Love, saying that the board of trustees feel that it is not desirable to have a list of the members of the Association published in connection with the revised constitution and by-laws. You will remember that the executive committee recommended in their report of yesterday the publication of such a list, and it is the desire to have the section pertaining to the publication of this list eliminated."

Dr. Leartus Connor, Detroit—"The minutes of the executive committee of yesterday have provided for the publication of a revised constitution and by-laws, etc. It does not say anything as to what shall be done with them. Therefore, I move that to every member of this Association a copy of these documents be mailed when they are presented, and further, that every year as new officials are inducted into office, the members shall be supplied with copies of these documents." Not seconded.

Dr. I. N. Love—"It seems to me, the board of trustees should exercise their judgment with regard to the publication of the list of members in connection with the revised constitution and by-laws."

Dr. George H. Simmons, Chicago—"I would like to ask whether this is a standing resolution or not, or is it in the bylaws? If a standing resolution, it seems to me the Association can rescind it. The item of expense should be considered in connection with the publication of such a list with the revised constitution and by-laws, but a more important point to be thought of is the commercial use that can be made of this list. It is a list that we could sell for $25 apiece, if we would do it. There are many firms in this country that would gladly pay that amount for this list, and some of them have repeatedly offered to do so. The question I ask is as to whether this is a standing resolution or not. If so, can it not be rescinded at this meeting?"

The President—"It is a standing resolution, Dr. Simmons, according to my knowledge."

Dr. Dudley S. Reynolds—"If we consult the first section of the by-laws, we will find that the Association can alter, amend, and change this matter in general session by a three-fourths vote of all those present who are entitled to vote."

Dr. Charles H. Hughes, St. Louis—"As a member of the executive committee, I desire to state to the members present that all of these objections have been considered by your committee, particularly the so-called commercial objection raised against the publication of a list of members of this Association. I would most respectfully submit, Mr. President, that we have nothing to do with the commercial interests of the United States. We are not engaged in commercialism; we are not conducting any commercial enterprise. We are considering the interests, the welfare, the comfort and necessity of this Association. Objection is raised that certain proprietary houses in the United States, interested in catering to the American Medical Association, will get our names and addresses for nothing, when they might pay the Association for it, or when perchance they ought not to have it. What is that to us? The list can be published, giving simply our names and States, without our home address, or post-office address. The value of such a list to the members of the Association is more than counterbalanced and overwhelmed by this little objection. I stand here to defend the work of the executive committee."

Dr. I. N. Love—"Officially, I represent the board of trustees in this matter, and in the opinion of the board it is thought wise not to publish this list of members in the book referred to, for the same reason that the average newspaper or journal does not desire to have its list of subscribers published for the benefit of its competitors. We are engaged in the business of publishing a medical journal. Every member of this Association owns stock in it, and for that reason it does seem to me that this list ought not to be published."

Dr. Leartus Connor, Detroit—"We do not want a list of the subscribers of the Journal published, but the members of the Association. We want to know who are with us, and we want them to know that we are with them, and personally I can see no harm in publishing a list of every member of the Association, particularly those that serve us so well as officers. I have many times wanted such a list, and I believe it would be useful to the members. The American Ophthalmological Society publishes a list of its members, giving their names and addresses every year, for the purpose of helping themselves. The same thing applies to us. We want a list of the members of this Association to help ourselves and the Journal, too."

Dr. Bishop of Pennsylvania favored the adoption of Dr. Love's motion, while Dr. Bishop of New York advocated the publication of a list of the members as recommended by the executive committee.

There being no further discussion, the president put the motion of Dr. Love relative to eliminating a portion of section 12 of the minutes as read, and it was carried.

Some doubt having arisen in the minds of members as to whether this motion was really carried or not, a motion was made and carried to reconsider the vote taken on Dr. Love's motion, whereupon Dr. Love then moved that the whole question be laid upon the table, and this motion was carried.

REPORT OF EXECUTIVE COMMITTEE.

Dr. Bulkley reported on behalf of the executive committee, as follows:

1. The committee of the delegates from the United States to the Congress for the Prevention of Syphilis and the Venereal Diseases, to be held in Brussels, Belgium, in September next, would respectfully suggest to the Association the desirability of taking the necessary action to secure an appropriation from the United States Government to meet the necessary expenses of its delegation to the aforesaid congress. Your committee feels that this Association will readily appreciate the responsibility involved in properly representing, not only our country, but also this great Association at the forthcoming congress, and the imperative necessity of an appropriation which shall comport with the importance of the questions to be considered by the congress, and with the dignity of the United States, as well as that of this honorable body.

Dr. Bishop of Pennsylvania moved that the Association take such action as is necessary to secure the appropriation mentioned in the report of the executive committee. Seconded and carried.

2. With reference to the appointment of another member of the committee on gold medal, which report is not signed this year because no essay has been presented to the committee of sufficient merit to be awarded the medal, your executive committee should have appointed another member of this committee on prize competition in place of the member from San Francisco, whose term of office expires, but through haste, your committee failed to do this. Your committee, therefore, asks to be allowed to appoint that other member.

On motion, the executive committee was empowered to select this member of the committee mentioned.

3. With reference to the time consumed in the work of the Sections, your committee spent considerable time in looking into this matter, having had a subcommittee working on it. There is one suggestion which we desire to spread on the minutes, and one resolution which we want passed. We found no less than 561 papers announced for this meeting in the different Sections. We find, after careful inquiry from those who have attended the different Sections, that not one-half of those papers were actually read. The work of many Sections has become so congested that there is not proper time for discussion. Some eighty-three papers were presented in the Medical Section, seventy-nine in another, and sixty-four in another. Your executive committee wishes to call your attention to the following by-law: "It shall be the duty of every member of the Association, who proposes to present a paper or report to any one of the Sections, to forward either the paper or a title indicative of its contents and length (not to exceed twenty minutes in reading), to the secretary of said Section, at least one month before the annual meeting at which the paper or report is to be read." Your committee found that the Medical Section gave some admirable abstracts of the papers presented to it in the published official program, whereby those attending the Section could come prepared to discuss papers intelligently. The committee considers that if papers are abstracted beforehand and published after the manner mentioned, the members are more likely to discuss them. So your committee offers another substitute, which is simply this:

Resolved, That no paper shall be placed on record for the consideration of any Section unless an abstract or a précis of not less than 50 or not more than 300 words, accompanies the title and is placed in the hands of the chairman or secretary of the Section at least thirty days before the time of meeting of the Section.

Your committee desires further to call the attention of the Association to this work of the Sections in order that more care may be exercised in the selection of papers hereafter, and it was agreed that probably not more than thirty papers should be considered desirable for any one Section of the Association during the meeting. The British Medical Association limits the number of papers to twenty-five for each section; it also requires an abstract of the papers sixty days before the time of meeting. Your committee merely suggests this, and does not ask that the thirty-paper-limit be adopted. But we ask the adoption of this resolution, that no papers shall be placed on record for the consideration of any Section unless an abstract of not less than 50, or more than 300 words, accompanies the title, and said abstract placed in the hands of the chairman or secretary at least thirty days before the meeting. Your committee moves the adoption of this resolution as presented.

On motion, this action was concurred in.

There was another resolution passed before, which is really covered by that, and it is to this effect, that hereafter no name shall be printed on the program unless the title of the paper is announced. Your committee found twenty or thirty names throughout the program without the titles of papers announced, and the other resolution you have passed covers this.

Dr. Dudley S. Reynolds asked Dr. Bulkley if he would kindly add to the resolution, "and who is not a member of this Association."

Dr. G. C. Savage, Nashville—"I believe our by-laws prohibit us from introducing new business on the morning of the fourth day, and this is to prevent something from being introduced which might be detrimental to the Association. It is well known that on the morning of the fourth day the attendance of members is very small, and there is very little to prevent any man from introducing a resolution and having it adopted when but few members are present, and it is to avoid such matters that such a by-law was made."

The President—"Any new business would be ruled out at this time, but I do not consider the suggestion of Dr. Reynolds new business."

Dr. Denslow Lewis, Chicago—"I move that we accept the report of the executive committee as read." Carried.

The President—"I hold in my hand the Senn medal, and if there is any member in the hall who knows whether any one has won it or not, I would like to know."

A member stated that the prize essay committee had not received any essay of sufficient merit during the year to award the medal.

Dr. C. E. Ruth, Keokuk, Iowa—"I move you, Mr. President, that Dr. Atkinson be given a vote of thanks of this Association for his long, faithful and efficient services, and that all uncomplimentary reflections cast upon him and his work be expunged from the records of the meeting." Seconded and carried.

REPORT ON PRIZE COMPETITION.

Dr. George M. Gould reported on behalf of the committee on the prize competition of the American Medical Association for meritorious scientific work, as follows:

The committee respectfully reports that it has received no essay for which it recommends the award of the prize.

[Signed] George M. Gould,
E. Fletcher Ingals,
T. W. Huntington.

On motion of Dr. Bishop, the report was received, the committee continued and instructed to make an effort to secure essays for another year.

On motion of Dr. Love, a vote of thanks was extended to the executive committee for its arduous labors and efficient work.

Dr. Dudley S. Reynolds—"I move that we tender a vote of thanks to Dr. Starling Loving, chairman of the committee of arrangements, and to the members of the profession of Columbus, in providing for our comfort and entertainment; that we thank the citizens of Columbus for their generous hospitality and continued devotion in the attempt to relieve our innumerable wants; that we thank the railway companies for the exceedingly satisfactory reduction of rates in attending the meeting; that we thank the great God of the Universe for having permitted us to assemble and carry on one of the most successful meetings that we have ever held in the history of the Association. Seconded and unanimously carried.

On motion, the thanks of the Association were tendered to the retiring president, Dr. Mathews, for having so efficiently and ably presided over the deliberations of the Association.

REPORT OF JUDICIAL COUNCIL.

The secretary read the following from the judicial council:

Your council would report in regard to the appeal of Dr. Charles G. Cannaday, of Roanoke, Va., against the decision of the judicial council of the State Medical Society of Virginia, that they have instructed their secretary to notify all parties concerned to appear before the judicial council of this Association at the next meeting, to be held in Atlantic City, N. J., commencing on the first Tuesday of June, 1900, when this matter here and there will be adjudicated.

In regard to the matter of appeal of W. F. Barclay, your judicial council has referred this matter back again to the Medical Society of the State of Pennsylvania for adjudication.

Your council would report the resolution which was adopted at the Denver meeting in 1898 and referred to us, to be unconstitutional, as it is in violation of article 2 of the constitution relating to membership.

[Signed] N. S. Davis, Pres. judicial council,
T. D. Crothers, secretary.

The secretary read the following resolution, offered by Dr. Charles E. Slocum, Defiance, Ohio.

Resolved, That this Association hereby commends the efforts of the Indiana State Medical Society in preserving pathologic specimens and exhibiting the same at this meeting. This exhibit is worthy the attention of every member, being a good example of what careful and persistent attention to pathology may accomplish in a short time when well directed. Such efforts are recommended to all societies as conducive to more careful and methodic diagnosis of treatment.

On motion, this resolution was adopted.

The secretary announced the following delegates:

To the British Medical Association for this year: Geo. L. Cole, Los Angeles, Cal.; H. G. Brainerd, Los Angeles, Cal.; D. E. Osborne, St. Helena, Cal.; Frederick Peterson, New York City.

To the International Medical Congress: E. R. Campbell, Vermont; A. P. Clarke, Cambridge, Mass.; Henry O. Marcy, Boston; J. C. Cooper, Philadelphia; Liston H. Montgomery, Chicago; F. H. Wiggin, New York City; A. F. Jonas, Omaha, Neb.; Dr. Lowry, Lincoln, Neb.; J. F. Jenkins, Tecumseh, Mich.; N. R. Coleman, Columbus, Ohio; Charles H. Hughes, St. Louis.

The secretary read the following communication from A. S. Capehart, director of liberal arts and chemic industries at the Paris Exposition:

Chicago, June 3, 1899.

Arthur R. Elliott, M.D., Auditorium Hotel.

My Dear Sir:—By authority of Hon. F. W. Peck, Commissioner-General for the United States to the Paris Exposition of 1900, the liberty is taken of suggesting to the American Medical Association, at its next annual meeting, the advisability of considering the practicability, as well as desirability, of appointing a committee empowered to collect and select whatever in the judgment of such committee may be deemed appropriate to be exhibited as representing the medical profession from the national aspect, in the scientific section of medicine and surgery, department of liberal arts, United States section, Paris Exposition of 1900—such Association to receive any and all accruing emoluments.

In this connection the liberty also is taken to state that a reasonable amount of exhibit space will be held in reserve until after the next annual meeting of your Association and time has been given for official notification to reach this department as to any action that may be taken in this matter.

No action was taken on this communication.

AMENDMENT OF CODE OF ETHICS.

The secretary read the following amendment to the Code of Ethics, which was offered by Dr. Q. C. Smith of Austin, Texas. To amend paragraph 9 of article 4, of the Code of Ethics of the American Medical Association, be it

Resolved, That attending physicians are entitled to charge a consultation fee for each consultation, in addition to visit fee, equal in amount to that ordinarily charged in similar cases by consulting physicians residing in the same city, locality or community where the service may be rendered. (To lie over one year.)

EXECUTIVE COMMITTEE.

The following are the officers of the executive committee for the ensuing year:

Chairman, W. J. Herdman, Ann Arbor, Mich.; vice-chairman, W. T. Mayo, Rochester, Minn.; additional members, J. H. Musser, Philadelphia, Henry E. Tuley, Louisville.

SECTION OFFICERS.

The secretary announced the following as the officers of sections:

SECTION ON STATE MEDICINE.

Chairman—W. C. Woodward, Washington, D. C.

Secretary—Amand Ravold, St. Louis.

SECTION ON STOMATOLOGY.

Chairman—M. H. Fletcher, Cincinnati.

Secretary—Eugene S. Talbot, Chicago.

Executive Committee—John S. Marshall, Chicago; A. E. Baldwin, Chicago; G. V. I. Brown, Milwaukee.

Other Section officers were printed in the Journal, June 10, p. 1341.

On motion, the Association then adjourned to meet at Atlantic City, N. J., the first Tuesday in June, 1900.

Normal and Pathologic Toe Reflexes.—Kalischer says when dorsal flexion of the toes occurs as the sole reflex it indicates pathologic conditions, as there is always plantar flexion in normal conditions. The dorsal reflex is noted almost exclusively with affections connected with a disturbance of the pyramidal tracts and is important as an early symptom of these lesions.—*Virchow's Archiv.*, clv. 3.

Correspondence.

Pseudotuberculosis.

London, Eng., May 1, 1899.

To the Editor:—This is a subject, allusions to which are frequent in medical literature. These, however, are essentially of the vaguest and most academic character and the general impression to be gained from them is that such a disease exists much more commonly than we usually suspect, and is frequently mistaken for genuine tuberculosis. These impressions were, however, completely dissipated by the interesting discussion which recently occupied two successive sessions of the London Pathological Society. In the first place it was shown that there is no such single or distinct disease, but that the name applies to a number of conditions which agree only in one respect, that they imitate more or less completely the anatomic picture of tubercle postmortem; clinically, there is little or no resemblance whatever between themselves, or to the "genuine" form. This "anatomic tubercle" may be due to a number of different causes, but chiefly to five, viz.: foreign bodies in the tissues, bacilli, yeasts, moulds and worms.

As to the first of these, little need be said, except that it is rare and the tubercles usually few in number, except in experimentally-produced cases.

The second or bacillary form is somewhat more common and possesses not only lesions much more difficult of distinction, in both number and distribution, but also an organism which even in staining reactions quite closely resembles that of the genuine disease. So that the awful possibility is raised of a bacillus pseudotuberculosis, as well as pseudo-lesions. It is, however, usually much milder in type, scarcely affects the general health or bodily condition, and usually rapidly runs its course to recovery, so that even a brief period of keeping under observation practically suffices to distinguish it. It was first discovered by Sims Woodhead in his work for the Royal Commission on the transmission of tuberculosis, and has seldom been found except in guinea pigs. The variety due to yeast infections is more widely distributed, more rapid in its spread and more acute in its type, not infrequently proving fatal. It may be due to several different species of yeast and is found in the human subject, though rarely. This variety may very closely resemble the common form anatomically, except that the tubercles are white, translucent, instead of gray, are larger, firmer and less inclined to caseate. The tubercular *mycosis*, caused by moulds or *aspergillosis* has a wide zoölogic distribution, having been observed in birds, especially waterfowl and pigeons, horses, cattle, dogs and our own species. Although in numerousness and distribution its lesions are not unlike those of ordinary tubercle, yet they are usually distinguishable even by the naked eye, forming patches, plaques and cup- or ball shaped masses rather than nodules in the tissues and often of a distinctly "woolly" white, black, brown, or green color, according to the species of *aspergillus* present. Under the microscope they present a striking picture, the "tubercle" containing in its center a mass of fetid mycelium, with conidia, sporangia and spores of various colors, which latter may often be found in abundance in scrapings from the patches. This variety is extremely common in the lungs and air sacs of birds, where, however, it is anything but tubercular in appearance, forming cone-shaped, greenish or blackish masses, hollow cups composed of cheesy matter and lined with an abundant growth of the mould and even plates an inch or more square, or forming an almost complete lining of an air sac or the pericardium. Indeed, it is only in horses and human subjects where the prevalent mould—*aspergillus fumigatus*—has a white mycelium and sporangia, that the mycosis deserves the name of even "pseudo" tuberculosis on anatomic grounds. Clinically, however, just the reverse is true, for its course in both horse and man strikingly simulates a rather chronic form of true tuberculosis, with hectic, profuse expectoration, vomicæ and pleurisies, and the diagnosis can often be made only by finding portions of the mycelium or spores in the sputum, under the microscope. It is, however, extremely rare in both species—one of the curiosities of medicine. A still rarer form in this group is that produced by organisms resembling the cladathrix and streptothrix in the ox (Nocard) and in man (Flexner).

Last of all, and curiously enough though of most widely different origin, most closely simulating the true form in naked eye appearance, is the great group of pseudotuberculosis due to animal parasites. These are mostly worms of the *strongyle* or *Filaria* group, with a few flukes (Distoma), although their exact generic positions are not fully ascertained nor determined. The picture they present is most striking. An abundant crop of small, clear-cut tubercles, in the lungs, on the serous membrane, in the coats of the intestines, varying all the way from greyish to whitish translucency to bright yellow or creamy cheesiness—miliary or caseating tuberculosis to the letter. A closer look, however, shows that the tubercles have the appearance of being foreign bodies in, rather than products of, the tissues, that the lymph-nodes are but little or not at all affected, and that the general condition of the animal in no way corresponds to the abundance of the lesions. Place a node under the microscope and you at once see that its center is occupied by a tiny worm, coiled up either spiral fashion or folded in a "box pleat." Indeed, in many cases the parasite can be clearly seen in some of the superficial lesions with a hand lens, and even with the naked eye on close and intelligent scrutiny. Their true nature may also be suspected from the fact they occur chiefly in those species which are rarely liable to tuberculosis—the dog, the sheep, the calf and the cat, although the writer has found them in the lungs of monkeys. In the dog the same *strongyle* attacks the walls of the blood-vessels, producing both ulcerations and multiple aneurysms, and an allied form in the horse is the cause of "worm aneurysm," producing fatal perforations in both species.

To sum up, a survey of the entire class of pseudotuberculosis, shows clearly that they are an extremely heterogeneous and ill-assorted group. Almost their only connection with each other and with the disease whose "pseudo" name they bear is that each of them in some one or two points resembles—often most crudely—true tuberculosis. Often this resemblance consists solely in the fact that tubercles, in the primitive sense of "little tubers" are produced, and the mind of the observer would need to be in a state of primeval innocence in order to even temporarily confuse them with the handiwork of the bacillus tuberculosis.

Bearing in mind the three criteria, gross anatomy, microscopic appearance and clinic history or systemic effect, there is not one of them, with the exception of some of the bacillary variety, which would pass more than two of these tests, and very few more than one. Microscopic examination of a reasonable number of specimens will promptly distinguish all forms except the bacillary. Naked eye appearances would easily disqualify all, except the yeast, the bacillary and a few forms of the mould varieties, and even the yeast and aspergillus nodes can be discriminated by a reasonably expert eye. Only two forms, the white aspergillus and the yeast, resemble the "true" disease in their clinic history or systemic effects. We have seen the intestines of fat wethers in primest condition, which in fact had been slaughtered for export mutton, thickly studded with worm tubercles, and the lungs and peritoneum of monkeys, which had died of other causes, similarly affected.

In short, a thorough examination, from all points of view, reduces the danger of any of these "pseudo" lesions being mistaken for the "genuine" to almost a *quantiteé neglegeable.* Then why continue the use of the term "pesudotuberculosis"?

There is really no scientific ground for it; its only justification lies in its convenience. The system of naming things or conditions by what they are *not*, can hardly be regarded as either rational or desirable, its only advantage being that it leaves opportunity for the advance of our knowledge. We have only one chance in a thousand of being egregiously wrong, and there are not a few of our "positive" names which had better never been applied, such as "uremia," "pyemia," "melancholia," "epilepsy," "lunacy," and yet, under the circumstances, the term, indefensible as it is on scientific grounds, will probably continue to be used on account of its practical convenience. For, although the principle of nomenclature which it illustrates is an unsound one, yet it so happens that the chief practical interest and importance of all these conditions centers in what they are *not*. From the point of view of the physician, the veterinarian, the meat inspector, if they are recognized as *not* tuberculosis they may be disregarded. It matters little what they are, so far as prognosis is concerned, for with the exception of the white aspergillosis and the yeast tuberculosis, they give rise to no true infection or serious symptoms of any kind.

To the pure pathologist the distinctions are of importance, and he will find such a "shotgun" sort of term a hindrance and discard it. But to the clinician it is of value to know and keep in mind that there is a variety of conditions which simulate tuberculosis and yet have none of its fatal significance. And this clumsy term is practically the only one which will cover this group. So widely do its members differ that the only thing which covers them all is their liability, at certain stages, to be mistaken for tuberculosis. Another practical difficulty in the way of getting rid of the term is the absence of a substitute. The group would have to be broken up into at least ten or fifteen different classes, each bearing a new, strange —and terrible—name, such as "aspergillosis," "streptothricitis," "saccharomycosis," etc., which would convey no meaning whatever to the minds of other than expert biologists. Instead of one foolish, but easily understood name, we should have a dozen scientific, but well nigh incomprehensible ones. In science as well as in society it is sometimes better to "endure the evils that we wot, than fly to remedies we know not of." To continue the use of an inapt and even unfortunate name whose application is clearly understood is often better than to change to a dozen new terms more significant, it is true, but whose meaning future developments may also prove to be mistaken. Let it be clearly understood that pseudotuberculosis simply means any process which more or less closely imitates the anatomic handiwork of the bacillus tuberculosis, and its retention will be not only justifiable, as its present application is precisely to this wide group, but of much practical convenience. It is no disadvantage for us to be reminded, in these days of a rather too botanic pathology, that there are a number of organisms and agencies capable of producing that swarm of angry leucocytes and new cells about an intruder which was known as the old "anatomic tubercle."

And as all observers unanimously agree that 90 per cent. of all apparent "tuberculoses" are due to the action of the genuine bacillus, we think there is little danger of disturbing in any way the supremacy of the latter or leading to any confusion of our present clear conceptions of the disease by retaining the harmless "pseudo" term as a convenient designation for this insignificant minority.

We would not for a moment depreciate the high value of clear and accurate knowledge of the actual processes covered by the term and a nomenclature to match. This is most important from any point of view, and indeed, if it were more generally possessed by even pure bacteriologists, we should have been spared some painful errors. For instance, had Plimmer, in his recent work on the cancer parasite, reported to the Royal Society, been familiar with them, he would not have been so unfortunate as to fondly mistake what by his own descriptions and plates was obviously an ordinary "yeast tuberculosis," resulting from the inoculation of his organism into guinea-pigs, for a carcinomatous process.

But so long as we have pathologists who are, as the director of one of our largest bacteriologic institutes described them a short time ago, "nothing but cryptogramic botanists," these little mistakes will continue to occur. It ought hardly to be necessary to plead for a knowledge of these disturbances from the point of view of the host as well as of the parasite, but surely even a moderate acquaintance with what we fear we must now term "pseudopathology," the true pathology being the life history of the micro-organism, would have been sufficient to prevent a process which proved fatal *in fifteen days*, affected *only connective tissues*, and developed abundant translucent tubercles all over the peritoneum, from being regarded as carcinomatous even by the most hopeful imagination, if it did not succeed in classing it as pseudotuberculosis.

H.

Hot Springs, S. D., as a Health Resort.

Chicago, Ill., June 1, 1899.

To the Editor:—Hot Springs is situated in the Black Hills, about 3400 feet above the sea-level, in a valley surrounded by mountains not over 5000 feet in altitude, and it differs from the surrounding country meteorologically and geologically. Deadwood, which is about ninety miles distant, is much colder, and about 5000 feet above sea-level, which may account for the difference. Spearfish, fourteen miles from Deadwood is about 3500 feet about sea-level and is much colder than Hot Springs during the winter. This applies with equal truth to all localities thirty or more miles distant from Hot Springs. It derives its name from the large number of mineral springs which supply all the bath-houses with water not exceeding 90 degrees F. One very pleasant feature is an enormous plunge-bath, supplied by innumerable springs percolating through a gravel bottom, thereby ensuring constant cleanliness and drainage. The temperature of the water is never less than 80 F. throughout the year. It is patronized very largely by pleasure-seekers, and victims to subacute articular rheumatism. All of the waters are alkaline and contain considerable calcium sulphate, a fair quantity of magnesium sulphate, some chlorid of sodium and potassium, iron and silica. They vary somewhat in composition and are either laxative or diuretic in their effects. Take in connection with the abundant pure water-supply an ideal climate of constant sunshine, dry, pure atmosphere, cool, agreeable nights and you have a happy combination.

The following is the U. S. weather report: elevation, 3400 feet; per cent. of cloudiness, 22; relative humidity, 60; mean seasonable temperature, 27 degrees; annual precipitation, 17 inches. This report is based on observations during December, January and February. The following is that during June, July and August: per cent. of cloudiness, 21; relative humidity, 60; mean seasonable temperature, 62 degrees; annual precipitation, 17 inches.

I have observed the progress of four cases of pulmonary disease in Hot Springs, divided as follows: One case of pulmonary abscess remained one year and returned, having gained over twenty pounds in weight, and expectoration having ceased; physical examination indicated that the lesion had subsided. The second, a case of incipient tuberculosis and tubercular lymphatics, recovered. The third, pulmonary tuberculosis of rapid type, pronounced physical decline, remained one year and gained nearly thirty pounds; believing himself cured, he returned, was well three months, and fell a victim to miliary tuberculosis after undue exposure to cold. The fourth case, tubercular pleuritis with effusion, right apex involved, was sick three months, with rapid decline. He remained in Hot Springs about four months; on return had gained eighteen pounds, effusion had disappeared, no subjective symptoms noticeable; agreed to return if necessary.

There are cases which derive no benefit, a fact that applies to all health resorts. The usual difficulty of persuading a patient to remain in a favorable climate was encountered in all these cases. I merely cite these rather abbreviated reports as proof of the statement that this climate is a most excellent one for many pulmonary lesions.

Among the diseases amenable to treatment are chronic articular rheumatism, neurasthenia, some cases of asthma, hay-fever, chronic gastric lesions, chronic nephritis, and certain chronic skin diseases; the latter are treated by immersing the patient one hour or more in the water at the natural temperature. I have seen unexpected good results from this treatment. Invalids as well as pleasure-seekers can find ample opportunities for swimming, horseback rides, coach rides, etc. Among the sights are the Bad Lands, Wind Cave, Sylvan Lake, Harney's Peak, Battle Mountain, Echo Canyon and Cascade Springs. J. H. Hoelscher, M.D.

34 Washington St.

A Novel Device.

Cincinnati, June 16, 1899.

To the Editor:—The following is a novel device for securing a small quantity of the contents of stomach for examination: Take the long end of a largest-size empty capsule, into this crowd or condense as much as possible of fine sponge, to which is attached a fine silk thread of sufficient length. The capsule is then closed and the patient allowed to swallow the same. After sufficient time has elapsed for the capsule to dissolve, the sponge is removed by the string. The sponge will be found to have absorbed a sufficient amount of gastric contents for all practical purposes. In this way tests can be made for free hydrochloric acid or, indeed, for anything else that may have been taken into the stomach. This method is original with me; I do not know whether others have used the same device or not. It will, I am quite sure, be found a very convenient and practical method. Several capsules prepared in the same manner and swallowed would furnish a sufficient quantity of gastric juice for any and every purpose.

Wm. H. De Witt, M.D.

Current Medical Literature.

Titles marked with an asterisk (*) are noted below.

Annals of Surgery (Phila.), June.

1.—*Observations in Sterlization of Catheters and Bougies, and on Presence of Bacteria in Urethra. James H. Nicoll.
2.—*Uretero-Ureteral Anastomosis for Traumatism. Francis H. Markoe and Francis C. Wood.
3.—*Movable Kidney. John B. Deaver.
4.— Preliminary Report on Surgical Anatomy of Gall-Bladder and Ducts, from Analysis of 100 Dissections. Geo. E. Brewer.
5.— Inspection of Abdominal Cavity and its Viscera in Post-mortems. Byron Robinson.
6.—*Notes on Cancer of Fundus Uteri. Charles B. Penrose.
7.—*Operative Relief of Vesicorectal Fistula. Geo. S. Brown.

Albany (N. Y.) Medical Annals, June.

8.—*Address. William Osler.
9.— Some Scientific Aspects of Mind Cure. Selwyn A. Russell.
10.—*Family Susceptibility to Facial Paralysis. Wm. Browning.
11.— Fracture of Cervical Vertebræ. Chauncey P. Biggs.

University Medical Magazine (Phila.), June.

12.—*Some Unusual Forms of Trichophytosis. M. B. Hartzell.
13.—*Operation for Perforation in Case of Typhoid Fever. Edward Martin.
14.—*Pyonephrosis Complicating Gonorrhea. Charles Greene Cumston.
15.—*Report of Thirteen Cases Showing Partial Reversal in Visual Fields. M. W. Zimmerman.
16.— Recent Instruments of Precision for Muscular and Tactile Sensations. Arthur MacDonald.

Archives of Pediatrics (N. Y.), June.

17.—*Results in Administering Antitoxin of Diphtheria as an Immunizing Agent. Samuel S. Adams.
18.—*Brief Reports of Interesting Cases. J. P. Crozer Griffith.
19.—*Remarks on Diagnosis of Cerebellar Abscess in Children. L. J. Hammond.
20.— Case of Abscess of Lung, Following Pneumonia. Resection of Ribs—Recovery. B. Van D. Hedges.
21.— Administration of Antitoxin by Mouth. Ward B. Whitcomb.

Medical Mirror (St. Louis), June.

22.—*European Medicine about 1799. A. Jacobi.
23.—*Physician as a Teacher. J. Rudis-Jicinsky.
24.— Some Thoughts on Diphtheria. I. N. Love.
25.—*Inguinal Colostomy for Imperforate Rectum. W. W. Keen.
26.—*How Do Physicians Cure Diseases? H. C. Wood.

Annals of Ophthalmology (St. Louis), April.

27.—Historic Notes of Strabismus and Other Anomalies of Eye Muscles. Geo. T. Stevens.
28.—*Surgical Treatment of High Myopia. By H. V. Würdemann and W. R. Murray.
29.—*Some of the Failures Immediate and Remote met with after Cataract Extraction. J. Morrison Ray.
30.—*Etiology and Importance of Iritis. H. H. Brown.

St. Paul Medical Journal, June.

31.—*Etiology of Abscess of Liver. Henry Jackson.
32.—*Osteopathic Delusion. Arthur Sweeney.
33.—*Dietl's Crises and Gall-Stone Colic. Charles L. Greene and John T. Rogers.
34.— Comparative Merits of Myomectomy in Treatment of Myoma of Uterus. J. L. Rothrock.
35.— Apparent Closure of Eustachian Tubes. B. M. Behrens.

New England Medical Monthly (Danbury, Conn.), June.

36.— Fevers of Alabama. Charles M. Watson.
37.— Proper Dosage of Thialion. E. M. Smith.
38.— Absorption vs. Digestion of Milk. L. Duncan Bulkley.
39.— Anemia. F. E. Hale.
40.— How I Quickly Cured a Cold in Head. Wm. H. Murray.
41.— On Physical Education. C. P. Robbins.

Journal of Cutaneous and Genito-Urinary Diseases (N. Y.), June.

42.—*Contribution to Study of So-called Premycosic Stage of Mycosis Fungoides. James Nevins Hyde and Frank Hugh Montgomery.
43.—*Liomyoma Cutis. Charles J. White.

Laryngoscope (St. Louis), June.

44.—*Treatment of Nasal Stenosis Due to Deflective Septa, with or without Thickening of Convex Side. F. H. Bosworth.
45.—*Ibid. Morris J. Asch.
46.—*Ibid. John O. Roe.
47.—*Ibid. Arthur W. Watson.
48.—*Ibid. E. B. Gleason.
49.—*Ibid. Beaman Douglass.

Southern California Practitioner (Los Angeles), May.

50.— Feticide from a Medicolegal and Moral Standpoint. Louise H. Clarke.
51.— Fracture: Elbow-Joint. Harry M. Sherman.
52.—*Treatment of Cases of Abortion and Miscarriage. A. S. Parker.

International Dental Journal (Phila.), June.

53.—*False Tonsils. Robert H. M. Dawbarn.

Sanitarian (Brooklyn, N. Y.), June.

54.— Some Common Sources of Impurity in Country Houses. Harvey B. Bashore.

Medical Summary (Phila.), June.

55.—*Nervous System—Its Influence over Mental Declaration. Richards Gray.
56.— Treatment of Erysipelas. A. G. Ellis.
57.— Pneumonia and Pneumonia. Geo. J. Monroe.
58.—*Drug Habits and their Treatment. C. E Patterson.
59.—*Study of Hypnotized State. Arthur MacDonald.
60.—*Apomorphin the Antidote for Strychnin Poisoning. H. B. Stanley.
61.— Some Practical Points Gleaned from Practice. B. H. Brodnax.
62.— Every Man his Own Doctor. Silas Hubbard.
63.— Catarrhus Ambrosia. Pennebaker and Tripp.

Medical and Surgical Monitor (Indianapolis), May 15.

64.—*Notes on X-Rays. Wm. V. Morgan.
65.— Temperament and Heredity as Related to Disease. L. L. Todd.
66.—*New Operation for Hernia. Emory Lanphear.
67.— Therapeutic Value of the Oleates. Samuel E. Earp.

Texas Medical News (Austin), May.

68.—*Invisible Enemy and Our Methods of Defense. M. M. Smith.
69.—*Medical Gynecology. J. W. Cook.

Southern Practitioner (Nashville, Tenn.), June.

70.—*Subcutaneous Rupture of Large Arteries from Contused Wounds. J. A. Crook.
71.—*Case of Ventral Hernia in which the Pregnant Uterus formed the Contents of the Hernial Sac. A. L. Macon.
72.— Some Observations, Mainly Clinic, on Uric-Acid Diathesis. Isaac J. Jones.

Kansas City Medical Index-Lancet, June.

73.— Dilatation of Stomach. C. W. Dulin.
74.—*New Operation for Hernia. Emory Lanphear.
75.— Case of Friedrich's Ataxia, with Abbreviated Clinic Digest. S. Grover Burnett.
76.— Common Cardiac Derangement, Diagnosis, Prognosis, etc. T. F. Lockwood.
77.— Review of Recent Advances in our Knowledge of Anatomy and Physiology of Nervous System. John Punton.

Chicago Clinic, May.

78.— Headache Viewed from Oculist's Standpoint. John R. Hamill.
79.— Influence of Biologic Research on Surgery and Medicine. W. J. Fernald.
80.— Traumatic Dislocations of Femur. J. N. Bartholomew.
81.— My Experience with Galvanocaustic Treatment of Prostatic Hypertrophy. F. Kreissl.
82.—*Treatment of Rectal Fistula. J. R. Pennington.
83.—*Pericystitis in Puerperio. Gustav Kolischer.
84.—*Heredity of Tabes and Paretic Dementia. Harold N. Moyer.
85.—*Observations on Operation of Symphysiotomy. H. McKennan.
86.— Nosophen as a Substitute for Iodoform. D. A. K. Steele.
87.—*Right Marital Living. Ida C. Craddock.

Columbus Medical Journal, May 16.

88.— Historic Sketch of American Medical Association. James U. Barnhill.

Pediatrics (N. Y.), June 1.

89.— Case of Genua Valga, with Remarks on Osteotomy. Charles Greene Cumston.

90.— Convulsions in Children. Walter F. Boggess.
91.— Diphtheritic Paralysis. Francis Huber.
92.— Types of Children in Germany. Arthur MacDonald.

Philadelphia Medical Journal, June 10.

93.—*A Century of Medicine in America. J. C. Wilson.
94.—*Two Unusual Cases of Surgery of the Trachea. W. S. Jones and W. W. Keen.
95.—*Sanitary Lessons of the War. George M. Sternberg.
96.— Propagation of Diseases by Means of Insects, with Special Consideration of Common Domestic Types. W. M. Coplin.
97.—*On Some Conditions of Healing by First Intention, with Special Reference to Disinfection of Hands. Theodore Kocher.
98.—*Our National Body: Its Purposes and Destiny. Joseph M. Mathews.
99.— Case of Dermoid Cyst. J. S. Jamieson.

Medical Record (N. Y.), June 10.

100.—*Remarks on Incision at Outer Border of Rectus for Appendicitis. Frederick Kammerer.
101.—*Local Anesthesia. Alexander B. Johnson.
102.—*Diphtheritic Conjunctivitis Cured with Antitoxin. G. H. Bell.
103.—*Abortive Treatment of Gonorrheal Ophthalmia by a Cantholysis and the Thorough Application of Nitrate of Silver, Forty Grains to the Ounce. H. D. Jamison.

New York Medical Journal, June 10.

104.—*President's Annual Address to the American Medical Association. Joseph M. Mathews.
105.—*Sanitary Lessons of the War. George M. Sternberg.
106.—*Voice in Diagnosis. Alexander J. C. Skene.
107.—*Vaginal Douches, Ante-partum and Post-partum. L. Napoleon Boston.
108.—*Pneumonectomy, the Future Treatment of Incipient Pulmonary Tuberculosis. John S. Pyle.
109,—*Medical Gynecology, or Relation of Vital Debility and Passive Congestion to Diseases of Women. Eugene Coleman Savidge.

Boston Medical and Surgical Journal, June 8.

110.—*Address of President. Jos. M. Mathews.
111.—*Some Conditions of Healing by First Intention, with Special Reference to Disinfection of Hands. Theodore Kocher.
112.—*Sanitary Lessons of the War. Geo. M. Sternberg.
113.—*Climate and Sea Voyages in Treatment of Tuberculosis. Hermann Weber.

Cincinnati Lancet-Clinic, June 10.

114.—*Vertigo. Philip Zenner.

Maryland Medical Journal, June 10.

115.—*John Hughes Bennett—His Services to Medicine. Wm. W. Johnston.
116.—Practical Hints About Herpes Zoster and its Treatment. J. Abbott Cantrell.
117.—*Epithelioma (Skin Cancer)—Treatment. A. D. McConachie.

Medical Review (St. Louis), June 10.

118.—*Burning Questions Relating to Paretic Dementia. L. Bremer.
119.— Technic and Management of the Cataract Operation. Bard H. Hulen.

Medical News, (N.Y.), June 10.

120.—*Presdent's Address. Jos. M. Mathews.
121.—*Century of Medicine in America. J. C. Wilson.
122.—*Medical Aspects of Crime. D. K. Brower.
123.—*Sanitary Lessons of the War. Geo. M. Sternberg.
124.—*Respiratory Failure Occurring before Circulatory Failure in Brain Injury and Disease, and its Clinic Bearings. W. H. Hudson.
125.—*Resistance of Bacteria to Cold. M. P. Ravenel.

AMERICAN.

1.—Sterilization of Catheters and Bougies.—Nicoll reports experiments as to the sterilization of bougies and catheters of different materials, and concludes there is no method entirely reliable that is not injurious or destructive to the instrument. In practice he avoids the use of the catheter as far as possible, and when it must be employed he uses the red rubber Jacques catheter in preference to the gum elastic or metal one. It is quite as readily sterilized by boiling or immersing in an antiseptic solution as is a metal one. Where a catheter is absolutely necessary and a red rubber one fails to pass, he uses a gum elastic rather than a metal one, especially in the hands of the patient himself. He illustrates an arrangement of glass receptacles for catheters in which they can be kept in an antiseptic fluid. The latter part of the paper deals with the subject of urethral bacteria. Investigation on this subject is still being carried on and no very positive statements beyond those of the difficulties of the investigation are here given.

2.—Uretero-Ureteral Anastomosis.—Markoe and Wood recall the various methods of operation for anastomoses of the ureters, and illustrate the different methods very intelligibly by cuts. They conclude that in all cases of severed ureter the preferable operation seems to be uretero-ureterostomy, according to the method devised by Van Hook, if too great a length has not been removed. If a loss of several inches has occurred, an end-to-end or oblique suture will be the preferable procedure. The mortality from Van Hook's operation has been very slight and this due to hemorrhage, shock, or infection rather than to the operation itself. Ureterocystostomy is chiefly applicable in those cases in which the ureter has been severed at a point below the ileopectineal line, the vesical end being so short and deeply situated that it is nearly impossible to suture it. Uretero-enterostomy is to be employed only in cases of exstrophy or where it is necessary to remove the bladder altogether.

3.—Movable Kidney.—Deaver's paper is principally in regard to the diagnosis of movable kidney, with some remarks as to its treatment. The operation he performs is one suggested by Senn, and consists of scarifying the capsule of the kidney, not involving the kidney substance itself, replacing it *in situ* and packing with gauze. The patient is made to assume a supine position and the gauze is removed in a week or ten days, when the bed of the kidney and its surface will be found to be healthily granulated. The wound is washed out with sterile water or a weak solution of bichlorid, to which is added carbolic acid. The wound is then gently repacked and dressed in the usual manner. The wound heals completely in four to five weeks, and the results in his cases have been entirely satisfactory. He briefly reports nine cases.

6.—Cancer of Fundus Uteri.—During the four years 1894–97, Penrose has observed 11 cases of cancer of the fundus uteri and remarks on its apparently greater frequency than given in the text-books. During the same period his records show 67 cases of cervical cancer, and according to his observations this latter type is decreasing in frequency, which he attributes to the wider use of the operation of trachelorraphy. He briefly notes the results of his cases of fundus cancer and remarks that they show that the result of operation is much better than for cancer of the cervix.

7.—Vesicorectal Fistula.—Brown reports a case of vesicorectal fistula in which after thorough operation the fistula was closed after having diverted the intestinal contents through an artificial anus which was itself finally closed by operation. He remarks on the very slight mention this condition receives in the text-books, considering the fact that it must have been a very common occurrence when the perineal operation for stone was fashionable. His patient had been operated on so frequently that he had established a very comfortable tolerance for etherization. The cure of the fistula left the bladder in a semiparalyzed condition, with incontinence of the urine owing to defective action of the sphincter.

9.—Scientific Aspects of Mind Cure.—Russell calls attention to the influence of the mind cure on the body and affecting the processes of disease, and the usefulness of mind cure divested of superstition and fraud.

10.—Facial Paralysis.—Browning remarks that he not infrequently meets with cases where more than one person in the same family has been the sufferer from facial paralysis, and reports a case in which it occurred four times in two generations. No other form of nervous disorder was present. He refers to the various authors, Neumann, Bernhardt, Hubschmann, Barkas, J. Neumann and Fabre, who have noticed this special family tendency.

12.—Trichophytosis.—Hartzell reports some unusual forms of trichophytosis, concentric ringworm, tinea circinata in the axillæ, suppurative ringworm on the upper lip, trichophytic folliculitis of the back of the neck, leg, arm and wrist, etc. He also mentions certain anomalous types of trichophytous disease noticed by other observers, such as ringworm of the palm of the hand and soles of the feet, suppurating follicles in the fingers, etc.

13.—Typhoid Perforation.—Assuming that in the near future operation for this condition will be the rule, Martin reports one unsuccessful case operated on lately, thirty-two hours after perforation, and gives brief mention of two or three others in which the diagnosis was dubious. He thinks mistakes in this regard are liable to give the legitimate operation a serious setback. There are cases in which a differential diagnosis is extremely difficult. When, however, a patient in the second or third week of typhoid fever complains of sharp, sudden, persisting, agonizing pains; of a great increase of tenderness; when this is accompanied by symptoms of marked constitutional depression, and it is followed by rapid and life-threatening tympany, if there is the slightest prospect of surviving operation, the abdomen should be opened at once.

14.—Pyonephrosis Complicating Gonorrhea.—Cumston reports a case of suppuration of the kidney due to gonorrhea, treated by nephrotomy, and discusses the condition at length.

15.—Partial Reversal in Visual Fields.—The following are the general conclusions deduced by Zimmerman from a study of the general subject of contractions and reversal of the visual field, and from thirteen personal observations here reported and illustrated: "Moderate contraction of the visual field alone is not conclusive. Extreme contraction, in which the field for white or form suffers relatively more than the color fields, suggests very strongly the presence of hysteria. Complete reversal, and persistent partial reversal, when of considerable extent and not explained by organic lesions, are almost certain evidences of the hysteric state.

17.—**Diphtheria Antitoxin.**—The presence of diphtheria in the Children's Hospital at Washington induced Adams to make extensive experiments with antitoxin as an immunizing agent. It was given to 422 children suffering from various disorders; 100 units were given to infants, 250 to those between 2 and 6 years of age, and 300 to 500 units to those above that age: 17 of the 422, or 4.28 per cent., contracted diphtheria and received antitoxin in curative doses; 2 died. The average duration of immunity in these 17 cases was 51.01 days. The author concludes that it is impossible to draw any definite conclusion as to the value of the immunizing dose of antitoxin. He is confident, however, that the doses given were too small, and that better results would have been obtained with larger ones. The average duration of immunity as shown agrees with that obtained by other observers. We are probably warranted in asserting that the larger the immunizing dose the longer the duration of the immunity. The immunizing dose of antitoxin has no injurious effect on the kidney. The only pathologic effect of the antitoxin thus given was urticaria in two of the cases.

18.—See abstract in Journal, March 25, p. 664.

19.—**Cerebellar Abscess in Children.**—Hammond gives his personal experience with five cases of cerebellar abscess, during the last four years, in children between 2½ and 5 years of age, with no pyemia in any other part of the brain. He reports his cases and summarizes his opinions as follows: Given a case of pyemia of the sinuses accessory to the brain, or the history of trauma, with rapid loss of flesh and strength, rapid pulse and high temperature for the first seventy-two hours, followed by decline of temperature, quick pulse, pronounced flexure of the extremities, dilation of the pupils (never, however, becoming fixed), semiconscious condition with uncontrollable restlessness, a peculiar indisposition on the part of the patient to obey requests made, sugar in the urine, slow respiration (three to twelve per minute), tendency (if standing) to go to one side, swinging of the hands always to one side, entire absence of paralysis. This group of symptoms does not, so far as he knows, occur in any other diseases of childhood, and is, in his opinion, indication of abscess in the cerebellum. The presence of the sugar in the urine is an important symptom and he believes it lends more weight to the possibility of determining the size of the abscess from pressure affecting the fourth ventricle.

22.—See abstract in Journal, May 6, p. 1000.

23.—**Physician a Teacher.**—Rudis-Jicinsky proposes the employment of physicians as teachers and lecturers in the public schools on subjects of hygiene and practical domestic medicine. He believes that there is in this way a chance for the employment of medical graduates who, in the overcrowded state of our profession, might not be successful otherwise, and that thousands of human lives might be saved by instruction on preventable diseases and their avoidance.

25.—**Inguinal Colostomy.**—Keen advises inguinal colostomy as a substitute for the perineal operation, as better for cleanliness and cosmetic reasons generally, and also far safer as to life. When there is no sphincter muscle the inguinal opening is far better than the perineal one, and can be managed in such a way as to cause very little inconvenience or annoyance.

26.—**How Do Physicians Cure Diseases?**—Wood shows that the function of the physician is to help nature and to prevent the occurrence of damaging influences. True treatment is really preventive, not absolutely curative.

28.—**Surgery of High Myopia.**—The author remarks on the comparative rarity of high myopia in the country, and reports two cases in which the operation of lens extraction was performed for this condition. He reviews the literature and opinions in regard to this matter and favors the operation in suitable cases. It increases the visual acuity two- to three-fold in selected cases; the retinal image and the visual field are enlarged; there is increased range of vision, with correction, for near work, though accurate vision can only be had at one fixed point. The reduction of myopia by operation permits the use of weaker lenses and diminishes the exaggerated effects of irregular astigmatism. The pupil being brought nearer to the retina, the diaphragm is nearer the nodal point and the eccentric visual rays are better excluded. He concludes that the surgical treatment of myopia should be limited to those cases over —12 D., who suffer great inconvenience from their corrective lenses. The ideal cases are those of —17 and —18 D. The operation is mainly indicated in young adults. Cases having active disease and changes in ocular structures, such as progressive myopia, choroiditis, fluidity of the vitreous or detachment of the retina are not applicable. The dangers of operative interference are more than counterbalanced by the results, which are mainly increase of visual acuity and of the visual field, and the more extended use of the eyes, which accompany diminishing of the refraction. The paper concludes with a bibliography of some fifty titles on the subject.

29.—**Failures after Cataract Extraction.**—Ray's paper is devoted to the description and discussion of some difficulties which accompany cases of cataract extraction. The failures, while few in number, have impressed him, and he wished to call attention to the possibilities. There were three from primary corneal suppuration, or wound infection; one from hemorrhage from the iris; two from suppurative iridochoroiditis, starting in the scar of prolapse after an apparent success: and two directly from the results of secondary operation. His experience as regards the influence of iris prolapse is much more unfavorable than that of Schweigger, as to the future well-being of the eye.

30.—**Iritis.**—The etiology of iritis, as stated in Brown's paper, is about as follows: the majority of all cases, 55 to 65 per cent., are due to syphilis, and a smaller proportion, varying from 10 to 20 per cent., may be credited to arthritic toxins. The small percentage left is caused by various constitutional and infective disorders, as typhoid, influenza, nasal infection, etc., with also a strong possibility of the occasional existence of a true sympathetic or neurotic iritis independent of any infection. Gonorrheal iritis, he believes, is usually diagnosed *post hoc*, though it really does occasionally exist. Traumatic iritis is not here considered. He considers the infection due rather to the toxins of the microbes than to the microbes themselves, as only in a few instances have the characteristic bacteria been discovered. He calls attention to the importance of iritis and its comparative neglect in the literature.

31.—**Abscess of the Liver.**—Jackson's article analyzes 17 cases of liver abscesses, as regards their causes; in 10 of these appendicitis was the only known probable cause; 2 were cases from amebic dysentery, and 3 were of indefinite origin, 2 of which were probably accidental. The autopsies of the fatal cases are reported briefly, as is also the clinic history. In all the cases under his care, a slowness of pulse was a characteristic feature. He thinks this is a matter of some importance, as it might be the cause of wrong prognosis, giving rise to a more favorable opinion than the real facts would warrant. In all cases the liver was enlarged, the spleen also in 8 cases, and in 3 it was found to be small, these including the 2 amebic cases. Vomiting was a rather constant symptom, being noted as absent in only 2 of the 17. The absence of pain and tenderness was likewise striking; in 10 of the cases there was no pain at all, and in none was it severe. In 5 cases there was leucocytosis; jaundice was prevalent in all but one, and was slight, and appearing late in the disease. He does not think aspiration of the liver a very satisfactory method of diagnosis, as the cavity may not be reached; in one of his cases three ineffectual attempts were made. Early and free incision is the only rational treatment; 2 of his cases recovered when thus treated. The most important signs of liver abscesses in the order of their frequency are: the tumor, fever, chills, leucocytosis and slow pulse. The less important are pain, tenderness, vomiting, jaundice and enlarged spleen. Symptoms or signs suggestive of appendicitis should arouse suspicion of abscess of the liver when that organ is enlarged and there is a condition of general septicemia.

32.—**Osteopathic Delusion.**—Dr. Sweeney gives the thorough history of the origin and rise of osteopathy, and a number of interesting extracts from the text-book, "Osteopathy Complete," which is sold only to the recognized osteopaths, at $10 a copy.

33.—**Dietl's Crises and Gall-Stone Colic.**—This paper reports two cases which illustrate the difficulty of distinguishing between the peculiar attacks described by Dietl in 1864, in connection with floating kidney, and gall-stone colic. In the first case the diagnosis of floating kidney was made, and operation undertaken, but the attack was found to be due chiefly to gall-stones. In the second case there was double congenital floating kidney, but no gall stones, which had been diagnosed, were found. In each case the erroneous diagnosis was reasonable, and the authors conclude that in some cases it is impossible to differentiate between these two conditions.

42.—**Premycosic Stage of Mycosis Fungoides.**—In this article Hyde and Montgomery give the results of careful study of 2 patients treated by them together, one of whom is still under observation. Their experience includes the observation of 13 cases, 9 in this country and 4 in France and Austria. They have also reviewed the literature of the so called premycosic stage and have been able to collate the facts in 48 cases, mostly without question as to diagnosis. They analyze the symptoms in these cases and state the general results as follows: "There is reasonable possibility that the average patient who is about to perish from mycosis fungoides will be a man not much younger than 45 years, and occasionally very much older; that he will suffer from six months to several years with intolerable and incoercible pruritus; that in the enormous majority of cases he will display during this pruritic period over the trunk and extremities a dermatosis resembling, but not exactly like, an eczematous affection, characterized by the evolution of polycyclic discs, in hue light to dark reddish, often slightly scaling, which may be evanescent, recurrent, and which may be the seat later of infiltrations, of lichenoid papules, and still later of fungoid tumors, though the latter may develop in regions where no discs have previously appeared. The facts go to show that in a large proportion of cases this patient will be a fleshy, stout individual, with a big belly and well-developed frame; that he will not find his health impaired to any serious extent before the stage of tumor formation has been reached, and even after reaching such a stage this impairment often will not be conspicuous until degeneration of the tumors has begun." The histologic study of the cases is not yet complete, but the authors, after stating the different views held as to the nature of the disorder, and admitting that while definite conclusions are not yet justified, hold that early skin symptoms in this disorder, while varying in some respects, have enough characteristics in common to indicate that they are a part of a definite morbid process quite distinct from sarcoma and differing from the recognized infectious granulomata in that the manifestations are confined to the skin, only one case having been reported involving the internal organs. In this respect it is in strong contrast with tuberculosis, syphilis, leprosy, sarcoma and carcinoma. They believe that the so-called premycosic stage is improperly designated, and would prefer the term "prefungoid," used by Morrow. They believe the mischief to be at work in the earliest pleuritic symptoms, and the skin eruptions of the early stages are as significant of the general disease as the tumors themselves.

43.—**Liomyoma Cutis.**—White describes in this paper a case of this interesting disorder, of which less than a score have been previously reported. He illustrates it with half-tones, showing its muscular and other structures.

44-49.—**Treatment of Nasal Stenosis.**—Bosworth's method recommended in this paper is practically sawing a new septum out of the old crumpled one, as a straight board is sawed out of a crooked log. He claims that the contention of his original paper in favor of this operation has been fully confirmed by the admirable results of this operation. The idea of Asch's operation is to destroy the resiliency of the cartilage in such a way that, when forced back to its proper position and kept there sufficiently long, the result would be a straightened septum without loss of tissue and function restored. He describes his method in detail, and claims that in over 350 operations within the past ten years not a single death occurred, and in only a few badly-nourished patients were perforations observed. The features of the operation are its simplicity, the rapidity with which it can be performed and its safety. The operation is only intended for the cartilaginous septum, and he deprecates any forcible breaking of the bony deviations. Roe thinks that in order to bring the septum into a straight line it is usually necessary to fracture the deviated anterior osseous portion, and for this purpose he uses a special pair of forceps. After the osseo-cartilaginous portion of the septum is thoroughly broken up, which is done by rotating the blades, the septum is readily brought to the median line and placed in any position desired, allowing at the same time rotation at the attachment of the cartilaginous portions, which point he especially emphasizes as a special feature of the operation. Watson's method detaches the base of the deviation and moves it over toward the opposite side, breaking up the bony septum of the deflection and molding it into line. He claims the points of his operation to be: "All the cartilaginous septum down to the angle is utilized to form the new septum. Elimination of the redundancy is provided for. A firm point of support, the bony base of the septum, is provided to counteract the resiliency of the cartilage. Deflection of the bony septum is corrected. It does not transfer thickened angles and redundant tissue to the other nostril." Gleason makes a U-shaped incision through the lower part of the deviation, and pushes the angle of the deviation through the opening. Douglas' paper is more fully illustrated than any of the others, and his plan of operation is to perforate the septum at the point of greatest convexity and cut along the lines of deflection in whichever way they may extend, destroy any elastic bands in the submucosa and bend the septum away from the obstructed side. Splints are kept in the nostrils. He briefly describes his operation as consisting of four steps: 1. Button-hole the septum at the point of greatest obstruction and incise obstructing ridges of convexity in the line of convexity. 2. Break with forceps all fibrous bands and separate cartilage from the superior maxillary spine at the floor of the nose. 3. Overlap cut edges and introduce splints. 4 Treat antiseptically for two weeks.

52.—**Abortion and Miscarriage.**—Parker believes that the best treatment in cases of threatened abortion, when the probability is that it will be impossible to save the fetus, is to help nature and hurry delivery as soon as possible. He gives his method of operation.

53.—**False Tonsils.**—This paper, read before the New York Institute of Stomatology, reviews the effects of enlarged tonsils, both faucial and pharyngeal, and Dawbarn classifies the bad results as: 1, high narrow arch of the palate; 2, the insufficient development of the upper jaw; 3, the imperfect, irregular dentition; 4, tendency to decay, especially of the teeth nearest the growths, and to various types of stomatitis and gingivitis induced by the microbes harbored in the interspaces of this vegetation. As regards the high narrow palate, he believes that there are six separate factors in its causation. The first is a mechanic one. The enlarged tonsils are dragged down mechanically by the food, and being adherent to the pillars of the pharynx, these pillars pull down on the sides of the bony palate to which they are attached. This process going on for months and years must have a tendency to narrow the palatal arch. The second factor is the narrowing of the arch thus induced, causing the teeth of the upper jaw to move toward the inner side of the unaffected dental arch of the lower jaw. As soon as such process is fully started it will increase itself, as every time the teeth are firmly opposed they will tend to maintain the narrowness of the arch. The third factor is due to the fact that with the pharynx so filled up the child has become a mouth-breather and the nasal air-passages no longer have their former function. They become comparatively useless and from all sides nature begins to close in upon this waste space, largely, perhaps, from atmospheric pressure. The rising of the arch of the palate, the floor of the nose, is a step in this process. In the case of young mouth-breathers, the still soft bones of the upper jaw yield to the downward traction of the soft parts on the sides of the face pulled down by the weight of the lower jaw, thus increasing the tendency to bring the sides of the arch nearer to each other. In some cases the narrow arch is probably to be accounted for as a feature of inheritance, and in a few as a stigma of degeneracy. Normally the tongue against the roof of the mouth supports the latter and maintains its normal shape while the bones are soft in nose breathers. In mouth-breathers the tongue cannot exert this action. As regards irregular and imperfect dentition, it is readily explained since it is in the same class with numerous other physiologic processes effected by an insufficient oxidation and poisoned saliva and mucous secretions with consequent anemia and malnutrition. The tendency to decay, mentioned, explains itself. He suggests that the tendency to thumb sucking in children should be encouraged, as it prevents mouth-breathing at the same time. The treatment of this condition is solely operative.

55.—**Nervous System and Mental Declarations.**—Gray's paper is simply a few generalities of the nervous system.

58.—**Drug Habits.**—In this article Patterson condemns the effect of using any depressing sedative agents in curing the morphin habit, and maintains that the use of heart tonics, strychnia and general supporting treatment is better, also building up the nervous system with the withdrawal of the drugs.

59.—**Hypnotized State.**—Mental suggestion is the subject of McDonald's paper, and he seems to accept it as a recognized fact. It is a little difficult to explain his cases reported, except on the basis of self-deception or credulity, unless we admit some actual but not apparent suggestion through the senses of the subject. According to McDonald's article, however, he would seem to believe that the exercise of the will of the operator may act as a suggestion. The paper is hardly a satisfactory scientific one.

60.—**Apomorphin.**—According to a popular notion in Oregon it appears that lard or tallow is believed by stockmen to be an efficient antidote for strychnin. Stanley mentions this fact to call attention to what he thinks is a very satisfactory remedy, namely, apomorphin. He says that it will prove a sure antidote if given hypodermically, so as to act at any time before paralysis of the respiratory nervous center occurs. He mentions a case of a woman who had taken 5 grains of sulphate of strychnin with suicidal intent. She was pregnant seven months. Violent convulsions had set in before he arrived, and he immediately injected nearly 0.5 grain of apomorphin into her arm. She had only one more convulsion, and in fifteen minutes all convulsions had ceased, but no one ever saw a sicker mortal than the patient. The entire contents of the stomach were evacuated. Twenty-four hours later no effects of the drug or its treatment were perceptible, and two months later she was delivered of a healthy child.

64.—**Notes on X-Rays.**—In this article Morgan expresses his preference for a static apparatus, as the best and safest for X-ray work, and gives a picture of his laboratory arrangements. The only burn he has seen from these rays was on his own hand, resembling common sunburn and giving no more inconvenience. He thinks the day of X-ray pictures is passing, as better work can be done by an expert with a fluoroscope. Experience and skill are required, but methods of localization are simple and easily contrived. He illustrates some of his own by the use of wires, etc., around the member examined. To make any localization complete, views should always be taken in two or more directions so that all the conditions and positions are shown. In conclusion he refers to the diagnostic value of the X-ray in other departments of medicine than surgery.

66.—This paper here printed as an original, appeared elsewhere and was abstracted in the Journal, May 13, ¶ 58, p. 1046.

68.—**Our Methods of Defense.**—This paper is the annual oration delivered before the Texas State Medical Association, and is in substance a plea for more thorough medical legislation in the interests of the people and the profession.

69.—**Medical Gynecology.**—Cook reviews the various symptoms met with in gyneocologic cases, such as nervousness, headache, backache, etc., and their treatment. As to headache, he thinks that when it is occipital, we may question the heart, kidneys, or bowels, and he mentions a case in which he was called in to see a lady in a cyanosed condition due to large doses of coal-tar products for the relief of those symptoms, which he quickly relieved by digitalis, the cause being a weakened heart. Renal insufficiency is also another cause and can be detected by urine examination. Constipation is still more important, and unloading the colon will often have a most excellent effect on this as well as other symptoms. Backache may be dorsal, lumbar or sacral. Dorsal backache generally has the stomach or liver for its cause. Lumbar backache frequently depends on the bowels and kidneys. Sacral backaches find their cause in the pelvic organs, and the uterus and its appendages should be looked after. The respiratory tracts, the nose and pharynx, should also be looked after, and he thinks that these troubles are often caused by imperfect excretions, and brisk purgation is the best treatment. With gastric intestinal and hepatic disorders, daily laxatives, lavage of the stomach, etc., are indicated. The paper closes with a reference to renal insufficiency and insists on the importance of the examination of gynecologic patients by due estimation of urinary solids.

70.—See abstract in Journal, May 6, p. 1000.

71.—**Hernia of Pregnant Uterus.**—Macon reports a case of a colored woman of over 30, who had a gradually enlarging ventral hernia till at last it contained the whole pregnant uterus, which hung inverted down to within an inch of her knees. When her time came for delivery it was accomplished without difficulty by raising the organ and exerting manual pressure to make up for that usually exerted by the abdominal muscular walls. A second pregnancy also terminated favorably in the same way, the only difference being that there was a breech presentation. The patient refused to submit to an operation to relieve the condition.

74.—See ¶ 66, above.

82.—**Rectal Fistula.**—Pennington's paper is a detailed and quite fully illustrated one on the surgical management of rectal fistula. Two cases are reported.

83.—**Pericystitis in Puerperio.**—This is an inflammatory infection of the perivesicular cellular tissue, especially at the anterior sides of the bladder, which Kolischer thinks should be considered as a special disorder complicating the puerperium. It usually occurs after a severe protracted labor when the head has pressed against the pelvis for a long time, or when emptying the bladder at the proper time has been overlooked, or a difficult forceps delivery has been necessitated. He attributes the trouble to a traumatic hemorrhage occurring under these conditions. He has found hot bladder irrigations, hot poultices to the lower abdomen and ichthyol suppositories useful in the treatment. He suggests surgical interference may be advisable sometimes in acute cases.

84.—**Family Forms of Paresis and Tabes.**—Moyer reports a very interesting case of a family group of tabes and paresis. The father died at 50, it is said of consumption, though intemperance was suspected of contribution; no positive history of specific disease; mother living, aged 53, with well-developed tabes. The oldest son, 21 years old, has ataxia, absent knee-jerk and optic atrophy; the youngest, aged 16, is a rather typic paretic; a daughter, aged 18, is healthy. The record is a very interesting one, as cases of homologous heredity of tabes and paresis are rare, and the coincidence of disease in three members of two generations in the same family is still more so.

85.—**Symphysiotomy.**—In this paper McKennan describes and illustrates two rather striking cases in which symphysiotomy was performed. He emphasizes the following points: 1. Symphysiotomy is not so formidable but that it may be performed by any physician of ordinary ability. 2. The patient must be free from sepsis and free from exhaustion. 3. The technic is immaterial so long as it is clean and expeditious. 4. The after-treatment demands absolute immobility of the divided symphysis and daily inspection and cleansing of the patients by the physician. 5. Expensive beds and apparatus are sometimes convenient, but are not necessary for the success of the operation. 6. The patient may be operated on in her own home, among her own surroundings and by her own physician.

87.—**Right Marital Living.**—This article deals chiefly with what the writer calls the "love function," in regard to which she quite daringly enters into details that are not ordinarily discussed in print.

93, 94, 95, 97 and 98.—These papers were printed in full in the Journal of June 10.

100.—**Incision by Rectus in Appendicitis.**—Kammerer's paper describes his method of making an incision for the operation for appendicitis by drawing the rectus muscle sharply toward the median line after division of the aponeurosis of the external oblique, thus making the incision through the abdominal wall in different vertical planes, and thus obviating the danger of hernia. The criticism made, that it is liable to injure the nerves and produce atrophy of the muscles, he thinks not carried out. He has not seen it cause bad effects in the cases on which he has operated. He tabulates eighteen cases to show results of this method of operation. In none of them is there any hernia.

101.—**Local Anesthesia.**—Johnson goes over the subject of local anesthesia. He thinks that it should be limited to operations small in extent and simple in technic, of short duration, and to those other cases, comparatively rare, where there are strong objections to the use of general anesthesia. He describes the method of painting or spraying the surface, subcutaneous injection, injection into the sensory nerves and the use of salt solution. Eucain seems to have several advantages over cocain or tropococain for this purpose, as being less toxic and more easily sterilized.

102.—**Diphtheritic Conjunctivitis and Antitoxin.**—Bell reports a case of conjunctivitis in which the Klebs-Loeffler bacillus was found by culture, and which recovered rapidly under injection of antitoxin, local treatment having been ineffective. Two injections of 1100 and 900 units were given. He refers to a case of Darier's in which similar treatment was successful in a case of pseudo-membranous kerato-conjunctivitis.

103.—**Gonorrheal Ophthalmia.**—Jamison thinks that it is important to diagnose gonorrheal ophthalmia as early as possible, so as to apply abortive treatment, which would not be suitable for ordinary catarrhal conjunctivitis. The positive diagnosis is only made in the early stage by microscope, though later the intense swelling of the lids, chemosis of the ocular conjunctivitis and purulent discharge are unmistakable. He believes that it is necessary to perform a slight operation, cantholysis, that is, cutting of the lid at the outer canthus so as to better expose the conjunctival cul-de-sac. He then applies nitrate of silver (40 grains to an ounce), with a small pledget of cotton, being careful not to touch the cornea, and immediately neutralizes the silver with a solution of sodium chlorid, and then begins the application of the iced cloths, changing them every ten seconds until the reaction has subsided, the eye in the meantime being kept clean with boric acid. It may be advisable to make a second application in twenty-four hours, but he does not always find it necessary. He claims the results of this method are good.

104 and 105.—These papers were printed in full in the Journal of June 10.

106.—**Voice in Diagnosis.**—This paper of Dr. Skene's takes up the changes of the voice which may occur in different conditions and be of value as indicating morbid states. He first notices the differences in the cry of infants, the normal cry, indicating hunger; the cry of irritability or pain; the changes with respiratory disorders. All these are in too much detail to be well abstracted. He next notices the morbid state of the voice, indicating circulatory disturbances, cases of heart disorder and Bright's disease, indicating hyperemia of the vocal cords, lowering and modifying the tone and quality. Anemia raises the pitch of the voice and a concealed hemorrhage may be detected by one whose attention has been called to this point. He also refers to the importance of noticing the condition of the voice as indicating the nervous state before performing major operations, and also its testimony as showing the amount of shock after an operation. The voice is also of value as indicating the reaction from this condition and sometimes is the first and only symptom. The voice as an indication of apathetic conditions is also of importance and frequently of very valuable prognostic significance. There is a liability to take this apathetic tone as an indication of contentment and thereby being led to the wrong diagnosis. He concludes by speaking of the expression of the voice after abdominal operations and the peculiar voices of the insane. The last, however, he does not venture to remark on extensively. He says that it is necessary in order to thoroughly utilize this feature in diagnosis, to have had considerable experience, a normal sense of hearing and ready appreciation of the varieties of quantity and characteristics of sound, but especial refinement of the sense is not necessary.

107.—Vaginal Douches.—Boston criticizes the use of vaginal douches and concludes that a profuse leucorrhea during the latter months of pregnancy is no indication for vaginal douches, that the chemic reaction of a discharge has but slight effect on its antiseptic power. The vaginal secretions of pregnant women, rarely if ever contain pathogenic germs, except gonococci. Vaginal douches favor the development of cervical gonorrhea and puerperal sepsis. The vaginal secretions may contain streptococci, staphylococci, diplococci and bacilli, all of which may be non-pathogenic. A discharge from the cervix may show the presence of pathogenic bacteria after all other symptoms of sepsis have disappeared.

108.—Pneumonectomy.—The subject of this paper, according to the author, covers a method which he believes will be extensively used in the future treatment of pulmonary tuberculosis. As most cases of this disorder start with a single focus of infection, he thinks that a well-directed pneumonectomy would be absolutely curative. He has studied the subject since 1894, experimented extensively on dogs and believes that excision of diseased lung is not only possible but comparatively easy. In his experiments he has opened the thorax, taking care to avoid extensive introduction of air into the pleural cavity, seizing the lung, engaging it in the wound to prevent this accident, and having determined the amount to be removed, has passed a ligature around the base of the mass drawing it so tight that the bronchial and lung tissues are forced into a solid mass, then applying a narrow-bladed clamp outside the ligature, the part is removed by a cautery, the clamp removed and the disengaged stump dropped into the pleural cavity without further attention. The edges of the pleura are stitched up with a continuous suture, as is also the external wound, and a collodion dressing applied. The labored breathing will continue for a while until the complete absorption of the air in the pleura, but he thinks this gives a partial rest to the lung and is therefore of advantage. The great danger is death from hemorrhage, hence the importance of the ligature being tight. He has been surprised in his experiments on dogs to find that after two to four weeks' convalescence, there was great difficulty in locating the scar on the lung. Sometimes no evidence of the stump remained. He thinks that the operation is perfectly feasible in man, and suggests what an advantage would be the use of condemned convicts for experiments.

109.—Medical Gynecology.—Dr. Savidge's paper dwells on the importance of congestion and debility as influencing the cause and symptoms of female disorders and the benefit that is sometimes derived from rest and non-surgical treatment in these cases. He asks what women did before the specialist on gynecology evolved, though undoubtedly the requirements of modern life have made this specialty necessary. He believes that discussion of this subject is of value even if incorrect views are sometimes stated.

110.—This paper appeared in full in the JOURNAL of June 10.

111.—See abstract in JOURNAL, June 10, p. 1316.

112.—This paper appeared in full in the JOURNAL of June 10.

113.—Climate and Sea Voyages in Tuberculosis.—Weber reviews the various climatic and other conditions of resorts for consumptives in this country and Europe, and also the influence of sea voyages on consumptives. He emphasizes the importance of the constitutional or personal resistance of the patient, and in cases of weak constitutions we must be guarded in recommending high altitudes and long sea voyages and give preference to warm, sheltered and sunny places. In strong constitutions, mountain climates and occasional long sea voyages are to be preferred. Where there is only slight disease of the apices of the lungs and slight fever, any climate and especially high altitudes and sea voyages, will do, but if fever is high, patients must first be treated at home. Extensive disease with only slight fever is generally best treated in a moderate elevation, or warm seaside localities are most advisable. In advanced disease with fever, long journeys should be avoided. In progressive tuberculosis with scattered foci in both lungs, home treatment will probably be best, and chronic, slowly progressing cases appear to do best in warm winter climates and sometimes with sea voyages. Quiescent cases with extensive damage are generally better in only slight elevation. Albuminuria without fever indicates avoidance of high altitudes and the selection of a dry climate. Moderate diabetes does not exclude high altitudes, but advanced diabetes and emaciation do; also cases where tuberculosis is secondary and diabetes the primary disease. Chronic cases with much catarrh require places with as little wind as possible, but in the young, high elevations with little wind are sometime preferable. High altitudes are contraindicated in chronic cases with extensive emphysema. These cases require warm winter resorts. Where asthma is a complication in the majority of relatively young persons, high elevations should be preferred. Older persons do better in moderately warm locations and slight elevations. In all climates selection of the dwelling-house is of great importance. It should be sunny, sheltered from wind and dust, built on dry ground, and removed from stagnant water and swamps and impure air of factories, etc. All healthy climates can be used as long as a good diet and plenty of time in the open air can be obtained, but high altitudes and marine climates have advantages—the former rather against tuberculosis and the latter, including sea voyages, against scrofula. The cure of tuberculosis is possible in the early stages in all healthy climates, but some have special advantages, notably high altitudes. In all cases, however, medical supervision is necessary, and treatment in sanatoria is therefore preferable, and for the poor it is a necessity. The erection of numerous sanatoria is therefore a national requirement for the cure, prevention and extermination of tuberculosis.

114.—Vertigo.—Zenner reviews the general subject of vertigo, its pathology, variations and treatment. He disagrees with Mendel in holding that the relation of the labyrinth to vertigo is proven incontrovertibly by clinic facts. Perhaps we should believe with Adier that objective vertigo (apparent movement of visible objects) is due to anomalous eye movements, and subjective vertigo (feeling as if the individual were moving), is due to the labyrinth. Gastric vertigo, often falsely so diagnosed, with the toxic form, is probably due to labyrinthine involvement, and the same may be true to some extent in the vertigo of arteriosclerosis. Neurasthenic vertigo is doubtless of cortical origin, and in all cases the cerebral centers, the subcortical one of equilibrium and the cortical one of conscious sensation, are to be considered. Organic cerebral vertigo is commonly associated with disease of the medulla, pons, cerebellum and corona cerebelli. The treatment consists chiefly in relieving external causes and abnormal bodily conditions, attention to constitutional states, nervous irritability, etc. Syphilis, gout and rheumatism may need appropriate treatment; the vertigo of arteriosclerosis requires special attention to that condition. Small doses of iodids, nitroglycerin, stimulants, etc., are in place.

115.—J. Hughes Bennett.—Johnston's review of Bennett's life and work emphasizes his services in introducing the microscope into medical practice, his pioneer work in blood examination, his revolutionizing the treatment of pneumonia, and his general opposition to persistent errors and useless dogmas. His accurate clinic methods have had a far-reaching and prolonged influence in England, and above all in this country.

117.—Epithelioma.—McConachie prefers the caustic to the knife in the treatment of epithelioma, as more thorough and less disfiguring. The stronger caustics only are of value—caustic potash, zinc chlorid and arsenic. The latter, in the form of Marsden's paste (2 parts arsenious acid, 1 gum acacia), he thinks is best in epithelioma of the face. Electricity and the Paquelin cautery are not to be relied on, especially when large areas are involved.

118.—Paretic Dementia.—In this article Bremer holds that the demented type of paresis is gradually supplementing the typic form; that syphilis is not its exclusive cause, though antecedent in perhaps 95 per cent.; that it is spreading in all classes and becoming more frequent in the young; and that its extension among the Jews is also a striking feature of the present time. He favors the view that some original defect of the brain is an essential condition. Bremer also mentions the fact that paresis is becoming the dread of syphilitics; that there is a disease—perisephobia—which has not heretofore been much noticed by writers on the subject. The prognosis is uniformly bad, but he does not say there are no recoveries. A partial and temporary recovery is entirely possible. As regards its pathologic anatomy, it is an accepted fact that the more exuberant the interstitial proliferation, the more profound the dementia. The paper concludes with notes of two cases in which the usual microscopic changes were lacking.

120-123.—These papers were printed in full in the Journal of June 10.

124.—Respiratory Failure in Brain Injury and Diseases.—Hudson's paper emphasizes the importance of respiratory failure in causing death in case of intracranial pressure, and that we may be able to save life by artificial respiration in cases of injury to the brain until hemorrhage is stopped and the wound otherwise attended to. He thinks that in operations on the brain, especially those involving the posterior cerebral lobes and cerebellum, whether or not there are signs of special intracranial pressure, we should be prepared to use artificial respiration. The Fell-O'Dwyer apparatus should be an adjunct at hand with an expert to use it in such cases.

125.—Bacteria and Cold.—Ravenel has experimented with anthrax spores, diphtheria cultures, typhoid-fever cultures and bacillus prodigiosus to test their virulence in extreme degrees of cold. He immersed these germs in liquid air at a temperature of 312 F. below zero for a period varying from one minute to one hour, and in case of some to several hours, and in no case were the bacteria killed, nor could any inhibition even be detected. He therefore concludes that cold is an efficient disinfectant and liquid air, in spite of all claims to the contrary, can not be regarded as a germicide.

FOREIGN.

British Medical Journal, May 27.

Remarks on Proper and Improper Burial, with an Examination of Claims made for Cremation. Francis Seymour Haden.—This paper is in defense of earth burial and an argument against the alleged advantages of cremation. The author goes over former publications and correspondence on the subject, quite thoroughly, and maintains that the chances of sowing pestilence in the soil, by interment, are practically disproved, and that the earth is the natural disinfectant.

Lecture on Some Cases Illustrating Surgery of Stomach. Arthur E. Baxter.—This paper reviews and analyzes 7 cases of gastric surgery performed within the last few months. In 5 the Murphy button was used; all were cases of posterior gastric enterostomy. In spite of the fact that the button worked well, Barker does not appear to believe that it is the best method, and claims that with the largest button that can be used with safety in the jejunum, dangerous contractions have occurred, whereas, with lateral anastomosis, with suture, any desired size of opening may be secured. As regards performing this operation as a preliminary to pylorectomy, he thinks that the time will come when both will be done at one operation. If we take the results of the last few years with gastro-enterostomy, the mortality will probably be under 10 per cent., and Barker believes that the time will come when these cases will be put still earlier in the hands of the surgeon with still better results. In cases of gastric carcinoma, it is almost impossible to select the proper cases for operation unless they are seen earlier than has hitherto been the rule. Many cases are unsuited for operation, and he refers to Kronlein's statistics as showing the conditions and possibilities, and also the results. Next to the early recognition of the condition of the stomach and the decision as to whether operation is feasible, comes the question of technic. In every case careful preparation of the patient is necessary, including a thorough cleansing of the abdomen externally and of the stomach internally. The latter should be washed out several times for a couple days before operation, except in cases of gastric ulcer. The saving of time in the operation is of great importance, as well as thoroughness and after-treatment, keeping the patient warm, using normal saline solution injections, if necessary, rectal feeding, etc.

Operation for Gastric Hemorrhage and Perforation. A. H. Tubby.—The author reports four cases of operation for gastric hemorrhage, mostly from perforating gastric ulcer; recovery in one case. Cases of this kind may be classed as acute and chronic, according as the perforation is directly into the peritoneal cavity or is bounded by adhesions so as to form a circumscribed abscess. The mode of procedure differs in these two cases. The diagnosis of acute perforation is generally not difficult, and the all important question is one of time. Statistics show that of cases treated surgically within the first twenty-four hours, over 40 per cent. recover. The difficulty of finding the perforation, suturing it, and the difficulties of cramped location, the softened state of the stomach walls, and the cleansing of the peritoneum from the stomach contents, are great, but may be overcome with proper assistants, good light, special care in suturing, thorough irrigating of the peritoneal cavity with normal salt solution, and efficient after-drainage.

Surgical Treatment of Uterine Cancer and Its Recurrence. Theodor Landau.—In this paper this well-known author advocates vaginal extirpation of the uterus and its appendages in cases of carcinomatous disease. His results with this treatment are: in 123 cases, 8 died from the operation; in 48 the operation was done more than five years ago and of these 13 (27 per cent.) have remained well. According to this, with his method, 25 per cent. of permanent cures may be effected. The next method the author mentions is that of improving the permanent results by systematic removal of recurrences, as suggested by Rosenstein in 1898, and reports a case in his own practice.

Experimental Inquiry into Quantity of Volatile Acids in Stomach. L. Leney and Vaughan Harley.—This paper gives the results of experiments as to volatile acidity of the stomach and it appears that the apparently normal stomach contains a certain amount of these acids, but so long as the quantity of free hydrochloric acid secreted by the stomach is sufficient and the gastric motility is not interfered with, this quantity averages not over 3.2. In case of the decrease, however, of the free hydrochloric acid, the volatile acidity averages 7.6. The results of these investigations confirm those of Hoppe-Seyler, that the quantity of free hydrochloric acid influences the quantity of volatile acid in the stomach.

Lancet, May 27.

Radiography, with Special Reference to Detection of Renal Calculi. C. Mansell Moullin.—The author speaks of the difficulty of radiography when photographing structures that lie deep in the tissues, such as renal and biliary calculi. He thinks it better to make thorough examination with the fluorescent screen before attempting to make the photograph. When both methods are used the screen tells a great deal more to the skilled observer than does the photographic plate. He is not prepared to say that this advantage of the screen over the plate will be permanent, as the art is still so immature. As regards the use of the coils or static machines for X-ray work, he considers it impossible to make any definite statement, but he speaks very highly of the Wimshurst apparatus. An advantage of this is that the current from it is quite harmless, and if the patient should get into the circuit no serious damage could be done, while a similar accident with the coil would be exceedingly inconvenient. Within the last few weeks, however, the use of a new principle—the Wehnelt electrolytic break—has greatly increased the power of the coil and enables us to obtain results previously impossible. As regards the renal calculi, the condition of the patient and the composition of the stone are both matters of importance. If the patient is thin and the calculus of oxalate of lime, positive results can usually be obtained. Phosphatic calculi are harder to detect and those of uric acid or urates still more so. If the patient is stoutly built and muscular, success is less certain. He thinks, however, with the use of the Wehnelt interrupter, better results will be obtained. In difficult cases such as these every endeavor must be made to reduce the thickness of the tissues by purgatives or enemata. The position of the patient is also a matter of importance. The erect position fixes the object better, but crowds the liver down in front and increases the antero-posterior diameter of the body. Moullin prefers to have the patient recumbent with the back well arched, and the light passed through in both directions, with a screen or plate used both in front and behind. To prevent movement of the calculus, from respiration, the patient is directed to hold his breath as long as possible and the exact distension of the thorax noted. Then he is allowed to breathe until he has recovered himself and then directed to hold his breath a second time with the thorax in the same state of distension. This is repeated as often as necessary, the light being only switched on during the period of apnea, when the thorax is at rest and the kidneys and calculi are presumably occupying the same position relatively to the light. As regards biliary calculi, they are still more difficult, owing to their very low absorptive index. The difficulty is greatest when inflammation is most wanted, that is, when the calculus is not in the gall-bladder but in the ducts and when the patient is stout and the abdomen firm.

Wound of the Right Ureter During Ovariotomy; Suture; Fistula; Recovery. R. Lawford Knaggs.—This paper reports a case of partial severance of the right ureter during ovariotomy, which was cured by suturing. The greater part of the paper is taken up with the general discussion of the surgery of the ureter, in which he calls attention to the amount of work that has been done in this line in America and on the Continent of Europe as compared to that in England, and does full justice to the contributions of Van Hook, Kelly and others of this country. He tabulates the published cases of the different operations—uretero-ureteral anastomosis, implantation into the bladder and bowel, and believes that vesical implantation and ureteral anastomosis have each their proper sphere, but sees little advantage in rectal implantation, though he evidently is not aware of the recent successes in this country with this operation, by Fowler and others. Grafting on the skin and in the vagina are merely temporary and palliative measures.

Intestinal Obstructions. R. C. Ellsworth.—This paper is an address given before the Swansea Medical Society, and discusses the causes, conditions and treatment of intestinal obstruction. The author emphasizes the following points: 1, that a patient may suffer from fatal obstruction and not present the classic symptoms; 2, that the symptoms of obstruction vary with the site of obstruction; 3, that early and definite diagnosis is essential; 4, that the use of aperients is likely to do harm; 5, that exhibition of opium is likely to mask the symptoms and produce delusive signs of improvement; 6, that the time during which operative treatment is likely to be successful is very short; 7, that the bowels must be evacuated at the time of the operation, or the patient may die poisoned by his own excrement; and 8, that it is probably safer to be content with colotomy or enterotomy, when the bowel is seriously damaged, than to attempt an operation for anastomosis.

Cure of Acute Ascites Due to Liver Cirrhosis by Operation. Rutherford Morison.—This paper is offered as additional evidence of the value of operation to relieve the obstructed portal circulation by the establishment of an efficient anastomotic one. He also, besides reporting a case, gives the post mortem of the first successful case, who died two years after the operation, showing that a successful anastomotic circulation can be produced. He has operated on four cases. Two were uncomplicated and both were cured; in one the diagnosis was doubtful, and in another the complications precluded recovery. His conclusions are that ascites due to liver cirrhosis can be cured by the establishment of an efficient anastomotic circulation. Adhesive peritonitis produces adhesions between the abdominal contents and its parietes, in which new blood-vessels form. If they are needed they remain permanently. The operation described by Drummond and himself (*British Med. Jour.*, Sept. 19, 1896) is the safest and most certain method to produce adhesions. It is no longer advisable to treat ascites due to cirrhosis by repeated tappings, if the patient is otherwise sound and in fair general condition. After one or two tappings have failed, operation offers the best chance of prolonging a useful life.

Medical Press and Circular (London), May 17.

General Health as Factor in Skin Diseases. Morgan Dockrell.—The author calls attention to the importance of general health in affecting the progress of various skin diseases. First referring to these cases where internal treatment is said to be unnecessary, he mentions the eczema which affects barmaids, washerwomen and hairdressers where their general health becomes impaired. The irritation of occupation in these cases can only be best relieved by improvement in the general health. Warts are another condition similarly subject to these influences, and also abnormal growths of hair in women. General health and genital irritation must be taken into consideration, as well as the local treatment by electrolysis, etc. Under the second head, he notices conditions of health requiring treatment quite apart from certain orthodox internal remedies advised for particular diseases. Among these conditions of general health that effect the progress and prognosis of skin diseases, he mentions overfatigue, worry, sexual indulgence and uric acid.

Bulletin de l'Academie de Medicine (Paris), May 16.

Immobilization in Treatment of Wounds of Chest. Lucas-Championnière.—The conclusions of this study of bullet and perforating wounds of the chest proclaim the importance of immobilization and abstention, exactly the reverse of the indications in perforating wounds of the abdomen. The dangers of pleuro pulmonary wounds are immediate hemorrhage and a special kind of nervous shock. Rapid almost fulminating death may result from these accidents if exaggerated by the slightest movement. On the other hand, immobility of the body, of the larynx and of the mouth helps rapidly to control them. Immediate immobilization even on the spot is required, refraining from auscultation and every intervention, leaving the bullet to take care of itself. Moderate injections of serum, and possibly of morphin, are indicated, with fluid and easily digested food and repeated purgatives. Secondary and infectious accidents are rare when the wound has not been infected with the fingers, the instruments, or fluids injected.

Presse Medicale (Paris), May 24.

Early Hereditary Obesity.—A. Chauffard. "After a relative decrease in weight has been secured with dieting and exercise, commence thyroid treatment, but only administer it one week at a time, alternating it with Carlsbad salts every other week." A hypertrophic cirrhosis of the liver was noted at the autopsy of a case described in detail, fatal at 34.

Semaine Medicale (Paris), May 24.

Splenic Origin of Hepatitis. A. Chauffard.—A number of supposedly well-established facts are upset by the propositions advanced in this article, which ascribes the primary and most important rôle in infectious lesions of the liver to the spleen. The writer cites facts which prove the splenic origin for "malarial liver," for the "leucocythemic liver" and the hepatic lesions in typhus, and calls attention to the splenic endophlebitis noted by Kelsch and Kiener in chronic malarial infection, as the track and trail of the infective process. The frequency with which splenomegalia is noted in icterus, cirrhosis, etc., is not a mere coincidence, but is a natural sequence of facts, starting with the so-called primary splenopathy without any reaction proper on the part of the liver, passing the chronic splenomegalic icterus described by Hayem and leading to the venous atrophic forms of cirrhosis described by Popoff, Gilbert and Fournier. The compensating antitoxic rôle, attributed to the spleen in affections of the liver is contrary to the facts; it is the liver that compensates the spleen, and arrests, neutralizes or destroys the microbes and the toxins brought to it by the splenic portal vein.

Revista Medica de Bogota, xxi, 236.

Leprosy and Necessity of Isolation. R. Azuero.—The numbers of lepers attracted to Bogotá by Carrasquilla's serum treatment have rendered leprosy the dominant question in Colombia. Azuero calls attention to the fact that arthritic manifestations of some kind always, and eczema usually, precede the leprosy and also that prostitution is the most frequent means of contagion. Women do not seem to shrink from cohabitation with lepers, and he has never known a single case in which they were infected by coitus with a leper, but numerous authenticated cases demonstrate that other, healthy men with whom they have sexual relations afterward, become infected. He has observed forty and Carrasquilla over a hundred cases in which the husband or wife remained unaffected by the other's leprosy through a long married life together, and suggests that science may yet discover nature's method of this slow gradual immunization and utilize it in favor of persons exposed to contagion. He cites a number of instances of cases of direct contagion from handling articles used by a leper, and also mentions the fact that not a single case of contagion has been known at Loro, a town of 1000 inhabitants, with a leprasorium, where there is no attempt at isolation, during the eighty years it has been established. He suggests as a possible explanation the location on the seashore, as the frequent bathing in the iodinized sea water may prevent infection.

Centralblatt f. Chirurgie (Leipsic), May 27.

New Modification of Cheiloplastics. J. Silberberg.—"If it is possible to retain a fragment of the lip at each corner after square excision of a neoplasm, a cosmetically satisfactory lip can be made of lip tissue by drawing these fragments of the lip together after carrying an incision horizontally up on the cheek to obtain slack enough to mobilize the fragments of the lip. Another parallel incision at the bottom of the defect, extending each side, allows the mobilization of the lower edge of the flaps thus obtained. In case of wedge-shaped excision the mobilizing incisions are made obliquely upward from the corners of the mouth and then extended downward, forming an inverted V, with the point toward the ear."

Deutsche Medicinische Wochenschrift (Berlin), May 25.

Phthisis and Tuberculosis. C. Baumler.—After expatiating on the fact that phthisis is the greatest danger that confronts the person affected with pulmonary tuberculosis, and discussing means to ward it off, Bäumler reviews the various affections that may simulate phthisis: chronic processes from the inhalation of dust, bronchiectatic cavities with putrid bronchitis, chronic interstitial pneumonia, pleuritic effusion, latent ileotyphus, septic diseases and especially syphilis, polymorphous erythemata, etc. Another class includes tumors in the thorax, actinomycosis and echinococcus of the lungs, although the absence of much fever and of the diazo reaction militates against the assumption of phthisis. Blood in the sputa may denote a mitral stenosis or aneurysm of the aorta. Ulcerative endocarditis is frequently mistaken for phthisis; and also infarction of the lung. A correct diagnosis is imperative, and no one should decide without careful auscultation, percussion and microscopic examination of the sputa for bacilli, tumor elements, fibrin clots, asthma crystals, and evidences of actinomyces and echinococci. The temperature must be studied a long while, not only at rest, but also after exercise (referring to Penzoldt's tests, Journal, p. 993). The weight should be noted every week, and if all these tests result negatively, an injection of tuberculin should be made.

Muenchener Medicinische Wochenschrift, May 23.

Pulse as a Criterion for Puerperium. Torggler.—"The pulse is a much more delicate and exact expression of the conditions existing in the puerperium than the temperature, and should be recorded in all cases." Torggler urges the general adoption of Knapp's formula (*Ztft. f. Heilk.* xix, 2) as a standard for comparison. He cites as an instance of the greater precision attained, the effect of gonorrhea on the puerperium, as indicated by the pulse in 286 cases. In the group of subnormal pulse (under 60), gonorrhea was evident in 12.8 per cent.; in those with normal pulse (which he accepts as 61 to 80), in 22.1 per cent.; in the subfebrile group (81 to 100), in 40.7 per cent. and in the febrile (over 100), in 42.3 per cent.

Indications for Vaginal Myotomy. A. Funke.—An experience of 242 cases suggests the following indications: 1, submucous myomata of any size, if only the larger portion is in the small pelvis; 2, single submucous myoma of the fundus, if not larger than an orange, reached through the plica vesico-uterina and the anterior wall of the uterus; 3, myomatosis uteri, which requires total extirpation; 4, small subserous myomata of the fundus, which require an anterior or posterior incision and the uterus drawn out and replaced. In case of hemorrhage with no special indications for a radical operation, curettement is indicated, repeated if necessary, with ergot. Evidences of compression, particularly in young women, require early enucleation of the small principal myomata. Palliative treatment usually requires a more radical operation later, but the interval may be long; in one case eighteen years elapsed after the myoma was first noted before it required removal; the patient had borne a child in the interim. Extreme anemia and debility are counterindications to vaginal myotomy as it is impossible to foretell the gravity of the intervention. In doubtful cases laparotomy is to be preferred on this account. The patient and her family must also be warned of the possibility of the necessity of total extirpation that may develop in the course of vaginal myotomy.

How to Render Statistics Valuable. O. v. Herff.—The writer has myotomy especially in view and urges surgeons to have their statistics include exclusively the cases of death from hemorrhage during or after the operation, from injury to an organ, from septic inflammation proceeding from the organs opened during the intervention and from the shock of an operation requiring two hours and over by the method followed.

Treatment of Advanced Extrauterine Pregnancies. H. A. v. Guerard. Three cases, four to seven months, treated by laparotomy as soon as diagnosed, the abdominal wound closed and sutured at once, with an incision in the vagina for tamponning and draining, have proved so successful that the writer urges others to adopt this method. The psychic effect on the patient is an important advantage in its favor.

Wiener Klinische Wochenschrift, May 18.

Argyrosis. M. Menzel.—An otherwise healthy man who had been treated at v. Schrotter's clinic for nine and a half years, with local applications of a 5 to 10 per cent. solution of argentum nitricum, on account of chronic pharyngitis and laryngitis, now presents a pronounced case of argyrosis, the exposed portions of the skin a light gray color, becoming darker with increased congestion. A peculiar feature of the case is the appearance of nervous phenomena from abstention, compelling him to return for further treatment. Menzel concludes from his study of this case and others in literature, that if the drug is discontinued, the particles may be carried along and deposited in the lymph-glands in time and the subject thus recover, from the cosmetic point of view. The only drug which seems to promise any hope of relief is potassium iodid, which forms with silver a colorless iodid, but its success is doubtful.

St. Petersburger Medicinische Wochenschrift, May 20.

Balneotherapeutics in Tabes. Graupner.—The beneficial results of balneotherapeutics are especially noticeable in the cases between 30 and 40 with slight objective sensory disturbances, but pronounced ataxia, attacks of pain and increased plantar reflexes. The ataxia is quite cured in a few weeks, appetite and strength revive and the results demonstrate that at this stage the disturbance is functional and not anatomic, merely a circumscribed process as yet in which the majority of the collaterals are not involved and are therefore capable of transforming the temperature stimulus of the baths into trophic stimulation. More advanced cases require careful individualization. The baths may increase the pains at first and may lead to exhaustion from a cumulative effect, but when successfully carried out, prove a great relief. The essential points in the treatment are the inability to control the temperature of the bath and the amount of carbonic acid and chlorid contained.

Societies.

COMING MEETINGS.

Colorado State Medical Society, Denver, June 20.
Indian Territory Medical Association, So. McAlester, June 20 and 21.
Minnesota State Medical Society, Minneapolis, June 21.
New Jersey Medical Society, Deal Beach, June 27.

Rhode Island Medical Society—.—The eighty-eighth annual session of this society was held at Providence, June 1, and that city was chosen as the next meeting-place.

Medical Society of State of Colorado.—The twenty-ninth annual meeting of this society will be held in Denver, June 20-22. About seventy-five papers are announced, with a symposium on pneumonia, one on lacerations of uterus, vagina and perineum, and one on gall stones.

Cape May County Medical Society.—This New Jersey society elected the following officers at a recent meeting: president, Alonzo L. Leach, Cape May; vice-president, John S. Douglass, Tuckahoe; secretary, Charles B. Corson, South Seaville; treasurer, Randolph Marshall, Tuckahoe; censors, V. M. D. Marcy and Walter S. Leaming, Cape May, and Benjamin T. Abbott, Ocean City.

Frisco Medical Society.—The second annual meeting of this society was held at Pateau, June 6. The following officers were elected for the ensuing year: president, B. T. McClure, Pateau; first vice-president, M. C. Wilson, Wister; second vice-president, I. T. Shuler, Canusan; secretary, W. E. Jones, Pateau. The next place of meeting will be Wister.

Association of American Medical Colleges.—At the recent meeting of this association, held in Columbus, the following officers were elected: president, Parker Ritchie, University of Minnesota, Minneapolis; vice-president, Edward Bentley, Arkansas University, Little Rock; secretary, Bayard Holmes, Chicago; treasurer, Harold Williams, Tuft's College, Boston. The association will meet next year at Atlantic City, N. J. The following colleges were admitted to membership in the association: medical departments of Kentucky University and Buffalo University; University of North Carolina; Meharry Medical College, Nashville, Tenn.

American Proctological Association.—A new medical society, to be known as the American Proctological Association, was organized by prominent rectal specialists at Columbus, Ohio, during the recent meeting of the American Medical Association. Its object is to give specal study to diseases of the rectum and colon. The following officers were elected: president, J. M. Mathews, Louisville; vice-president, J. P. Tuttle, New York City; secretary-treasurer, W. M. Beach, Pittsburg, Pa.; board of counsellors, S. T. Earl of Baltimore, A. B. Cook of Nashville, and J. R. Pennington of Chicago. The charter members are Drs. J. M. Mathews of Louisville, J. P. Tuttle of New York City, J. B. Bacon of Chicago, S. T. Earl of Baltimore, L. Straus of St. Louis, L. H. Adler, Jr., of Philadelphia, B. M. Ricketts of Cincinnati, C. C. Allison of Omaha, T. C. Martin of Cleveland, A. B. Cook of Nashville, S. G. Gant of Kansas City, W. M. Beach of Pittsburg, G. B. Evans of Dayton, Ohio, and J. R. Pennington of Chicago. The first annual meeting will be held in Washington, D. C., May, 1900.

Chicago Academy of Medicine.

Regular Meeting, held April 14, 1899.

(*Continued from page 1325.*)

DIETETICS IN RELATION TO HEART, KIDNEY AND LIVER.

Dr. R. B. Preble—Hoffman, in his "Principles of General Therapeutics," points out the necessity of protecting these organs. We must not only protect these organs from all unnecessary work, but the necessary work must be cut down to the lowest physiologic limit, and this least physiologic amount of work should be done in the easiest way possible. This is the fundamental principle in the dietetics of heart disease, kidney disease, and to a certain extent, disease of the liver. These organs must be protected in every way. It is impossible for one to lay down any more than the most general rules, because each case must be treated on its own individual merits. Not only that, but two cases exactly similar require different treatment, according to the social condition of the patient. The dietetic directions applicable in one case would be worthless in another, because there is no element in the entire range of therapeutics more influenced by social conditions than that of diet. Furthermore, a diet suitable for a patient to-day may be entirely unsuitable to him tomorrow, and so, in discussing this subject, only the most general principles can be laid down.

It does not make any difference what the pathologic process at play is, whether it be endocardial, pericardial or myocardial, the life and comfort of the patient will depend on the condition of the myocardium, and so long as it is able to do its physiologic work and to carry on the increased amount of work that results from the pathologic process, the life and comfort of the patient are sure. Every effort must be made to protect the weak myocardium from any additional work. Many influences are more important in their bearing on the myocardium than is diet itself, but still diet is an extremely important factor, because its influence is brought to bear on the heart at least three times a day. The error which is most commonly made is to overfeed patients. As is well known to us all, the physiologic necessities of the body are usually exceeded in diet. Whenever any of us eat a heavy meal we suffer more or less from cardiac disturbance or embarrassment—an additional amount of work is thrown on the heart. In the first place, with each meal eaten an exceptional demand is made on the gastro-intestinal tract. A large amount of the digestive fluids is secreted, and an additional amount of blood circulates more rapidly, we breathe more rapidly, and all of these things throw an additional strain on the heart. The first essential is to cut down the diet, the next to see that a patient not only receives a certain amount of food, but we should also notice that the various food elements are given in their proper proportions. The nutrition may be maintained even when one food element is widely below the proper amount, providing the other food elements are given in increased amounts, but that requires an additional amount of work on the part of the body, so that we must use albumins, fats and carbohydrates. It is said that one of the reasons why the so-called milk diet for the treatment of cardiac affections has been successful is because an exclusive milk diet is usually an insufficient diet, and on that account these patients are able to get along better.

Another necessary characteristic of the dieting of cases is that the food should be simple. We are all of us liable to attacks of gastro-enteritis, and one who has a diseased heart, even though the heart is doing its work well, is more liable to such attacks. Such attacks are always serious matters in one whose heart is diseased; not only do they recover less promptly, but throughout the entire attack there is constant danger of the heart becoming insufficient. We must, therefore, carefully avoid in the diet all things which from general experience we know are liable to precipitate an attack of gastro-enteritis.

All fried foods should be avoided; the allowance of fruits and many of the vegetables ought to be cut down, not because they themselves are directly injurious, but because of the danger of the patient eating them under any improper conditions. It is a matter of daily observation that patients have attacks of gastro-enteritis that are precipitated by overeating, so that it is well to restrain them. In general, then, in the diet of heart cases the amount of food must be cut down to the last possible degree, not low enough, however, to cause emaciation. Patients should be underfed rather than overfed. The diet should be mixed; it should consist of plain food, and be plainly prepared.

In regard to drink, coffee, tea and all alcoholics ought to be absolutely forbidden. Tobacco should also be forbidden.

Kidney lesions are allied closely to lesions of the heart. It will be recalled that in the discussion on nephritis it was stated that cases of interstitial nephritis are essentially heart cases; the diet, therefore, for such cases, should be that of heart cases.

For the parenchymatous nephritis the diet must be very different, and here again the essential principle in planning a diet is that of protection. In parenchymatous nephritis the essential changes are in the renal epithelium, and we must endeavor to protect this. The function of the renal epithelium is largely the excretion of the products of the metabolic changes of the albuminoids, and we may protect the renal epithelium by cutting down the amount of these products which must be excreted. The albumins in the dietary must be cut to the lowest limit. It must, however, be understood that if we entirely remove the albumins from the dietary, the patient will starve. It has been shown by Boit that a healthy man resting can live on 85 grams of albumin per day, but this amount has been shown by later experimenters to be greater than is really necessary. A patient with parenchymatous nephritis should not be allowed more than 60 grams of albumin per day. If the edema is marked, or the quantity of albumin in the urine is excessive, this amount can be cut as low as 30 grams. At the same time that we cut down the amount of the albumin, we must correspondingly raise the amount of fats and carbohydrates. A patient with this form of nephritis will receive the proper amount of albumin in about a liter and a half of milk. He will, at the same time, receive about an equal quantity of fats and carbohydrates, so that, in order to maintain nutrition, about 200 grams of carbohydrates must be added. The best diet for this form of nephritis consists mainly of milk with carbohydrates. Unfortunately, many patients can not take milk in sufficient quantities to maintain their nutrition. Milk is often distasteful to them, and in some brings on gastro-intestinal disturbances which cause considerable distress. In such cases the deficiency of milk must be made up by a corresponding amount of other albuminous food. A liter of milk is about equivalent to 150 grams of lean meat, or six eggs, so that the proper amount of meat or eggs may easily be calculated. Such patients become accustomed to milk, so that the daily amount may be gradually increased and the other albuminous foods gradually decreased.

If at any time, while the patient is under treatment, he has an acute exacerbation of nephritis, we must resort to a milk diet exclusively, with a small amount of cereals. Usually it is stated that any of the white meats from young animals or domestic fowls may be used. Leube allows his patients to eat beef, considering the increased amount of extractives, etc. in the red meats not sufficient to injure the kidneys. The objection most authors raise to red meats is that they additionally irritate the kidneys. There is one kind of meat that should be absolutely forbidden, and that is game, because in many cases it has already become putrefied before it is eaten, and we should avoid at all times the introduction into the system of ptomains.

In regard to acute nephritis, practically the same remarks hold for its treatment as for acute exacerbations of parenchymatous nephritis. The diet should consist mainly of milk, with the addition of small amounts of carbohydrates and fats.

In regard to the liver, the chronic and diffuse processes and various forms of cirrhosis, we have to do with a different problem. We have to regulate the diet, not so much for the conditions of the liver as for that of the stomach, and the first stumbling-block which we encounter in laying down a diet is entire absence of any appetite. These patients do not want anything and we have to allow them most anything they will eat. Meat may be allowed in any quantity, but they usually have a special dislike for meat. We would expect, on theoretic grounds, that the carbohydrates ought to be cut off, and certain authors recommend that the carbohydrates be exclusively removed from the dietary of patients with cirrhosis. There are other authors, particularly the French, who are extremely fond of a carbohydrate diet in cases of cirrhosis, recommending a special diet consisting largely of vegetables. Still others recommend a more or less exclusive milk diet as the best. There are certain agents that ought to be avoided in cases of cirrhosis, that is, alcohol, the common peppers, salts, etc. This, briefly, would be the general outline of diet for those three organs.

DIETETICS IN SYPHILIS.

Dr. William L. Baum—The literary fame of Dr. Rabelais has so overshadowed his medical, that it is forgotten that the greatest satirist of his age was one of its greatest physicians and certainly its greatest syphilographer. He was among the earliest to rebel against the cant, which cast the syphilitic out of the value of treatment by reputable physicians and thus rescued this unfortunate from sixteenth-century quacks.

Pointing out the abuse of mercurials, Rabelais in 1532 inaugurated the main principles of what to day constitutes the non-specific element of constitutional treatment of lues, dietetics and balneology. Thereafter the prevalent treatment of syphilis in the sixteenth century was by two methods: one by sweating in the tub, which survives in our day, and the other by guaiacum in decoction. Both were supplemented by strict diet. Ambrose Paré describes, in the 1575 edition of his work, the tub: "It is rather a cask than a tub. The patient was seated inside on a perforated stool beneath which hot bricks or stones were placed. Through a small trap-door in the side of the tub a mixture of vinegar and brandy was thrown upon the heated bricks and the steam was confined by a sheet fastened round the patient's neck. In England the common tub used for salting meat 'powdering' it, as the term then was, seems to have been employed. The humorous allusions to this double use are frequent. In 'Measure for Measure,' the clown, speaking of Mistress Overdone, the bawd, says: 'Troth, sir, she has eaten up all her beef, and she is herself in the tub.' "

In the misanthropic advice of Timon of Athens to Timandra occurs the direction:

Bring down rose-cheeked youth
To the tub-fast and the diet.

Sometimes an oven, or a hole in the ground, was used for the sweating, and in every case a strict diet was enforced. Dry food, and above all "burnt" or overdone mutton, cut by choice from the rack or neck, was alone to be used.

Beaumont and Fletcher burlesqued Spencer's "Faerie Queen," in their play, "The Knight of the Burning Pestle." A knight and a lady are imprisoned in a cave where they are tortured by a giant. The knight had carried off his "lady dear" from her friends in Turnbull street, a locality notorious for houses of prostitution. He begins:

I am an errant knight that followed arms
With spear and shield; and in my tender years
I stricken was with Cupid's fiery shaft,
And fell in love with this, my lady dear,
And stole her from her friends in Turnbull street;
And bore her up and down from town to town,
Where we did eat and drink and music hear;
Till at the length of this unhappy town
We did arrive and coming to this cave,
This beast us caught, and put us in a tub
Where we this two months sweat, and should have done
Another month if you had not relieved us.

Woman.—This bread and water hath our diet been;
Together with a rib cut from a neck
Of burned mutton; hard hath been our fare;
Relieve us from this ugly giant's snare.

Man.—This hath been all the food we have receiv'd;
But only twice a day, for novelty,
He gave a spoonful of this hearty broth
To each of us through this same slender quill.
(Pulls out a syringe.)

In the comedy of "Honest Man's Fortune," by the same authors, published in 1613, occurs this passage:

All women that on earth do dwell, thou lovest,
Yet none that understand love thee again,
But those that love the spital. Get thee home,
Poor painted butterfly! Thy summer's past;
Go, sweat and eat dry mutton.

So of a similar gallant in "Middleton's Michaelmas Term," 1607, i, 1:

He'll be laid shortly;
Let him gorge venison for a time, our doctors
Will bring him to dry mutton.

In "Your Five Gallants, Middleton," 1608, i, 1:

"He's in his third sweat by this time, sipping of the doctor's bottle, or picking the ninth part of a rack of mutton dry-roasted, with a leash of nightcaps on his head like the pope's triple crown, and as many pillows crushed to his back."

George Farquhar, in one of his poems, speaks more hopefully to one who has been in the "powdering tub."

You will revive, the pox expire,
Then rise like Phœnix from the fire.
The metal's stronger that's once soldered,
And beef keeps sweeter once 'tis powdered.

In 1662, Mrs. Aphra Behn, the female novelist, wrote what she termed a letter to a brother of the pen, in tribulation, in which occurs the following passage:

This holy time, I little thought thy sin
Deserv'd a tub to do its penance in.
O! how you'll for th' Egyptian flesh-pots wish,
When you're half famish'd with your lenten dish,
Your almonds, currants, biscuits, hard and dry,
Food that will soul and body mortify;
Damned penitential drink, that will infuse
Dull principles into thy grateful muse.

In 1817, the diet here described was revived by Dr. Gandy. He lauded the treatment of syphilis by the dry method, dry food and but little of it. The treatise attracted but little notice, but about thirty years later this method of treatment was tried at the Hotel Dieu of Marseilles, with some success. It was called the Arabic method, as the secret of it had been communicated, so it was said, to the hospital surgeons by an Arab. The diet consisted exclusively of dry biscuits, nuts, dried almonds, figs and raisins. A tisan made from sarsaparilla, China root and cloves, was freely given, and a mercurial pill was administered thrice daily. This diet was employed as late as 1860.

Besides the "tub," another powerful method of securing perspiration in syphilis is that described by D'Avenant's play of "The Wits," published in 1636.

Though I endured the diet and the flux,
Lay seven days buried up to the lips like a
Diseas'd sad Indian, in warm sand, whilst his
Afflicted female wipes his salt foam off
With her own hair, feeds him with buds of guacum
For his salad, and pulp of salsa for
His bread; I say, all this endur'd, would not
Concern my face. Nothing can decline that.

If, as indicated by this literature, too much attention wa paid to dietetics formerly, too little is paid to day.

The dietetic therapeutics turns more on the individual case than on any routine adapted to the venereal diseases.

In syphilis we are met with a condition of more or less acute anemia at the onset of the secondary period. It is, therefore, necessary that great attention should be paid to the dietetic as well as to the therapeutic treatment of the patient. There are syphilitic patients in whom the exhibition of hydrargyrum, iodids, etc., is not followed by the customary reaction, and where the specific lesions increase rather than diminish; it is in these that the most brilliant results follow, when a highly nutritious dietary is instituted, even as Lang suggested in his work on the "Pathology and Therapy of Syphilis," to the extent of giving the patient small quantities of wine or liquor. During the treatment of syphilis it is well to add, to the ordinary caution in regard to the use of alcohol, tobacco, acid foods, etc., that the patient should be as much as possible in the air, to insist on a good, nutritious diet, and during the administration of mercurials the taking of large quantities of fluids, milk, and especially water, thus lessening to a considerable degree the dangers of hydrargyrum stomatitis.

DIETETICS: SURGICAL AND GYNECOLOGIC RELATIONS.

Dr. Reuben Peterson—In a general way it may be stated that at least 50 per cent. of women coming under the care of the gynecologist present symptoms of derangement of the gastro-intestinal tract. Therefore, it behooves those called on to treat the diseases of the female generative organs to have clear-cut ideas of the relations which symptoms referable to the digestive tract bear to the diseased pelvic organs. What authority have we for the statement so often made to the patient, that the digestive disturbance is reflex and will disappear on the restoration of the generative organs to a normal condition? Is there such a condition as "uterine dyspepsia," meaning by this a dyspeptic condition directly related to and called forth by certain diseases of the uterus? If this be the case, the gynecologist's knowledge of dietetics need be of the simplest. For eructations of gas, pain in the epigastrium and heartburn he need only scrape the uterus, sew up the cervix and perform ventrofixation. But if the stomachic and pelvic symptoms are not particularly dependent upon each other, but both are the result of unhygienic surroundings and vicious modes of living, then his knowledge of dietetics must be considerable if he hopes to cure his patients. Nowhere do we find the word "reflex" so abused as in connection with gynecologic troubles. Pains, wherever located, are considered to be of reflex origin and likely to disappear after the cure of the local disease. The patients are led to believe that an immediate restoration of health will follow the repair of a cervical tear or the stitching up of a torn perineum. This is far from the truth. The immediate improvement after the operation in the majority of cases is usually due to the rest in bed, which has acted like a tonic to the overexcited and too often overworked nerve-centers. The operator's work has only begun after the completion of the operation. In certain cases, the longer he can persuade the patient to remain in bed the better; then will his knowledge of dietetics, in the broad sense of the word, come into play. The operation has removed a certain source of irritation which would have rendered futile any attempts at cure through a systematic dietary. Now, the exhausted nerve cells and tissues can be nourished and restoration to health be looked for. This is not a question of weeks, but of months. It is the wise operator who forestalls the patient's disappointment and criticism, and tells her prior to the operation that a constitution weakened for years can not be restored to health in as many weeks by operative interference.

And now let us consider briefly four classes of patients whom the gynecologist is most frequently called upon to consider, outside of distinct disease of the pelvic organs:

1. By far the most numerous class is composed of the women who are sufferers from non-elimination. In my experience they are usually thin, with sluggish complexions. They are apathetic and "just too tired out to live." They arise unrefreshed by a night's sleep, with a dull ache in the back. They have pains in every part and every organ of the body—headache, neckache, chestache; aches everywhere there are nerves. We find the majority of these women great meat eaters. The fluids ingested consist of a little tea or coffee. They will confess to you that they have not drank a glass of water for months. Examination of the urine shows the twenty-four-hour amount to be very low, with a corresponding low specific gravity, showing the amount of solid excreted to be very small.

These patients have perhaps sought medical advice for a persistent and profuse leucorrhea which, together with bronchial secretion and persistent diarrhea, is nature's method of calling on other organs to perform the eliminative duties of the only partially working kidneys. The treatment will consist in diminishing the daily amount of nitrogenous food. Meat should only be allowed once a day, and sparingly. The patient should be encouraged to drink large quantities of water in order that the kidneys may be flushed out. A tablet of effervescing citrate of lithia in a glass of water may sometimes be advantageously employed, as I have found it much easier to induce the patients to drink the water if they think that medicine is being used. Under this treatment a hitherto intractable leucorrhea will be found to disappear. The pains in the ovaries, which were simply neuralgic in character, due to the presence of the uneliminated products, will disappear with the neuralgic pains in other parts of the body.

The next class of patients with which the gynecologist has to deal consists of women who eat too little, and whose nerve-cells are thereby impoverished. These women are thin and anemic, and their muscles flabby. The digestive disturbances arising from the general anemia are thought to be dyspeptic, and the patient abstains from one article of food after another, thinking that it disagrees with her. The starved nerve cells cry out against such treatment, and the digestive disturbance is increased. It is of the utmost importance that the physician recognize the true state of affairs, and institute the proper treatment. The amenorrhea is from general, not local, causes, and a more liberal diet and iron should take the place of local treatment. Especially should operations on the genitalia be avoided until the general system has regained its tone. The shock of the operation in the patient's weakened condition will do more harm than good.

The third type is distinctly different. The patients are rosy-complexioned and stout. They have good appetites, are good livers, and are inclined to stoutness. They usually apply to the gynecologist because of a gradual diminution in the amount of the menstrual fluid. Where they used to flow three or four days, they now flow but one, and barely stain a napkin. They may apply for the cure of sterility, either absolute or relative. The treatment of these cases should obviously consist of depletion and a lessening of the total amount of solids consumed. The loss of ten or fifteen pounds in weight will often prove of much value, although the sterility is apt to persist.

The fourth class are those suffering from chronic constipation. I do not believe with some that the mere pressure of a loaded rectum on the appendages will produce disease of these organs. Pelvic congestion may result from the pressure of the fecal mass on the pelvic veins, and this may aid in the production of disease of the uterus and appendages. I believe that the evil effects of constipation lie in the autointoxication produced. Before the hardening of the fecal mass certain substances are absorbed through the bowel, and a species of poisoning results. I have not been very successful in curing constipation by regulating the patient's diet. I have faithfully tried many times, and have succeeded in but few. It is extremely difficult to regulate the patient's daily life, so hampered is she by social and household duties. Still, although a daily evacuation of the bowels may not result without the use of mild laxatives, the lower bowel can be kept cleared and intoxication through fecal absorption can be prevented.

Surgical Relations.—Two or three days prior to operation may profitably be spent in regulating the patient's diet. When either this has been neglected or the case is an emergency, the patient may suffer not only from nausea and vomiting after the operation, but the result may be serious when the intestinal tract is filled with masses of undigested food. The anesthetic and the shock of the operation are liable to produce paralysis or paresis of the intestine, and absorption is made easy through the absence of normal peristalsis.

After the bowels have been thoroughly evacuated, only easily digested foods, like milk, broths, eggs, etc., should be given until the operation. An examination of the urine will be a good index to the way in which the waste products are being eliminated. If the kidneys have not been active, they should be made so by the proper treatment, which has been hinted at in the preceding remarks.

The post-operative dietary will vary according to the nature of the operation. It has become almost an established rule in abdominal surgery that practically nothing shall be taken into the stomach for the first twenty-four hours, excepting occasional sips of hot water. Even liquid food given before the expiration of this period is apt to be vomited, and the irritability of the stomach thus set up may last several days. Yet this rule has not a few exceptions. It is obviously folly to withhold nourishment from one who is suffering from inanition, just as it is unwise not to administer liquids to very anemic patients. Under these circumstances I often administer considerable quantities of liquid nourishment in the form of hot milk and lime-water, as soon as the patient is over the anesthetic.

Intense post operative thirst may be controlled by rectal injections of hot water. I leave orders for a pint of hot water to be administered by the rectum every hour as long as the patient is able to retain them. Excessive loss of blood and surgical shock are treated in the same manner, aided by the subcutaneous injection of salt solution. After simpler operations I do not insist on the twenty-four-hour rule, but if the patient asks for it, milk and lime-water is administered after the first twelve hours. It is exceedingly rare to find a patient who is unable to retain milk and lime-water, I mean with whom milk does not agree. Patients may have considered milk a poison to their systems prior to the operation, yet after the operation they take it and digest it perfectly. Milk is the surgeon's mainstay as a post operative nourishment. I do not find that beef tea, broths, etc., are good substitutes. Small amounts of equal parts of milk and lime-water should be administered every half hour for a while. Then, if it be well borne, the amount can be increased and the intervals lengthened. Ice should not be administered for thirst. It does not quench the latter, and each administration calls for more and more, until so much fluid is in the stomach that vomiting is produced. In the presence of post-operative vomiting give nothing by mouth, either medicine or food. Persistent vomiting, with yellowish or green vomitus usually yields to lavage. After the bowels have been moved on the second or third day, the diet usually can be increased. If salts or calomel be employed in divided doses as cathartics, omit the liquid nourishment during their administration, else vomiting may result. Meat should only be allowed after the first week, and then but sparingly. Especially is this the case after abdominal or bowel operations, where the ingestion of meat is not infrequently followed by a rise of temperature.

(*To be continued.*)

Chicago Ophthalmological and Otological Society.

Regular Meeting, Held May 9, 1899.

BLOOD EXUDATE IN CORNEA.

Dr. F. C. Hotz, in reporting this case, said: The patient I have to present to-night shows a condition of the eye which is certainly rare. The gentleman came to my office on April 26. His eyesight has been poor since childhood, at which time he had smallpox, and inflammation of the eye following that, which left the corneæ in a more or less hazy condition. His eyes have never troubled him otherwise: he has never had any recurrent inflammation. He was connected with the army in Germany and did his work without any trouble, and said his eyes were all right two weeks before he consulted me. One day he felt a smarting sensation in the left eye; the eye became very red for a day or two, but not until four or six days afterward did his wife notice a dark spot covering the center of the cornea and gradually getting larger. The redness subsided; he had no pain, and when he came to me there was absolutely no redness about the eye. Tension was perhaps a little below the normal standard; there was a large, almost circular disc in the cornea, of a deep purplish color with a bright blood-red margin. Focal illumination showed that the corneal epithelium was hazy, but no blood-vessels could be found in the corneal tissue, even by the magnifying lens. The pupil could not be seen at the time, and the sight was just perception to light. By means of atropin, the pupil was dilated, so that the margins became visible and I could plainly see the anterior chamber was perfectly free and clear, and the ophthalmoscope yielded a bright red reflex from the fundus, showing that there was no disturbance in the vitreous, and the sight improved to counting fingers easily. It is now two weeks since I saw the patient; in the course of this time the central infiltration in the cornea has changed from a purple to a brown chocolate color; still, even yesterday morning I could see along the lower margin a few bright red spots. Close inquiry of the patient shows he has received no injury in his work or otherwise. The eye has not been hit by any foreign body, bruised, nor injured in any way.

This case differs somewhat from those heretofore reported in literature, in that the cases which have been reported, except a few, have a history of traumatism preceding the trouble, and there was effusion of blood into the anterior chamber, from which it is thought the coloring matter was taken up into the corneal tissue by diffusion through Descemet's membrane; and microscopic examination showed accumulations of hematoidin crystals in the cornea.

Trescher Collins of London has reported nine cases of his own in three years, and believes the trouble is not so rare as is generally considered; but that must have been an extremely fortunate coincidence. I am sure that these cases are so interesting that they would have been reported more frequently in our journals if the condition was more frequently observed. This is the first case I have seen in my practice. In Collins' cases, seven had injuries, with blood accumulations in the anterior chamber. One was a case of recurrent inflammation, most likely a cyclitis, and spontaneous hemorrhage occurred in the anterior chamber. The other was one of extraction of cataract. In these cases a degeneration evidently occurred in the eye, which might favor a spontaneous hemorrhage. But in our case, we have to deal with an eye which to all appearances is in good condition, there being nothing wrong except a hazy cornea from keratitis in infancy. As there is no history of traumatism in this case, it is difficult for me to understand where the blood came from.

Dr. W. F. Coleman—I do not remember ever having seen a case resembling the one reported by Dr. Hotz, and the question arises: Where did this blood exudate come from? I have tried, in old opacities of the cornea, galvanism, one millimeter in strength, the positive pole being applied to the cornea, and have obtained such encouraging results that I would be disposed to try electricity in this case.

Dr. Hotz—I am sorry, when I first saw the case two weeks ago, that I did not tap the cornea to get some of the reddish stuff for microscopic examination as to whether there were any blood corpuscles to be found, because in all cases that have been reported the examination showed that there were no blood-corpuscles. They simply found hematoidin crystals scattered through the tissues of the cornea, but no corpuscles; therefore, the conclusion was reached that it was the coloring part of the blood which transuded from the blood collection in the anterior chamber and into the corneal tissue, not a hemorrhage directly into the corneal tissue. I feel inclined to believe that in this case the microscopic examination would probably yield the same results. I can not conceive in any way how blood should directly get into the corneal tissue, when there is no parenchymatous vascularization. The strange feature connected with the case is how the hemorrhage occurred. Undoubtedly, it was originally a hemorrhage into the anterior chamber; it must have been a spontaneous hemorrhage, because according to the history there was no traumatism, and in reviewing my experience I do not remember any case of an eye in as good and sound a condition that had a spontaneous hemorrhage. I have seen hemorrhages occur in degenerated eyes after cyclitis, or internal diseases of any kind, and in cases of hemorrhagic glaucoma.

As to treatment, practically I have done nothing. I have kept the case under observation and the pupil dilated with a little atropin. I shall be glad to learn of something that will promote the absorption of these blood-stains. The outlook is not very encouraging for the patient if it will take fully two and a half years before these blood-stains disappear. Collins reported a case in which it took that length of time for the blood stains to disappear.

(*To be continued.*)

Cincinnati Academy of Medicine.

Meeting Held June 5, 1899.

CASE OF CYSTINURIA.

Dr. Leonard Freeman, the guest of the evening, reported a case in a girl about 15 years of age, in whom the symptoms had been present about ten years; these symptoms, while not severe enough to be dignified as renal colic, were, however, definitely referable to the region of the kidney. Soon following the examination of the urine, the girl met with an accident, falling from the top of a flight of stairs to the bottom. All her symptoms immediately disappeared, also the cystin crystals from the urine, not to return again. He was unable to account for this sudden cure unless there had been a stone lodged in the pelvis of the kidney, which stone had had its position changed by the fall. He reported this on account of its rarity. The crystals were demonstrated under the microscope.

Dr. Albert Freiberg spoke of a case of urinary stone composed of cystin which had been removed by Dr. Ransohoff. This patient, a young man, also had cystinuria.

RANDOM OBSERVATIONS.

Dr. F. O. Marsh, in a paper on this subject, spoke of some experiments he had performed to illustrate the variations in surface temperature as produced by inflammation. The theory of evolution of heat was touched on. He does not think that increase of temperature during inflammation can be entirely accounted for on the theory of increased blood-supply; for in addition there was an increased amount of blood taken from the part and the radiation of heat was greater.

DILATATION OF HEART COMPLICATING OBSTRUCTIVE LESIONS OF UPPER AIR-PASSAGES.

Dr. John A. Thompson reported a number of cases of cardiac dilatation, some with and some without murmurs, in whom there had also existed disease of the nose, particularly hypertrophic rhinitis and nasal spur. Removal of the obstruction had in every case relieved the cardiac symptoms if not entirely removed them.

Wayne County Medical Society.

Regular Meeting, held May 25, 1899.

PROGRESSIVE MUSCULAR ATROPHY.

Dr. C. C. Yemans, Ypsilanti, Mich., presented two male patients. They had been afflicted for more than a year, and presented the clinic aspect of the advanced stage of the disease. One of the patients performed the act of respiration almost entirely by the diaphragm, his chest expansion being only half an inch. The treatment that the Doctor was carrying out in both cases was the same, viz., daily baths in the mineral waters of Ypsilanti Sanitarium, with massage and the application of static electricity. No other therapeutic measures were used. One of the patients had been under treatment for about three months. He stated to the society that he had so far improved as to be able now to dress and undress himself; whereas, when he had entered the sanitarium he was almost helpless. The other patient had been treated for two weeks only, but declared that he had improved in muscular power.

Dr. Emil Amberg, chairman of a committee appointed to consider what should be the duty of the society respecting proprietary medicines, read the report of the committee, which discountenanced the prescribing of such pharmaceutic preparations as were secret, either as to the ingredients or their quantities, and objected to none of those whose complete formulæ were known, where such preparations had been found, by actual prescribing, to produce the effects claimed for them respectively. The report was adopted.

According to the Jour. des Sci. Med. de Lille, a French life insurance company recently refused to pay the premium on the death of one of its policy-holders, claiming that he had dissimulated and concealed the existence of a serious disease. A Paris court summoned the attending physician who affirmed that he had in fact treated the deceased for quite a serious condition, the existence of which had not been revealed to the company. But the supreme court decided that such a violation of the principles of professional secrecy could not serve as the foundation for a judicial decision, and the suit was decided against the company.

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SATURDAY, JUNE 17, 1899.

PRESENT STATUS OF OUR KNOWLEDGE OF FATTY DEGENERATION.

In a critic summary of the question of fatty degeneration, A. E. TAYLOR[1] points out that there has been a great deal written about fatty degeneration and very little work done. The current pathologic teaching is that in fatty degeneration the proteids of the diseased cells become converted into fats. The very significance of the word "degeneration," as contrasted with infiltration, seems to imply this idea as to the origin of the fat.

After a careful review of the original work bearing on this problem, TAYLOR reaches the conclusions that the origin of fats from proteids under physiologic or pathologic conditions has not been demonstrated, the weight of the evidence being in favor of regarding the so-called fatty degeneration as an infiltration of fat formed from carbohydrates. This position, he says, is provisional only, and future work must confirm or reverse the above conclusions.

Simultaneously with TAYLOR'S review there appears a study of pathologic fat formation from ZIEGLER'S laboratory, by W. LINDEMANN,[2] from which the following s gleaned. For the purpose of a preliminary discussion of the subject on a little different basis than would be afforded by the use of the old terms, "degeneration" and "infiltration," which at the same time as hey are likely to carry with them many preconceived notions are also variously defined by the authors of ecent works on pathology, LINDEMANN divides the field before him into physiologic lipogeneses.

Physiologic lipogenesis is above all things marked by the absence of any deep-seated disturbance of the functions and real structure of the cell involved, which always remains visible; physiologic lipogenesis generally occurs at the expense of imported material although it seems not improbable that in the secretion of milk the cell protoplasm is drawn upon.

In degenerative lipogenesis, on the other hand, the fat is regarded as formed from the constituents of the cell which suffers severe protoplasmic and nuclear lesions. LINDEMANN presupposes that fat can form from albumin, but with full consciousness of the fact that PFLÜGER, ROSENFELD and others hold, as set forth in TAYLOR'S review, that this is not demonstrated. LINDEMANN lays stress in this connection on the formation of fats from proteids by bacteria, as is supposed to occur in the formation of adipocere, and which therefore might occur in infections, and the post-mortem development of fat in aseptically conserved tissues and organs described by a number of writers, as HAUSER, LUBARSCH and others, and demonstrated to occur in the epithelial cells of the skin of dead bodies, by LINDEMANN himself.

In the future discussion of the process of intracellular fat formation, LINDEMANN states that while it is very likely that fat is formed from proteids, yet it is not definitely proven. Granting the probable existence of a true degenerative lipogenesis in which the fat is formed from the cell protoplasm, does the morphologic study of suitable material throw any light upon this question?

For a time much stress was laid on the size of the fat drops, fatty degeneration being considered as marked by the presence of fine droplets of fat in the cell. This difference in the size has, however, been found insufficient as a distinguishing characteristic. In conditions of so-called fatty infiltration proper there are usually to be found more or less well-marked nuclear changes. When 0.5 to 1.0 of oleum pulegii is injected into a rabbit the movements become atactic; and the animal will remain for a long time in unnatural positions; there is marked mydriasis and death occurs in twelve to fourteen hours. After death there are found fatty degeneration of the parenchymatous organs and other changes such as ulcerative enteritis, etc. The microscopic examination shows characteristic changes, especially in the kidney, the protoplasm of the cortical epithelial cells being filled with fine dust-like fat granules, the nuclei smaller than normal, deeply stained, angular, and they lie near the cell wall. In more chronic intoxication fragmentation of the chromatin often occurs.

In concluding, LINDEMANN states that the formation of fat under normal and pathologic conditions takes place in various ways widely different from each other and is associated with very different histologic changes. It would therefore seem that the efforts to trace all forms of fat production to the deposition of transported fat only must be considered as unsuccessful. A definite settlement of the question can only be hoped from a chemic investigation of fat—long ago indicated by Virchow—especially of that formed in association with degenerative changes and in the breast. It would seem very probable that the fat formed from albumin—or under conditions that point in that direction—will be found to have distinct peculiarities. At any rate interesting facts might thus be obtained. The post-mortem development of fat has not been sufficiently studied, although this phenomenon is strong presumptive evidence in favor of the theory of the origin of fat from proteid. He finds that on the whole the old doctrine of fatty degeneration still stands.

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[1] Am. Jour. of Med. Sci., 1899, p. 569; Journal, June 3, ¶6, p. 1248.
[2] Ziegler's Beiträge, 1899, 25, p. 392.

As pointed out by Taylor, in his critic review, even though we concede that fat is formed within the degenerated cells, it can still be urged that it is produced from the carbonous compounds, sugar, glycogen, glucosids, and mucin, which abound in cells, rather than from the proteids—a contingency which Lindemann does not lay enough weight on.

This fragmentary reference to some of the knotty problems in connection with fatty degeneration will serve to indicate that this process is by no means as simple as usually taught in the medical colleges and text-books, and that when the phrase "fatty degeneration" is used, as it will be, it should perhaps be rather in the sense of cell degeneration with the formation of fat than cell degeneration directly into fat.

PART PLAYED BY URINE AND FECES IN SPREAD OF TYPHOID FEVER.[1]

While it is true that the profession and many of the laity are well-aware that the dejecta from typhoid fever patients are the cause of the dissemination of this modern scourge, many of those who are well acquainted with this fact steadily ignore it in the practice of preventive medicine. The laity are to a certain extent justified in this carelessness by reason of the fact that physicians very often fail to insist on the proper disinfection of the discharges of the patient, and physicians of experience are constantly meeting with instances in which carelessness concerning the readiness with which the disease is communicated results in illness and death.

In this connection, an interesting paper has recently been published by Horton-Smith of St. Bartholomew's Hospital, in which he gives the details of some interesting researches made by him as to the period at which typhoid bacilli appear in the stools of patients suffering from this disease, and others in which he deals with the same question in relation to the appearance of these micro-organisms in the urine.

While the feces are the most common carriers of the infection, it is not to be forgotten that the bacillus of Eberth only appears in these discharges, as a rule, during a certain period of the disease, and that many of the researches which have heretofore been published, which apparently have shown the presence of typhoid bacilli in the stools throughout the whole malady, were based on insufficient bacteriologic knowledge and failed to differentiate between the colon bacillus and the specific organisms which we are considering.

Horton-Smith finds that the stools of a typhoid patient, if carefully separated from the urine so that they are not contaminated by that secretion, contain typhoid bacilli in fair quantities up to about the beginning of the third week, but that after this date the number diminishes rapidly, except if a relapse occurs, when they are again to be found in the feces, although they cannot be found during convalescence. In other words, the stools of a typhoid fever patient are to be regarded as highly infectious during the early stages of the disease and during a relapse, but this infectiousness speedily diminishes with the progress of the malady. So thoroughly is Horton-Smith convinced of this that he believes all those cases in which typhoid bacilli have been found in the stools late in the disease due to the contamination of the feces by urine laden with bacilli.

Curiously enough the researches which have been made on the bacteriology of the urine in typhoid fever, seem to have been made by men who have been better acquainted with the necessity of distinguishing between the colon bacillus and that of Eberth, probably because most of them have been undertaken since we have known more about the necessity of their differentation.

In these studies, much has been done by Richardson of Boston, and Horton-Smith has made useful addition to our knowledge concerning this question, as has also Blumer. As a matter of fact it would appear that the urine is not always laden with micro-organisms; thus out of sixty cases, positive results were obtained in only fifteen and negative results in forty-five. In other words, typhoid bacilli have been observed at some period of the disease in the urine in 25 per cent. of cases. Curiously enough the appearance of the micro-organism in the urine as to time, is the reverse of its appearance in the feces, for while, as we have already stated, it appears in the feces during the first three weeks, in largest numbers, it appears in the urine very much later, varying from the fifteenth to the thirty-ninth day, and has not been observed in any case prior to the fifteenth. One instance has been reported in which the bacillus was in the urine seventy days after the beginning of the malady.

The bacillus of Eberth, when it occurs in the urine, is nearly always in pure culture, and when it is present in such numbers as to cause turbidity of the urine, is capable of producing most wide-spread infection. Indeed, it has been suggested by Horton-Smith that the great Caterham outbreak of tyhoid fever in 1879 was in reality due to contamination by the urine of a typhoid fever patient rather than to his feces, for it is not to be forgotten that Petruschky has estimated that as many as 172,000,000 typhoid bacilli may be found in such cases in a single cubic centimeter of urine. A small amount of urine, therefore, is capable of contaminating an immense quantity of food or drink.

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[1] See Journal, June 10, p. 1309.

THE COLUMBUS MEETING.

The meeting of the American Medical Association held at Columbus last week was one of the most successful ever held. This success displayed itself in the number registered, the number attending the Sections, the long list of excellent papers read and discussed, and the good feeling which prevailed. The number registered was as follows: Monday, 291; Tuesday, 1046; Wednesday, 290; Thursday, 72; Friday, 38; or a total of 1737. This is the second argest number registered at one meeting, the exception being the semicentennial meeting at Philadelphia. Last year at Denver there were 1535 registered; the year previous, 1897, at Philadelphia, 1983; and the year 1896, at Atlanta, there were 634. It was the universal opinion that the Sections were never better attended, and the scientific work done in practically every Section is remarkable in respect to both quality and quantity. Promptness in calling to order, economy in the use of time in the discussions, and a eeling of we-are-here-for-business-and-mean-business seemed to prevail at each Section. Consequently, while the program contained a superabundance of papers, not a few of the Sections completed their work before adjourning. In spite of the fact that the number in attendance was about all that Columbus ould well accommodate, goodfellowship feeling was ust as evident as it was at Denver a year ago, where ood nature bubbled up continuously. If the hotels ad been larger it would have been more pleasant, robably, but a little thing like being crowded did not ampen the good spirit which prevailed. The Columbus and Ohio physicians did nobly, and the Association will be glad to accept another invitation ome time, especially if they will put up another hotel r two, and guarantee a little cooler weather.

INDIANA PATHOLOGIC EXHIBIT.

An innovation was made at the recent meeting at olumbus which deserves mention and encouragement. We refer to the pathologic exhibit made by the Indiana tate Medical Society, in which was shown over 700 pecimens which had been contributed during the past ear by the members of the society. The unique dearture made is both practical and instructive, and if could be adopted by other State societies they ould be doing much good for the present and the ture. The American Medical Association did ell in adopting a resolution endorsing the work done y the Indiana State Medical Society (see p. 1375), and we hope to see the example set followed by other like bodies in future meetings.

CRIMINAL CARELESSNESS.

An idiotic performance of an undertaker in South Chicago last week calls for comment. A child died of diphtheria and, contrary to all good sanitary regulations of the day, was given a public funeral. According to the report the undertaker opened the coffin to allow, or, as is said, actually invited those present to kiss the corpse. Several persons did so and it is also stated that several cases of diphtheria have appeared in the neighborhood since the occurrence and it is feared more will follow. We are glad to know that action has been taken by the authorities and the man has been fined $200—the maximum penalty of the law.

THE TREATMENT OF DIABETIC COMA.

Our knowledge of conditions attended with glycosuria has been much extended of late years through the observations, clinic and experimental, of a number of industrious investigators. As a result, the detection of sugar in the urine in any given case no longer causes the alarm and gives rise to the sense of hopelessness and the gloomy prognosis that were the rule in the past. It is recognized that glycosuria may be of various grades of intensity, and that diabetes may be mild or severe. The most serious complication of these metabolic disturbances is the intoxication that is directly the most common cause of death and that manifests itself clinically in the form of various nervous disturbances, and finally as coma. It has been thought that this condition is dependent on the presence in the blood of certain acids, and more particularly diacetic and β.-oxybutyric acids, and it has been suggested that the most logical treatment consists in the administration of alkalies—by the mouth, through the bowel, beneath the skin or into the veins. It is true that the results of this therapeutic procedure have not been entirely successful, in fact may be considered as rather discouraging; but, as is pointed out by Herzog,[1] treatment often is instituted too late and after coma has developed (perhaps with structural alterations), and it is not repeated with sufficient frequency. For these reasons especial attention should be directed to the reaction of the urine of the diabetic and on the first appearance of suspicious symptoms or of those indicative of intoxication, or of undue acidity of the secretion of the kidneys, an effort should be made to render this alkaline. To this end from 3 to 5 per cent. of sodium bicarbonate in a 0.6 or 0.7 per cent. solution of sodium chlorid may be injected beneath the skin, while alkalies may be administered by the mouth and alkaline solutions be injected into the rectum. The treatment should be persisted in for some time after dangerous manifestations have subsided.

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[1] Berliner Klin. Woch., April 3, 1899, p. 205.

THE PLAGUE AND THE DOCTORS.

According to Mr. Julian Ralph, one of the worst dangers to civilization from the present plague epidemic is that almost every doctor who has had plague patients insists on carrying away plague germs for the purpose of study. In this way, he claims, these germs are exported from the plague foci to every corner of Christendom by medical men and students who have gone to India, first from Japan and since from every part of Europe and America, to study the epidemic. As this is published in a popular illustrated weekly of wide circulation, it is possible that it may at least cause some uneasiness in the public mind, which is just now in a very receptive state as regards hints and theories of sanitation and disease. The occurrence of a couple of deaths in a Vienna laboratory of research, from escape of plague germs, is also an object-lesson that seems to fortify Mr. Ralph's position and to show that there exists a real danger of the extension of the disease in temperate climates and among European races. Still another fact, that it is reported as having appeared in Egypt, may also add weight to his view. On the other hand, however, we know that the plague has not appeared in Europe as an epidemic since the most elementary knowledge of sanitation has existed, that it has been controlled in many parts of India under more or less unfavorable conditions, and that there is no instance on record of the extension of the disease from any medical investigation of its germs. The Vienna incident was due to lack of precautions that is not likely to occur again or elsewhere, and the disease was confined to the two first infected individuals. There is no doubt that the plague, if invited and its way prepared by the establishment of conditions that once existed, might be the devastating scourge that it formerly was, but the sanitarians of civilization are not doing that sort of thing. While eternal vigilance is the price of public health as well as of liberty, it does not appear that there will be any justification for any undue fears or panic on this account. If doctors or students are negligent or careless, it is safe to say that they will be their own only victims. Nothing short of malicious mischief is likely to introduce the pest otherwise than through the ordinary channels of neglected general precautions, such as quarantine inspection of infected immigrants, etc., and the danger from this source in temperate Europe and America is not excessive.

LEGALITY OF "CHRISTIAN SCIENCE" HEALING.

It is said that able lawyers have expressed opinions that an indictment will not stand against "Christian Science" healers when their victims are adult adherents of that hybrid religiomedical delusion. They are not constrained, they claim, nor even persuaded, to use "Christian Science" methods, but do this of their own free choice and in obedience to their convictions. If a person chooses, say the upholders of this view, to rely entirely on prayer, he may be admittedly foolish, but the charge of murder or manslaughter can not be sustained against those he called in to aid in his voluntary act. This is a new view of the case—aiders and abettors of a suicide have not been held guiltless by the criminal law anywhere so far as known, and in New York State, where the issue is made at present, attempts at suicide are themselves a punishable offense, if we are not mistaken. If Mrs Barguet (see Journal, May 20, p. 1135), for whose death the "Christian Science" healer is held accountable, was an obstinate believer in the power of faith, and as firm a disbeliever in that of medicine, does it really excuse those who actively abetted her in her obstinacy or did their best to encourage it? Very few invalids are fit to direct their own treatment in serious illness, certainly not in the late stages; they are to a certain extent irresponsible and incapable of managing matters for their own best welfare. Physicians, who should be the best authorities, seldom attempt to dictate their own medical treatment when really ill, but put themselves unquestioningly into the hands of some brother physician who takes the responsibility of the case. The attendant practitioner, whether physician or "Christian scientist," is therefore the responsible party, and this, it would seem, ought to be the legal view of the case. The difference between an adult and a child is therefore nearly *nil* in severe sickness; both are alike irresponsible and helpless. There is nothing to be said against a devout trust in prayer, recognizing also the truth that "God helps those that help themselves," but there is a vast difference between the "fervent prayer of a righteous man that availeth much," and the mercenary precations and other mummeries for gain of the faith healer and the "Christian Scientist."

STATE QUARANTINES.

It is difficult for those at a distance to appreciate the feelings of those who believe themselves in danger of the yellow-fever scourge, and hence any harsh judgment of the apparently unreasonable measures sometimes taken is uncalled for. From an economic point of view, however, the consequences of the rigid impromptu quarantine measures might, it would seem, be often serious, and the question arises, would not a more efficient sanitation and general preparedness for the emergencies be a better way of meeting the disease than those at present followed? If Havana can be kept free from yellow fever, is it irrational to suppose that our southern cities can be as well if not better defended? The country that is prepared for war escapes it or does not dread it; it is to the one that is unprepared that wars are most expensive and most disastrous. So with disease, thorough local sanitary measures are often far better preventives than a panicky shotgun quarantine or even a rigid border inspection, and are in the long run far less expensive, when we take into account the business interruption that the latter involves. One point in connection with these State or local quarantines has arisen recently, that it would seem might possibly lead to serious complications; that is the interference with the mail. It emphasizes the necessity of a more general supervision of health matters in this country, a national rather than a mere local authority in such matters as interstate quarantine, as well as those of possible foreign germ introduction. A local health officer ought not to be in a position where in the presumed exercise of his duty he comes in conflict with Federal law, and it might also be of advantage to have the control of such matters out of the hands of any one who might possibly take too local or narrow a view of the requirements of the situation. Let us have a national department of health.

"THE SCIENTIFIC MOTIVE."

The unselfishness of the work done by members of the medical profession is sometimes recognized, and when it is it should be an encouragement to go on in the grand work and continue to keep commercialism outside and separate from medicine. The *Chicago Tribune* of June 14 has an editorial entitled "The Scientific Motive," based on the article in the June *Harper's Monthly*, by Dr. H. S. Williams, on the progress of medicine during the century, on which we commented two weeks ago.[1] After referring to the work done, the *Tribune* says:

> There naturally comes to one in going over this remarkable recital the reflection—though it does not seem to have occurred to the author—that these discoveries were made without the stimulus of "letters patent" or the hope of any "exclusive rights" in their results. Indeed, nothing could be farther from the sentiments of the profession than such an idea. When the medical profession makes a great discovery it becomes at once the free possession of all, both for use and for further improvement.
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> This fact is interesting in connection with the confidence of certain thoughtful persons that the scientific motive is destined to be the great moralizing agent in the world. They point to the fact that many a scientist of to-day is absolutely careless of all other considerations, except the chance to pursue his work under favorable circumstances, and as regards those scientists—of whom there assuredly are some—who still give evidence of responding to the money-making spell, they are pointed to as exemplifying a transition stage—as responding to the new motive though not entirely freed from the old.
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> The scientific spirit as a means of impelling men to strenuous effort and expelling more common ambitions, not only opens up glowing fields to the imagination, but certainly has something more than imaginary fruits to show in the century's history of medicine.

RAPID CURE FOR APPENDICITIS.

There seems to be nothing too absurd for quacks to claim, papers to print, or fools to believe. The latest is published in a Chicago paper of June 12, and is telegraphed from New York, with other important news. It seems passing strange that a reputable journal would publish such absurd rubbish even for the sake of creating a sensation. The query which naturally arises is whether the osteopath in question is such an ignoramus as not to know the absurdity of the "rot," or whether he thinks that there are people who are such fools as to believe it, and thus help him to reap a harvest. If the latter, he will probably not be disappointed. Following is the clipping:

> One of the most unusual operations yet recorded in surgery was performed recently on a young woman in this city, by which was effected the cure of a case of appendicitis. No knife was used, no medicine, no poultices, no ice-packs—none of the usual methods of physicians and surgeons to treat this most serious of ailments. So simple was the method employed that only eight minutes elapsed from the time the physician reached the patient until he had completed his work, and as he believes, successfully. . . . "The method of treatment is the one used by all osteopathists and has been in use by them for some time."
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> To demonstrate, the doctor placed the thumb of the reporter's left hand flatly in the palm of his right hand. Then he slapped the palm of the hand smartly against the broad of the thumb.
>
> "The hand represents the psoas muscle," he said, "and the thumb the appendix. We produce a spasmodic contraction of the psoas magnus, like the slapping of the palm of the hand against the thumb. This forces the foreign substance from the appendix, and relief follows immediately."
>
> Just back of the appendix is the largest muscle in the human body, known as the psoas magnus. It is attached to the femur or big bone of the leg, and is the muscle by which one can revolve the leg as on a pivot at the heel. It is this muscle which is made to do the trick of emptying the appendix. Using the fingers of one hand to hold the walls of the abdomen in place and to prevent a rupture of the delicate internal structures, with the other hand a spasmodic contraction of the psoas magnus is brought about, which snaps it against the appendix, and is said to force out of that organ whatever of foreign substances it may contain.

Medical News.

A gift of $12,500 has been made to Provident Hospital, Chicago, by Nathan Freer.

Pure fresh milk is to be sold at 4 cents a quart, and sterilized milk at 1 cent per bottle, to the sick of Philadelphia.

The professor of hygiene, Konigsberg, Erwin v. Esmarch, has accepted a call to Göttingen in the same capacity.

The death of Lawson Tait of Birmingham, Eng., in his 51st year, occurred June 13. A further notice will be given later.

Commencement exercises at the University of Pennsylvania were held June 14. The number receiving the degree of M.D. was 211.

A fire in the laboratory of the University of Maryland, Baltimore, on the night of June 6, damaged the building and apparatus seriously.

The Hospice of La Rochelle has recently been endowed with $20,000 for the construction of a home for convalescents discharged from the hospitals but not strong enough to work.

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[1] See Journal, June 3, p. 1263.

Dr. W. W. Keen, president of the American Medical Association, sailed for Europe, June 16, to return late in September.

Prof. Simon Newcomb of Johns Hopkins University, received the degree of doctor of civil law at Oxford University, England, recently.

The Russian Government has appropriated three million roubles ($1,650,000) for the improvement of the mineral springs and other resorts in the Caucasus.

A board of health has been appointed at Carlisle, Pa., consisting of Drs. J. C. Groome, J. M. Goodyear, C. D. Marquette, Reuben Seiler and Leroy Merriman.

The Berlin Medical club invites physicians passing through the city to "honor it with a call." A monthly card is issued to visiting physicians contemplating a longer stay.

Ground has been broken in Atlantic City, N. J., for the establishment of a new annex to the City Hospital, the result of a gift of $6,000 by Miss Elizabeth Boice of Absecon, N. J.

Professor Minkowski of Strasburg is mentioned as the probable successor of Knoll at Prague. He has already made quite a name by his works on the pathology of diabetes, etc.

A statue of Dr. Benjamin Franklin, one of the founders of the University of Pennsylvania, was unveiled during the University of Pennsylvania commencement the past week.

Max Sanger, the noted gynecologist of Leipsic, has accepted a call to the German University at Prague, as professor of obstetrics and gynecology in the place of Professor Rosthorn, who was recently transferred to Innsbruck.

A report from Norfolk, Va., announces that the Italian brig *Anita S.*, from Montevideo, which sailed on December 25 last for Baltimore, had been delayed by adverse winds and, running out of fresh provisions, scurvy had attacked the crew.

The English authorities now require from the physician the declaration of intoxication from lead, arsenic or phosphorus when it is presumably caused by the subject's occupation. Anthrax has also been recently included in the list of declarable diseases.

An English army surgeon, Dr. Bowron, recently died in India at the advanced age of a hundred years. Another medical centenarian, Major Mawrogenis of Athens, is still vigorous and has only temporarily relinquished his practice to be operated on for a cataract.

Dr. Ellet O. Sisson, formerly professor of anatomy and director of the microscopic laboratories in the College of Physicians and Surgeons of Keokuk, Iowa, has been elected professor of public hygiene and State medicine and director of the histologic laboratory in the recently consolidated schools of that city.

At the commencement of Columbia University, New York City, held June 7, the degree of M.D. was conferred on 140. Among the honorary degrees conferred was that of master of science, on Dr. Edward L. Trudeau, Saranac Lake, who has made many valuable contributions to the study and treatment of pulmonary tuberculosis.

Past Assistant Surgeon G. A. Lung, of the *Philadelphia*, now at Apia, Samoa, has been recommended by Admiral Kautz for gallant services displayed during the recent disturbances among inhabitants of that island. Secretary Long has written an official letter to Dr. Lung as follows: "Your conduct reflects the greatest credit upon you and upon the service."

Our exchanges relate that during a recent smallpox scare at Belfast, one of the newspapers announced that its editions were sterilized. "Read the sterilized Northern Daily" was the cry, and its circulation widely increased by this method of antiseptic advertising. It suggests the wish that some of our yellow journals could also be sterilized, contents and all.

According to *Progrès Méd.*, May 27, groans were heard issuing from the tomb of a young woman who had been buried a few hours before, at Illanitz, Austria. The authorities were notified, and the coffin opened. The corpse was found on its side, the face covered with blood and the shroud torn to fragments. We do not endorse the truthfulness of this, but give it space for what it is worth.

The marriage of Dr. Alfred Stillé, ex-president of the American Medical Association, and emeritus professor University of Pennsylvania, to Miss Katherine A. Blackiston of Chestertown, Md., occurred June 14. The groom is 85 and the bride 58. Dr. Stillé is a widower, and was the predecessor of the late Dr. Wm. Pepper in the chair of medicine in the University of Pennsylvania.

The war department has made public the statement that Dr. H. A. Young of the Utah Battery, while engaged in operations in the region of the pumping station at Manila, February 6, was cut off from the army force and his body was found horribly mutilated. Shortly after the body had been discovered the *Nebraska* shelled one of the insurgent trenches, leaving seventeen dead on the field.

A student of the University of Vermont is said to have instituted suit in the sum of $10,000 against one of the professors in that institution for injuries received from exposure of a fractured leg to the X-ray, for the purpose of taking a photograph of the injured member. The writ declares that, as a result of the exposure, discoloration of the flesh occurred, with subsequent atrophy of the tissues. All told, ten skiagraphs had been taken.

Our French exchanges relate that a sound was inadvertently left in the body after an obstetric operation, but the patient was not informed, as the surgeon did not consider its presence dangerous. Requiring surgical intervention again a couple of years later, the sound was discovered and the patient at once sued for damages. An expert committee consisting of Brouardel, Thoinot and Roger decided that no professional error had been committed and the suit was dismissed.

The health officials of Mississippi and Alabama have decided not to quarantine against New Orleans on account of the isolated case of yellow fever which occurred in that city. No other cases have developed in the twelve days that have elapsed since the death of the patient referred to (Journal, June 3, p. 1265). Dr. F. W. Blunt, State health officer of Texas, has raised the quarantine against New Orleans in regard to all freight, other than second-hand furniture and household goods. Passengers will be admitted at an early date.

Three classes of well-to-do patients are now admitted to the Paris public hospitals: strangers or foreigners passing through the city; persons with infectious diseases, and persons from small towns, requiring a severe operation that can not be performed at the residence or in an ordinary sanitarium. The surgeons and physicians who attend them are protesting against gratuitously treating these persons, frequently abundantly able to pay, but no official notice has been taken of their protests.

There is, it appears, a State law already enacted in Michigan, requiring physicians to report all cases of consumption to the board of health. At a recent meeting of the Detroit health commissioners, an examination of the returns of death revealed that a number of prominent physicians had given death certificates stating consumption as the cause in cases that had not been previously reported as suffering from the disorder, and these were promptly selected for prosecution.

Hysteria seems to be uncommonly prevalent among the male laboring classes in St. Petersburg. Bary mentions (*St. Petersburg Med. Woch.*) finding sixteen cases among 125 men working in one tannery and that 10 per cent. of the male cases of nervous affections in his charge have the stigmata of hysteria. He considers it an affection of the higher psychic centers, which removes the restraint from the lower centers. He notes that the psychic symptoms predominate among his patients in the upper classes and the physical among the lower.

Italy is reminding the world of its obligations to her in the sphere of electricity by the international electric exposition that opened at Como in May, to celebrate the centennial of the discovery of the Voltaic pile at Volta's birthplace. The achievements of Galvagni, Nobili, Matteucci and others, in applying electricity to the healing art, are worthily presented among the displays of a thousand exhibitors from all over the world. It is proposed to hold the Italian medical and surgical congresses also at Como this year, in honor of the great scientist.

Professor Koch and assistants have been at the municipal hospital of Grosseto, Italy, since the beginning of May, where he has been continuing his investigations on malaria. Grosseto is situated between Rome and Genoa, on an extensive plain, which was in olden times the *lacus prelius* of Cicero. This plain had become a morass, and saturated with malaria, but the government, by a system of drainage has partially reclaimed it. Now it is a fine pasturage, but still affected with some malaria.

The Belgian physicians discussing the question of the declaration of contagious diseases with a view to securing legislation assert that the principle involved is the same as when a fire breaks out in a house. The head or some member of the family—not the physician—should at once notify the health authorities, and as the head of the family has learned to find the way to the fire alarm box and the tax collector's bureau, he can soon learn the way to the health bureau if the laws are stringent enough to entail penalty for neglect. The family should also be reimbursed if there is pecuniary loss from the isolation required, as in case of damage from fire.

Apropos of the recent appointment of Dr. J. C. Webster, to succeed the late J. H. Etheridge, previously noted in the Journal, the following comment is of interest:

"Dr. J. Clarence Webster, lecturer on gynecology in McGill University, Montreal, has been appointed professor of obstetrics and gynecology in the University of Chicago. Dr. Webster, after graduating in arts at Mount Allison University, studied medicine at Edinburgh, where he graduated M.B. in 1888 and M.D. in 1891. In 1889 he became assistant lecturer on obstetrics in the Edinburgh School of Medicine, and in 1890 he was appointed first assistant in the midwifery department of the University of Edinburgh, as well as private assistant to Prof. A. R. Simpson. He has been connected with McGill University since 1897. Dr. Webster is a Fellow of the Royal College of Physicians and of the Royal Society of Edinburgh. He is the author of a text-book on gynecology, a monograph on extrauterine pregnancy, and numerous other contributions to medical literature."—*British Medical Journal*, June 3.

Public Health.

Philadelphia Mortality Statistics.—The number of deaths occurring in the city for the entire week was 478, an increase of 52 over the previous week, and of 115 over the corresponding week of last year. Of the total number of deaths, 141 occurred in children under the age of 5 years.

Health Measures in Mexico.—The Mexican National Academy of Medicine has petitioned the authorities not to allow streets to be dug up for more than a hundred meters at a time, and to insist upon the replacing and repaving of the part torn up before another stretch is disturbed; also the adoption of the Paris methods, when earth known to be very much infected is being excavated, disinfection with 100 grams of ferric sulphate and 200 of unslaked lime to the square meter, whenever work is suspended, and disinfection of the soil to be removed in closed wagons beyond the city limits, with five times this amount to each cubic meter.

Municipal Sterilization of Meat.—Seven towns in Belgium, including Bruges, have a sterilizing plant which cooks the meat from slightly tuberculous cattle. It is then sold, with the juice, at a low price and the proceeds given to the proprietor of the animal, which with the indemnity accorded by the Government, reduces to a minimum his financial loss. The Minister, DeBruyn, states (*Gaz. Méd. Belge*, May 4) that in some places the demand for this wholesome and appetizing meat far exceeds the supply. He adds that the national and state authorities are ready to assist communities wishing to establish a sterilizing plant.

Sanitary Orders in Hawaii.—The commanding officer of the U. S. troops at Camp McKinley, Honolulu, H. I., has issued orders (April 29, 1899) calling attention to the importance of making every effort and taking every measure of precaution for the preservation of health and healthy conditions. Company officers and others directly responsible for the welfare and care of their men are required to give special attention to those portions of army regulations under the head of interior economy, police, discipline and messing and cooking which have a bearing on the subject of cleanliness and other matters affecting the health of the men and the police of barracks and grounds. The substance of these regulations and the code of rules prescribed in orders for the cleanliness and police of the camp and the removal of slops, garbage and excremental filth are required to be repeatedly communicated and impressed on the minds of the men by their officers, so as to make them appreciate the importance of their observance. Certain recommendations of the senior medical officer are promulgated for the preservation of health in the tropics. 1. Drink no liquids, except milk, which have not been thoroughly boiled. The germs of most tropic diseases live in water. Boiling for at least half an hour will kill these disease germs. 2. Do not lie on the ground at any time, more especially during the evening and night. 3. Do not eat heartily or drink freely when much fatigued or overheated. 4. Do not eat green or overripe fruits. 5. Do not wear damp or wet clothing. 6. Avoid prolonged exposure to the sun in the middle of the day. 7. Do not eat pies, cakes or other pastry sold by street venders, prepared from poor and cheap materials and possibly in filthy places. 8. Sea bathers are cautioned that in the outer surf the undertow is so strong as to be dangerous even to good swimmers, and that just outside the reef there are sharks. 9. Leprosy is more prevalent among the native Hawaiians than among other inhabitants of the islands, and is believed to be communicated by contact. The strict observance of these cautions and of ordinary rules of good living will bring, as a sure result, the preservation of the best conditions of body with which to resist disease. The senior medical officer is Major M. W. Wood, surgeon U. S. A.

Health Reports.—The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General of the U. S. Marine-Hospital Service, during the week ended June 10, 1899.

SMALLPOX—UNITED STATES.

Alabama: Mobile, May 31 to June 3, 2 cases, 1 death.
California: Los Angeles, May 27, 1 case.
District of Columbia: Washington, June 3 to 4, 3 cases.
Florida: Jacksonville, May 27, 1 case.
Georgia: Savannah, May 29 to June 6, 10 cases.
Indiana: Evansville, June 3, 5 cases.
Kentucky: Louisville, June 1, 9 cases.
Louisiana: Jalnerette, June 3, 1 case; Shreveport, June 3, 2 cases.
Maryland: Baltimore, June 3, 2 cases.
Massachusetts: Boston, June 3, 2 cases; Fall River, from outbreak to June 3, 18 cases; Swampscott, May 31 to June 3, 2 cases, 2 deaths.
Minnesota: Minneapolis, June 3, 2 cases.
Missouri: St. Louis, May 29 to June 5, 8 cases.
Nebraska: Omaha, May 29, 1 case.
New York: New York, May 29 to June 3, 15 deaths.
North Carolina: Charlotte, May 31, 1 death reported.
Ohio: Columbus, June 3, 13 cases; Massillon, June 3, 1 case.
Oklahoma: Oklahoma City, June 1, 1 case.
Porto Rico: Ponce, May 17, 1 case.
Rhode Island: Providence, June 3, 1 case.
Virginia: Newport News, May 31 to June 8, 2 cases; Norfolk, May 31 to June 8, 6 cases, 1 death; Portsmouth, May 31 to June 8, 3 cases.

SMALLPOX—FOREIGN.

Belgium: Antwerp, May 8 to 28, 11 cases, 6 deaths.
Brazil: Rio de Janeiro, April 1 to 7, 5 deaths.
England: Liverpool, May 6 to 13, 1 case; London, May 6 to 20, 3 cases, 2 deaths.
Greece: Athens, May 13 to 20, 23 cases, 9 deaths.
India: Bombay, April 25 to May 2, 3 deaths; Calcutta, April 22 to 29, 1 death; Madras, April 29 to May 5, 1 death.
Mexico: Chihuahua, May 13 to 28, 3 deaths; Mexico, May 2 to 28, 14 cases, 8 deaths.
Nicaragua: Bluefields, May 8 to 27, 2 cases.
Russia: Odessa, May 13 to 20, 11 cases, 2 deaths.
Turkey: Beirut, April 29 to May 6, 1 case; Constantinople, May 1 to 15, 4 deaths.

CHOLERA.

India: Bombay, April 25 to May 2, 3 deaths; Calcutta, April 22 to 29, 23 cases, 23 deaths; Madras, April 29 to May 5, 2 deaths.

YELLOW FEVER.

Brazil: Rio de Janeiro, April 1 to 7, 35 cases, 22 deaths.
Cuba: Puerto Principe, June 5, 1 case reported among U. S. troops.
Mexico: Cordaha, May 29, reported present; Vera Cruz, May 13 to 20, 68 cases, 26 deaths.

PLAGUE.

Arabia: Muscat, April 12, 2 cases.
Egypt: Alexandria, May 22, 2 cases.
India: Bombay, April 25 to May 2, 323 deaths; Calcutta, April 22 to 29, 107 deaths.
Japan: Formosa, prefectures of Taichu, Tainan, Taipeh, from outbreak to date, 1484 cases, 1076 deaths; Tamsui, April 12 to 26, 289 deaths.

Book Notices.

A Text-book on Anatomy. By American Authors. Edited by Frederic H. Gerrish, M.D., professor of anatomy in the Medical School of Maine at Bowdoin College. Pp. 915; 950 engravings in black and colors. Cloth, $6.50, net; flexible water proof binding for the dissecting table, $7.00 net; full leather, $7.50, net. Philadelphia and New York: Lea Brothers & Co.

This new anatomy by Bevan, of Rush Medical College, in affiliation with the University of Chicago; Gerrish of Bowdoin; Keiller of the University of Texas; McMurrich of the University of Michigan; Stewart of the University and Bellevue of New York, and Woolsey of Cornell—the professors of anatomy at their respective schools—has been written for the use of medical students as a text-book, and as a ready reference book for practitioners.

The authors are to be congratulated on having produced an anatomy which presents the essentials of the science in a clear, concise and complete form. The illustrations are more numerous and instructive than those of any single volume of anatomy so far published. The American profession, which has heretofore depended almost entirely on foreign text-books of anatomy, will appreciate this work by American authors. The authors have not hesitated to eliminate the unimportant and unessential points which have gradually grown into the older text-books of anatomy. The plates are particularly instructive to the student, the name of each structure or organ being printed in large type on the part indicated.

In reviewing the book, one is impressed with the excellent chapter on embryology which, though brief, is clear, and furnishes the student with a good working knowledge of the subject.

The chapter on muscles introduces a new and excellent feature in addition to the plates of the muscles, each muscle being shown separately in outline on the articulated skeleton with its attachments. This gives, at a glance, a complete picture of the muscle as a whole, and strikes one as being a much better method of illustrating the muscular attachments of the bones than the one heretofore generally employed of illustrating these attachments on the separate bones. We miss this excellent means of illustrating the muscles of the perineum,

The chapter on arteries is of much practical value. Their relations to surrounding structures are made more interesting and easily mastered by the introduction of plates showing the ligation of vessels and cross-sections of the trunk and limbs.

The chapter on the brain and cord is a lucid description of the gross anatomy of the cerebrospinal axis; the well-established points in regard to location of nuclei and course of nerve-fibers are given, but the questionable points have been omitted. The peripheral nerves and organs of sense and the subject of splanchnology have been well handled.

A special chapter on relational anatomy, including cross sections of the entire body, surface anatomy and skiagraphs of the normal body are innovations which are to be commended. A chapter on practical anatomy, which is a scheme by which the book can be used as a dissector, completes the work. Taken as a whole, the work is a valuable one, and will be favorably received by both teachers and students of anatomy. We believe that it will take its place as one of the leading text-books.

Dr. Gerrish, the editor, deserves special notice for both the xcellence of the chapters furnished by him and the editing f the entire work.

Diseases of the Ear, Nose and Throat, and Their Accessory Cavities. By Seth Scott Bishop, M.D., D.C.L., LL.D., professor of the nose, throat and ear in the Illinois Medical College; professor in the Chicago Post-Graduate Medical School and Hospital; surgeon to the Post-Graduate Hospital, one of the editors of the *Laryngoscope*, etc. Second edition. Thoroughly revised and enlarged. Illustrated with 94 chromo-lithographs and 215 half-tone and photo-engravings. 6½x9½ inches. Pages xix-554. Extra cloth, $4.00 net; sheep or half-Russia, $5.00 net. Philadelphia: The F. A. Davis Co.

This is a second edition issued about five months after a first edition. The author has made some additions, notably articles on "Life Insurance Affected by Diseases of the Ear, Nose and Throat," "Autoscopy" and "Related Diseases of the Eye and Nose." The book contains a large number of illustrations. Many, as for example, one showing a mastoid operation (page 63), in which a large number of assistants are photographed, are of no scientific value. We doubt the wisdom of so many colored plates, as the coloring in many of them is deceptive, because they are not true to the appearance under natural or artificial light.

In a volume of this size, treating the diseases of the ear, nose, pharynx and larynx, the consideration of each individual dis- ase is necessarily rather unsatisfactory in such condensed orm, inasmuch as there are so many treatises before the pub- ic covering the same subjects in so thorough a manner. Much pace is given to treatment of the various affections, but here here is so much of the individual method and opinion that he work is of less scientific value, notably, in the articles on ay-fever, argued to the author's conclusion as being of uric acid rigin. In these days so much is written on the uric-acid diathe- is, and such a large number of individuals have such a condition, hat it is not surprising that it should be made an etiologic factor hay-fever. In the light of the comparatively small number of hose who are aflicted with hay-fever, the argument loses much f its value. From the results of treatment on this theory in is own case, and the repetition of his experiments on others, e advises its use. The results of others' experiences are not satisfactory. The collated opinion of authorities at the end f the article are of interest, but they poorly represent the iews of many of those quoted. Many articles, however, are ell written and are profitable reading; those on the ear espe- ally so.

Necrology.

Henry E. Crampton, M.D., N. Y. Medical College (now tinct) 1857, of New York City, died at Glen Ridge, N. J., ay 28. He was born April 10, 1837, in the old fourth ward New York, and, on his father's side, was descended from e of the early settlers of Guildford, Conn. His mother's mily was descended from a member of an old Dutch colony Harlem, N. Y. During the Civil War he served in the Fed- al army until stricken with typhoid fever, from the results which he appeared never to have perfectly recovered. At e time of his death he was treasurer of the N. Y. Academy Medicine, and also vice president of the Association for proving the Condition of the Poor, besides being a member of ost of the leading medical societies. His delight was in un- tentatious philanthropic work, in which the sanitary require- ents of children held a conspicuous place.

Albert L. Calder, M.B., Providence, R. I., died May 24, ed 74 years. Dr. Calder served in the General Assembly as presentative in 1891-2, and was one of the original members the State board of pharmacy, serving on that board as pres- ent from 1870 until 1885, when he declined further appoint- ent.

Richard B. Westnedge, M.D., surgeon and first lieutenant U. S. A., died of typhoid fever, at Manila, June 10. Dr. Westnedge, after graduation from Rush Medical College, Chicago, practiced in Dubuque, Iowa, from which city he entered the army at the beginning of the Hispano-American War. He first served in Cuba, later going to Manila with the Third Regiment.

Elizur Hitchcock, M.D., Western Reserve Medical College, 1860, died in Akron, Ohio, May 21. He was born in Talmadge, Ohio, in 1832. His parents were among those who as New Englanders settled in the Western Reserve, in Ohio. During the Civil War he was an assistant surgeon of the Seventh Ohio Volunteer Infantry, but returned to civil life after his muster out.

James M. Showerman, M.D., College of Physicians and Surgeons, Buffalo, N. Y. (now extinct), 1881, died recently at his home in Batavia, N. Y., aged 60 years.

Alfred O. Stimpson, M.D., McGill University, Montreal, P.Q., 1868, was found dead in his office, in Thompson, Pa., May 20. He served as regimental surgeon during the war with Spain.

Charles W. Pfeiffer, M.D., Bellevue, N. Y., died at his home in New York City, May 22. He was born in Philadelphia in 1854, and not long after his graduation became attached to one or two of the New York City departments as a visiting physician.

John W. Bacon, M.D., Los Angeles, Cal., died in that city May 16. He was born in McDonough County, Ill., in 1838, and received his degree of M.D. from Rush Medical College, Chicago, in 1859, later taking a special course at Bellevue.

John P. Corcoran, M.D., Detroit, Mich., prominent in that city as an expert on smallpox, died May 29. He was born in Ireland, 48 years ago, and received his degree of M.D. from the Detroit College of Medicine in 1874.

Joseph D. Wallace, M.D., who for some time had been demonstrator of anatomy at the Medico-Chirurgical College, Philadelphia, died in that city May 26, from peritonitis.

Wm. B. Lyons, M.D., Huntington, Ind., was killed by a train in that city May 22. Dr. Lyons was 81 years of age and received his medical degree from Rush Medical College, Chicago, in 1865, and previous to that time attended medical lectures in Cincinnati in 1850.

James L. Bailey, M.D, N. Y. University, 1883, of New York City, died May 29, aged 45 years. . . R. T. Harrison, M.D., Hot Springs, Ark., was drowned near his home May 20. . . A. H. Jones, M.D., Sheridan, Wyo., died May 20, aged 32 years. . . Mark Nivison, M.D., New York City, in Newark, N.J., May 19, aged 61 years. . . Chas. W. Pfeiffer, New York City, May 22, aged 45 years. . . G. A. Thompson, M.D., Chicago, died in Shreveport, La., June 1.

DEATHS ABROAD.

Professor Zinnis, Athens. . . Dr. Ziegler, chief of the medical department of the Swiss army. . . Prof. G. Astaky of Bucharest, aged 46 years, director of the Institute of Gynecology, etc., and author of numerous works on the suture of nerves and tendons, etc. . . Dr. John Moir, president of the Royal College of Physicians and Surgeons, Edinburgh, Scotland, died during the last week in May, in his 92d year.

Miscellany.

Discovery of Chloroform.—Before May, 1831, and anterior to Soubeiran and Liebig, Samuel Guthrie of Sackett's Harbor discovered chloroform and spoke of its antispasmodic and stimulative properties. As early as January, 1832, Eli Ives, professor of medicine in Yale, reported to Benjamin Stilliman, professor of chemistry in the same institution, of his successful use of chloric-ether—30- to 60-drop doses—for the anginæ of scarlet fever in both children and adults; and by inhalation to overcome dyspnea.

Cardiac Asthenia of Pneumonia.—Elsner recommended, at the recent meeting of the American Climatological Association, a mixture consisting of fifteen drops each of compound spirit of elder, aromatic spirit of ammonia, compound spirits of lavender and tincture of valerian, to be given at intervals of an hour or two. In addition, ¼ grain spartein sulphate and from 4 to 6 grains of caffein may be given at intervals of from four to six hours.

Pathogenesis of Infectious Venous Thrombosis.—Microbes produce thrombosis by means of their toxins after they have found their way into the circulation. These toxalbumoses destroy the red and white corpuscles and even the hematoblasts. They also destroy the nucleins contained in the leucocytes, with the resulting production of a leuconuclein or fibrin ferment which leads to the coagulation of the plasma of the blood and the birth of a clot when compression occurs at any point. (Jakowski.) Slight continuous elastic compression favors thrombosis more than stronger but transient compression.—*Centralblatt f. Bakteriologie*, xxv, 1.

Dionin in Chronic Morphinism.—This is recommended by Fromme (*Berliner Klin. Woch.*, April 3. p. 302), to neutralize the unpleasant symptoms that result from withdrawal of the opiate. Dionin is a hydrochlorate of morphin-ethyl-ether, readily soluble in water and therefore available for hypodermic injection. The ordinary dose by the mouth is from .5 to 1 grain, beneath the skin from .25 to .5 grain; in cases of chronic morphinism larger doses will be required; 3 per cent. solutions have proved most serviceable. Injections are followed by transitory itching of the skin; when large, by a sense of fatigue—feelings of fear, when present, are removed and sleep promoted.

The Whipping-Post.—The revival of the whipping-post, which is being advocated in medicolegal circles (see Journal, p. 1254), finds an echo abroad, where many of the authorities take an extremely pessimistic view of the prison systems in vogue, which, Lemaistre declares, actually incite to crime by their lack of means to impress persons in whom the moral sense is almost entirely absent. He proposes as the only efficient measure to warn youth and deter men from crime, the exhibition of the criminal in a pillory in his home village during some public gathering or fair. Conversations with even the most hardened criminals showed that they would prefer to remain in prison indefinitely, die even, rather than be exposed to this humiliation.—*Bul. de l'Acad. de Med.*

The Treatment of Sea-Sickness.—This should be begun, according to Losee (*Med. Record*, May 13), before the patient goes to sea. If possible, he should be perfectly rested and free from worry. Then, if bromids are relied on, they should be given in doses of 20 or 30 grains three times a day for from one to three days before sailing, until mild bromization is effected; on the day of sailing larger doses should be employed. A few drops of chloroform on sugar will sometimes relieve vomiting. Tincture of capsicum well diluted is also useful. Alcohol should be avoided except in the stage of exhaustion. Compound licorice in full doses is the best laxative. Opium with some mild astringent may be used for diarrhea.

Skin of Negro and Its Absorption of Heat.—Theoretically, a black skin should absorb heat and a white skin reflect it, but experience shows the reverse to be the case. Mosso has found that the extreme heat and radiation of the direct sunlight on high mountain peaks can be borne if the face and hands are blackened (*Rev. Gén. des Sci.*, 1899, p. 185). Guillaume has established that the grease in the skin of the negro reflects the rays. Calorimetric tests have shown that grease has great emitting power in the infrared. All the radiations in the negro are far along in the infrared (black pigment and red blood). The pigment, therefore, protects the derma from the sun's rays, while radiation from the grease cools it. As he wittily observes: "the negro lives comfortably in the shadow of his skin."—*Progrès Méd.*, May 6.

Course of Physiotherapeutics.—The exploitation and accurate knowledge of the mineral springs of a country is a source of wealth, health and education, thus directly interesting the department of agriculture, of the treasury and especially the urgently needed department of public health. The modern tendency of therapeutics is to work along the lines indicated by nature, and the importance and significance of balneology and climatology are only beginning to be realized. On the other hand, we have outgrown many drugs which still cumber the pharmacopeia, and it is a waste of time for the student to study them when modern therapeutics is drifting ever farther away from them. A Russian professor makes an eloquent appeal in the last *Deutsche Med. Woch.* for the curtailing of the hours devoted to pharmacology and the introduction of a course of physiotherapeutics into the medical curriculum. The chair of hydrotherapeutics and balneology, established at Vienna for Professor Winternitz, is proving very successful, and a special institute for physiotherapeutics is planned at the Berlin "Charité."

Army Transports Across the Pacific.—Capt. Thomas U. Raymond, assistant surgeon U. S. A., the medical superintendent of the army transport service, has reported the sailing, April 18, 1899, of the transport *Hancock*, formerly the *Arizona*, from San Francisco, Cal., to Manila, P. I. The vessel carried the 21st U. S. Infantry and Battery E., 1st U. S. Artillery, with the following medical personnel: Major W. P. Kendall, brigade surgeon, vols., Lieutenant H. E. Wetherill, assistant surgeon, U. S. A., Acting Assistant-Surgeons J. H. Hepburn and C. M. Drake, and one hospital steward, four acting stewards and sixteen privates of the hospital corps. The transport surgeon is Acting Assistant-Surgeon W. A. McVean. The *Hancock* arrived from Manila, April 6, 1899, bringing 137 sick and convalescent soldiers, under the care of Acting Assistant Surgeon Clarence Quinan and a detachment of the hospital corps The sick were transferred to the hospital at the Presidio, San Francisco. On April 18, 1899, the chartered transports, *Senator* and *Ohio*, sailed from San Francisco for Manila. The former vessel carried the headquarters band and six companies of the 13th U. S. Infantry, with the following medical personnel: Major Henry I. Raymond, brigade surgeon, vols., Acting Assistant-Surgeons George W. Roberts and Charles B. Mittelstaedt, one hospital steward, one acting hospital steward, and seven privates of the hospital corps. The *Ohio* carried six companies of the 13th U. S. Infantry, a detachment of the hospital corps, and a detachment of the signal corps. The medical officers were Acting Assistant-Surgeons Peter W. Beckman and H. Eugene Stafford. A week later, April 15, the chartered transport, *Morgan City*, sailed from San Francisco with 550 recruits for the regiments in the Philippines and fifty recruits for the hospital corps. The medical officers were Acting Assistant-Surgeons Joseph Reifsnyder and John Mason Williams. On May 8, 1899, the chartered transport, *Roanoke* arrived at San Francisco from Manila, bringing a few discharged soldiers and other passengers, among them Acting Assistant-Surgeon S. J. Fraser. This vessel carried no sick.

Typhoid Fever Among Troops at Puerto Principe, Cuba.—Majo Walter Reed, surgeon U. S. A., has returned to Washington D. C., from a short visit to Cuba, where he was engaged i investigating the causation of an outbreak of typhoid fever i two regiments, the 15th U. S. Infantry and the 8th U. S. Cavalry, encamped near Puerto Principe. The infantry camp wa established on an open plain four miles northeast of the cit and a short distance from the Hatibonica River. The site wa well drained and covered with excellent turf. The quarter were hospital tents floored and provided with cots. The wate supply was hauled from the river or from a tributary creek, but before being used it was boiled and passed through Pasteur-Chamberland filters, one of which had been issued to each of the companies. Garbage pits were not permitted to be dug in the camp, all refuse being wagoned to a dump at a distance. The dry-earth system was used for excreta, the boxes being removed daily by Cuban scavengers and then well limed before being put into place again. Flies in considerable numbers were feeding on exposed excreta, as the men did not make an efficient use of the dry earth provided. The cavalry regiment was formerly camped on the Hatibonica River, in the same neighborhood, but in the beginning of April it moved to a new site, distant about one and a half miles south. Here every condition was satisfactory. Instead of wooden boxes, galvanized iron boxes with tight covers were used in the latrines and the supply of carbolic acid and dry earth was liberal and freely used by the men. Tin urinals containing carbolic acid were placed in each company street at night. The infection of typhoid fever was brought from the United States by both regiments. The infantry regiment arrived at Puerto Principe on Dec. 11, 1898. A febrile case was admitted into the regimental hospital on the 19th as a malarial remittent, but the patient died Jan. 4, 1899, with ulceration of Peyer's patches. During January, February and March three other deaths occurred from typhoid fever, while many men were on the sick report as affected with malarial intermittent fever, as they did not yield to quinin, and five of those sent to the departmental hospital at Puerto Principe had the diagnosis changed to typhoid fever. On its arrival in Cuba the cavalry regiment sent a case of typhoid fever back to the United States on the transport *Manitoba.* Fevers recorded as remittent were of frequent occurrence after camp was established, and some of the cases were quite proonged in their duration, notwithstanding the liberal use of quinin. A death occurred on February 7 and another on the following day and the necropsy discovered the lesions of typhoid fever in both cases. Major Reed attributed the spread of the infection in the regiments to the failure to recognize the specific character of the prevailing febrile cases until the postmortem examinations revealed the pathognomonic lesions. The active measures taken after this recognition were speedily followed by the subsidence of the outbreak.

Questions, Answers, Etc.

CROTTE'S CONSUMPTION CURE.

RED WING, MINN., June 8, 1899.

To the Secretary of the A. M. A.:—Having read in the daily papers about he paper read before the ASSOCIATION, by F. Crotte, concerning his "new discovery for the cure of consumption," and having been urged by my patients to find out the facts and the truth in it, I hereby take the liberty o ask your opinion about it, and whether you think it is only a money-making scheme, which I myself am inclined to believe.

Yours very respectfully, TH. THORESEN, M.D.

The above is a sample of many letters that have come to this office during the last two or three days and represents the physician's side of the orrespondence.

The following from Bristol, Pa., is evidently not from a physician.

BRISTOL, PA., June 9, 1899.

To the Secretary of the A. M. A.:—Please send me the address of Franisque Crotte, the consumptive expert, as I wish to communicate with im; or can you kindly give me any information in this cure of consumption, as I require medical treatment. Very respectfully, W. J. S.

Here is one from Sedgwick, Kan.

SEDGWICK, KAN., June 9, 1899.

To the Secretary of the A. M. A.:—I see a notice in the public press that ou are in possession of the "Francisque Crotte Consumption Cure," and hat you offer to treat a number (500 I believe) free, as an experiment; would like to be one of that number. I am an ex-union soldier (4th Pa. av.) and am not able to pay for treatment. H. D. H.

Here is another from Elizabeth, N. J.

ELIZABETH, N. J., June 9, 1899.

To the Secretary of the A. M. A.:—Having seen an advertisement in the . *Y. Herald* in regard to Francisque Crotte's cure for consumption, I am very anxious to communicate with him about my son, who is now very ck at Denver, with lung trouble.

Could you give me any information as to how I could reach him? My on is 23 and has only been sick a short time, therefore we feel that if omething was done at once we could stop the dreaded disease.

Yours truly, A. H.

Such letters are coming in from all parts of the country, showing that dvertising pays. Briefly, in reply, we will say that a representative of rancisque Crotte was at the Columbus meeting and called on the chairan of the Section on Medicine, stating that he had a paper written by Francisque Crotte and desired the privilege of reading it before the Section or, if it would be perfectly satisfactory, to read it by title. The chairman of the Section replied that it was not on the program and that it really did not belong to his Section; that he could not accommodate the gentleman, and referred him to the chairman of the Section on State Medicine. Again the enterprising representative of Crotte received a rebuff and, after seeing the president of the ASSOCIATION, again applied to the chairman of the Section on General Medicine, and stated to him that he was anxious that it should either be read by title or published in the JOURNAL, so that it could have the endorsement of the AMERICAN MEDICAL ASSOCIATION. He was referred to the editor of the JOURNAL, to whom he applied, asking that his paper be published, and at the same time he intimated to the editor that he would gladly pay for having it appear in the JOURNAL. He was asked to submit it for consideration and then an answer would be given. The paper was submitted and an answer given, respectfully declining to publish the same. Nevertheless, this agent, through the associated press, had telegraphed all over the country that his method had been accepted and endorsed at the meeting of the AMERICAN MEDICAL ASSOCIATION, and as a result another "cure for consumption" is being heralded abroad, and letters are coming to the ASSOCIATION as endorsers of the method.

The scheme has been beautifully worked to reach the people, and in spite of the fact that the ASSOCIATION in three different ways absolutely refused to recognize or have anything to do with what they believed to be an advertising scheme and a humbug, it is made to appear that the ASSOCIATION endorses the cure.

The Crotte cure claims to be an electric (cataphoric) use of formic aldehyde, or, quoting from the paper submitted: "It is by combining the destructive power of static electricity with the power of its current to convey through the whole human body medicinal substances (formic aldehyde) that I have obtained results irrefutable and worthy of consideration."

It is the opinion of those who had the privilege of reading the paper and hearing the claims made by the agent of Crotte, that the whole thing is only one of the numerous advertising, money-making schemes. Considering the fact that it has been so widely advertised from one end of the country to the other, and that physicians will be asked in regard to it, we take the matter up thus early so that our readers may have some idea of "the latest wonderful cure for consumption." It will be impossible to counteract the lie these people have published by the press of the country, to the effect that the AMERICAN MEDICAL ASSOCIATION had endorsed the "cure"; at the same time it is well for the profession to know the facts in the case.

"CHRISTIAN SCIENCE."

BUFFALO, N. Y., May 29, 1899.

To the Editor;—Some time ago I read an article reviewing Mrs. Eddy's book on "Christian Science." Looking over many numbers of the JOURNAL, I fail to find it. I do find, however, two articles on the same subject —Nov. 19 and Dec. 10, 1898. If convenient, please inform me where I can find the article mentioned. One of these mystic "doctors" is being tried here for manslaughter, and the public are greatly interested in the case.

J. B. COAKLEY, M.D.

Answer:—Probably the writer refers to Dr. Edmund Andrews' article in the JOURNAL of March 18, 1899. We refer him also to Dr. C. A. L. Reed's "Christian Science. A Sociological Study," published by McClelland & Co., Cincinnati, last year; to "The Legal Aspects of Christian Science" in the *North American Review* for March, and to two articles in the May *Arena*, by Horatio W. Dresser and Josephine Curtis Woodbury, respectively. The last is an exposure by a former disciple. Dr. Reed's pamphlet gives, with a general exposure of the delusion, a statement of its legal status as shown in some court decisions quoted.

LOOK OUT FOR HER.

MUNCIE, IND., June 5, 1899.

To the Editor:—The note of Dr. Edward J. Brown (JOURNAL, June 3, p. 1269) gives a timely warning. Miss M. C. Brodie "touched me" for $5 about one month ago. She told a plaintive story of desertion by a man and his wife who owed her for services as a nurse. She was stranded in Muncie, on her way to Cleveland, where she had the promise of a lucrative patient, and would send me the money in two weeks. Of course, she did not do so. I feel sure she is a swindler. Her card reads: "M. C. Brodie, Graduate of Farrand Training School," Care Dr. Pomeroy, Prospect and Perry Sts., Cleveland, Ohio. She showed me good testimonials and her badge. She has a good face, her hair shows threads of gray, and she is calculated to deceive, as it were, the very elect.

G. W. H. KEMPER, M.D.

The Public Service.

Movements of Army Medical Officers under orders from the Adjutant-General's Office, to and including June 8, 1899.

Jas. A. Alexander, acting asst.-surgeon, from Camp Meade, Middletown, Pa., to Havana, Cuba, for assignment in the Div. of Cuba.

W. Edson Apple, acting asst.-surgeon, from Philadelphia, Pa. to Havana, Cuba, for assignment in the Div. of Cuba.

John W. Coffin, lieutenant and asst.-surgeon 10th Pa. vol. inf., honorably discharged to take effect June 6, 1899.

Daniel C. Cooney, acting asst.-surgeon, from Washington, D. C., to Havana, Cuba, for assignment in the Div. of Cuba.

Jos. J. Curry, acting asst.-surgeon, from the general hospital at Savannah, Ga., to Brooklyn, N. Y., for duty on the hospital ship "Missouri."

Augustus A. DeLoffre, major and surgeon U.S.A., retired June 8, 1899, on account of disability incident to service.

Peter R. Egan, captain and asst.-surgeon U.S.A., to report at Washington, D.C., for examination for promotion, returning thereafter to his proper station.

Nevil M. Garrett, acting asst.-surgeon, from Frankfort, Ky., to San Francisco, Cal., for duty in the Dept. of California.

Deane C. Howard, captain and asst.-surgeon U.S.A., to relieve Major Jas. P. Kimball, surgeon U.S.A., as member of an examining board convened at Governor's Island, N. Y., by S. O. No. 274 of 1898.

J. Stebbins King, acting asst.-surgeon, from duty at Pinar del Rio, Cuba, to Ft. Hamilton, N. Y.

W. L. Kneedler, major and brigade surgeon vols. (captain and asst.-surgeon U.S.A.), former orders amended so as to require him to return from Pinar del Rio, Cuba, to his proper station, West Point, N. Y., by July 1, 1899.

Donald Maclean, Jr., acting asst.-surgeon, from the general hospital at Savannah, Ga., to San Francisco, Cal., for duty in the Dept. of California.

Ogden Rafferty, captain and asst.-surgeon U.S.A., to report at Camp Meade, Middletown, Pa., to accompany the 9th U.S. Inf. to Manila, P. I.

John H. Stone, lieutenant and asst.-surgeon U.S,A., to proceed from Ft. Leavenworth, Kan., to New York City, reporting by telegraph to the adjutant-general, Washington, D.C.

Samuel M. Waterhouse, lieutenant and asst.-surgeon U.S.A., from the general hospital at Savannan, Ga. to Governor's Island, N. Y., for duty at Ft. Wood, N. Y.

William H. Arthur, major and surgeon, U. S. A., commanding the hospital-ship "Missouri," to proceed from Brooklyn, N. Y., to Washington, D. C., for consultation, returning thereafter to his proper station.

Charles L. Baker, acting asst.-surgeon, from Washington, D. C., to Martinsburg, W. Va., for annulment of contract.

Edmund Barry, acting asst.-surgeon, from the Josiah Simpson Hospital, Fort Monroe, Va., to Fort Wadsworth, N. Y., reporting by letter to the department commander.

Daniel C. Cooney, acting asst.-surgeon, from duty at Augusta, Ga., to Washington, D. C., for annulment of contract.

William B. Davis, major and surgeon, U. S. A., leave of absence granted.

Edwin F. Gardner, major and surgeon, U. S. A., from temporary duty at Fort Logan. Colo., to his proper station, Fort Grant, Ariz.

J. C. Garlington, acting asst.-surgeon, from duty at the general hospital, Fort McPherson, Ga., to San Francisco, Cal., for assignment in the Department of California.

Stephen M. Gonzales, acting asst.-surgeon, from duty at Pinar del Rio, Cuba, to Pensacola, Fla., for annulment of contract.

Charles R. Greenleaf, colonel and assistant surgeon-general U. S. A., from Washington, D. C., to Columbus Barracks, Ohio, to inspect that post, thence to San Francisco, Cal., reporting to the commanding general of the department for duty as sanitary inspector of the camps to be established for the muster out of volunteer troops returning from the Philippine Islands. On completion of these duties he will return to his proper station.

M. L. Hefflefinger, acting asst.-surgeon, from duty at Huntsville, Ala., to San Francisco, Cal., for assignment in the Department of California.

J. Milton Heller, acting asst.-surgeon, from temporary duty at Fort Meyer, Va., to San Francisco, Cal., for assignment in the department.

F. A. Hodson, acting asst.-surgeon, from the Josiah Simpson Hospital, Fort Monroe, Va., to Denver, Colo., for annulment of contract.

Robert P. Jensen, captain and asst.-surgeon, 1st Neb. Infantry, honorably discharged, June 1, 1899, on account of disability.

S. MacCandless Stuart, acting asst.-surgeon, from Washington, D. C., to San Francisco, Cal., for duty in the Department of California.

Charles F. Mason, captain and asst.-surgeon, U. S. A., relieved from further station at Fort Logan, Colo., and from duty in the Department of Porto Rico to San Francisco, Cal., for assignment in the Department of California.

Clarence R. Milhoff, lieutenant and asst.-surgeon, U. S. A., from the general hospital at Savannah, Ga., to duty at Camp Meade, Middletown, Pa.

Paul Shillock, captain and asst.-surgeon, U. S. A., from Fort Grant, Ariz., to Fort Apache, Ari., reporting by letter to the commanding officer, Department of Colorado.

Joseph B. Whiting, acting asst.-surgeon, from duty at Savannah, Ga., to Washington, D. C., reporting to the surgeon-general.

A Roster of Volunteer Army Medical Officers.

A list of general officers and officers of the general staff of the volunteer army has just been published by the adjutant-general's office. This list shows that notwithstanding the recent muster-out of so many of the volunteer troops there yet remain in the army thirty-five majors and surgeons of volunteers. Eleven of these are officers of the regular army holding higher rank under volunteer commissions and twenty-four are officers appointed from civil life. In order of rank the latter are as follow:

Herbert W. Cardwell of Oregon, chief surgeon, 1st Division, 8th Corps, Manilla, P. I.

James H. Hyssell of Ohio, on duty at Cienfuegos, Cuba.

Henry F. Hoyt of Minnesota, chief surgeon, 2d Division, 8th Corps, Manila, P. I.

Frank S. Bourns of Georgia, on duty in the office of the provost-marshal general, Manila, P. I.

Samuel O. L. Potter of California, brigade surgeon, 2d Brigade, 2d Division, 8th Corps.

Samuel T. Armstrong of New York, chief surgeon, Department of Puerto Principe, Cuba.

George H. Penrose of Utah, brigade surgeon, 2d Brigade, 1st Division, 8th Corps, Manila, P. I.

George F. Shiels of California, brigade surgeon, 1st Brigade, 1st Division, 8th Corps, Manila, P. I.

William F. de Niedcman of Kansas, commanding post hospital at Pinar del Rio, Cuba.

Lawrence C. Corr of Ohio, commanding the general hospital at Santiago, Cuba.

Ira C. Brown of New York, commanding the general hospital at Havana, Cuba.

Simon P. Kramer of Ohio, commanding Military Hospital, No 2, Havana, Cuba.

John G. Davis of Illinois, chief sanitary officer, Department of Havana, Cuba.

Wilfrid Turnbull of Cuba, on duty in the Department of Havana, Cuba.

Robert Burns of New Hampshire, with the 8th U. S. Cavalry at Puerto Principe, Cuba.

Lewis Balch of New York, on duty in the Department of Matanzas and Santa Clara, Cienfuegos, Cuba,

William B. Winn of Missouri, on duty in the Department of Matanzas and Santa Clara, Matanzas, Cuba.

Willard S. H. Matthews of Iowa, commanding the general hospital at San Francisco, Cal.

Rafael F. Echeverria of Florida, on duty at Military Hospital No. 1, Havana, Cuba.

Henry D. Thomason of Michigan, with the 10th U. S. Cavalry at Manzanillo, Cuba.

Damaso T. Laine of Cuba, assistant to the chief surgeon and attending surgeon at Headquarters of the Division of Cuba, Havana, Cuba.

Orlando Ducker of Kentucky, on duty in the Department of Havana, Havana, Cuba.

Frederick J. Combe of Texas, on duty in the Department of Santiago, Santiago, Cuba.

Franklin A. Meacham of Texas, on duty in the Division of Cuba, Havana, Cuba.

Movements of Navy Medical Officers.—Changes in the medical corps of the U.S. Navy for the two weeks ending June 9, 1899.

Asst.-Surgeon C. A. Crawford, detached from the "Peoria" when put out of commission, and ordered to the "Wabash."

Surgeon H. B. Fitts, detached from the naval hospital, Portsmouth, N. H., and ordered to the marine barracks, Sitka, Alaska.

P. A. Surgeon C. M. DeValin, ordered to the naval hospital, Portsmouth, N. H.

Surgeon C. J. Decker, promoted to surgeon from Dec. 12, 1898.

Surgeon G. G. Herndon, ordered to Cleveland, Ohio, temporarily, for recruiting duty at the branch hydrographic office.

Medical Inspector F. Rogers, promoted to medical inspector.

Marine-Hospital Changes.—Official List of Changes of Stations and Duties of Commissioned and Non-Commissioned Officers of the U.S. Marine-Hospital Service, for the twenty-one days ended June 8, 1899.

Surgeon Eugene Wasdin, to proceed to Washington, D.C., to render report as member of a commission detailed by the President for the scientific investigation of the cause of yellow fever.

P. A. Surgeon H. D. Geddings, to proceed to Washington, D.C., to render report as member of a commission detailed by the President for the scientific investigation of the cause of yellow fever.

Asst.-Surgeon G. M. Corput, to proceed to Macon, Ga., for special temporary duty.

Hospital Steward and Chemist Henry Gahn, to proceed to New York City for special temporary duty.

Hospital Steward Walter Newbern, to proceed to the Tortugas quarantine station and report to medical officer in temporary charge for duty and assignment to quarters.

Surgeon Preston H. Bailhache, detailed to represent the service at the meeting of the American Medical Association, Columbus, Ohio, June 6–9, 1899.

Surgeon C. E. Banks, to proceed to New York City for special temporary duty.

P. A. Surgeon C. P. Wertenbaker, to proceed to Savannah, Ga., for special temporary duty.

Asst.-Surgeon S. R. Tabb, to proceed to Wilmington, N. C., for special temporary duty.

Asst.-Surgeon J. F. Anderson, department letter of April 29, 1899, granting him thirty days' extension of sick leave from May 1, amended so that said extension shall be for fourteen days from May 1.

Asst.-Surgeon G. M. Corput, to report at Washington, D. C., for special temporary duty.

Hospital Steward and Chemist Henry Gahn, to proceed to New York City for special temporary duty.

Hospital Steward E. B. Scott, to proceed to Wilmington, N. C., for special temporary duty.

Surgeon R. D. Murray, leave of absence granted by bureau letter of May 11, 1899, temporarily suspended, and directed to proceed to New Orleans, La., for special temporary duty.

Surgeon H. R. Carter, to rejoin station at New Orleans, La.

Asst.-Surgeon H. S. Cumming, leave of absence for twenty-seven days granted by bureau letter of May 18, 1899, revoked from June 1, 1899.

Asst.-Surgeon R. H. von Ezdorf, to rejoin station at New Orleans, La.

Asst.-Surgeon L. D. Fricks, upon being relieved from temporary duty at Savannah, Ga., to report to commanding officer, South Atlantic quarantine station, for duty and assignment to quarters.

Acting Asst.-Surgeon S. B. Hunter, granted leave of absence for three days from June 7, 1899.

APPOINTMENT.

A. W. Slaughter of Wisconsin, to be acting asst.-surgeon U.S. marine-hospital service, for duty at Green Bay, Wis.

Dunlop Moorc of Pennsylvania and Halstea A. Stansfield of California, commissioned as asst.-surgeons May 31, 1899.

James C. Ballard of Mississippi, to be acting asst.-surgeon U.S. marine-hospital service, for duty at Natchez, Miss.

PROMOTIONS.

P. A. Surgeon W. P. McIntosh, commissioned as surgeon May 20, 1899.

Asst.-Surgeon R. Thomas, commissioned as passed asst.-surgeon May 16, 1899.

Asst.-Surgeon H. W. Wickes, commissioned as passed asst.-surgeon May 16, 1899.

Asst.-Surgeon H. S. Cumming, commissioned as passed asst.-surgeon May 16, 1899.

CHANGE OF ADDRESS.

Burkholder, C. E., from Chicago to Delphi, Ind.
Burns, C. S., from Harrison, Ark., to Braggs, I. T.
Ezell, J. J., from Dover to Weaver's Store, Tenn.
Frizelle, C. H., from Rockford. Ia., to 704 Belmont Ave., Chicago.
Galbraith, A., from Logan, Utah, to Pocatello, Idaho.
Griswold, R. W., from Detroit, to 818 Washington Ave., Bay City, Mich.
Goodson, J. A., from Nashville, Tenn., to Dixon, Ky.
Goggins, R. J., from Cecil to Pulcifer, Wis.
Headrick, C. M., from Tecumseh to 1234 K St., Lincoln, Neb.
Henely, E., from Chicago to Nora Springs, Iowa.
Hunte, A. F., from Chicago to Granada, Minn.
Jewell, P. M., from Ossian to Decorah, Iowa.
Klein, J. K., from 508 Jackson Boul. to 4808 N. Clark St., Chicago.
Moore, S. C., from Detroit to Moline, Mich.
Putnam, H. C., from Chicago to Canton, Ill.
Rhodes, J. E., from 1669 Monroe to 146 Central Park Ave , Chicago.
Ray, J. B., from Portsmouth to Scioto. Ohio.
Shepherd. H. A., from Richmond to Palmyra, Va.
Simpson, W. I., from Chicago to Knoxville. Ill.
Stewart, J. L., from Bremen. Ind., to Loomis. Neb.
Stone. I. G., from Mead, Neb., to Kingfisher. O. T.
Tomelty, T., from Chicago to 667 Washington St., Milwaukee, Wis.
Watson, S. H., from Chicago to Vinton, Iowa.

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Address.

PRESIDENT'S ADDRESS.*

BY A. R. MITCHELL, M.D.

LINCOLN, NEB.

Through all time men have suffered for opinion's sake. Those who failed to accept prevailing opinions were "has beens." Those who did not accept new dogmas for established facts were and are not progressive. Those who see in the works of the fathers demonstrated truths, are not up to date. Men with opinions not in harmony with the prevailing tendency are agitators and disturbers of that harmony which, fostered by a desire to be "in the swim," must be unruffled. In our profession—always lauded for its harmoniousness—there has arisen, within the last decade, a sentiment of oneness, of sweet charity, and a disinterested (let us hope) desire to embrace each other in the name of Esculapius. My distinguished predecessor, in his excellent address last spring, reading the signs of the times, painted in roseate colors the rising sun of the coming medical millennium. I hope he saw aright, for in a united profession alone can we develop that strength which will enable us to hold our place in the world as an organized force not to be overthrown. Before we complete this organization, let us first consider the character of the forces to be joined. It is a well-known fact that many of the most potent forces are generated by the union of elements in themselves and by themselves harmless; that in other cases elements in themselves active and powerful, joined with other powerful elements, become inert, the one destructive of the other. Since the complaint of Pluto to Jupiter, that Esculapius was causing a falling off in the registry of his kingdom, there has been more or less trouble in harmonizing medical thought. Until medical thought can be harmonized there can be only apparent, superficial society organization. As I read the history of medicine, I become more and more impressed with the idea that men and women now differ but little from those of earlier and later periods. Following the building of the first temple at Litamus to Esculapius quite a boom was started in the temple business to this popular deity. It spread into Asia, Africa and Italy. It is recorded that in the temple at Epidaurus the god was represented by the figure of an old man, seated on a throne, holding in one hand a scepter and resting the other on the head of an enormous serpent, while a dog as an emblem of vigilance reposed at his feet. Snakes and bow-wows are no new thing in medicine. To these temples the people gathered from all directions. They were people seeking the healing balm of the mysterious. The old family doctor was out of date. He had taken no post-graduate work. He had never written a book or been abroad; perhaps he had not resolved upon a certain number of laparotomies a year whether or no, so the people gathered at those ancient temples which find their modern prototype in our sanatoriums and all healing bath-houses. The record of results obtained is about as reliable as our present records—the recoveries are noted; those who went home improved were mentioned, while the record of those transported is incomplete. It is not my purpose to go into a history of our science and our art, further than to say that in the age of Pericles, when Hippocrates lived, was laid, so far as we know positively, the foundation on which all future development has been built. It was founded on recorded observations, the method of all accurate writers even to the present day, and only supplemented by the comparatively modern researches in pathology and biology. The theory of humors, like many modern and most of the ancient theories, was false and led to erroneous deductions. The clinic foundation was firm, and so remains. Through all the centuries, save that period in the Middle Ages from the fifth to the tenth centuries in Europe, schools of medicine have flourished and disappeared; through the period of dreams; through the mystic period to Hippocrates; through the Methodists, the Pneumatists, the Byzantines, the Arabians, the Romans—though this great people boasted that for 500 years they had no doctors of medicine—through the Humanists and the chemic medicine of Paracelsus, to the beginning of the seventeenth century, when Harvey's discovery in 1628 marked an epoch.

But even the great advances being made from the revival of learning did not check the ardor of the eccentric minds of those early times, and new schools sprung from false conceptions. Human nature does not change much and we may in sincerity ask if these old so-called medical geniuses were not playing on the credulity of their followers as in modern times. Throughout all time great minds have raised themselves above the level plain of ordinary humanity and, like mountain-peaks, have been the guiding points for the wanderer. Their intellectual summits were the first to see the light, and to reflect it to those who wished to see. Hippocrates, Galen, the great Aldine, DeMotte—who took the first step in hospital instruction in the sixteenth century in the still celebrated medical center of Padua—Harvey, Descartes, Sylvius, Sydenham, Locke, Boerhaave, Hoffman, Stahl, Haller, Morgagni, Cullen, Valsalva, Fothergill the elder, Jenner, Avebrugger, first writer on percussion, and Lænnec, the inventor of the method known as auscultation, and so on down, or up the line to the famous men of our own generation. In all the past, as even now, the truly great have had one aim in view—the perfecting of our art. Not one, so far as I can learn, of the great men of our science has essayed the establishment of a "school of medicine." With minds alert, all these great souls, men devoted to the science of medicine for the sake of its advancement and preservation, met as we meet to-day, opposition, and opposition from those theorists who, then as now, build huge superstructures on weak foundations, and rather than abandon them, support them through that charity which truth so lavishly supplies. These theorists, with their always numerous followers, have ever been stumbling-blocks in the path of progress. It takes time to satisfy the multitude of followers after new gods. They do not follow the suggestions of the Epworth Leaguers and look upward and inward. They tell us they are from Missouri. Long and tedious is the task of conversion, and no sooner finished than some other genius, who has never seen the ascaris, formulates a new doctrine, and like sheep again they go astray. I sometimes, indeed quite often, question whether man is the supreme reasoning being he is given credit for. Look at the Schlatter craze and ask yourself the question. Friends of yours and mine rushed to this medical Klondike and came home wearing a smile on their faces and a blessed handkerchief over their appendices. Had the profession entered protest, as it should have done, in the name of sanity, we would have been charged with jealousy of the more advanced Schlatter treatment of appendicitis—although I believe he never wrote a paper on it—and avarice because of loss of fees. I am not sure myself that there was not a reduction in the number of operations.

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*Delivered before the Nebraska State Medical Society, at Lincoln, Neb., May, 1899.

Is it true that educated men now, as in the long past, look upon our science as enveloped in mysticism? Do they still think we draw our inspiration from a star? Yet it seems so! And what has vitalized the sentiment in all classes of society that our science is abstract and that our art is more defective than other callings? What makes men think we are a house divided against itself? Has it been dissensions between the great minds of the past? Have the scholars and leaders in modern methods of research, which have taken us forward with giant strides, built schools upon theories, developed or undeveloped? No! They have observed the truth that theories have no plan in science save as a means of research. When facts were discovered they were added to the sum of facts preceding, and aided thus in the evolution of science, not revolution. It has been said that the theorists alone, who have founded new so-called schools of medicine, have had a healthful restraining influence on our profession—that they have acted as regulators to stay our too ardent force! I deny it. Every so-called school of medicine, every pathy, has been, and is to-day, the millstone about the necks of the profession, a stumbling-block in the path of progress. Rational men soon see error and correct it without the interposition of other and greater error. Truth alone makes us mindful of our mistakes and truth alone puts right, and yet there are many among us, ofttimes leaders who advocate compromise with error. They would say, and do say, to these followers of strange and false gods, and those who fasten the stigma of a "pathy" on our honorable calling, "We know you place us in false light—we know your dogmas are founded on error and we know you know it. You have grown to power through our foolish opposition. We know you don't practice as you preach, but you have been making progress toward that rationalism you have so opposed, and still resist. We will compromise with you on your own terms, and while you still persist in forcing a pathy down our throats and parade in public your school, we will extend to you, if you will take it, the left hand of fellowship." Was ever compromise with untruth fraught with good? Suppose we make this compromise with the greatest medical delusion of modern times, homeopathy, not as practiced, but as its followers proclaim it. What shall we do with other licensed so-called schools? Already in many States a so-called school, founded on a better basis than Hahnemann's, has been given equal privileges before the law with rational medicine. If we oppose it in the name of common sense and humanity, it will grow and become a power. Shall we extend to its advocates the privileges of fellowship and association? And that other medical delusion, "Christian science," so-called; why. in an issue of a paper wielding the influence of *Harper's Weekly*, during the struggle of our profession in Massachusetts to stop the craze, appeared an editorial scoring the medical profession—a scathing article. Massachusetts forgot the benefits conferred by medical science and placed this product of an ingenious theorist on an equality before the law.

But the "Christian Scientists" have the best of us. We can extend no hand of fellowship to them. They are of the infinite, and finite medical mortals can not touch them. "As a man soweth, so shall he reap." "He that soweth to the flesh shall of the flesh reap corruption." If, with the lights still shining, as truth must ever shine, from the intellectual heights which mark our progress from Hippocrates to Pasteur, we wish to turn aside, let us not forget that medical anarchy may follow. There is such a thing as too much freedom! I believe in the highest cultivation of individualism, but I do not forget that in that development mutual concessions are necessary to the preservation of organized communities. Already an exaggerated development of the *ego* in medicine has led to the twenty-foot sign reaching across the highway; already it has placed in the public prints cuts of buildings with subjoined claims of the great success attained by the treatment offered. If the advertiser is a member of the profession in good standing, he says, "successfully treated," or "by latest improved methods;" if outside the society circles, he says "cured by our new methods." Now, while there is nothing really improper in this, is it in your opinion, as a society, proper? If so, let us open the way, abandoning professional methods and go into business in a business-like manner. If we are to have unrestrained intercourse with disciples of Hahnemann and osteopathy, let us remove our cloaks of medical sanctity and "take 'em im." Then we will have a united profession and the only laws we will need when these business and social reforms are accomplished will be those requiring graduation and the standing of the college granting the degree. This course would make medical history faster than Spanish war has made political history.

The facts are, there is not, and never has been, an excuse for schools of medicine, any more than there is an excuse for schools of law. I believe the annoyance and vexation caused by the intelligent men in conversation addressing their remarks to "your school" has made many a poor surgeon of material shaped for the strictly medical field. Only a few days ago, a physician, a graduate in medicine, and then from a homeopathist institution, stopped me on the street to ask about an article emanating from "one of your schools."

I am slow to anger, but I forgot the article, although I had read it a day or two before, and walked on humiliated by the intended compliment. Why should men and women educated in these closing nineteenth century days adhere to dogmas? We all know, and yet in the face of all I am glad to note the passing of the old animosities and the growth of a new spirit. I shall be glad when there are no schools.

But is this much desired end to be reached by turning aside from the truth? It has become fashionable of late to have a supply of olive branches in stock, where the old "Code of Ethics" is mentioned, as a sort of a peace-offering, an excuse for the fact that you tacitly only accept it. I have taken the trouble to read this instrument recently and for the first time. Before reading it I did not endorse it and now I do. The chief trouble with it is that so few have read it. Its chief virtue is that it is true from article 1 to the closing explanatory declarations. It allows the greatest personal freedom. While men persist in the light of this century in adhering to and proclaiming a peculiar dogma, while they voluntarily disconnect themselves from the regular organization; while they stamp you with a "pathy" or a "school," they have no right to recognition and much less to the opposition on which they have flourished. The heart of man is kind and always hearkens to the cry of oppression. I will take an osteopath, if he is honest, and that we should presume; what of good can come from your consultation with him? If his practice and precepts agree, the only benefit will depend on the ability of the patient in a financial way, and for this fee, you who advocate freedom, you who call for unrestrained professional action have acknowledged that Mr. Doctor Osteopathy is one of us. In the strictly special work the case is not parallel, although I fear that some among them have the end of the yellow band of the rainbow in mind in certain promising cases.

"But what shall we do to be saved?" Shall we accept the tendency of the time and become socialists? I believe that medicine at present is tending in that direction. Is it desirable? The lodge doctor, the factory surgeon, who don't object to the medical business, and so much per head, per month, the by-the-year doctor, all tend in the direction of socialism. In the great medical centers, and especially in New York, except one owns or is connected with a hospital, he is very likely to be a devotee of modern sanitary laws, perhaps for convenience sake, and eat but twice a day, and water we know is fattening; with a private or semi-public hospital or sanitarium, or a bath-house, the profession overlooks the little 6x10-inch card.

Have we no force within with which to combat this tendency, or is it desirable? If we have tumbled Esculapius from his god-like throne, are we moderns to be purely commercial? If so let us do it by modern methods and not give the advantage to a few. Let us first say to the people, we are all doctors and we offer inducement as follows: First, cash or good negotiable paper. Advertising pays, but it costs money too. We offer you P. D. Q.'s pills, or the latest cut in appendicitis at the lowest cash price; further, we have given this community our counsel and our service in time of need. We have tried to stay the destroying hand of pestilence. We have ministered to the poor and sick with no thought of reward, but times have changed. Your laws have made us all equal, no matter whence we came. We will take you at your word. We are all one now and have formed the trust the governor of Colorado so feared when he vetoed the recent medical practice act. You must pay us now before we call to see your sick poor; you must provide a reasonable fee before any of us will advise you as to the care of contagious disease. Your cities may overflow with disease and death, we will lend no aid until we see the cash!

Are these to be our methods in the future? I think not. You ask what these things have to do with a medical law of conduct and I will answer you that absolute lawlessness in medicine, entirely unrestrained conduct, simply for self-preservation, would lead to medical nihilism. My friends, save for those individual qualities—vouchsafed to us by the divine author of our being—which may give to a few only some advantage over the many of us, we do not differ much. Those of us who have been long in work know our limitations, and the limitations of others to a reasonable certainty. Shall we countenance, for commercial reasons, deceptions?

The builders of this Republic adopted in 1788 a constitution—the key-stone of the arch, the corner-stone of the greatest nation on earth. Wars have flamed around it, dissenters have railed against it, yet it stands to-day as a safeguard to you and to me. The "Code of Ethics" is not so old, yet the battles which have raged about it have been warm ones, but it stands and should stand until time can offer something better, as the guide of our professional conduct, not because most of us need it, but because some of us do. I do not want nor do I expect to see a cold-blooded trust formed, but for the present and the future welfare of the profession, I would like to see an organization which would draw to its councils every reputable medical man and woman in this State. While the laws of the national society are, and should be, the laws which govern us, I would advocate the sending of delegates each year to work for such a revision of those laws as would admit any reputable medical man and woman to membership, but on one, yes, two, positive conditions: 1, securing a medical degree (regular for distinction) or passing an examination before the faculty of a (regular) college or a board from this society; 2, and this is more important than the other, the candidate for fellowship or sistership should declare on penalty of slow torture to the death, never to use the word "pathy" or "school" except in denunciation. I have several letters from honest but deluded men who would sacrifice much to be with us. They should be encouraged, and neither the code nor conscience will punish you for aiding such. They have followed the medical ignis fatuus. Help them to see the real light. I would also advocate the strengthening of our State organization by discouraging the formation of special or numerous interstate societies. They have a tendency to weaken the individual obligation to the State body. Some of our local societies meet too often. The things some of us say are not fresh next time, but if we wait a year and come to the State meeting, we can give and receive inspiration. By a strong organization we can soon remove the "pathy" stumbling-blocks from our path. Medicine to-day —and when I say medicine I do not include directly or indirectly any dogma or school—based on the clinic foundation of Hippocrates and the latest laboratory methods, formulating its conclusions on the study of the phenomena of life, disease, and death, on a physical basis, is in advance of all other sciences save mathematics or those sciences directly allied. Theology although progressive, must always be more or less speculative, but modern theology has softened its judgment of honest doubt and replaced the law of divine displeasure with the everpresent loving spirit of Him who died for his convictions on the cruel cross. The science of navigation, because mathematics enters its calculations so largely, is very exact, but disaster after disaster tells the tale of man's fallibility. Political economy should not, perhaps, be judged by the course of those who administer or make the laws. Either our statesmen do not read political economy or they are individual economists. The wide separation of views of men regarding taxation, tariff, money, banks, interstate commerce, foreign relations, etc., make up enough exceptions to suggest doubt as to the existence of such a science.

And the law! We all remove our hats in the presence of the law. The law is supposed to be the perfection of human reason. This perfection of human reason is based on a thing which is always more or less defective, that is, on evidence. It is written opinions (decisions) of men who shape their opinions on the knowledge or assumed knowledge of other men, and there is always one great aid to correct decision in law and the whole science narrows down to it, that is, the question of right and wrong. Our friends of the law point to it with admiration. as something exact and tangible, but in the ordinary course of court cases it requires a vast deal of hard work to find the everpresent exactness of human reason, and if we narrow it down to the decisions of the higher courts, it is no rare case to find a reversal even here. Its boast of being an exact science is not tangible. It had its birth in imperfect man. It will get better as the medical profession improves the material of which the courts and advocates are made, and as the clergy trains this improved material into better form; outside mathematics or the strictly improved mechanic sciences, not one to-day surpasses or equals medicine. In the preservation and prolongation of life, it is adding more largely than any other factor to the wealth of the world. Its demands for sanitary improvements have added health and comfort at home and abroad. Its mechanic ingenuity, coupled with scientific training, have made the lame to walk, the blind to see, and sufferers of all kinds to turn with hope toward the modern physician. The patient toilers in our laboratories, handling deadly germs, have patiently worked out and fully demonstrated the cause of many diseases, and as faithfully, through years of labor, given to the world the remedies, one alone of which has saved to many a home and fireside the dearest of all human blessings—the little children—from the ravages of diphtheria.

Similar progress has been made throughout the whole field. Let us join ourselves more firmly and take no backward step. Let us realize that, if not in our generation, in the next the results of too much liberty may be as destructive to progress as too little.

Let us mould the splendid medical material of this State into a magnificent body, united for personal benefit and for the still greater public good. Sacrifice some of self for the universal welfare. Let us encourage those who would abandon creeds and dogmas to join with us in the march of progress, but stay the hand which would lead us away from truth and honor for commercial reasons.

Original Articles.

SUPPOSED INCREASE OF CANCER.

A STATISTIC ERROR.

BY EDMUND ANDREWS, M.D., LL.D.
Professor of Clinic Surgery in the Medical School of the Northwestern University, and Senior Surgeon of Mercy Hospital.
CHICAGO.

Much has been written of late on a supposed rapid increase of cancer. This disease is said to be growing at an incredible rate. Writers have predicted that in ten years its deaths will exceed those of "consumption, smallpox and typhoid fever all combined." Smallpox is included in this preposterous prophecy, apparently to exert a horrifying effect on the public imagination. The deaths from smallpox are so few that they add almost nothing to the mortality list of consumption and typhoid fever, which in the prophetic vision is to be overtopped so soon by that of cancer. However, the supposed terrific increase of cancer is supported by quite an array of statistics, which we will proceed to investigate.

Now, the correct handling of vital and mortuary statistics is a very difficult art, and slight mismanagement leads to very delusive results. Reputable authors on both sides of the ocean are making mathematic mistakes. I make this statement with regret and some shame, for I have myself committed more errors in that line than I like to remember, and I sympathize with others who stumble into similar statistic pitfalls.

The sources of error are of two kinds: 1. The official documents are, by the confession of their compilers, full of great errors, which the census directors have been unable to prevent, or weed out. 2. Unskilful handling of the statistics, as above stated, has led to mathematic errors, and consequently to false conclusions.

Let us look at some of the difficulties confronting the investigator who seeks for truth in the official documents. He knows that the United States Government takes a decennial census of population, of the deaths and of the causes of the deaths during the decennial year. This enumeration is made in every State and Territory in the country. Then each State usually has a similar census five years after the national one, and these are supplemented by various city enumerations for sanitary, school and other municipal purposes. There are careful laws to govern all this enormous census work, designed to secure accuracy in the enumerations. It is natural, therefore, that the student of sanitary science should turn to the official documents with a cheerful confidence that here is a vast mass of statistic material adapted to clear up almost every question about the increase of cancer or of any other disease. The investigator's childlike confidence in the government is rudely shaken.

Even in staid and correct Great Britain, the city populations are "estimated" between the decennial enumerations on the assumption that the rate of increase existing ten years before still continues. This leads, as a general rule, to overestimates; hence, as Willoughby remarks, "each successive census leads to rude disillusions." "In 1891 the population of London was found to be, as Dr. Longstaff had predicted a quarter of a million less than the registrar-general estimate." In estimating the ratio of cancer to population, the reduction of the overestimate of population leaves the cancer ratio relatively larger and gives a delusive appearance of an actual increase of that disease.

The American census work is more difficult than that of Great Britain, and probably more subject to errors. It suffices for the adjustment of congressional districts, and in regard to mere population is better than the work of the State and city governments, but the United States mortality statistics of country districts, made by inquiry from house to house, about deaths and their causes, are wretchedly imperfect, and not only the death counts but the population enumerations have sometimes been so bad that the returns of large districts have been rejected and the enumeration ordered to be repeated.

The distinguished compiler of the vital statistics of the United States census of 1880 virtually confesses that the work of recording the deaths was a practical failure. He says that from various evidences he judges that "the enumerators' returns for the whole country were at that time deficient about 30 per cent. in the number of deaths." Yet these self condemned records are appealed to with the utmost confidence to prove the supposed increase of cancer. The compilers of the census reports evidently regard their own records as so incurably bad that they abandon them, wherever reports of city health departments can be had in their place, and print the statistics of the latter instead of their own. But even this is found to be an imperfect help, for in a considerable portion of these cities, though excellent laws exist, requiring that physicians shall carefully and fully report to their health officer every case of death, with age, sex, cause, etc., the laws are not enforced. Hence, the physicians often fail to report, and when they do send certificates, the officials often fail to embody them in the register. No reliable statistics of the ratio of cancer to the population can be calculated from such confused and falsified registries.

Again, consider the following absurd figures. The best-registered countries of Europe rarely show a death-rate of less than 18 per 1000 inhabitants, but the United States census reports give us the following rates: census of 1860, 12.5 deaths per 1000 population; 1870, 12.8 per 1000; 1880, 15.1 per 1000; 1890, 13.9 per 1000. Now, there is probably no nation on earth with such an incredibly low mortality, and the United States census compilers being aware of it and believing, as above quoted, that "the enumerators' returns for the whole country were deficient about 30 per cent. in the number of deaths," have added about that amount to the United States figures, thus bringing our guesswork mortality up to the more probable figure of 18 deaths per 1000 and inserted it in the following table:

Table giving the probable death-rate of the United States for the years 1880-1890, and that of Europe in the years 1882-1892, quoted from the Reports of the Registrar-General of Great Britain for 1882 and 1892.

DEATH-RATE PER 1000 POPULATION.

	1890.	1880.		1892.	1882.
United States	18.0	18.0	Austria	29.4	29.8
	1892.	1882.	Hungary	32.4	37.3
United Kingdom	19.4	20.4	Switzerland	20.9	21.9
England and Wales	19.5	20.5	German Empire	24.4	26.0
Scotland	19.7	20.5	Prussia	24.0	25.5
Ireland	18.2	19.8	Netherlands	20.5	23.5
Denmark	19.0	20.4	Belgium	20.6	22.3
Norway	17.8	15.9	France	22.5	22.8
Sweden	17.1	18.1	Italy	26.4	30.8

The surprising difference of mortality in these different countries suggests that some of them, like the United States, have enumerators who can neither count the living population nor ascertain the deaths without a wide penumbra of errors.

The inefficiency of the census work in the United States is not the fault of the chief officers in charge, but of the individual enumerators under them, whose errors can not be prevented under the present laws.

One source of a seeming but delusive increase of cancer ought to be mentioned. Twenty or thirty years ago the diagnosis of cancer was very imperfect. Great numbers of patients with internal cancers, in the lungs, stomach, liver, pancreas, intestines, etc., were reported as cases of gastritis, hepatitis, chronic bronchitis, etc., and did not appear in the cancer column. Now these errors are far less frequent, and the internal cases are restored to the cancer side of the ratio, tending to give a delusive impression of an increase of that disease.

It is not yet possible to separate the records of carcinoma from those of sarcoma, so that I have been obliged to use cancer as a generic name including both. The carcinomas constitute the great majority in adults, but in small children nearly all the recorded "cancers" are sarcomas.

Several gentlemen of excellent standing have thought and said that the region of which Buffalo, N. Y., is the center is peculiarly scourged with cancer, and allude to the United States pathologic charts or maps as supporting that conclusion. I speak with reserve about this, because the United States pathologic maps are derived from the erroneous United States census, and partake of its errors. In the mortality volume of the census of 1890, there are two colored cancer maps, numbered 21 and 22. Both represent the vicinity of Buffalo to be only very moderately affected with cancer, with the exception of the neighboring county of Chautauqua.

In the large cities frequent enumerations of the population are made by the city authorities for school and other municipal purposes, but these school censuses are even worse than those of the United States, and are very generally worthless as factors to determine the ratio between the living population and the deaths. They generally exaggerate the population, much as the "estimates" of the registrar-general do in England, where his figures were found to overstate the population of London by a quarter of a million.

In Chicago, at the school census taken in 1896, the returns showed a population of about 1,480,000. It is alleged, on apparently good authority, that these figures were subsequently raised by the addition of nearly 140,000, erroneously bringing the population rating up to 1,619,266.

It is also asserted, on credible authority, that at a later census some 240,000 of the residents of surrounding towns and suburban districts, who were daily doing business in Chicago, were enumerated in the city population, on the plea that they were for business purposes residents here Yet their domiciles were outside of the city, and the deaths among them were not, and could not be added to the registry of the health department. Thus the ratios between population and deaths from cancer and all other diseases were totally falsified. Furthermore, employes and others doing business in one ward but living in another were often counted in both places. One immense building is said to have been returned as having about 3000 occupants, when the great majority of them lived either outside of the ward, or outside of the city.

Similar errors have occurred in the municipal reports of the population of many other American and some European cities, so that all careful statisticians despair of deriving any help from such figures. From these and many other facts the statisticians of the department of health of this city, who are very able men, have lost all confidence in both municipal and national enumerations of inhabitants, and have abandoned the use of them in trying to calculate the ratios between deaths and the living population.

In spite of those discouraging conditions there are some facts which are collected and recorded with precision. As I have previously stated, there are many American cities with well-organized health departments, and good laws for securing a local registry of all the deaths and their causes. It is true that in some of these towns the law is not enforced, but Chicago and several other cities sternly enforce the regulations. In this city no body can be buried, cremated, nor removed from the city without a permit from the department of health, and no permit is ever issued without a physician's or coroner's certificate of the date of death, the disease or injury causing it, the name, age, and residence of the deceased, etc. These particulars are all fully registered in a series of volumes, and the regulations are enforced with almost absolute precision. In consequence of this, the department of health has a full record, almost without exception, of every death which has occurred in Chicago during the last thirty years.

When the investigator of the alleged increase of cancer realizes the fact that the United States enumerations, both of cancer and of population, are too erroneous to give a basis for the necessary comparisons, and that the city censuses are still worse, so far as living population is concerned, he finds only one solid factor remaining, and that is the death registry of such cities as have their work efficiently organized and executed. This suggests to him the plan of comparing at successive periods in such cities the number of deaths from cancer with the total number of deaths from all causes. This plan has been received with great favor, and is extensively employed. If the ratio of cancer deaths to deaths from all causes increases, then he supposes cancer itself increases. Suppose, for instance, he should find registered facts as follows: In 1860, 1 death from cancer to 100 deaths from all causes; in 1890, 2 deaths from cancer to 100 deaths from all causes. If the investigator is careless he will fall into a self-deception here. He naturally supposes that 2 deaths from cancer to 100 is twice as much as 1 to 100 and consequently that cancer in Chicago, or elsewhere, has doubled in the thirty years mentioned.

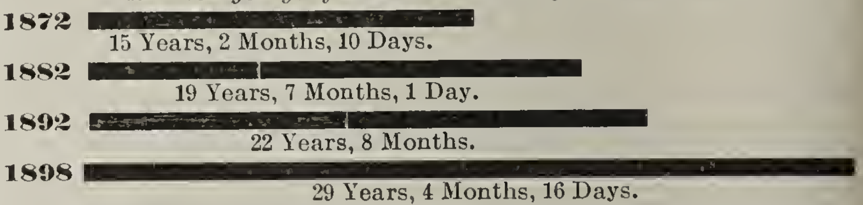
Not necessarily according to mathematics. These are ratios and not absolute figures. The same ratios can be truthfully stated in various ways. For instance, 2 to 100 is the same ratio as 1 to 50. The above pair of ratios can just as truthfully be written: In 1860, 1 death from cancer to 100 deaths from all causes; in 1890, 1 death from cancer to 50 deaths from all causes. This does not change the values of the ratios, but it shows that instead of cancer being increased the deaths from all causes may have diminished. This way of handling the statistics does not prove which inference is true. It is a simple matter, but it is mortifying to find able men snared and tripped up by a trifling problem in arithmetic.

The real object is to find out which factor has increased or which diminished. Let us study this point and try to discover whether the general mortality, i. e., the deaths from all causes, has undergone any diminution.

The statisticians of the Chicago Department of Health are very thorough men and have devised the following plan to get rid of the erroneous statements of population, and to express in another way the diminution of deaths from all causes. I have not seen this method used elsewhere. As they have almost faultless records of the deaths of all patients, and the exact age of each one for about thirty years, they have calculated the average age of the decedents from all causes for certain years during three decades, and have shown that in thirty years the average age at death has about doubled—in other words, the average length of life in Chicago has doubled. The following extract from the April *Bulletin* explains itself:

INCREASING DURATION OF LIFE IN CHICAGO.

1.—*Average Age of Decedents in Chicago in the Years—*



> Measured by the average age at death of all who died in the city of Chicago thirty years ago and of those who died last year, the average duration of life in this city has more than doubled during a single generation.
>
> That is to say: In 1869 there were 6488 deaths recorded, with the age of each decedent given. The aggregate of the ages footed up 90,336 years, or an average of 13.9 years for every individual decedent, old and young. Last year there were 22,897 deaths similarly recorded, with an aggregate of 672,540 years of life, with an average age for each decedent of 29.4 years. This is an increase of 111.5 per cent.

Returning to our query whether it is the general mortality of Chicago which has diminished or that of cancer which has increased, it will be noticed that the diminished mortality shown by the department of health in the doubled length of life is not very far from equal to the alleged increase of cancer, and to that extent tends to show that cancer has not itself materially increased.

The same idea is strengthened somewhat by the fact that we know very little of any causes that could have increased the malignant tumors. On the other hand, during the period referred to, sanitary science has made tremendous strides in the prevention and treatment of septic diseases, tuberculosis, typhoid fever, diphtheria, enteric diseases, scarlatina, malaria, etc. Moreover, in Chicago we are not overwhelmed now as we were thirty years ago with such enormous floods of horribly unsanitary immigrants, who occupied thousands of filthy, extemporized shanties, often with earthen floors, which were sometimes invaded by puddles of filthy water and partly occupied by pig styes under the same roof with the inhabitants. Since then the streets have been cleaned, drainage has been immensely improved, the marshy ground has been largely graded up and covered with pavements and buildings, and malaria thus reduced. In short, many millions of dollars have been spent on sanitation, vaccination and every possible way of combating and preventing disease. Every physician who lived here thirty years ago knows that thousands of lives are now saved, such as then were lost.

It is said that success in Europe in reducing the mortality of ordinary diseases has been even greater than in America, and that the thoroughness of the German census renders the use of the population factor less delusive than in America. In German cities of over fifteen thousand inhabitants, it is alleged that during the period from 1877 to 1889 typhoid fever deaths fell off from 29 to 10 per 100,000 population. Gottstein says that in the same cities and the same period, deaths from diphtheria diminished from 100 to 44 per 100,000. Verekoundow says that in St. Petersburg the mortality of typhoid fever per 10,000 population was 7 in the period from 1886 to 1889, and fell to 4 per 10,000 population in the period from 1890 to 1894. He does not state whether there was any imperfection in the census work.

In Vienna it is well known that the change from the use of the Danube River water to high mountain water almost abolished typhoid fever in that city. Sanitary measures and therapeutic improvements have certainly made a great diminution in general mortality, therefore it seems reasonable to believe that the change in the statistic ratios is mainly due to the diminution of the mortality from diseases known to be curable and preventable rather than to any real advance in cancer.

It is evident that I have not cleared up all the difficulties of this perplexing investigation, but all must agree that a changed ratio between deaths from cancer and deaths from all causes does not mathematically show which factor is changed, or in other words, whether cancer is increasing or deaths from all causes diminishing. The latter is the more probable in Chicago.

The final mathematic solving of these problems unfortunately can not be accomplished by conning over any of the ponderous and blundering masses of statistics now existing. The investigation must begin at the bottom, by a new gathering of facts, better verified, better sifted and better handled than those hitherto furnished to the world.

3912 Lake Ave.

VARYING TYPE OF GENERAL PARESIS.*

BY C. H. HUGHES, M.D.
ST. LOUIS, MO.

After a study of general paralysis of the insane for thirty years, Mendel[1] believes the type of this disease presenting in the newer and larger clinic picture of paresis, contrasted with its distinguishing features as described by the early writers, is markedly changing, and in this conviction of the distinguished neurologist of Berlin my own clinic experience concurs, as I have been enabled to also verify the myositis of Gowers as an independent condition and as a concomitant polyneuritis. Mendel thinks that this is also true of numerous other diseases, among them especially diphtheria. The present type of diphtheria, as we have probably all observed, is a departure from that of Bretonnieu, so classically differentiated from ordinary membranous croup and called "diphtherite" in the early part of the present century. The earlier descriptions of general paralysis of the insane, made by Bayle, 1822, 1825, 1826, and Calmiel, 1826, preceded by the nebulous recognition of the disease by Willis in 1672 and Haslam in 1798 to 1809, were accounts of chronic cases as observed by alienists in hospitals for the insane.

Mendel notes the following changes: 1. A marked increase in the proportion of dementia cases. 2. Remissions are more often to be seen than were formerly observed, patients recovering temporarily to the extent of resuming business. 3. Apparent arrest of symptoms. "Nowadays," he says, "we make our diagnosis by the pupilary immobility, altered knee signs, analgesia of legs, changes of disposition, speech and writing; we confidently expect a disease to go rapidly to its termination, when behold, in not a few cases the symptoms become stationary and the word 'progressive,' which is presumed to be characteristic of the disease, appears to be misplaced." 4. He notes the appearance of the disease in the female sex in the proportion of about four females to one male, and notes the fact that forty years ago writers declared that this disease was peculiar to males. He also notes the appearance of the disease in the young of late years and reminds us that not long ago it was regarded as a disease of mature years; now he sees the youth of both sexes affected to an equal degree, and regards some of these cases as probably due to hereditary syphilis. Mendel also thinks that the type of syphilis is changed, and believes, with many other neurologists, that this disease is a causative factor in the majority of cases. "It is behind at least three-fourths of all cases," he says. He ignores neuropathic degeneracy as an essential causative factor, and we think quite justly, but blames modern civilization with its high-pressure struggle, ambitions, honors, and chagrins, and the new woman and her new ambitions, as causative influences in the development of progressive general paresis or paralysis of the insane.

This change in the features of general paresis is undoubted. Dr. William Julius Mickle[2] foreshadowed it in his discussion of the varieties of this disease in his clinic contribution to this subject. How are we to account for it? It also has some other features, notably the recognition of the fact by the patient that something is wrong with him, requiring medical remedy, as has been recognized in several of my patients. Melancholia too, as Mickle has so conclusively shown, is seen to alternate with, precede or follow delirium of grandeur more often than formerly observed, and the feeling of *bonhomie* has given place to, occasionally, in my observation, a sort of confident expectation that things would come out right, while recognizing that something was wrong with the head, and to transitory hypochondria. A confession of bad memory and distress in the head presented in my most recent cases—a gentleman of large business affairs, who for the past several years has been conducting his own treatment by going to various sanatoria and traveling about for rest and recreation without consulting medical advisers. He regarded himself as too nearly all right to require medical treatment, and it was only through his brother that I was called to see him. He suffered from insomnia, a discomfort in his limbs which he called "rheumatism insomnia," though he himself was disposed to take no note of it, and a restless, ill-at-ease feeling and a disposition to travel on imaginary imperative business.

Having a hypodermic solution of half a grain of morphia ready in my syringe, I inserted it under his skin simultaneously with the suggestion that he needed it for relief, securing prompt control of him and a more acquiescent disposition on his part to later accept further treatment. This advantage was steadily maintained by repeated subcutaneous medical ministrations of morphia with sodic bromid solution internally, strychnia, hyoscin, digitalin, etc., until a remission of clear level-headedness was secured in the patient, the remission, lasting several days at a time and inspiring hope in the minds of the wife and friends, but not in me, of possible recovery. The sodium salt was administered with pepsin and pancreatic essence and hypophosphites. The patient became tranquil, self-satisfied and satisfied with his environments, and with those about him and with what they were doing for him, his disposition under the dominance of the disease being ordinarily imperious and domineering, with a somewhat well-founded egotistic and extremely confident opinion of his business abilities and financial possessions, but with no grandiose or limitless delusions of his wealth. He had been a financial success in life and he knew it. His confidence in his business ability, however, when apparently well might be described as almost unlimited. His ability and success in managing men was extraordinary. But he wavered some in his illness and regretted that he could not do all he wanted on account of his recurring spells of vertigo. He had also occasional grandal seizures, when his environments were too contracted and the world was too small for him.

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*Presented to the Section on Neurology and Medical Jurisprudence at the Fiftieth Annual Meeting of the American Medical Association, held at Columbus, Ohio, June 6-9, 1899.

[1] Neurolog. Centralbl., Nov. 15, 1898.

[2] Mickle: General Paralysis, 2d edition, chapter 20, London, 1886.

He received scarcely two weeks' treatment before his death and could go about and sit up until within a few days thereof. But his mind rapidly failed. Cardiac and vasomotor paresis increased toward the close and he passed, within five days, from a state of mental consciousness with a brief preceding period of exaltation to one of hebetude with flickering pulse and tachycardia. He then became comatose, and finally coma and death came to him.

This man, after sojourning at a watering-place for several years before his death, dissolved his business relations and re-engaged in a similar business with new business associates, and with a good degree of financial success. The enterprise still continues after his death in a highly prosperous condition, so well had he founded it even in his diseased mental condition. There were frequent remissions in his mental condition, which resulted in his automatic propensity to go away to watering-places, where, leading a quiet self-satisfied and restful life, he would temporarily recuperate by the temporary restoring of cerebral energy, and the recovery of a certain degree of mental balance. His condition was at times that of masked or latent rather than actual progressive paresis such as we are most accustomed to see displayed. In this case the pupils were immobile, the knee-jerks *nil*, sensibility of legs impaired, disposition, naturally complaisant and amiable, was changed to one of indomitable absolutely unyielding insistence, which neither his wife nor his most beloved friends could change. He never departed from a once formed purpose.

The gates of perdition could not prevail against him in these imperious moods. The only way in which I could induce him to take the first hypodermic was by having him stop to see me in his carriage en route to the train—which he insisted he must take at a certain hour—and giving it at once without asking permission. I had previously arranged with those in charge of him to stop and see me on the way to the station for this purpose. He was then diverted from his purpose under half a grain of morphia.

A patient of mine so impressed me with the apparent curability of paresis in its earlier stages that I reported it in the literature some years ago.[3] But that patient, after effectual treatment with bromid of sodium, etc., which the patient imagined was for the cure of hemorrhoids, relapsed after about six weeks of resumption of business, into his old condition of active paresis, and died.

I have seen the disease of late years in men between 30 and 40 more frequently than formerly and more often in women.

How are we to account for the change in the type and the earlier accession of the disease? By the precocity, I think, and the more general diffusion among the people of all ages and conditions of business schemes, ambitions, excesses in gaity and folly and opportunities to tax and overstrain their faculties by the increasing diffusion of knowledge of the ways of business; by the spread of intemperance and immoral and brain-exhausting life in ways too many to mention; by the constant rush and restlessness of living, new conditions and more rapid, incessant methods of business, by pleasure's dissipations. The pace that kills is the pace that precipitates paresis in the best mentally endowed, if they are so unfortunate, as consciously or unconsciously, to contract specific disease, while in the more gravely neuropathic, other forms of brain and nerve trouble are precipitated, mania, melancholia, neurasthenia, cerebrathenia, neuralgia, etc.

The telephone, the graphophone, the phonograph, the long-distance 'phone, the megaphone and wireless telegraphy as well as the ocean cable and the rapid modes of travel, are determining factors. For with these annoyances to man the night cometh as of yore, but many a man sleeps not in consequence thereof. The vigilance of one's business, by these means, passes often into that morbid vigilance that robs the psychic gray cortex neurons of the rest they need for daily recuperation, and paresis is precipitated in the organically predestined.

The age in which we live has made fatal advances. Bayle first correctly described paresis, in the opportunities it gives for the younger men and women to get into the swim and push and rush and whirl of life, and opportunities for becoming participants in the excitement and strain of life and procession of death extending more and more among women. These widened opportunities account for the earlier breakdown of men and the more frequent falling of women under general paralysis.

The earlier observations and descriptions too, as said in the beginning, were made within the walls of insane asylums. Since then the type of the observer has changed and the range of observation has extended. We now see other phases from a wider field of observation and a broader knowledge in viewing it. But the types as now observed are more variant, partly because it begins earlier, probably before cerebral vascular and cell degenerating changes have advanced so far as formerly, when they came under expert clinic observation, and partly because treatment is begun earlier and is more intelligently conducted than heretofore. We repress its symptomatology better.

The increased traveling and recreation habits of our

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[3] Alienist and Neurologist.

American people, as well as the advanced alertness of the profession in its search for impending paresis, has contributed to modify typic expressions of the disease through a better understood treatment.

In my own clinic experience with paresis an active bromid of sodium and nerve tonic reconstruction treatment, with suitable and timely recreation, rest, well-secured nutrition, abstention from alcoholics, and long-enforced regular sleeps have secured arrests for longer or shorter intervals in the progress of this disease, sufficient, often, to inspire false hopes of cure in non-medical friends and sometimes to result in wrong medical advice as to the discontinuance of treatment, one of my cases having improved so much as to be wrongly advised that only travel was necessary to establish recovery, but the result of which was a speedy fatality.

There are also atypic features of posterior spinal sclerosis, as shown in the following:

A married man, 30 years of age, the father of two healthy children, always temperate as to alcoholic indulgence, and a dry goods merchant and clerk since the age of 13, fourteen years ago had typhoid and eight years ago la grippe. He gives no history of syphilis or of severe exposure to bad weather, as he understands it, and has no skin eruption. His stomach is atonic and he suffers with dyspepsia with slight eructations. He has the Argyll-Robertson pupil, shows the Romberg sign when attempting to stand with feet together and eyes shut and has uncertain feeling under his feet, with ataxia gait when walking. There are no cincture sensations nor fulgurant pains, no evidence of multiple neuritis, no history of rheumatism, plumbism or neurotoxicity from any other cause, yet I think a diagnosis of locomotor ataxia is the only solution of the symptom grouping, notwithstanding the lightning-like pains are absent, though they are severe in the true locomotor ataxia.

This cursory view will renew our interest, it is hoped, in the medicolegal stage of paresis of Legrand du Saul, and help us for other varying features of this interesting disease beyond its prodromal stages.

HEMORRHAGE INTO PONS VAROLII.*

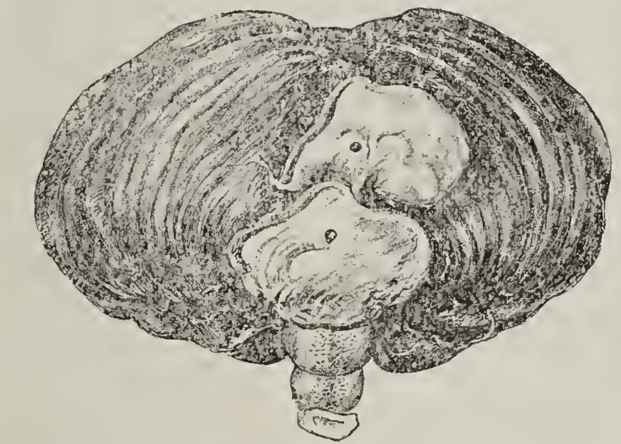
BY AUGUSTUS A. ESHNER, M.D.
PROFESSOR OF CLINIC MEDICINE IN THE PHILADELPHIA POLYCLINIC; PHYSICIAN TO THE PHILADELPHIA HOSPITAL, ETC.
PHILADELPHIA.

Focal lesions of the pons are not so rare as to make the report of a single case of especial interest; and when of small size, up to a cherry-stone, it is not uncommon for them to be unattended with distinctive, if any, symptoms. This is particularly true of slowly growing tumors; but even large lesions may escape diagnosis if they give rise only to general symptoms, such as ordinary hemiplegia.

The most common morbid conditions in the region of the pons are hemorrhage, softening, abscess and tumor. When any of these is circumscribed, it may occasion localizing symptoms that are so distinctive as to render the diagnosis almost certain, but often the lesions extend to neighboring structures, and the symptoms are complex and varied.

On the dorsal aspect of the pons are situated the nuclei of origin of the trochlear, the trigeminus, the facial and the abducens, while near by are those of the oculomotor and hypoglossus. The pons is traversed by tracts of fibers from the cerebral cortex, some of which cross to the nuclei on the opposite side, while others constitute the anterior pyramidal tracts, which decussate lower down. These various structures lie close together, so that even small lesions are likely to involve functions on both sides. It thus comes about that there may be great diversity in the symptoms, in accordance with the situation and extent of the morbid process.

In a general way it may be stated that if the upper half of the pons be the seat of the disease, hemiplegia will result, involving face, arm and leg on the opposite side, but differing from unilateral paralysis of capsular or striate origin in its greater intensity, in the involvement of the tongue and in the marked contractures that develop later. Usually there are, besides, other motor or sensory symptoms. If the lesion be situated in the lower half of the pons the face is affected (with degenerative electric reactions) on the same side and the arm and leg on the opposite side. It is also possible for one or more of the cerebral nerves arising from the pons to suffer alone, with resulting disturbance of function of ocular muscles, of the muscles of the lower jaw, of the tongue; and the sensory root of the trigeminus may likewise be affected.



Hemorrhage into pons varolii.

The symptoms may further be irritative instead of paralytic, as manifested by spasm and contracture, pain and abnormal sensory impressions; or there may be a mixture of the two groups of phenomena. Bilateral processes may give rise to the clinic picture of pseudobulbar paralysis. Motor ataxia is not rarely observed. It is usually unilateral and often associated with disturbance of the muscular sense, and sometimes also of tactile sense and of the sense of localization. Disorders of hearing and of taste, alterations in the secretion of sweat and urine, and vasomotor and trophic manifestations, have been observed in isolated cases. There may occur seizures unattended with loss of consciousness or attended with slight loss. Large lesions frequently occasion headache, vertigo, vomiting, mental changes, perhaps maniac excitement.

The symptoms of pontine disease may set in abruptly, e. g., when due to hemorrhage; or gradually, e. g., when due to a slowly growing tumor.

I beg to add the report of a case to the statistics of hemorrhage into the pons:

A colored man, 70 years old, was admitted to the Philadelphia Hospital June 8, 1898, complaining of pain in the back and hips, and headache. He had been a sailor, and in addition to the ordinary diseases of childhood he had suffered from typhoid fever and malarial fever. He confessed to periodic excessive indulgence in alcohol, but he denied venereal infection. Some two weeks before admission to the hospital the patient had suffered from symptoms of coryza, with cough and expectoration and pain in the chest. Micturition was increased in frequency, and the bowels were constipated. There had been loss in flesh and strength, and headache had been present for a week.

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*Presented to the Section on Neurology and Medical Jurisprudence at the fiftieth annual meeting of the American Medical Association, held at Columbus, Ohio, June 6-9, 1899.

The man was of large frame, fairly well nourished and of good musculature. The sensorium appeared obtunded. The conjunctivæ were injected; arcus senilis was marked. The pulse was regular, small and quick; the peripheral vessels felt moderately atheromatous. Other than accentuation of the second sound of the heart and the presence of sibilant râles, no abnormality of the contents of the thoracic cavity was noted. There was no edema of the extremities. The urine contained a considerable amount of albumin, together with hyaline and granular tube-casts.

The patient was given hot-air baths, but sweating was induced only on added hypodermic injection of pilocarpin, gr. $\frac{1}{8}$. Some muscular twitching was noticed, but this grew less for a time, and the mental condition improved. Later, however, the twitching increased and active delirium developed; control of the sphincter of the bladder was lost. The respirations declined in frequency to 13 and the pulse to 64. The temperature ranged about 99, except during the last few days of life, when it became subnormal, falling as low as 95 degrees. The patient passed gradually from stupor into coma, while the nervous irritability increased, the head being retracted and the jerking in various parts of the body being marked. Nystagmus was at times present; trismus was not observed. Finally there was difficulty in swallowing, and death resulted from respiratory failure on June 21.

At the post-mortem examination, made by Dr. D. Riesman, eleven hours after death, rigor mortis was well marked. The peritoneal cavity was uncommonly dry. The sigmoid flexure of the colon occupied parts of the left hypochondrium and lumbar regions, reaching as high as the left sixth interspace in the nipple-line. It was bound by adhesions to the mesocolon and to the transverse portion of the duodenum. Bands of adhesion also passed from the flexure to the descending colon itself. The sigmoid was greatly distended, probably on account of compression of the distal portion by a loop of small intestine.

The left lung was free and the pleural cavity contained a small amount of blood-tinged fluid. The right lung was bound by a few adhesions. Both lungs exhibited interlobar adhesions, were intensely edematous in their lower portions, and emphysematous at the periphery.

The heart was much enlarged and hypertrophied, weighing 460 grams. The muscular wall of the left ventricle measured 30 mm. at its thickest part. The leaflets of the tricuspid valve were considerably thickened. Those of the aortic valve exhibited, just below the corpuscula arantii, delicate whitish vegetations. The mitral leaflets were thickened and the seat of scattered yellowish patches of sclerosis. The tendinous chord connecting the anterior leaflet with its papillary muscle was short, thick and dense. The intima of the aorta was much roughened by atheroma, and the wall of the vessel had a leathery feel. It was intensely sclerotic, but not greatly calcareous. The aorta and the pulmonary artery were bound together by old adhesions.

The spleen was firmly adherent to its surroundings. Its capsule was thickened and corrugated. On section the organ exhibited an increased amount of fibrous tissue.

The left suprarenal capsule was enlarged, measuring 72 mm. in length, and 32 mm. in width, and weighing 15 gm. On its under surface were a number of subcapsular, apparently hyperplastic, nodules. The kidneys were small, cystic and granular; the right weighed 155, the left 120 gm.

The liver was elongated, measuring transversely 33 cm.; the antero-posterior measurement of the right lobe was 16 cm., of the left lobe, 13 cm.; the greatest thickness of the organ was 5 cm. The upper surface of the right lobe exhibited two antero-posterior fissures. The organ weighed 1380 gm. On section the outline of the lobules appeared indistinct. The gall-bladder was distended with bile; the ducts were patulous.

The brain was small, weighing 1210 gm. The vessels at the base were somewhat stiff, while those in the fissures exhibited nodular atheroma. The pia on the anterior and lateral surfaces of the pons and medulla was deeply pigmented. The meninges of the convexity were somewhat opaque. In the left half of the pons, about midway between the median raphe and the superficial origin of the fifth nerve, was a small, dark red, apparently recent extravasation of blood about 2 mm. in its several diameters. Transverse section of the pons disclosed a second extravasation of blood, also about 2 mm. in diameter, almost in the middle line, 4 mm. in front of a line joining the two fifth nerves, 7 mm. from the anterior surface of the pons and 25 mm. from the upper surface of the quadrigeminal bodies. (See accompanying illustration.) The ependyma of the lateral ventricles was rough and granular, especially on the fornices, in the anterior horns and in the region of the foramen of Monro. The gray matter of the cerebral cortex was variable in thickness and generally paler than normal.

The patient was looked upon during life as suffering from uremia, and treatment was directed accordingly. At what period in the history of the case the hemorrhages into the pons took place, and whether simultaneously or consecutively, and what part, if any, these played in the symptomatology, can not be determined with any approach to certainty. The results of urinary examination pointed indubitably to the existence of nephritis, while the headache, the mental dulness, the delirium, the muscular twitchings and jerkings, the retraction of the head, the nystagmus, the loss of control of the vesical sphincter, the slowness of pulse and of respiration, and the low temperature, with finally stupor, coma, difficulty in swallowing, and respiratory failure, all comported with the occurrence of uremia. In view, however, of the developments of the autopsy, it seems not impossible that at least some of the symptoms were related to the hemorrhage into the pons.

PELVIC TUBERCULOSIS.*

BY AUGUSTUS P. CLARKE, A.M., M.D.
CAMBRIDGE, MASS.

Perhaps the most interesting phase of the question presented lies in that portion of the subject which relates to its etiology and diagnosis. To facilitate the consideration of the inquiry it may be well to review carefully the record of the lesions of some of the various pelvic organs, in order to ascertain, if possible, what degree of aptitude or proneness such tissue has for tubercular infiltration. The direct development of tuberculosis in the cervix may be regarded as of uncommon occurrence.

The cervix has, however, been removed in cases in which the disease invading the part was afterward found to have been of a tubercular nature. The involvement of the cervical portion of the uterus or of the vulvo-vaginal introitus might lead to the adoption of the hypothesis that the attack resulted primarily from coitus with the husband, who had been infected with the disease. It is true that tubercle bacilli have been found in the seminal glands and in the testes, but it will be seen that this fact can prove but little when we come to consider the vast number of women who have cohabited for long periods of time with men suffering more or less from such an infection, and yet have apparently escaped altogether the influence of such a relation. Indeed, it might be said with equal propriety that sarcomatous and cancerous involvement of the cervix and adjacent parts have been the result of marital intercourse, because the genital tract of the male has been the foci of such malignant transformation.

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The record of cases in which tubercular invasion has occurred presents many important points for discussion. The observation, which has been noted by Williams and others, that the ostium abdominale of the tube has often been the first portion of the tube to be affected, points to the fact that the condition has been the result of a mere extension of tubercular processes of the peritoneum. The sources of contamination of the serous tissue are numerous. The principal avenues of entrance are along the lines from the intestinal tract. The morbid condition resulting in adhesions of a portion of the intestine to the tube and the subsequent ulceration or perforation of the united surfaces, as has been reported by various writers, no doubt furnish one of the means by which the bacilli reach the adnexa. From the intestine to the mesentery and from the mesentery to the peritoneum and the uterine appendages the bacilli may pass uninterruptedly.

In many cases, if not in most, tuberculosis of the genital tract occurs in connection with the general dissemination of the disease of the other organs. This not infrequently takes place in childhood and before puberty. Such a diseased state was particularly noticed in a case that came under my care. A short time after peritoneal disturbances became manifest, perforation through the vaginal vault occurred. The opening communicated with a small intestinal aperture that gave exit to a fecal discharge. Tubercular lesions of the adnexa, as originating through the general blood-supply, though occasionally observed, can not be regarded as a common process; for such a view of the natural history of tuberculosis seems scarcely tenable when it is recollected that the genitalia, on account of their highly vitalized condition, are to be regarded as parts most strongly fortified for resisting the encroachments of morbid processes.

As has been said before, tuberculosis of the tube may possibly be conveyed in the semen of a tuberculous man. The observation of cases of tuberculous peritonitis complicated with the involvement of the appendages and of the intestine adherent more or less firmly in a mass has been much more extended. Such was the surgical record of the case of a young unmarried woman who recently came under my care.

The three forms of tuberculosis of the Fallopian tubes, as usually mentioned, may very properly be reduced to two classes, the miliary and the fibroid varieties.

Miliary pelvic tuberculosis may not pass beyond the first stage, or the disease may remain latent for varying indefinite periods. It is in such cases that a mere abdominal incision may be followed by apparent recovery. The record of an autopsy I have made shows that the peritoneum was everywhere studded with recent miliary tubercular deposits. Scarcely any points along the abdominal peritoneum showed signs of purulent changes or caseous transformation. Lower down, however, in the pelvic hypogastrium, near the site where an incision had been made some years before for the discharge of pus, the remnants of the degenerative changes of older tubercular deposits were plainly visible. This observation, taken in connection with other facts, should lead to the exercise of much caution in regarding the seeming recovery following celiotomy resorted to for tubercular peritonitis as being permanent in its results.

The chronic form of fibroid tuberculosis, in which the connective tissue is greatly increased, may become arrested in its course or end in recovery. The connective tissue, in its embryonic development having its origin in the fibrous layer of the skin, tends generally to the production of conservative processes; the preternatural development of the fibrous tissue in the tube, ovary, or other pelvic structure exposes the mass to the danger of becoming, through the diminished vitality, the foci of malignant degeneration.

In further discussion of the subject it should also be remarked that it is as yet quite unsafe to be altogether confident that pelvic tuberculosis takes place solely by mere local extension. The general infection of the organism from extraneous sources has undoubtedly been the more common mode of its inception.

The contamination of the meat and milk supplies should, under the present light of bacteriologic investigation, be regarded as the prime source of its origin. I may here add that the good work done in the State of Massachusetts and in other sections of the country, by invoking the aid of the several governments in the destruction or removal of tuberculous animals from the public use, has been far-reaching in its benefits. On this point I can not speak further than to say that the State authorities, or the members of their respective boards, that have inaugurated these and other measures for the extinction of tuberculosis are worthy of our highest regard and strongest political support.

Williams considers it probable that inflammatory processes may render the genital tract prone to tuberculous infection. The finding by him of gonococci in a tuberculous pyosalpinx, was suggestive that the gonorrheal process prepared the soil for the more ready development of tuberculosis. Another interesting fact mentioned by Williams is seen in cases of miliary tuberculosis of puerperal women, at whose placental site the disease was most marked. The production of such conditions he ascribes to the transmission of the infection through the blood-channels. In general miliary tuberculosis of patients such mode of local infection has undoubtedly, as already admitted, had its origin. In cases, however, in which no primary lesion is discoverable, it may be seriously questioned whether the tuberculous process at the placental site should be regarded as secondary foci of infection.

Tuberculosis of the Fallopian tube has in many cases supervened on catarrhal salpingitis, especially in those cases of a subacute or of a chronic form where other portions of the pelvic or genital tissue have been the nidus of the tubercle bacilli. Tubercular peritonitis may complicate appendicitis, as occurred in one of my cases—that of a girl aged 15 years. After the removal of the appendix the head of the cecum was found to be seriously involved with tubercular deposits.

In not a few cases vesicovaginal and rectovaginal fistulæ have resulted from a tuberculous condition. Such cases have been among the most troublesome to meet.

It may not, as has already been remarked, be impossible that tubercular disease can, by coitus, be conveyed to the female by the male suffering from the infection; the bacilli finding uncongenial soil in the vagina, the cervix, or uterine endometrium may then be wafted along the lines to the Fallopian tubes, and there undergo development and effect morbid changes. The presence of bacilli in the testes or in the epididymes of the husbands of women who are found suffering from tuberculosis of the Fallopian tubes is, as said before, far from being positive evidence that the disease has been the result of transmission of bacilli from the husbands, for such infection of the male genital organs may have first been imparted from the female. A case bearing on this point occurred in my practice some time since.

A man aged 23 years, from a good family, had been robust and in good health until some two years after marriage, when he began to suffer from tuberculosis of the right testicle. The wife was of a feeble constitution. She had had two miscarriages, but had given birth to no living children. The placenta on coming away after the second abortion gave unmistakable evidence of fatty degeneration. There were tubercular deposits of the decidua. The woman finally died of general pulmonary tuberculosis. Her mother had also been a subject of tubercular disease.

It may be incidentally mentioned that as a police measure for the conservation of the public health, and for the lessening of the begetting of diseased offspring, the States should prevent, by proper enactment and enforcement of laws, the marriage of persons who may be subjects of grave constitutional maladies.

From the present light afforded by clinic observation it must still be maintained, as Williams and other former writers have substantially held, that tuberculosis of the uterus, ovary, Fallopian tube, or other portion of the pelvic organs or tissues in immediate connection, must be regarded as secondary to some primary areas or foci of infection.

The diagnosis of tubercular disease of the adnexa deserves some share of attention. Enlargement and adhesions of the parts may be confounded with other morbid conditions. Bimanual examination alone will not always suffice. It will often be found necessary to make use of the microscope. The clinic history and the patient's antecedents should be kept in view.

The husband of the married woman, or her lover, when coitus has been indulged in, should be examined to determine the probabilities as to whether he may have imparted tubercle bacilli or have been the recipient of such contamination.

The induration resulting from tuberculous tumors or masses of the tubes may be differentiated from the enlargement of pyosalpinx by the general condition of the case, and often by the absence of febrile or constitutional symptoms. Should such tubal extension of dimensions be found in connection with an abdominal or an omental hardness the diagnosis of tubercular involvement would be much facilitated. The plaque-like infections or depositions of the subperitoneal tissue, when associated alone with tubal tumor, as mentioned by Edebohls, may be regarded as indicative of primary tubercular infection in the tube, and that the involvement of the peritoneum has been the result of the extension of the exudation. When, however, cases have advanced thus far other signs of tubercular disease may show themselves.

In all cases of doubtful character the purulent exudation of the vaginal and uterine tissue should, as before indicated, receive careful and repeated microscopic examination for the evidence such search may afford.

In many cases, notwithstanding that a positive or even a probable diagnosis can not be arrived at, an abdominal incision will be demanded for the relief of symptoms. Here, it may be remarked, comes the point on which not uncommonly turns the treatment of a large number of pelvic and abdominal cases of most serious nature, though an exact diagnosis of such can not at first be determined.

DISCUSSION.

Dr. Howard Kelly, Baltimore—The subject involves a large percentage of all our gynecologic work, and so is one with which we ought to be familiar and about which we ought to have decided opinions. Our knowledge is limited with reference to the causation of pelvic tuberculosis. I feel sure that it has nothing to do with coitus in a considerable percentage of the cases. I have investigated this matter carefully, and I do not recall a single instance where the disease could be so attributed. The condition of the uterus and cervix would also suggest that the disease did not take place by that avenue. The disease localizes itself; finds its extreme expression in the tubes. It is, however, found in the uterine body in a much larger percentage of cases than is commonly believed. It is important for two reasons. In the first place, it enables us in a large number of cases to make a positive diagnosis before opening the abdomen. I recall three instances in which I was able to make a diagnosis of tubercular disease of the tubes by curetting, removing and microscopically examining tissue which appeared to be macroscopically perfectly healthy mucosa, and I found giant cells and tubercle bacilli. The diagnosis was made unhesitatingly and confirmed at once by operation. I have seen one instance of tuberculosis of the cervix. It looked at first like carcinoma of the cervix, the tissue being very hard, glistening, and breaking down under the firm use of the curette.

As to operation, as in tuberculosis elsewhere, we ought to remove the diseased tissue. If we take out the tubes and ovaries, we should remove the tubercular uterus with them, whatever may be our rule with reference to leaving the uterus in other conditions. In two instances I have been compelled to be conservative, the patients having had a clear understanding that I should not remove the essential structures—the tubes and ovaries. In both instances the patients recovered. These operations were done several years ago. I mention this as a matter of great interest, but not for imitation. When we open the abdomen in tubercular cases, we should carefully observe the extent of the lesions, how far the disease extends over the peritoneum, and more particularly the condition of the retroperitoneal glands. I find any amount of extension over the intestines and peritoneum interferes with a good prognosis. I have over and over again left a tubercular peritoneum which looked as if a heavy sheet of gray blotting paper was laid over it, and yet the patients made perfect recoveries, and I have had cases of ten and twelve years' standing. I believe in some of these patients the relief from tubercular peritonitis has given them an immunity against tubercular disease elsewhere.

Dr. E. E. Montgomery, Philadelphia—I wish to put on record the case of a girl, 13 years of age, who came under my observation recently with tubercular disease of both ovaries and tubes, the disease being confined to those organs and the peritoneum not being involved beyond them. A singular feature in the condition was that this girl had a tumor, apparently of the bladder, but on careful investigation through the urethra, it was found that there was no involvement of the internal surface of the bladder, so that the cystoscope led me to believe that I had made a mistake in diagnosis, and the tumor was situated in the peritoneal cavity rather than in the bladder itself. On opening the abdomen for the removal of the tubes, it was found that the supposed tumor of the bladder was apparently a diverticulum from the bladder; that the distension of the bladder would result in forcing urine into the diverticulum, lifting it out directly into the wound, and in emptying the bladder again the diverticulum would become small. The patient had been suffering for a long time from inability to retaine urine, she being compelled to pass it every few minutes. As the peritoneum covered over the surface nothing was done with the diverticulum itself, we contenting ourselves with removal of the diseased tubes and ovaries. We subsequently resorted to distension of the bladder by irrigation, and the patient could retain her urine for three hours at a time. Since the operation she has been much relieved, and has gained in health and strength. The interesting point is the development of this disease in so young a person without any other point of association of the disease and the coincidence of this diverticulum.

Dr. Albert Goldspohn, Chicago—I would concur with Dr. Kelly in the remark that tuberculosis of the tubes is more frequent than we have previously thought. I was much interested in the cases he incidentally mentioned, of leaving cheesy tubes and not observing any disastrous results within a few years afterward. When we take that one observation, and then the other general observations that tuberculosis of the peritoneum is recovered from rather generally; when we remove the principal focus, the tuberculous tubes and ovaries, and the patients recover, then I am not exactly willing to say that the uterus should invariably be removed when we find tuberculous disease in the adnexa. Our modern policy, or more laudable plan of operating in gynecologic cases, is to preserve the female organs, particularly of young persons, to the extent that they will at least menstruate. The woman who menstruates is happier than the one who does not menstruate, particularly if they are young, and we should strive to the utmost to save the uterus and a part, at least, of one ovary. For this purpose, it seems to me, it is indicated to leave the uterus sometimes and part of an ovary even when we remove the tubes.

Dr. C. C. Frederick, Buffalo—This question of tuberculosis of the uterus and adnexæ being raised, and Dr. Kelly speaking about leaving some tuberculous organs *in situ*, leads me to speak of a case that I had about five years ago with double tubercular disease of the tubes and ovaries, in which I removed tubercular abscesses involving both tubes and ovaries, making a supravaginal amputation of the cervix. The woman made an excellent recovery; increased in flesh and strength for about a year, then she had a localized tuberculous abscess on the left side, which had opened through the vagina and continued to drain despite all efforts, and she is now developing pulmonary tuberculosis.

Dr. C. E. Ruth, Keokuk, Iowa—Four years ago I operated on a colored woman for the removal of a forty-pound ovarian cyst. On opening the abdomen I found the peritoneum spread out over the entire tumor, adherent to it and thickly studded with tubercular deposits. I did not like to separate the adhesions because they were so extensive, and simply ligated off the entire omentum and removed the tumor. In this way most of the tubercular deposits in the abdominal cavity were removed. The patient recovered and seemed to be none the worse for the loss of omentum, but died last winter from pulmonary tuberculosis.

Dr. J. Henry Carstens, Detroit, Mich.—Sometimes we find the tubercular deposits limited to the appendix. They certainly do not come from the vagina, or the uterus by way of the tubes, but simply involve the appendix, which shows beyond any doubt that tubercular deposits in the peritoneum, or anywhere else for that matter, do not come from the vagina and get up into the peritoneum in that way.

I agree with Dr. Kelly in saying that we do not have to remove the uterus or tubes in all cases. It is claimed that there is a difference between the involvement of the mucous membrane and the serous membrane, but I must say that in my experience I have seen absolutely no difference. I do not think I remove tubercular tubes once in ten cases of tubercular peritonitis. If a tube is absolutely degenerated, I remove it, but, as a rule, the tubercular focus will become absorbed and thus do away with the necessity of removal.

A short time ago I saw the wife of a physician whose case was very obscure. Indeed, it was very difficult to make a diagnosis. I was called and supposed I would have to operate for gall-stones, but I concluded she had some other trouble, and I decided not to operate at that time. In the course of four weeks from the commencement of the disease, she died, going into delirium and dying in a comatose condition. A postmortem examination was made, and that woman, from the top of her head down to the bottom of the pelvis, as far as we could determine, was tuberculous. There was not a spot on her liver, kidneys, intestines, uterus, lungs, etc., but what was a mass of miliary tubercles. Where did they come from? They did not come from outside. She undoubtedly got them through the stomach. Tubercular infection can take place through the alimentary canal, the lungs, and not necessarily from outside.

Dr. James F. W. Ross, Toronto—This question of pelvic tuberculosis in women is one of great interest. I have had a considerable number of cases, and I had the pleasure of reading a paper on the subject before the British Medical Association last year. The surgical treatment has been discussed chiefly, but the diagnosis seems to have been overlooked. The diagnosis is of great importance, and I will illustrate that by mentioning one or two cases that have come under my observation. Dr. Carstens' case reminds me of one I operated on for supposed ectopic pregnancy, or interference for the purpose of producing abortion. The woman had hemorrhage from the uterus; a mass was felt in the pelvis. An operation was performed, and tubercular disease found. Shortly after she went into a comatose condition and died from general miliary tuberculosis chiefly affecting the brain. The stirring up of the parts by operation might have hastened the result.

I would ask Dr. Carstens what he is going to do with the ovaries and tubes when a patient comes to him as a consequence of excessive hemorrhage from the uterus? Then, the operation is done for the purpose of relieving the menorrhagia, and to relieve that we must not of necessity remove both tubes and ovaries. If a severe stage is reached and bad pus-tubes are to be found and intestinal tuberculosis is present, I consider it unwise to make any attempt to remove the pus-tubes. I did so once, but I shall never do it again. The bowel tore through during the operation on account of its friability, and the patient died as a consequence. This disease I have found to be more frequent among young unmarried women, where there is no question as to previous coitus, therefore I conclude that the disease does not come up from the vagina, but enters the system in some other way. To cure the cases by abdominal operations is among the marvels of our work. We hardly know how it happens. I have seen patients prostrated (with pelvic tuberculosis) to the last degree recover after a simple celiotomy, where collections in the abdominal cavity were left untouched, the abdomen being simply washed out and closed, the patients finally regaining perfect health.

Dr. Joseph Rilus Eastman, Indianapolis—With reference to the diagnosis of pelvic tuberculosis, I want to call attention to a very important means of which no mention has been made. The symptoms menorrhagia and amenorrhea are very uncertain; they may or may not be present. The entire symptomatology of the condition is decidedly indefinite, but by resorting to one particular means of diagnosis we may reach a positive decision. I refer to diagnostic curettage, that is, curetting fragments of uterine tissue broken down by the tuberculous process and examining them microscopically, isolating the bacillus of Koch, then we are sure of our ground.

Dr. D. Tod Gilliam, Columbus—There is one feature in connection with this subject that has not been mentioned in the discussion, and I have never seen it mentioned in any of our text-books, nor have I heard anyone speak of having had a similar experience. It is this: We may have tuberculosis which runs its course in the peritoneal cavity and renders the patient an invalid; the tubercular process subsequently becoming transformed into calcareous masses. A few years ago I had a case the history of which was very obscure. The patient suffered incessantly, and I was called and made an exploratory incision to see whether we could find out the cause of the trouble. Bimanual examination revealed nothing whatever. On making an incision I found a portion of the peritoneal cavity studded with little angular calcareous masses, and by digging these out with the finger-nail I managed to relieve the patient of all we could find, and closed the wound, and she recovered.

Dr. C. R. Reed, Middleport, Ohio—Some six years ago a woman, 30 years of age, who had been twice married and had not been pregnant, consulted me suffering from some obscure abdominal disease. She was emaciated and her general health much impaired. I suspected ovarian disease and so informed her. To make the case more plain I suggested an abdominal section, in order to be positive about the diagnosis, and which seemed to be indicated in the case. She was menstruating at the time, regularly and rather freely. She consented to an operation. I opened the abdomen, and found one ovary and tube, tied it off and removed it. The other ovary or tube I could not find nor even any part of the ovary, nor any indication there had ever been one, and I searched carefully. I then turned out some of the intestine through the abdominal wound and found the peritoneum studded with something, but did not know exactly what. They did not seem like well-formed tubercles. I had the intestines out on the table one after another, and I brushed them all over with a sponge dipped in hot water, and the particles were readily removed. After the abdomen was thoroughly cleaned out, the wound was closed. The woman had been coughing more or less, but I could not detect any disease of the lungs. I had trouble in getting the abdominal wound to unite, as it suppurated considerably and continued to do so for some time, but healing subsequently took place. What was the result in that case? She came to me very weak, and after this operation she gained considerably in flesh, improved in color, and in every respect she was in excellent health for about a year, after which tubercular infection attacked the lungs and other parts of the body, and in a short time she died with tuberculosis of the hip. In this case the result from sponging off the peritoneum in the manner I have indicated, and cleaning out the cavity thoroughly, was excellent. But the ultimate result was bad, and in such cases we get no credit for the operation.

Dr. W. B. Dorsett, St. Louis—Not enough attention has been given to the use of antiphthisic serum in the treatment of these cases. I operated on a girl, 12 years of age, eight weeks ago, who had undoubted tuberculosis in which the intestines were involved, as well as the uterus and adnexa. So far as breaking up the adhesions is concerned, it was out of the question. The abdomen was opened, the cavity washed out with normal salt solution, and I began the next day with injections of antiphthistic serum, as prepared by Dr. Fisch. The patient has gained considerably, her fever has disappeared, and she is now on the road to recovery.

Dr. Clarke (closing the discussion)—I agree with Dr. Kelly that the cervix may become infected with tuberculosis, but it has not been my experience, nor according to the contributions I have read. In a number of cases infection takes place through the stomach, and probably through the alimentary canal, and in this manner reaching and involving the pelvis. It may infect other parts. as the lungs, and in that class of cases one is not assured that by operating and removing the tubercular deposit he will effect a cure of the disease, because there may be tubercular foci or centers in other parts of the body. I agree with one of the speakers that we should save a part of an ovary or as much as is possible in the case of a young woman, so that menstruation can go on. The history of some of these cases is sometimes remarkable, because after the principal tubercular foci have been removed, the peritoneum will take care of itself.

DIETETICS OF OBSTETRICS.*

BY C. S. BACON, M.D.

PROFESSOR OF OBSTETRICS, CHICAGO POLICLINIC, ETC.
CHICAGO.

The problems of dietetics in pregnancy concern the questions relating to the quantity and quality of food necessary in normal cases for the best condition of mother and fetus, the best arrangement of meal times, the possibility of modifying the development of the child by diet so as to make spontaneous labor possible in cases of slight degree of pelvic contraction or easier in all cases, the possibility of determining the sex of the child by dieting the mother, and also the proper regulation of the diet in pathologic conditions, such as emesis or hyperemesis gravidarum, and in kidney diseases. During labor the question of diet is important only when it is very protracted or with weak or sick patients. During childbed the physician has to consider not only what food is necessary for the mother, both in normal and pathologic conditions, but also the effect of diet on the milk secretion, and thus on the health of the child. Since it would be impossible for me in this short paper to consider all of these questions with any degree of thoroughness, I shall only attempt to call your attention to their chief features and present briefly the results of the more recent studies of the various problems.

Concerning the quantity of food required during gestation, we meet at the outset the idea more or less common among women, and perhaps also among physicians, that the prospective mother "needs to eat for two, herself and her child." It is true that she must furnish the material for the growth of the embryo, which with its appendages amounts to, on the average, about one-half ounce a day. This, however, is all that is required. It is not necessary to provide for the energy that is required by a child after birth to maintain its body heat and its muscular movements. An infant needs relatively much more food than an adult to maintain its condition of equilibrium on account of its proportionally greater body surface. I estimate that an infant should have about 500 calories of food a day. The unborn child is freed from this demand. Moreover, all the heat furnished by the katabolic changes in the fetus is as available for the mother as if the same changes occurred in her own body. Hence there is no reason to suppose that a pregnant woman will need more than a very slight excess of food. As a matter of fact based on careful measurements, it has been found by Baumm that a pregnant woman required no more food than a woman in the non-pregnant condition. The diminution in exercise and the better protection from cold will easily explain this fact so opposed to the ordinary belief. As regards the quality of food, it may be said that in normal conditions the ordinary mixed diet is perfectly adapted to the needs of the pregnant woman. It is only necessary to observe caution in the use of all foods that are hard to digest, such as salads, etc. It is not usually safe to trust the appetite when it manifests itself in unusual "longings."

In the later months of pregnancy and sometimes in the earlier months, the patient finds it difficult to digest a large meal, and hence it becomes necessary to increase the number of meals per day. If the chief meals are taken at the usual hours of 8 A.M., 1 and 7 P.M., it is desirable to add a lunch between meals. If a tendency to morning nausea exists, a glass of hot milk, taken in bed on awakening, adds a sixth mealtime. The following diet table may serve as a sample for a patient of average size in a normal condition, who takes a fair amount of exercise:

7 A.M. Hot milk, 6 oz.=180 gm.: proteids, 6; fat, 6; carbohydrates, 7; water, 160.

8:30 A.M. Apples, oranges, pears or grapes, 6 oz.=180 gm.: carbohydrates, 18; water, 158.

Coffee, with cream, 2 oz.; sugar, ⅓ oz.=180 gm.: proteids, 2; fat, 4; carbohydrates, 13; water, 160.

Oatmeal, 2 oz.=60 gm.: proteids, 8; fat, 4; carbohydrates, 40; water, 6.

Cream and sugar, 1 oz.=30 gm.: proteids, 1; fat, 2; carbohydrates, 6; water, 20.

Egg, 2 oz.=60 gm.: proteids, 8; fat, 7; water, 35.

Toast, 1 oz.=30 gm.: proteids, 3; carbohydrates, 22; water, 5.

Butter, ¼ oz.=7 gm.: fat, 6; water, 1.

11 A.M. Milk 4 oz., seltzer water, 4 oz.=240 gm.: proteids, 4; fat, 4; carbohydrates, 6; water, 226.

1 P.M. Apples, oranges, etc., 6 oz.=180 gm.: carbohydrates, 18; water, 158.

Chopped beef or steak, 2 oz.=60 gm.: proteids, 13; fat, 1; water, 46.

Potatoes, 2½ oz.=70 gm.: proteids, 2; carbohydrates, 15; water, 50.

Green peas or beans, 1 oz.=30 gm.: proteids, 2; carbohydrates, 4; water, 20.

Toast, 1 oz.=30 gm.: proteids, 3; carbohydrates, 22; water, 5.

Butter, ¼ oz.=7 gm.: fat, 6; water, 1.

Tea, with cream and sugar, 6 oz.—180 gm.: proteids, 2, fat, 4; carbohydrates, 13; water, 160.

4 P.M. Milk and seltzer, 8 oz.—240 gm.: proteids 4; fat, 4; carbohydrates, 6; water, 226.

6:30 P.M. Soup, with egg, 6 oz.=180 gm.: proteids 8, fat 7; water, 165.

Chicken, etc., 2 oz.=60 gm.: proteids, 14; fat, 2; water, 44.

Rice, 2 oz.—60 gm.; proteids, 4; fat, 1; carbohydrates, 46; water, 9.

Toast, 1 oz.=30 gm.: proteids, 3; carbohydrates, 22; water, 5.

Butter, ¼ oz.=7 gm.: fat, 6; water, 1.

Dessert. Farina, ½ oz., milk, 4 oz., egg, ½ oz., sugar ½ oz. =160 gm.: farina: proteids, 1; carbohydrates, 11; milk: proteids, 4; fat, 4; carbohydrates, 6; egg: proteids, 2; fat, 2; sugar: carbohydrates, 15, with a total of 115 gm. water.

Coffee, cream and sugar, 6 oz.=100 gm.: proteids, 2; fat, 4; carbohydrates, 13; water, 160.

Total: Proteids, 96 gm.: fat, 74 gm.; carbohydrates, 303 gm.; water, 1946 gm.

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*Read before the Chicago Academy of Medicine, April 14, 1899.

To this should be added one to four pints of water, according to the wishes of the patient, which will be modified of course by the amount of exercise she takes, the time of year, etc. It is best taken a glass at a time, two to three hours after meals. In summer, berries, melons, etc., may replace in part or whole the fruits mentioned.

The gross caloric value of the above dietary is about 2327 calories, of which 394 calories come from the proteids, 691 calories from the fat, and 1242 calories from the carbohydrates. In round numbers the dietary would contain about 100 gm. proteids, 75 gm. fat, and 300 gm. carbohydrates, with a value of about 400 +700+1200=2300 calories. From this it will be seen that about 17 per cent. of the food value comes from the proteids, 30 per cent. from the fat and 53 from the carbohydrates, a proportion that does not differ materially from that given by Rubner for his Category 1, which includes those who are not engaged in severe or considerable muscular work.

In considering the dietary best for pregnancy, as I intimated at the beginning, it is necessary to regard its effects on the development of the fetus, and particularly to discuss the question whether labor can be affected by means of the diet. Over 100 years ago many attempts were made to make labor easier by underfeeding the mother, often combining this treatment with free purgation, bleeding and overexertion. These measures were so disagreeable and often harmful to the patient, and had such unsatisfactory results, that the treatment was finally abandoned. About fifty years ago, Rowbowtham, a London apothecary, devised the fruit diet for his wife, who had had two severe and unfortunate labors. This diet consisted of raw or cooked fruits, apples, oranges, lemons and grapes, five or six times a day, with a small quantity of bread and butter once a day, fish or meat, with potatoes, once a day, and rice or sago, with milk, once a day. It was supposed that this diet contained a scarcity of bone salts and that in consequence the bones were soft and the head more compressible, making labor easier. Since fruit contains a considerable quantity of lime salts, it is probable that in Rowbowtham's diet, on account of the great amount of fruit eaten, as great a quantity of salts is consumed as in the ordinary mixed diet. The condition of the child may be attributed better to the deficient nutrition, just as rickets in children is often produced by a lack of one or more of the nutritive elements, especially to the lack of fat. It is certain that by this diet an underfeeding is brought about, but in a way that is not very disagreeable to the patient. The diet also produces free action of the bowels, which is an important factor in combatting headache and the general malaise from which so many patients suffer. On this account the dietary which I have already given contains, as will have been noticed, an abundant supply of fruits. On account of the deficient caloric value of the Rowbowtham diet, it can never be of general use, although it may be employed, no doubt, with greater or less thoroughness in some cases, with much benefit.

Ten years ago Prochownik proposed another dietary with the same object of influencing the development of the child. Starting with the fact that the child acquires most of its fat during the last ten weeks of its intrauterine life, Prochownik proposes to prevent this fat deposition or accumulation by keeping the mother, during this time, on an antifat diet similar to Oertel's. His dietary in detail is the following:

Morning—Small cup of coffee, 25 gm., about 1 oz. of zwieback.

Noon—All kinds of meat, eggs, fish, as much as desired; little gravy; some green vegetables prepared with fat; salads; cheese.

Evening—The same, with 40 to 50 gm. of bread, and as much butter as desired; as a drink, 300 to 400 c.c. of red or Mosel wine. He forbids water, soup, potatoes, desserts, sugar, beer.

Prochownik proposes this diet, not for general use, but only as a substitute for the induction of premature labor in those cases of contracted pelvis of the first or second degree, where this operation would be indicated, or perhaps in primipara, where a difficult labor might be expected on account of undilatable vagina or vulva. With this diet he has secured easy labors and living children in a number of cases where previously there had been very difficult or instrumental labors and dead fruit. As he had expected, the children showed the absence of fat and were under weight, although they were of normal length. Similar favorable results have been reported from clinics in Giesen, Munich and Cologne. The objection that was made to the Rowbowthan diet, viz., that it involves an underfeeding, does not apply to the Prochownik diet. The deficiency in carbohydrates is made up by the increase in the quantity of fats and proteids. It may, however, be difficult to carry out because of the water restriction. I have had no experience in the use of the diet in cases of contracted pelvis, but in two recent cases of diabetes in pregnant women, where a similar diet was instituted, one being in a primipara, the labor was unusually easy. The weight of the children was slightly less than the average in children of the same length. I could not affirm a relative absence of fat. The primipara was a rather fat woman and I would rather attribute her easy labor to the considerable improvement in her general condition which was brought about by the diet. The favorable reports that have been given by all who have tried this diet make its further trial desirable, especially in properly selected cases, i. e., where the degree of pelvis contraction is slight and where the diet would probably favorably influence the patient's condition, as in cases of obesity.

A year or two ago both the laity and the profession were excited by the report that Professor Schenk of the University of Vienna had discovered and was making use of a method of determining the sex of the embryo by a system of diet. Last year his book appeared, giving the basis of his theory and the essence of his treatment. It would not be an exaggeration to say that all were disappointed in the book. The confused presentation of his theory and the absurdly small number of cases given to support his practice and confident assertions were very surprising. In brief, Professor Schenk believes that sex is determined by the ovum alone; that a well-nourished and developed ovum produces a male while a less perfect ovum forms a female. The development of the egg depends on the condition of the mother's nutrition during the few weeks preceding maturation, ovulation and fecundation, and perhaps for a short time following fecundation. The condition of the mother's nutrition is discovered by the presence or absence of sugar in her urine. If sugar is present, even in a very small amount, such as can be determined only by the phenyl-hydrazin test, the consumption of food is not perfect, and the tissues, especially the ova, suffer. By an antidiabetic diet this nutritive error may be corrected and the ovum developed so that it may form a male. Schenk can give no directions to those who want a female child, but if a boy is wanted he proceeds as follows: if at the time of ovulation a careful examination of the urine shows no trace of sugar present, he advises an immediate impregnation. If sugar be present, he puts the patient on an antidiabetic diet, i. e., an albuminous fat diet, until all traces of sugar disappear. Then the patient is advised to become pregnant and the diet is continued for three weeks longer, when it may be stopped. If the patient can not carry out the treatment, or if in spite of it the sugar does not disappear, the case is hopeless; the patient can not bear sons. It is a curious coincidence that in three cases of diabetes in pregnancy which I have had since Schenk's theory became known all the children were girls.

The two most common pathologic conditions during pregnancy, which require a special dietetic treatment, are the vomiting of pregnancy and the kidney of pregnancy or albuminuria gravidarum. In mild cases of emesis gravidarum where there is only morning sickness it is generally sufficient for the patient to take a cup of hot milk in bed on awakening, remain in bed one-half to one hour, and then eat as soon as possible after arising. The proper preparation and serving of the food is here of exceptional importance. In more severe cases it may be necessary for the patient to take breakfast in bed and remain in bed the whole forenoon. In pernicious vomiting it is necessary that the patient remain in bed all the time in order: 1, that as little energy as possible be dissipated in maintaining bodily heat and in muscular movements and; 2, that the cerebral centers be supplied as well as possible in spite of the disturbed and weakened circulation. The diet should be milk given hot and alone or prepared in some way by mixing with water or some thoroughly cooked starch preparation. Water may also be furnished by the rectum or in cases of emergency by injection under the skin. I believe that the dietetic and hygienic management of emesis gravidarum is of the utmost importance and when properly carried out will make unnecessary medicinal and operative measures.

The ordinary dietary of pregnancy should be considerably changed in cases of kidney disease, the most common of which are those associated with the well-known pathologic condition described by Leyden as the kidney of pregnancy. It is a well-established principle that in all kidney derangements no substances which produce compounds irritating to the excreting kidney should be ingested. This rule excludes, in general, meat and beef teas, whose extractives are not wholly harmless. Moreover, an excessive production of urea which results from the consumption of meat is harmful. A free ingestion of water to wash out the kidney is desirable. This is supplied with the blandest of foods in the form of milk. Hence a diet consisting chiefly of milk has come to be considered as the most valuable food in kidney disease. This reputation it deserves in the case of the kidney of pregnancy. According to the urgency of the case, two to three quarts of milk a day, diluted if necessary to secure sufficient fluid, with one to two quarts of water is the ideal diet. A small amount of carbohydrates in the form of farina or rice may be added and perhaps a little toast or zwieback. Also grapes, oranges, apples or pears may be included. The adjuvant treatment consisting in the avoidance of exposure, in sweating, saline purgatives, etc., influences the quantity of water as well as the amount of other nutrient elements required. Three quarts of milk furnishes 1900 to 2000 calories, which, with 300 to 400 more furnished by the fruits and other carbohydrates, is sufficient for the patient, who loses comparatively little energy by cold. When the acute symptoms disappear and the kidneys show a fair functional activity the quantity of milk may be reduced one-half and the wanting portion substituted by carbohydrates.

During labor many patients can take no nourishment, not only because they have no appetite but also because of frequent vomiting. As labor lasts only eight to sixteen hours generally, food is not required. Only in cases of great debility, as in consumption or in heart disease, is it necessary to care for the diet, and then stimulants rather than foods are indicated.

In the first three or four weeks of the puerperium the diet problem is an important one. During labor the patient has lost over one-tenth of her weight and during the first week of childbed she will lose more than one-half as much more. Half of this loss is from her own body, while the rest is the fetal part. To restore this loss and for the nursing mother to provide one to two pints of milk a day requires a good supply of food. On the other hand we may remember that she lies quiet in bed and is protected from cold.

Notwithstanding this evident need of a nutritious diet we are met with the popular belief, often shared by physicians, that a "light diet" is necessary, either because the stomach is weak and can not stand a full diet or because it may cause fever.

It is often true that a patient is not very hungry for a day, or perhaps two, after labor. She, however, does require much fluid and gladly takes large quantities of milk here indicated. As soon as the appetite for solid food returns, or in case it is present immediately after labor, a full diet should be provided.

The quantity which should be provided depends only on the capacity of the digestive organs, for which the appetite is a pretty good index. This is apt to be disturbed on account of the autointoxications and other derangements arising from a torpid bowel and resting muscular system. These disturbances can be corrected or eliminated by caring for the intestinal evacuations and by massage of the limbs and body.

Before laying out a typic or average dietary, it will be necessary to discuss one question of much importance, viz.: what is the influence of the various articles of diet on the secretion of milk? The popular ideas concerning the harmful effects on the milk of certain articles of diet, especially acids, although not based upon any scientific observations, are yet not eliminated from text-books and still influence professional practice. The recent observations of Baumm and Illner seem to show conclusively the falsity of this view. All kinds of fruits and even pickles, salads, etc., eaten by the nursing mother, had no effect on the demonstrable chemic composition of the milk nor on the nursing child.

We may conclude, therefore, that a dietary adapted to a nursing mother in childbed does not differ essentially from the mixed diet we have found suitable to the pregnant woman. If the appetite demands a larger quantity it might be desirable to increase the carbohydrates to 400 grams per day, thus increasing the caloric value of the ration about 400 calories.

With such a diet we restore the mother as soon as possible to a normal state and avoid some of the disagreeable consequences of a starvation diet that were formerly met with.

GANGRENOUS ULCERATIONS.

AFFECTING THE FACE, INCLUDING THE LIDS OF BOTH EYES AND DESTROYING THE EYEBALLS—THE RESULT OF BITES BY A MAN.

BY SWAN M. BURNETT, M.D., Ph.D.
Professor of Ophthalmology and Otology, Georgetown University; Director of the Eye and Ear Clinic of the Central Dispensary and Emergency Hospital, Etc.
WASHINGTON, D. C.

Carrie L., colored, 24 years of age, living in Fairfax County, Virginia, was admitted to the Emergency Hospital on April 22. 1898, with the following history: Eight days before, at 2 A.M., she had been attacked by her husband in a fit of madness. He stripped off her clothing and proceeded to bite her and claw her with his fingernails about the face and upper portion of her body, especially the chest, abdomen and back. She was found in an exhausted state by her neighbors in the morning and placed under the care of a local physician. Her condition, especially as to the injuries on the face, not improving, she was sent to the Emergency Hospital, where I saw her on the evening of April 22. I found both eyes entirely covered with a thick scab composed, as it seemed, partly of iodoform and partly of gangrenous tissue. There was a large phagedenic ulcer, with undermined edges, on the right cheek, three and one-half by two inches, involving the entire thickness of the skin, a smaller one near the angle of the mouth and two or three still smaller ones on the nose and upper lip. On removing the scabs covering the eyes, after softening them in hot boric acid solution, it was found that the edges of both lids of the right eye had been eaten away for their entire length, that the conjunctiva of both the eyeball and the lids had been destroyed, and the cornea had an ulceration occupying two-thirds of its surface and extending through its entire thickness, through which the iris had prolapsed. On the left side the destruction was even more extensive. The whole of the outer halves of both lower and upper lids were involved in an ulceration which extended down on the cheek and temporal region, covering a space of three by four inches. The destruction was more profound than on the right side, going deep into the tissues of the orbit and reaching to the bone at the lower outer portion. The whole of the anterior half of the globe, including a portion of the sclera, was gone. The surface of the ulcers was covered with a most foul-smelling, greenish decomposing matter.

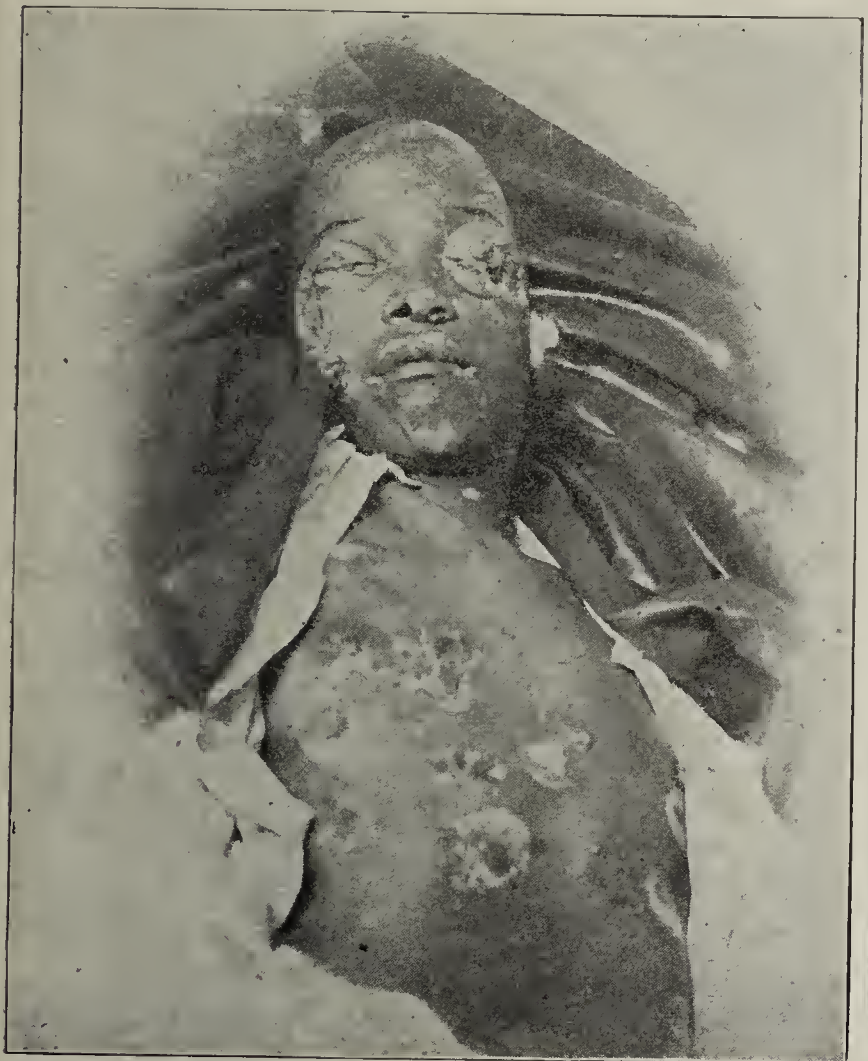

Figure 1.

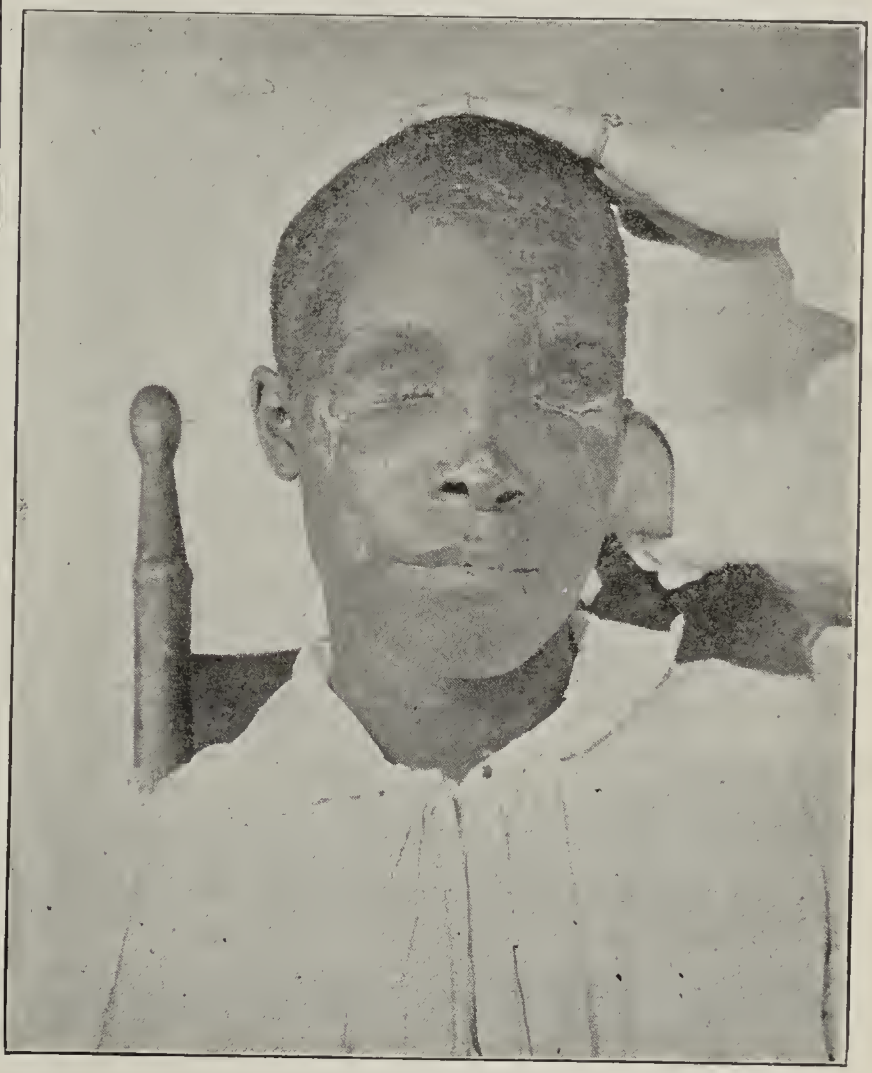

Figure 2.

The bites on the body were nearly all far advanced toward perfect healing, and these wounds seemed not to have taken on the phagedenic character of those of the face.

All the dead matter was carefully dissected from the surface of the ulcers, until healthy tissue was reached. In the left orbit this necessitated the evisceration of the contents of the eyeball and the cutting away of some portions of the tendons of the external muscles of the eye, and a removal of a large part of the orbital tissue. Fig. 1 gives a very good idea of the appearance after the wounds had been cleansed. After this thorough cleansing, the surfaces were covered with iodoform gauze and a protectve bandage applied. An examination was made of the gangrenous material and the discharge, but no unusual microorganisms were found, those present being the staphylococcus pyogenes aureus and albus.

At the end of the first twenty-four hours she had a sudden rise of temperature to 106 F. This subsided in a few hours to practically the normal, at which it remained during the rest of her stay in the hospital. Under a nourishing diet and simple dressings of iodoform gauze, the healing went forward rapidly, and at the end of two weeks she was able to leave the hospital for her home. The condition was then as is represented in Fig. 2. There was total symblepharon on both sides, and the inside of the lids was everywhere adherent to the walls of the obits. The resulting cicatrices on the face are much smaller than was to be expected from such extensive ulceration.

Having heard legends of the poisonous character of the bite of the "blue-gum" negro, I made inquiries as to that quality in her husband, but it was most indignantly denied by the wife.

In this case it is hardly possible to determine whether the extensive ulcerations on the face were due to some poisonous quality in the bites or scratches, or to the condition of the patient at the time, or to the want of treatment at the beginning. It is worthy of note that the bites on the abdomen and back, made at the same time, healed with promptness, and, supposedly, under the same treatment as that given to the wounds of the face, and that when the wounds of the face were put in an aseptic state they also healed well and rapidly. It was expected that some virulent micro-organism would be found in the discharge, possibly a form of streptococcus, but a careful search brought none to light. The general health of the patient at the time of her discharge was excellent.

ETIOLOGY OF ECLAMPSIA.*

BY CHARLES B. REED, M.D.

Demonstrator of Obstretrics N.-W. U. Medical School—Attending Obstetrician Chicago Lying-in Hospital and Dispensary.

CHICAGO.

It would seem as if some apology was necessary for again presenting to the society a paper on the etiology of eclampsia after the subject had been so exhaustively discussed by the eminent essayist of a year ago, but the great importance of the subject and a desire that the society may use its opportunities to experiment and investigate in a new direction is sufficient justification.

The year has brought forth some new material which is extremely suggestive and of great interest in this connection. The etiologic agents which have been so thoroughly discussed and rediscussed are doubtless familiar to all, and will receive no mention further than the statement that for the purpose of this paper all phenomena in connection with the brain, ureters and urine, to which hitherto etiologic importance has been attributed, are not to be regarded as etiologic factors, but only as results or at most as of accessory importance.

It is evident at the outset that this statement does not harmonize with many currently received opinions on this subject, but I hope to show with some plausibility that a different doctrine is at least entitled to earnest consideration.

The preponderating significance of the blood and circulatory apparatus as carriers attracts the attention to the theory which seems to me to present the greatest degree of inherent probability to-day—a toxemia, with a possible predisposing cause in hereditary irritability of the nervous system; a condition of the blood induced by the circulation therein of a poison or poisons, the nature of which is at present undetermined. It is not uric acid, it is not creatin, but it is known that there is excreted by the urine a toxin as yet unseparated (Fultz and Ritter, confirmed by Bouchard) which may upon final isolation and analysis be found to be this poison from the circulation, probably a leucomain of the uric acid group.

It is believed that the source of this toxin is in the uterine metabolism. This opinion, supported by the investigations of Lange, from whom extensive quotations will be made later, follows from a logical examination of the general conditions associated with eclampsia. It is well established that eclampsia only occurs during pregnancy and the puerperium. The system of the eclamptic, therefore, is the same as before pregnancy with the one exception of the growing uterus and its contents. Only such metabolic product then can be considered as occurs either entirely in pregnancy or in much greater quantities than in other persons.

The fetal origin of the toxin is well supported by such names as Chrobak, Potter, Byers, Kollman and many others, but to establish this position it is necessary to show a direct connection with the fetus in utero and aside from the difficulty, if not (at present at least) the impossibility, of doing this, all of the conditions would not be fulfilled, as for instance in the postpartum cases. It seems more probable that either the uterus or placenta or both conjoined are the responsible sources of the toxin. The placental metabolism is not yet sufficiently understood to be considered in this connection more than to refer to its possibly great importance (Schmorl) in the alteration of the maternal blood by some coagulating substance. Gynecologists have long recognized tachycardia during the presence of fibroids, and why is it not possible that the active, proliferating muscle cells in the growing uterus should develop a metabolic product which may produce systemic effects, and as in some cases of fibroid a distinct myocardial degeneration sometimes ending fatally (Riesman)? The large size of the uterus is not the cause of the eclamptic attack, for this condition is found in other states of the organism where eclampsia does not occur, as in the large fibroid and ovarian tumors.

It was shown by Winckel, and confirmed recently by Byers and Morisani, that when the fetus dies in utero, even when the premonitions of eclampsia are present, the danger is greatly diminished, if not entirely removed, and when the child is living and premature labor is induced, the attacks usually cease. The inference is that when uterine activity is abolished the possibility of an attack is greatly diminished.

This is further supported by the fact that attacks occur more frequently among pluriparæ, which is due not to distension nor to the presence of one or more additional ova, but results directly from the necessarily increased uterine metabolism.

Perrochet closely approximates the above conditions when he attributes the cause of the eclampsia to a poisoning of the blood (through metabolic products out of the placental circulation, urate poisoning and ptomains), and further states that the poisoning increases the irritability of the brain.

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*Read before the Illinois State Medical Society, Cairo, May 1899.

The clinic history of eclampsia is that of toxemia, and, according to Zweifel, multiple thromboses are invariably found post-mortem in the liver, lungs and brain of all fatal cases, which would indicate the presence in the circulation of some product of organic change with blood-coagulating power.

It has been shown by Chamberlent's experiments that the toxicity of the blood is increased in both mother and child when the former presents eclamptic symptoms.

As Kaltenbach says, "the prodromata—gastric and cerebral symptoms, the rapid occurrence of serious disturbance of the brain, the post-mortem increase of temperature, the nature and frequency of the nerve disorders that follow and find their analogy in the neuroses consequent upon typhus and diphtheria probably caused by toxalbumins—are scarcely to be explained unless by the theory of blood-poisoning."

The post-mortem appearances also confirm the belief that the toxin works through the blood. Schmor found (in seventeen cases) the liver hemorrhagic (sometimes anemic), necrosis of the parenchyma. venous and capillary thromboses in the vicinity of the necrotic foci, but not in the necrotic portion, thus showing that the thrombus represents the beginning of the process. The liver presents nothing pathognomonic of eclampsia, but of infection, degeneration of the liver-cells with or without hemorrhage (Bar and Guyisse). The lungs show extensive venous and capillary thromboses and edema; the heart flaccid, the spleen enlarged.

The pathologic alterations which Jagodinsky found in eight cases of puerperal eclampsia are interesting in this connection. In the cerebral cortex and in the ganglia there was cloudy swelling and fatty degeneration of the nerve-cells, in some cells even necrosis; blood extravasations in the vicinity of the vessels, and effusion of white blood-corpuscles. The neuroglia cells were increased. He attributes these changes to inflammation, but they easily adjust themselves to the present theory.

Toxins tend to spend their power largely on the nervous system, and in proportion to the development of the nervous system their effects become more perilous. The particular form of nervous system wherein eclampsia will arise most frequently, because it is the most sensitive, is the one wherein we find hysteria or epilepsy, neurasthenia or dipsomania, and indeed neuralgias of long standing, and this influence can be transmitted by families and would naturally be increased in the unmarried. It is not sufficient, however, to say that this nervous disposition will explain the vomiting, chorea, faintness, headaches and vagaries of a pregnant woman, nor is uterine reflex satisfactory.

Many of the infectious diseases begin with vomiting and in them, as in pregnancy, it may be so persistent as to threaten life; here also albumin appears in the urine after a longer or shorter time and may herald the approach of uremia with eclampsia or coma or both.

It has been definitely settled by many observers that the heart is enlarged in pregnancy, the left ventricle more than the right; it increases during the course of gestation, is at its height at labor and disappears when delivery is accomplished.

If in scarlatina we first see vomiting, then nervous disturbance, then albuminuria, then enlargement of the heart, we would say there was certainly some toxin circulating in the body. Why not in pregnancy? This hypothesis has been greatly strengthened recently by Lange's very interesting article on the thyroid gland in relation to pregnancy.

His work extended over four years and as the result of his examination of human females and experiments on pregnant cats, he concludes "that a hyperplasia of the thyroid gland is physiologic in pregnancy," thus confirming Freund's investigations, "that the hyperplasia has never been observed (by me) in the affection of the kidney peculiar to pregnancy; in chronic nephritis on the contrary it occurs in pregnancy."

"Pregnant animals (cats) require for the maintenance of their health larger thyroids than the non-pregnant. After the total extirpation or the removal of more than four-fifths of the thyroid, tetany occurs in pregnant animals, but is promptly relieved by administration of thyroiodin. When a remnant of the gland is left large enough to keep a non-pregnant cat healthy, there will occur in the pregnant cat a kidney disease of rapid course which sometimes gets well without bad symptoms after the cat litters, and at other times produces convulsions and coma. These convulsions are not identic with tetany and are just as little influenced by the thyroiodin as the coma.

"Thyroiodin has an undoubted symptomatic influence over the pregnancy kidney of women—whether specific or not remains to be determined."

He examined 133 pregnant women and in all but 25 (3 of which were doubtful) he demonstrated thyroid enlargement at some period of the pregnancy. In the 18 cases wherein the gland was not enlarged there was absolutely demonstrated "pregnancy kidney" and albuminuria, which in 6 instances terminated in eclampsia, and in 4 others of this small number severe headaches appeared, which we have always dreaded as premonitory signs of eclampsia. In two cases where nephritis was present before pregnancy the gland enlarged as usual.

The significance of the findings is very great if they are confirmed and developed by further experimentation. To test the hypothesis let us assume that a product—as yet chemically unknown—arising from uterine metabolism is poured into the blood and by its presence exercises a specific influence on the thyroid gland, whereby a hyperplasia of the latter is gradually produced, which may be called "pregnancy goiter," and the glandular secretion, probably thyroiodin (Baumann), which represents most nearly the product of the physiologic activity of the gland, is developed in large quantities. The function of the thyroid is to regulate metabolism and the product of the activity of the hyperplastic gland is hostile to the uterine product and destroys or neutralizes it. In this case the pregnancy would run a physiologic course and exhibit a minimum of the usual disorders of pregnancy. This may occur where the kidneys are healthy or in the presence of a chronic nephritis.

Assume again that for some reason the physiologic hyperplasia does not appear, as in the 18 cases recorded by Lange. The uterine metabolic product imperfectly neutralized by the small thyroid and the insufficient production of thyroiodin circulates through the system and produces the toxemia, the effects exhibited being one of degree. The kidneys and the bowels assist in the disposal of the toxin. Probably a large portion is absorbed by the kidneys and excreted, in an allotropic form possibly. If in too large quantity for easy elimination by the kidneys, or perhaps from the direct effect of the substance in its passage or by its presence in the blood, albuminuria and pregnancy kidney occur, the albumin is not the toxin but an effect of the toxin; an alteration in venous pressure will produce albuminuria and the circulation of toxins of diphtheria and scarlatina will do likewise.

In exceptional instances the kidneys may excrete the toxin without evidence of disturbance. If from excess of production or inefficiency of the thyroid a gradual accumulation of toxic material occurs, the symptoms of toxemia slowly appear, with the usual signs of intoxication.

Persistent vomiting is the most constant of these and may be the only symptom exhibited throughout the pregnancy. In other cases the system reaches the point of saturation and a trivial incident may suddenly precipitate a maternal eclamptic attack, intra-uterine eclampsia or premature labor, as Olshauser observed in 40 per cent. of his cases.

It is interesting to compare the various periods of the eclamptic seizures with the periods of glandular hyperplasia. In pregnancy the eclamptic attack is most common from the seventh to the ninth month. The "pregnancy goiter" appears in primipara usually in the sixth month, and in multipara in the fifth, thus anticipating the possibility of attack by from two to three months, but the greater part of the attacks occur about the tenth month, when the uterine metabolism has reached its maximum.

In cases which occur postpartum, the cause may arise from the process of involution and the consequent increase in the system of cell products, or the toxic product of uterine metabolism locked up in the cells of the uterus may be released by involution, or suddenly by the pain activities, and thrown in large and unmanageable quantities upon the system.

Further observation and experimentation is necessary to confirm our belief in this hypothesis, but it is certainly a relief to turn from the numerous and unsatisfactory theories of the past to one with so promising an outlook.

ACUTE INFANTILE DIARRHEA.

ITS TREATMENT.

BY J. O. MALSBURY, M.D.

PERU, IND.

While, in a general way, the plan of treatment herein mapped out will apply to any form of diarrhea, it is intended more especially for the auto-infectious forms, such as are due to a process of fermentation, which may lead to putrefaction and decomposition of the contents of the alimentary tract; the auto-infection resulting from the absorption of the toxalbumins or ptomains, a product of the particular fermentative or putrefactive process, and if allowed to continue will lead to pathologic changes in the alimentary mucosæ.

With the above facts in view we have already indicated the cause of the trouble, and the general plan of treatment all but suggests itself: *clear the alimentary tract and keep it clear, by withholding all food for twenty-four to forty-eight hours.* The clearing process is very efficiently accomplished in a child of a few days or weeks old, by 1 grain of calomel, dry on the tongue, every half hour until three doses are taken; one-half hour following the last dose, two teaspoonfuls of equal parts of castor-oil and aromatic syrup of rhubarb should be given. If the child is several months to a year or more of age, two-grain doses of calomel should be given as above, to be followed by six teaspoonfuls of the above mixture, better in divided doses. Should there be persistent vomiting, as there will, when the acute process is confined to, or principally in, the stomach, it should be cleared by use of the stomach-tube and a weak salt solution. If the tube is not at hand and the child can be persuaded to drink freely of pure water, better with a little salt, until free emesis, the same purpose will be accomplished. After this is accomplished the lower tract should be cleared as above, for some offending portion will have already reached the intestine, and if allowed to remain will set up trouble there. In case the vomiting is persistent, after the stomach has been emptied, precluding further medication to free the lower tract, give a hypodermic of morphin sulphate 1/200 to 1/100 gr., and atropin sulphate 1/1000 to 1/500 gr. for the younger child above mentioned; for the older one, morphin sulphate 1/100 to 1/50 gr., and atropin sulphate 1/250 to 1/500 gr. This will quiet the stomach and at the same time give the child much needed rest, while the stomach will retain such medicine as may be indicated, as well as fluid, which the little sufferer is famishing for, but which has been rejected almost as soon as taken. Now that we have the stomach quieted and the clearing process well under way, and all food prohibited as above, we will look to the restoring of our little patient to his normal self.

When we note what our little patient has lost, and remember the congested and relaxed condition of the alimentary mucosæ, the indications for further treatment are plain. The lost fluid must be replenished; the flagging vitality must be bolstered up by a stimulant, since just at this time food can not be allowed; the condition of the alimentary mucosæ demands an astringent, while the famishing thirst of the little sufferer must be gratified. All of these indications are met admirably by a *weak infusion of cold tea, plain.* In this we have the *fluid, stimulant,* and *astringency.* If properly prepared, the water having been previously boiled, a slightly rounding teaspoonful of best quality tea steeped twenty minutes in two or three pints of water, is given cold but not iced; it may be given freely, in fact. the thirst fully satisfied, when, in some cases, we will have given two to six pints in twenty-four hours. The lack of animal magnetism, which probably detracts very materially from the store of resistive power of the bottle-fed infants, since they do not come in contact with the mother, as do the nursing children, is a feature not to be overlooked or underestimated, and should be supplied by nestling the child to the nude bosom of the mother or nurse as in imitation of nursing. This is, perhaps, more urgently needed in bottle-fed infants; in fact, if these little "bottle-feeders" were nestled as above with more or less regularity throughout their infancy, it is a question if they would succumb any more readily on properly prepared cow's milk, than the regularly nursed infants do, on human milk. Either class of food may come to the child poor in quality, and, perhaps, containing the elements of fermentation and putrefaction, when it becomes a question of resistance, in which case, the regularly magnetized child, as occurs during nursing, has the best of it, and will hold out longer against the encroachment of disease, as well as make a better stand during its attack. During the last few hours of the fasting period, and perhaps for the first twenty-four hours following, albumin water should be given every two or three hours; this is prepared by compressing the white of one fresh egg through a napkin and adding to it twelve to sixteen times its quantity of cold, boiled water and a little salt. The whites of from two to six eggs may be allowed in twenty-four hours, and as the stomach becomes capable of digestion, the ordinary diet may be gradually resumed.

TETANUS TREATED WITH ANTITOXIN.*

BY HERMANN B. GESSNER, M.D.
NEW ORLEANS, LA.

At this time, when the serum therapy of disease is receiving close attention, it seems well to report all cases in which a test of this mode of treatment has been made. Tetanus is not the least important of the diseases in which antitoxic serum is employed as a curative means. Again, it appears especially desirable to report and consider carefully the fatal cases, knowing as we do the readiness with which good results are reported, while practitioners are not so apt to report the unsuccessful application of any therapeutic means. For these reasons the following case is reported as concisely as the bringing out of the necessary points will permit:

Victor C., aged 7 years, a compactly built boy, of Creole extraction, presented the first symptoms of the disease on the night of April 15, 1897, when he woke up with a painful stiffness of the muscles. Two weeks previously he had got a splinter into the plantar surface of the right foot; a small sinus persisted at the site from which the entire splinter was thought to have been removed.

When first seen, on the evening of the 16th, the boy could separate his teeth sufficiently to permit the insertion of the index finger; his head was strongly extended, his back markedly arched; the abdominal muscles were a little rigid. Liquid nourishment (milk, broths) was ordered, and perfect quiet enjoined; chloral hydrate, grs. v., and potassium bromid, grs. x., were directed to be given every hour until he should fall asleep.

April 17, A.M.: Temperature 98.6 F. in rectum. Clonic convulsions had occurred during the night, with biting of the tongue. The plantar sinus was laid open, chloroform being administered. A splinter was removed, the site well cleansed, and an iodoform gauze pack introduced. Twenty c.c. of the antitetanic serum of the Pasteur Institute, obtained from Dr. P. E. Archinard, demonstrator of microscopy and bacteriology in Tulane University of Louisiana, were injected hypodermatically, ten in each flank. Chloral and bromid were given every two hours.

P.M.: Pulse 126. The boy had had several clonic convulsions, with much pain. He was more rigid. The head and back formed a marked curve. The teeth could be separated one-quarter of an inch. The bowels moved once on this day.

April 18, A.M.: Temperature 101, pulse 106, respiration 26. The patient was less rigid. Marked opisthotonos was observed only during the clonic contractions, which were not frequent, but could be brought on by any irritation, such as a touch, even the attempt to swallow a small dose of medicine. Ten c.c. of serum were given hypodermatically after the administration of a few whiffs of chloroform.

P.M. Temperature 102.4. Improvement was manifest. Another dose of 10 c.c. of antitetanic serum was given under chloroform anesthesia. Two bowel movements occurred during the twenty-four hours.

April 19, A.M.: Pulse 168, respirations 56. The boy was swallowing a little better, but was very weak. Liquid peptonoids were given. Frequent, slight, general muscular contractions were observed. The bowels moved twice. Death supervened in the afternoon, without any apparent change in the symptoms.

Comment: Death followed the administration of the last dose of serum, given at a time when the patient was improving. On the principle, *post hoc, ergo propter hoc*, we might attribute the fatal issue to the last dose. While we can not deny the possibility of giving an excess of the serum, yet, considering the fact that the instructions accompanying it tell us to give an adult as much as 50 to 100 c.c. in one or two doses, it is not probable that 40 c.c., given in the course of thirty-six hours, caused the *exitus lethalis* in this case. Rather is the death to be attributed to exhaustion—a great danger in all tetanic patients; in the present instance unsatisfactory feeding and lack of the absolute quiet enjoined no doubt permitted dissipation of the boy's vital energy.

HYDROCHLORIC ACID.*

SIMPLE METHOD OF ADMINISTERING.

BY CHARLES D. AARON, M.D.
Consulting Gastro-Enterologist to Harper Hospital; Lecturer on Dietetics in the Detroit College of Medicine, etc.
DETROIT, MICH.

Some of the drugs which we prescribe are offensive to the taste, and some are destructive to the tissue while on their way to the stomach, but it is part of the practitioner's duty to guard his patients against possible injury and discomfort. Scrupulous thought has, therefore, been devoted to this phase of our practice, and a too-ready host of proprietary saviors have rushed to the rescue. We have aromatic this and elixir that, and all kinds of implausible and indefensible preparations to meet the embarrassment. Yet, all these have proved to be a sorry failure, and hydrochloric acid and other mineral acids are still a trial in administration.

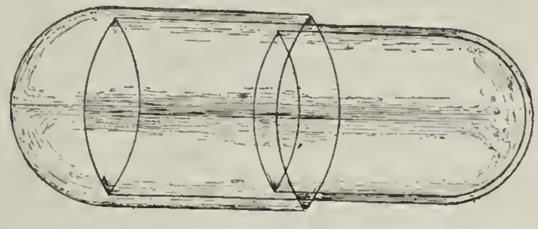

Fig. 1.—Double capsule—closed.

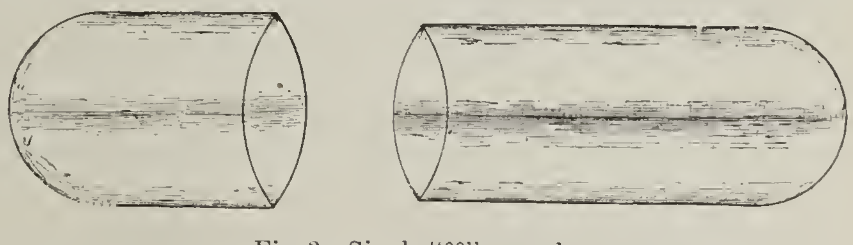

Fig. 2.—Single "00" capsule.

It is evident that we must try to reduce or make nugatory the irritating effect of hydrochloric acid on the mucous membrane of the mouth, the pharynx and the esophagus. The mineral acids decalcify the tooth substance, and this decalcification opens up a chance for bacterial propagation, for micro-organisms settle in the softened tissue and their proliferation is rapid, causing the destruction of the matrix and the disintegration of the tissue. This is the process of caries of the teeth, which is the principal danger in administering hydrochloric acid. We attempt to meet this difficulty by giving the drug through a glass tube, but this does little good, since the acid finds its way around the base of the teeth, where it does the harm we refer to. Rinsing the mouth with alkaline solutions does not meet the case, but rather complicates it. Most patients are not disposed to endure such an additional ordeal, and the want of sufficient scrupulousness in the matter superinduces the damage any way. I believe that the interests involved, both as to the preservation of tissue as well as to the maintenance of comfort to the patient, demand that we devise a method of drug administration that shall be genuinely protective and tolerable.

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*Contributed to the Transactions of the Southern Surgical and Gynecological Association to qualify for membership.

*Presented at the Annual Meeting of the American Gastro-Enterological Association, Washington, D. C., May 2, 1899.

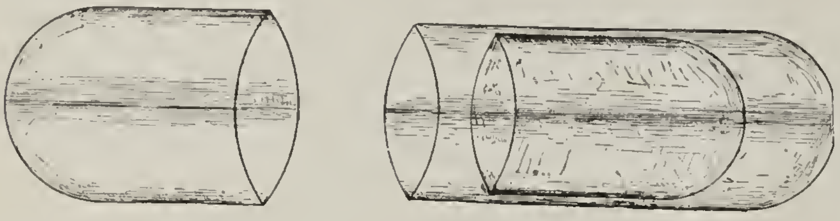

Fig. 3.—Inner capsule partially inserted.

I wish to submit a suggestion with regard to the administration of hydrochloric acid, which my personal experience has shown meets the difficulties with the best results. In prescribing the acid, I at first suggested to my patients that they take it in gelatin capsules. I found, however, that the acid penetrates the capsule quite quickly. After repeated trials I found that two capsules, so arranged that a smaller containing the drug, was encased by a larger one, would give sufficient thickness to obviate the difficulty of quick penetration, and would, in fact, retain the drug for a long time. It gives the patient ample time for swallowing and reduces whatever annoyance or risk is involved to a minimum. The double capsule is easily constructed. The cap of an "O" capsule will fit into the bottom of an "OO" capsule, and forms with it a bottom of double thickness, and offers, therefore, a twofold resistance to the action of the acid. Similarly with the other half of the capsule. The patient is instructed to use an ordinary dropper for filling the capsule, immediately before taking. Such double-bottomed capsule can hold fifteen minims of hydrochloric acid.

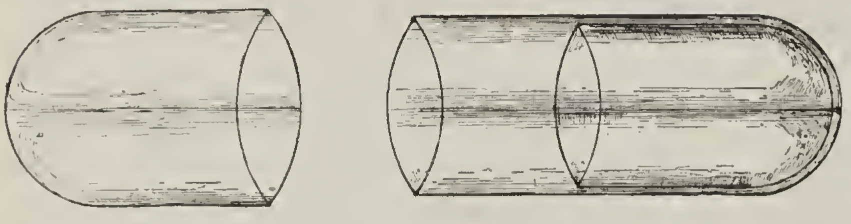

Fig. 4.—Inner capsule in proper position.

I have used this method of administration for some time and have found it practicable and acceptable to patients.

Parke, Davis & Co. have devised apparatus for the manufacture of these capsules at a slight advance over the price of the ordinary gelatin capsules.

32 Adams Ave. West.

Experimental Research in Regard to Infiltration Anesthesia.—Heinze and Braun report extensive personal tests on the various anesthetics employed for infiltration. They reject all the formulæ in vogue, for one reason or another, and propose the following as a solution that fulfils all the conditions required in infiltration anesthesia: 0.05 to 0.2 per cent. cocain in 0.8 per cent. salt solution at the temperature of the body.—*Virchow's Archiv* (Berlin), cliii, 3.

ACUTE ANGINA.

REPORT OF CASE FROM WHICH THE MICROCOCCUS TETRAGENUS WAS ISOLATED IN PURE CULTURE.

BY AUGUST JEROME LARTIGAU, M.D.
Assistant in Pathology and Bacteriology, Bender Hygienic Laboratory; Pathologist to Child's Hospital; and
ANDREW MACFARLANE M.D.
Clinical Professor, Albany Medical College; Visiting Physician to Albany Orphan Asylum.
ALBANY, N. Y.

More and more attention is being directed to the pathogenesis of the micrococcus tetragenus in human pathology through the increasing observations of recent years upon this subject. Until lately it had been regarded purely as a saprophyte of little importance; but the bacteriologic studies of investigators in the domain of clinic medicine point very conclusively to the pathogenic rôle of this organism from time to time in the human subject, generally as processes more or less localized in their nature, less often in the form of systemic invasion. The conception of the possible pathogenesis for human beings is to a considerable extent largely the outcome of the investigations of Chauffard and Raymond,[1] Lepage and Bezançon,[2] A. Bertaux,[3] J. Castaigne,[4] Carriere[5] and others.

Notwithstanding the fact that the micrococcus tetragenus has already been associated with a considerable number of varied lesions, the reports of instances of tetragenic infection of the throat are small in number. Apert,[6] in the early part of last year, reported three cases of this nature, two of which were conclusive examples. One of the writers[7] later added three cases to this list; and as far as known to us these are the only cases referred to in literature in which the tetragenococcus has been recognized as bearing a casual relation to some types of acute angina.

The following case came under the observation of one of us about a year ago:

H. L., 27 years of age, physician, was taken ill on March 11, 1898. His family history was unimportant. As a child he suffered from some of the diseases common to that period of life. A noteworthy point in connection with past illness is the very marked tendency to cerebral symptoms—manifestations accompanying processes, often of a mild nature. For some days before the appearance of the present throat symptoms he had been suffering from diarrhea, which had weakened him considerably. On March 11, there was anorexia and headache; the succeeding day the left tonsil became swollen and painful. The next day the patient remained in bed, the temperature having reached 101 F., and the throat became more painful, both tonsils swollen and covered with a few discrete, raised, yellowish or gray areas of membrane formation not larger than the size of a pea. The pharynx was markedly swollen. This condition continued, the temperature rising to 103 F.; the pain in the throat had become more intense and the membrane, now diffuse, was yellowish white in color, covered both tonsils, the posterior wall of the pharynx, and was easily detachable, leaving a bleeding surface. On the evening of the fourth day there was slight delirium, which became more severe on the following day, and finally the sixth day found the patient again rational. On March 16, the seventh day of the disease, the membrane disappeared, the temperature was normal and a marked amelioration was apparent. From this time convalescence was rapid. The treatment consisted in the administration of trional, ice-packs to the head, and an antiseptic gargle.

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[1] Deux cas mortels de septicémie tetragènique. Arch. de Méd. Exp., Mai, 1896, p. 304.

[2] Mèningite suppurée localisée du au M. Tetragène. Gaz. Heb. de Méd. et Chir.. Jan. 27, 1898.

[3] Pseudo-rheumatisme infectieux. Gax. Heb. de Méd. et de Chir., 2 Janvier, 1896.

[4] Pleurésie purulente et septicémie mortelle produites par le tetragène. Bull. de la Soc. Anat., 1897, p. 309.

[5] Presse Méd., Oct. 27, 1898.

[6] Apert: Angine à tetragène. Séancc de la Soc. de Biologie, Jan 29, 1898.

[7] Lartigau: A Contribution to the Study of the Micrococcus Tetragenus in Acute Angina. Phila. Med. Jour,, April 22, 1899.

A swab was taken from the throat on the third day of the disease and a culture on blood serum, prepared in the usual manner, showed a profuse growth, the cover-slips from which contained moderate-sized, oval cocci arranged almost entirely as tetrads and taking the aniline gentian violet and Loeffler's methylene blue stains evenly and deeply. A few diplococci of similar size could be made out. Treated with Gram's solution, the cocci retained their stain.

Agar and gelatin plates made from the blood-serum culture contained pure growths of a coccus which behaved on media as follows:

Agar slant: profuse, gray, moist, slimy growths slightly raised above the surface of the medium.

Blood-serum: a growth similar in character to that on agar.

Potato: thick, slimy, white growth.

Gelatin stab: white growth along the line of inoculation, and in three or four days a round, raised, white, button-like growth on surface; no liquefaction of the gelatin.

Faintly alkaline bouillon: very slight turbidity of the medium and a thick gray or white viscid deposit in the bottom.

Litmus milk: slight acidity but no coagulation of milk.

Dunham's solution: growth similar to that in bouillon; no indol formation.

Lactose, glucose and saccharose media: no evidences of gas production.

Hanging drop: preparations showed no motility and cover-slips from various media exhibited a variable morphology—sometimes diplococci, less often tetrads. The organism stained by Gram's method.

A full-grown guinea-pig, subcutaneously inoculated with 2 c.c. of a 24-hour-old bouillon culture, died in four days, with abscess formation at the point of inoculation. The inoculated coccus was recovered from the abscess, blood and viscera. Four c.c. injected into one of the auricular veins of a three-quarter-grown rabbit produced stupor, and death in eighty-seven hours. The organism was recovered from the blood; cover-slips from the viscera, pus from abscess in guinea-pig, and the sections of tissue from the animals experimented on contained tetrad cocci in abundance.

The bacteriologic diagnosis was micrococcus tetragenus (Gaffky).

The appearance of the throat, it has been thought by Dieulafoy[8] in some cases, is to be regarded to some extent as a characteristic of this class of infection: "*Ils donnaient l'apparence d'une gorge qui aurait été saupaudrée de grains de sable*," to which French observers give the name "*angine sableuse*."

We are constrained, however, from our experience, based on four cases of tetragenic infection, to regard the throat picture as variable in presentation, sometimes simulating the supposedly, until lately, characteristic appearance of diphtheria; at other times resembling tonsillitis in its common forms. The phenomena of a general systemic nature in the cases thus far studied have been in a general way similar to those common in acute tonsillitis. The case reported in this paper was one accompanied by profound disturbances, but the cerebral symptoms are, perhaps, to be regarded in this case more of the nature of a susceptibility on the part of the patient, since in all diseases a more or less marked tendency toward cerebral derangement has been manifest.

The frequency of the localization of processes, due to infection with this organism, to the mouth and about the jaws, has already been noted by Karlinsky.[9] An explanation of this may be found in the fact that the micrococcus tetragenus is commonly found in the mouths of perfectly healthy individuals, as we have repeatedly observed.

EXPERIMENTS IN GASTRIC DIGESTION.*

A PRELIMINARY REPORT.

BY FENTON B. TURCK, M.D.
CHICAGO.

The experimental study of gastric digestion of proteids has been extensively made from a chemic standpoint. Test-tube digestion by the aid of ferments has created a large literature in this branch of physiologic chemistry. Kuhne and Chittenden's classsification of digestive products or Neumeister's nomenclature are most generally adopted, and in the absence of a knowledge of the albumin molecule, serve at least for a temporary classification. Kossel's work has not led to any more definite conclusion and it may be stated that the slight differences found in the chemic reaction or the physical properties of the albumoses have not been so characteristic as to allow these compounds to be regarded as separate bodies.

The object of digestion appears to be to reduce the food to such a condition that the cells lining the walls of the intestine may take it up, change and transfer it to the blood in the form of circulating albumins. This process is very much influenced by certain mechanic or motor functions of the gastro-intestinal tract. If this function of motility is hindered or obstructed the process of digestion is very much retarded or ceases altogether.

The methods of investigation which the author has the honor of presenting before this association have for their object the observation of the influence of mechanic or motor effects on the process of gastric digestion by the use of artificially devised stomachs, made from rubber of different degrees of elasticity. These artificial stomachs are caused to imitate in some degree the movements of the normal stomach contents, the churning process by which the food is forced from one end of the stomach to the other and back again.

The artificial stomach apparatus consists of thin rubber bags suspended from an arm which moves in a half circle, so that the contents of the bags are thrown from one end to the other. These bags are placed in an incubator at the usual temperature. When thick bags, with strong elastic resistance are employed, the process is very marked, but when thin rubber bags are used in which the resistance is very slight, the bag stretches or dilates and the contents gravitate to the bottom of the sacculated portion which hangs like a hammock. Consequently the contents are not so much disturbed by each movement of the arm or beam from which the bag is suspended and the mechanic part of the digestion is rendered less active.

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[8] Apert: Soc. de Biologie, 1896.

[9] Karlinsky: Centralb. f. Bakteriologie, 1890, vii, p. 113.

*Read before the American Gastro-Enterological Association, May, '99.

The mechanism by which the bags are made to move is placed in the ordinary incubator, in which the usual temperature is maintained. In the experiments, an opening is made in the back of the incubator and through this a shaft is passed attached to a wheel which is connected on its eccentric with the shaft running to the beam. The shaft is actuated by a small electric motor.

As before stated, the bags are made of rubber possessing different degrees of thickness and consequently elasticity. Some of the bags are divided into chambers or compartments—a duodenal portion and a gastric portion—by a small constricting ring through which fluids, but not solids, can pass. One chamber is intended to represent the gastric portion and the other the duodenal portion. In the latter a small lead ball is placed which acts as a ball-valve and is so arranged as to allow the escape of a part of the fluid products of proteolysis at each movement or half rotation of the beam and thus relieve the contents of the stomach-bag of the excess of peptones which would otherwise accumulate and might retard, or put a stop to, the digestive process. As the process of digestion thus progresses, small quantities of HCl and pepsin are allowed to flow at intervals from a bag reservoir into the bag which contains the food undergoing digestion, thus simulating as much as possible the secretion of the gastric juice.

Chopped meat, either cooked or raw, is weighed and placed in the bag, to be digested. This is mixed with a small quantity of dilute hydrochloric acid and pepsin, also weighed. Sometimes eggs are added, either boiled or raw, and the weight recorded. The bag is then placed in the incubator. After a period of digestion has elapsed the fluid matters are strained off and the solids remaining are weighed to determine the amount of the mass that has undergone digestion.

It is more practical to estimate the residue of undigested food than to attempt to estimate the amount of the albumoses formed. For instance, a known quantity of egg-albumin was placed in the bag and after experimental digestion, the coagulated residue was estimated. When using chopped meat the advantage gained by the ease with which the remainder or residuum can be observed is plainly to be seen, and especially so when the microscope is used to demonstrate the condition of the muscle fibers.

Bag A consists of: 1. A gastric apartment or cavity for the introduction of the chopped meat, eggs, broth or other food substances to be used in the experiment. 2. A secretory chamber containing an amount of dilute HCl and pepsin estimated in accordance with the weight of the food to be digested. 3. Duodenal or intestinal chamber. The material of which the bag is composed is of such thickness that it will sustain a given weight of from 200 to 500 grams of food, that is, meat and water. This portion is marked A 1.

Bag A 2 is arranged similarly to bag A 1, but the walls of the bag are thinner and therefore less resistant to the weight of its contents. As will be seen, the movements are not so great nor are the contents so thoroughly acted on by the energy of its movements, and consequently less commotion or churning is observed in this bag than in bag A 1. As a result the process of digestion is retarded in the second bag and a greater residuum of undigested proteid is observed.

Bag B 1 contains no outlet for the escape of the products of digestion from the albumoses and peptones, but the HCl and pepsin are allowed to pass into the gastric cavity at regular intervals.

Bag B 2 is similar to bag B 1, excepting that the walls are thinner and resemble in distensibility those of bag A 2.

As there is no provision for the escape of the fluid or peptones formed, and as the artificial gastric juice is added, the combined weight of the latter and the food causes the bag to become more and more sacculated. The excursion of the food from one end of the bag to the other, which occurs in the thicker bag, is thus prevented and retarded or diminished digestion results.

A marked difference is observed in the mechanic effects, not only as regards the results of the more intimate relation between the ferments, HCl and food particles brought about in the mixing process, but also as regards the actual friction between food particles which causes them to be more readily separated, more finely divided and more easily acted upon by the ferments.

I have, by means of the motion alone, without the use of any ferments, reduced the food-stuffs to a condition resembling pulpy chyme ready for intestinal digestion, and on the addition of hard, coarse particles, such as bran, to this mass, the process of digestion was much accelerated. I have already called attention to this fact in a previous communication.

The following series of experiments has been, and is still being, carried out by the writer to observe the mechanic effects of motion alone on the food contents of these improvised stomachs.

Series 1, in which bag A 1 was used, had for its purpose the creation of a standard degree of digestion which was necessarily arbitrary, although it conformed as nearly as possible to the natural conditions.

In the creation of this standard the chief considerations observed in bag A 1 were the following: 1. Character of food. 2. Water. 3. HCl and pepsin. 4. Weight and bulk. 5. Resistance of bag. 6. Number of movements in a given time. 7. Time required for digestion. 8. Character of the residuum of undigested food, weight, bulk, appearance, etc. 9. Observation of the products of digestion. 10. Chemic analysis. 11. Toxicity when injected into animals.

Series 2 was carried out in a similar manner to Series 1, but much thinner bags were used, similar to bag A 2. As this bag had less resistant walls, the mass was not thrown from end to end of the bag, and the elasticity of this thinner bag was greater and the energy exerted upon its contents consequently less than in the case of bag A 1. The food mass in bag A 2 was therefore not subjected to as great mechanic disturbance, churning, sub-division, and the like, as was the contents of bag A 1. The results of this series of experiments demonstrate that a longer time was required for the digestive process, and that a greater amount of residuum remained thereafter.

Series 3 was intended to determine the effects of motion on food-stuffs without the addition of HCl or ferments. In this series the reduction of the food to a soft, pulpy mass depended exclusively on the solvent action of the warm fluid, and on the effect of motion and consequent friction on the particles of food. The time required for this reduction depended on the nature of the food and the fineness of division of the food particles used in the experiment. It was especially noteworthy that when large particles, 3 to 5 c.c. in weight, were used and kept in a quiescent state, the particles remained intact, but were swollen and slightly softened, and consequently rather larger than before. If motion was kept up for the same length of time (six to ten hours), the particles were reduced to a smaller size and the mass assumed a pulpy consistency resembling chyme.

In Series 4, bags were employed which were made from parchment instead of rubber. Proteids and ferments were placed in these bags, which were kept in motion under running water at the regular temperature. For these experiments a water-tight tank was used which contained two large wheels, the axles of which passed through the sides of the tank. The bags were suspended from the circumference of the wheel to the axle, so that with each revolution the contents of the bag was thrown from one end to the other. The rate of digestion was not materially increased through the action of dialysis of the peptones.

In all the foregoing experiments, carbohydrates and proteids were used both together and separately, and it was found that the degree of motion, as well as the character of the motion, produced marked increase in the products of artificial digestion, both as to the chemic products and the physical appearance. The influence of motion on digestion is a most interesting fact and one that would appear to be an all-important factor in the study of digestive processes, both experimentally and clinically.

In Series 5 experiments were made with a method of motion intended to simulate the contraction of the pyloric end of the stomach by which the stomach contents are forced back toward the cardiac end of this organ. By the repetition of this process the contents are churned and reduced to a substance resembling chyme. The apparatus in this series of experiments consists of rubber bags placed on an incline. The lower end of the bag, corresponding with the pyloric end of the stomach, was compressed, forcing the contents into the upper portion of the bag, which corresponds to the cardiac end of the stomach. This distends the upper portion of the bag and on the release of the pressure the contents descend by gravity to the lower or pyloric end. This process was repeated until the stomach contents had been thoroughly mixed and churned.

However valuable the observation of artificial gastric digestion, especially the purely physical processes may be, the researches on animals must necessarily be of greater importance. The observations of Cahn and Von Mering have added much to our present knowledge, but these observers neglected to investigate the motility of the stomach and conditions under which mixed foods, consisting of liquids and solids, are mixed, churned and forced out of the stomach.

It is true that Schuele[1] made some investigations in this direction, but in his experiments on dogs a duodenal fistula was formed and the cardia was temporarily and partially closed by an inflated rubber bag.

The writer has made experiments on the stomachs of dogs by isolating the stomach suspended in the abdominal cavity. A loop of jejunum was first united by an anastomosis with the cardia and the stomach closed below this point after curettage of the mucous membrane. The walls of the stomach were then sutured together. A duodeno-jejunostomy was next made to direct the flow of the biliary and pancreatic secretion below the loop. The abdomen was then closed and two weeks later a duodenal fistula was made at the pylorus, closing off the pyloric end of the duodenum. The stomach was thus switched off completely from the intestinal tract, but the blood and nerve supply was not interfered with.

The animal was then fed for a month, the food, instead of passing into the stomach, going directly into the jejunum. The operation for this purpose would better be performed in two stages, because experience has demonstrated that when the operation was completed at one sitting the animals invariably died from shock soon after.

The stomach is then used for observation of the mechanic as well as the proteolytic action and bacteriologic observations also made on its contents. After the second week it was found that the stomach resumed its functions, but to a lesser degree.

It is the writer's intention to report these experiments later on, as well as to give a more detailed description of the results thus obtained from the study of artificial digestion, together with other observations which he hopes to present in the near future.

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[1] Zeits. f. Klin. Med., xxviii, p. 87.

THE DIPHTHERIA BACILLUS.*

ITS PERSISTENCE IN MOUTHS OF CONVALESCENTS.

H. L. RUSSELL, PH.D.
MADISON, WIS.

Since the introduction of more thorough and scientific methods for the diagnosis of diphtheria produced by the inroads of the Klebs-Loeffler organism, it has been known that this germ often persisted in the throats of convalescents for considerable periods of time. The cases which I have to offer here are not markedly peculiar, except that they show a persistence somewhat prolonged, although there are a considerable number of cases in which the time period has been found to be longer than in these cases. Another point of interest is from the fact that frequent cultures were taken, and also the virulence of the disease germ determined after the recovery of the case.

The cases reported are taken from some of the control work that is carried on in my laboratory, under my direction, by my assistants, Mr. Frost and Mr. Bassett.

HISTORY OF THREE CASES OF BACTERIOLOGICALLY CONTROLLED DIPHTHERIA.

Case 1.—R. J., Madison, male, 8 years of age, was taken sick Nov. 27, 1897; diagnosed, clinically, as diphtheria; antitoxin administered November 28; rather mild type of the disease. After application of antitoxin, the case at once improved.

November 30, nearly pure culture of Klebs-Loeffler bacillus found in swab from the throat by means of Loeffler's serum mixture.

December 4, mixed culture developed from swab.

December 15, typic Klebs Loeffler bacillus found; quarantine raised by city health department and house disinfected with formaldehyde.

December 17, few organisms found.

December 21, diphtheria bacillus found on two different serum cultures.

December 22, ditto.

December 29, ditto.

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* Read before the Central Wisconsin Medical Society, March 29, 1899.

December 31, ditto.
Jan. 6, 1898, few diphtheria organisms found.
January 8, culture failed to show growth of diphtheria bacillus.
January 13, diphtheria organisms quite plentiful.
January 20, organism again found.
January 21, few diphtheria bacilli mixed with pus cocci; guinea-pig inoculated with 0.7 c.c. of twenty-four-hour-old culture in glycerin broth; died in thirty six hours; characteristic lesions noted, and organism isolated from point of inoculation.
February 11, found diphtheria colonies sparingly.
February 15, no diphtheria bacillus found.
February 27, diphtheria organism present.
March 1, ditto.
March 6, none found.
April 10, diphtheria bacillus present.
May 30, none found.
June 10, ditto.
June 15, ditto.

Antiseptic throat washes were used during treatment and convalescence, but in spite of this, virulent diphtheria organisms were found with only occasional failures, for four and one-half months after outbreak of the disease.

Case 2.—Mrs. J., aged 30 years, mother of Case 1, was taken with a headache on Dec. 25, 1897, and developed slight sore throat with scattered white patches in the same; no special cause for alarm, but diphtheria suspected on account of presence of other case four weeks before.
December 24, diphtheria bacilli demonstrated in abundance.
December 31, bacillus diphtheriæ readily demonstrated.
Jan. 6, 1898, white patches almost entirely disappeared; abundant growth of diphtheria organism on culture.
January 13, ditto on two different swabs.
January 28, very few present.
February 2, diphtheria bacillus very frequent.
February 11, sparingly present.
February 20, doubtful.
February 27, bacilli present.
March 1, ditto.
April 10, ditto.
May 30, absent.
June 10, ditto.

The organism was present three and one-half months after development of case, but case was not quarantined.

Case 3.—Miss P. G., Milwaukee, aged 24, was taken sick March 24, and confined to room for one day; early clinic diagnosis suspected diphtheria; this diagnosis later not confirmed; case not quarantined; bacteriologic examination made.
April 13, diphtheria bacilli numerous.
April 20, found in considerable numbers.
April 27, ditto.
May 2, ditto.
May 9, ditto.
May 16, guinea-pig inoculated with 0.9 c.c. of fresh culture, the animal died in fifty-two hours; diphtheria bacillus isolated from point of inoculation.

In all of these cases it is easy to see how the disease might have been distributed to other persons if especial care had not been taken to prevent such dissemination. In case of the boy, his return to school after the usual period of convalescence would have given exceptionally favorable opportunity for the further spread of the disease among other school children. In the case of the two adults, the relative insusceptibility of the individual prevented the typic development of the disease, but the virulence of the disease germ was attested by animal experiments, and it is easy to see how the disease might have been unwittingly distributed by the convalescents long after every symptom of the disease had disappeared.

These cases are by no means exceptional. Corroborative evidence is constantly accumulating which indicates that the germ may persist in a virulent condition for many months after convalescence. Such cases undoubtedly explain how diphtheria sometimes breaks out in apparently a sporadic manner. The disease is simply sporadic because, at the time, we may not happen to have all the data at hand that would permit of the establishment of a causal relation between one case and another.

Another important lesson that such cases teach us is the value of a bacteriologic control of these matters. So long as we were forced to rely on merely clinic observation, so long mistakes in diagnosis were possible, but by means of the accurate scientific methods that have been inaugurated at the present time, it is now possible to determine the character of these various throat affections with accuracy, and at the same time trace them farther until the disease germ has been thoroughly and effectually eliminated.

It would be impossible to maintain a rigid quarantine for any such length of time as was covered by the above cases. But it is possible to determine the conditions as they actually exist from time to time, and if the disease germ persists for a long period, to use such precautions as will diminish the possibility of the spread of contagion.

AMPUTATION THROUGH HIP-JOINT.*

REPORT OF TWO SUCCESSFUL OPERATIONS BY WYETH'S BLOODLESS METHOD.

BY CHAS. G. LEVISON, M.D.
Acting Surgeon to the San Francisco Polyclinic, Visiting Physician to Mount Zion Hospital, Member of the American Medical Association.
SAN FRANCISCO, CAL.

The following is a report of two successful hip-joint amputations performed by the writer on the same morning, at the S. F. Polyclinic wards of the City and County Hospital.

John L., aged 40, married, a sailor, with no history of heredity nor syphilis, had suffered for the past three years from hip-joint disease, resulting in ankylosis of both hip- and knee-joints, and which had been treated by extension and various palliative measures during this time. The gluteal muscles were atrophied from disuse and the gluteal fold obliterated. There was 6 cm. of shortening. On Jan. 19, 1899, five or six incisions were made on the outer and inner side of the thigh and buttock, evacuating a great amount of pus which emanated from the hip-joint, which was resected two weeks later. At this time it was found that the acetabulum was badly diseased. The patient's condition was gradually getting worse; the sinuses showing no tendency to repair, together with the ankylosis of the knee-joint and the diseased acetabulum, made it imperative to do something to save the patient's life. He was so weak that he could not raise himself in bed and, as his leg had been useless to him for a number of months, amputation at the hip-joint was decided on, and was performed on March 16, by a modified Furneaux Jordan method, using Wyeth's method of hemostasis.

The temperature after the operation never went above 101. The sutures were removed on the eighth day, primary union taking place excepting in the track of the drainage-tube. At the present writing there is still an opening following the track of the drainage-tube, due to the diseased acetabulum. The muscles were badly distorted as a result of prolonged disease, accounting for the irregularly shaped stump as seen in the photograph.

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*Read at the Twenty-ninth Annual Meeting of the Medical Society of the State of California, April, 1899.

The second amputation was done for a chronic osteomyelitis of the femur and tibia. George M., aged 23, single, a cook, gave a tuberculous history; grandmother died of tuberculosis; history of suffering from a stiff and painful knee for the past three and one-half years, which has gradually gotten worse. He had been admitted to the City and County Hospital on four different occasions, during which time palliative treatment had been resorted to. On December 1 resection of the joint was performed and it was found that the entire medullæ of the tibia and femur were diseased. These were curetted at the time of the resection, and a drainage-tube passed from the femur near the trochanter down to the tibia, the drainage-tube emerging from openings drilled through both bones. Primary union was obtained, but the track of the drainage-tubes showed no tendency to repair. There was repeated abscess formation, the tissues again becoming markedly indurated, necessitating a reopening of the joint, which presented evidence of a progressive disorganization extending down into the tibia and up into the femur. At this time the outer half of the tibia was removed and found filled with débris. The high temperature persisting, and knowing the condition of the femur, it was decided as the only remedy, to amputate the hip-joint.

The Furneaux Jordan operation was performed, the bone being sawed below the lesser trochanter, where the medulla at the point of section and extending to the head of the bone was found to be puriform. Exarticulation was made with comparative facility, being absolutely bloodless. Temperature was normal, never going above 100 after the operation. Primary union was obtained and sutures removed in eight days. The patients were out of bed on the twelfth day, and on the twenty-first day they were photographed standing on one leg. Wyeth's operation was quite satisfactory, the operation being practically bloodless.

Amputation at the hip-joint has always been considered one of the formidable operations in surgery, and the evolution of this operation up to the present period is most interesting. The first idea of this operation originated with Morand, who practiced it on the cadaver in 1738. In this he was supported by many men belonging to the French school, but it remained for Lacroix in 1748 to make the first hip-joint amputation in a case of ergot gangrene, and was merely the separation of devitalized tissue by scissors, proving fatal on the eleventh day.

In 1773 Perault[1] removed the thigh for traumatic gangrene resulting in recovery.. In reality the birth of the hip-joint amputation was the result of the French Revolution, as in 1794 Blaudin performed the operation three times with one recovery. Larrey performed it seven times, all unsuccessful.

In 1815 Gutrie[2] reports one successful amputation at the hip for gunshot wound. The first successful operation in this country was made by Brashear, in 1806, in Kentucky, on a male of 17 years, in which he established a principle in hip-joint amputation since made use of in almost all operations at this region, viz., the incision extending from the greater trochanter, along the outer border of the bone and joining the circular incision below. The bleeding is controlled by a tourniquet, and the vessels are tied as the operation advances.

The Furneaux Jordan is but a modification of this operation. Dr. Mott[3] made the next successful operation of this kind in the United States, in 1824. Since that time the operation had been repeatedly made, but in recent years the mortality accompanying this operation has been very great. Ashurst[4] tabulated 633 cases with an average mortality of 64.1 per cent. at the very lowest calculation, so that any method that would tend to diminish hemorrhage, shock, and as a consequence, mortality, was to be hoped for.

In 1860 Pancoast, at the Pennsylvania Hospital, made a hip-joint amputation on a man 35 years of age, controlling the blood by means of a tourniquet, compressing the abdominal aorta below the umbilicus, this being the first time that the tourniquet was used for this operation. Lister, apparently without any knowledge of Pancoast's case, performed this operation soon after by aid of a similar tourniquet, with the same good result.

Dr. Frank Woodbury of Philadelphia compressed the common iliac artery with the fist inserted into the bowel.

Davy[5] advocated the use of a lever made of some smooth substance, eighteen to twenty-two inches in length, introduced into the rectum, and the common iliac artery compressed against the pelvic brim.

Jordon Lloyd[6], advocated a method of elastic compression, which has been adopted by English surgeons in general. Jacobson, in his operative surgery, speaks very strongly in favor of the Jordon Lloyd method, which consists of a stout rubber bandage two yards long, passed between the thigh and trunk, having its center between the anus and the tuberosity of the ischium. A rubber bandage of appropriate size is then laid over the termination of the external iliac artery, and the ends of the rubber bandage now being steadily and firmly drawn upward and outward to a point above the center of the iliac crest, sufficiently tight to stop all femoral pulsation, the first part of the bandage passing over the roller and running parallel with Poupart's ligament, the posterior part passing across the sacrosciatic notch and compressing the branches of the internal iliac. This requires a trusted assistant, as there is evidently a decided tendency to slip, for which the author makes considerable provision.

Trendenlenburg[7] advocates the use of a steel needle, 38 cm. long, 6 mm. broad, biconcave on cross-section, inserted just below the anterior iliac spine and carried in the direction of the perineum, passing between the neck of the femur and the vessels, and emerging on the inner side of the thigh near the perineal crease, then by means of a rubber ligature a figure-of-eight is formed around the skewer. The flap is then made, the vessels tied and the bone exarticulated. The needle is again introduced behind the bone, the rubber ligature is again applied, and the posterior flap completed.

In 1886, Muscroft[8] employed a similar method.

Myles of England[9] advised a steel skewer passed through the thigh, the point entering one inch below Poupart's ligament, going external to the femoral, and internal to the neck of the femur, emerging a little above the gluteal fold. A rubber cord formed the figure-of-eight; amputation and lateral flaps.

Heuter and Parker[10] made an incision below the anterior superior spine, prolonged downward to the intramuscular septum between the sartorious and rectus. Through this incision, the lower blade of a pair of curved clamp forceps are introduced under the vessels, and the upper blade makes compression against the vessels upon the skin from without.

Thomas[11] punctures the skin in two places, one immediately below Poupart's ligament, about one inch external to the pulse, and the other two inches to the inner side of the same, immediately below the pubic spine. An aneurysm needle, threaded double, is then passed through both openings, and their threads are then tied over a pad applied against the vessels. Thomas operated on three cases successfully in this way, and was well satisfied with his method of hemostasis.

Macewen[12] advocates compression of the abdominal aorta under the umbilicus, by means of the fist applied against the vertebral column through the abdominal wall, and states that he has used this method for over fifteen years in all operations requiring hemostasis, with gratifying results. The artery can also be commanded during the operation by manual compression of the femoral, or by securing the vessels before they are divided, as is recommended by Larrey, when making lateral flaps.

McBurney[13] advocates direct intra-abdominal finger compression of the common iliac artery, incising the abdominal wall as in his appendicitis operation, about one and one-half inches internal to the anterior superior spine, and the finger is introduced through this incision and compression made. He reports three cases operated on successfully. It remained for Wyeth to work out his new principle for bloodless amputation of both shoulders and hip-joints, which is posibly a modification of the Trendelenburg method. This was first applied by him in 1888[14] for sarcoma of the humerus. He conceived the idea of tissue transfixion by using steel mattress needles, with a rubber tourniquet, operating bloodlessly and successfully. In 1890, his first operation[15] at the hip-joint was made by this method, which established a new principle of hemostasis, since adopted by many surgeons, whereby the mortality, once so great, has been reduced from one of 64.1 per cent. to 15.9 per cent. reported from 69 cases tabulated by Wyeth[16]. He reports 69 cases performed by this method, with 11 deaths. Of the 11 fatal cases, 5 had suffered extensive injury with hemorrhage and were profoundly shocked from the putrefaction of one or both extremities, the factor in these cases being the hemorrhage prior to operation, no hemorrhage occurring during or subsequent to the operation, and in none the precautions of salt infusions or the intravenous injections of salt solution, strongly advocated by the author, had been resorted to. Two died from the shock, one twelve and the other twenty-two hours after the operation; one of sepsis twenty-six days after; one of shock twelve hours after, as a result of prolonged exhaustion from sepsis. Wyeth's own fatal case was due to some cause not readily accounted for. In the 40 cases of sarcoma operated on, there were 4 deaths, giving a mortality of 10 per cent. In 23 cases of bone disease, there were 3 deaths.

Erdman[17] states that from January, 1884, to January, 1894, there were 18 hip-joint amputations done in the New York hospitals, with 8 deaths, making a mortality of 44.4 per cent. Of these, 7 were done by Wyeth's method; all recovered, leaving 8 fatal cases out of 11 done by other methods, giving a mortality by other methods used of 72.7 per cent.

In the statistics which the writer has tabulated, there have been 28 cases collected since Wyeth's statistics, dating from 1896, with 3 deaths, giving a mortality of 10.7 per cent.; of these cases 16 were done by the Wyeth bloodless method, with 2 deaths, giving a mortality of 12.5 per cent. by this method.

The following is a list of hip-joint amputations, tabulated by the writer since Wyeth's statistics were published in the *Annals of Surgery* (xxv, 1897, 127), where he reports 69 cases, with a mortality of 15.9 per cent. The writer has collected 16 cases, which, when included with Wyeth's cases, give a combined mortality of 15.28 per cent. In the opinion of the writer, the mortality of the cases collected by him since 1896, operated on since the time when hypodermoclysis has been generally resorted to, shows that this precaution accounts for the diminished death-rate.

Thomas, Lancet, 1898, i, 1112: 3 cases, caused by sarcoma, femur osteomyelitis, fem. injury; own method; recovered.

Noble, *Annal. Surg.*, 1898, xxvii, 753: 1 case, boy, 21 years, osteosarcoma; Wyeth method; died from shock; 1 case, man, 26 years, tub. cox; Wyeth method; recovered; 1 case, man, 39 years, tub. cox; Wyeth method; recovered.

Brush, N. Y. Post-Grad., 1897, xii, 615: child, 11 years, sarc. fem.; Wyeth method; recovered.

Shears, *Clinique*, Chicago, 1897, xviii, 520: 1 case, hip-joint; Wyeth method; recovered.

Coley, *Annal. Surg.*, 1897, xxix, 110: 1 case, boy, 6 years, sarc. fem.; Wyeth method; recovered; 1 case, girl, 13 years, sarc. fem.; Wyeth method; recovered; 1 case, man, 49 years, sarc. fem.; Wyeth method; recovered.

McBurney, *Annal. Surg.*, 1897, xxviii, 129: 3 cases sarcoma; McBurney method; recovered.

Willy Meyer: 1 case; McBurney method; recovered.

Abbe: 1 case; McBurney method; recovered.

Briddon, *Annal. Surg.*, 1898, xxvii, 514: 1 case, boy, 15 years, sarc. fem.; Wyeth method; recovered; 1 case, man 33 years, tub. cox.; Wyeth method; recovered.

Sherman, *Pacific Med. Journal*, June, 1898, 362: 8 amputations, 4 tubercular cox., with 2 deaths; one died a few hours after, the other died of tuberculosis subsequently, and two living; 4 sarcoma, one died a few hours after the Wyeth operation, 1 lived thirteen weeks and died of septicemia, another lived a year, 1 well after eight years. Of Sherman's cases, 6 were done by the Wyeth method.

Levison: male, 40 years, tuber. cox.; Wyeth method; recovered.

Levison: male, 23 years, osteomyelitis; Wyeth method; recovered.

There have been many methods suggested for hip-joint amputations. Farabœuf mentions that 45 operations have been devised, but there are but 3 or 4 that are now done, two in particular, both of these being mere modifications of the original operation, done by Dr. W. Brashear in 1806, the first and most generally recognized being the Furneaux Jordon method, which was first described by Furneaux Jordon of Birmingham in his "Surgical Inquiries," in 1880, and possessing the following advantages over the other methods:

1. By removing less of the body, the shock is correspondingly diminished.

2. Abundant room is afforded for compression of the common femoral, the gluteal and sciatic arteries remaining untouched.

3. Sepsis is averted, as the wound is quite remote from the anus, and hence more easily kept clean.

4. It produces a good stump, and at times permitting the use of an artificial limb, although the later advantage does not hold good in practice. In this operation the Jordon-Lloyd method of hemostasis is advised.

The second method, as advised by Wyeth, is a modification of the Furneaux Jordon method, and differing in that the stump is shorter, the section through the muscles being made at the level of the trochanter minor, the skin flap longer.

The last to be mentioned is that of transfixion, the great advantage of which is the rapidity with which it can be carried out. With three assistants, this operation can be made in twenty seconds, its disadvantages being the great wound surface resulting, and as a consequence imperfect drainage, and great tendency to bleeding, due to the oblique section of the thick muscles in this region.

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Correspondence.

Sanitation the Keynote of the Berlin Congress.

Paris, June 4, 1899.

To the Editor:—The recent international tuberculosis congress at Berlin, while it announced no discovery of new remedies, new therapeutic processes or new antagonists to the "white fiend," so called, was not without beneficial results in diverting attention from the quest of drugs and antitoxics to the bountiful provisions which nature herself offers the human race for its protection, and the separation, more or less complete, of the victims of their own imprudence or their culpable contamination by their fellows.

The belief that consumption is an inheritance from sinful ancestors to the third and fourth generation back, whom unhappily we can only curse and die, need no longer banish hope and hang like the pall of death over the young, so often exceptionally gifted. Hereditary predisposition can not be gainsaid, but the child of the tuberculous parent has a chance to reconstruct with fair promise of success the worm-eaten timbers of its father's house.

Nevertheless, consumption remains the disease most to be dreaded which afflicts humanity. It is a baneful blight, to be shunned with greater care than the maladies which offend sight and smell. It is breathed unconsciously into the lungs in crowded vehicles and apartments, and creeps beneath a lady's skirts which at the behest of fashion, sweep the dirty thoroughfares. Vanity, ignorance and indifference invite its entrance to live and grow, devour and destroy enfeebled and predisposed bodies—but even these may be saved, and the problem before the Berlin congress was to determine how.

It has been pretty well understood that the insidious bacillus can not be reached and destroyed by any fire-extinguisher process—through internal antitoxic medication or by antiseptic inhalation—but its habitat can be made untenable and the victim thus be indirectly rid of its unwelcome presence.

Hitherto this has only been sought to be accomplished by removal to the various health resorts in Europe and America, inaccessible to any but the wealthy, on account of distance and expense, and each of these has had enthusiastic advocates and each been able to boast of undoubted good accomplished and of lives spared for long years of health and happiness.

The Germans have been pioneers in the effort to establish asylums where even the poor may be received without having to go far from home or be subjected to expense for care and maintenance. Over fifty sanatoria for tuberculous patients have already been established in Germany, and as many more are in process of installation by the government and by private enterprise, where unknown and others are received, and with such satisfactory results that Fränkel, the father of the congress, Leyden, and other authorities on tuberculosis advise their multiplication all over the country. Altitude, hygrometric conditions and temperature are of less consequence than the absolute purity of the atmosphere, secured by secluded wooded sites, with exposure to sunlight and consequent comparative dryness of soil. Careful attention to diet, physical exercise, proper clothing and scrupulous cleanliness of body, bed and dress, are the means by which the *physical resistance* of the individual to bacillary invasion is increased. The mere removal from the overcrowded, unclean and ill-ventilated living, working and sleeping apartments hitherto occupied, with good food in abundance, exposure to sunlight and the isolation of the sick, are practically the only therapeutic agents on which to depend.

If this congress shall accomplish nothing else, it will have done well if it awaken attention to the serious menace to the public health from tuberculosis and the necessity for sanitary provision against its spread. The man who expectorates in a vehicle or public resort does not merely violate public decency, but commits an offense for which he should be punished. Health-board warnings and placards in street cars avail nothing if not enforced. So long as women sweep infected sputa with their dresses, they will suffer with tubercular disease of their genital organs and communicate it; so long as the dust of dried sputa is disseminated and inhaled in public vehicles, every passenger is endangered. Men and women, especially women, are urged to form associations for the rigorous suppression of indiscriminate spitting, and boards of health will do better service to the community if they direct all their efforts toward the prevention of tuberculosis, and leave smallpox and yellow fever to take care of themselves. The segregation of those already affected in local sanatoria, as advocated at the Berlin congress, will ultimately check the progress of this frightful scourge, and add immensely to the sum total of human happiness.

A. L. G.

A Protest.

Cleveland, Ohio, June 16, 1899.

To the Editor:—I am informed by a correspondent in Iowa that my name is being used in a circular concerning a quack cancer cure called "Vitalia." Any such use of my name is absolutely unauthorized and an outrage on common business honesty. I presume legal redress is impossible or the indecency would not have been committed. Would it be asking too much of you to publish my protest? Not perhaps that many may be misled by my name, but to put others on their guard who are no doubt being similarly victimized. The animus of the thing is probably an attempt at revenge for an editorial criticism which I wrote in the *Cleveland Journal of Medicine* a year or more ago, warning the profession of the methods of the concern which exploits this "cure."

Very respectfully, P. Maxwell Foshay, M.D.

Current Medical Literature.

Titles marked with an asterisk (*) are noted below.

Medicine (Detroit), June.

1.—*Treatment of Infected Wounds. D. N. Eisendrath.
2.—*Case of Paget's Disease (Malignant Papillary Dermatitis). Maxmilian Herzog.
3.—*Clinical Lecture in Neurology. Harold N. Moyer.
4.— Two Cases of Peliosis Rheumatica. Chas. J. Aldrich.
5.—*Blood Examinations in the Diagnosis, Prognosis and Treatment of Pneumonia. Hamilton Fish.
6.—*What Became of the Dauphin Louis XVII?—A Study in Dental Jurisprudence. E. S. Talbot.
7.—*Etiology of Scarlatina. W. J. Class.

Medical Standard and North American Practitioner (Chicago), June.

8.—*Surgical Treatment of Nephritis or Bright's Disease. Alexander Hugh Ferguson.
9.—*Laryngologic Clinic. Wm. L. Ballenger.
10.—*Technic of Ether and Chloroform Anesthesia. Aime Paul Heineck.
11.—*"Local Treatment" in Gynecology. Palmer Findley.
12.—*Strophanthus Hispidus, D. C. John U. Lloyd.

Cleveland Medical Gazette, May.

13.—*Milk as a Carrier of Infection. C. O. Probst.
14.—*Report of a Triplet Birth, One Single Child and a Well-defined Case of Thoraco-Gastro-Didymus. G. W. Thompson.

Memphis Lancet, June.

15.—*Attack of Diphtheria on Ninety-sixth Day After Administration of Immunizing Dose of Antitoxin. John M. Maury.
16.— "Steep Curves" of Typhoid Fever—Nephritis—Cardiac Valvular Disease—Chronic Appendicitis—Rash of Typhoid Fever—Croupous Pneumonia. H. A. Hare.
17.— Herpes Zoster. John Edwin Hays.

Memphis Medical Monthly, June.

18.—*Melancholia. Barton W. Stone.
19.— Motor and Sensory Areas of Brain and Physiologic Functions. D. R. Neil.
20.—*Sporadic Cretinism—Report of a Case. St. Cloud Cooper.
21.—*Case of Aphasia Due to Traumatism. The Medulla as a Speech Center. W. F. Rochelle.
22.—*Report of Case of Cerebral Meningitis, Manifesting Extraordinarily High Temperature. R. B. Christian.

Medical Dial (Minneapolis), June.

23.—*Need of Sanitoria for Treatment of Pulmonary Tuberculosis. J. H. Stuart.
24.— Description of Climate of New Mexico. Francis Crosson.
25.—*Alcoholism and Alcohol. G. D. Haggard.
26.—*Electricity in the Treatment of Diseases of Digestive System. Lafayette W. Case.

Medical Times and Register (Philadelphia), June.

27.—*Children with Abnormalities, Based on Reports of Teachers. Arthur MacDonald.
28.— My Experience with Somatose in Pediatric Practice. J. L. Landau.

Texas Medical Journal (Austin), June.

29.—*Photo-Micrography as Related to Medical Scientific Research. Rudolph Menger.
30.—*Relation of Physicians to Public—Medical Jurisprudence. R. L. Henry.
31.—*Complete Paralysis—Sensation and Motion—Due to Malarial Toxemia; Report of a Case; Recovery. F. R. Collard.

North American Journal of Diagnosis (St. Louis), June.

32.—*Treatment of Secondary Anemia. Milton F. Creel.
33.— Notes on Ophthalmic Bacteriology, Partly with Reference to Asepsis. H. Gifford.

Canadian Practitioner and Review (Toronto), June.

34.—*Recent Contributions to Theories of Immunity. Wm. H. Welch.
35.— Coccidiosis in Liver of Rabbit. Drs. H. B. Anderson and Page.

Fort Wayne Medical Journal-Magazine, May.

36.— Auto-Intoxication. J. J. Reynolds.
37.— The Country Doctor. W. T. Bertrand.

Northwestern Lancet (St. Paul), June 1.

38.—*Pure Drinking Water. Tomus Thams.
39.— Gonorrhea in Women. W. H. Bodenstab.
40.—*Observations in Anesthesia. Alice Magaw.
41.—*Respective Indications for Anterior Abdominal and Vaginal Incisions for Pelvic Disease. A. W. Abbott.

Virginia Medical Semi-Monthly (Richmond), June 9.

42.—*Some Dropsies and Their Management. J. C. Wilson.
43.—*Diagnosis of Bullet Wounds of Intestines. Hugh M. Taylor.
44.—*Antiseptic and Eliminative Treatment of Typhoid Fever. T. Virgil Hubbard.
45.—*Peritonitis from Clinic Standpoint. August Schachner.
46.— Specific Urethritis. John W. Shaw.
47.—*Disinfection of Railway-Coaches and Street-Cars Operating in Ohio. Frank Warner.
48.— Abdominal Surgery, Past and Present, with Cases. F. M. Brantley.
49.—*Some Points in Operating for Abscess of Liver. B. E. Hadra.
50.—*National Formulary. M. D. Hoge, Jr.

Medical Age (Detroit, Mich.), June 10.

51.—*Problem of Infant Nutrition. C. G. Jennings.
52.—*Trephining for Traumatic Epilepsy. W. O. Roberts.
53.—*Men and Their Ages. Robert Bruce.

Philadelphia Medical Journal, June 17.

54.—*Traumatic Rupture of Urethra. Emanuel J. Senn.
55.—*Sanitary Lessons of the War (Concluded). Geo. M. Sternberg.
56.—*Report of Case of Combined Typhoid and Quartan Malarial Fevers. Charles F. Craig.
57.—*Hypotonia. Fränkel's Symptom, H. C. Wood.
58.—*Case of Smallpox in an 8-year-old Boy, showing Development and Diagnosis in First Stages of Disease. William Jacobsohn.
59.— Modified Cow's Milk for Infant Feeding. Edmund D. Chesebro.
60.— Ten Commandments of Apollo. G. W. Wagoner.
61.—*Case of Diabetes Mellitus. J. Franklin Dunscith.

New York Medical Journal, June 17.

62.—*Some Remarks on Obstetrics in Private Practice. J. Clifton Edgar.
63.—*Quantitative Determination of Albumin in Urine. Charles W. Purdy.
64.— Severe Case of Puerperal Sepsis Treated by Antistreptococcus Serum and Unguentum Credé. Recovery. James D. Voorhees.
65.—*Use of Holocain as Local Anesthetic in Eye, Ear, Nose and Throat Operations. John Guttmann.
66.—*On a Compound Microscope for Viewing the Eye. Lucien Howe.
67.—*State of Gastric Secretions in Organic Disease of the Heart. Frank H. Murdoch.

Medical News (N. Y.), June 17.

68.—*Prognosis in Chronic Valvular Affections of Heart. N. S. Davis, Jr.
69.—*Management of Typhoid Fever in a Country Practice. W. J. J. Paris.
70.—*Dietetic Management of Some Diseases of Infancy. Charles Gilmore Kerley.
71.— Empyema of Pleural Cavity. W. J. Breeding.
72.— Bullet Wound of Liver and Lung; Operation; Recovery. P. R. Bolton.

Medical Record (N. Y.), June 17.

73.—*Summer Complaint in Children. Louis Fischer.
74.—*Reflections on Nosology of So-called Functional Diseases. Joseph Collins and Joseph Fraenkel.
75.—*Traumatic Ruptures of Heart, with Case. Richard Cole Newton.
76.— Congenital Cataract in Rabbit; a Histologic Study. T. de Obarrio.

Cincinnati Lancet-Clinic, June 17.

77.—*Aneurysm of Aorta. G. A. Fackler.
78.—*Incontinence of Feces. L. J. Krouse.

Maryland Medical Journal (Baltimore), June 17.

79.—*Cancer as a Parasitic Disease. Roswell Park.
80.— Pathology and Etiology of Skin Diseases. George C. Clark.
81.—*Simulated Blindness and Its Detection. Edward J. Bernstein.

1.—Treatment of Infected Wounds.—Eisendrath describes the types of infection of wounds of the various staphylococci, streptococci and bacilli, the rapidity with which infection seems to progress and the forms in which it manifests itself: 1, the circumscribed, as seen in folliculitis, carbuncles, boils, felons, or an acute abscess; 2, phlegmonous inflammation with suppuration: 3, progressive, purulent infiltration. As regards the first types, the difference is only in their extent and he recommends in folliculitis a simple antiseptic dressing after extraction of the hair, recommending what is approximately a Thiersch solution of salicylic acid and alcohol as a lotion. He advocates the use of hot wet dressings for all forms of local infection, and employs them almost as a routine practice. In furuncle, if the application of ice or repeated hot wet dressings does not cause resolution, he advises an early incision, preferably a crucial one, in order to better pack the wound. This can be done painlessly by the use of cocain and it is preferable to freezing the tissues or using Schleich solution. Any kind of gauze may be used for packing, and after the operation splints should be used to keep the parts at rest. In carbuncle the treatment is practically the same, but in addition injections of the surrounding tissues with 5 per cent. carbolic solution will frequently check its progress. In paronychia, which always starts in the connective tissues, if the infection passes under the nail, lifting it up, the latter should at once be removed, partially or wholly, to prevent the possibility of general sepsis, which has often occurred. He calls attention to the difference of anatomic arrangement as affecting inflammation of the dorsal or palmar surfaces, and advises, in infection of the front of the fingers, a longitudinal incision to either side of the tendon and the wound kept open with gauze packing. If the periosteum is affected, cut down to it.

In the second variety of infection the same general principles hold true. The treatment should be vigorous and prompt. Small incisions are of no use and long ones, parallel if necessary, should be made, exposing the entire area involved, necrotic tissues should be removed and tendon sheaths and bursæ widely opened. If joints have been invaded no time should be lost in using drainage. The wounds should be irrigated with strong (1:1000) solution of bichlorid or peroxid of hydrogen, and the infected tissues touched with a 10 per cent. solution of zinc chlorid, and packed in every direction with iodoform or even plain gauze and a dry dressing applied for a few hours until the greater part of the parenchymatous oozing, which may be very profuse, has ceased. In compound fractures, splints or fenestrated casts should be used. The packing drains away the secretions and aids nature. Within a few hours a wet dressing, constant immersions or irrigation of the parts with some mild antiseptic solution is desirable. The wound should be dressed once or twice daily, irrigated with a 1:4000 bichlorid, lactate of silver or peroxid solution, thoroughly repacked and a wet dressing applied. For the general condition, quinin, whisky and strychnin in liberal doses can be given. Eisendrath believes in the value of antistreptococcus serum in these cases, especially if the symptoms of general sepsis appear.

The third variety of infection is simply an advanced stage of the preceding, attended with extensive tissue necrosis. Large incisions, extending to the fascia, must be made, connecting with each other or with smaller intervening counter-drain openings. Drainage-tubes or gauze drainage may be used with wet dressings. The rest of the treatment is the same as the preceding variety. The general rule of treatment of infected wounds should be early and not too small incisions, disinfection and packing of wounds, wet dressing and systemic treatment.

2.—**Paget's Disease.**—Herzog reports a case that occurred in the practice of Dr. Van Hook, and elaborately describes and illustrates the microscopic findings.

3.—**Hysteria and Graves' Disease.**—Moyer's lecture is on cases of hysteria and Graves' disease.

5.—**Blood Examinations in Pneumonia.**—In this paper Fish maintains that we have fairly accurate diagnostic and prognostic indications in the blood in cases of pneumonia, and he believes that in it will also be found therapeutic indications. In true pneumonia the specific gravity is increased, the alkalinity decreased, poikilocytosis exists and leucocytosis of the polyneuclear neutrophiles, and sometimes the pneumococci are found. The prognosis is largely dependent on the number of leucocytes, and in the treatment of this disease we should aim to hasten the crisis and increase the number and power of the leucocytes, and if possible, neutralize the pneumonic toxins. He believes that for this latter purpose bleeding will be found of service, if we also use normal salt injections, and that the practice of former years, when bleeding was common in this disease, has some real therapeutic value. Leucocytes can be increased by hypodermic injections of nuclein and this will only be of value when there is partial neutralization of toxins and approximately normal blood reaction. Frequent examinations will indicate the dose and frequency of the nuclein injections and the neutralizing process in the blood. It is desirable to have the liver acting in good order on account of its bactericidal action, and purgation with a mercurial is advisable, also frequently repeated doses of saline cathartics. Internal medication, directed toward the inflammation of the lung, with ammonia preparations, supporting treatment, counterirritants, and cold baths may be used as indicated.

6.—**The Dauphin Louis XVII.**—Talbot goes over the historic facts in regard to the reported death and burial of the Dauphin of France, and concludes that the remains found and said to be of that individual indicate a much older person, especially according to the dentition. He thinks that what intrinsic evidence there is appears rather to support the claims of the pretender Richemont.

7.—See Journal, May 20, ¶ 114, p. 1108.

8.—**Bright's Disease.**—Noticing the fact that surgical treatment of nephritis is rarely mentioned in the text-books, Ferguson maintains that while this is so, it has an important surgical relation and, considering the hopelessness of its prognosis under purely medical treatment, he thinks it all the more necessary to suggest these facts. In times past many surgeons have operated on the kidneys for stone and found none existing, and their post-operative diagnosis was generally put down as nephralgia. Many observant surgeons, however, have noticed that the symptoms of albuminuria, hematuria and local tenderness and pain often subsided after the operation. These cases are probably unrecognized nephritis thus benefited by operation. In cases of floating kidney, operation has sometimes relieved the mobility, while pain and tenderness have continued, and these cases are usually the ones in which the capsule was not opened or the kidney explored. In his mind there is no doubt that many of these cases are unrecognized nephritis. Ferguson then notices Reginald Harrison's suggestion of puncture and incision of the renal capsules to relieve tension, and reports two cases in which he himself has operated by opening the kidney, exploring its substance with a needle, removing specimens for microscopic examination and diagnosis, with the result of complete relief of the more troublesome symptoms. In the first case the diagnosis was stone, but none was discovered. The pathologic diagnosis made in Klebs' laboratory was interstitial nephritis with cloudy swelling. The second case was a similar one except that the diagnosis of stone was not made, and the results were similar. He thinks the operation of exploration of the kidney is indicated when the following symptoms exist: persistent pain, persistent tenderness, persistent hematuria, albuminuria and pyuria, persistent troublesome abnormal mobility, and persistent enlargement. He believes that the surgery of the kidneys for this condition has a future, though it is as yet too early to speak positively as to the ultimate results in all cases of exploration or operation in nephritis.

9.—**Syphilitic Ozena.**—Ballenger describes four cases, the last of which is of some interest on account of its being a case of syphilitic ozena in a girl aged 4 months. He sums up the essential facts concerning this condition, as follows: Syphilis in a parent, even when carefully treated, may be transmitted to the offspring for three or four years, and even longer, in some instances. The first signs usually appear before the second month after birth—the earlier the more destructive. The infant's tissues do not seem to have the power to resist the poison. The later it appears the more favorable the prognosis. The first signs are those of an acute intractable coryza, which, if not syphilitic, is suspicious of a syphilitic process. Congenital syphilis runs a much more rapid course than acquired syphilis in adults, and if not checked, the bridge of the nose will become depressed. The treatment in the early stages should be local and constitutional: local treatment to insure the patency of the nostrils, as otherwise the child is unable to nurse. Bosworth recommends an 0.5 per cent. solution of cocain sprayed into the nostrils. In later stages mixed treatment should be used. As the skin is very sensitive, a simple ointment should be applied.

10.—Heineck's paper will be noticed when completed.

11.—**Treatment in Gynecology.**—Findley reviews the subject of topic applications in gynecology, which constitute in a large measure the practice in this specialty by the general practitioner. He sums up as follows: The vast majority of pelvic lesions commonly treated by local applications belong either to the domain of surgery or to internal medicine. Disorders to the pelvic viscera as the result of obstruction to the general circulation; primary and secondary anemias; chronic constipation; the uric acid diathesis; gout, rheumatism, syphilis and other constitutional diseases; passive engorgement of the pelvic and abdominal viscera from whatever cause; together with errors in dress, food and exercise, are to be remedied by directing the treatment to the predisposing causes, while local measures can only serve as a complement to the general treatment, and are often unnecessary and may do harm. Many of the cases that recover under local treatment do so regardless of local measures, or by virtue of the additional general treatment. The indiscriminate and wholesale use of tampons and the routine practice of intrauterine applications of caustics are productive of great evil and should be condemned. Douches should be given in the dorsal position; should be as warm as the patient will permit, and four to six gallons of sterile or antiseptic water should be given two to four times daily. Pelvic massage deserves a prominent place in gynecologic practice. It is imperative that there be an absolute diagnosis in order that the indications and contraindications be clearly defined.

12.—**Strophanthus Hispidus.**—Lloyd illustrates this plant and describes in full its toxic and physiologic effects.

13.—**Milk as a Carrier of Infection.**—In this paper the secretary of the Ohio State Board of Health calls attention to methods by which milk may be a spreader of infection. It is an admirable vehicle for many germs, especially diphtheria and typhoid. Any water-borne disease can readily be carried by milk, the more so since water is the most common fraudulent diluent of milk. Even washing the milk-cans with polluted water may infect the milk. It may be kept in the house where a person is ill and be infected by the atmosphere. Milk tickets may carry disease, as they are often dirty. It would be a good rule to have them always fresh and destroyed after use. Milk bottles may be transferred from house to house and carry infection. The question as to whether tuberculosis can be conveyed by milk of tuberculous cows if the udders are not affected was, he claims, definitely settled by the Massachusetts Society for Promoting Agriculture. Infection, however, is much more frequent when the udder is involved. The only way to control the conveying of disease in milk is by a rigid enforcement of the permit system and inspection of dairies. The measures needed for protection are summed up by him as: frequent inspection, license to sell, remodeling of cow stables and hearty co-operation of the dairyman in his own interest.

14.—**Triplet Birth.**—Thompson reports a case of triplets, one of which was a well-marked case of thoracogastrodidymus, the children being joined together on the anterior surface of the trunk. The single child was born dead; the other two died within twelve minutes after birth. The mother, though for a while in a critic condition, recovered satisfactorily. There was no rupture of the perineum.

15.—**Immunizing by Antitoxin.**—Maury briefly reports a case in which a child who had been thoroughly exposed to diphtheria was given 500 units of antitoxin as an immunizing dose. Diphtheria occurred ninety-six days later and was bacteriologically diagnosticated. It yielded readily to 2000 units in one injection.

18.—**Melancholia.**—Writing on this topic, Stone speaks of the frequency of suicidal and homicidal tendencies, and advises paraldehyde as the least objectionable hypnotic, though he also recommends others, like trional, sulfonal, bromids, etc. Chloral is the most dangerous one. As regards medical treatment for the disease itself, he thinks thyroid extract takes first place and would give it in initial doses of 5 grains tentatively, increased to 20 or 30 grains twice a day, at breakfast and dinner, watching the effect on the heart.

20.—**Sporadic Cretinism.**—Cooper reports and illustrates a case of sporadic cretinism, successfully treated with 5 grain thyroid tablets, three times a day, subsequently reduced to one a day.

21.—**Aphasia Due to Traumatism.**—Rochelle reports a case of a man who was shot in the face one and one-half inches below the left eye, with a 38-caliber pistol at close range. He was suffering considerably but was able to walk home. Forty-eight hours after he was seized with hemiplegia and aphasia. These symptoms continued, the aphasia being of the motor type, and the pain sometimes very severe. By the X-ray the bullet was located at the junction of the atlas and basilar process about the center of the left anterolateral quadrant, and it was removed by operation. Around the bullet was a thickened cartilaginous appearing growth which the writer thought was producing pressure on the medulla. The operation relieved the convulsions, at least temporarily. He has had but one since he left and the hemiplegia was decidedly improved, but the aphasia remained. The author suggests that the trouble was located in the medulla, involving the nuclei of some of the cranial nerves connected with speech.

22.—**Extraordinarily High Temperature.**—Christian reports a case in a woman 28 years old, who was taken with cerebral meningitis on April 16, and in which for a period of more than ten days there was a most remarkable record of high temperature, the temperature in the axilla ranging as high as 118 in two days at times, at other times going down to nearly or quite normal. On April 17 it ranged, in the mouth, from 98.5 to 110; on April 20, from 110 to 114 in the axilla; April 21, 109.5 to 114 in the axilla; 22d, 101.8 to 114; 23d, 98.5 to 114; 24th, 98.5 to 114; 25th, 98.5 to 117; 26th, 98.5 to 118; 27th, 100 to 117; 28th, from 101.4 to 118. At that date she became unconscious and remained in a stupor until her death, May 10. The temperature did not again go above 103 until a few hours before death, when it rose to 107. Three thermometers were broken from the pressure of the mercury in taking these temperatures.

23.—**Sanatoria for Tuberculosis.**—Stewart's article is a plea for the establishment of sanatoria for consumptives, and he describes the successful ones existing in Europe, and their methods.

25.—**Alcoholism and Alcohol.**—Haggard gives a well-written article full of references and quotations in which he strongly advises against the use of alcohol.

26.—**Electricity in Digestive Disorders.**—Case describes his methods of treating gastric dilatation and similar conditions by the internal use of electricity carried through a long, flexible stomach-tube, the external electrode being placed over the seventh cervical vertebra or over the subclavicular region. He uses thus, 3 to 5 milliampères of the galvanic current for three to five minutes. In some cases he uses the galvanic current for two or three minutes and follows it with a mild secondary faradic current for the same length of time, using the same electrode. In still other cases the sinusoidal current is used, which contracts muscular fibers without much pain. This internal treatment is given every second day, and on alternate days an external application is made, the positive pole at the back of the neck and the negative over the stomach. In many cases of vomiting which appears to be purely nervous, he finds advantage in the external use of electricity, a mild secondary current being preferable. In severe cases better results are sometimes obtained by the method first described. In many cases of indigestion the chief symptom is pain, and he usually employs the galvanic current with a pad over the affected part and a current of 5 to 20 milliampères of the positive for five to ten minutes. If the pain is confined to the liver region he often uses the interrupted galvanic current, negative over the liver, with the most satisfactory results. Obstinate constipation, so common in indigestion and other stomach troubles, is often greatly relieved by a sharp spray from a powerful static machine, or if greater stimulation is required, by sparks from the left iliac region. The spray is usually enough if used for five minutes daily. On several occasions he has found this method effective within a few minutes. While he has used other methods, he thinks this the preferable one.

27.—**Children with Abnormalities.**—MacDonald gives a statistic report of the results of investigation among the school children in Washington, D. C., with tabulated statements. He finds the most abnormalities, apparently, in boys between the ages of 10 and 13. The figures for girls are similar except that there is an apparent increase at the age of 16 or over. The abnormalities include sickliness, nervousness, defects in eyesight, hearing and speech, laziness and unruliness.

29.—**Photo-Micrography.**—After some general considerations and descriptions of methods, Menger reports a peculiar case of parasitic disease which he has not yet identified or been able to have identified by competent experts. It seems like a sort of scabies in some respects, but has some differences. His paper is illustrated with reproductions by photo-micrography.

30.—**Physician and Public.**—This article gives the views of a lawyer as to the medicolegal status of physicians. He thinks that every physician should study the laws of evidence, inform himself on medicolegal questions now arising and that he should be properly compensated for medicolegal work, though in Texas there is no statute providing for this. He points out that under common law professional secrets of physicians are not privileged, which is another matter to be regulated. He also gives his ideas as to medical registration, and thinks the conditions should be much more rigid than are those for admission to the bar.

31.—**Complete Paralysis Due to Malaria.**—Collard alludes to certain special conditions due to malaria, among which is acute mania, and describes a case in which a patient was apparently completely paralyzed both as to sensation and motion, the sphincter and bladder also being involved. He treated him with tonics, nux vomica, etc., and motion and sensation gradually returned, so that complete recovery ensued. He asks: "How is this paralysis to be explained and what pathologic condition is behind it?"

32.—**Treatment of Secondary Anemia.**—Creel's paper is devoted to showing the supposed value of ferro-somatose for this and similar conditions.

34.—**Theories of Immunity.**—Welch gives a very clear though brief statement of the principal facts and theories of immunity at the present day. His views as to the value of the antistreptococcic serum are not especially favorable, as he holds that the serums from the different specific forms are not well defined, and therefore it is not time for its general introduction into practice.

38.—**Pure Drinking Water.**—Thams describes the condition as to drinking water in North Dakota, and points out the very common methods of contamination, both in towns and rural districts. He also gives the results of the analysis of some of the water from the surface wells and artesian borings, showing the proportion of solids contained. Both are overloaded with mineral salts, and he finds, as a result of his routine examination, that the urine of his office patients averages high in specific gravity and is very often alkaline or neutral in reaction. This means, he thinks, that the kidneys of all these patients are overtaxed, and he lays this to the high percentage of solids in the water drank. To verify his findings he has obtained the results of life insurance examinations of one of his colleagues and finds them to agree very closely with his own. In order to furnish pure drinking water free from these excesses of salts, he has devised tablets which may be added to distilled water to give it the proper proportions and make it a safe and healthy drink. These tablets contain each ¼ gr. sodium sulphate, ½ gr. sodium chlorate, ¾ gr. sodium carbonate, 1 gr. magnesium carbonate and 3¼ gr. calcium bicarbonate. The alternative of water thus prepared will be found in rain water from properly constructed cisterns.

40.—**Observations in Anesthesia.**—This paper, written by a trained nurse, gives the results of some 3500 anesthesias in St. Mary's Hospital, Rochester, Minn., and she believes that the following conclusions are warranted: That the simple Esmarch mask is superior to any other inhaler now in use; that ether should be given with more air than was formerly supposed necessary; that patients revive quickly with plenty of air and withdrawal of the anesthetic. The main thing in giving an anesthetic is not to feel hurried and not to crowd either ether or chloroform. Avoid the frequent use of gags and tongue forceps. Do not rely on any one danger-signal, but carefully watch all symptoms.

41.—**Abdominal and Vaginal Incisions for Pelvic Disease.**—Abbott favors free abdominal opening in the majority of cases of pelvic disease. While many of the conditions selected in this paper, for abdominal incision, have been operated on by the vaginal route and it may be preferable in exceptional cases, he thinks that this route should be limited: 1, to pelvic abscesses, or those cases which are practically the same, i.e., recent exudates or hemorrhages becoming septic; 2, the breaking up of adhesions of the lighter grades; 3, to opening of abscesses in the broad ligaments when pointing toward the cervix, and 4, the removal of small intrauterine or other pelvic tumors when the capacity of the vagina is fully adequate for a thorough technic.

42.—Dropsy.—Wilson remarks that dropsy has been changed from its former position as a disease to be merely a symptom, but he thinks that probably it will be better to follow Allbutt in treating it as a special disease. He thinks that the part played by altered conditions of the blood in its production have been too little regarded, and he considers at considerable length the various forms of transudates, edemas following hemorrhage, which are due to, hydremia; those of chlorosis, also to an altered condition of the blood; nephritis, also a toxemia, due to deficient elimination of the kidneys; parenchymatous dropsies; the dropsies of diabetes; those due to interference with resorption of serum, the edema of pregnancy; liver cirrhosis, and cardiac disease.

43.—Bullet Wounds of Intestines.—Taylor asks: "Are there any early differential symptoms that are present in intestinal lesions and absent when no such wounds exist?" He believes that we can say, in reply to this question, that abolished peristalsis is one of the most competent and valuable signs, the more so as it is immediately appreciable. If we are correct in inferring that this is uniformly present in an early stage of intestinal lesions, it is probably the only early symptom on which we can confidently rely. Whether it can exist as an early complication in other conditions is a probable question, but he thinks it must be so rare that he does not abandon his faith in this as a constant diagnostic sign. Second only in importance to this is the occurrence of muscular rigidity, but this may occur in other conditions, when there is sudden incision into the peritoneal sac. Shock, if prolonged, points to visceral lesions and is due to hemorrhage or extravasation of visceral contents into the cavity. If appearing some hours after the penetrating wound, and progressive in character, it points to extravasation or hemorrhage, but if delayed ten or twelve hours, it probably means septic peritonitis. Above all, however, nothing but an exploratory incision will suffice to prove the non existence of perforation.

44.—See abstract in Journal, May 6, p. 996.

45.—Ibid, June 3, p. 1255.

47.—Disinfection of Railway Coaches.—The danger of infection of railway coaches is so obvious from the expectorations on the floor and the indiscriminate character of the passengers carried that some measures would be naturally suggested to any one interested in sanitary matters. For this disinfection, Warner here reports results of experiments made with formaldehyde gas in two railway cars. Test cultures were placed within the cars, the windows and doors shut, the other openings stuffed with waste, and the generator placed on the platform, the gas being conducted by a tube through the keyhole. The day was unfavorable, there being a high wind, increasing the ventilation, but in one experiment 8 out of 13 cultures gave no growth, in the other, 6 out of 17 only gave growth. Considering the methods, the results are rather significant, and he thinks that the needs could be met by requiring the regular disinfection of the cars by the railway companies.

49.—Abscess of Liver.—Hadra notes that it frequently happens in operating for abscess of the liver that patients who seem to be doing well suddenly take a change for the worse, the cause not being very clear. To account for this in claiming that in these cases reinfection from without is responsible, he reports two cases in which this was undoubtedly the case. He believes the best way to treat large liver abscesses is to perform costotomy in a well-disinfected operating room and carry on the treatment in a similarly disinfected sick-room. During operation and after treatment most religious abstinence from meddling must be maintained. There should be no washing and no tubing and the most painstaking asepsis to the very end. The incision ought to be perpendicular and in the axillary line if possible.

50.—The National Formulary.—Hoge gives a list of proprietary remedies with corresponding prescriptions in this work, and calls attention to its advantages. He believes that by following the Formulary we can give better results and have more reliable material to work with than by adopting the lazy, unscientific way of prescribing proprietary remedies.

51.—Infant Nutrition.—Jennings' paper is a general discussion of infant feeding. It shows that errors in this regard are responsible largely for the great mortality in infants, and he reviews the literature of the subject, paying special attention to the teaching of Rotch, Holt and others. He gives their formulæ, showing the difference between cow's milk and the natural food of infants, and the methods of adapting it for infant feeding. As regards the addition of cereals, which has been advocated by Jacobi and Lewis Smith, he thinks that they should not be given in large quantities to an infant under the age of 1 year, but they may be added to the food in moderate quantities in milk mixtures after the sixth or seventh month. In the early months of life, while some infants may thrive on or in spite of them, it should be the rule to use them only with great care and circumspection and in small quantities. He shows by analysis of the various prepared foods in the market that while they may be useful, they are unduly expensive, and the absence of small quantities of fat is their principal defect.

52.—Trephining for Traumatic Epilepsy.—Roberts reports two cases of trephining for traumatic epilepsy occurring ten years or more after the receipt of the injury. In the first case the operation was done fifteen years after the accident. The longitudinal sinus was opened, but the hemorrhage was readily arrested. In both cases the patients stood the operations well, but the ultimate results are not prophesied.

53.—Men and Their Ages.—Bruce discusses the question: "When can a man be said to be in his prime?" His paper is largely in quotation marks in the form of a dialogue between a "successful practitioner" and a friend, and the practitioner thinks that the period of old age is becoming more remote, and that the dead line, half real, half imaginary, ought to be removed still farther ahead.

54.—See abstract in Journal, June 3, p. 1256.

55.—See Journal, June 17, ¶ 95, p. 1382.

56.—Typhoid and Quartan Malarial Fever.—The case reported by Craig demonstrates the simultaneous occurrence of typhoid and malarial fever. The patient gave a history of having had repeated attacks of malarial fever. The clinic history during the first fifteen days was characteristic of typhoid. Widal's reaction was obtained on the twelfth day of the fever, the urine, also at this time, showing the diazo reaction very markedly. A pronounced chill occurred on the fifteenth day, recurring again in seventy-two hours. At this time the quartan malarial organism was amply demonstrated in the blood. The administration of quinin soon controlled these symptoms. The typhoid symptoms gradually subsided, resulting in recovery about the thirty-fifth day.

57.—Hypotonia.—From an analysis of the value of Fränkel's symptoms as characteristic of locomotor ataxia, Wood considers that the close connection between hypotonia and the knee-jerk seems to make the new symptom of comparatively little value in the diagnosis of primary tabes; considering the two symptoms to be expressions of the same condition, it is evident they must frequently co exist, and the presence of the one does not materially increase the diagnostic value of the other. It is pointed out that the power to fully extend the legs while the body remains in the dorsal position with the head slightly elevated (hypotonia) depends simply on a great loss of muscular tone, and that this condition is also at the basis of the loss of the knee-jerk. Complete hypotonia, however, it is likely, depends on a more complete loss of tone than does loss of knee-jerk.

58.—Case of Smallpox.—Jacobsohn's case is of value in that his observations began three days before the eruption appeared. The case developed in private practice; the child, 8 years of age, had never been successfully vaccinated. The course of the disease was not atypic.

61.—Diabetes Mellitus.—Having treated a case of diabetes with some success, by the use of morphin, Dunseith found the drug soon failed in its effect, substituted sodium salicylate and gave as much as 100 grains each day; no further increase occurred in the sugar, but otherwise the patient was unimproved. The patient subsequently developed carbuncles, the proportion of sugar rising to 10 per cent.; the case resulted fatally four months after the beginning of treatment.

62.—Obstetrics in Private Practice.—Edgar's paper gives a complete plan for the methods and appliances in the management of labor cases in private practice, including not only the instruments, etc., but also historic records for each case. The paper is illustrated, and gives diagrams of history cards.

63.—Determination of Albumin in Urine.—After noticing the difficulty of the methods heretofore in use for determining the amount of albumin in the urine, Purdy describes his own method, which he thinks has many conveniences and advantages over any other. It consists, briefly, as follows: Precipitation of the albumin in carefully graduated percentage tubes (15 c.c. capacity) by means of 2 c.c. of 50 per cent. acetic acid, and 3 c.c. of a 10 per cent. solution of ferrocyanid of potassium added to 10 c.c. of the urine. After mingling the reagents with the urine, the whole should stand for ten minutes to insure entire precipitation of the albumin. The tubes should next be placed in a centrifuge, the radius of which should be exactly 6¾ inches, and the centrifuge should be operated at fifteen hundred revolutions per minute for exactly three minutes. If the conditions above stated are carefully followed, the volumetric percentage may be read off from the scale of the percentage tubes, and with it the corresponding gravimetric percentage and the corresponding number of grains of albumin to the fluid ounce will be indicated by referring to the table on the following page. The time required for this test need not exceed fifteen minutes, and the range of error need not be over 0.01 per cent. expressed gravimetrically. He points out the precautions necessary. The urine should be rendered acid, and if the quantity of albumin is excessive, as shown by a preliminary test, the urine should be diluted with one or more volumes of water until the volumetric percentage does exceed 10 or 15 per cent. He thinks an efficient centrifuge is essential, and the one that he has devised best meets the conditions.

65.—**Holocain as Local Anesthetic.**—Guttmann gives his experience with holocain, which he thinks is to be decidedly preferred to cocain, not only on account of its producing less disagreeable symptoms, but as safer and almost equally efficient. It has special advantages for persons addicted to the cocain habit. He has employed it instead of cocain in about one hundred and fifty eye operations and never observed the slightest toxic or alarming manifestations. It is not advisable, according to some writers, to use it hypodermically and it can not, therefore, replace cocain, but under certain circumstances is to be preferred to it.

66.—**Compound Microscope.**—Howe describes and illustrates the arrangement of a compound microscope to be used for examining the eye, which he thinks affords special advantages in noting the extent and nature of the lesions. It also affords the possibility of recognizing imperfect motion of the iris and therefore will probably aid in diagnosis and in the detecting of changes. It is also of value in photographing the anterior portion of the eye in its normal or abnormal condition.

67.—**Gastric Secretions in Heart Disease.**—Murdoch has examined the gastric contents of 23 persons with organic heart disease, with special reference to the presence of free HCl. In 5 cases of aortic systolic murmur, free HCl was present in 4. In 8 cases of mitral systolic murmur, it was subnormal in 1, absent in 1 and nearly normal in the others. In 5 cases of mitral presystolic murmur it was absent in 1, normal in 1 and in excess in the other 3. In 4 cases of aortic and mitral systolic murmur it was absent in 3 cases and in excess in 1. In 3 cases in which it was present the total acidity was 10 in one and rennet was absent, and in the other 2 rennet was present; the total acidity in one was 20 and 72 in the other. In 1 case of simple hypertrophy of the left ventricle due to prolonged exertion, HCl was absent, rennet was present and the total acidity was 4. He concludes that there is no constant relation between the gastric secretion and any one form of organic heart disease, judging from his own cases and those described by Einhorn, Adler, Stern, and Hemmeter.

68.—**Valvular Heart Disease.**—In this paper Davis gives the result of the records of 250 cases observed in his own practice. He is skeptic as to the complete anatomic recovery in cases of valvular diseases. The chances of prolonged compensation are greatest in mitral stenosis. The extent of the lesions influences prognosis in these cases, as does also its stationary or progressive character. The congenital lesions and those produced by eruptive diseases are stationary, the lesions from chorea, without marked rheumatism, produce symptoms comparatively favorable. Rheumatic lesions themselves are intermittently progressive and degenerative lesions are the least favorable. These last are liable to occur after middle life, and the age of the patient is therefore something of a guide in prognosis. The amount of hypertrophy existing is of importance. The state of general metabolism is also a good guide as to endurance and longevity of the heart; the habits of the patient, over-exertion, exposure, indigestion, use of alcoholics, etc., are also of importance. The author goes over the symptoms and results of broken compensation and analyzes his case in this regard, and also as to loss of compensation, etc. He points out in conclusion that the mortality from heart disease varies in the different sections of the country, being apparently highest in the Pacific and Rocky Mountain regions and lowest in the Middle West.

69.—**Typhoid Fever in Country Practice.**—The difficulties of managing typhoid fever in country practice are largely in the lack of trained nursing and the physician should therefore direct that one person exclusively take care of the patient. Paris goes into full details in regard to his methods: absolute rest, disinfection, complete isolation from visitors, milk diet principally, sponge baths, which he finds as effective as the Brand method, and thymol as an intestinal disinfectant, in preference to others used, and which can be given in olive-oil, which takes away its irritating quality in the throat and stomach. Proper management will prevent most complications. The return to solid diet should be very gradual and the patient should be kept in bed at least a week after temperature has become normal. Sedatives are rarely required, but if necessary, he finds the best combination to be 7.5 grains of chloral in a dram of paregoric.

70.—**Dietetics of Infant Diseases.**—Kerley calls attention to the importance of diet in infant diseases and thinks the error is often made of not reducing the diet when it should be. During exanthemata, pneumonia, severe bronchial diseases, or any severe disease with fever, he reduces the child's milk one-half with water, and substitutes animal broth and barley-water two or three times a day. Constipation in infants is largely due to casein in the milk, and it is difficult to manage this in infants. The mother must be treated. She must be provided fresh meat, fresh vegetables and cooked-fruit diet, and he advises malt liquor with luncheon or dinner. She is advised to take at least three hours' exercise in the open air daily. These methods will diminish the proteids, increase the fats, and not only relieve constipation in the child, but furnish it with better nourishment and a later weaning than would otherwise be necessary. In some cases, however, the treatment of the mother fails, and he gives cream, ½ to 2 teaspoonfuls in warm water immediately before nursing. The use of the gluten suppositories at the same hour every day is also useful. In case the cream does not agree, 15 or 20 minims of cod-liver oil three or four times daily may be effectual. When all these fail, medication may be necessary. In bottle-fed and "runabout" children, the matter is simple, as the fats and proteid contents of the food can be more easily managed. In children running about, the range of diet is so large that the management of constipation is generally exceedingly easy. In gastrointestinal summer diseases, Kerley believes that the first thing to do is to discontinue the milk and prescribe food that will be largely absorbed by the stomach, giving the intestines a rest. He finds it a very good plan to use barley water as a basis, with the addition of a teaspoonful of beef-juice or liquid peptonoids or a little chicken broth, alternating. He rarely uses white of egg mixtures. In convalescence it is important not to return to the full strength of the milk diet at once. It should be gradually brought up to it.

73.—**Summer Complaint in Children.**—Fischer in this paper reviews the treatment of summer complaint in infants, due to malassimilation and improper feeding during hot weather. The digestive powers in children are readily overtaxed, and the ordinary form of summer complaint in which children lose their appetite, get thirsty, and if they do not have spells of vomiting, have greenish or liquid, foul-smelling stools, shows the efforts of nature to get rid of the fermented and unassimilated residue. It is a good plan to aid nature with a dose of castor-oil, repeated if it is vomited up, and calomel, which cleanses both stomach and bowels. When possible, irrigation of the stomach is also advisable, but this should be done entirely by the physician, as accidents have happened by getting the tube into the larynx and flooding the lungs. The bowels should also be irrigated, like the stomach, with a warm salt solution, through a fountain syringe, which, to avoid too much pressure, should not be raised more than two feet above the body. The thirst may be relieved by copious draughts of sterilized water, and in case of collapse, hypodermic injections of normal salt solution, ice-bags to the head, mustard foot baths, etc. In severe cases these are usually indicated. The dietetic management should be, first, complete change of food. Substitute barley water, sago water and such drinks for the milk. Change of air is also another essential. Children suffering from summer complaint in the warm city will suddenly become almost constipated on being given a sea voyage. Bathing, sponging, proper arrangement of clothing, etc., are other matters discussed.

74.—**Nosology of Functional Diseases.**—In this paper Collins and Fraenkel discuss the so called functional diseases, in which they class epilepsy, insanity with lucid intervals, neurasthenia, asthma, etc., at one end of the series and at the other rheumatism in all its various forms, morbid obesity, arteriocapillary fibrosis, and between these a transitional group, including hysteria, Graves' disease, emphysema, etc. The key-note of this paper is that each and every one of these diseases has legitimately interpreted on the basis of an original disorder of the sympathetic, and they argue at length in favor of this proposition. All of these diseases have certain common features, among the first of which they class heredity, the origin of which they think is to be sought in the sympathetic system which controls the growth-tendency of the body. Another feature is that sufferers from these diseases are nearly always possessed with what we call degenerative stigmata, which are ataxic manifestations of growth. Other peculiarities are their interchangeability, their sensitiveness, atmospheric and telluric influences, their insidious onset and the general coincidence in their therapeutics. The authors discuss in detail the conditions of neurasthenia, which they think will be better explained by a study of the sympathetic nervous system than in any other way; arteriocapillary fibrosis, which they hold to have a similar pathologic explanation; rheumatism, gout, Graves' disease, and hysteria. In conclusion they mention acromegaly, as related to disorders of the pituitary body, and they quote Cyon's recent experiments to show that this body is functionally and morphologically a part of the sympathetic nervous system.

75.—Ruptures of Heart.—The case reported here is that of a young man who was thrown from a bicycle and struck with force on the post of the handle-bar, fracturing one of the costal cartilages and causing a transverse rent in the apex of the right ventricle, extending through its wall. The tear had partly separated a triangular flap of the heart substance, the sides of which were $1\frac{1}{4}$ and $1\frac{5}{8}$ inches respectively. In spite of this injury he was taken to the hospital, revived enough to tell his name and address, called for water and did not die for an hour and a half after the fall. Newton discusses similar accidents, goes over the literature, and thinks that if this case had been diagnosed sufficiently early for operation, the man's life might have been saved.

77.—See abstract in Journal, May 13, p. 1060.

78.—Incontinence of Feces.—Krouse divides the conditions causing this symptom as follows: 1, traumatic injury of the sphincter; 2, destructive ulceration of lower end of gut; 3, loss of nervous innervation of outlet of bowels. He discusses the theories of the cause of incontinence following operation for fistula, that of Henry Smith, in which it is chiefly due to the free incision of the internal sphincter and circular muscular fibers of the rectum, Esmarch's theory that it is due to division of the motor nerves, and Kelsey's, that it is caused by vicious cicatrization, without offering any positive opinion of his own. He reports five cases briefly, in which it was due to the overstraining or to the free incision of the sphincter, and to the dense cicatricial tissues around the anus, preventing the muscles from acting. In one case the trouble was due to the gradual dulling of the sensibility of the lower bowel, allowing the feces to accumulate and exude without the consciousness of the patient.

79.—See abstract in Journal, May 6, p. 1000.

81.—Simulated Blindness.—Bernstein briefly reports three cases of simulated blindness and gives in detail the methods of its detection.

FOREIGN.

British Medical Journal, June 3.

Parasite of Malaria in Tissues in a Fatal Case of Blackwater Fever. George Thin.—The author reports a case of blackwater fever sent to him by Dr. Kerr Cross from Africa. First, however, he alludes to Koch's theory that quinin is the cause of this condition, and asserts that the history indicates that in many of the cases reported by Dr. Plehn this was probably the cause. In the case observed the brain, spleen, liver and kidneys were the organs investigated. The parasites were found in the brain; in the spleen, liver and kidneys they were not found. While the first examination did not show the expected pigmentation, closer examination revealed it. He concludes that in the blackwater case the toxins act more virulently than in the others, and that the intoxication appears to be helped by quinin in the blood.

Additional Observations on Functions of Suprarenal Gland. A. G. Auld.—The author gives the result of experimental investigation as to the functions of the suprarenal glands, the subjects of experiments being mostly cats. The extirpation of one gland did not seem to have any specially bad effect, and on post mortem the remaining gland was not found, as a rule, hypertrophic. In one case it seemed reduced in size, but two phenomena were very apparent—a very great hypertrophy of the thymus and considerable enlargement of the spleen. The most striking feature in the thymus was the excessive vascularity of the medulla, otherwise the alveoli were enlarged and the nuclei very prominent. The concentric capsules appeared unaltered. Removal of the second gland in the cat always caused death within thirty six hours, the animal lying in a state of extreme weakness and apparent drowsiness from the time of the operation. Death was preceded by convulsions in the one case observed. He concludes that the suprarenal glands act by destroying deleterious substances and furnishing a material to the blood. The work appears to be done by the medulla. There is, therefore, considerable ground for regarding the toxin which acts apparently as a vasoconstrictor, as an evidence of the former function.

Cystoscope in Surgery. W. Thelwall Thomas.—The author calls attention to the importance of examining the bladder in any case of hematuria. The only method is with the cystoscope, which enables us to ascertain whether the cause of bleeding is in the bladder or not. He reports four cases, two of villous growths in the bladder and two of tumor, illustrating the value of this method.

Two Cases of Extreme Dilatation of Sigmoid Flexure; Colopexy; Recovery. Shirley Lawrence Woolmer.—Two cases of laparotomy for enormous dilatation of the sigmoid due to chronic constipation are here reported, and attention is called to the little notice such conditions have received in the text-books. The second case also illustrated the disadvantage of the Schleich method in those laparotomies where it is of the first importance that the functions of the bowels are not retarded. The meteorism caused by the morphin in the injection produced the keenest suffering to the patient.

Lancet, June 5.

Crossed Aphasia, Factors which Go to Determine Whether the "Leading" or "Driving" Speech-Centers Shall Be Located in Left or Right Hemispheres of Brain. Byron Bramwell.—In this article Bramwell reports a case of a man, entirely left-handed with the exception of writing, which he had learned to do with his right hand, suffering from right hemiplegia, which came on suddenly. In his case there was marked and persistent aphasia, and Bramwell concludes that the lesion was situated in the left hemisphere in this left handed man, and that the motor side of the speech organism was directly implicated and the speech centers also in the cortical region. He believes that from the symptoms the lesion was due to either hemorrhage or embolism, with the probability in favor of the latter. The subject of "crossed aphasia," as he designates it, is discussed at full length. The vast majority of mankind are either right- or left-handed. Absolute ambidexterity must be very rare, if it exists. Right-handedness is the rule, and this he attributes to heredity, congenital organic aptitude and acquirement. In the right-handed person the left hemisphere, and in the left-handed person the right hemisphere, is the leading or driving portion of the brain, and with rare exceptions, the speech centers are situated in this side. Exceptions occasionally occur, as in the present instance, and he explains the exceptions by assuming that the ancestors of the individuals were right-handed and that it is just due to heredity, or heredity plus acquirement, as in the case of this individual learning to write. He quotes a case from Oppenheim to show that in an acquired case of left-handedness, the right speech-center may be educated to act instead of the left. So far as he is aware, however, there has never been any case discovered of a left-handed person whose ancestors also were left-handed exhibiting this crossed hemiplegia. In the closing part of his paper he makes a distinction between cases in which the speech center is suddenly destroyed and those in which the process is gradual. In these latter it sometimes happens that aphasia does not occur. He accounts for this by what he calls "the substitution compensation theory," a term which rather explains itself. He does not believe that there are any grounds for believing that in right-handed persons, whose ancestors also were right-handed, the leading motor-vocal speech-center is ever situated in the right side of the brain, though he does not absolutely deny it.

Considerations as to Etiology and Significance of Dilated Heart. H. A. Caley.—The object of this paper is stated as being to review the more important factors concerned in the production of dilated heart, with special reference to their relation to one another, to illustrate the essentially symptomatic nature of the condition and to demonstrate that its significance as regards prognosis and treatment depends as much on its causation as on its degree. The special points given prominence are: that in the etiology of cardiac dilatation the two essential factors, factors of varying relative importance are: 1, the element of increased mechanic strain, and 2, myocardial weakness, primary or secondary; that the liability of the heart to suffer from the effects of increased work is dependent on the inter-relation that exists at the time being between the element of mechanic strain and the condition of the myocardium, which has in large measure to stand the strain, and that it is when increased mechanic strain and myocardial weakness are combined that there is the greatest liability to severe cardiac dilatation. We have seen that a dilated ventricle is, per se, unfavorably placed for coping with increased work, that, given a slight degree of dilatation from mechanic causes, toxic and other agencies which depress the heart muscle may greatly intensify the cardiac embarrassment, and that in a large proportion of cases in which alteration in the mechanic conditions of the circulation constitutes the primary factor in the production of dilatation, its later progressive development is attributable to the supervention of myocardial changes. Then, with respect to the significance of the dilatation that just as physiologic dilation (beyond certain narrow limits) is an evidence of heart fatigue, pathologic dilatation is an evidence of heart overstrain—past or present—and that in order to estimate its significance with any degree of accuracy we must take note of the degree of dilatation, the condition of the heart muscle with which the dilatation is associated, its precise etiology, the extent to which the work of the heart in relation to the general circulation is affected by it, and the amount of recuperative power which the heart, and we may add, the individual, possesses, this recuperative power being evidenced by the course of the case and its reaction to treatment.

Annales de Dermatologie et de Syphiligraphie (Paris), May.

Injections of Artificial Serum in Malignant Syphilis. T. Augagneur.—Certain cases of malignant syphilis resist the most energetic specific treatment, but fortunately they are very rare. Two observations are related in this communication, both extremely and progressively malignant, one a fresh case and the other dating from five years previously. The fresh case threatened a speedy fatal termination. Both were treated with lavage of the blood with Hayem's artificial serum, 400 to 500 grams every fourth to fifth day. Relief was apparent at once, and the specific treatment regained its efficacy. Four or five lavages the writer considers sufficient; the elevation of temperature and polyuria are the tests of their beneficial effect. Both cases were dismissed cured, the first in one month and the other in six, with no recurrences during the year since.

Presse Medicale (Paris), May 31.

Surgical Treatment of Hydatid Cyst of Liver. Dieulafoy.—"Laparotomy with incision and ablation of the cyst should be reserved for old cases, very large, with probable adherences, especially if pain and fever indicate infection. An aseptic aspirating puncture with a No. 2 needle is indicated in about half the cases; in a few minutes and with an insignificant opening the hydatid cyst is completely cured." "Partial and exploratory punctures should be avoided. It is imperative to evacuate the entire contents of the cyst, as otherwise the liquids have been known to filter through the tiny puncture hole into surrounding tissues with serious consequences."

Revue Hebd. de Laryngologie (Bordeaux), May 20.

Lipoma of Epiglottis. J. Garel.—Notwithstanding its location in the right glosso epiglottic fossa, the lipoma, which weighed twenty-five grams when removed, had never caused any suffocating accidents. Garel prefers the galvanic loop for ablation as more certain, producing rapid cicatrization and less danger of hemorrhage, although a second séance may be necessary as in this case, to remove the last trace of the tumor. Only thirteen cases of lipoma of the epiglottis are on record.

Muenchener Medicinische Wochenschrift, May 30.

Histology and Histogenesis of Papillary Cystoma of Ovaries. A. Uffenheimer.—Study of a few cases of different varieties, superficial, ciliated, etc., demonstrated that the tumors develop late in life, and from the superficial epithelium, by a primary proliferation in the form of canals inward. The first layer of the papillæ is purely epithelial. No positive evidence has yet been offered that papillary cystomata develop by canals proceeding from the follicular epithelium. The abrupt appearance of ciliated epithelium in the papilloma is the consequence of metaplasia, easy to understand by comparison with other anatomic and pathologic phenomena. Psamomma grains are produced by degeneration of epithelial tissue, and are noted even in the first stages of papilla formation. Papillary proliferation may lead to superficial cysts by continuity, without spontaneous origin or mechanic rupture. Particles of protoplasma on the proliferating epithelial mounds, stretching out like feelers, are possibly the beginning of new proliferations The ovum may be perfectly intact in a follicle the walls of which are destroyed. The follicle does not necessarily have to be oval. Hyaline degeneration of the vessels seems to be a constant accompaniment to papillary degeneration. Some attribute the origin of these neoplasms to irritation from the tubes, usually gonorrheal infection, but cases have been known with entirely normal tubes.

Wiener Klinische Rundschau, May 7, 14, 21, 28.

Effect and Elimination of Large Doses of Paraldehyd. E. Raimann.—A couple of patients at Wagner's clinic were given 50 grams each of paraldehyd, by mistake. The effects of this large dose and its elimination were studied in the smallest details, and it was found that part was eliminated through the lungs, part through the skin, and a very small amount by the kidneys. Sleep was produced, lasting fourteen hours in one and nineteen in the other, without the slightest injury to the organism in any way resulting from this large dose. The intestinal putrefaction was completely suspended for a certain period, which can be considered rather an advantage than otherwise. The formula found most palatable is: paraldehyd, 12.0; essent. pro limonad., 1.5; spir. sacchar., 16.5; syrup simp., 30.0. Take half, diluted in water.

Gazzette degli Ospedale (Milan), May 21 and 28.

Aneurysm of the Aorta Treated by Baccelli Method. F. Mariani. —The aneurysm measured 5 by 15 by 17 cm., and had been developing for three years with temporary partial regressions following the administration of potassium iodid. The Baccelli treatment consists in the introduction of a watch-spring into the sac, and this was successfully performed without hemorrhage, after removing about 200 c.c. of blood and simultaneously injecting the same amount of a 2 per cent. gelatin solution, four hours before. The pressure of the aneurysm was so great, however, on the veins of the neck and the pulmonary parenchyma, that death ensued in eight days. The results of the intervention proved highly gratifying, as each of the four fragments of the spring was found the nucleus of a hard resisting coagulum about 5 cm. in diameter, and there was no embolism nor rupture. The spring breaks into pieces as it oxidizes, each of which serves as a nucleus for a clot. "Rational in theory, easy in its practical application, and certain in its effect of contributing to the formation of a coagulum, this method should be preferred whenever more radical intervention is impossible and the sac is in contact with the external wall."

Cervello's Treatment of Tuberculosis. F. Maragliano.—Professor Carvello of Palermo, whose name is a guarantee of scientific accuracy, has announced that he has successfully applied formic aldehyde to the treatment of pulmonary tuberculosis, in a local hospital for consumption, and obtained 40 per cent. cured; 9 far on the road to a cure; 2 very much improved, and only 5 showing no benefit from the treatment, out of 26 cases, nearly all in advanced stages. Formic aldehyde alone is irritating to the tissues, and he combines it with air in an unvarying proportion by means of his "vaporigeno" apparatus, using a new compound of formic aldehyde which he calls "Igazolo." The "vaporigeno" generates with it as much formic aldehyde as would be produced by a little more than three-quarters of its weight of paraformaldehyde, with a small amount of the vapors of iodin. The patient can inhale these fumes diffused in the room, for hours without irritation or inconvenience, and all the symptoms are rapidly alleviated except the fever, which persists sometimes even after the zone of dulness has vanished from the lungs. He attributes the effects to the excessive oxidation produced by the fumes inhaled; the bacilli are not only destroyed, but their toxins are neutralized by this extreme oxidation. The persistence of the fever he ascribes to the fact that as the bacilli are destroyed by the medication, more and more toxins are released, which it takes time to neutralize. Maragliano suggests that possibly after all, the beneficial results attained may be only due to the destruction of secondary bacteria, and that the tuberculosis bacillus may still remain intact, ensconced in the tissues. Time alone will decide; only four months yet have passed.

Havana Medica (Cuba), May.

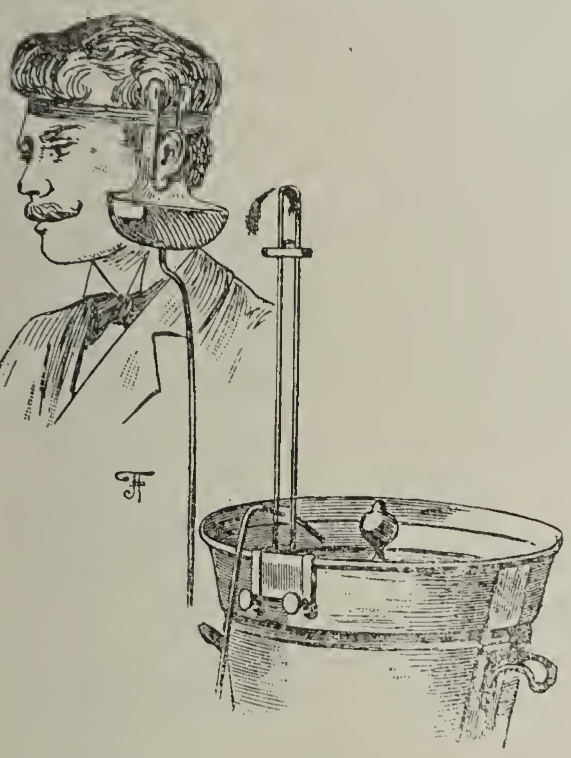
Cultivation of Bacillus Lepræ. J. Carrasquilla. — Lymph taken from a leper by the Herman method and sown in gelatinized human serum, kept at 37 C., resulted in cultures of an aerobic, motile bacillus, which Carrasquilla asserts is the Hansen bacillus. Cultures can also be obtained from the first cultures on the serum by sowing in neutral or slightly alkaline bouillon. Experiments now in progress, inoculating animals with these cultures, incline him to the belief that the immunity of animals to leprosy is not so absolute as supposed. The reaction in horses injected with these cultures is even more intense than when injected with serum from a leper, and serum from a horse, prepared with this fluid, modifies the disease in the same manner as when derived from horses immunized with serum from lepers.

Brazil Medico, April 15.

Preservation of Cadavers for Anatomic Studies. B. Carvalho.— The horrors and dangers of the dissecting room in the tropic climate of Rio Janeiro have been entirely obviated by Prof. Paes Leme's injections of formol, which preserve the tissues of a cadaver in a condition favorable for anatomic studies. A cadaver that had been kept twenty days in this way, had the appearance of a fresh cadaver, in every respect, on the surface and when dissected. Anatomic pieces taken from these cadavers and kept in formol solution were in a perfect state of preservation, although in time they became mummified. One cadaver inspected had been preserved forty eight hours by being wrapped in cloths moistened with the solution instead of injected. Tests are now in progress to determine whether the injections diminish the noxious effects of the cadaveric microbes and toxins as hoped and expected.

Anales del Circulo Medico (Buenos Ayres), March 31.

Otologic Basin. Lizarralde.—The advantages of this celluloid ear basin, connected with the nickeled bronze pail on its tripod by a rubber tube, are obvious at a glance. It is light, adjustable to any sized ear, and fits so closely that it becomes part of the head, as it were, and both aurist and patient forget all about it and about the escaping fluid. An upright screen, with a hole in the center for the syringe or eye, is set on the edge of the basin, when needed. By unbuckling the strap the basin can be removed in a second, when it is hung on the standard that rises from the pail, and the whole apparatus set aside; it is rather ornamental than otherwise to the office.



Revista Medica (Mexico), May 1.

Meningitis Tuberculosa. F. Bulman.—Applying to meningitis tuberculosa the results of experience with tuberculosis of the peritoneum, it seems rational to assume that opening the focus to the air and allowing the expulsion of putrid matters would prove as beneficial in the former as in the latter, and in fact the *Lancet* of March 10, 1894, reported a case, not bacteriologically confirmed, of a child 5 years of age who was restored to health in a month, after all hope had been abandoned, by trephining the occipital, incising the dura mater and arachnoid and inserting a rubber tube. Bulman recommends trephining the squamous portion of the temporal bone, which is easily perforated and allows access to the regions especially affected by the tubercle in its localization on the pia mater. This transference of meningitis tuberculosa from the physician to the surgeon is not relished by the latter, and two recently refused to operate on a lad at the commencement of the convulsive period of the disease, in spite of the appeals of Terres, endorsed by Carbajal and Bulman.

Kleenetchesky Journal (Moscow), April.

Disposition of Gonococci in Gonorrheal Secretions. A. E. Lantz.—Reviewing the international literature on the subject and the conclusions of personal research, Lantz considers himself justified in asserting that while it is advantageous from certain points of view to determine the occurrence of the gonococci free or within the cells in the gonorrheal secretion, yet that it is impossible to carry out in practice this classification of cases of acute gonorrhea based on the microscopic determination of the location of the gonococci. Also that the occurrence of the gonococci free or within the cells has no significance per se in regard to the prognosis. Also that the disposition of the cocci within or without the cells can not per se serve as evidence against the importance of local therapeutics.

Foot as an Aid to Diagnosis.—A South American confrère, S. Tatti, has called attention to the pulsation of the foot when the legs are crossed, as a means of diagnosing various disturbances in the circulation even in their incipient stages, as he has established by much study (*Semana Medica*). One of the points accepted as infallible of the guilt of Dreyfus was, we learn, the increased motion of his foot in this position when asked certain leading questions, showing increased heart action consequent on emotion.—*Journal de Méd. de Paris*, June 4.

Societies.

COMING MEETINGS.

American Ophthalmological Association, New London, Conn., July 19.
New Jersey Medical Society, Deal Beach, June 27.

Houston District Medical Association.—At the recent meeting of this Texas association, the following officers were elected: president, Dr. McKay; vice-president, Dr. Engleheart; secretary and treasurer, Dr. Hodges.

Ann Arbor Medical Club.—The first annual meeting of this society was held at Ann Arbor, Mich., June 14, and the following officers elected for the ensuing year: president, C. G. Darling; vice president, J. R. Arneill; secretary and treasurer, Wm. A. Spitzley.

Northampton County Medical Society.—The fiftieth anniversary of this society was celebrated in Easton, Pa., June 13. The only surviving member of the original twenty-two who were present at its foundation was Dr. Amos Seip of Easton, who read a paper on "Historic Recollections of the Society."

Thirteenth International Congress of the Medical Sciences.—As already announced, this congress will be held at Paris, August 4 to 9, 1900. The membership fee of 25 francs can be sent direct to M. Duflocq, treasurer of the congress, 64 Rue Miromesnil, Paris, and a card will be forwarded in return entitling the holder to all the privileges of the congress.

Chicago Medical Society.—In a synopsis of a paper on the "Surgical Aspect of Hip joint Tuberculosis, ' presented before this society on May 3 (see Journal, May 27, p. 1178), Dr. L. L. McArthur was made to say: "There is no longer need of a diagnosis of hip-joint disease." It should read: "The diagnosis of 'hip joint' disease is no longer sufficiently refined."

Massachusetts Medical Society.—At the annual meeting of this society, recently held in Boston, the following officers were elected: president, Edward B. Harvey, Westboro; vice-president, Charles M. Green, Boston; treasurer, Edward M. Buckingham, Boston; corresponding secretary, Charles W. Swan, Brookline; recording secretary, Francis W. Goss, Roxbury; librarian, Edward H. Brigham, Brookline.

German Congress of Gynecology.—Olshausen presided at the eighth annual congress of the German Gynecologic Association, at Berlin, in May. Zweifel and Rosthorn presented the subject of the "Treatment of Myomata," and Bumm, "Puerperal Fever." The congress will meet next year at Giessen, under the presidency of Löhlein. The subjects announced are "Radical Operations for Carcinoma Uteri" and "Treatment of Eclampsia."

American Surgical Association.—The reporter of the recent sessions of this association (see Journal, June 10) accidentally omitted mention of the "Demonstration of the La Place Forceps," by Dr. Ernest La Place of Philadelphia. The regular demonstration lasted twenty minutes in the general meeting, but was continued for three hours later in an adjoining room to sections of ten members of the association. Similar demonstrations were made at the recent meeting at Columbus.

Washtenaw County Medical Society.—At the annual meeting of this society, held at Ypsilanti, Mich., June 12, the following officers were elected: president, Geo. Dock, Ann Arbor; vice-president, Ellen Murray, Ypsilanti; secretary, Jas. T. Breakley, Ann Arbor; treasurer, John A. Wessinger, Ann Arbor. An amendment was passed changing the constitution of this society so that hereafter meetings shall be held monthly from October to June, inclusive, two at Yipsilanti and seven at Ann Arbor, unless otherwise voted at a previous meeting.

Illinois State Medical Society.—Through an inadvertence, in our report of the proceedings of this society, we omitted a paper read by Dr. Carl Wagner, Chicago, entitled, "Amputation at the Hip-Joint," in which he reported an interesting case, exhibited the specimen, and demonstrated a new method, which was illustrated by cuts. Several micro-photographs of the specimen were passed around. He gave a critic review of other methods of operating for sarcoma at the hip-joint, and described a method devised by himself, which showed distinct advantages.

American Laryngological, Rhinological and Otological Society.

Fifth Annual Meeting, held at Cincinnati, June 2 and 3, 1899.

MASTOID OPERATIONS.

Dr. Max Thorner, Cincinnati, exhibited several interesting cases on whom he had done the mastoid operation. The first showed an excellent result, the large cavity in the mastoid being well covered with epidermis. There had been no discharge for almost a year. The patient was so well satisfied with the result obtained that he did not care to have a plastic operation done for the cosmetic effect. The second differed markedly from the first in that the first case presented an extradural abscess of eighteen years' standing, while in the second the symptoms developed very rapidly. The Doctor is not in favor of the early closure of the opening with suture at the time of the operation or soon thereafter. The third case had complained of pain over the mastoid on several occasions, with intervals of almost complete freedom. Finally the pain increased, the temperature ran up to 101 degrees, and some swelling developed. On operation the mastoid was found full of granulation tissue and pus was demonstrated throughout the whole mastoid. Recovery was complete in some eight weeks after operation. The fourth case presented a somewhat similar condition of otitis media with discharge, which would stop and then open up again. Finally the pain became unbearable, although the temperature was only 100. On operation there was found great destruction of tissue, and pus was demonstrated throughout the mastoid. The entire cortex was removed and the operator went deep down into the mastoid. The third and fourth cases were remarkably similar.

THE FACIAL NERVE AS IT AFFECTS THE AURIST.

Dr. George L. Richards, Fall River, Mass., read this paper and presented a number of specimens which he had opened with the chisel to find the location of the facial nerve with especial reference to the mastoid operation. There are many variations in the course of the nerve, showing that its exact location can not be predicted with certainty in any case. In the discussion that followed, a number of cases of facial paralysis following the mastoid operation were reported, some of which seemed to be permanent. The agents generally recommended for the treatment of facial paralysis were galvanism, faradism, massage and the use of strychnia and tonics.

ASTHMA AS A REFLEX MANIFESTATION FROM ABSCESS OF ANTRUM.

Dr. Charles W. Richardson, Washington, D. C., spoke of the reflex disturbances in the respiratory tract and other organs caused by pathologic changes within the nasal chambers and neighboring accessory cavities, the disturbances being at times so remote as to make it impossible to decide whether the relief of the accessory disturbance is an effect or an incident in the treatment. In the past three years he had had two cases of antral abscess attended by marked evidence of asthma, in both of which the asthma seemed to be excited in a reflex manner through the abscess of the antrum, and in which the asthma was relieved by the evacuation of the pus within the antral cavity.

TRAUMATIC HEMORRHAGE FROM NOSE AND PHARYNX WITH REPORT OF CASES.

Dr. Robert C. Myles, New York City, read this paper. He considered five important points: Whether the surgeon has any means of finding out before operation the probabilities of hemorrhage; if there is reason for suspecting excessive bleeding, whether there ought not to be more limitation in the area and depth in making sections and excisions. After each operation where there is a reasonable possibility of delayed or secondary hemorrhage, the patient should be kept within easy reach of the surgeon. Careful instruction should be given the attendant to watch the patient during the night. Several cases had been seen in which dangerous and alarming hemorrhages had occurred, and the conditions were not discovered until the patients were nearly exsanguinated. As soon as the surgeon has evidence that he is dealing with a bleeder, he should apply expressed tampons of tanno-gallic acid. In the discussion that followed a number of cases of hemophilia were reported, in which obstinate hemorrhage came on within a few hours after operations on the upper air-passages.

REPORT OF CASE WHERE DEFECTIVE SPEECH RESULTS IN SOME INTERESTING DERANGEMENTS OF CEREBRAL FUNCTIONS.

Dr. G. Hudson Makuen, Philadelphia, reported the case of a boy 15 years of age, whose speech was so defective as to be scarcely understood. While he was apt in arithmetic, he had special trouble with everything in which the use of letters and words was required, being often unable to write the simplest words or to remember the names of letters and words that he had learned. His writing and spelling were very defective, but he was proficient in the use of figures. He was by no means feeble-minded, but there was some functional impairment in the action of the cortical visual word-center, resulting in partial word-blindness. When for any reason the development of the faculty of speech is delayed, there is a corresponding lack of functional activity in both the visual and auditory word-centers, as well as in those related areas of the brain employed in the use of language and thought. So great is the dependence of the functional activity of these special centers and their related areas on the use of the faculty of speech that its lack of development, due entirely to mechanic obstructions in the peripheral organs, has in some cases led to a diagnosis of imbecility and even idiocy. The author advised systematic speech training to determine whether the defective cerebration was of functional or organic origin. The improvement of his patient under this treatment had been marvelous, and illustrated the importance of special training as a remedial agent in certain forms of feeble mentality characterized by defective speech and other motor disturbances.

APPROPRIATE TREATMENT OF CERTAIN VARIETIES OF NASAL DEFLECTION AND REDUNDANCY.

Dr. D. Braden Kyle, Philadelphia, in this paper gave the following varieties of deflection of the septum: 1. The split cartilaginous septum with bulging into both nostrils. 2. Dislocation of the columnar cartilage. 3. Simple deflection in which the cartilage is very thin. 4. The letter-S deflection. 5. Deflection of the cartilage with involvement of the bony septum. 6. Deflection due to the splitting of the cartilage with bulging on one side only. 7. Deflection in which there is redundancy of tissue overlapping the septum and extending close to the floor of the nose. Under deformities of the septum the paper dealt with the deviation or deflection from disease, traumatic deflection and congenital deflection. Concerning treatment, the author said that each deflection required some modification from a given method; no one operation would answer in all cases, as shown by the many methods proposed. The conditions presenting necessitate a combination of methods rather than the following of any one method.

USE OF RUBBER SPLINTS IN TREATMENT FOLLOWING INTRANASAL OPERATIONS.

Dr. J. Price Brown, Toronto, Canada, read this paper. For tubage following intranasal operations the author thought that rubber splints made from thin rubber sheeting were superior to silver tubes, and much to be preferred to hard or perforated splints. They are smooth, compressible and elastic, can be readily cut to the required shape, and can be obtained of any thickness desired.

PYEMIC SINUS THROMBOSIS COMPLICATING PURULENT MASTOIDITIS WITH MULTIPLE EPIDURAL ABSCESS, CAUSED BY AN ACUTE OTITIS MEDIA. OPERATION. RECOVERY.

Dr. J. F. McKernon of New York read a paper on this subject. Some weeks previous, the patient had been operated on for polypi, after which he suffered an attack of facial paralysis, followed by intense pain in the left ear. The author considered the acute otitis the direct result of the erysipelatous inflammation traveling through the Eustachian tube and infecting the middle ear, as the discharge showed the streptococcus present. The complete disintegration of the mastoid he ascribed to the virulence of the inflammation. He considered the thrombosis due to his wounding the sinus at the mastoid operation. After the sinus was evacuated of pus, the patient did not convalesce satisfactorily until the metastatic deposit in the intestines had been evacuated, carrying away the poison in the system.

PHARYNGOMYCOSIS.

Dr. Lewis Cline, Indianapolis, read this paper. This is a term applied to a fungus growth usually found attached to the posterior wall of the pharynx, in the orifices of the crypts of the tonsils, in the folds of the mucous membrane, behind the posterior pillars and on the base of the tongue. It consists of leptothrix, which rapidly develop into a vigorous growth. The symptoms are generally local, causing various degrees of irritation. Mycosis is a rare disease, although it is claimed that leptothrix is found in the majority of the mouths of patients examined. The disease must be differentiated from follicular tonsillitis, tonsillar concretions and diphtheria. The best treatment is the galvanocautery.

Dr. Richardson referred to an article by a German writer in which it was claimed that the symptoms in cases such as those described by Dr. Cline were to be ascribed to the presence of a concretion rather than to a mycosis.

Dr. Friedenberg called attention to the fact that the leptothrix causes a precipitation of earthy salts from solution.

Dr. Stucky had secured good effect by the use of a 25 per cent. solution of pyoktanin rubbed into the masses two or three times a week. In a few weeks they would entirely disappear.

Dr. Price-Brown had observed that the leptothrix was found not only on the surface, but also invading the mass, and reported several cases, one in a man who did his own grooming, a second in a man who worked two or three months polishing cows' horns, a third in a girl who worked in a brush factory, and lastly a case in a girl who was engaged for some time in making pillows out of the fluffy part of a weed. The cases seemed to indicate that the disease may originate from the inhalation of particles of the material with which the individuals worked.

Dr. Levy called attention to the possibility that not all cases so described may be true cases of pharyngomycosis.

Dr. Phillips observed that germicides seem to have little effect on the disease.

Dr. Myles secured the best results by excising the masses.

Dr. Loeb had seen the disease twice in the same family, in a brother and sister, and had never seen a case of pharyngomycosis in which the lingual tonsil was not also involved.

The society will meet in Philadelphia next year.

Louisiana State Medical Society.

Twentieth Annual Meeting, New Orleans, May 16-18, 1899.

ARE EXCAVATIONS IN NEW ORLEANS DURING THE SUMMER MONTHS PERMISSIBLE?

Dr. L. Sexton, in this paper, after alluding to the established fact that malarial fevers follow the upturning of the earth in new countries, mentioned several instances, occurring within the last few years, when excavations were carried on in New Orleans during the hot months without any increase of mortality either among the laborers or among the residents along the line of excavations. He alluded particularly to excavations made during the summer of 1898, during the prevalence of yellow fever, when chlorid of lime was sprinkled on the mud thrown out in the course of the work. His observations at this time were in harmony with those made previously. The conclusion reached was that excavations extending over a distance of two or three squares, filling in being worked at as the digging proceeded—the plan under which the excavations are now being carried on in New Orleans in establishing a thorough system of drainage—could under no circumstances lead to increased mortality.

Dr. R. W. Walmsley agreed with Dr. Sexton in the main, but criticized the use of the chlorid of lime; he held that if there was danger from the earth, the sprinkling would accomplish no good, while, on the other hand, if there is no danger from the earth the use of lime is not only unnecessary, but even does harm by leading the laity to suspect danger from the excavations and prejudicing them against such work.

Dr. L. G. LeBeuf was of opinion that excavations, while not dangerous in certain other soils, might be noxious in soil like that of New Orleans, on account of its moisture.

Dr. Q. Kohnke, speaking for the New Orleans City Board of Health, stated that that body had recognized the innocuous character of the excavations, when conducted under certain restrictions, and had permitted the carrying on of such work, with such limitations (as to area to be turned up at any one time, etc.) as seemed proper. So far as the chlorid of lime is concerned, that was used not as a disinfectant, but as a deodorant.

Drs. A. W. de Roaldes and Gordon King presented: "Report of a Case of Eunuchoid or Falsetto Voice, Its Simple and Rapid Cure by Vocal Gymnastics." (See Journal, xxxii, No. 15, p. 824; No. 17, p. 939.)

RESPIRATORY COMPLICATIONS OF INTERMITTENT MALARIAL FEVER, WITH REPORT OF CASES.

Dr. E. M. Dupaquier presented this paper. Two of the cases were white children, aged respectively 3 and 5 years, who, in the course of acute malarial manifestations of a regular quotidian type, developed symptoms of bronchial and pulmonary involvement. The congestion increased during each paroxysm of fever, while the râles persisted in larger number during the intermission.

Case 1 presented a chest full of râles after the total subsidence of his fever, and coughed for nearly twenty days subsequent to that period.

In Case 2 a continued fever existed after the fourth paroxysm, and the respiratory symptoms took the form of a severe bronchopneumonia of twenty-five days' duration; anemia was marked; it was feared that tuberculosis might supervene in the depressed state of the little sufferer. Recovery, however, was the ultimate termination of the case. (Dr. Dupaquier called attention to the severity of bronchial and pulmonary disease following diphtheria, measles, pertussis, typhoid fever, and said that he now considers malaria one of the diseases the respiratory complications and sequelæ of which deserve serious consideration.)

Both cases were treated by the hypodermatic injection of bichlorid of quinin, dispensed in vials containing each 1 gram of the quinin salt in solution. These vials are graduated, each unit (there are five) containing 0.2 gm. of quinin bichlorid. This drug is soluble in equal parts of water and contains 81.60 per cent. of quinin, while the bisulphate requires twelve parts for the solution and contains but 59.12 per cent. of quinin, and the hydrochlorate requires forty parts water, though it contains 83.60 per cent. of quinin. The two cases quoted were cured by three injections each of the solution. The first injection, of 0.4 gm., lowered the temperature; the result of the second (0.3 gm.) and third (0.2 gm.) injections was the absence of paroxysms on the corresponding days. In carrying on this treatment, which is the best for children, as much as 1 gram may be given at one time.

The third case was an Italian, 17 years old. After a week of tertian attacks, there were two days of freedom from fever, attributed to the use of quinin. There came on then, insidiously, a pneumonia, which kept the lad in danger during fifteen days, though the temperature remained below 103 degrees. There was no chill; the maximum of respirations to the minute was 35; the cough was not troublesome; there was no pain; the expectoration was scanty, sticky, but not rust-colored; the lower lobe of the right lung presented the usual signs of consolidation. Clearing of the consolidated area was not observed until the twelfth day; there was, throughout, extreme prostration and asthenia, with feeble pulse, requiring cardiac stimulation.

Reference was made to the teaching of Laveran, as quoted by Thayer, to the effect that the respiratory diseases—bronchitis, bronchopneumonia—complicating and following malarial attacks, are not specific manifestations of malaria, but due to their own specific causes, just as are the so-called malarial diarrheas, neuralgias, etc. Laveran pointed out, further, the fact that pneumonia complicating malaria is apt to be protracted, and likely to go on to gray hepatization; whence it follows that the prognosis is relatively grave.

It is of importance to establish the diagnosis on a scientific basis by the determination of the presence of the malarial organisms in the blood. This was done in the above case, in which they were found at the first, but—and stress is laid on this—not during the period of respiratory complication in Cases 2 and 3. Case 1 departed before the examination could be repeated.

In concluding, the author laid stress on the value of a positive result of the examination of a patient's blood for malarial organism, while admitting that a negative result does not absolutely exclude malaria.

Dr. A. W. de Roaldes asked whether the same physiologic effects had been observed as after the use of the ordinary preparation by the mouth, what the local effects had been, and whether there had been any special effect on the ears.

Dr. Dupaquier said that in both children there had been the usual signs of "quininism," with ringing in the ears, nothing further; no abscess had followed the hypodermatic injections, a small quantity of solution being administered, but there had been some pain for twenty-four hours.

Dr. J. A. Storck spoke of the carbamid of quinin as a salt soluble in equal parts of water and not irritant when given hypodermatically.

Dr. T. T. Tarlton said that among other complications of malarial attacks he had seen not only bronchitis, but also a form of pneumonia which he would call "malarial congestion of the lungs." In this condition there is chill, with fever of a remittent type, distinct pain over the lung, hemorrhagic sputum, and râles. There is almost a complete clearing up during the remission. He treats this as he would any other malarial manifestation. The hypodermatic treatment he reserves for malignant cases, using the bisulphate then; in children he has never applied this treatment.

Dr. E. L. McGehee thought hypodermatic medication inadvisable in children as being painful and causing induration and tenderness; in fact he thought it not warranted except in cases of pernicious fever. He administers quinin to children in the form of suppositories, or even of capsules placed in the rectum, where they seem to exert the same effect as when given per os.

MALARIAL HEMATURIA, WITH NOTES ON TREATMENT.

Dr. L. G. Le Beuf laid stress on the importance of making an accurate diagnosis in all cases presenting bloody urine. In this connection he called attention particularly to the necessity of differentiating the disease caused by the malarial organism from the endemic hematuria of South America and the Isle of Mauritius, caused by the *Bilharzia hematobia*, and from the hematinuria or hemoglobinuria of paroxysmal character.

In the first named disease the discovery of plasmodia in the blood settles the diagnosis; in the second it is made by the determination of the presence in the blood of Bilharz' entozoon; while in hematinuria there are paroxysmal attacks, generally caused by cold, always ushered in by a chill or rigor of the extremities, with considerable pain in the lumbar region, followed in a few hours by the discharge of dark, bloody-looking urine, which does not coagulate and in which no blood-corpuscles are found under the microscope. After reviewing the literature on the subject and giving the views of writers, pro and con, on the use of quinin in malarial hematuria, he expressed the conviction that quinin, given with care, is the proper remedy for this condition, basing his opinion on a number of cases, which he detailed.

In concluding, he repeated his injunction that the diagnosis must be made carefully, as well as his warning to use quinin sulphate with care in the treatment of the condition under discussion.

Dr. T. T. Tarlton had used quinin for hematuria and had met with two classes of cases: in the severe type, with violent chill, high fever, bloody discharge from the kidneys and sometimes from the bowels and stomach—"hemorrhagic fever"—he had found nothing to effect a cure, the patients dying in twelve to eighteen hours; in the mild class of cases he had been successful in the application of the usual antimalarial treatment—a purgative followed by quinin during the paroxysm, and later iron, quinin and strychnin in a tonic prescription.

ERUCTATION OF INFLAMMABLE GASES.

Dr. J. A. Storck read this paper, concluding with a report of two cases observed by himself.

Case 1 was a colored woman seen at Touro Infirmary, where she had applied for treatment of a burned lip. According to her account, while lighting her pipe she belched, with the result that the gas took fire and burned her face.

Case 2, a white watchmaker, had suffered from dyspepsia for years. There was pyloric stenosis with gastric dilatation, shown by the fact that the Einhorn lamp was seen at the level of umbilicus, and the stomach could be distended until its greater curvature was felt 2¼ inches below the umbilicus. For a long time he had noticed a blue flame when using the blow-pipe about his work. On one occasion, when he used a rather short blow-pipe, the gas expelled ignited and burned his mustache. Chemic analysis had shown the eructated gas to contain hydrogen, carbon dioxid and sulphuretted hydrogen. The treatment consisted in washing out the stomach with 1-1000 formalin solution and dieting on toasted bread, stale bread and eggs. The patient gets along well as long as he confines himself to the diet prescribed, but relapses whenever he forsakes it. Reference was made to the treatment of this condition with salicylate of sodium.

College of Physicians of Philadelphia. Section on Otology and Laryngology.

Regular Meeting, held May 17, 1899.

TREATMENT OF CHRONIC EMPYEMA OF ACESSORY SINUSES.

Dr. George C. Stout—Relative to the cause of empyema in these cavities, the general opinion seems to be that, in the majority of cases it is caused by hypertrophic conditions of the nasal mucous membrane, which close up the infundibulum, ostium maxillare, and other openings. Bosworth regards polypi as one of the most frequent causes of antral inflammation, with hypertrophic rhinitis second. The ill-advised or heroic use of the galvanocautery has been cited as a cause, in many cases, by Fraenkel. As regards caries of the teeth, it would appear that it is a result rather than the cause of antral disease. According to Wagner, poisoning by lead may be a cause of empyema and he advises that in all cases of intractable neuralgia trifacialis, the antrum should be carefully examined before operating on the nerve. A large proportion of chronic empyemas are accompanied by polypi. According to Fraenkel, nasal polypi are more often a result of sinus disease than its cause. Other causes are traumatism, acute coryza, and the exanthemata. The frequent empyemas following la grippe are probably due to attending nasal conditions rather than to any specific germ. Probably many of the obstinate or incurable cases of antral empyema are due to co-existing disease of the frontal sinus, which drains into the antrum. The diagnosis is made from the histories of the cases, the frequent co-existence of pain and purulent discharge, and may be greatly aided by transillumination with the electric lamp. Inflammation in any of the accessory sinuses might give rise to optic neuritis, diplopia, or even optic atrophy.

Treatment may be divided into the intranasal method and the extranasal, the former, including catheterizing, paracentesis, and removal of part of the inner walls. Each method has advocates, but the better way is to let the character of the case decide which is the more appropriate. It must be admitted that catheterization of the sinuses is not very practicable. A case was reported by Mermod in which there was no frontal sinus and an attempt to introduce a probe led to perforation in front of the lamina cribrosa into the anterior cerebral fossa, causing the death of the patient. Botey has modified Luc's operation by making the opening in the floor of the frontal sinus as large as possible, making an incision along the under side of the inner third of the eyebrow, curetting, and packing with sterile gauze in place of using a drainage-tube. In maxillary cases, free opening through the canine fossa, or an alveolar socket, and the frequent use of cleansing solutions, and the curette, when necessary, has many advocates. Many cases, however, of frontal and of maxillary sinusitis are curable by paracentesis through the nasal chambers. Most of the very obstinate cases of antritis are probably accompanied by frontal sinusitis, and this should be examined into in such cases. By any operation, thorough drainage is the chief object sought in the treatment.

Dr. Joseph S. Gibb said that, until quite recently, the subject of the treatment of accessory sinus conditions was in great confusion in consequence of the writers failing to distinguish between acute and chronic sinus disease. We have all seen a great many cases of acute inflammations of the sinuses following influenza and the exanthemata. These are cases of acute inflammation which ordinarily prove very amenable to treatment by the usual local and systemic methods. This is not the case, however, with the condition of chronic inflammation, which often will yield only to surgical measures. It would seem that the very favorable reports of the success of certain intranasal operations may be susceptible of this explanation, i.e., that the cases were of the acute variety. The great frequency of these cases of sinus disease in Europe is remarkable. For instance, Ziems of Dantzic says that he has opened the accessory sinus in 500 cases, and others report similar large numbers. The speaker, in his own clinic service, has not seen anything like as large a proportion of cases requiring operation, or he has overlooked the cases. He was forced to the conclusion that accessory sinus disease is much more frequent in Europe than it is in this country.

The first speaker has referred to these cases as if they were exclusively of nasal origin; but many cases have been reported in which the sinus disease had a dental origin and, in fact, many of them are actually treated by dentists. Dr. Miles, in a recent paper, shows how sinus disease may be set up by teeth being filled imperfectly and followed by suppuration and discharge into the sinus. There is no doubt that cases may arise both from nasal and dental causes. As regards the agency of hypertrophic conditions, they have less influence than atrophic conditions in the causation of sinus disease.

Before considering the treatment to be adopted in any case, it is of importance to first determine the particular sinus which is affected and locate the primary cause of the trouble. We should carefully examine the nasal chambers, and if we fail to find anything that in our judgment explains the symptoms, we shall not have done our duty until we also have the teeth examined, to find whether there is anything in the oral cavity to cause the sinus disease. The opinions of authorities as to the pathology of these affections have changed recently. Formerly the presence of pain was supposed to indicate the site of the disease. We now know that many cases occur without being attended by any pain whatever. Ordinarily it is not difficult to recognize the existence of sinus disease, but it may be very difficult to decide which of the accessory sinuses is affected. In the first place the presence of pus, especially when restricted to one side, is very suggestive of this condition, the character of the discharge usually indicating which sinus is at fault, by proximity. The course pursued is to carefully cleanse the nasal chambers, and then tell the patient to bend over so that the head shall hang down for a few moments; at the end of this time, the discharge will usually reappear in some portion of the cavity. But those who have had the greatest opportunity for observation consider this as flimsy ground for correct diagnosis.

The electric light has been used for transillumination, the affected sinus being less clear than the diseased sinus. Zuckerkandl has shown why this test often fails. The thickness of the walls of the antrum may cause it to fail.

Another method of diagnosis is by paracentesis. It is very easy to perform paracentesis of the maxillary antrum or frontal sinus, but very difficult in the case of the ethmoid or sphenoid. His experience with probing has not been satisfactory, and he does not believe it possible for a probe to be introduced into the sphenoid sinus in a normal nose, and only very rarely can it be inserted into the frontal sinus. Some European observers speak as if it is a very easy thing to introduce a probe into these cavities for exploration, but he has not found it so. Fortunately, the sinuses most frequently affected are the maxillary and the frontal, which are more accessible.

Speaking only from his own experience, he concluded that the usual treatment was very often unsatisfactory. He has relied, until lately, on intranasal puncture of the antrum and washing out the cavity through this opening, but now believes the most satisfactory method is the combined method. In addition to puncturing the inner wall of the antrum in the inferior meatus, he would make a free opening from below, either from the canine fossa or through the alveolus, preferably the former. The objection to the latter is that it requires the loss of a tooth; but the tooth may be already extracted or diseased.

Ziems advocates inserting the drill between the teeth, but this the speaker had not tried. Dr. Gibb has obtained good results by the combined method, which affords good opportunity for cleaning and drainage. In cases of frontal sinus disease, he prefers opening the sinus by external incision in the supraorbital region. Some cases, however, may yield to intranasal operation, by removing the anterior edge of the middle turbinate so as to expose the outlet of the sinus and permit the introduction of a probe, thus securing free drainage and permitting the use of antiseptic washes.

Dr. Arthur W. Watson said that in the great majority of cases sinus disease is secondary to nasal disease. He has seen cases in which the teeth had been removed without the slightest effect on the sinus disease. In his experience, hypertrophic conditions more frequently attend sinusitis than atrophic. He believes that the hypertrophic conditions are often secondary to sinus disease, and not so much to the frontal and maxillary as to the sphenoid and ethmoid. As to the probe, he regards it as dangerous in frontal sinus disease; the probe may go into a sinus with no posterior wall and injure the anterior lobes of the brain. The maxillary sinus may be probed when the middle turbinal is straight and not too close to the septum.

With reference to the treatment, the first thing to do is to clear out the nose, removing polypi and thickened tissue, which clog the openings and prevent drainage. In maxillary sinus disease he should not pay particular attention to the teeth unless there are special symptoms, as pain, pointing to them. In other cases, he uses a small crown trephine drill with which he removes a small plug of bone, thus giving a free outlet to the discharge through the canine fossa. Cases that get well simply by washing out the cavity would get well much quicker if a free outlet is made. Where this is not done, the pus becomes acrid and foul-smelling, and the discharge may continue for years. In treating frontal sinus disease, the best method is to make a free incision and after curetting out the cavity, running a probe down into the nose, if possible, and then closing the external wound, so as to make less scar. In disease of the maxillary sinus, if the discharge should not cease after a reasonable length of time, under ordinary treatment, then he makes a counter-opening in the canine fossa, making the opening large enough to curette the cavity. There is no advantage in a double opening, usually, if a sufficiently large perforation has been made in the internal wall. The only instances in which he has failed in treating disease of the maxillary sinus by this method was where some adjoining sinus had also been involved and was draining through the antrum. In this case treatment was directed against the ethmoid cells and the discharge ceased.

Dr. E. B. Gleason said that some years ago, at a meeting of the Academy of Stomatology, he mentioned the fact that antrum disease was often secondary to disease in the nose. Harrison Allen was present and expressed surprise at this statement, as his impression was that it arose entirely from conditions of the teeth. Now, the opinion seems to prevail that the teeth have very little to do with it. Besides the methods of treatment already discussed, he has obtained good results from Politzerization of the cavities with medicated vapors, menthol, chloroform, etc. In the headache accompanying acute frontal sinus disease, for instance, he has derived great benefit, after cleansing and cocainizing the part, from injection of a little chloroform vapor into the sinus. He entirely agrees as to the value of a large opening in the canine fossa in chronic antral disease. He prefers to make the cavity so large that the patient can wash out the cavity himself. He directs the use of one or two quarts of boric acid solution daily, the patient reporting for examination every second day. At these visits, a 2 per cent. solution of nitrate of silver is injected. If in the course of a week or two the discharge does not greatly decrease, he concludes that a spur exists, or something else, and proceeds to enlarge the opening and search for it. He thinks that secretions from diseased sinuses are oftener one of the causes of atrophic rhinitis, rather than the reverse.

Dr. Geo. M. Marshall agreed as to the rarity of accessory sinus disease from a dental origin, recalling, however, six cases in which alveolar abscess had existed, and subsequently suppuration of the antrum of Highmore had occurred. As regards a strictly nasal origin, he instanced a case which had followed an attack of hay-fever. Treatment was by free opening and curetting, and packing the cavity with idoform gauze, giving satisfactory results. Frontal sinus disease is often difficult to overcome. He also recalled a case in which frontal headache, after lasting for years, was finally entirely overcome by external free opening of the frontal sinus.

TREATMENT OF HEADACHE AND DEAFNESS.

Dr. E. L. Vansant read a paper entitled, "A New and Successful Treatment for Certain Forms of Headache, Deafness and Tinnitus Aurium." This was a continuation of reports of cases which had been presented to the section a year ago, bringing the histories up to the present time. The clinic notes of eighteen cases were the basis of the report, which showed remarkably prompt and prominent results from the simple expedient of syringing the nasal accessory sinuses and the Eustachian tubes, with a stream of dry, hot air, under pressure. The relief in many cases was immediate and headache of months' duration was relieved after a single treatment of a few minutes, with the hot air; though in some cases the symptoms did not yield entirely until the patient had received several treatments. The effects of injection of hot dry air into the middle ear, in the relief of tinnitus and the improvement of hearing were very marked. Better results were obtained in cases where catarrhal, rather than sclerotic, changes were present in the middle ear and Eustachian tubes. The instrument used was like that employed by the dentists for a similar purpose. It consisted of a small cylinder of carbon or metal, which could be heated by exposing it to the flame of a lamp, or a gas jet, for a few moments. This was traversed by a tube projecting in front and at the back, when held horizontally. On the front projection tips of various shapes and sizes could be affixed, or a Eustachian catheter attached. Posteriorly, connection was made with a tube from a condenser supplying the air-blast. The amount of heat produced may be varied at will from a mild warmth to a burning degree of heat and depends on how hot the chamber is heated, how swiftly the current of air is passed through, and how close the nozzle is held to the surface to be treated. In some instances vapors of chloroform, menthol &c. have been added to the heated air, by placing a small quantity of the medicament in the little cup found on one of the tips, or by placing it directly in the catheter. In preparing the nasal chambers for treatment, the mucosa is first cleansed, and then shrunken by cocain or eucain, used alone, or followed by a watery solution of the suprarenal capsule of the sheep. The hot air is directed against the openings of the sinuses; if necessary, a small catheter is used for this purpose. The middle ear is treated by means of the Eustachian catheter. The instrument is provided with a handle, attached at an angle of about sixty degrees to the cylinder. The treatment is not painful but rather agreeable to the patient. This treatment does not exclude the ordinary measures, such as the removal of hypertrophies, or spurs, and the correction of deformities of the septum, or the employment of the usual treatment for rhinitis, etc. The explanation of the prompt relief from headache was that the pain was caused by the blocking and stoppage of the outlets to the sinuses, or to the small cavities within the sinuses, this stoppage having caused retention of gases or fluids in the cavities. In other instances there may be rarefaction of the confined air, thus lessening the support of the atmospheric pressure to the walls of the blood-vessels and causing chronic congestion of the mucous membrane lining the sinuses. The effect of the forcible syringing of these cavities with hot air, is to open up these outlets, allowing retained gases or fluids to escape, and to restore the equilibrium of the atmospheric pressure. When the outlets are once freed of their obstructions, they do not easily become again obstructed, hence the relief is not only quickly obtained but is in many cases permanent.

Dr. E. B. Gleason spoke of the use of the Politzer bag with hot air as an old treatment of middle-ear catarrh.

Dr. Watson inquired as to the duration of the treatment?

Dr. Vansant said that the time varied according to circumstances and the feelings of the patient. As a rule, the heated air is only applied for a minute or two, then waiting awhile, if the patient still has pain, it is again injected. This may be repeated several times at one sitting. The séances are given daily, or several times in the week, as may be thought necessary for the case. The hot-air treatment is not novel, and the instrument itself is not original, as it resembles one used by dentists. But the application of hot air in the way indicated forms a novel treatment of the disorders named. In reply to another question from Dr. Watson, as to the sensations of the patient, Dr. Vansant said that, at first, no particular sensation is experienced, but, as the application continues, the sensation of heat gains the ascendancy. The nasal chambers will bear a higher degree of heat than the skin, probably because the surface of the mucous membrane is moist and the evaporation of the water must first take place before the heat can affect the surface.

Dr. Frank Woodbury suggested the substitution of an electric source of heat, which could be regulated exactly by the rheostat, and started or stopped immediately by a pressure button.

Dr. Vansant thought that the change would add to the expense of the instrument very considerably, but it appeared otherwise feasible.

Chicago Academy of Medicine.

Regular Meeting held April 14, 1899.

(*Concluded from page 1389.*)

GASTROINTESTINAL RELATIONS OF DIETETICS.

Dr. Fenton B. Turck—The academicians who have led the discussion have almost unanimously insisted that the chief indications in dietetics relate to aids to digestion or to guards against gastro-intestinal irritation. Dr. C. S. Bacon (see p. 1416) was of the opinion that there were no special indications for dietetics in pregnancy itself, but that the indications were those arising from the condition of the patient. In my opinion the vomiting of pregnancy is largely a question of dietetics as related to gastric disturbance. This last produces a strain on the general circulation. Dr. Preble emphasized this last element by calling attention to the strain on the heart due to the ingestion of three large meals a day. This strain results in a vicious circle producing increased disturbance of the gastro intestinal tract. The question naturally arises, what is the physiology of dietetics? This depends on the condition of the gastro-intestinal tract. The questions of the caloric value of food and the length of time it may remain in the stomach, have been carefully studied. But the question still remains: 1. What is the physiology of dietetics as related to the gastro-intestinal tract? 2. What is the pathology of dietetics in relation to the gastro-intestinal tract? 3. What is the therapeusis?

The physiology of dietetics as related to the gastro intestinal tract resolves itself into: The mechanic processes by which food is carried into the stomach, including the movement of the esophagus; the movement of stomach to churn, mince and reduce the food to a pulpy substance and pass it on to the intestinal tube. Here a similar process is carried out and the food reduced to finer particles. Then arises the question of the various stages of solution. The second process, that of proteolysis, involves the formation of the primary and secondary albumoses and peptones. The third process of digestion by the cells lining the gastro-intestinal tract takes up the peptones, the egg albumin, the primary and secondary albumoses, and transforms them by a process of the cell itself into the circulating albumin. It makes no difference whether it be egg albumin or peptone, the result of the process is a circulating albumin. Egg albumin is capable of being tranformed by the cells lining the rectum, and of being thrown into the blood as circulating albumin. In this form only can it be utilized. Many classes of food have qualities which render it impossible for the stomach or intestines to divide them into fine particles. Cheese, for instance, contains all necessary nutritive elements, yet it can not be thoroughly digested; many other foods of value in themselves can not be taken up by the blood-vessels in suitable form. Many foods introduced into the stomach become, therefore, gastro intestinal irritants instead of nutritive elements.

The point has been raised that Americans pay very little attention to the preparation and cooking of food. I believe Americans pay a great deal too much attention to the cooking of food. The people of New England have paid such a degree of attention to this subject, that the whole United States is infested with New England products; the well known pork and beans, mince pies, doughnuts, hot biscuits (usually washed down with ice-water), etc. From this results much of the pathology of dietetics and many diseases consequent on it. It is impossible for ferments to penetrate food surrounded by fatty material. Fatty acids being set free produce gastro-intestinal irritation and thus interfere with digestion. Fresh butter taken before the fatty acids are formed will produce no disturbance. Mixed up and heated so that the fatty acids are set free, it becomes a gastro-intestinal irritant.

The proper preparation of the food before it is introduced into the gastro-intestinal tract is a very important element. Meats, for example, are sometimes so cooked that while palatable, they are indigestible. Palatability is an artificial taste to no small extent. It may reasonably be called a degeneracy. One speaker referred to the preparation and introduction of fats and fatty acids and other agents, so no gelatin should be formed but the albumin be coagulated. Connective tissue may be transformed into gelatin by encapsulating beef and then by first placing it in an oven at a high temperature (so as to coagulate the capsule surrounding the whole plate of meat) and later lowering the temperature. It is not necessary to coagulate all the albumin. Chopped meat must be prepared under a high temperature; so that the meat will be cooked by its own fluids; in this way more gelatin is formed and is rendered more digestible, more palatable and more nutritious.

The question of therapeutics of dietetics is a tremendous one. Dr. Preble referred to giving frequent meals, which overworked the heart. If the frequency of the meals be reduced this difficulty on the part of the heart is lessened. In certain diseases there is lack of stomach motility. This is noticeable in cases after operation. In certain liver diseases the organ is incapable of doing its work properly. It is slower in its contractions. The normal contractions of the gastro-intestinal tract are slow physiologically. In these morbid conditions the contractions are still slower. The organ takes a longer time to contract and churn food. It takes so long to churn the food that it remains longer in the stomach than it would under normal conditions. Every time food is introduced into the stomach the contractions are stimulated; the organ is called on to do more work until exhaustion may take place. For instance, a person may eat at 7 o'clock, then at 10 o'clock, at 1 o'clock, at 4 o'clock, at 6:30, and may take another meal before going to bed. This principle adopted from the Germans is all wrong. Physiologic law requires that after work there should be rest. The motility of the organ must be restored by rest, so that it can carry on its work. The stomach is called on to do too much, and instead of the food undergoing digestion, it undergoes decomposition, and as a result secondary albumoses and toxins form. These in turn are carried into the system. Various diseases then result, attributable to the poisons thus formed in the gastro-intestinal tract. From retention of food in the stomach results the formation of large quantities of peptones. These peptones, toxic in effect, are carried into the intestinal tract; when they become more liquid irritation of the intestines is produced. It is true a patient may feel hungry, but hunger is not an indication for introducing food into the stomach. Hunger may be bulimic in type and hence is not always a guide to be depended on. I would strongly support the position of Dr. Peterson, that patients should get, while in bed, rest of the gastro-intestinal tract.

The point made by Dr. Engelmann, of withdrawal of all food for a while, is excellent. In children, lack of motility is frequent. The child cries to have more food. Now, if lighter meals and smaller ones be given, the child will retain the food. What occurs if the stomach lies idle and the food accumulates in it? Decomposition takes place. Hydrochloric acid is not a sufficient preventive against decomposition. Toxins are formed from the bacteria, as are also peptones in excessive quantity, and these become gastro intestinal irritants. In very severe cases of disease one meal a day is sufficient, allowing plenty of time for it to pass out. In conditions where lack of motility exists, I recommend but two meals a day, one in the morning, and one at night. No physiologic law commends three meals. I frequently have patients come to me suffering from various disturbances, and I find remnants of the breakfast. On top of this they desire to put another meal, or they feel like doing it. It is mere force of habit.

The character of the food exerts a profound effect on the stomach and intestines. The moment food reaches the stomach it excites contraction and secretion. I have been able to excite secretion by mechanic means. The history of mankind is that coarse-grained food excites the gastro-intestinal tract, although the food itself be not digested. Coarse-grained food was used in great abundance by the ancients, but with civilization's advance less and less coarse-grained food is used. As a consequence more and more neurasthenia and more and more gastro-intestinal disturbances result.

I have elsewhere called attention to the use of bran twice daily, or three times a week. In connection with the two-meal system, I give a cupful of bran. This stimulates the action of the gastro-intestinal tract and takes the place of coarse-grained food.

It has been found that more muscular energy can be attained from cane sugar than from starches. Cane sugar can be readily absorbed by the stomach; it is readily split up in the stomach and utilized. It is a source of energy. In many patients where there is desire for food at noontime, I give in the place of the noon meal, cane sugar, usually in the form of peanut candy. The peanuts in candy are not digested very much, and patients take this at noontime. There is not much call on the stomach. It is readily absorbed. If a meal be given at 7 o'clock, and peanut candy be taken at 1 or 2 o'clock, by night none of the products are to be found in the stomach.

DIETETICS IN DENTISTRY.

Dr. **E. S. Talbot**—Dietetics in dentistry involves a conservative question. Under most conditions of suboxidation and imperfect elimination the gums are forced to assume an excretory energy to which they are unequal. As a consequence a foundation is laid for interstitial gingivitis which in all of its types may seriously threaten the integrity of the teeth. Nay more, by furnishing a culture-medium for pus microbes it may threaten the general health, not only through systemic infection, but also through its interference with proper gastric intestinal digestion. Among the restrictions in diet which dental hygiene demands is first a restriction of foods containing an excess of lime salts, which produce tartar. As excess of foods containing nitrogen, when aided by an imperfect assimilation of the carbohydrates, tends to produce constitutional conditions, like lithemia, gout, etc., which affect tissue nutrition of the gums, these foods require restriction and adaptation to the particular case. While the constitutional condition underlying lithemia markedly predisposes to gum irritations and inflammations, its value as an exciting cause is but slight. Lactic acid, as has been pointed out by Dr. Sudduth, is a more marked excitant. The ingestion of the carbohydrates without their assimilation, in consequence of their retention in the mouth, plays a part in the production of lactic acid. Scurvy, which may seriously threaten the integrity of the gums, requires the usual dietetic treatment. While there are indications of the untoward effects of infantile scurvy on the teeth, the pathology and consequences of it are not so well known as those of scurvy in the adult. The researches on scurvy in the infant tend to show that it results from a monotony of diet rather than the absence of any article of diet. One great consideration in the dietetic phase of dentistry is the use of large quantities of water, for the same reason that it is required in lithemia, the other conditions of suboxidation and the neurasthenias. The dietetics of dentistry, therefore, involve precisely the same principles as do the treatment of the constitutional conditions which are the predisposing factors of the gum disorders.

PHARMACO-CHEMIC RELATIONS OF DIETETICS.

Prof. **C. S. N. Hallberg**.—I am rather discouraged in not hearing any reference made to the agents which pharmacists and pork packers have placed before the medical profession for the last twenty years for the purpose of converting food into its more digestible forms. Only comparatively recently a discussion of this kind could not have taken place without referring to the great value of the use of pepsin, pancreatin, diastase, taka-diastase and similar products. I certainly can not add much to what has already been said.

I shall call your attention briefly to various fermentations that foods must undergo before they can be assimilated. Let us start with starch. It will first undergo saccharine fermentation, then the alcholic fermentation, and from alcoholic fermentation we have acid fermentation, all of which cause more or less irritation in the intestinal tract. On the other hand, take the nitrogenous substances or proteids, we have the action of pepsin, converting them into peptones of various forms. Of a third class of foods, oils and fats, very little has been said. When Dr. Turck speaks of the bran foods, I understand him to especially mean the flours made of barley and wheat without being freed by the process of bolting from the shell of the grain, which removes the gluten, phosphates, a great variety of salts and some silica. I believe attention has been called to the fact that because of the use of this bolted flour the enamel of the teeth is not perhaps as strong in this present generation as it should be, and therefore dentists have much more to contend with in their profession than they otherwise would have because the teeth are not as strong, showing that the condition of the enamel is due largely to the lack of silica that they otherwise would have. I believe with Dr. Turck that we have gone to extremes in the use of bolted flour, and I am satisfied much better results would be derived from the use of the brans than by bolted flour. In the extemporaneous preparation of some of the grains, much longer time should be taken to prepare them than is ordinarily done. Oatmeal should be allowed to boil for at least twenty minutes, then kept on the water bath and steamed for about two hours to make it palatable. The water lost by evaporation should be replaced by milk; and in that way an exceedingly palatable gruel can be prepared, one which is far more digestible than that prepared by the "hurry scurry" method of soaking the meal with water and boiling it for a brief period, as is usually the case.

With reference to oils and fats, I have thought for years that the introduction of substitutes for butter, such as butterine, made up of other animal fats, such as lard, tallow and mixtures with cottonseed-oil are deleterious, because I hold that they are not as digestible as that fat, which is without doubt the most digestible of all fats, namely, butter—and only exceeded in this respect, perhaps, by cod-liver oil. I believe, however, it is well established that it is not necessary to feed fat in order to produce fat in the body. Carbohydrates are formed into fat in the body, so that it does not necessarily follow that fat will not be produced because we do not feed a person fat.

As to the third group, the nitrogenous and proteids, milk can be made very digestible in many cases by the addition of lime-water, as pointed out by Dr. Peterson. Milk in the process of digestion will undergo lactic fermentation; to the extent that we may prevent the acid reaction by neutralization with lime, we may in many instances prevent otherwise disagreeable effects.

With reference to the nitrogenized albuminous substance, egg white, when the egg-white is particularly hard-boiled it should be thoroughly comminuted. We know in an experimental way the great difficulty of dissolving egg-white with pepsin in an acid medium unless it is finely divided, and from the fact that the coagulated egg-white is not thoroughly masticated, its digestion is much retarded.

That other largely used form of nitrogenous food, meat, is at the present time of particular interest. I have been somewhat interested in the present trouble that we hear so much about concerning a product which is put up in the southern end of this city, and it seems to me that if we go by the reports which have been published relative to the processes by which this canned roast beef is made, we will have a solution of the difficulties that this stuff seems to have engendered. It appears from all the testimony that this beef is first boiled for the purpose of removing the extract, that is, the soluble constituents, phosphates, creatin, creatinin, etc., with considerable gelatin. The remaining fibrin, the skeleton beef, is subjected to a process of boiling with superheated steam which is called roasting, and this is the "canned beef" furnished the soldiers."

When Professor Liebig first published the process for making extract of beef, he called attention to the fact that the beef extract did not represent the nutrition of the beef. He also drew attention to the fact, and it has been reiterated time and again, that while the soluble constituents of the beef—the extract—did not represent the nutrition of the beef, they were nevertheless essential in promoting the digestion of the beef. I believe it is also a well known fact that boiled beef will not be eaten by dogs, because they have a shrewder instinct. Boiled beef is given as a dish once a week in many establishments, and it is always served with horse-radish or with mustard sauce, from which I infer that experience has taught the necessity of adding such intestinal irritants as the sulphocyanid compounds of mustard and horse radish, in order to promote the digestion of the otherwise indigestible beef.

RELATION OF DIETETICS TO INSANITY.

Dr. **D. R. Brower**—The relation of dietetics to insanity are twofold: 1, its relation to its prevention or causation, and, 2, its relation to cure. Probably one reason why insanity prevails to such a large extent among the agricultural people is that their diet is often insufficient and badly prepared. The average farmer sends the best of his farm produce to the market, and is satisfied to provide the poorest food for his family, and I think one reason why insanity prevails in this community to so large an extent among the Scandinavian people is due to their habits of extreme economy at the table. If there was a better understanding among the people at large of the importance of food properly cooked in its relation to general bodily nutrition, there would undoubtedly be less insanity than there is, and the laity need not only be given instructions in the selection of food, but also in its proper preparation.

The relation of diet to the treatment of insanity is one of the most important subjects connected with this topic. Insanity is usually accompanied with considerable loss in body weight, and it is a very hopeful sign if body weight increases and mental disturbance diminishes *pari passu*, and so long as there is no increase in body weight, it can always be regarded as a fact that there has been no improvement in the mental condition. The food selected to secure this increase in body weight, which means improved general nutrition, must be selected with the greatest care, having reference solely to the capacity of the individual. These patients should be weighed at the beginning of their treatment, and weighed with considerable frequency during its progress, and if the dietary does not give them increase in body weight, then we may be sure that the treatment is not a success. One of the best single articles of diet that I know of in the treatment of insanity is a properly prepared egg-nog, and I find there are very few people who know how to prepare an egg-nog properly. The yolk and white of the egg should be thoroughly beaten up separately with such care as would be exercised in the compounding of the most delicate cake. The yolk should be beaten into the milk with care, a sufficient amount of sugar to make it palatable added, and brandy in the proportion of half an ounce to a glass should also be beaten in little by little, and the white of the egg added subsequently. These egg-nogs may be administered once in four hours, and constitute the most concentrated and easily assimilable diet that I know of. But in addition to egg-nogs, I would always endeavor to urge on the patient the greatest amount of food that would appeal to the palate and judgment. Very many of these insane people at the beginning will eat but little; they will refuse to take the necessary amount of food, and when they do so, I think it is exceedingly important to begin forcible feeding early, and my practical experience with these people would lead me to the conclusion that the nose-tube furnishes, in the great majority of cases, the easiest way of forcible feeding, and to successfully forcibly feed an insane person requires at least two skilled assistants. I think a great mistake is made in the treatment of insanity in the early stages in not beginning forcible feeding soon enough. A patient, under some delusion or another, refuses to eat, and he runs down rapidly in weight, and gets into such a state of exhaustion that the brain has received, in consequence of the poverty of the blood with which it has been supplied, such serious disturbance in its nutrition that it may be impossible to correct it by any means. If any mistake is made by the average practitioner in the cure of insanity in the early stages, it will be in giving too little food. It is not possible, in my judgment, ever to overfeed insanity patients when the disease is in its incipient stage.

Dr. James G. Kiernan—I must enter a protest against some of the positions taken by Dr. Turck. If there is anything that has been established, it is rest in the treatment of neurasthenia and a number of other allied states. Rest of the stomach and of other organs is best attained along the line indicated by Dr. Peterson and Dr. Bacon rather than by the method mentioned by Dr. Turck. If benefit is to be obtained by rest of the stomach along the lines indicated by Dr. Turck, it ought to be accomplished very effectually in cases of melancholia, a condition in which it is very difficult to get patients to take food. In these cases there is not only atony of the stomach, but disinclination for food, and if the patients are not forcibly fed every two hours, they not only do not recover but often die of starvation. The position assumed by Dr. Turck is opposed to the experience of others in the dietetic treatment of neurasthenia.

I do not think the theory has been generally accepted that silica has much to do with carious teeth in the United States. The trouble in this direction arises from evolution of the jaw rather than from dietetic conditions. The bran treatment has never acted well in my experience in any case of protracted constipation where auto-intoxication has resulted. The bowels move, it is true, but this movement does not eliminate waste products previously absorbed by constipated individuals. Simple movement of the bowels is not the only therapeutic indication in constipation.

Chicago Ophthalmological and Otological Society.

Regular Meeting, Held May 9, 1899.

(*Concluded from page 1390.*)

INJURY FROM FOREIGN BODY.

Dr. E. A. Lawbaugh—The case I present came to me during the first week of last January. On the 14th of the previous month he was struck on the inner side of the right upper lid by a piece of steel from a hammer in the hands of a fellow-workman. He was leaning over watching him, and on examining the hammer the fresh break could be seen. There was a scar on the outside of the lid, which is at present visible, and one also in the sclera directly under the lid scar. The pupil was not dilated and had a greenish hue. There was marked pericorneal injection and the tension—2. V.= fingers at seven feet in the lower field.

The pupil was dilated with atropin, dilating slowly and regularly, and on making examination with the ophthalmoscope a line of exudate in the vitreous was to be seen extending downward and backward from the location of the wound in the sclera, terminating in a ball of exudate near the temporal side of the retina. A solution of atropin was ordered for home use, and in two days the tension was normal.

A skiagraph was taken, with negative results. Then the Hirschberg electromagnet was tried, the tip of the magnet being held on the sclera opposite the ball of exudate, which was watched with the ophthalmoscope as the current was turned on, but there was no movement of the exudate. The Haab magnet was next tried the same way, but with negative results. The pericorneal injection gradually diminished, and in four weeks the atropin was discontinued, the patient returned to work and has had no further trouble.

When he came to-day his vision was 20/200, and the pupil of the affected eye was 1 mm. larger than that of the fellow eye; the iris still having a slight greenish hue. The tension is normal, and the Haab magnet, which was again tried to-day, showed negative results. With the ophthalmoscope, however, it is to be seen that the exudate has split, the lower half falling a little and much thinner. A few flocculent exudates are to be seen situated through the vitreous, which has remained there since I first saw him.

Dr. William A. Mann—I saw a case similar to this a few days ago, the patient having been hurt in a similar way two years ago. When I saw him the pupil was very much contracted, and with posterior synechiæ, showing he had had quite a marked iritis; but on getting the pupil partially dilated with atropin, one could see in the lower part of the vitreous chamber a dense, white exudate, extending pretty well from the lower part to the outer quadrant, running up near the level of the lower part of the iris. It was smoother and whiter than an ordinary detached retina would be, and no vessels could be seen over it. I concluded it was an exudate, probably from a foreign body; the disc could be seen fairly well, being obscured only by a little exudate on the anterior capsule of the lens. I do not remember what the vision was exactly, but I think 5/200 or better. The eye improved under the use of atropin. There had been no irritation after the first six or eight weeks after the injury. We tried the Haab magnet, but could not produce any pain. I have not had an X-ray picture taken, but I will, to see if there is any foreign body there. The eye is absolutely quiet at present and there has been no irritation since the acute inflammation subsided two years ago.

Dr. William A. Fisher—I had an opportunity of examining the case presented by Dr. Lawbaugh a week or so ago. Dr. Hotz thinks the foreign body might have entered with such force as to go through the eye, which is quite possible. From the experience we have had with eyes in the lower animals, a foreign body could not hang in the vitreous, surrounded by an exudate, as is shown in this case, and not be attracted by the magnet. Our experiments show that we can pull a foreign body clear through the vitreous from one side to the other with a Haab magnet. We have tried, during the last month, fully half a dozen cases for the removal of foreign bodies from the eye. Probably the most interesting case was that of Dr. Wescott, shown at our last meeting, in which a foreign body was supposed to have struck the eye and entered the anterior chamber; under illumination one could see the spot in the iris. One would have been tempted to do an iridectomy in such a case, as the foreign body seemed plain enough. In all of these cases the Haab magnet made the diagnosis of no foreign body. I am sure there is no foreign body in this case, unless it has passed through the eye and lodged in the orbital cavity.

Dr. W. F. Coleman—Some years ago, a man, in entering a blacksmith's shop, was struck in the eye by a chip of iron which flew twenty feet from the anvil as a piece of iron was struck by the hammer. Cyclitis followed, and sympathetic irritation was set up in the other eye. I removed the injured eye six weeks after the injury, and found the foreign body, as I remember, lying posteriorly in the orbit, and it had perforated the eyeball anteriorly and posteriorly. In that case, although the foreign body was not in the eye, it had produced cylitis, which was the indication for the removal of the eye.

EMBOLISM OF CENTRAL ARTERY OF RETINA, LEFT EYE.

Dr. **WILLIAM E. GAMBLE**—On April 18 this man got a cinder in his left eye. Soon after, in opening his eye, he discovered he could not see. I examined his eye one week later. In the temporal field he could count fingers at one foot: in other parts of the field his vision was practically *nil*. He thought he could detect the hand moving before his face. The ophthalmoscope revealed embolism of the central artery of the retina, the arteries being greatly reduced in size and carrying but little blood. Edema of retina was pronounced, especially about the disc and extending from the disc to and beyond the macula, the extreme periphery of the retina showing but little evidence of edema. The nasal peripheral retina was almost free from opacity and the arteries contained more blood. No cilioretinal vessels were to be seen. The cherry spot was characteristic. The patient has aortic stenosis; has never been sick, excepting an attack of typhoid fever a number of years ago. He is 55 years old, a robust, well-developed man. It has been frequently observed by Fischer, de Schweinitz and others that the temporal field suffers least from embolism of the central artery. In this case this can not be explained by the presence of cilioretinal arteries. A satisfactory explanation has yet to be made.

DIPHTHERITIC CONJUNCTIVITIS.

Dr. C. P. **PINCKARD** reported this case in the JOURNAL, May 27, p. 1153.

DISCUSSION.

Dr. W. F. **COLEMAN**—A few years ago I saw two cases of diphtheritic conjunctivitis in children at St. Elizabeth's Hospital, there being at that time many cases of diphtheria in the hospital. In one case the cornea was not involved, and the child recovered with good vision; in the other the cornea was lost. The appearances were characteristic; the children at the time had both nasal and throat diphtheria.

Dr. **PINCKARD**—In my case the nose and throat were not affected at any time, all that was discovered was a little redness. There was no membrane in the nose or throat. The constitutional symptoms were well marked; temperature was 101.5 F., pulse over 100. The morning and evening temperatures were almost the same, not varying half a degree. The constitutional symptoms, after the administration of the antitoxin, disappeared very quickly.

Dr. W. F. **COLEMAN**—I recollect Dr. Ware speaking of a treatment he tried some years ago in a case of diphtheritic conjunctivitis. Probably he will remember it, and I would like to ask him to mention it.

Dr. **LYMAN WARE**—As I remember, it was the case of a young child, there being four or five other children in the family. Three of the children died with diphtheria, and the one I attended was only two years of age and had only one eye affected. The case was not a very severe one, only about one-half of the upper tarsal conjunctiva being involved and the cornea slightly opaque. When I say that only a portion of the upper tarsal conjunctiva was involved I mean that the diphtheritic membrane only covered that portion. The entire eye was more or less inflamed. I treated this case with Fairchild's trypsin. Under this treatment the child recovered perfectly. It had no trouble with either the throat or the nose, the disease being confined entirely to the eye. As it was a mild case, it might have done well under almost any treatment that was adopted to save the eye and preserve the conjunctiva.

Dr. A. E. **BULSON, JR.**, of Fort Wayne, Ind.—I think Dr. Pinckard is to be congratulated on the good results obtained by antitoxin treatment of his aggravated case of diphtheritic conjunctivitis. Some years ago, while intubating a child suffering with diphtheria, I had the misfortune to have some of the secretion coughed into the eyes. The conjunctiva soon became intensely red, slightly edematous, and attended by photophobia and marked lachrymation. Prompt and persistent use of cold bichlorid fomentations caused the inflammation to subside. One of my brother practitioners had a similar misfortune several years ago, some of the diphtheritic membrane being coughed into the eyes, producing an aggravated case of diphtheritic conjunctivitis. The persistent use of cold bichlorid flushings and fomentations resulted in complete recovery, though use of the eyes was prevented for several weeks. In this case the systemic disturbance was marked.

We are sometimes in doubt as to whether we have croupous conjunctivitis or a mild diphtheritic inflammation, and, as mentioned by Dr. Pinckard, the bacteriologic examination does not always throw light on the subject. I think the systemic disturbance is a diagnostic feature of importance, and a history of infection, attended by the characteristic manifestations, makes the diagnosis certain.

From our present knowledge of the beneficial effects of antitoxin in the treatment of diphtheria it would seem that we have in this remedy a specific for diphtheria of the eye. The treatment will result in no harm, even in doubtful cases, and in the marked cases, such as described by Dr. Pinckard, which usually result so disastrously, give the patient the best chance for saving the eyesight. Local antiseptic treatment, early and continuous, is always applicable, and alone may frequently produce favorable results, but we are not doing our whole duty to the patient if this treatment is not supplemented by antitoxin injections.

Dr. **WILLIAM E. GAMBLE**—Diphtheritic conjunctivitis is rare in this country, and particularly in Chicago. I have seen but one case. Croupous conjunctivitis is comparatively common. In dispensary practice it is not unusual to see a few cases each year. In these cases we have little fear of injury to the cornea. There is practically no danger to the eye. Comparatively recent bacteriologic research places these cases in the diphtheritic class. It is true the Klebs-Loeffler bacillus does not penetrate deeply into the tissues as in the severe cases, i.e., diphtheritic conjunctivitis, but they are found in the secretions. It seems to me the word "croupous" should be dropped, and the mild diphtheritic conjunctivitis substituted.

Dr. C. P. **PINCKARD**—I do not know that we have any way of making a positive diagnosis of diphtheritic conjunctivitis. The microscope does not aid us very much. The xerosis bacillus gives exactly the same reaction to the stain that the Klebs-Loeffler bacillus does; it looks the same under the microscope, and without clinic symptoms it would be of no significance whatever. The one fact which settles the diagnosis is the inoculation of rabbits or guinea-pigs, because there is no reaction to the xerosis bacillus, and there is to the diphtheria bacillus.

MYOPIA.

Dr. C. P. **PINCKARD** also reported this case. Miss M., age 17, was first seen Feb. 6, 1899. Until 1898 she has worn, with comfort, for nine years the following glasses: O. D. + 2.25 ax. 90°; O. T. + 1.50 ax. 90°. Early in 1898 she laid aside her glasses because her vision was just as good without them, and they did not add to her comfort in near work. Until about July, 1898, she noticed nothing peculiar about her eyes, but they began to hurt her, though no great failure in vision was noticed until shortly before I saw her. On examination: r.o.d. cyl. — 4.75 = 1; r.o.s. cyl. — 4.50 = 1. I suspected spasm of accommodation. After using 1 per cent. atropin solution for a week I found: r.o.d. cyl. — 4 = 1; r.o.s. cyl. — 3.75 = 1. The skiascopic mirror gave negative results; the ophthalmometer showed astigmatism, .50 D with the rule.

Not satisfied as to the spasm, 2 per cent. atropin solution was applied three times daily for ten days, but with no change in the results compared to the last examination.

The fundi showed no changes except slight tortuosity of the lower temporal vein in each eye. There was no crescent. The case has been repeatedly seen since, but there has been no change since February 6. The remarkable thing about the case is the total disappearance of such a considerable degree of astigmatism. For many years it was believed that astigmatism did not change, but such cases as this force the conviction that changes are not so uncommon as we thought.

Dr. A. E. **BULSON, JR.**, of Fort Wayne, Ind.—I believe that many people wear glasses that have no relation to the kind or amount of error present. Dr. Pinckard's case reminds me of one that came to my notice a few weeks ago in which a young factory girl came to me complaining that she could not see as well at a distance as she thought she ought, and requested examination to discover the cause of the trouble. Vision was 10/200 in each eye, and slightly improved with — 2 D. cylinder, axis 180°. Under atropin, — 5 D. cylinder, axis 180°, was accepted, and this astigmatism verified with the ophthalmometer. The glasses produced a marked improvement in vision and are worn with comfort. Previous to coming to me she had worn, with reported comfort, but with no improvement of vision, a plus spherical of about 1 D. combined with a plus cylinder of about the same strength, axis 90°. The patient is of phlegmatic temperament, somewhat illiterate, and never knew what it was to see well. While the myopic astigmatism may have been progressive it is more than likely that the error was present at the time the optician adjusted the compound hypermetropic lenses which were tolerated for several years.

Cases of this character are frequently seen in consequence of ignorance on the part of opticians or undue carelessness on the part of ophthalmologists, but it is seldom that a patient will contentedly tolerate a correction of such character for any length of time.

Chicago Medical Society.

Regular Meeting, May 24, 1899.

AN ABSORBABLE INTESTINAL COUPLER.

Dr. Jacob Frank read this paper. The coupler is more or less familiar to surgeons. Speaking of the Murphy button, he stated that if it were soluble, nothing better could be wished for, but since it is not surgeons will not rest until some material can be used which will dissolve and still carry out all the principles laid down by Denan and later by Murphy. He showed the absorbable coupler, which retains all the good qualities of the Murphy button, and eliminates the only objectionable feature—insolubility—at the same time, possessing one additional point of advantage in being very light, and thus being easily floated by the intestine.

The coupler consists of two decalcified bone collars with four needle-hole perforations at the apex or shoulder of each collar, and one piece of ordinary pure gum rubber tubing, the kind used for drainage, large enough to fit just inside of the coupler. It is prepared for use in the following manner: A collar is slipped over a piece of rubber hose until the apex is brought to a level with the end of the tubing, when an ordinary medium-sized curved needle, threaded with silk, is carried through each opening and tied; this, as can readily be seen, fastens the collar to the tube; the other collar is next fitted snugly to the one already fastened, and is then in like manner sewed to the other end of the tube and placed in absolute alcohol until they are to be used. The rubber tubing to which the collars have been sewed, being hollow, serves subsequently for the passage of the intestinal contents after being placed *in situ*. The couplers are made in eight different sizes, the rubber hose corresponding to the size of the coupler.

The bases of the collars, which are formed into a broadened rim, are being held firmly in apposition throughout their entire circumference, after being sewed to the rubber. The intestinal ends are brought over each collar and crowded within the line of junction of the two; of necessity the latter are forced apart and the rubber tube is put upon the stretch, thus affording pressure of adequate amount to cause a necrosis of the interposed intestines. The collars dissolve in due course of time, and but a small piece of rubber tubing is left in the intestinal canal to pass off with the feces. Even if retained, the rubber will become macerated, as it is composed of vegetable substances.

The collars are carved from long compact bones which are obtained from oxen. They are then subjected to the decalcifying fluid, which consists of 10 per cent. solution of absolute hydrochloric acid, and are removed from this fluid in six hours and placed under a stream of cold water for half an hour to remove the salts which have formed. They are then placed in a fresh decalcifying fluid of the same strength, or less, as required, and the process is continued until they are completely deprived of their calcareous constituents, when they are washed with cold running wster, so that all traces of acids and phosphates are removed and the collars have acquired an almost transparent appearance. Then they are practically dehydrated by treatment with pure cologne spirits, and finally immersed in absolute alcohol, which renders them sufficiently tenacious for their purpose. In order to insure against shrinkage they are not sewed together for use until they have been kept in absolute alcohol for one to two weeks.

The coupler is used in the following manner: Murphy's puckering string is placed about each severed end of the intestine, the operator slips an intestinal end over one of the collars, to the line of junction, at the same time gently spreading the collars apart to facilitate the easy access of the gut. An assistant takes charge of the ends of the puckering string, and when the gut has been brought over the collar he makes one knot, and draws down until the puckering ligature strikes the rubber tubing, which he will perceive by the resistance offered; the tube will not permit a too tight drawing of the puckering ligature on account of its resiliency. The second knot is tied and cut short. The other intestinal end is then slipped over the other collar and tied in the same manner. The ligature is cut off short and the clamps are immediately removed, when the operated portion of the bowel will be slowly distended with gas. An interrupted Lembert suture should be taken around the border, with an intestinal needle threaded with a No. 2 silk, to make the work more secure.

MEDICAL EFFICACY OF NOSOPHEN AND ANTINOSIN IN EYE, EAR, NOSE AND THROAT AFFECTIONS.

Dr. James A. Lydston presented this paper and reported several cases. He said that among the many products that have been extolled in recent years as possessing superior germicidal and antiseptic qualities, are two chemic compounds, namely, nosophen and antinosin. Nosophen is superior to iodoform as a surgical dressing, either in powdered form or in the form of nosophen gauze, because it can be used with impunity without fear of toxic effects and disagreeable odor, with just as great assurance of germicidal, antiseptic, deodorizing, healing and drying powers. Antinosin being far preferable to iodoform because of its ready solubility in aqueous solution, and its freedom from toxic effect, enables physicians to apply it in pathologic situations not approachable by iodoform or any other antiseptic or germicidal agent, unless used in toxic quantities.

He has found nothing to equal nosophen as a deodorizer of the purulent secretions characteristic of otitis media suppurativa. He has applied nosophen and antinosin in all classes of cases, and has yet to see the case in which the results were disappointing. Catarrhal cases of the nose and throat in many instances have yielded to insufflation of nosophen and irrigations with aqueous solutions of antinosin when other antiseptic applications have utterly failed.

Medical Association of Greater New York.

Meeting held June 12, 1899.

EXSTROPHY OF THE BLADDER.

Dr. John H. Branth presented two cases of this condition, one in a boy 9 years of age, and the other in an infant of nine months. They closely resembled each other in all their essential features. The bladder, presenting the appearance of a red, vascular-looking tumor, was seen protruding through the fissure in the lower abdominal walls, the abdominal muscles being behind the vesical mass. On either side of the latter the orifices of the two ureters, discharging the renal secretion over the eroded surface, could be readily distinguished. Beneath the bladder was the epispadic penis, the abdominal fissure, as is constantly the case in this deformity, involving the roof of that organ.

Dr. Branth stated that in all the cases that he had seen the penis was situated above the pubic commissure, and he advanced the theory that in the first weeks of fetal life, when the abdominal cavity is open and the allantois and umbilic vessels communicate with it, and when the bony structures are in a very soft and flexible condition, by some accident the pubic bone tissues are twisted on the horizontal axis in such a manner that the parts going to form the penis—the latter being covered by elements for the formation of true skin—are brought out over the pubic commissure. Thus the skin elements of the penis-covering will prevent union of the two sides of the linea alba, the bladder will be pushed through and everted, and so a permanent fissure or non-union of the linea alba up to the point of insertion of the umbilic cord will result. In both the cases it could be observed that the testes had not descended into the scrotum, but were still situated in the groin.

The essentially original plan of procedure which Dr. Branth preferred for the relief of this malformation was as follows: A perineal incision to be made just anterior to the scrotum and below the pubes, and the penis to be drawn out through the incision; the whole bladder to be lowered into the pelvis, behind the pubes, to which it is to be fastened by catgut sutures, the viscus having been previously closed by Lembert sutures and detached from adhesions above. The root of the penis is to be made raw and stitched to the edge of the wound, through which it now protrudes. The bladder being now in its normal position, the tendinous portions of the transversalis and oblique muscles, ensheathing the abdominal recti muscles, can be readily stitched together by a continuous and recurrent suture in order to secure a firm union. In the meanwhile drainage of the renal secretion is to be maintained through the groove in the epispadic penis, the defective urethra. Later on an effort is to be made to build a roof to the urethra. If the above plans should be crowned with success, the attempt would be made to bring down the testes to their proper receptacle.

About three years ago Dr. Branth operated on the boy in the manner described, except that he did not transfer the penis from its abnormal position, nor lower the bladder into the pelvis. The ureters were catheterized by thin rubber tubes, which were carried out over the epispadic penis, so that no urine should reach the bladder. The bladder was closed by Lembert sutures and crowded through the fissure, behind the muscles, into the abdominal cavity. After this the fissure was closed, the raw surfaces being stitched together, layer by layer, by catgut sutures. All went well until by accident one rubber tube became clogged, and the other tube, as the result of the tossing of the patient on account of an unfortunate attack of toothache, became dislodged, so that the renal secretion was poured over the operative field, necessitating the making of an opening. Partial union had set in, but in a few days nearly everything parted. Something had been gained, however, and that was a thick wall of tissue, so that the patient has since been able to wear a cup for the reception of urine. This would also enable the surgeon to make a stronger suture and secure better union in a future operation than would otherwise have been possible. In the case of the nine-months-old infant, Dr. Branth did not think it would be advisable to attempt any operative procedure until the child had reached the age of 2 years.

Detroit Medical and Library Association.

Meeting held May 22, 1899.

HEMOPHILIA.

Dr. G. W. Wagner, in this paper, related the history of two cases he had seen and treated while an interne in the Jefferson Medical College hospital, Philadelphia. The first was that of a man, 25 years of age, whose family history showed that there must have been some family taint, as two of his brothers died from hemorrhage. The patient, when in his twenty-first year, had bled for two weeks after the extraction of a tooth. After an accident to the index finger of his right hand, which Dr. Da Costa amputated, bleeding continued in spite of every measure adopted to check it. Dr. Keen finally amputated at the metacarpo-phalangeal joint and cauterized the wound with a Paquelin cautery. The hemorrhage began again at the end of a few hours. The author then suggested the removal of the dressings, leaving the wound exposed to the air, and the use of hot water if necessary. This was done, and in twenty-four hours the bleeding was permanently checked. During the period of hemorrhage the patient's temperature ranged from 99.5 to 101 F.; pulse 120 to 140 per minute.

The second case was that of a boy 4 years old, who had been brought to the out-door department of the hospital, bleeding from a small lacerated wound of the mucous membrane of the upper lip, with a history that he had been bleeding for forty-eight hours. The wound was sutured, but the hemorrhage continued. He was then sent to the author, who turned his lip up so as to expose the wound to the air. It was held in the inverted position by adhesive plaster. The hemorrhage ceased almost instantly. Regarding the treatment the author recommended two measures that are probably original, and had been found useful, viz.: exposure of the bleeding wound to the air, and the inhalations of oxygen, on the theory that a deficiency of oxygen in the blood is one of the main reasons for its slow coagulation.

Erie County Medical Society.

Meeting, June 13, 1899.

This New York society, through its board of censors, is doing good work, according to the report made to the society at its last meeting, June 13. The board reports that during the year since the last annual meeting, all complaints concerning illegal practices have been carefully investigated, not only by the members of this board but also, in some instances, by detectives employed for that purpose. In one case of a flagrant character, that of a man who has for some years been administering medicine to many persons in Buffalo, N. Y., for hire, for cancer and other diseases, without being duly licensed as a physician, it has obtained sufficient evidence for conviction and the defendant has been arrested. It is believed that this man, whose ordinary occupation is that of day laborer on the docks, has accumulated property of considerable value by his illegal practice, and if warranted by the evidence secured, and the board is so advised by counsel, it will, besides prosecuting him criminally, institute a suit against him in the supreme court, to recover numerous penalties of $250 for each offense under the provisions of the law of 1895.

Within the last few weeks a case of more than ordinary importance has come before the United States Court, growing out of the death of a child at Fort Porter, who, it is claimed, died of double pneumonia, under the care of a so-called "Christian Scientist healer," who had been called in to cure this child by its father. The post-mortem examiners' report of the autopsy performed indicated so clearly that the disease had existed for some days, and could have been discovered by the usual methods of examination and diagnosis if the child had been attended by a duly licensed physician of ordinary skill, that the U. S. district attorney deemed it his duty to cause the arrest of the father and mother of the child and of the alleged "healer" on the charge of manslaughter; the United States authorities and not the State authorities, having exclusive jurisdiction of this charge, because the death occurred on a United States government reservation. After a considerable amount of testimony had been taken on these charges before the United States commissioner, this board, after consulting many members of this society, deemed it advisable that its counsel should be required to assist the United States district attorney in prosecuting the medicolegal aspects of the matter. The attorney cheerfully and courteously consented that this should be done, and the board's counsel has given him valuable assistance in prosecuting the case, which on June 12, resulted in the "healer" and the father being held by the U. S. commissioners in $2,500 bail each, to answer the charge of manslaughter at the next term of the United States District Court.

The board also reports that, following the course pursued by the Medical Society of New York County, it has with the assistance of its counsel, caused a list of all the duly licensed and registered physicians appearing on the records of the county clerk's office, to be prepared, and compared with the names of the physicians as they appear in the Buffalo City "Directory" for 1898. It has also prepared and sent by mail to sixty-six persons whose names appear in the directory of 1898, as physicians, but do not appear on the records of the county clerk's office," to be duly registered as such, a circular letter relative to this omission, and has received about thirty replies.

Cleveland (Ohio) Medical Society.

Meeting held May 26, 1899.

WHITE SWELLING OF KNEE.

Dr. W. E. Wirt showed cases treated by first straightening the joint by means of a device of his own design. In tuberculous inflammation of the knee, the joint is held in its flexed position by the spasm of the muscles, and when the limb is pulled straight the tibia is found to be posterior to the line of the femur. This brace was designed to meet this difficulty and keep the bones in line. By its use he has restored joints to usefulness without resection.

LOCOMOTOR ATAXIA.

Dr. C. J. Aldrich presented a case with ataxic gait, loss of knee-jerk, loss of control of sphincters, Argyll-Robertson pupil, and some rarer symptoms. There was almost complete double recurrent laryngeal paralysis, causing "hour-glass" contraction of the glottis and very husky voice. There was also very marked hyperesthesia of the trunk so that the touch of a camel's hair brush gave pain. Preceding the establishment of his "lightning pains," this man had a fixed pain on the anterior surface of his wrist, for some time. Lastly, he had a very marked intention tremor of the arms.

MODIFIED CYSTOSCOPE.

Dr. L. B. Tuckerman exhibited a modification of the ordinary male cystoscope, designed to avoid the frequent accident of the instrument catching by its point at the junction of the pendulous and membranous urethra. The instrument is longer than that ordinarily in use, and the obturator has its point on a level with the upper surface of the tube.

Nitrous Oxid Gas and Oxygen Anesthesia.—At a recent meeting of the Society of Anesthetists, Gardner (*Brit. Med. Jour.*, April 29, p. 1031) pointed out that short operations, such as tenotomy, catheterization, movement of stiff joints, pelvic examinations, etc., can be satisfactorily performed under the influence of nitrous oxid gas and oxygen. After the administration has lasted a few minutes, from 15 to 20 per cent. of oxygen is required to avoid muscular rigidity. The resulting anesthesia is less profound than that of chloroform or ether. Under it there is excitation of reflexes of adjacent limbs, etc., and reflex alteration in respiration. Retching movements and sickness can not be prevented by "pushing" this anesthetic. Florid, alcoholic and muscular men are not good subjects. The administration itself should be achieved only by the expenditure of forty gallons of the mixture over a quarter of an hour.

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SATURDAY, JUNE 24, 1899.

SCARLATINA.

In the tenth series of the "Medical and Surgical Reports of the Boston City Hospital," there is an extensive report by MCCULLOM and PEARCE on scarlatina, as it has been observed and studied in the well-organized infectious wards or South Department of this excellent hospital.

An analysis of 1000 cases of scarlet fever treated in this hospital shows that the percentage of mortality, including moribund cases, was 9.8 per cent. Of the 98 fatal cases scarlet fever was responsible for 56 deaths, bronchopneumonia caused 15, diphtheria and scarlet fever 10, diphtheria 9, pneumonia 4, scarlet fever and erysipelas 1, tuberculous meningitis 1; two died from various complications. If the 42 deaths caused by complications occurring in the course of the disease are eliminated, the percentage of mortality becomes 5.8 per cent. In this 1000 cases a membrane was present in the throat in a large proportion of them, yet cultures showed the presence of diphtheria in only a small number—11.75 per cent.—but the percentage of those giving positive cultures without a definite membrane was 14.4.

Dr. MCCULLOM concludes from the health reports of this and European countries, and from the study of this 1000 cases, that scarlatina is more prevalent in Boston than in some of the large foreign and American cities. Scarlet fever has diminished in frequency in Boston, however, during the past three years, owing to the use of an isolation hospital sufficiently large to accommodate all applicants. This is a very important fact worth noting by other large cities which lack sufficient hospital facilities for acute infectious diseases, as for instance, Chicago. He also finds that the period of isolation in scarlatina, in order to be effectual, shall be continued for a long time—at least fifty days.

As regards treatment, the most important observation is that rest in bed and a bland diet during the first few weeks of illness seemed to be important factors in reducing the renal complications in scarlatina.

In this report Dr. PEARCE considers the results of 23 post-mortem examinations in cases of scarlet fever from Dr. MCCULLOM'S service. Although a careful bacteriologic examination was made of every case, no light can be thrown on the etiology of the disease. The only constant macroscopic change is a hyperplasia of the lymphoid tissues of the body. The anatomic changes in the skin and tongue, which play an important part in the clinic diagnosis, are not usually present post-mortem. Occasionally the tonsil is covered by a false membrane.

Secondary inflammatory lesions of various kinds, due to the streptococcus pyogenes, staphylococcus pyogenes aureus, and the pneumococcus, are frequently found. These micro-organisms are named in the order of frequency of occurrence, the streptococcus being found most frequently in the cases of general infection, and on the mucous membrane of the throat and nose. The most important inflammations due to these organisms are, bronchopneumonia, inflammations of the middle ear, suppuration of the cervical lymph-glands, acute pleurisy, and inflammation of the maxillary sinus. Occasionally pulmonary abscesses, acute endocarditis, metastatic abscesses of the kidney, are seen. Of the complications mentioned, inflammation of the antrum of Highmore is the most interesting. This occurred in three cases, and in two both cavities were filled with pus, the process being a true empyema. These secondary infections of the maxillary sinuses, as well as of the middle ear, are therefore present in scarlet fever in a large number of cases, in many of which it may become the source of chronic processes after recovery.

The histologic examination of the skin, tongue, and oropharyngeal mucous membrane showed inflammatory as well as vasomotor changes. Two forms of focal lesions occur in the liver, one due to the accumulation of phagocytic cells in the capillaries, with consecutive occlusion and necrosis of the included liver cells. The other is a necrosis of the central part of the liver lobule, followed by leucocytic infiltration. In the spleen there is proliferation of the endothelial cells of the Malpighian bodies lining the blood sinuses. Similar changes occur in the lymph nodules and lymph sinuses, and the new cells are markedly phagocytic, taking up leucocytes and other cells into their interior. In the spleen and lymphoid tissue it also appears that plasma cells develop from lymphoid cells.

From the study of the kidneys in these cases it is apparent that the acute interstitial nephritis is the most important lesion of the kidney in scarlatina. This form of nephritis was more marked in four cases dying in the second or beginning of the third week of the disease. The absence of glomerular lesions is explainable because these lesions usually occur later in the disease than the period at which the cases died.

A very striking cellular change in scarlet fever is the production of plasma cells in the spleen and lymphatic glands throughout the body. These cells appear in large numbers in the blood, and emigrate into the tissues of the kidney and the lung. A similar process has been described by COUNCILMAN as occurring in diphtheria, in the acute interstitial nephritis of that disease. The proliferation of endothelial cells and the development of phagocytic properties in the proliferating cells are similar processes to those described by MALLORY in connection with typhoid fever, but not so marked.

PEARCE is not able to definitely determine whether the proliferation of plasma and endothelial cells should be assigned to the toxin of scarlet fever, or to that of the secondary infecting organisms. In more than one-half the cases death occurred on the second or third day, before complications had had time to develop. and this would seem to indicate that the toxin of the scarlet fever itself was the important agent.

The contributions to the pathology of the acute infectious diseases which have appeared from the Boston City Hospital during recent years have been extremely valuable, and very creditable to American medicine. Such contributions from a large public city hospital have been rendered possible by the establishment of well-organized wards for infectious diseases, and of a well-equipped and properly maintained pathologic laboratory.

The trustees of the Boston City Hospital have hereby set a most valuable example, which it is hoped will soon be followed by other similar large municipal hospitals in other cities of the United States. This hospital forms an unique exception to the general official neglect of scientific medicine, characteristic of the majority of the large city hospitals of this country.

INSIDIOUS PLEURISY.

Time was when it was generally believed by the medical profession that pleurisy was due to cold and exposure, and in most instances it was supposed to be produced by very similar causes to those which were thought to cause pneumonia. With the advances which have been made in our bacteriologic knowledge, we have gradually learned that pneumonia in all its forms is due to an invasion of the lung by a micro-organism and that in its most characteristic form it is due to the micrococcus lanceolatus. Even more recently than the discovery that pneumonia is due to systemic infection and is but a localized manifestation of general disease, we have learned that inflammation of the pleura is due to infection by the staphylococcus, streptococcus and bacillus of tuberculosis, and more rarely to other infecting micro-organisms.

These rare forms of pleuritic infection are also very frequently insidious in their onset and therefore are liable to be overlooked by the physician unless he is very careful in his search for pleural complications. One of these insidious forms is that which arises from tubercular infection. Quite frequently, without any history of an acute attack of illness, a patient presents himself to the physician with the physical signs of pleural effusion of greater or less degree, and with no other evidences of pulmonary tubercular infection. The dyspnea and other symptoms which are present as the immediate result of the serous outpouring into the chest, are speedily relieved by aspiration, and frequently a reaccumulation of the serum fails to occur. Such cases should always arouse in the physician a suspicion of tubercular infection, and a careful record kept of such cases extending over a period of months or years will usually show that the pleural effusion has been but the first step in the development of a general pulmonary tuberculosis. This has occurred so frequently in our experience that we are confident of the correctness of this view.

Very much more rare than pleural infection by the micro-organism of tuberculosis is insidious pleurisy due to direct infection of the pleura by the typhoid bacillus. Usually the effusion which results under these circumstances is purulent and it will be remembered that as long ago as 1885 RENDU and DE GENNES,[1] and again, in 1887, FRAENKEL[2] obtained this bacillus from the pus of an empyema, while KEEN[3] collected nine cases of pleural effusion complicating this disease, in five of which the specific organism was discovered. So, too, VALENTINE[4] reported a case of typhoid empyema.

The most recent contribution, however, to this interesting subject, is to be found in the *Journal des Praticiens*,[5] in which the fact that we have already mentioned is pointed out, namely, that pleurotyphoid usually develops insidiously, and is seldom announced by pain in the chest or the development of a chill. When the disease develops in the early stages of the typhoid, the other maifestations of the disease may be so marked and the pleural evidences so lacking that it will be readily overlooked. In the vast majority of cases, however, the pleurisy develops during the stage of decline or during convalescence, when there is less excuse for not recognizing it, attention being called to the condition by the respiratory embarrassment of the patient. The temperature under these circumstances is usually irregular and as a rule not very high, and the physical signs are simply those of ordinary effusion, the diagnosis being confirmed by exploratory puncture.

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[1] La Presse Med.

[2] Proceedings of Sixth Cong. for Internal Med.

[3] Surg. Complications of Typhoid Fever.

[4] Berliner Klin. Woch., 1889.

[5] May 20, 1899.

It is an interesting fact that this type of pleural effusion, unless there is also infection of the ribs by the bacillus of Eberth, usually has a favorable prognosis, whereas that due to tuberculosis is correspondingly unfavorable.

The treatment in both instances is identic and consists in the evacuation of the fluid, and where pus is present and forms persistently, the allowance of free drainage, either through a tube or by one of the more radical operations upon the chest wall, which are designed to permit of the free escape of pus and the closure of the abscess cavity.

[1]ACUTE INFECTIOUS MULTIPLE NEURITIS.

By acute infectious multiple neuritis we understand cases which begin and progress according to the type of an acute infectious disease. They are accompanied with more or less elevation of temperature, general malaise, headache, pains in the joints, swelling of the spleen, albuminuria and the characteristic nervous symptoms. Usually death soon results, often preceded by symptoms of asphyxia. Muscular changes are usually absent, on account of the rapidity of the course. From a pathologico-anatomic standpoint these cases are interesting, because there is found a genuine interstitial neuritis. The nerves appear swollen, grayish-red, and often are the seat of small hemorrhages. Occasionally the nerve appears nodular, on account of foci of cell accumulation and exudation. Microscopically there is marked congestion, perivascular round-cell infiltration, which extends in between the nerve bundles. In some cases the cellular exudation may be so intense that miliary abscesses are formed. At the same time, there is more or less proliferation of the fixed connective-tissue cells. At times the medullary sheath of the nerves disintegrates into granular and scaly masses, in other cases it is quite intact. Such cases have been described by Eichorst, Leyden, Roth and others. So far no micro-organism has been found in the cases which have been examined for the purpose of demonstrating their presence. On this account Rosenheim is inclined to attribute neuritis to chemic or toxic substances. In a case recently studied by Wokenius, in a girl 19 years old, the symptoms appeared suddenly; an eruption came out on the lower extremities, hands and arms. Soon paresthesia of the hands and feet appeared, and an ataxia of the extremities, accompanied with lancinating pains, ending in paralysis. The paralysis also involved the muscles of the trunk, with the exception of the recti abdominis. There was no distinct disturbance of the electromuscular irritability, and no distinct muscular atrophy. The urinary bladder remained normal; the sphincter ani, however, became paralyzed. Eventually, paralysis of some of the bulbar nerves appeared, leading to dysphagia, etc., and death resulted on the twentieth day, on account of paralysis of respiration. The examination showed a high degree of interstitial and parenchymatous neuritis, similar to the changes already described. The author consequently places this case among the group of spontaneous acute infectious multiple neuritis. In order to determine, if possible, the nature of the infection, careful bacteriologic examination was made of the heart's blood, of the spleen and one of the nerves of the right leg. A micrococcus appeared on the plates from the spleen and the nerve. This coccus resembled the staphylococcus pyogenes albus. Careful histologic examination of the nerve showed groups of granules in its interior which, all things considered, are regarded as micrococci. It is therefore concluded, that in this case an actual localization of micro-organisms had occurred in peripheral nerve-trunks. Attention is called to the exact localization of the infection to the peripheral nerves, because it was found in the microscopic sections that the inflammatory process suddenly ceased at spinal nerve-roots.

COMPULSORY NOTIFICATION OF TUBERCULOSIS.

The question of the compulsory reporting of cases of tuberculosis has been raised in a practical way in Detroit, where a number of prominent physicians are threatened with prosecution for failing so to do, as noticed in the news items in a recent issue of the Journal. It would appear from the reported statements of some of these physicians that they intend to fight the health board and claim that the law was not intended to cover tuberculosis, and that it would be unwise and useless to report their consumptive patients. In some cases it is claimed that the practice would do harm, and one well-known doctor is reported as saying that while most of his failures to report were inadvertent, in one case it was intentional and for the welfare of the patient, and that he should always do the same in like circumstances. Such cases are easily imaginable—especially if there is any chance of publicity from such reporting—and constitute a rather valid argument against it. In fact it is an open question whether in a medical point of view the advantages of compulsory notification in this disease are so great as to justify the rigid enforcement of the law in all cases. It can hardly be justified on the ground of danger to the public, for consumption is very mildly contagious and there is practically no peril in ordinary intercourse or contact with a consumptive. In fact, it is likely there is far more danger in walking a city street on a dusty day. Nor can it be claimed that it will furnish reliable statistics, for only the pronounced cases are diagnosed and the vast number of latent cases will be still ignored. We have all of us probably been repeatedly infected, and a large proportion of us, estimated by some as high as nearly one-half, have, or have had, actual tuberculous processes going on in our lungs, to say nothing of other portions of our economy. In fact if a tuberculin test were applied to the human as it is to the bovine species, it is probable that it would give a far more formidable showing than any system of notification of cases.

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[1] Ziegler's Beiträge, 1899.

The advantage of compulsory reporting must be looked for mainly then in its educational effect on the public as a part of the general warfare against tuberculosis now being instituted and to a limited extent in the registration of pronounced cases. If the latter is to be a matter of public record, its disadvantages in individual cases will be considerable, especially if, as appears to be the natural tendency of the present agitation, any exaggerated notions of the perils of contact with tuberculosis are to be instilled into the minds of the people. It is a misfortune that if such diseases as tuberculosis require compulsory notification, other disorders much more contagious and dangerous to the public welfare in some respects, like syphilis and gonorrhea, can not also come under the same rule. Justice at least would demand as much as this and good sanitary policy no less.

CAUSE OF LAMP EXPLOSIONS.

A curious result has been arrived at in the investigation of the cause of lamp explosions in London, and that is, it is not the worst or lowest-flash oils which are most dangerous, but those of medium grade. For instance, in 15 explosions 11 were caused by medium oils, with a flash-point of from 80 to 88 degrees, and only 4 by oils of from 73 to 80 degrees. At the same time glass lamps are found more dangerous than metal ones, not because they are more liable to break, but because they are cooler; the secret of these apparent paradoxes being that oil vapor is explosive only when mixed with air in the precise proportion of 41 to 50, which is quickly exceeded in the hot metal lamp-bowls, and with the volatile low-flash oils.

DOCTORS AND HEALTH.

The question: "Do doctors and health go together?" is answered in the affirmative by the *Toledo Bee*, which has editorially gone over the facts and statistics. It finds that countries having few physicians, like Russia, have the highest death-rate, while those best provided for, like Holland and the United States, have the lowest. Something might be asked as to medical service, and there is no doubt that in the 120,000, the quality of, so-classed physicians of this country, there are some who deserve no credit for this good result, but without these America is one of the best provided-for countries, as to well-qualified physicians. Great Britain, nevertheless, with half as many to the population, is as well off as to health as we are, considering her crowded condition. There is certainly a surplus of doctors in this country, and considering that our profession is self-destructive in its tendency, that it cuts its own throat, so to speak, with its success; this fact only aggravates the evil. There are apparently enough doctors in the country to make it distressingly healthy.

OVARIOTOMY AND THYROID FEEDING.

The discussion as to the value of ovariotomy, with or without thyroid feeding, in cancer of the breast is still proceeding vigorously in England. Dr. HERMANN, of the London Hospital, thinks highly of the combined method and reports some excellent results, but STANLEY BOYD, who was one of the earliest, if not the first to advocate the operation, is less enthusiastic. He sums up the results to date as entirely negative, so far as cure is concerned; out of some twenty cases seven were temporarily improved, and in three of these the cancer disappeared entirely, for nine, twenty-five and thirty months, respectively, but ultimately recurred and proved fatal in all. Even this amount of improvement is encouraging, especially as many of these cases were in an advanced stage, but the results of the operation seem to be simply due to its effect on the blood-supply and nutrition of the gland, and similar to those obtained by ligating the chief artery, which are notoriously temporary.

MARRIAGE AMONG DEAF.

According to Dr. EDWARD ALLEN FAY, editor of the *American Annals of the Deaf,* it appears that marriage is more common among the deaf in America than in Europe. The number of marriages in each decade of the present century has increased from 1 in the first to 1017 in the ninth. There is a greater tendency on the part of the deaf to marry one another rather than hearing persons, as a result of natural selection. It has been found as well that a smaller percentage of marriages result in deaf offspring when both parents are deaf than when only one is deaf. However, these data belong to the curios of observation, and require the corroboration of statistics with wide range and of a scope greater than that furnished by any census. The principle of atavism certainly needs a more careful study than is accorded to a subject of this nature, fraught with so many modifications and embarrassments. Let it be remembered that the struggle in nature is toward a uniformity of type rather than to deviations.

RELATION OF CERTAIN ORGANS TO SPECIFIC INFECTIONS.

Babes[1] expresses the opinion that the liver may play a variable rôle in accordance with the kind of infection to which the body is subjected. It may restrain the passage of microbes mechanically as a sort of filter; and through the activity of certain cells and their secondary products, it may cause destruction of the micro-organisms. These cells and secretions are not always destroyed by the virus and its poisons, but they may gain entrance into the blood, and they will protect the organism against infection. Finally, the liver may also aid in eliminating, through the bile, antidotal substances derived from distant organs. These substances result either through the reaction between the organism and the special attacking virus or poison, or they are constantly present in the organism, from whose structures they are eliminated in the course of the morbid conflict.

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[1] Berliner Klin. Woch., April 24.

FAME OF AMERICAN MEDICINE.

The fame of American medicine, both human and comparative, is spreading abroad. Almost simultaneously, from such widely-separated parts of the British earth as South Africa and Australia, come reports of experience with Texas fever, corroborating and indeed based on the discoveries, as to its cause and nature, of the experts of our department of agriculture, notably those of Prof. Theobald Smith, now of Harvard Medical. Indeed, his discovery of its means of spread, which had long been a puzzle, seems likely to give it its permanent name, "tick-fever." Both Drs. Edington of the Cape and Tidwell of New South Wales report most encouraging results already from protective inoculations with the serum of "salted" or recovered animals. The immunity attained is marked, the only drawback being that the mortality from the inoculations is as yet rather high, reaching in some of the Cape series the appalling figure of 17 per cent., but this has been found to be chiefly in old cattle, and curiously enough, in bulls, who are extremely susceptible, and no doubt, some means of attenuating the serum can be hit upon after further trials.

THE MICHIGAN MEDICAL BILL.

The medical law which has just passed both houses of the Michigan legislature is an advance on the Illinois statute which goes into effect next month, in that it does not except faith cures or such as cure by mental means without administration of drugs or material remedies. There was such a clause inserted, but it was thrown out by the Senate, and this was concurred in by the conference committee. The bill calls for a mixed licensing board of ten members, who may be selected by the governor from lists of treble the number required, submitted by the incorporated State societies of the respective schools of medicine—regular, homeopathic, eclectic and physiomedical—to be represented on the board. This body can not do business without concurrence of at least seven of its members. License shall be issued to any one who was a regularly registered and licensed physician under the act of 1883, as amended in 1887, or who has a certificate from any other State with equal requirements, or can pass a satisfactory examination in anatomy, physiology, chemistry, pathology, therapeutics, histology, hygiene, public health laws of Michigan, practice of medicine, surgery, obstetrics, gynecology, diseases of the eye and ear, bacteriology and medical jurisprudence. The actual text of the law when published will probably add some points to this abstract of its substance, but it is clear enough that it is along the general lines of medical reform. The quack will find himself without a local habitation ere long, according to the present signs of the times, or at least he will have legal risks to meet if he continues to exist.

FAITH IN STATISTICS.

Our bland and child-like faith in statistics as such is beginning to be shaken at last. And it is high time, for the blind belief that if we can only get any subject or set of facts "down in figgers," and then strike an average, the result is bound to be true, has led us into serious errors. The statistic method is the very soul of modern science, but it is beginning to dawn on us that not only are an intimate knowledge of the subject-matter to which it is to be applied and a critic study of the accuracy of the data recorded, absolutely essential to safe conclusions, but that the method is an art in itself. A mere glance at the beautiful and most valuable work of Professors Davenport and Karl Pearson, the results of the applications of graphic plotting and the calculus to the study of variation, is enough to prove this and show the inferiority and surprising unreliability of the usual amateur methods. One meets, it is true, with a few terrible terms and phrases, such as "the dissection of an asymmetric frequency-curve," whose "skewness depends upon the heterogeneity of the material" on which it is based, and that we are to test a law of probability "by the graphic expansion of a binomial." But the beautiful clearness of the results abundantly impresses on us the fact that the profitable application of the statistic method requires special skill and training, and that a genuine law of probable occurrence is something different from that broad-ax slash through data which we term an average.

DISPROOF OF PARAXANTHIN POISONING THEORY OF RATCHFORD.

"Toxemic theories, to account for the origin of functional nervous disorders, have had a great fascination for physicians of our generation." While physiologic chemistry is the science to which medicine will next look for guidance, it is very evident that even the chemists are yet groping in the dark and that the boundaries of our ignorance are just beginning to be defined. The symptoms of uremia are not due to urea; in spite of Haig's ingenious speculations, which seem to appeal to many, the symptoms of lithemia are not from the uric acid, and Putnam and Pfaff,[1] from whom the above is taken, show that the paraxanthin theory of migraine, epilepsy and asthma is equally groundless. The laborious investigations of Pfaff, of the urine of five epileptics, controlled by the examination of 5000 liters of normal urine, failed to corroborate Ratchford's claim that paraxanthin, which is normally present in the urine in small quantities, is enormously increased after attacks of epilepsy, migraine and asthma. Pfaff found that the urine under such conditions, in regard to this substance, was in no way different from the normal. Ratchford's so-called "final fluid" contained no crystals of paraxanthin, but large quantities of ammonium compounds. Water containing the same amount of ammonia as RATCHFORD'S "final fluid" gave the same action on mice as RATCHFORD'S fluid. The writers further emphasize the fact that only chemically pure substances should be used in animal experiments, when such experiments are to be of any value.

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[1] Jour. Boston Soc. of Med. Sci., April; Journal, June 3, ¶ 25, p. 1248.

CENTENARIANISM.

Again a pleasing delusion has crumbled under the ruthless hand of scientific criticism. The popular belief in the ease and frequency with which the human race reaches the age of 100 years is firm and wide-spread. Scarcely a neighborhood has not had its local "centurion," as Mrs. PARTINGTON calls it, while ages of 125, 150, and even 175 years are recorded with the utmost gravity. Several of these have passed into the enclyclopedias, such as the famous "OLD PARR," who is credited with 159 years, and an agricultural laborer, named JENKINS, who died at the amazing age of 168 years. The subject has just been taken up in an interesting little volume, by Mr. YOUNG, late president of the Institute of Actuaries, who has most carefully collected and sifted all the instances of centenarianism, recorded in England, with the result of finding that the vast majority of them are utterly unsupported by any trustworthy evidence whatever. Out of hundreds of recorded cases, he finds only twenty unquestionable instances of the attainment of 100 years of age, and the oldest of these was a widow, who died in February, 1897, aged 105.

PARR and JENKINS, he scouts utterly, showing that the only evidence of the latter's age was a statement "as he hoped to meet his God" by the venerable man himself, that he was between 160 and 170 years of age. And this is a fair sample of the evidence in most of these cases. Mr. WRIGHT'S findings absolutely corroborate those of all who have systematically studied the subject. It has long been noted by the profession that three-fourths of the alleged centenarians are either savages, negroes, or farm laborers from remote rural districts; in other words, people who have either no conception of the accurate measurement of time, or no records worthy of confidence. Indians and negroes are peculiarly favorable subjects for myths of this description, on account of the way in which they collapse in old age, many of them looking as old and decrepit at 60 as white men at 90, and records dating from "the year of the great snow," or "sence de ribber busted troo de lebbee" are of no value whatever. As for the parish and other records often kept in rural districts, after a name has once broken out in a family it goes on repeating itself, with mechanic regularity in every generation, often several times in one generation, so that an "ABEL JENKINS" could be found on the register, within five years of almost any given date.

TUBERCULOSIS IN PRISONS.

The recent enterprise of the *Chicago Tribune* in collecting and publishing statistics of tuberculosis in a number of State penitentiaries and the bad eminence given to the Illinois prison at Joliet by that report, has called out a lengthy article by Dr. R. J. CURTIS of Joliet, in the same paper. In it he reviews the medical history of the prison from the physicians' reports, and shows that while the medical management has not been altogether unprogressive, and has indeed kept fairly up to the times, there has certainly existed an unsanitary state of affairs, and the prison must be considered as rather badly infected with tuberculosis germs. While the lives of those there confined are not the most valuable to society, it is certainly true that any undue ratio of mortality is a discredit to the management and to the State. If a convict is not sentenced to capital punishment it is a wrong to force him to needlessly incur the risk of a fatal but preventable disease. In one thing it seems to us Dr. CURTIS has erred to some extent—in underestimating the importance of pardons as affecting the mortality statistics. It would be easy to reduce the mortality in this way and there is little doubt that it is done. In fact, the governor of one State is reported as publishing his intention to pardon all hopeless consumptive convicts, and if he carries this out it will be easy for him to reduce the mortality reported from this cause in his State prison to absolutely nothing, while really not altering the actual conditions. This is a point that has to be considered in estimating the value of statistics such as those published by the *Tribune.* Considering also the probability, and it is a real one, that a very large proportion of convicts are physical defectives who, if not already carrying the germs of tuberculosis, are less naturally resistant to it than the normal individual, any very low death-rate from this cause in a prison might lead us to reasonably suspect some working factor like the above in operation.

SYPHILITIC MASTITIS.

This rare disease may occur in the secondary as well as the tertiary stage of syphilis. In the secondary, it assumes the form of a diffuse, tender swelling, without involvement of the skin; it is relatively not rarely observed in men. The mastitis of the tertiary period mostly affects women; has generally been regarded as gummous and may be present in one or both breasts. As sketched by NEUMANN[1] there springs up during the course of six or eight weeks, swellings as large as a hen's egg, or larger; at first, tense and nodular, a disintegration advancing from the center may reach the skin by extension and cause ulcerative destruction, the defect, perhaps, ultimately becoming replaced by a deep radiating scar. This form is also observed in congenital syphilis. REINECKE[2] had the good fortune to examine a syphilitic mastitis after death. The patient, a woman, aged 37, died from uremic coma; the kidneys and spleen were extensively amyloid, the liver the seat of gummas and deep scars. The upper half of the left breast was very hard, the tissue on the cut surface dry, while numerous red or yellowish red pinhead-sized and larger circumscribed foci projected above the cut surface; there was a similar smaller area in the lower half. These red, firm nodules were found to be due to proliferation of the interlobular and intralobular connective tissue, with degeneration and destruction of the glandular cells, whose place was being taken up by connective tissue. The vessels were markedly thickened, especially the arteries. Here, there was then, a chronic proliferative inflammation, with overgrowth and sclerosis of the connective tissue and atrophy and degeneration of the glandular structures. There were no foci of suppurates, no tubercles, no gummas in the strict sense. The tissue did not contain any bacteria. This form of mastitis must, therefore, be interpreted as an interstitial or indurative mastitis of tertiary syphilitic origin. Similar indurative processes of syphilitic origin, but without any special or specific peculiarities, also occur in the other organs, as for instance, in the pancreas in congenital syphilis, as described by Birch-Hirschfield; in one such case he found a distinct gumma. Lancereaux and Orth have described indurative changes in the submaxillary gland, and foci of interstitial proliferation in the myocardium occur in congenital syphilis; and fibrous induration and glandular atrophy of the testicle due to syphilis are known, as well as the development of gummas in the organ. The changes in the mammary gland described by Reinicke resemble those of fibrous syphilitic orchitis very much. Hence, it may be concluded that in addition to the gummous mastitis of tertiary syphilis, there also occurs an interstitial indurative form, which, perhaps, is often regarded as a simple chronic mastitis, on account of the absence of certain coarse anatomic peculiarities.

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[1] Nothnagel's Spec. Path. Therapie, xxiii, 1896.
[2] Centralbl. f. Allg. Path. u. Path. Anat., x, p. 316.

LABORATORY DIAGNOSIS OF DIPHTHERIA.

Johns[1] reviews practically the value of examinations of pseudomembranes of the throat. He notes particularly the sources of error; that the fault of not finding the Klebs-Loeffler bacillus in undoubted cases of diphtheria more often lies with the physician preparing the swab than with the bacteriologist making the examination. Among the causes said to interfere with subsequent examination may be mentioned the almost universal habit of treating the throat with some strong antiseptic before attempting to obtain a culture; if the superficial bacilli are not killed by this, the cotton swab certainly absorbs some of the antiseptic solution and this may cause the death of many of the specific bacilli if present. The tube may have been washed with an antiseptic, and some of this being retained in the tube may interfere seriously with subsequent growth; Johns rightly says that the only safe way of preparing these tubes is sterilization by heat. One point to which but little attention has been given, but which deserves much consideration, is the habit of carrying the inoculated culture-tube around in the coat pocket for hours before it finally reaches the incubator; the rapid growth of the saprophytes under these conditions entirely overshadows that of the Klebs-Loeffler bacillus. When blood-serum tubes are employed the accidental contamination by a large number of the bacillus subtilis may so liquefy the medium as to almost exclude identification of the diphtheria germ. Johns recommends both solidified blood-serum and bouillon for the inoculation of cultures, and examines in from twelve to twenty-four hours by the usual methods. He also claims that an acid reaction occurring about this time, changing subsequently to an alkaline and remaining so, is of value in testifying as to the presence of the sought-for germ. He finds the Klebs-Loeffler bacillus does not prove true diphtheria, as all bacteriologists are now agreed; further than this, the general consensus of opinion now is that inoculation of animals must be performed in order to prove the pathogenesis of the suspected bacillus. Johns uses the guinea-pig and inoculates cultures of about twenty-four hours' growth. These sources of error are particularly interesting in view of the fact that negative reports are being constantly returned by the various city health departments in undoubted cases of diphtheria. In this manner not only are city statistics as to the prevalence of diphtheria in certain districts lessened in value, but the necessary precautions for preventing the spread of the disease are neglected or are performed perfunctorily. Another source of error which might have been added to this list is that many physicians merely twist the swab around in the mouth several times without attempting to strike the membrane; others, their patients not wishing to be proscribed by the health-department tag marked upon their houses, obtain a culture from other sources than the patient himself, while there are, alas, still remaining not a few skeptics regarding the germ theory of disease.

BACTERIOLOGIC FLORA OF THE LUNGS.

When the pathologist studies the etiology and genesis of an infection, he utilizes the results of the bacteriologic and histologic examination, as well as the clinic observations, in order to form an opinion concerning the disease and the causes of death. Now, there are various sources of error, especially in the bacteriologic examinations of organs after death, which must be carefully eliminated, and among these sourses of error the post-mortem or agonal invasion of the tissues or organisms from the intestines has long been held as an important one. The relation of the lungs to more or less wide-spread agonal invasion of bacteria, especially from the higher tracts, has not been carefully considered. Lucien Beco[1] took up this question and found that the respiratory tracts of ordinary laboratory animals are nearly always sterile from the center of the trachea downward; occasionally he found a non-virulent micrococcus lanceolatus in the lungs of the cat. Among the domestic animals the lungs are nearly always sterile, but occasionally they contain a feebly virulent pneumococcus. Suitable animal experiments indicated that bacteria do not readily descend into the lungs after death when the bodies are kept at a temperature of about 15 degrees C. for even as long as four days, hence it would be proper to regard that the results of the bacteriologic examination of human lungs after death under ordinary conditions would give valuable results. Other experiments further showed that when the lungs are infected before death the germs may rapidly invade the neighboring organs after death; this is especially true of saprophytic organisms, while the emigration of pathogenic forms is more slow. The examination of the healthy human being at the autopsy, under ordinary circumstances, gave the following results: While the lower respiratory passages may be sterile, they may, even when apparently wholly normal, contain well-known pathogenic microbes such as the pneumococcus, the streptococcus, and more infrequently, the staphylococcus. These are the usual causes of bronchopulmonary infections. It is quite likely, therefore, that during the last few hours of life bacteria may pass from the upper to the lower respiratory tract—a fact which must be carefully considered in the bacteriologic examination of the lungs at the post-mortem.

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[1] Philadelphia Monthly Medical Jour., April.

[1] Arch. de Méd. Expériment., May, 1899.

Medical News.

Dr. Julius Stumpf of Werneck has been appointed professor ex. of legal medicine at Würzburg.

Dr. John K. Mitchell of Philadelphia recently gave a clinic before the Bradford (Pa.) County Medical Society.

Reunions of several classes of the medical department of the University of Pennsylvania were held during the past week.

Dr. Alfred S. Rummell, Geneseo, Ill., has been appointed assistant-surgeon of the Sixth Regiment, Illinois National Guard.

The Frankfurt Institute for Serum Testing will soon be completed, when the present establishment at Steglitz will be removed there.

On June 7, Cornell University Medical College held its first annual commencement. There were fifty-eight in the graduating class, twelve women.

Dr. Robert Garrett has been appointed first assistant and Dr. Jos. K. Shriver, clinical assistant at Maryland Hospital for the Insane (Spring Grove Asylum.)

The Lacaze prize, of the value of $2000, for the best contribution to the study of typhoid fever, has been awarded by the Paris Medical Faculty to Dr. Widal, professeur agrégé.

Dr. Jay C. Knipe has been elected to the consulting staff of the ophthalmic and aural department, and Dr. David Riesman, consulting physician, of the Jewish Hospital, Philadelphia.

By the will of the late Elizabeth Fitzpatrick, the following Philadelphia institutions become beneficiaries in the sums named as follow: St. Agnes Hospital, $1000, St. Mary's Hospital $1000.

The Medical Association of the Greater City of New York has adopted in its by-laws a section providing that the "Code of Ethics of the American Medical Association" shall constitute the code of the new association.

Dr. W. F. Brunner of Savannah, Ga., has been offered the appointment of health officer of that city, vice Dr. J. C. Le-Hardy resigned. Dr. Brunner is identified with the U. S. Marine-Hospital Service of the city named.

By the will of the late R. C. Billings of Boston, the Massachusetts General Hospital, New England Hospital for Women and Children, Roxbury and Massachusetts Charitable Eye and Ear Infirmary of Boston each receive $50,000.

The medal of the Christiania Academy of Sciences was awarded this year to Dr. A. Mjöen, for his research on the subject of northern tars, and in particular his discovery that creosote can be obtained from sawdust, which will much cheapen its production.

Dr. Edward N. Brush, superintendent of the Sheppard and Enoch Pratt Hospital, who has filled for several years the chair of psychiatry at the Woman's Medical College, Baltimore, has been elected to the same chair in the College of Physicians and Surgeons.

The sanitarium for sick babies, Lincoln Park, Chicago, supported by the fresh-air fund, opened for the season of 1899, June 19. Last summer the sanitarium cared for 9242 babies, 8292 mothers and 34,916 children. Everything at the sanitarium is absolutely free.

There were thirty-two graduates in medicine at the Johns Hopkins commencement on June 13. Two were women, from California and Ohio respectively. The address to the graduates was made by Herbert Putnam, librarian of congress, who spoke on the congressional library.

According to a private letter received in New York and printed in the *Philadelphia Ledger*, an epidemic of typhoid fever threatens those at the headquarters of General Lee in Cuba. In six days, from June 1 to June 7, the number of cases of typhoid fever had increased from 26 to 42.

The new building of the St. John's Guild's Seaside Hospital at New Dorp, Staten Island, was dedicated June 16, though it will not be opened for the reception of patients until the early part of July, when the two floating hospitals of the guild commence their trips for the summer season.

The nineteenth annual reunion of the Alumnæ Association, Northwestern University Woman's Medical School, Chicago, was held June 15. The following officers were elected: president, Dr. Julia Cole Blackman, Geneva, Ill.; secretary, Eliza H. Root; treasurer, Dr. Mary C. Holister.

The advertising and sale of the "Volta Cross," a kind of electric belt, has been prohibited by the authorities in Austria, not only on account of the deception of the public by its reputed magic healing powers, but also on account of the cutaneous troubles that may arise from wearing the copper and zinc next the skin.

The principal subject to be discussed at the next French congress of surgery is total abdominal hysterectomy. Dr. Ricard is to deliver the address, and he appeals to his confrères generally to send him their personal statistics and any observations suggested by experience. His address is M. Ricard, 68 rue Pierre-Charron, Paris.

The New York legislature of 1899 gave the Craig

Colony for Epileptics appropriations aggregating $105,000. The plans for the new dormitory buildings—cottages to provide for twenty-four to twenty-eight patients each—are being made by the architects for the new consolidated library in New York City. When the above appropriations have been expended, the capacity of the colony will be 850 patients.

Gen. Leonard Wood, whose medical acquirements and executive ability in sanitation have won for him much regard from the war department as military governor of Santiago Province, has been granted a leave of absence. His intention is to bring his family back to the United States and then to return to his post. The residence of his family is to be somewhere on Long Island, N. Y.

At the distribution of honors on the occasion of Queen Victoria's birthday, the medical profession was not entirely forgotten. J. Burdon Sanderson, professor of medicine in Oxford University, was created a baronet, and Prof. Michael Foster of the University of Cambridge, was made a K. C. B. Each of these men is well known as a physiologist. Mr. William Mitchell Banks, the Liverpool surgeon, received a knighthood.

The parents of the late Dr. Joseph W. Stickler will erect a free public library building at Orange, N. J., as a memorial. The structure where the library is now deposited is not adapted to the requirements, and the building to replace the same is to be fire-proof and of great architectural beauty. A special alcove of the proposed building is to be set apart for the deceased physician's collection of works on bacteriology and phthisis.

The Illinois State Board of Health is preparing to enter on a crusade against the "Independent Medical College," the "Western University" and other diploma-selling institutions. The new law, which goes into effect July 1, will make a comparatively easy matter of what has heretofore been almost an impossibility. It is certainly to be hoped that this traffic, which is a disgrace not alone to Chicago but to the whole country, may be stopped for all time.

At the meeting of the Chicago Medical Society, June 21, the annual election of officers resulted as follows: President, Junius C. Hoag; first vice-president, Henry B. Favill; second vice-president, Hugh T. Patrick; secretary, Arthur R. Edwards; treasurer, S. C. Plummer, Jr.; neurologist, Herman Peterson; trustees, John M. Dodson, A. D. Bevan and Sanger Brown; judiciary committeeman, Dr. Bevan; publication committeeman, Frank Billings; auditing committeeman, F. S. Johnson.

Appointments in the National Guard of Pennsylvania have been made as follows: Dr. F. R. Packard of Philadelphia, to be surgeon with rank of major, Second Regiment; Dr. R. W. Montelius of Northumberland, to be assistant-surgeon with rank of captain, Second Regiment; Dr. J. N. Henry of Philadelphia, to be assistant-surgeon with rank of first lieutenant, Second Regiment; Dr. Walter Boarman of Lancaster, to be assistant-surgeon with rank of first lieutenant, Battery C.

Miss Katherine Blackiston, Chestertown, Md., who married Dr. Alfred Stillé, ex-president of the Association (see Journal, June 17, p. 1396), has for many years been a contributor to leading daily papers and periodicals. During the Civil War she was an angel of mercy to Confederate soldiers, making many visits to Fort Delaware, carrying delicacies and necessaries to the prisoners, and her home was an asylum for any foot-weary soldier who came along. About eight years ago she came to Chestertown, and with her sister occupied a rose-embowered home at the foot of the Washington College campus.

Many and priceless as are the uses of the hemocytometer, we little thought to see it adapted to advertising purposes. But this has actually occurred; a party of tourists setting off for a cycle tour in the west of Ireland had their blood examined "before" and "after," with the result that the number of reds goes up enormously. An enterprising railroad supplying the district, the air of which proved so beneficial, has secured the results and is including them as a leading item in its summer booklet of tours. Holiday and health resorts may thus be neatly and accurately graded, according to their rate of increase of erythrocytes per week.

Dr. Benjamin Lee, secretary of the Pennsylvania State Board of Health, has recently distributed circulars to school boards relative to the power given them by the new law, passed by the last legislature. It is believed that school boards generally may become more efficient in matters pertaining to the prevention of disease and for this reason additional powers have been granted them. It is pointed out that since the first of January, in this State, there have been 276 cases of smallpox, with 16 deaths, and this is one disease under control, to a large extent, of these boards.

The committee on the nomenclature of tubercular lesions, appointed by the Pathological Society, London, Eng., as a result of the discussions on pseudotuberculosis, have made an interesting report. They recommend that in view of the great confusion arising from the use of the term "tubercle" in two distinct senses, with the resulting twenty to thirty varieties of "pseudotuberculoses" described, its use in the anatomic sense should be dropped and the term "nodule" substituted for it; tubercle and tuberculosis to be confined to the disease produced by Koch's bacillus, and all lesions anatomically "tubercular" to be termed "glanders nodule," tubercular nodule," "aspergillar nodule," according to the cause.

On account of the unsuitableness of the present location of the truant school on East Twenty-second Street, New York City, for the enforcement of the compulsory education law, a country site is to be chosen, probably in Westchester County, where it is proposed to secure at least ten acres of land, and erect, in addition to the school proper, a commodious building, providing dormitories, shops, game rooms, a gymnasium and a library. The greater part of the land, however, will be devoted to farming and gardening, and each boy will be given a plat of ground to cultivate, for the care of which he may perhaps be paid some small sum; and it is possible that pupils not truants will be received and given training in agriculture and horticulture.

Plans are said to have been consummated for the creation of a college of comparative medicine at Harvard University. The plans, if carried out, will consolidate the Harvard Medical School, the Harvard Veterinary School and the Harvard Dental College. The study of comparative anatomy will be a prominent feature of the enlarged university, and a special laboratory will be erected for its study. It is also proposed to erect a hospital for animals. It is reported that the college of comparative medicine is to be separate from and superior to the colleges of medicine, yet to be closely associated with them. A series of departments are to be created, with skilled specialists at the head of each. Degrees are to be conferred which will outrank those ordinarily given by medical, dental or veterinary schools.

IN APPLYING an extension bandage to a fractured hip on a child of $1\frac{1}{4}$ years of age, the family physician, Dr. L., Charlottenburg, mistrusting his own skill, called in Dr. Karewski to apply it. Dr. L. inspected the bandage the following and fourth days. On the latter occasion he noted evidences of undue compression and altered the bandages, but the local process developed into gangrene requiring amputation, and the parents sued Dr. L. for damages. He was acquitted by the court on the ground that a mere general practitioner could not be expected to know the technic of bandaging. Dr. Karewski, on the other hand, was severely censured. The German medical press are highly indignant at this reflection on the ability of the general practitioner, driving the public to specialists, and urge the practitioners to a general protest.

MEDICAL WOMEN are slowly but surely making their way in Germany. The recent decision of the Federal Council that women can be admitted to the State examinations in medicine, pharmacy and dentistry, is accepted as a great concession, although there are many difficulties to be overcome before they can fully profit by this privilege. The men students at Halle, where women are admitted on practically the same terms as men, created quite a sensation, not long ago, by formally protesting that they were losing precious opportunities for acquiring knowledge on account of the restraint imposed on the professors by the presence of women at the lectures: mentioning as one among many instances that when an anatomic point was to be indicated on a subject, it was indicated through the sheet, instead of with the sheet drawn down. They appealed to the students of all other universities to maintain their rights to lectures, free from the presence of women. The protesting students were severely reprimanded.

AN INTERESTING case was last week presented before Judge Audenried of the Court of Oyer and Terminer, Philadelphia, which has a bearing on the subject of compulsory vaccination as it applies in the case of school children. The case was one in which a mandamus had been issued against a principal in one of the public schools, commanding the principal to appear and show cause why the child should not be admitted to the school. It was claimed by the defendant that to admit the child would be violating the act of June 18, 1895, requiring that all children should be vaccinated before admittance to the public school. In the mandamus it was averred that the act was unconstitutional in that it would necessarily inflict a disease on the child, and further that vaccination does not protect against smallpox nor prevent its spread. It was cited, however, by two judges previously, that vaccination would prevent an inoculated person from contracting smallpox or escape with a mild form of it. On the other hand, the points were hotly contested, the claim being made that authorities were divided on the question. The end of the case is not yet in sight.

Public Health.

Importation of Plague.—There is little danger that the plague will be imported into Europe by vessels from infected ports, as the quarantine and sanitary measures are rigidly enforced, especially since Egypt has been declared infected. But Brouardel states that Europe is constantly menaced by two other modes of contagion: by the Turkestan-Afghanistan-Russian route on one hand, and by the countries along the Persian Gulf and Turkey on the other. The danger from Turkey is especially great, as it would be almost impossible to stamp out an epidemic there as the Russians have recently so successfully accomplished in the Samarcand district. The establishment of a sanitary post somewhere on the Persian Gulf is imperative and is now planned, setting an impassable boundary at this danger point.

Sick Insurance and Sanatoria in Germany—The enormous efforts that have been made in Germany during the last five years to establish sanatoria for the consumptive poor are due not so much to disinterested benevolence as to the system of compulsory sick insurance under state control, which was inaugurated in 1881. The sick-insurance societies find that they have thousands of tuberculous policy holders on their hands to support, and that it is far cheaper to adopt measures that will restore their working capacity than to continue to support them indefinitely. Every working man in Germany is compelled by law to subscribe to some one of the "Kassen," the assessment deducted from his wages, if necessary. There are eight kinds: local, trade, factory, etc., and the policy holder is insured first against accidents or illness from which he recovers in the course of thirteen weeks, during which time he is paid half the average wages of workmen of his class, or, if he is in a hospital, half this amount is paid to his family. There is also insurance against illness continuing more than three months, against any incapacity, mental or physical, for wage-earning work, and an old-age pension paid to persons over 70. The "Kassen" are so organized that no one receives an indemnity from more than one at a time, and the expense is shared by the employer, the employe and the state, each of which is thus directly interested in promoting the health of the laboring classes. All the employers in each branch of industry pool their expenses from this account, and each pays pro rata according to the number of workmen he employs and the special risks in his establishment. The "Kassen" are gathering extremely important statistics and information in regard to accidents, their effects and numerous other points, and may be the means of discovering and preventing epidemics. They compel the policy holders to attend promptly to commencing and curable illness, with even the power to send them to a sanatorium against their will. When an accident occurs, the only question raised is whether it occurred to the workman in the discharge of his duty. The whole scheme has proved practicable and far-reaching in its benefits, except to the medical profession, who are hampered and impoverished by the "Kassen" rates and regulations and the abuses that creep in, and are constantly discussing measures to secure a uniform and equitable position in regard to them.

Health Reports.—The following cases of smallpox, yellow fever, cholera, plague and leprosy have been reported to the Surgeon-General of the U. S. Marine Hospital Service, during the week ended June 10, 1899:

SMALLPOX—UNITED STATES.

California: Los Angeles, May 27 to June 3, 1 case, 1 death.

District of Columbia: Washington, May 27, June 10, 2 cases.

Florida: Jacksonville, June 3 to 10, 5 cases.

Illinois: Chicago, June 3 to 10, 1 case.

Indiana: Evansville, June 3 to 10, 3 cases.

Kansas: Emporia, May 24 to 31, 6 cases; Morton County, May 1 to 31, 12 cases, 3 deaths.

Kentucky: Louisville, June 3 to 10, 5 cases.

Louisiana: Baton Rouge, May 20 to 27, 1 case; New Orleans, May 27 to June 10, 5 cases.

Massachusetts: Boston, June 3 to 10, 2 cases, 1 death; Chelsea, June 11, 3 cases; Fall River, from outbreak to June 13, 32 cases.

Minnesota: Albany, June 3, 4 cases; Inver Grove, June 3, 1 case; Minneapolis, June 3, 2 cases; St. Paul, June 3, 1 case.

Missouri: St. Louis, June 5 to 12, 5 cases.

Nebraska: Omaha, May 27 to June 3, 1 case.

New York: New York, June 3 to 10, 3 deaths.

Ohio: Massillon, May 27 to June 3, 1 case.

Oregon: Portland, June 13, 1 case.

Pennsylvania; Pittsburg, June 3 to 10, 1 case.

Virginia; Danville, June 7 to 14, 19 cases; Newport News, June 8 to 13, none; Norfolk, June 8 to 14, 1 case; Portsmouth, June 8 to 14, none.

Washington; Seattle, May 26 to June 2, 1 case.

Wisconsin; Milwaukee, June 3 to 10, 2 cases.

SMALLPOX—FOREIGN.

Africa; Sierra Leone, May 4, 40 cases.

Belgium; Antwerp, May 20 to 28, 2 cases, 4 deaths.

Brazil; Bahia, May 1 to 20, 3 cases; Rio de Janeiro, April 21 to May 5, 26 cases, 19 deaths.

China; Hongkong, April 22 to May 6, 5 cases, 4 deaths.

Egypt: Cairo, May 20, 5 deaths.

England: London, May 13 to 27, 2 deaths.

India: Bombay, April 29 to May 16, 12 deaths; Calcutta, April 29 to May 6, 2 deaths; Madras, May 6 to 12, 1 death.

Greece: Athens, May 20 to 27, 21 cases, 6 deaths.

Japan: Nagasaki, May 9 to 16, 1 case.

Mexico: Chihuahua, May 27 to June 3, 1 death; Mexico, May 28 to June 4, 6 cases, 3 deaths.

Netherlands: Rotterdam, May 27 to June 3, 1 case.

Russia: Moscow, May 6 to 20, 41 cases, 10 deaths; Odessa, May 20 to 27, 7 cases, 2 deaths; St. Petersburg, May 13 to 20, 11 cases, 1 death.

Turkey: Syria, Beirut, May 6 to 13, 2 cases.

Uruguay: Montevideo, April 22 to 29, 1 case.

YELLOW FEVER—UNITED STATES.

Louisiana: New Orleans: May 28 to June 3, 1 case, 1 death.

YELLOW FEVER—FOREIGN.

Brazil: Bahia, April 30 to May 20, 218 cases, 65 deaths: Rio de Janeiro, April 21 to May 5, 93 cases, 59 deaths.

Colombia: Panama, April 26 to June 8, 4 cases, 1 death.

Mexico: Tampico, June 4, 1 case; Vera Cruz, May 25 to June 8, 132 deaths.

CHOLERA.

India: Bombay, May 2 to 16, 6 deaths; Calcutta, April 29 to May 6, 23 deaths.

PLAGUE.

China: Hongkong, April 29 to May 6, 98 cases, 86 deaths.

India: Bombay, May 2 to 16, 614 deaths; Calcutta, April 29 to May 6, 85 deaths.

Japan: Formosa, Tamsui, March 29 to April 12, 476 cases, 353 deaths.

LEPROSY.

Cuba: Matanzas, June 6, 1 case.

Necrology.

Thomas Osmond Summers, M.D., St. Louis, Mo., on the evening of June 13 committed suicide by shooting himself through the head. Dr. Summers was a volunteer surgeon during the late war, and with the rank of major had charge of the fever hospital at Santiago. Fancied lack of appreciation of his efforts, on the part of the Government, produced an abnormal despondency, which caused him to take his life. Dr. Summers was born in Nashville, Tenn., about forty-seven years ago, and graduated from the medical department of the University of Nashville in 1871. For some years he was professor of anatomy in the Vanderbilt University, and at his death held a similar position in the St. Louis College of Physicians and Surgeons. He was for some time editor of the *St. Louis Clinique*, and did considerable medical journal writing. The suicide seems to have been premeditated, as several letters were found which had been written preparatory to the commission of the act. The deed was done in his lecture-room. The following poem, pathetic and beautiful under the circumstances, was written, supposedly, just before death:

PERDIDI VITAM—VALE, MUNDE!

Good-night, old world—good-by to all your joys,
Your sorrows, pleasures, passions, pomps and noise.
I leave you for the eternal silence of the stars,
The deafness of unbounded space, where bars
No longer hold the soul in durance vile,
Where naught can wound and nothing can defile:
Where the pure spirit shall despise the things
The sense on earth hath loved. On wings
Bathed in the ether of eternity—
How sweet to feel from every passion free—
And yet it is an awful leap to take!
Into the great unknown, perchance to wake
To greater woes, indeed, than those we have
And hoped to bury in the silent grave.
But still the great majority is there.
Why should we, then, turn pale with fear?
Or tremble when the hour supreme has come,
As soon or late it must? Man's final home—
The grave—at least gives rest from troubles here,
And we may hope for sweet oblivion there.
Then. Charon, come! I signal thee to-night.
Come—row me o'er the Styx, I've lost life's fight.

Osmond.

On the reverse side of the sheet on which the poem was written appeared:

"And yet it is an awful leap to take into the great unknown."

Lawrence Swan Woodhull, M.D., Long Island College Hospital, N. Y., 1896, died at his home in Brooklyn, N. Y., June 8. He was born in Huntington, L. I., twenty-five years ago, was educated in the Polytechnic Institute and the Brooklyn Latin school and traveled with a tutor for several years.

Ezra Reed Pulling, M.D., Coll. Physicians and Surgeons, N. Y., 1853, died in New York June 5. He was the son of Dr. Josiah Pulling and was born in Saratoga County, N. Y., February, 1828. During the Civil War he was an acting asst-surgeon U. S. A., and proved himself an efficient medical officer. Later he was attached to the staff of the Lying-in Hospital and became an active general practitioner.

James Ward Scott, M.D., died at Belair, Md., June 15, of blood-poisoning contracted in an operation, aged 54. He was born in St. Louis, of Virginia parentage, was educated at Dickinson College and took the degree of M. D. at the University of Maryland in 1866. He practiced in Council Bluffs, Iowa, and in Baltimore.

James Henry Cantrell, M.D., Philadelphia, Pa., a graduate of Jefferson, 1856, and professor of dermatology in the Policlinic Hospital in that city, died June 3, at the age of 66 years.

Francis A. Simmons, M.D., St. Joseph, Mo., died at his home in that city, June 5. He was 70 years of age. From 1880 to 1894 he was president of the Northwestern Medical College, holding the chair of practice of medicine during that time.

B. A. Barrett, M.D., Springfield, Mo., died June 1, aged 73 years. . . B. H. Bean, M.D., Cherry Valley, Ill., June 18. . . Caleb Brown, M.D., Sac City, Ia., June 5, aged 50 years. . . Geo. W. Burrier, M.D., Clare, Mich., June 8. . . A. H. Carroll, M.D., Hennessey, Okla., June 3. . . N. R. Casey, M. D., Mound City, Ill., June 6, aged 73 years. . . Abraham A. Conrow, M.D., Moorestown, N. J., June 5, aged 42 years. . . L. H. Crossfield, M.D., Lawrenceburg, Ky., June 4. . . B. F. Fowler, M.D., Galena, Ill., June 16, aged 74 years. . . M. W. Hobbs, M.D., Richmond, Ind., June 16, aged 65 years. . . J. B. McCloskey, M.D., Mill-Hall, Pa., June 13, aged 54 years. . . O. B. Ormsby, Sr., M.D., Murphysboro, June 13, aged 63 years. . . John S. Pearson, M.D., Louisiana, Mo., June 2, aged 67 years. . . S. J. Perkins, M.D., Norwood, La., June 11, aged

39 years. . . Geo. N. Ranson, M.D., St. Peters, Minn., aged 28 years.

DEATHS ABROAD.

Lawson Tait, F. R. C. S., Birmingham, England, as announced in the Journal, June 17, died June 13, at Llandudno, a fashionable watering-place in Wales. Endowed with a physique that was remarkable, it seems impossible to believe that he has died at the early age of 54. No cause of death has been given in the cable reports. Mr. Tait was born in 1845 in Edinburgh, and obtained his education in that city. There also he commenced his life work, and there, probably, from his friend and teacher, Thomas Keith, he obtained the views which developed into such bitter opposition to Lister, Listerism, and the antiseptic theory. An ardent believer in extreme cleanliness, long before Lister had promulgated his theory, Keith held views more or less antagonistic to that theory, and Tait, his personal friend and teacher, took up these views and fought for them till his death. In this fight he was vigorous, uncompromising, and made many enemies. Cleanliness was his hobby, and in this from the beginning he was an extremist. His success in abdominal surgery was remarkable, for while his statistics have been challenged, those who knew the man and his work knew of his success and believed his statements. This success no doubt depended as much on his recognition of the value of extreme cleanliness—asepticism—as on his ability, although as an operator he had few, if any, superiors. In 1871 he was elected one of the surgeons of the Birmingham and Midland Hospital for Women, an institution situated in one of the suburbs of Birmingham. Here he did much of his work, although his private hospital soon assumed no mean proportions. Considering the fact that Birmingham is a provincial town, it is remarkable, yet true, that he attracted a larger number of admirers and followers than any man in the great metropolis of London; and this in spite of the fact that he opposed accepted theories and, for some reason known only to himself, took up and advocated the fanatic cause of the antivivisectionists. It is generous to do so, yet it is hard to believe that he accepted as true that which he championed in this matter. He did this, however, to the extent that he antagonized to a great degree the whole medical profession, and at the same time did more harm than all the fanatics whose cause he advocated. He seemed to love controversy for controversy's sake, and appeared to be in his element when he was wielding his pen, always caustic, in behalf of some theory or notion not accepted by the majority. That this element in his nature was a part of the man up to the time of his death is proven by a controversial letter in the *British Medical Journal* of June 10,—three days before his death. It was, however, not alone in medicine that Mr. Tait was known, for in religion, society and politics he had distinct views and was never afraid to express them. For ten years he was a member of the Birmingham town council, during which time that body was setting an example in municipal government which has been followed for good by many like bodies since. He has been a voluminous writer and a great student in other ways than medicine. As a friend he was kind, true as steel, and generous to a fault; as an enemy he was vindictive, illiberal, unforgiving and never forgetting. And now he is dead, these latter qualities will be forgotten; his virtues, his good qualities, and the great work he has accomplished will be remembered. 'Twas ever thus and so it ought to be.

A. Charpentier, professor agrégé at Paris, author of numerous works on obstetrics and gynecology, and translations of similar works from the German and Japanese, died recently. He was for some years editor of the *Nouvelles Annales d' Obstétrique et de Gynécologie* and was author of *Traité Pratique des Accouchements*, which has been considered a classic.

Book Notices.

Materia Medica and Therapeutics. An introduction to the Rational Treatment of Disease. By J. Mitchell Bruce, M.A. Aberd., M.D., London. Philadelphia: Lea Bros. & Co.

This is an American reprint of an English work, without revision. It, therefore, has the disadvantage of not corresponding entirely to the American pharmacopeia, and, also, of lacking some things that might be looked for by the American practitioner. On the other hand, it has the advantage of being thoroughly modern and scientific, and of possessing several valuable features peculiar to itself. One of these is the elaborately classified therapeutics in the third section of the work. The index is fairly full, which is well, since it will have to be used extensively by the average American reader in looking up the different drugs with the classification here adopted. As a handy work of reference supplementary to native treatises the book can be most warmly recommended to American physicians.

Manual of Organic Materia Medica.—Being a Guide to Materia Medica of the Animal and Vegetable Kingdoms, for the Use of Students, Druggists, Pharmacists and Physicians. By John M. Maisch, Ph.M., Phar.D., etc. Seventh Edition. Revised by Henry C. C. Maisch, Ph.G., Ph.D. 285 illustrations. Philadelphia: Lea Brothers & Co. 1899.

A seventh edition of this well-known work hardly needs an introduction to the medical profession. While it is especially adapted for the use of pharmacists, it will be found a useful work of reference by any medical practitioner. The very numerous illustrations add materially to the value of the work. The reviser evidently did not consider some of the newer preparations for organotherapy as having yet earned a recognized place in our therapeutic armamentarium. Thyroid alone is included. It certainly has its acknowledged value.

Lecons sur les maladies nerveuses—Lectures on Nervous Diseases (second series). Par E. Brissaud, professeur agrégé à la Faculté de Médecine de Paris, médecin de l'hôpital Saint-Antoine, recueillies et publiées par Henry Meige. 1 volume gr. in 8° avec 165 figures dans le texte (Masson et Cie. editeurs), 15 fr.

This volume contains a series of clinic lectures on a number of neurologic subjects, not all specially or systematically associated, but all of interest and value. The opening lecture is on the influence of the anatomic theory of the neuron on neuropathology, a subject that is not yet hackneyed or overdone, and this is followed by one on the primary and secondary lesions of the neuron cell body. Then follow a series on zona and its association and a chapter on the metamerism of the spinal segments and nerve roots, which introduces a relatively new conception into the explanation of many important conditions, the trophoneuroses for example, which are treated of in a following section. Among the other subjects of interest here discussed are the flaccid paraplegia from compression, syringomyelia, pseudobulbar cerebral paralysis, infantilism, neurotic polyuria, etc. These are only a portion of the morbid conditions discussed; there are others of not less importance, all based on actual cases described.

The illustrations are numerous and useful in elucidating the text. The work is in the usual clear and lively style of the French writer, and will form a valuable addition to the neurologist's library.

An Experimental Research Into Surgical Shock. An Essay awarded the Cartwright Prize for 1897. By George W. Crile, A.M., M.D., Ph.D., professor of the principles and practice of surgery and applied anatomy in the Cleveland College of Physicians and Surgeons, etc. Philadelphia: J. B. Lippincott & Co. 1899.

This volume gives the details and results of an experimental study of surgical shock, begun at University College, London, and completed in the Cleveland College of Physicians and Surgeons. After a brief historic review and a description of apparatus, the details of 138 experiments on dogs are given, the respiration and circulation being registered on self-recording instruments. Each region and tissue of the body was studied as regards its relation to shock, and the results are discussed at length. The general conclusion from all the data is that surgical shock is mainly due to impairment or breakdown of the vasomotor mechanism, and that all the factors causing collapse may add to shock. The cardiac and respiratory factors may have a certain importance, but the main action is on the vasomotor system. The author makes a distinction between collapse and shock, understanding by the former term the immediate depression or death from injuries or operations, and by the latter the later depression or death due to the vasomotor impairment as the essential factor. This distinction should be borne in mind in referring to the work. The volume is in every way a creditable contribution to scientific medicine.

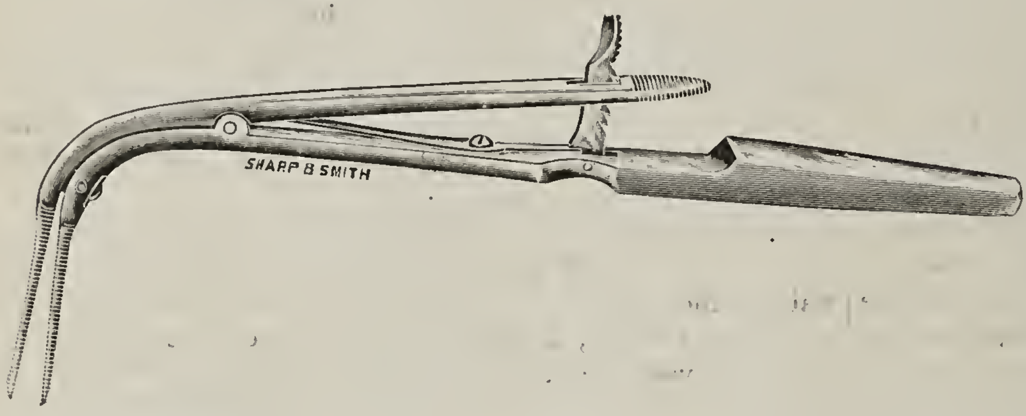
New Instrument.

A New Intubation Instrument.

BY CHARLES J. WHALEN, M.D.

CHICAGO.

After a great deal of experimenting on the cadaver, I have found that it is possible to combine both the introducer and the extractor in the same instrument. The only advantage this combination has over the O'Dwyer instruments is in cheapness; the doing away with the obturators and combining the introducer and extractor in the same instrument makes considerable difference in the purchase price of the two sets. After about 1000 intubations on the cadaver, by myself and 200 senior students at Rush Medical College, I am convinced that the French intubation instruments now on the market are practically useless, especially for extracting purposes. My students would invariably have to resort to the O'Dwyer, or one patterned after the O'Dwyer style of extractor; the short curve and the shortness of the portion of the instrument at a right angle to the handle compels the operator to elevate the handle of the instrument tightly against the incisor teeth, and consequently the operator would be unable to insert the instrument properly into the opening in the tube, and nearly always fail to reach the tube at all, excepting in very small children. In the instrument represented by this cut all this difficulty has been overcome; the extracting, which is the most difficult part we are called on to do in a case of intubation, is done with the instrument and hand of the operator in the easiest position possible for them to assume.



Miscellany.

"Journal" Index.—The complete index for the volume ending with this, the June 24, issue of the Journal, will be mailed with the Journal for July 1.

Hyperthermia in Typhoid Fever.—The *Revista Medica de Chile* for May reports a case of typhoid fever in a girl with hysteric antecedents, the temperature rising to 49 C., verified by fourteen thermometers and in the presence of five physicians. Cold baths reduced it temporarily. The child recovered.

Sarcoma One-Third Total Weight of Child.—A sarcoma of the kidney weighing 3971 grams, was successfully removed from a child of 21 months. Death occurred a few months later, from metastasis.—*Presse Méd.*, May 6.

Cardiac Asthenia of Pneumonia.—In an item on this subject (Journal, June 17, p. 1400) our correspondent incorrectly reported Dr. Elsner's recent paper in stating that the ethereal mixture is recommended at intervals of an hour or two. The intervals should be but fifteen minutes.

Some Truths Vaguely Told.—Dr. Alonzo Clark of New York, who died in 1887, in repute as one of the expert microscopists of his day, frequently iterated to his classes that pneumonic globules, as he styled them, existed, and that pus as such could not be absorbed. The microscope during his life was far from perfection, and staining was not in vogue.

Urosin.—Urosin is the name given by Weiss (*Berliner Klin. Woch.*, April 3, p. 297) to a combination in tablet form of kinic acid (7.5 grs.), lithium carbonate (2⅓ grs.), and sugar (4.5 grs.), for the treatment of the uric acid diathesis, from 6 to 10 tablets being administered daily. It has been shown that the formation of hippuric acid in the body prevents that of uric acid, the former being much the more soluble of the two. Among the substances that are transformed in the body into benzoic acid, and excreted as hippuric acid, is kinic acid, and it has been found experimentally that the ingestion of kinic is followed by diminished elimination of uric acid and increased elimination of hippuric acid. The lithium salt acts as a diuretic.

Baltimore Eye, Ear and Throat Charity Hospital.—According to the seventeenth annual report, just issued, this institution is in a very flourishing condition. The hospital was opened in September, 1882, following by some years the Presbyterian hospital working in the same field. A handsome new building was occupied in April, 1898. The total number of patients treated during the year was 3702. Of these, 2124 were white and 1578 colored; 2581 were affected with disease of the eyes, 714 with disease of the throat and 407 with affections of the ears. The attendance at the dispensary reached a total of 11,219, viz: 9157 in the eye and ear, and 2062 in the throat department. The 467 surgical operations included 329 on the eyes, 92 on the ear and 46 on the throat and nose. The total number of days' board furnished patients was 1649—546 of those being paid for in part or full and 1103 furnished free. Since the opening of the hospital in 1882, 39,992 patients have been treated and 4483 surgical operations performed, and the aggregate attendance in the dispensary has reached a total of 133,970.

Idiotia Amaurotica Familiaris (Sachs).—At a meeting of the Royal Society of Physicians, Budapesth, Jan. 7, 1899, M. Mohr (*Centralbl. f. die Grenzgebiete der Med. u Chir.* ii, p. 395) presented the results of the post-mortem examination of a case of amaurotic idiocy of Sachs. The condition is an independent, well-defined disease with the following course: The child is born normal and remains so for a few months to one year, during which time bodily and mental development progresses nicely; then there appears a condition of idiocy; the extremities and trunk become weak, spastic or flaccid; paralysis develops; the power of vision diminishes, and in the region of the macula lutea of each retina there appears a typic white spot, with a cherry-red point in the center. Optic nerve atrophy follows and death comes before the end of the second year, from progressive asthenia. The disease develops regularly in several children of the same family. Anatomically, Mohr reports a great atrophy of nerve-tracts in the brain, medulla and cord, especially involving the pyramidal tracts, the cortical pyramidal cells being atrophic. There was edema about the macula lutea, and optic atrophy. Microscopically, the brain was normal as to lobes, fissures and convolutions. It will be observed that it is hardly correct to regard this process as a congenital arrest of development; the condition should hence be referred to rather as dementia than as idiocy.

Dangers of Caffein.—Zenetz reports three cases of sudden death from the ingestion of caffein, with the heart found so contracted at the autopsy that it almost repelled the scalpel. In one case 18 grains of the citrate had been taken in two days, and in another 45 grains in the course of a few days. The slow elimination explains its accumulation and dangers. It is found in the urine ten to fifteen days after it has been discontinued.—*Semaine Méd.*, No. 15.

Steam Treatment of Soft Chancres.—Eighty-nine cases of soft chancre, treated by first rinsing with a solution of boric acid, drying, and protecting the sound tissue, and then applying steam at a temperature of 50 to 60 degrees C., at a distance of 4 to 8 cm., healed with nine to sixteen applications in half the time required for a parallel series treated with the usual dry antiseptic methods. The chancre is soon transformed into a simple non-infected wound with the steam treatment three to ten minutes once a day.—*Semaine Méd.*, No. 18.

Rape of Husband on Wife.—Can a husband commit rape on a woman who is his wife? This unique and novel question, as he calls it, was recently considered by the supreme court of Louisiana, in the case of State vs. Haines. That he can procure the commission of the crime on her, or aid and abet its being done, and thus make himself liable as principal along with the actual perpetrator, the court thinks, is clear. But it holds that the husband of a woman can not be guilty of an actual rape on his wife, on account of the matrimonial consent which she has given, and which she can not retract. To hold a husband charged with rape on a woman who is his wife, or to convict him, the court states, it must appear that the carnal knowledge of the woman constituting the rape was accomplished through a man other than the husband, and that the husband procured it to be done, or assisted the other in the execution of their common purpose. But where the "other man" in the case, demanding a severance, is tried first and acquitted, the court holds that the prosecution against the husband fails, since he can not be guilty of raping his own wife.

Syphilis Reappearing a Defense for Not Marrying.—To a recent action for breach of promise the defendant's defense was that he had, at a considerable time before the engagement was made, contracted syphilis; that, from the opinion of his physicians, he supposed that the disease had been cured, and was under that impression when he entered into the engagement contract for the breach of which he was sued; that between the date of the contract and the day fixed for its consummation the disease reappeared; and that he was in no condition to marry the plaintiff, in consequence thereof. The plaintiff had judgment. But this the court of appeals of Kentucky reverses, April 26, 1899; case of Gardner vs. Arnett. It says that if the syphilis developed after the defendant made the contract of marriage, his right to refuse to carry it out existed. He owed it to the plaintiff and society to refuse to enter into marriage relations with her, and he had the right to abandon the contract and refuse to marry her at any time before their marriage was solemnized.

Oxycamphor and Oxaphor.—Oxycamphor is a substance that has been recommended for the relief of dyspnea. Chemically it is camphor in which an atom of hydrogen has been replaced by HO. It is free from the action of camphor on the heart, but especially possesses the property of reducing the irritability of the respiratory center. The drug has been employed in powder form in doses of 7.5 grains, but on account of its liability to change it is better dispensed in 50 per cent. alcoholic solution, to which the name oxaphor has been given. Jacobson (*Berliner Klin. Woch.*, April 17, 1899, p. 339) reports the employment of the remedy in eighteen cases of dyspnea, in the following combination:

Solution of oxycamphor (50 per cent.) . .	10 parts.
Alcohol	20 "
Fluid extract of licorice	10 "
Distilled water	150 "

Of this mixture a tablespoonful was administered thrice daily. Among nine cases of pulmonary disease relief from the respiratory difficulty was afforded in all but one; among five cases of cardiac disease, the results were satisfactory in four; and of four cases of renal disease the breathing was rendered more comfortable in all.

Property in Prescriptions—A druggist, the court of civil appeals of Texas holds, in the case of Stuart vs. Hirsch, has a right of property in the prescriptions filed with him. Upon a conversion of such property, it suggests, he would not be restricted to an action for the specific property, but could recover the value thereof, the prescriptions having a value to him. And any such rights, it holds, are transferable in that State. But the rights here spoken of are considered particularly as existing between the druggist and third persons, the rights of the persons depositing the prescriptions being only incidentally referred to as a qualified right to the use of the prescriptions, if asserted. Prescriptions, the court does not consider are "merchandise," in the usual and understood sense of that term, so as to be covered by a mortgage of a stock of drugs, merchandise, and fixtures.

Treatment of Appendicitis.—In a communication presented to the Paris Society of Surgery, Poirier (*Lancet*, May 13, 1899, p. 1332), offered the following propositions: 1, there is no medical treatment for appendicitis; 2, in acute cases operation should be performed as soon as possible after the diagnosis is made; 3, in doubtful cases it is better to operate; 4, in subacute cases it is better to wait and operate between attacks, although many surgeons prefer to operate at once; 5, suppurative appendicular peritonitis demands instant operation; 6, in slight cases there is less risk in operating at once than in waiting and operating in the interval, and diagnosis, especially in the early stages, is far from easy; 7, the steps of the operation must vary according to the needs of each particular case. Resection of the appendix should be practiced whenever the search for the organ does not involve much injury to the tissues. The possibility of a ventral hernia after operation in the acute stage is not a contraindication against operation, for the risks from this source are less than those of waiting.

The Practical Importance of Pure Liquid Thiol.—Dr. Niculin (*Deutsche Med. Zeit.*) has employed pure liquid thiol during the past four years beneficially. The application is made as follows: The thiol was penciled over the diseased part with a soft point and dried, and then covered with any kind of material that would protect it from contamination. The application was done twice daily—morning and evening. At the conclusion of the treatment the dried thiol was penciled over with warm water or alcohol. In acute articular rheumatism the thiol was warmed a little before the application and the affected limb carefully covered after the application. He says he has employed thiol in this way in the following cases: one of contusion, two of abscess, three of acute articular rheumatism, four of gout, five of chronic articular rheumatism and seven each of neuritis and toxic neuritis, and eight cases of myositis. The properties attributed to thiol are its anesthetic and resorptive, and the author comes to a general conclusion that the practicing physician has a very valuable aid in thiol. In acute cases like contusion, abscess, acute articular rheumatism, neuritis, myositis, its action is more energetic than in chronic affections, but the pure liquid thiol is alone to be used, and no derivative of the same, and it must be used undiluted. In none of his cases has he observed any unpleasant side effects, although he has sometimes applied it over a considerable portion of the body. In one case of toxic neuritis both legs were daily penciled with thiol for more than a month, their whole extent, without the slightest local or general disturbance.

The Treatment of Chlorosis.—Dunin (*Berliner Klin. Woch.* April 3, p. 299) protests against the indiscriminate administration of iron in cases of anemia and of impaired nutrition. He considers the drug of greatest value in the treatment of chlorosis and of anemia from hemorrhage. Although dependent, like chlorosis, on deficiency on the part of the blood in albumin, and particularly hemoglobin, the condition that has been described as pseudochlorosis presents somewhat different clinic manifestations and is not amenable to treatment with iron. In contrast with chlorosis, this condition is characterized by pallor, almost whiteness, of the skin, bluish conjunctiva, reddish mucous membrane, and absence of subcutaneous fat; the pulse may be accelerated, but it is not quick and soft; cardiac and venous murmurs are wanting, and insomnia is often present. Hygienic, nutritive and dietetic measures are here of greatest importance, while they are of subordinate value in the treatment of chlorosis. The form of iron employed in cases of chlorosis is not material; the essential point is that it shall be given in large doses for a long time. Dunin prefers the pill of iron carbonate, made according to the formula of Blaud, in doses of 12 grains a day in two portions. Often 1/20 grain of arsenious acid is added to each dose; if diarrhea be present, opium is incorporated into the pill. The treatment should be persisted in, even though intermittently, for a long time after the symptoms have disappeared. Rest is considered an important factor in the treatment, and muscular activity is therefore interdicted, on account of the quantitative deficiency and the functional inadequacy of the hemoglobin. Residence at a mountainous elevation is to be avoided for similar reasons, as is also cold-water bathing. Milk, if well borne, should be used freely; alcoholic drinks should be strictly interdicted, and the use of tea and coffee should be restricted.

Liability for Not Furnishing Trained Nurse.—In the case of Ward vs. St. Vincent's Hospital, the first appellate division of the supreme court of New York reversed, April 21, 1899, a judgment that had been rendered in the defendant's favor. This was an action brought to recover damages because of an alleged breach of contract on the defendant's part to furnish the plaintiff a skilled, competent, and trained nurse. The contract, the court says, was express. It settled all questions of general duty attached by law, and became the criterion of the defendant's specific duty in the case. And it was a contract, the court holds, which the defendant certainly had power to make. Though the defendant was what is termed a "charity hospital," it had its "pay" side. Upon the latter side, it was in the habit of furnishing private rooms and nurses to well-to-do people for a full price. For the breach, then, of that express, specific, and valid contract, the court holds that the plaintiff was entitled to the same damages as though the action had been for negligence, pure and simple. In either case she was entitled to compensation; that is, to an adequate indemnity for her injuries,—no more, and no less. Ample evidence of the express contract the court considers was adduced in the explicit testimony furnished to the effect that the defendant, through its undoubtedly authorized agent, agreed, for the consideration of $21 per week, to provide her with a skillful, trained, and competent nurse. Moreover, this contract the court pronounces entirely reasonable, and clearly within the scope of the authority of the sister who made it. On the question of the alleged breach of the contract, the court says that evidence that the person furnished was not a trained nurse, in the sense of being a graduate, and had studied in the school for but nine months, whereas the course there was two years, was clearly sufficient to carry the case to the jury. In other words, the court holds that it was for the jury to say whether, in furnishing a careless pupil, of limited experience, the defendant fulfilled its contract obligation to the plaintiff, and if it did not, and injury resulted from the breach of that obligation, to award her adequate compensation for such injury.

Typhoid Infection without Intestinal Lesion.—The number of these cases is steadily growing and it is most curious the localities this bacillus selects in the economy for its growth. The bones, uterus, kidneys, to say nothing of the mesenteric glands, spleen and liver, have all furnished this germ in pure culture without any anatomic involvement of the intestines. The latest case to be reported fully is that of Lartigau (*Johns Hopkins Hosp. Bul.*, April; Journal, May 6, ¶ 9, p. 989). The patient, a man of 36, had died of septicemia after an illness of but twenty-one days. Without going deeply into the postmortem history, suffice it to say that the intestines presented no marks of typhoid, neither injection of the mucous membrane nor swelling of the solitary follicles; the patches of Peyer were not involved in any way; there were no evidences of cicatrization. The spleen was very much enlarged; the mesenteric glands not at all. There was cloudy swelling in the various glandular organs. Microscopic examination, however, showed necrotic areas in the liver, spleen and mesenteric glands, while sections of these organs stained by special methods, showed masses of bacilli, closely resembling the typhoid bacillus. From cultures from the liver, heart, spleen, lung and gall-bladder, one single germ, a short thick bacillus, decolorized by Gram's method, was isolated. Growing this on the various test culture-media isolated it absolutely as the typhoid bacillus. The Widal reaction, using this bacillus with the serum of a known case of typhoid, was positive in twelve minutes, dilution 1:10. All in all this case has been entered into so fully that there is no room for doubt. In this connection it would perhaps be of interest to state the anatomic divisions into which typhoid fever has been divided by no less authority than Chiari and Kraus. These cases showing characteristic typhoid lesions; these atypic cases, still capable of being recognized post-mortem; those with no macroscopic anatomic lesions, but in which the typhoid bacillus can be cultivated from the organs; lastly, those incapable of anatomic or bacteriologic distinction, but responding positively to the Widal reaction.

Brain Weights and Intellectual Capacity.—In recent years the study of brain weights in relation to intellectual development has become of renewed interest, due in part to the investigations made by neurologists, psychologists, alienists and criminologists. The weight of the brain is not an index of intelligence; neither does it depend on the depth of the gray matter. Gray matter per se could not be the index since it is also found in the spinal cord, as well as in various ganglia throughout the body, and in this connection a recent contribution to *Appleton's Popular Science Monthly*, by Dr. Joseph Simms, will be found of special value. The data it contains are based on facts derived from a study of the subject in Europe, Great Britain, Asia, Africa and Australia. The two heaviest brains there recorded are those of Dr. Carl A. Rudolph, a Swedish naturalist and physiologist of Stockholm; and that of Rustan, an ignorant workman, each of which weighed 78.3 ounces. The brain of the mechanician and author, Knight, weighed only 64 ounces, the brain of General B. F. Butler, 62 ounces, while those of the philosopher Huber, of Babbage, Grote, Bertillon, Liebig, Whewell, Gall, Gambetta, and Bishop, the mind reader (?) are put in the group weighing from 49.9 ounces to 40 ounces each. Another group weighing from 58.6 to 54 ounces includes those of Thackeray, George Combs, U. S. Senator Atherton, Spurzheim and Sir James Y. Simpson. A group of those weighing from 53.6 to 50 ounces each includes those of Daniel Webster, Agassiz, Napoleon, the mathematicians DeMorgan and Gauss, the anthropologist Broca, the Scottish divine Chalmers, and generals Skoboleff and Lamarque.

Among the notoriously large brains occurring in idiots and imbeciles may be mentioned those of a dwarfed Indian squaw which weighed 73.5 ounces; an illiterate and ignorant man, 71.3 ounces; a congenitally imbecile person, 70.5 ounces; two other imbeciles cited by Ireland, one of which weighed 63.2, the other 62.8 ounces; while that of an ignorant boy 14 years of age weighed 57.5 ounces. The average weight of the human brain, according to Austin Flint, is 50.2 ounces, and according to Peacock, between the ages of 25 and 50, 50 ounces and 3 drams in England: in Germany Tiedemann reckons it at 53.2 ounces. George Combe estimates the normal brain at 53.5 ounces. Simms makes the following comparison. Taking the sixty heaviest brains of persons not noted for their intellectual greatness it is found that the average is 63.2 ounces. Comparing this with the average of sixty famous men, 51.3 ounces, the difference in favor of the imbeciles, idiots, criminals and men of ordinary mind is 11.9 ounces. The ten heaviest brains of persons noted for intellectual development give an average of 61.1 ounces, while the average given by the ten heaviest of the opposite class is 70.4 ounces or 9.3 ounces greater. Boyd, as the result of study based on post-mortem examination in two thousand instances, gives 45.9 ounces as the average weight of boys from 7 to 14 years of age, and for girls of the same age it was 42.2 ounces. Whether climate has any relation to the growth of the brain as claimed by Simms is doubtful. Simms, however, cites the average size of the brain in cubic inches as published by the Philadelphia Academy of Sciences, which are as follows: Lapps, 102; Swedes, 100; Anglo-Saxons, 96; Finns, 95; Anglo-Americans, 94; Germans, 92; Celts, 88; Malays, 86; Chinese, 85; Tombs of Gizeh, 84; embalmed Semitic, 82; Egyptians, 80; Fellah, 79; Bengalese, 78.

As regards the theory that complicated convolutions and deep sulci are the index to intellectual development, Simms considers such a claim groundless; because such rodents as the beaver, squirrel, rats and mice have but few or no convolutions, yet they show foresight in storing up food for the winter months. Moreover, Simms remarks that these animals labor in unison, live in societies and work for a common purpose. Whales, for instance, have larger brains, with more numerous and complex convolutions and deeper sulci than exist in man. Idiots possess as large brains, as deep sulci, and convolutions as fine, as large and as complex as men of the highest intellectual development. As to the depth of the gray matter as being an index to mental capacity, Webster's brain had gray matter to the depth of one-sixteenth of an inch, while Simms states that after an examination of the brains of murderers, negroes and others sunk in ignorance, he has invariably found the gray matter thicker than in the case of Webster. Simms also speaks of the movement of the brain in the skull, which he claims changes its position according to the laws of gravitation as in the case of the lungs, heart and liver, and is dependent on the position of the body. From these, M. Luys concludes that vertigo is produced in feeble persons in suddenly arising from a horizontal to an erect posture.

Philadelphia.

Dr. P. S. Donnellan.—Dr. Donnellan has returned to the city after an extended trip to Europe.

Appointment.—Dr. L. Napoleon Boston has been appointed to the position of out-door physician for the Twenty-sixth Ward, to succeed Dr. Montgomery, resigned.

Resignation.—The board of charities and corrections has accepted the resignation of Dr. John Guitéras as pathologist of the Philadelphia Hospital, but his successor has not yet been appointed.

Mortality Statistics.—The number of deaths occurring in this city for the week just closed was 423, a decrease of 55 over last week and a decrease of 76 over the corresponding period of last year. Of the total number of deaths, 124 occurred in the case of children under the age of 5 years. The principal causes of deaths were: apoplexy 15, nephritis 24, cancer 12, cholera infantum 11, tuberculosis 51, diabetes 3, heart disease 37, marasmus 16, suicide 3, sunstroke 12.

New Laboratories.—Work has begun on the new laboratories and out-patient department of the Medico-Chirurgical College.

Questions, Answers, Etc.

PRACTICE IN VIRGINIA AND WEST VIRGINIA.

Mt. Carmel, Ky., June 14, 1899.

To the Editor:—I will deem it a favor if you will inform me what the requirements are for registration in both Virginia and West Virginia.

Respectfully, Alex M. Cook, M.D.

Answer:—In Virginia it is neccssary, before being allowed to practice medicine, to have passed a satisfactory examination before the State board of examiners. The law does not specify the character of the examination, but it is supposed to be reasonably strict. Failure to pass disqualifies one from being re-examined within the succeeding six months, or until the next meeting of the board.

In West Virginia a like examination must be passed before the State board of health.

Letters addressed to the secretaries of the boards in either State, at the State capital would probably reach them and procure the needed information as to the times of meeting, etc.

PRACTICE IN ILLINOIS.

Gentryville, Mo., June 17, 1899.

To the Editor:—Will you please inform me what the State requires before a physician can practice in Illinois, and what is the cost?

Respectfully, W. H. Hill, M.D.

Answer:—See Journal, April 22, p. 824.

ST. LUKE'S HOSPITAL.

St. Paul, Minn., May 30, 1899.

To the Editor:—I hand you herewith a letter received from A. C. Probert, secretary and treasurer St. Luke's Hospital, Niles, Mich., also a copy of my letter sent him on this date.

I trust that at the next meeting of the Association some definite action will be taken that will either put an end to this disgraceful commercialism or place the Association on record for all time in a manner which can not be misunderstood. Yours very truly,

Chas. Lyman Greene, M.D.

Niles, Mich., May 25, 1899.

Dr. C. L. Greene, St. Paul, Minn.

Dear Doctor:—We have held our monthly meeting of the board of directors for the purpose of apppointing more physicians to represent and take an interest in making the advantages of St. Luke's Hospital, of Niles, Mich., more widely known to the medical profession. We are very anxious to secure all the operations we possibly can this year.

In considering the appointment of a physician to look after our interests at your place, your name was selected by our secretary, as being a good physicaan to represent us within your community. We have the honor to inform you that you have been duly elected a member (subject to your confirmation) of our visiting and consulting physicians and surgeons. The many advantages, privileges and financial benefits to be gained by your becoming a member in good standing upon our medical staff are briefly told as follows, viz.:

1. We will pay you a commission of 50 per cent. in cash for all surgical operations and medical cases that you may send to our hospital for proper treatment.

2. We charge nothing for nursing patients day or night, as that part of the expense is taken from our endowment fund. We do charge, however, for our board and room, ranging from $1.50 to $2 per day, according to the location selected by the patient.

3. When you have ordered and paid for your certificate of membership, if you will send us a list of names, not exceeding twelve, including among them your local newspaper, we will write each one an individual letter recommending and endorsing you to them, a copy of which we enclose herewith for perusal. We also enclose you a copy of a letter taken from the original one received a short time ago from one of our new members in good standing, Dr. J. B. Gordon of Gila, Mo., which will speak for itself, without any further comment from us.

3. We have at the present time in the hands of our lithographers a neat pocket hospital ticket, which we intend to issue to all our members in good standing, and which we believe, if displayed judiciously, will pay for your certificate of membership many times over during the course of a year.

Now, Doctor, after carefully considering all these four strong features, we would ask with all fairness, if you do not consider it to your financial interest to have your appointment confirmed for your place before any other physician should receive it?

Trusting we shall have the pleasure of hearing from you soon and favorably, believe us to remain with kindliest regards and best wishes for your future success and prosperity in your profession.

Fraternally yours. A. C. Probert, secretary.

St. Paul, Minn., May 30, 1899.

Dr. Arthur C. Probert, Sec. St. Luke's Hospital, Niles, Mich.

Sir:—I beg to acknowledge your letter of the 25th instant, and to state in reply that I consider it an insult, and that I fail to understand what I have done to lead you to believe that I would enter into any such advertising and commission business as is evidently being carried on by your hospital. There is hardly one thing in your arrangement and plans that I can regard as legitimate or honorable. I have the heartiest contempt for any man either paying or demanding commissions for cases referred, and I cherish the same feeling toward those who seek to advertise by such underground methods as are outlined in your letter and its accompanying literature. I can assure you that I shall do everything in my power to guard my patients and keep them away from your institution, and unless I am greatly mistaken you will find it extremely difficult to secure the names of any reputable members of the profession in St. Paul to be added to your paper staff.

Yours truly,
(Signed) Chas. Lyman Greene, M.D.

Answer:—Dr. Greene, evidently did not grasp the idea that he was only one out of thousands of physicians who have received nice, flattering typewritten letters, notifying them of their appointment as surgeons to St. Luke's Hospital. And sufficient numbers of physicians grab the bait, which is made so attractive by flattery, to make the enterprise a paying one to those running it. It is a great scheme, conceived in sin and born in iniquity, to be sure, but what of that! The idea that doctors are human and like to have their vanity touched up a little was a happy one, and the beautiful diploma of sheepskin—and a big one at that—certifying that the doctor was a member of the staff of this great hospital, was a thing not to be sneezed at, especially since it only cost $10, and as these St. Luke people have had some experience with diploma manufacturing here in Chicago, they knew how to get up a nice one. St. Luke's hospital has spread its net widely and has hauled in many a kettle of fish, and it is still fishing. That the head of the concern got his diploma from a diploma mill here in Chicago, and that other "professors" connected with the institution have no diploma at all, is of little note. Every week or two we get letters asking us to expose the concern, but as we believed the readers of the Journal were not the kind to be duped by such a scheme, and as others would not be enlightened by what appears in its columns, we have thought it would be a useless waste of time.

The Public Service.

Movements of Army Medical Officers under orders from the Adjutant-General's Office, Washington, D. C., to and including June 15, 1899.

E. W. Ames, acting asst-surgeon, from the general hospital at Savannah, Ga., to San Francisco, Cal., for duty at the general hospital at that place.

William C. Berlin, acting asst.-surgeon, from Washington, D. C., to Camp Meade, Middletown, Pa., to accompany the 19th Inf., to Manila, P. I.

Rufus D. Boss, acting asst.-surgeon, now sick at Hospital No. 2, El Vedado, Cuba, to proceed to New York City, for assignment in the Department of the East.

Arthur I. Boyer, acting asst.-surgeon, from Washington, D. C., to Governor's Island, N. Y., for duty in the Department of the East.

Calvin De Witt, lieut.-col., deputy surgeon-general, U. S. A., leave of absence granted.

Benjamin J. Edgar, Jr., acting asst.-surgeon, member of a board convened at Fortress Monroe, Va., to examine persons designated for appointment as 2nd lieutenants in the army.

John J. Gillhuley, acting asst.-surgeon, relieved from duty with the 19th U. S. Inf., at Camp Meade, Pa., to proceed to Bridgeport, Conn., for annulment of contract.

William W. Gray, major and surgeon U. S. A., from Fort Huachuca, Ariz., to Fort Logan, Colo., to accompany the 25th U. S. Inf., to Manila, P. I.

Harry S. Greenleaf, lieut. and asst.-surgeon U. S. A., member of a retiring board convened in Washington, D. C.

George L. Hicks, acting asst.-surgeon, from Washington, D. C., to Camp Meade, Pa., to accompany the 16th U. S. Inf., to Manila, P. I.

Paul C. Hutton, acting asst.-surgeon, now at Camp Meade, Pa., to report to the commanding officer of the 19th Inf., to accompany that regiment to Manila, P. I.

William F. Leppitt, Jr., capt. and asst.-surgeon, U. S. A., member of a retiring board convened at Washington, D. C.

Charles T. Mason, capt. and asst.-surgeon, U. S. A., sick leave extended.

William E. McPherson,, acting asst. surgeon, from Washington, D. C., to Camp Meade, Pa., to accompany the 19th U. S. Inf., to Manila, P. I.

Frederick H. Mills, acting asst.-surgeon, from Pinar del Rio, Cuba, to Buffalo, N. Y., for annulment of contract.

Henry C. More, acting asst.-surgeon, from duty with the 19th Inf., to proceed to New York City, for annulment of contract.

Frank J. O'Hare, acting asst.-surgeon from Camp Meade, Pa., to New York City, for annulment of contract.

John C. Orr, acting asst.-surgeon, from Chambersburg, Pa., to Governor's Island, N. Y., for duty in the Department of the East.

Adrian S. Polhemus, capt. and asst.-surgeon, U. S. A., sick leave granted.

Alexander S. Porter, lieut. and asst.-surgeon, U. S. A., retired June 8, 1899, for disability incident to service.

Willis J. Raynor, acting asst.-surgeon from duty at Fort Logan, Colo., to accompany the 25th U. S. Inf. to Manila, P. I.

Charles Richard, major and surgeon, U. S. A., member of a board convened at Fort Monroe, Va., to examine persons designated for appointment as 2nd lieutenants in the army.

Movements of Navy Medical Officers.—Changes in the medical corps of the U.S. Navy for the week ending June 17, 1899.

P. A. Surgeon M. S. Guest, detached from the "Detroit" June 20, and ordered home to wait orders.

P. A. Surgeon W. C. Braisted, ordered to the "Detroit" June 20.

Surgeon A. F. Magruder, granted leave for four months, with permission to leave the United States.

Surgeon J. D. Gatewood, detached from the bureau of medicine and surgery and ordered to the "Lancaster" June 22.

Surgeon P. A. Lovering, detached from the "Lancaster" June 22, and ordered home to wait orders.

Marine-Hospital Changes.—Official List of Changes of Stations and Duties of Commissioned and Non-Commissioned Officers of the U.S. Marine-Hospital Service, for the seven days ended June 15, 1899.

Surgeon R. D. Murray, so much of bureau letter of May 15, 1899, directing him to transfer property in his charge to P. A. Surgeon W. J. S. Stewart, revoked, and directed to defer departure to Key West, Fla., until the arrival of Surgeon W. P. McIntosh.

Surgeon H. R. Carter, to report at Washington, D.C., for special temporary duty.

Surgeon C. E. Banks, to proceed to New York City for special temporary duty.

Surgeon C. T. Peckham, to proceed to Sabine Pass, Texas, for special temporary duty.

Surgeon S. D. Brooks, granted leave of absence for fourteen days. Upon expiration of the leave of absence granted by bureau telegram of June 12, 1899, to proceed to Portland, Maine, and assume command of the service.

Surgeon W. P. McIntosh, upon being relieved from duty at Louisville, Ky., to proceed to Mobile, Ala., and assume command of the service.

P. A. Surgeon C. P. Wertenbaker, granted leave of absence for six days.

P. A. Surgeon W. J. S. Stewart, bureau letter of May 15, 1899, directing him to assume command of the service at Mobile, Ala., revoked.

Asst.-Surgeon J. B. Greene, relieved from duty at San Francisco, Cal., and directed to proceed to Boston, Mass., and report to medical officer in command for duty and assignment to quarters.

Asst.-Surgeon John McMullen, upon being relieved of temporary command of the service at Portland, Maine, to proceed to Louisville, Ky., and assume command of the service.

Asst.-Surgeon D. E. Robinson, granted leave of absence for three days (par. 181, regulations M.-H.S.).

Acting Asst.-Surgeon C. E. Uhlrich, granted leave of absence for twenty-six days from June 5, 1899.

Hospital Steward F. H. Peck, bureau letter of March 15, 1899, directing him to proceed to the Tortugas quarantine station for duty, revoked.

Hospital Steward L. W. Ryder, granted leave of absence for fourteen days from June 16, 1899.

Hospital Steward C. G. Carlton, relieved from duty at Egmont Key, Fla., and directed to proceed to New Orleans, La., and report to the medical officer in command for duty and assignment to quarters.

Hospital Steward J. E. Beck, relieved from duty at New Orleans, La., and directed to proceed to Mobile, Ala., and report to the medical officer in command at that port for duty and assignment to quarters.

APPOINTMENTS.

W. J. Linley of Georgia, appointed acting asst.-surgeon U.S. marine-hospital service, for duty at the Savannah, Ga., quarantine station.

W. H. Lippitt of North Carolina, appointed acting asst.-surgeon U.S. marine-hospital service, for duty at Wilmington, N. C.

BOARD CONVENED.

Board convened to meet at New York City, at 10 o'clock A.M., on Tuesday, June 27, 1899, for the purpose of examining candidates for appointment as asst.-surgeon in the service. Detail for the board: Surgeon G. W. Stoner, chairman; Surgeon C. E. Banks; Surgeon L. L. Williams, recorder.

CHANGE OF ADDRESS.

Abt, I. S., from 4006 Grand Boul. to 4326 Vincennes Av., Chicago.
Aronstand, N. E., from 46 Sherman to Cor. Napoleon and Hastings, Detroit, Mich.
Best, L. E,, from 194 Barclay to 6 Canal St., Grand Rapids, Mich.
Baxter, G. E., from 1808 Indiana Av. to St. Luke's Hospital, Chicago.
Black, J. F., from New York City to 403 St. Clair St., Cleveland, Ohio.
Brown, H. C., from Chicago to 1142 Washington St., Denver, Colo.
Blount, R. T., from San Antonio to Fairfield, Texas.
Birkofer, W. J., from Bradgate to Kanawha, Iowa.
Cushman, H., from Stromberg to Weston, Neb.
Collins, K. R., from 63½ Whitehall St. to 308 Eng. Amer, Bldg., Atlanta.
Clark, J. W., from Chicago to Kenilworth, Ill.
Chase, C. L., from 2114 W. Broadway to 619 6th St., Louisville, Ky.
Cheadle, C. M., from Buda to Lee Center, Ill.
Davis, T. D., from 6020 Penn Av. to 261 Shady Av., Pittsburg, Pa.
Davis, G. W., from 683 Sutter to 1429 Van Ness Av., San Francisco, Cal.
Dittemore, J. H., from Chicago to Troy, Kans.
East, O. J., from Detroit to Edwardsburg, Mich.
Elliott, H. R., Detroit, Mich., to Denver, Colo.
Felt, R. A., from Anita, Iowa, to East Galesburg, Ill.
Fisk, F. F., from Cedar City to Helper, Utah.
Fridus, S. L., from Chicago to Maywood, Ill.
Goodwin, H. C., from Amesbury, Mass., to Hanover, N. H.
Gallen, G. E., from Chicago to Hancock, Mich.
Gass, W. S., from Detroit to Rochester, Minn.
Hayes, F. N., from Detroit, Mich., to Crowley, La.
Hall, L., from 1325 15th to 1344 25th St., Des Moines, Iowa.
Hershey, E. P., from 1311 Sherman Av., to 501 E. Colfax, Denver, Colo.
Holman, C. J. Johnson, from Chicago to Granite Falls, Minn.
Harrelson, A. O., from 703 East 9th St. to 303 N. Y. Life Bldg., Kansas City, Mo.
Kelly, W., 33 Lindsley Ave. to City Hospital, Nashville, Tenn.
Kennedy, F. P., from Peters to Dublin, Texas.
Koehler, G. F., from Boise City, Idaho, to Portland, Ore.
Lumley, R., from Chicago to Watseka, Ill.
Lenert, R. H., from Warrenton to Burnham, Texas.
Lamb, G E., from Detroit to Clare, Mich.
Lichty, J. A., from Clifton Springs, N. Y., to Markelton, Pa.
Mitchner, G. W., from Newman, to Kansas, Ill.
Morse, A. W., from 2358 Indiana Av. to Silver Cross Hospital, Joliet, Ill.
McCaffrey, P. J., from Pittsburg to Ashland, Pa.
McMurry, O. M., from 125 Flournoy to 322 S. Wood, Chicago.
Murray, R. D., from Mobile, Ala., to Key West, Fla.
Motter, M. G., from Washington, D. C., to Mountain Lake Park, Md.
McLaren, J. L., from Santa Barbara to Los Angeles, Cal.
Moorehouse, W. G., from Philadelphia to Tyrone, Pa.
Morrissey, J. J., from 2052 Madison Av. to 50 E. 126th St., New York City.
McDonnel, F. J. A., from 108 Elizabeth St., E., to St. Mary's Hospital, Detroit, Mich.
Pihlblad, A., from Chicago to Lindsborg, Kans.
Palmer, W. A., from Ada to Redwood Falls, Minn.
Peasley, A. A., from 81 Warren to 504 Park St., Columbus, Ohio.
Putnam, H. C., from Canton to Civer, Ill.
Rhymes, W. J., from Alto to St. Martinsville, La.
Ross, J. W., from Key West, Fla., to Peachers Mills, Tenn.
Schmauss, L. T., from Chicago to West Duluth, Minn.
Stevenson, H E., from Chicago to El Paso, Texas.
Stephen, H. E., from Chicago to 511 Exchange St., Joliet, Ill.
Sloan, J. F., from Chicago to Brimfield, Mich.
Steen, E. R., from 661 Jackson Boul. to 298 W. Maxwell St., Chicago.
Small, J. M., from 26 W. 27th to 221 W. 21st St., New York City.
Sprague, W. B., 2148 Gladys Av. to 2116 Van Buren St., Chicago.
Vilas, W. H., from Chicago to El Paso, Texas.
Watson, C., from Lincoln to Nebraska City, Neb.
Walker, A. B., from Detroit, Mich., to Crowley, La.
Woods, J. G., from Louisville, Ky., to Burkeville, Texas.
Windler, W. G., from Andalusia to 1504 Spruce St., Philadelphia, Pa.

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